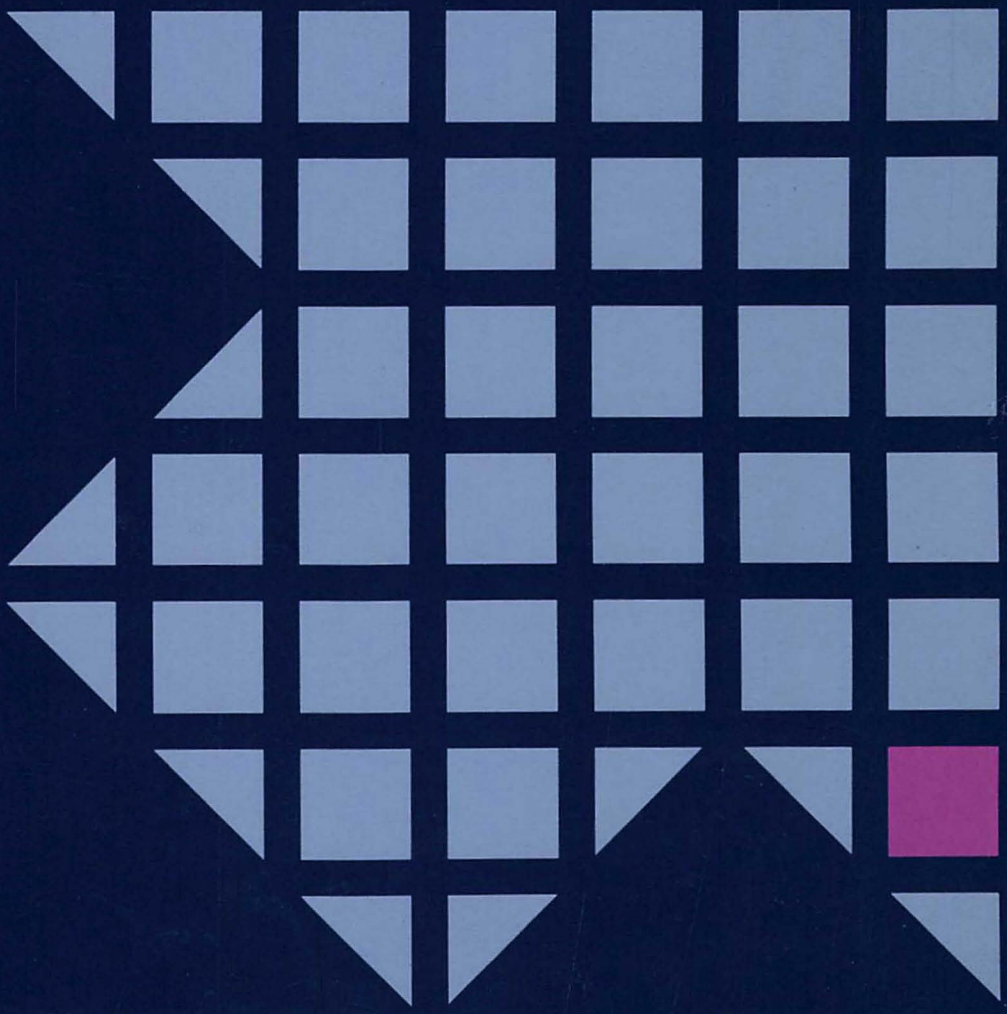
Virtual Machine/Extended Architecture
System Product

LY27-8053-0

CP Data Areas and Control Blocks

VM/XA SP Release 1



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HOW THIS BOOK IS ORGANIZED

This book lists the data areas and control blocks (referred to collectively as "blocks") used by the VM/XA System Product Release 1 control program (CP). The blocks are named by their COPY file names, but they are listed alphabetically by DSECT name. You can determine the DSECT name by removing the prefix 'HCP' from the COPY file name. If there is no 'HCP' prefix, the DSECT name is the same as the COPY file name.

HOW EACH BLOCK IS ORGANIZED

The information provided for each block includes descriptive information (the block's name and function, and how it is located, created, and deleted); a picture of the block; and a listing of the fields and bits (or codes) defined in that block. The information given about each field includes its name (label), displacement, length (in bytes), a short description of the field, and any bits or codes defined in the field.

A NOTE ABOUT THE LENGTHS OF THE FIELDS

The length column sometimes contains the **implied length** of the field, not its actual length. This happens because the lengths were obtained from the cross reference of an Assembler H assembler listing. When the operand of a DS or DC instruction in the data area or control block is not coded with a length modifier, Assembler H assigns an implied length to that field in the cross reference.

The implied length depends on the type of constant that was coded in the operand. For example, if a field is coded as

```
LABEL1   DS   2F
```

its length appears in this book as 004, the implicit length for a fullword, and not as 008, which is the actual length of this field.

You can easily determine a field's actual length by comparing the field's displacement to the displacement of the field after it.

Figure 1 shows the implied lengths for different types of constants.

For more information about implied length, see the Assembler H Version 2 Application Programming: Language Reference.

Type	Implied Length, Bytes	Alignment	Format
C	-	Byte	Characters
X	-	Byte	Hexadecimal digits
B	-	Byte	Binary digits
F	4	Word	Fixed-point binary
H	2	Halfword	Fixed-point binary
E	4	Word	Short floating-point
D	8	Doubleword	Long floating-point
L	16	Doubleword	Extended floating-point

Figure 1 (Part 1 of 2). Constants and Their Implied Lengths

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Type	Implied Length, Bytes	Alignment	Format
P	-	Byte	Packed decimal
Z	-	Byte	Zoned decimal
A	4	Word	Value of address
Y	2	Halfword	Value of address
S	2	Halfword	Address in base-displacement form
V	4	Word	Externally defined address value

Figure 1 (Part 2 of 2). Constants and Their Implied Lengths

FIELDS WITHOUT LABELS

When a field has no label, its length column contains the actual assembler operand for the length, rather than the length in bytes. If a field is coded as

```
DS   CL24
```

its length appears as CL24, not as 024.

BIT AND CODE DEFINITIONS

Some fields have bits or codes defined in them. These bits and codes are equates, defined by the assembler EQU statement. The bits or codes defined in any given field are found in one of two places.

BITS DEFINED IMMEDIATELY AFTER THE FIELD

Sometimes the bits or codes are defined immediately after the field. In this case, they have the heading:

```
BITS DEFINED IN fieldname  (AT HEX DISPLACEMENT: xxx)

or

CODES DEFINED IN fieldname  (AT HEX DISPLACEMENT: xxx)
```

For example, the block HCPCPCBK contains a field called CPCDTFLG. This field has bits defined immediately after it:

```
003   CPCDTFLG   001      DATA TRANSFER CONTROL BYTE

        BITS DEFINED IN CPCDTFLG (AT HEX DISPLACEMENT: 3)

        80    CPCPSNSP    SENSE DATA PENDING AT CCWFETCH
        40    CPCDTBWD    READ-BACKWARD OPERATION
        20    CPCDTRTY    COMMAND RETRY IS IN EFFECT
        10    CPCDTBEG    DATA TRANSFER HAS BEGUN
        04    CPCDTSTP    'STOP' WAS SIGNALLED
        02    CPCDTCER    CHANNEL END RECEIVED
        01    CPCDTEND    RECEIVED FINAL STS FOR CMD
```

BITS DEFINED ELSEWHERE

The other possibility is that the bits or codes for a field are defined elsewhere. They could be defined in another field in the same block, or in another field in a different block. The "different block" is often one of the equates-only blocks included in the appendix of this book. Bits and codes that are defined elsewhere have the following heading:

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BITS DEFINED FOR fieldname BY blockname other-fieldname

or

CODES DEFINED FOR fieldname BY blockname other-fieldname

For example, a field called CPCCCWFL in the block HCPCPCBK looks like this:

```
001   CPCCCWFL   001      CCW CHANNEL CONTROL FLAGS

        BITS DEFINED FOR CPCCCWFL BY HCPEQUAT CCWFLAG
```

This means that CPCCCWFL uses the bit definitions found in the field CCWFLAG which is in the block HCPEQUAT (one of the equates-only blocks).

As a final example, let's look at a field called ALOAVAIL in the block HCPALOC:

```
001   ALOAVAIL   001      AVAILABILITY OF TYPES

        BITS DEFINED FOR ALOAVAIL BY HCPALOC ALOCMAP
```

In this case, bits are defined for ALOAVAIL by another field within the same block. ALOAVAIL uses the same bit definitions as the field called ALOCMAP.

HOW TO GET AN UPDATED LISTING OF THE DATA AREAS AND CONTROL BLOCKS

You can get the most up-to-date listing of CP data areas and control blocks by assembling a file called HCPBLOKS ASSEMBLE. To assemble this file, follow these steps.

Note:

Screen input and output appear in the left-hand column. Commands that you must type in (input) appear in **lowercase bold** type. Within these commands, variables that you must replace with your own values are indicated by underlining. The square bullet ▪ indicates that you must press the ENTER key. The system's responses to your commands (output) appear in UPPERCASE type.

The right-hand column contains explanations.

1. Log on to the MAINT userid (by convention, IBM calls the virtual machine that supervises service MAINT).

2. Define a temporary disk. Use the chart below to determine how much DASD space you need:

Device (devtype)	Cylinders (cyls)
3330	22
3340	55
3350	10
3375	16
3380	10

def tdevtype vdevno cyls ▪ DASD vdevno DEFINED R; T=n.nn/n.nn hh:mm:ss	Substitute a device type for devtype, a virtual device number for vdevno, and a cylinder count for cyls.

3. Format the temporary minidisk and access it as A.

format vdevno **a** ▪	Substitute the virtual device number for vdevno.

```
FORMAT WILL ERASE ALL FILES
 ON DISK 'A(vdevno)'. DO YOU WISH
 TO CONTINUE? (YES|NO):
yes ▪
ENTER DISK LABEL:

label ▪                                  Enter your own disk label for this
                                         temporary disk.
FORMATTING DISK 'A'.
'nn' CYLINDERS FORMATTED ON 'A(vdevno)'.
R; T=n.nn/n.nn hh:mm:ss
```

4. Access MAINT's 394 minidisk (the CP source file disk) and copy the HCPBLOKS ASSEMBLE file.

```
access 394 c ▪                           You must access 394 as c.  The file
                                         you copy is in packed format.  Use
R; T=n.nn/n.nn hh:mm:ss                  the UNPACK option to unpack the
                                         file.
copy hcpbloks assemble c (olddate unpack ▪

R; T=n.nn/n.nn hh:mm:ss
```

5. Access MAINT's 194 minidisk (the control file and MACLIB disk) and 294 minidisk (the update file disk).

```
access 194 b/a ▪

B (194) R/O
R; T=n.nn/n.nn hh:mm:ss

access 294 c/a ▪

'294' REPLACES ' C (394) '
C (294) R/O
R; T=n.nn/n.nn hh:mm:ss
```

6. Reaccess MAINT's 394 minidisk as a read-only extension to MAINT's A minidisk.

```
access 394 d/a ▪

D (394) R/O
R; T=n.nn/n.nn hh:mm:ss
```

7. Check MAINT's minidisk accesses. The minidisks, access modes, and link mode (R/W or R/O) should be the same as shown.

```
query search ▪

label   vdevno  A     R/W
MNT194  194     B/A   R/O                label and vdevno are the values you
MNT294  294     C/A   R/O                specified when you defined and
MNT394  394     D/A   R/O                formatted the temporary minidisk.
MNT190  190     S     R/O
MNT19E  19E     Y/S   R/O
R; T=n.nn/n.nn hh:mm:ss
```

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8. Use the UPDATE command to update HCPBLOKS ASSEMBLE.

```
update hcpbloks assemble * hcpxa cntrl * (ctl *

UPDATING 'HCPBLOKS ASSEMBLE D1'
APPLYING 'HCPBLOKS ft       C1'
R; T=n.nn/n.nn hh:mm:ss
```

This example assumes there is an update file for HCPBLOKS. If there is an update file, it will have a special filetype (ft). If there is no update file, you will receive the message 'NO UPDATE FILES WERE FOUND'.

9. Issue the GLOBAL command for the macro libraries called by HCPBLOKS.

```
global maclib hcpxa dmssp cmslib osmacro osmacro1 *
R; T=n.nn/n.nn hh:mm:ss
```

10. Set the virtual punch to stay open after spool files reach 50,000 records.

```
spool punch noeof *
```

The option NOEOF means the punch stays open after punch spool files reach 50,000 records.

11. Issue the HASM command for HCPBLOKS.

```
hasm fn (sysparm (exp) xref (full) print *

PRT FILE nnnn FROM MAINT
   PRT RECS nnnn COPY  001 A
   NOHOLD NOKEEP
R; T=n.nn/n.nn hh:mm:ss
```

If updates were applied to HCPBLOKS ASSEMBLE, substitute $HCPBLOK for fn. If updates were not applied to HCPBLOKS ASSEMBLE, substitute HCPBLOKS for fn.

The PRT file contains the assembled listing of HCPBLOKS ASSEMBLE.

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ACIPARMS— ACCESS CONTROL INTERFACE PARAMETERS

DSECT NAME: ACIPARMS

DESCRIPTIVE NAME: ACCESS CONTROL INTERFACE PARAMETERS

FUNCTION: VM/XA CP CREATES THIS PARAMETER LIST TO INTERFACE WITH RESOURCE ACCESS INTERFACE PROGRAM PRODUCT.

LOCATED BY:

NONE

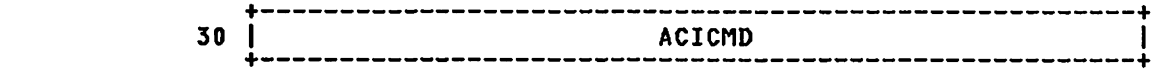
CREATED BY:

HCPAUT, HCPCSC, HCPCSP, HCPCST, HCPCSL, HCPLGO, HCPLNK, HCPUSO

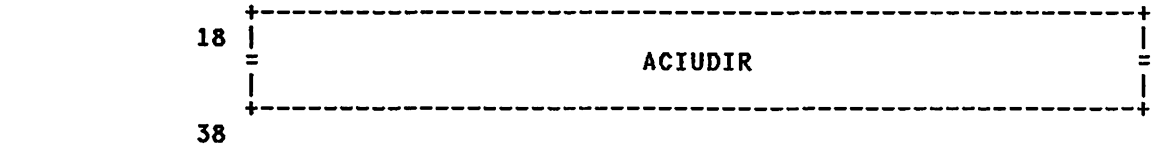
DELETED BY:

HCPAUT, HCPCSC, HCPCSP, HCPCST, HCPCSL, HCPLGO, HCPLNK, HCPUSO

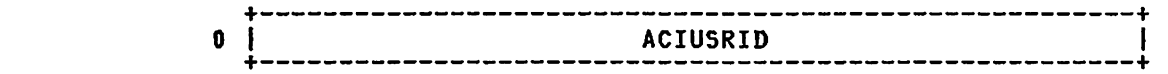
REDEFINITION -



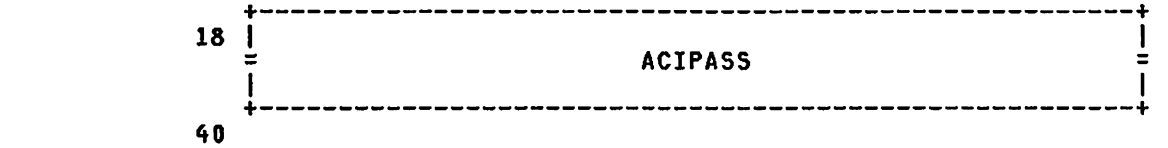
REDEFINITION -



REDEFINITION -



REDEFINITION -



disp	name	length	description
000	ACIFCN	001	A*1 FUNCTION REQUEST

CODES DEFINED IN ACIFCN (AT HEX DISPLACEMENT: 0)

00 ACILINK LINK ACCESS VALIDATION

```
        04     ACISPOOL     SPOOL ACCESS VALIDATION
        08     ACITAG       NODE ACCESS VALIDATION
        0C     ACIDEL       DELETE USER REQUEST
        10     ACILOG       LOGON PASSWORD VALIDATION
        1C     ACIVMCMD     COMMAND FUNCTION
                            RETURN CODES FOR ACICODE

001   ACICODE     001       A*2      RETURN CODE FIELD

                    EQUATES

        00     ACIAUTH      ACCESS AUTHORIZED
        04     ACIDEFR      ACCESS DEFERRED
        08     ACINOAC      ACCESS DENIED
        0C     ACIFAIL      LOGOFF USER
        10     ACITERM      TERMINAL I/O ERROR
                            FUNCTION CODES FOR ACICODE
        01     ACIXTND      EXTENDED PLIST INDICATOR
        04     ACIVAL       NO PROMPT INDICATOR

002   ACIRPI      001       USED BY HCPRPI
004               4X        RESERVED
008   ACIRGRP     008       REQUESTOR'S GROUP NAME
010   ACIRUSR     008       REQUESTOR'S USERID
018   ACITGRP     008       TARGET GROUP NAME
020   ACITUSR     008       TARGET USERID
028   ACIMODE     002       ACCESS MODE
02A   ACIADDR     004       RESOURCE ADDRESS
02E               CL2       RESERVED
030   ACINODE     008       RESOURCE NODENAME
038   ACILABL     008       VOLUME LABEL

                    EQUATES

        08     ACISIZE      ACIPARMS SIZE IN DOUBLE WORDS
        18     ACICLR1      LENGTH OF THE FIELD TO CLEAR


          REDEFINITION -

030   ACICMD      008       COMMAND NAME

          REDEFINITION -

018   ACIUDIR     032       BUFFER USED FOR LINK

          REDEFINITION -

000   ACIUSRID    008       USERID FIELD FOR LINK

          REDEFINITION -

018   ACIPASS     040       LOGON PASSWORDS
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
ACIADDR	004	02A	ACIFAIL	001	00C	ACINODE	008	030
ACIAUTH	001	000	ACIFCN	001	000	ACIPARMS	001	000
ACICLR1	001	018	ACILABL	008	038	ACIPASS	040	018
ACICMD	008	030	ACILINK	001	000	ACIRGRP	008	008
ACICODE	001	001	ACILOG	001	010	ACIRPI	001	002
ACIDEFR	001	004	ACIMODE	002	028	ACIRUSR	008	010
ACIDEL	001	00C	ACINOAC	001	008	ACISIZE	001	008

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Name	Len	Value/Disp
ACISPOOL	001	004
ACITAG	001	008
ACITERM	001	010
ACITGRP	008	018
ACITUSR	008	020
ACIUDIR	032	018
ACIUSRID	008	000
ACIVAL	001	004
ACIVMCMD	001	01C
ACIXTND	001	001

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HCPACOBK— USER ACCOUNTING RECORD FORMAT

DSECT NAME: ACOBK

DESCRIPTIVE NAME: USER ACCOUNTING RECORD FORMAT

FUNCTION: HCPACOBK DEFINES THE FORMAT OF THE FIELDS IN THE ACCOUNTING CARD THAT PROVIDE THE STATISTICAL INFORMATION ON EACH USER FOR:

1. USER VIRTUAL MACHINE ACCOUNTING
2. USER DEDICATED DEVICE ACCOUNTING
3. USER T-DISK SPACE ACCOUNTING
4. USER MINI-DISK SPACE ACCOUNTING
5. ADJUNCT VIRTUAL MACHINE ACCOUNTING
6. ADJUNCT DEDICATED DEVICE ACCOUNTING
7. ADJUNCT T-DISK SPACE ACCOUNTING
8. ADJUNCT MINI-DISK SPACE ACCOUNTING
9. USER GENERATED ACCOUNTING

LOCATED BY:

THE SYSTEM CHECK POINT BLOCK (CKPBK) POINTS
TO THE DASD LOCATION OF CHECK-POINTED
ACOBK'S BY THE ANCHORS CKPSACCT AND CKPCACCT.
AFTER SYSTEM IS STARTED :
THE ACOBK'S ARE PLACED IN QUEUES ANCHORED
IN THE SYSTEM COMMON AREA
- SYSRECQU FOR CHECK-POINTED RECORDS
- SYSRECQL FOR NON CHECK-POINTED RECORDS

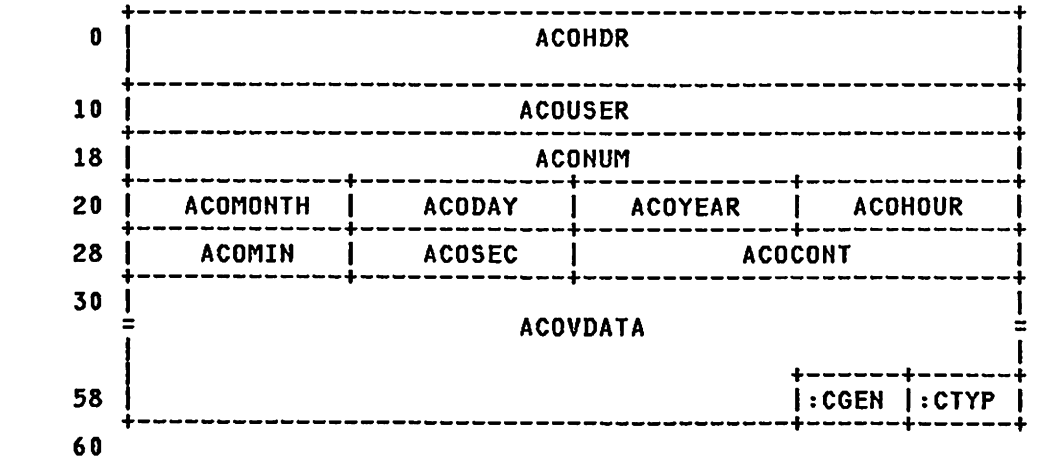
CREATED BY:

HCPACODV
HCPACOFF
HCPCKPRS
HCPHVDAL

DELETED BY:

HCPRECNU

ACOBK - USER ACCOUNTING RECORD FORMAT



REDEFINITION - VM RESOURCE ACCOUNTING RECORD

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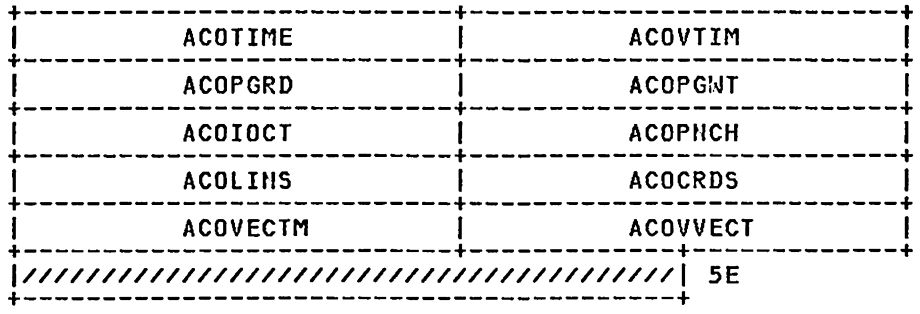
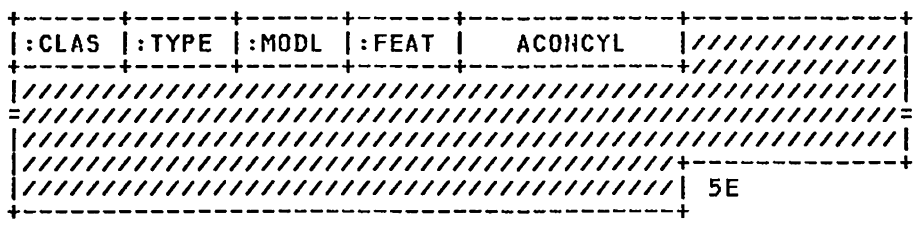


REDEFINITION - T-DISK/DEVICE ACCOUNTING RECORD



REDEFINITION - USER GENERATED ACCOUNTING RECORD

disp	name	length	description
000	ACOHDR	016	GSDBLOK HEADER FOR ACCOUNT BUFFER
010	ACODATA	080	GENERAL ACCOUNTING DATA
010	ACOUSER	008	VIRTUAL MACHINE IDENTIFICATION
018	ACONUM	008	VIRTUAL MACHINE ACCOUNT NUMBER
020	ACOSTOP	012	DATE AND TIME OF ACCOUNTING
020	ACOMONTH	002	MONTH PORTION
022	ACODAY	002	DAY PORTION
024	ACOYEAR	002	YEAR PORTION
026	ACOHOUR	002	HOUR PORTION
028	ACOMIN	002	MINUTE PORTION
02A	ACOSEC	002	SECOND PORTION
02C	ACOCONT	004	NUMBER OF SECONDS OF CONNECT TIME
030	ACOVDATA	001	RECORD SPECIFIC ACCOUNTING DATA
05E	ACOCODE	002	CARD IDENTIFICATION CODE

CHARACTER CODES DEFINED FOR ACOCODE

05E	ACOCGEN	001	CARD GENERATOR
05F	ACOCTYP	001	CARD TYPE

EQUATES

0C	ACOSIZE	SIZE OF ACOBK IN DWORDS

REDEFINITION - VM RESOURCE ACCOUNTING RECORD

030	ACOTIME	004	MILLISECONDS OF CPU TIME USED
034	ACOVTIM	004	MILLISECONDS OF VIRTUAL CPU TIME

```
038   ACOPGRD    004       TOTAL PAGE READS
03C   ACOPGWT    004       TOTAL PAGE WRITES
040   ACOIOCT    004       VIRTUAL SIO CNT - NON-SPOOLED IO
044   ACOPNCH    004       VIRTUAL CARD CNT - SPOOLED PUN
048   ACOLINS    004       VIRTUAL LINE CNT - SPOOLED PRT
04C   ACOCRDS    004       VIRTUAL CARD CNT - SPOOLED RDR
050   ACOVECTM   004       MILLISECONDS OF TOTAL VECTOR TIME
054   ACOVVECT   004       MILLISECONDS OF VIRTUAL VECTR TIME
058              XL6       RESERVED FOR FUTURE IBM USE

         REDEFINITION - T-DISK/DEVICE ACCOUNTING RECORD

030   ACOCLAS    001       DEVICE CLASS

        BITS DEFINED FOR ACOCLAS BY HCPDVTYP DEVCLAS

031   ACOTYPE    001       DEVICE TYPE

        BITS DEFINED FOR ACOTYPE BY HCPDVTYP DEVTYPE

032   ACOMODL    001       DEVICE MODEL
033   ACOFEAT    001       DEVICE FEATURES

        BITS DEFINED FOR ACOFEAT BY HCPDVTYP DEVFEAT

034   ACONCYL    002       NUMBER OF CYLINDERS (T-DISK ONLY)
036              XL40      RESERVED FOR FUTURE IBM USE

         REDEFINITION - USER GENERATED ACCOUNTING RECORD

018   ACOUDATA   070       USER PROVIDED DATA
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
ACOALTVM	001	020	ACOUDATA	070	018
ACOBK	001	000	ACOUSER	008	010
ACOCGEN	001	05E	ACOVDATA	001	030
ACOCLAS	001	030	ACOVECTM	004	050
ACOCODE	002	05E	ACOVTIM	004	034
ACOCONT	004	02C	ACOVVECT	004	054
ACOCRDS	004	04C	ACOYEAR	002	024
ACOCTYP	001	05F			
ACODATA	080	010			
ACODAY	002	022			
ACOFEAT	001	033			
ACOHDR	016	000			
ACOHIPR	001	020			
ACOHOUR	002	026			
ACOIOCT	004	040			
ACOLINS	004	048			
ACOMIN	002	028			
ACOMODL	001	032			
ACOMONTH	002	020			
ACONCYL	002	034			
ACONUM	008	018			
ACOPGRD	004	038			
ACOPGWT	004	03C			
ACOPNCH	004	044			
ACOSEC	002	02A			
ACOSIZE	001	00C			
ACOSTOP	012	020			
ACOTIME	004	030			
ACOTYPE	001	031			

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HCPAFFBK— AFFINITY MANAGEMENT CONTROL BLOCK

DSECT NAME: AFFBK

DESCRIPTIVE NAME: AFFINITY MANAGEMENT CONTROL BLOCK

FUNCTION: THE AFFBK MAPS THE STORAGE IN HCPRCC STARTING AT LABEL HCPRCCAF, EXTENDING FOR THE LENGTH OF THIS BLOCK. WHEN THE AFFBK IS COPIED VIA THE 'COPY' PSUEDO-OP INTO ANY MODULE OTHER THAN HCPRCC, IT WILL GENERATE A DSECT. WHEN COPIED IN HCPRCC, HOWEVER, IT WILL GENERATE CODE TO ACTUALLY DEFINE THE FIELDS. THE AFFBK IS USED BY THE PROCESSOR FEATURE AFFINITY MANAGEMENT ROUTINES AS AN AREA TO DO BOOKKEEPING AND RECORDING.

LOCATED BY:

HCPRCCAF IS THE ADDRESS OF THE START OF THE BLOCK.

CREATED BY:

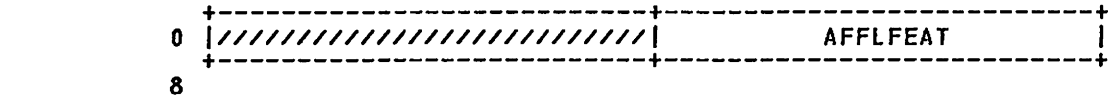
THE BLOCK IS DCED IN MODULE HCPRCC.

DELETED BY:

NEVER DELETED

AFFBK - AFFINITY MANAGEMENT CONTROL BLOCK

REDEFINITION -



disp	name	length	description
000	AFFPFTR	004	PROCESSOR FEATURES A DATA AREA CONTAINING A ..FULLWORD FOR EACH PROCESSOR ..(INDEXED BY PFXINDEX, OR ..VMDHPLDV/2**5) DESCRIBING THE ..FEATURES AVAILABLE ON EACH ..PROCESSOR.

REDEFINITION -

000		A(FTRAVAI	INITIALIZE FOR MASTER
07C	AFFLFEAT	004	LOADABLE FEATURES THIS IS A MASK OF FEATURE ..BITS CONTAINING A ONE IN THE ..POSITION OF EACH FEATURE WHICH ..IS "LOADABLE". A FEATURE ..WHICH IS LOADABLE CANNOT BE ..SHARED BY VMDBKS WITHOUT SOME ..WORK INVOLVED TO ACCOMPLISH ..THE SWITCH. THIS IS A STATIC ..MASK.

EQUATES

80	AFFLEN	LENGTH IN BYTES OF THE AFFBK

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```
        10    AFFSIZE     SIZE IN DOUBLEWORDS OF THE AFFBK
```

CROSS REFERENCE

Name	Len	Value/Disp
AFFBK	001	000
AFFLEN	001	080
AFFLFEAT	004	07C
AFFLOAFF	001	008
AFFPFTR	004	000
AFFSIZE	001	010
AFFSTLST	001	004
AFFUNLD	001	000

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HCPALOC— DASD VOLUME ALLOCATION BLOCK

DSECT NAME: ALOC

DESCRIPTIVE NAME: DASD VOLUME ALLOCATION BLOCK

FUNCTION: AN ALOC BLOCK DESCRIBES THE ALLOCATION STATUS FOR A SYSTEM OWNED VOLUME.

LOCATED BY:

CPVALOC FIELD OF OWNING CPVOL BLOCK
SALALOC FAST ALLOCATION PATH CURRENT ALOC ADDR

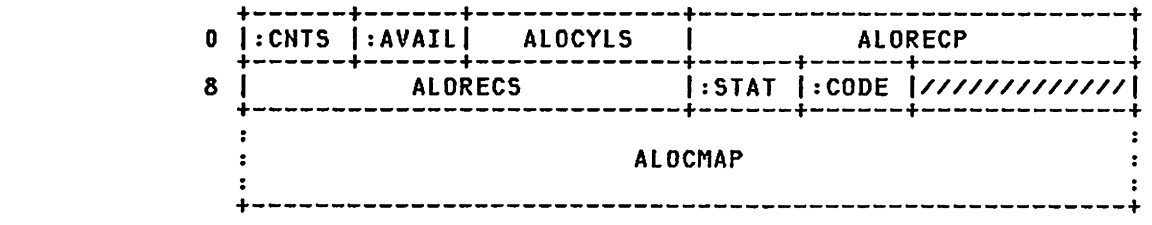
CREATED BY:

HCPIIODV AT INITIALIZATION
HCPRDAAT IF A SYSTEM VOLUME IS ATTACHED

DELETED BY:

HCPRDADT IF A SYSTEM VOLUME IS DETACHED.

ALOC - DASD VOLUME ALLOCATION BLOCK



REDEFINITION -

disp	name	length	description
000	ALOCNTS	001	VOLUME TYPE CONTENTS THIS BYTE CONTAINS THE RESULTING BIT CONFIGURATION OBTAINED BY ORING ALL USE FLAGS THAT REPRESENT TYPE OF CYLINDERS ALLOCATED ON THIS VOLUME.
	BITS DEFINED FOR ALOCNTS BY HCPALOC ALOCMAP		
001	ALOAVAIL	001	AVAILABILITY OF TYPES
	BITS DEFINED FOR ALOAVAIL BY HCPALOC ALOCMAP		
002	ALOCYLS	002	NUMBER OF CYLINDERS ON DEVICE
004	ALOCLIST	004	START OF ALLOCATION LIST
004	ALORECP	004	PTR TO PALBK CHAIN FOR PAGING
008	ALORECS	004	PTR TO PALBK CHAIN FOR SPOOLING
00C	ALOSTAT	001	VOLUME STATUS FLAGS
	BITS DEFINED IN ALOSTAT (AT HEX DISPLACEMENT: C)		
	80 ALOPREF		VOLUME CONTAINS PREFERRED SLOTS
00D	ALOCODE	001	INDEX INTO CPVOL LIST
00E		1H	RESERVED FOR FUTURE IBM USE
010	ALOCMAP	008	START OF VARIABLE LENGTH DATA

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BITS DEFINED IN ALOCMAP (AT HEX DISPLACEMENT: 10)

80	ALOCATED	CYLINDER IS CURRENTLY IN USE
40	ALOCDRCT	ALLOCATION TYPE 'DRCT'
20	ALOCTDSK	ALLOCATION TYPE 'TDSK'
10	ALOCFULL	CYLINDER IS FULL
08	ALOCPERM	ALLOCATION TYPE 'PERM'
02	ALOCSPOL	ALLOCATION TYPE 'SPOL'
01	ALOCPAGE	ALLOCATION TYPE 'PAGE'

REDEFINITION -

010	ALOCBYTE	001	ALLOCATION BYTE FOR A SINGLE CYLINDER
011	ALOCNEXT	001	POSITION OF NEXT ALLOCATION BYTE

MORE EQUATES

0E	ALO2352	2305-2 ALOCBLOK SIZE
35	ALO3330	3330-1 ALOCBLOK SIZE
67	ALO3331	3330-11 ALOCBLOK SIZE
2E	ALO3340	3340-35 ALOCBLOK SIZE
59	ALO3347	3340-70 ALOCBLOK SIZE
48	ALO3350	3350 ALOCBLOCK SIZE
7A	ALO3375	3375 ALOCBLOCK SIZE
71	ALO3380	3380 ALOCBLOCK SIZE
E0	ALO3380E	3380E ALOCBLOCK SIZE
4E	ALO3380K	3380K ALOCBLOCK SIZE

CROSS REFERENCE

Name	Len	Value/Disp
ALOAVAIL	001	001
ALOC	001	000
ALOCATED	001	080
ALOCBYTE	001	010
ALOCDRCT	001	040
ALOCFULL	001	010
ALOCLIST	004	004
ALOCMAP	008	010
ALOCNEXT	001	011
ALOCNTS	001	000
ALOCODE	001	00D
ALOCPAGE	001	001
ALOCPERM	001	008
ALOCSPOL	001	002
ALOCTDSK	001	020
ALOCYLS	002	002
ALOPREF	001	080
ALORECP	004	004
ALORECS	004	008
ALOSTAT	001	00C
ALO2352	001	00E
ALO3330	001	035
ALO3331	001	067
ALO3340	001	02E
ALO3347	001	059
ALO3350	001	048
ALO3375	001	07A
ALO3380	001	071
ALO3380E	001	0E0
ALO3380K	001	14E

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AOFPARM— PARAMETER LIST FOR HCPACUOF

DSECT NAME: AOFPARM

DESCRIPTIVE NAME: PARAMETER LIST FOR HCPACUOF

FUNCTION: CONTAINS THE PARAMETERS TO BE PASSED BETWEEN THE SYSTEM ACCOUNTING ROUTINES AND THE ACCOUNTING USER EXIT HCPACUOF.

LOCATED BY:

N/A

CREATED BY:

HCPACO
HCPCKP (AS A STATIC AREA WITHIN HCPCKP)

DELETED BY:

HCPACO

disp	name	length	description
000	AOFAREC	004	CONTAINS THE ADDRESS OF A COMPLETED ACCOUNTING RECORD.

EQUATES

01	AOFSIZE	AOFPARM SIZE IN DOUBLEWORDS

CROSS REFERENCE

Name	Len	Value/Disp
AOFAREC	004	000
AOFPARM	001	000
AOFSIZE	001	001

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AONPARM— PARAMETER LIST FOR HCPACUON

DSECT NAME: AONPARM

DESCRIPTIVE NAME: PARAMETER LIST FOR HCPACUON

FUNCTION: CONTAINS THE PARAMETERS TO BE PASSED BETWEEN THE SYSTEM ACCOUNTING ROUTINES AND THE ACCOUNTING USER EXIT HCPACUON.

LOCATED BY:

N/A

CREATED BY:

HCPACO

DELETED BY:

HCPACO

disp	name	length	description
000	AONBUFF	004	CONTAINS ONE OF THE FOLLOWING: - ADDRESS OF A BUFFER CONTAINING UP TO 130 BYTES OF DATA THAT HAS BEEN READ FROM THE IBM 3277 OPERATOR IDENTIFICATION CARD READER FEATURE. THE DATA IS USER-DEFINED FOR TERMINAL OPERATOR IDENTIFICATION. - 4, IF AN UNSUCCESSFUL ATTEMPT TO READ THIS READER FEATURE WAS MADE.

EQUATES

01	AONSIZE	AONPARM SIZE IN DOUBLEWORDS

CROSS REFERENCE

Name	Len	Value/Disp
AONBUFF	004	000
AONPARM	001	000
AONSIZE	001	001

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HCPASATE— AUXILIARY STORAGE ADDRESS TABLE ENTRY

DSECT NAME: ASATE

DESCRIPTIVE NAME: AUXILIARY STORAGE ADDRESS TABLE ENTRY

FUNCTION: THE ASATE CONTAINS THE AUXILIARY STORAGE ADDRESS OF A 4K VIRTUAL PAGE IF A COPY RESIDES ON AUXILIARY PAGING STORAGE.

LOCATED BY:

PGMASATB FIELD OF HCPPGMBK + (PAGE OFFSET
VPGASATE IN A VPGBK USING A PAGTE ADDRESS
AN AUXILIARY STORAGE ADDRESS TABLE RESIDES IN A
PAGE MANAGEMENT BLOCK ASSOCIATED WITH A MEGABYTE
OF VIRTUAL STORAGE AND IS POINTED TO BY PGMASATB.
THERE ARE 256 CONTIGUOUS AUXILIARY STORAGE ADDRESS
ENTRIES (ASATE'S) CONTAINED IN THE PGMASATB.
ANY SPECIFIC ASA TABLE ENTRY CAN BE OBTAINED BY
EXTRACTING THE PAGE NUMBER (BITS 12-19) FROM A
VIRTUAL ADDRESS MULTIPLYING THE PAGE NUMBER TIMES 4
AND ADDING THE OFFSET OBTAINED TO PGMASATB.
ALSO, USING THE ADDRESS OF A PAGTE AS THE ADDRESS
OF A VPGBK THE CORRESPONDING ASATE CAN BE FOUND
BY ADDRESSING FIELD VPGASATE IN THE VPGBK.

CREATED BY:

HCPBPBCU
HCPBPBIE
HCPBPBIM
HCPBPBSL
AN AUXILIARY STORAGE ADDRESS TABLE IS IMBEDDED
IN A PAGE MANAGEMENT BLOCK AND CONSEQUENTLY
SPACE IS CREATED FOR THE ASATE WHEN THE PGMBK
IS CREATED.
AT INITIALIZATION TIME HCPISTOR FILLS IN THE ASATE
FOR CP RESIDENT PAGES, CP PAGABLE PAGES AND
CHECKPOINT PAGES.

BLK HCPBLK (CP) VM/XA - SYSTEM PRODUCT 5664-308

DELETED BY:

HCPRCIRL
HCPRPBPA
HCPRPBPS
HCPRPBRM
HCPRPBSL
AN AUXILIARY STORAGE ADDRESS TABLE IS DELETED WHEN
A PAGE MANAGEMENT BLOCK IS RELEASED.

ASATE - AUXILIARY STORAGE TABLE ENTRY

REDEFINITION - AUXILIARY STORAGE ADDRESS

disp	name	length	description
000	ASAENTRY	004	AUXILIARY STORAGE ADDRESS

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EQUATES

	04	ASALENTH	LENGTH OF ONE ADDRESS TABLE ENTRY
004	ASANEXT	004	NEXT ADDRESS TABLE ENTRY

REDEFINITION - AUXILIARY STORAGE ADDRESS

000	ASACNUM	002	AUXILIARY STORAGE CYLINDER NUMBER
002	ASAPNUM	001	AUXILIARY STORAGE PAGE NUMBER
003	ASAVOL	001	AUXILIARY STORAGE VOLUME CODE

CROSS REFERENCE

Name	Len	Value/Disp
ASACNUM	002	000
ASAENTRY	004	000
ASALENTH	001	004
ASANEXT	004	004
ASAPNUM	001	002
ASATE	001	000
ASAVOL	001	003

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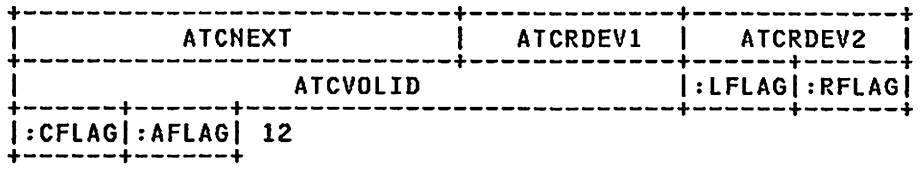
HCPATCBK— ATTACH COMMAND BLOCK

DSECT NAME: ATCBK

DESCRIPTIVE NAME: ATTACH COMMAND BLOCK

FUNCTION: CONTAINS PARAMETERS FROM THE ATTACH COMMAND

ATCBK - ATTACH COMMAND BLOCK



disp	name	length	description
000	ATCNEXT	004	ADDRESS OF NEXT ATCBK
004	ATCDEVS	004	REAL DEVICE NUMBERS
004	ATCRDEV1	002	BEGINING RDEV NUMBER
006	ATCRDEV2	002	ENDING RDEV NUMBER
008	ATCVDEV	004	BEGINNING VDEV NUMBER
008	ATCPARMS	008	PARMS TO PASS HCPATSYS
008	ATCVOLID	006	SYSTEM VOLUME LABEL
00E	ATCSFLGS	002	FLAG BYTES FOR HCPATSYS
00E	ATCLFLAG	001	FLAG BYTE FOR HCPATSYS
00F	ATCRFLAG	001	FLAG BYTE FOR HCPATSYS
010	ATCCFLAG	001	LEVEL OF CONTROL FLAG
	BITS DEFINED FOR ATCCFLAG BY HCPDDEV DDEVFLGB		
011	ATCAFLAG	001	ASSIGN OR NOASSIGN FLAG
	BITS DEFINED FOR ATCAFLAG BY HCPDDEV DDEVFLGC		
	03 ATCSIZE		SIZE IN DOUBLEWORDS
	MORE EQUATES		
	80 ATCASSGN		ASSIGN GIVEN LABEL TO DASD
	40 ATCCPVOL		MOUNT CP VOLUME LABELS
	20 ATCUSRVL		MOUNT USER VOLUME LABELS
	10 ATCUNKVL		MOUNT UNKNOWN VOLUME LABELS
	70 ATCANYVL		ANY LABELS
	80 ATCNORSP		NO REPONSE MESSAGES
	40 ATCNOATT		NO 'ALREADY ATTACHED' MSGS
	20 ATCSTACK		STACK OUTPUT
	10 ATCRO		ATTACH RDEV READ-ONLY
	08 ATCRLOGD		ATTACH LOGICAL DEVICE
	04 ATCRBFWT		WRITE RESPONSE TO BUFFER

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
ATCAFLAG	001	011	ATCANYVL	001	070	ATCASSGN	001	080

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Name	Len	Value/Disp
ATCBK	001	000
ATCCFLAG	001	010
ATCCPVOL	001	040
ATCDEVS	004	004
ATCLFLAG	001	00E
ATCNEXT	004	000
ATCNOATT	001	040
ATCNORSP	001	080
ATCPARMS	008	008
ATCRBFWT	001	004
ATCRDEV1	002	004
ATCRDEV2	002	006
ATCRFLAG	001	00F
ATCRLOGD	001	008
ATCRO	001	010
ATCSFLGS	002	00E
ATCSIZE	001	003
ATCSTACK	001	020
ATCUNKVL	001	010
ATCUSRVL	001	020
ATCVDEV	004	008
ATCVOLID	006	008

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HCPAZPAG— VIRTUAL PAGE ZERO FOR CPFORMAT

DSECT NAME: AZPAG

DESCRIPTIVE NAME: VIRTUAL PAGE ZERO FOR CPFORMAT

FUNCTION: TO MAP OUT MACHINE DEPENDENT AREAS OF VIRTUAL PAGE ZERO FOR CPFORMAT. ALSO, COMMONLY USED CONTANTS AND ADDRESSES OF CPFORMAT ROUTINES RESIDE IN THIS PAGE.

LOCATED BY:

STARTS AT THE USER'S VIRTUAL ADDRESS 0.

CREATED BY:

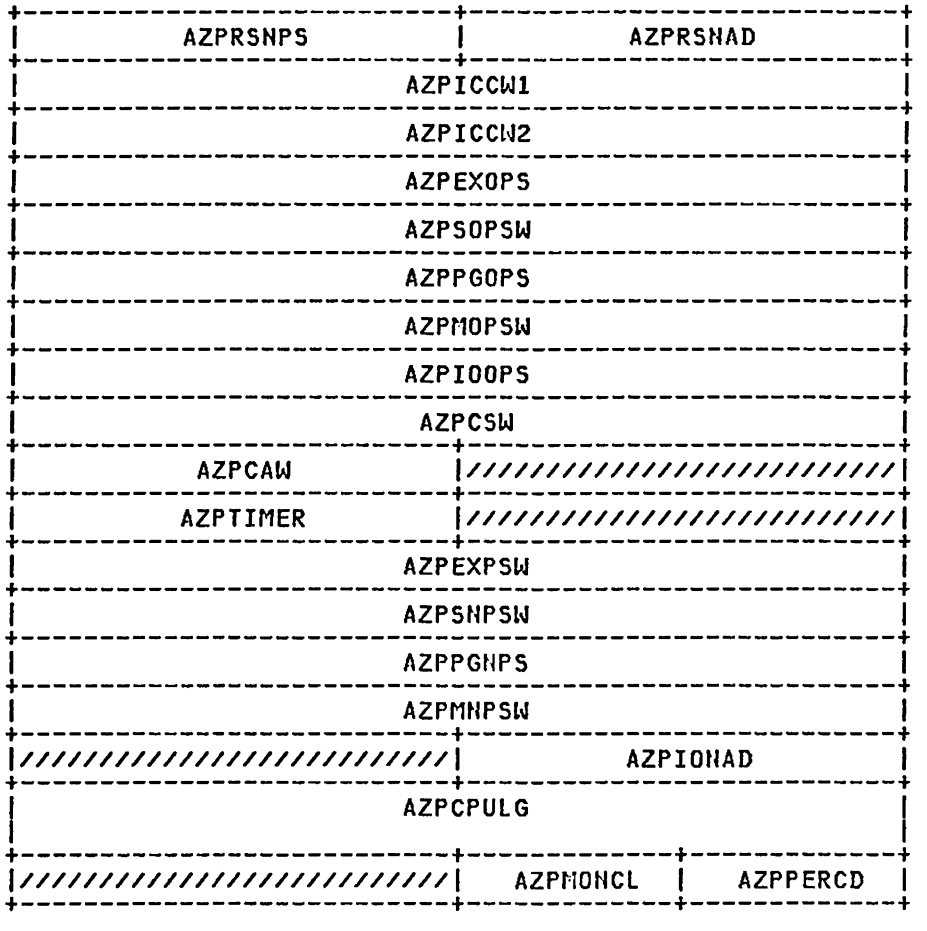
HCPFAN - THIS CONTROL BLOCK IS COPIED BY HCPFAN AS A CSECT, AND CREATES A MODULE WHICH CONTAINS ALL THE CONSTANTS DEFINED IN AZPAG. IT IS THIS MODULE THAT IS READ INTO THE USER'S VIRTUAL PAGE ZERO WHEN HE ISSUES THE CPFORMAT COMMAND. ALL OTHER MODULES COPY AND REFERENCE THIS CONTROL BLOCK AS A DSECT.

HCPLOD - THE FIELDS WHICH WILL CONTAIN THE ADDRESSES OF CPFORMAT ROUTINES ARE INITIALIZED BY THE LOADER

DELETED BY:

HCPRESCP - THIS BLOCK IS DELETED FROM THE USER'S VIRTUAL MACHINE WHEN THE CPFORMAT COMMAND COMPLETES OR IS TERMINATED.

AZPAG - ADJUNCT PREFIX STORAGE AREA



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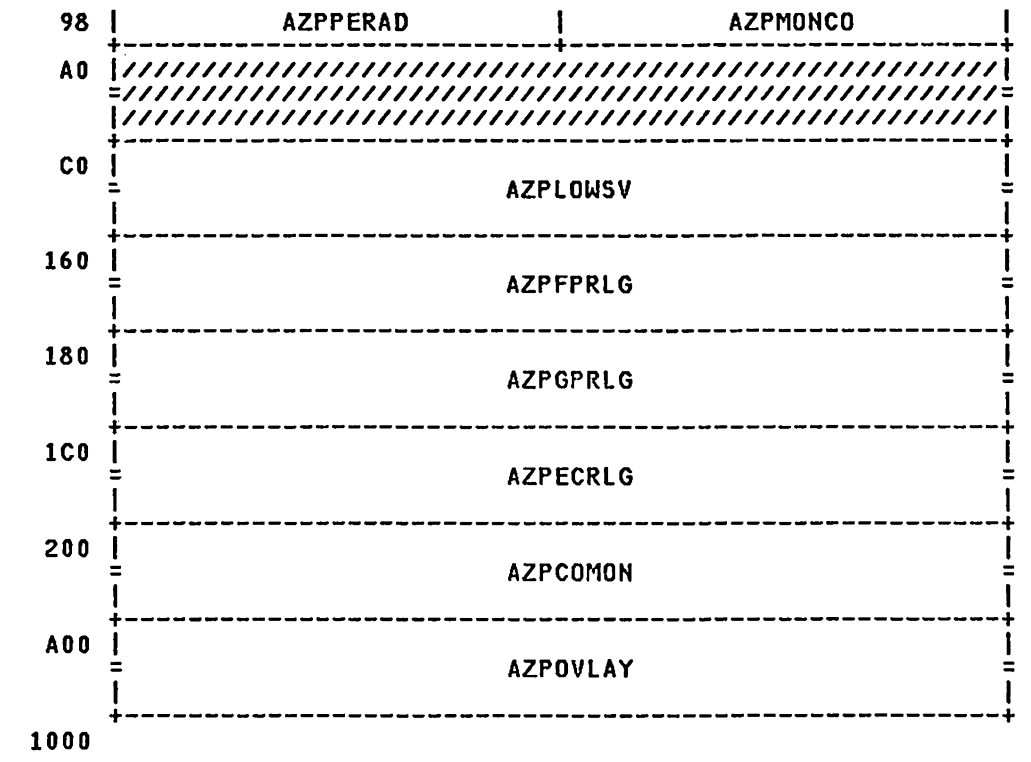
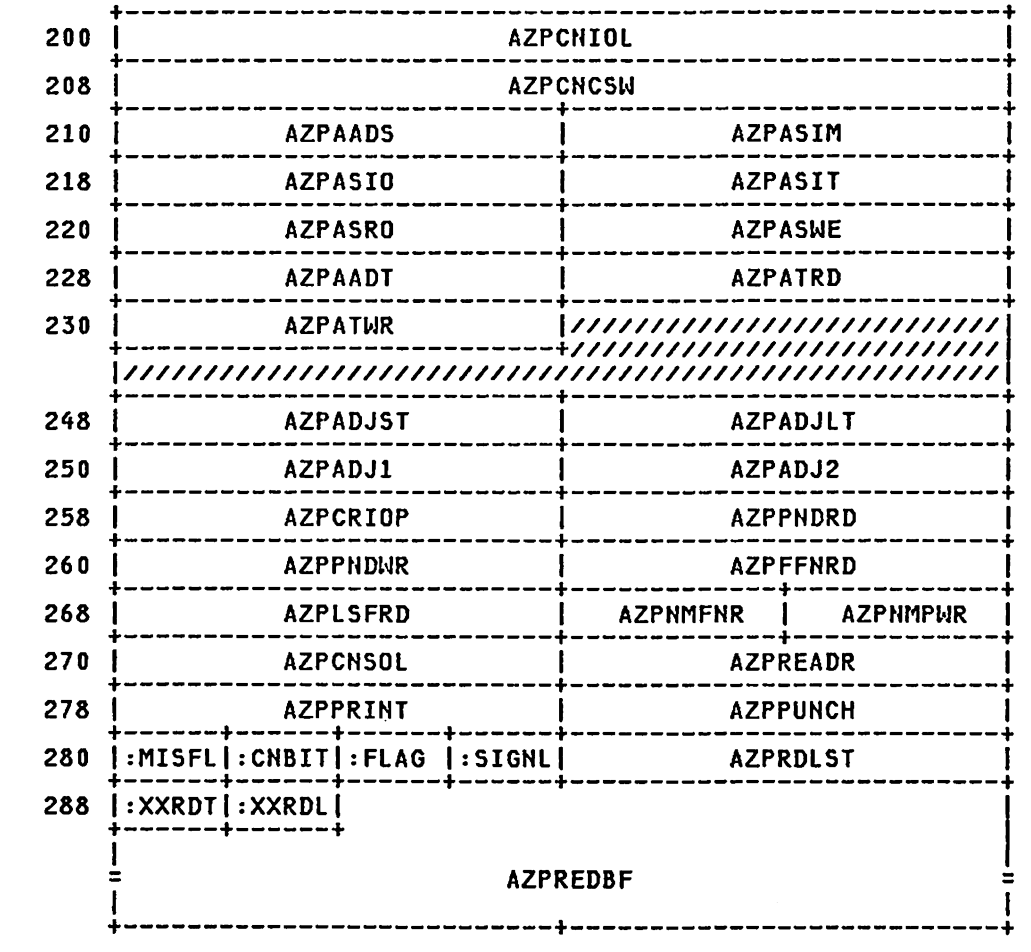


REDEFINITION - DEFINE COMMON I/O USAGE



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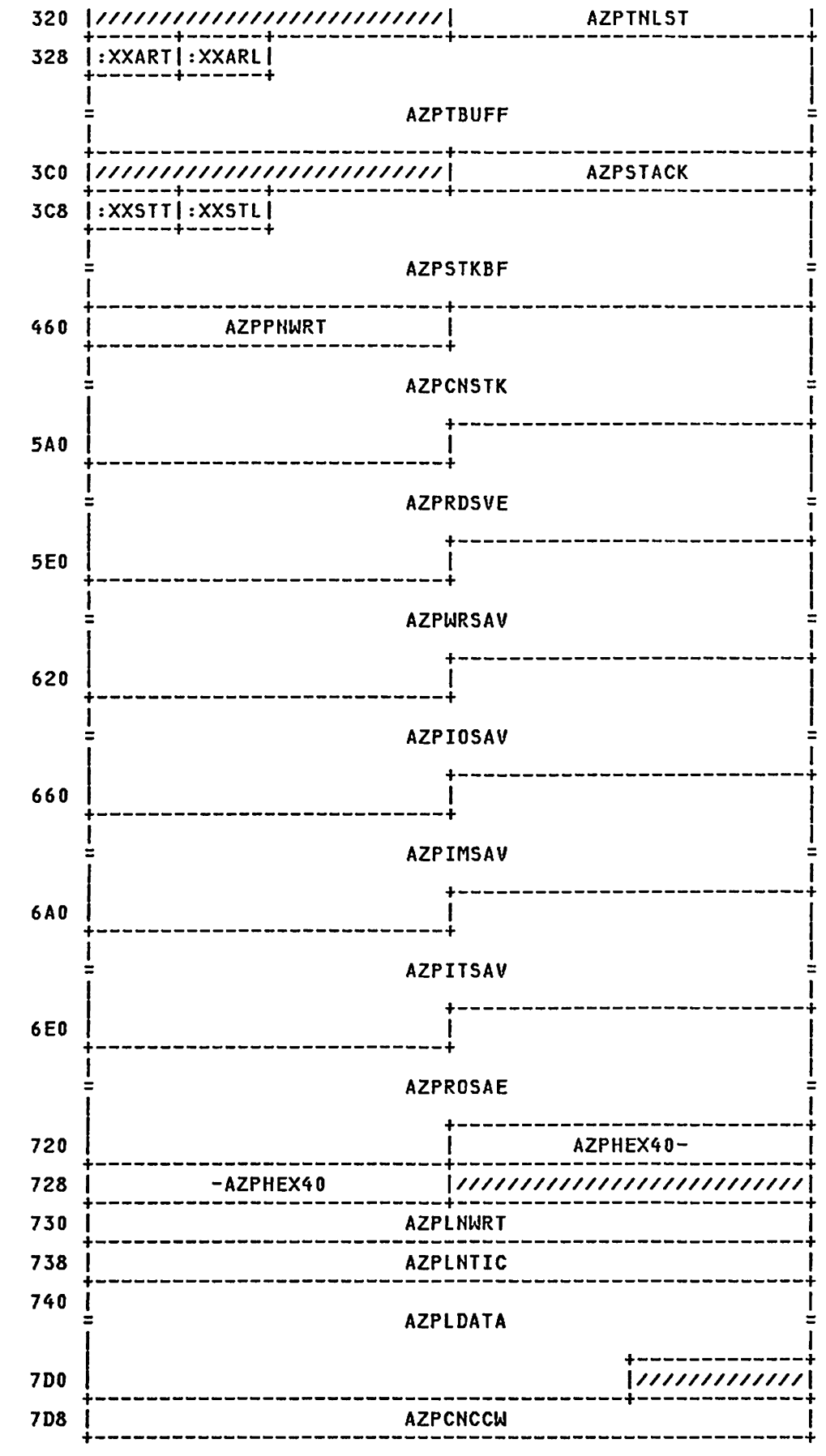
320
328
:XXART
:XXARL
AZPTNLST
AZPTBUFF
3C0
3C8
:XXSTT
:XXSTL
AZPSTACK
AZPSTKBF
460
AZPPNWRT
AZPCNSTK
5A0
AZPRDSVE
5E0
AZPWRSAV
620
AZPIOSAV
660
AZPIMSAV
6A0
AZPITSAV
6E0
AZPROSAE
720
AZPHEX40-
728
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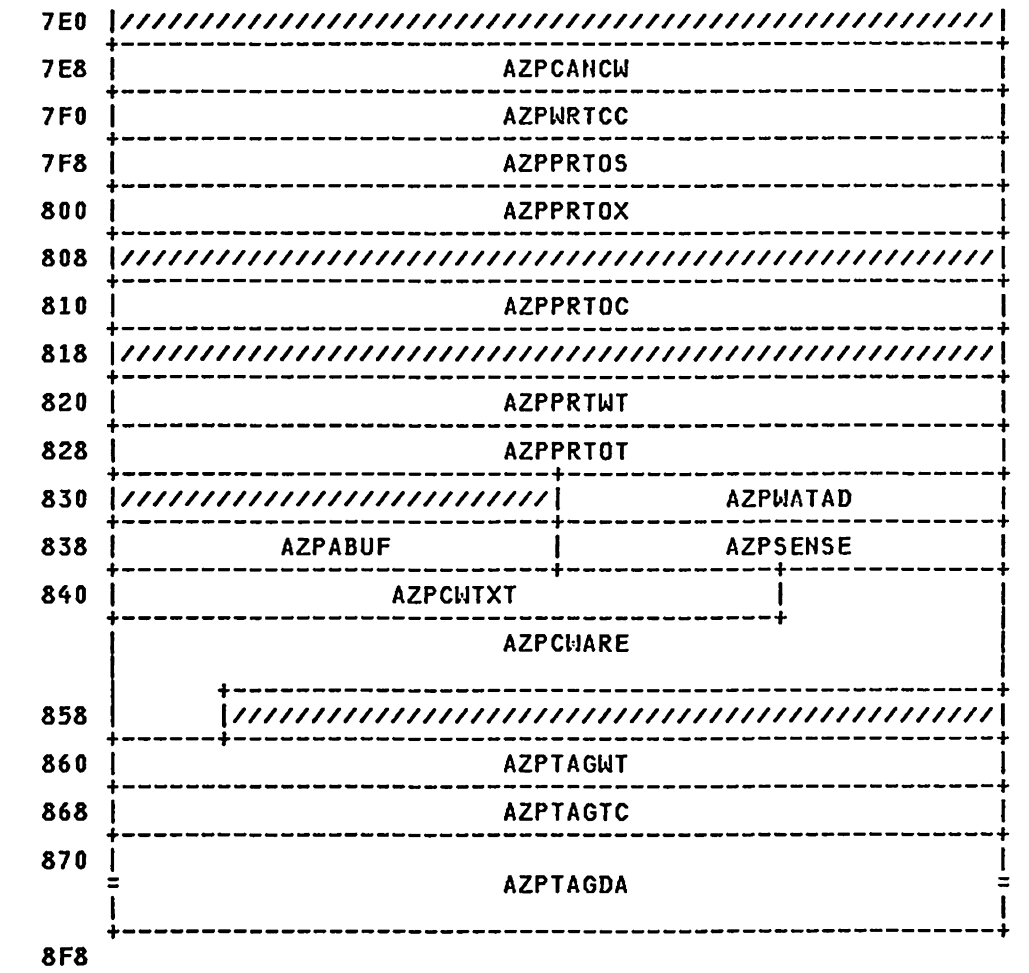
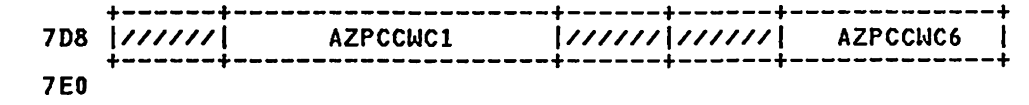
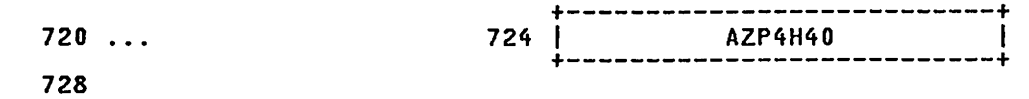
AZPLNTIC
740
AZPLDATA
7D0
7D8
AZPCNCCW



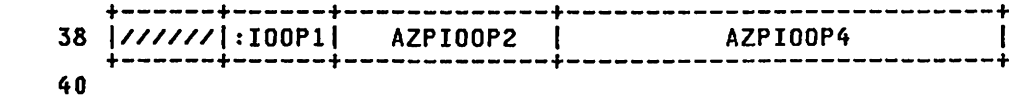
REDEFINITION - CONSOLE CCW



REDEFINITION - DIFFERENT LENGTHS OF BLANKS



REDEFINITION - I/O OLD PSW



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REDEFINITION - FURTHER DEF'N OF 5TH - 8TH BYTES

disp	name	length	description
000	AZPNUCLS	008	BEGINNING OF HARDWARE NUCLEUS.
000	AZPIPSW	008	INITIAL PROGRAM LOADING PSW
000	AZPRSNPS	004	
004	AZPRSNAD	004	ADDRESS OF RESTART ROUTINE
008	AZPRSOPS	008	
008	AZPICCW1	008	INITIAL PROGRAM LOADING CCW1
010	AZPICCW2	008	INITIAL PROGRAM LOADING CCW2
018	AZPEXOPS	008	EXTERNAL OLD PSW
020	AZPSOPSW	008	SUPERVISOR CALL OLD PSW
028	AZPPGOPS	008	PROGRAM OLD PSW
030	AZPMOPSW	008	MACHINE-CHECK OLD PSW
038	AZPIOOPS	008	INPUT/OUTPUT OLD PSW
040	AZPCSW	008	CHANNEL STATUS WORD
		EQUATES	
	40 AZPCSWA		1ST WORD OF THE CSW
	44 AZPCSWB		2ND WORD OF THE CSW
	41 AZPCSWAD		ADDRESS OF NEXT CCW TO BE EXECUTED
	44 AZPCSWDS		DEVICE STATUS BYTE
048	AZPCAW	004	CHANNEL ADDRESS WORD
04C		F'0'	RESERVED FOR FUTURE USE
050	AZPTIMER	004	INTERVAL TIMER
054		F'0'	RESERVED FOR FUTURE USE
058	AZPEXPSW	008	EXTERNAL NEW PSW
060	AZPSNPSW	008	SUPERVISOR CALL NEW PSW
068	AZPPGNPS	008	PROGRAM NEW PSW
070	AZPMNPSW	008	MACHINE-CHECK NEW PSW
078	AZPIONPS	008	I/O NEW PSW
078		XL4'00'	
07C	AZPIONAD	004	
080	AZPCPULG	008	CPU LOGOUT AREA
090		1F	RESERVED FOR FUTURE USE
094	AZPMONCL	002	MONITOR CALL CLASS NUMBER
096	AZPPERCD	002	PROGRAM EVENT RECORDER CODE
098	AZPPERAD	004	PROGRAM EVENT RECORDER ADDRESS
09C	AZPMONCO	004	MONITOR CALL CODE
0A0		4D	RESERVED FOR FUTURE HARDWARE USE
0C0	AZPLOWSV	160	SAVEAREA FOR 1ST 160 BYTES
160	AZPFPRLG	008	FLOATING POINT REGISTER LOGOUT
180	AZPGPRLG	004	GENERAL PURPOSE REGISTER LOGOUT
1C0	AZPECRLG	004	EXTENDED CONTROL REGISTER LOGOUT
200	AZPCOMON	008	AREA FOR COMMON I/O USAGE
		EQUATES	
	00 AZPSIZEC		LENGTH OF COMMON AREA
A00	AZPOVLAY	008	AREA FOR SPECIFIC MACHINES
		EQUATES	
	00 AZPSIZEX		LENGTH OF SPECIFIC AREA

REDEFINITION - DEFINE COMMON I/O USAGE

200	AZPIOCMN	008	START OF I/O COMMON AREA
200	AZPCNIOL	008	SAVED CONSOLE I/O-OLD PSW

EQUATES

```
        02    AZPIOLC2    3RD BYTE SAVED CONS I/O PSW

208   AZPCNCSW   008       SAVED CONSOLE CSW
210   AZPAADS    004       LOW-LEVEL CONSOLE DRIVER
214   AZPASIM    004       CONSOLE INTERRUPT PROCESSOR
218   AZPASIO    004       CONSOLE INPUT/OUTPUT DRIVER
21C   AZPASIT    004       INTERRUPT HANDLER
220   AZPASRO    004       CONSOLE WAIT ROUTINE
224   AZPASWE    004       CONSOLE WAIT RETURN ADDRESS
228   AZPAADT    004       HIGH-LEVEL CONSOLE MODULE
22C   AZPATRD    004       CONSOLE READ ROUTINE
230   AZPATWR    004       CONSOLE WRITE ROUTINE
234              5A        RESERVED FOR FUTURE IBM USE
248   AZPADJST   004       1ST ADJUNCT MACHINE MOD ADDRESS
24C   AZPADJLT   004       LAST ADJUNCT MACHINE MOD ADDRESS
250   AZPADJ1    004       ADJUNCT MACHINE ADDRESSING USES
254   AZPADJ2    004       ADJUNCT MACHINE ADDRESSING USES
258   AZPCRIOP   004       CURRENT I/O BUFFER
25C   AZPPNDRD   004       PENDING READ
260   AZPPNDWR   004       PENDING WRITE
264   AZPFFNRD   004       FINISHED READ BUFFER
268   AZPLSFRD   004       LAST FINISHED READ BUFFER
26C   AZPNMFNR   002       NUMBER OF FINISHED READ BUFFERS
26E   AZPNMPWR   002       NUMBER OF PENDING WRITES
270   AZPCNSOL   004       DEVICE TERMINAL
274   AZPREADR   004       DEVICE READER
278   AZPPRINT   004       DEVICE PRINTER
27C   AZPPUNCH   004       DEVICE PUNCH
280   AZPMISFL   001       SYSTEM FLAGS (AZPUPCAS IS PRESET)

        BITS DEFINED IN AZPMISFL (AT HEX DISPLACEMENT: 280)

        80    AZPKXSW     KILL EXECUTION SWITCH
        40    AZPKTSW     KILL TYPING SWITCH
        20    AZPCANRD    READ CANCELLED BY ATTENTION
        10    AZPGRFDV    GRAPHICS CONSOLE
        08    AZPKXWNT    EXECUTION HALT POSTED
        04    AZPTNHIT    ATTENTION POSTED
        02    AZPUPCAS    UPPER-CASE TRANSLATION REQUIRED

281   AZPCNBIT   001       CONSOLE STATUS FLAG

        BITS DEFINED IN AZPCNBIT (AT HEX DISPLACEMENT: 281)

        80    AZPWAITP    PSEUDO-WAIT-BIT
        20    AZPINTR     INTERRUPT RECEIVED
        10    AZPINTP     INTERRUPT-PROCESSED

282   AZPFLAG    001       DISPLAY CONSOLE FLAGS

        BITS DEFINED IN AZPFLAG  (AT HEX DISPLACEMENT: 282)

        80    AZPDONLY    DISPLAY LOGICAL DATA RECORDS
        40    AZPUPRCS    UPPER-CASE TRANSLATION REQUIRED
        20    AZPIMNOT    LINE IMAGING SUPPRESSED
        10    AZPVEROV    OVER-RIDE VERIFY SETTING
        08    AZPREMOT    DISPLAY TERMINAL
        04    AZPTUBE     CONSOLE IS DISPLAY TYPE
        02    AZPLNGSW    LONG IS SET
        01    AZPVER      VERIFY IS SET

283   AZPSIGNL   001       SIGNALS BETWEEEN ROUTINES

        BITS DEFINED IN AZPSIGNL (AT HEX DISPLACEMENT: 283)

        80    AZPXYACT    PRIMARY X/Y RECURSION
        40    AZPYACT     'Y' IS ACTIVE
        20    AZPXACT     'X' IS ACTIVE
        10    AZPSWTCH    INPUT HAS FORCED TUBE TO LINE
        08    AZPGTPUT    GET/PUT ACTIVE
        04    AZPOVER     REQUEST IS 'OVERLAY'
        02    AZPREPL     TRICKY REPLACE MODE (FIRST LINE)
```

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```
        01    AZPQUOD     LAST REQUEST WAS ? OR "

284   AZPRDLST   004
288   AZPXXRDT   001
289   AZPXXRDL   001
28A   AZPREDBF   150       CONSOLE READ BUFFER
320              1F        RESERVED FOR FUTURE IBM USE
324   AZPTNLST   004
328   AZPXXART   001
329   AZPXXARL   001
32A   AZPTBUFF   150       CONSOLE ATTENTION READ BUFFER
3C0              1F        RESERVED FOR FUTURE IBM USE
3C4   AZPSTACK   004
3C8   AZPXXSTT   001
3C9   AZPXXSTL   001
3CA   AZPSTKBF   150       CONSOLE STACKED LINE BUFFER
460   AZPPNWRT   004
                          OFFSET OF CONSOLE STACK(AZPCNSTK)
464   AZPCNSTK   320       BUFFER OF COMPRESSED OUTPUT LINES

                     EQUATES

        40    AZPTNRD     BUFFER CAME FROM ATTENTION READ

5A4   AZPRDSVE   004       REGISTER SAVEAREA FOR HCPADTRD
5E4   AZPWRSAV   004       REGISTER SAVEAREA FOR HCPADTWR
624   AZPIOSAV   004       REGISTER SAVEAREA FOR HCPADSIO
664   AZPIMSAV   004       REGISTER SAVEAREA FOR HCPADSIM
6A4   AZPITSAV   004       REGISTER SAVEAREA FOR HCPADSIT
6E4   AZPROSAE   004       REGISTER SAVEAREA FOR HCPADSRO
724              0F        ENSURE CORRECT ALIGNMENT
724   AZPHEX40   008       EIGHT BLANKS FOR GENERAL USE
72C              1F        RESERVED FOR FUTURE IBM USE
730   AZPLINE    008
730   AZPLNWRT   008
738   AZPLNTIC   008
740   AZPLDATA   150       CURRENT LINE IS HELD HERE
7D6              1H        RESERVED FOR FUTURE IBM USE
7D8              0D
7D8   AZPCNCCW   008
7E0              X'03',0,X
7E8   AZPCANCW   008       SCREEN CANCEL CCW
7F0   AZPWRTCC   008       WRITE SCREEN CCW
7F8   AZPPRTOS   008
800   AZPPRTOX   008
808              X'08',409
810   AZPPRTOC   008
818              X'08',409
820   AZPPRTWT   008
828   AZPPRTOT   008
830   AZPWATNG   008       WAIT PSW
830              X'FE06000
834   AZPWATAD   004
838   AZPABUF    004       I/O BUFFER PAGE
83C   AZPSENSE   004       SENSE DATA FOR I/O ERROR MESSAGES
840   AZPCWTXT   006       '
846   AZPCWARE   019       AREA IN WHICH CCW IS FORMATTED

                     EQUATES

        19    AZPCWTLN    LENGTH OF DISPLAYABLE CCW

859              XL7       ALIGNMENT
860   AZPTAGAR   016
860   AZPTAGWT   008
868   AZPTAGTC   008
870   AZPTAGDA   136

                     EQUATES

        80    AZPCPMRE    REQUEST TO CP TO CAUSE 'MORE...'
        20    AZPCPALR    REQUEST TO CP TO SOUND THE ALARM
```

```
        REDEFINITION - CONSOLE CCW

7D8                 X         CCW OPCODE
7D9     AZPCCWC1    003       DATA ADDRESS
7DC                 X         FLAGS
7DD                 X         NOT USED
7DE     AZPCCWC6    002       COUNT

        REDEFINITION - DIFFERENT LENGTHS OF BLANKS

724     AZP4H40     004       FULLWORD OF BLANKS (HEX 40'S)

        REDEFINITION - I/O OLD PSW

038                 X         1ST BYTE
039     AZPIOOP1    001       2ND BYTE
03A     AZPIOOP2    002       3RD & 4TH BYTES
03C     AZPIOOP4    004       5TH - 8TH BYTES

        REDEFINITION - FURTHER DEF'N OF 5TH - 8TH BYTES

03C                 X         5TH BYTE
03D     AZPIOOP5    003       6TH - 8TH BYTES

                  MORE EQUATES

      00    AZPSIZEM    LENGTH OF NUCLEUS AREA
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
AZPAADS	004	210	AZPCSWAD	008	041	AZPIPSW	008	000
AZPAADT	004	228	AZPCSWB	008	044	AZPITSAV	004	6A4
AZPABUF	004	838	AZPCSWDS	008	044	AZPKTSW	001	040
AZPADJLT	004	24C	AZPCWARE	019	846	AZPKXSW	001	080
AZPADJST	004	248	AZPCWTLN	001	019	AZPKXWNT	001	008
AZPADJ1	004	250	AZPCWTXT	006	840	AZPLDATA	150	740
AZPADJ2	004	254	AZPDONLY	001	080	AZPLINE	008	730
AZPAG	001	000	AZPECRLG	004	1C0	AZPLNGSW	001	002
AZPASIM	004	214	AZPEXOPS	008	018	AZPLNTIC	008	738
AZPASIO	004	218	AZPEXPSW	008	058	AZPLNWRT	008	730
AZPASIT	004	21C	AZPFFNRD	004	264	AZPLOWSV	160	0C0
AZPASRO	004	220	AZPFLAG	001	282	AZPLSFRD	004	268
AZPASWE	004	224	AZPFPRLG	008	160	AZPMISFL	001	280
AZPATRD	004	22C	AZPGPRLG	004	180	AZPMNPSW	008	070
AZPATWR	004	230	AZPGRFDV	001	010	AZPMONCL	002	094
AZPCANCW	008	7E8	AZPGTPUT	001	008	AZPMONCO	004	09C
AZPCANRD	001	020	AZPHEX40	008	724	AZPMOPSW	008	030
AZPCAW	004	048	AZPICCW1	008	008	AZPNMFNR	002	26C
AZPCCWC1	003	7D9	AZPICCW2	008	010	AZPNMPWR	002	26E
AZPCCWC6	002	7DE	AZPIMNOT	001	020	AZPNUCLS	008	000
AZPCNBIT	001	281	AZPIMSAV	004	664	AZPOVER	001	004
AZPCNCCW	008	7D8	AZPINTP	001	010	AZPOVLAY	008	A00
AZPCNCSW	008	208	AZPINTR	001	020	AZPPERAD	004	098
AZPCNIOL	008	200	AZPIOCMN	008	200	AZPPERCD	002	096
AZPCNSOL	004	270	AZPIOLC2	008	202	AZPPGNPS	008	068
AZPCNSTK	320	464	AZPIONAD	004	07C	AZPPGOPS	008	028
AZPCOMON	008	200	AZPIONPS	008	078	AZPPNDRD	004	25C
AZPCPALR	001	020	AZPIOOPS	008	038	AZPPNDWR	004	260
AZPCPMRE	001	080	AZPIOOP1	001	039	AZPPNWRT	004	460
AZPCPULG	008	080	AZPIOOP2	002	03A	AZPPRINT	004	278
AZPCRIOP	004	258	AZPIOOP4	004	03C	AZPPRTOC	008	810
AZPCSW	008	040	AZPIOOP5	003	03D	AZPPRTOS	008	7F8
AZPCSWA	008	040	AZPIOSAV	004	624	AZPPRTOT	008	828

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Name	Len	Value/Disp
AZPPRTOX	008	800
AZPPRTWT	008	820
AZPPUNCH	004	27C
AZPQUOD	001	001
AZPRDLST	004	284
AZPRDSVE	004	5A4
AZPREADR	004	274
AZPREDBF	150	28A
AZPREMOT	001	008
AZPREPL	001	002
AZPROSAE	004	6E4
AZPRSNAD	004	004
AZPRSNPS	004	000
AZPRSOPS	008	008
AZPSENSE	004	83C
AZPSIGNL	001	283
AZPSIZEC	001	800
AZPSIZEM	001	200
AZPSIZEX	001	600
AZPSNPSW	008	060
AZPSOPSW	008	020
AZPSTACK	004	3C4
AZPSTKBF	150	3CA
AZPSWTCH	001	010
AZPTAGAR	016	860
AZPTAGDA	136	870
AZPTAGTC	008	868
AZPTAGWT	008	860
AZPTBUFF	150	32A
AZPTIMER	004	050
AZPTNHIT	001	004
AZPTNLST	004	324
AZPTNRD	001	040
AZPTUBE	001	004
AZPUPCAS	001	002
AZPUPRCS	001	040
AZPVER	001	001
AZPVEROV	001	010
AZPWAITP	001	080
AZPWATAD	004	834
AZPWATNG	008	830
AZPWRSAV	004	5E4
AZPWRTCC	008	7F0
AZPXACT	001	020
AZPXXARL	001	329
AZPXXART	001	328
AZPXXRDL	001	289
AZPXXRDT	001	288
AZPXXSTL	001	3C9
AZPXXSTT	001	3C8
AZPXYACT	001	080
AZPYACT	001	040
AZP4H40	004	724

HCPBMSBK— BUFFER MANAGEMENT SERVICE CONTROL BLOCK

DSECT NAME: BMSBK

DESCRIPTIVE NAME: BUFFER MANAGEMENT SERVICE CONTROL BLOCK

FUNCTION: CONTAINS THE CURRENT STATUS OF A BUFFER MANAGEMENT TASK

LOCATED BY:

USAGE DEPENDENT

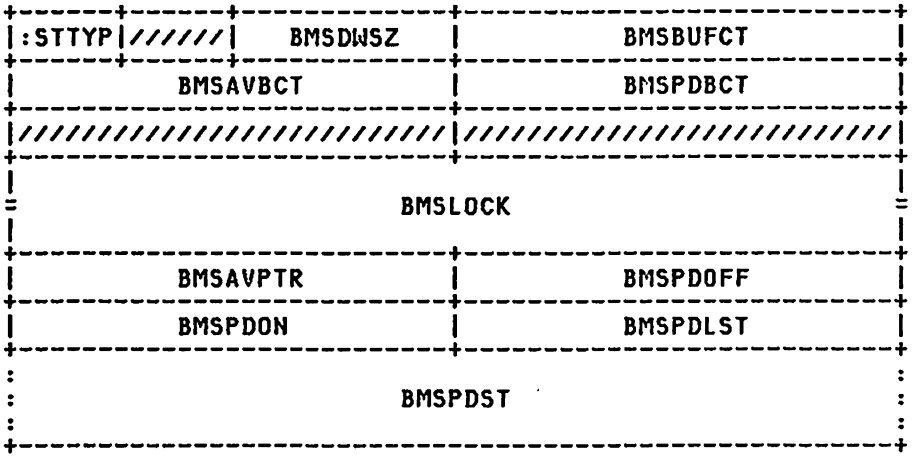
CREATED BY:

HCPBMSIN

DELETED BY:

HCPBMSTM

BMSBK - BUFFER MANAGEMENT SERVICE BLOCK



disp	name	length	description
000		0F	BLOCK STATUS
000	BMSSTTYP	001	FREE STORAGE INDICATOR
001		X	RESERVED FOR FUTURE USE
002	BMSDWSZ	002	DOUBLE WORD SIZE OF BLOCK THIS FIELD IS ONLY USED WHEN THIS BLOCK IS CREATED FORM FREE STORAGE
004	BMSBUFCT	004	COUNT OF TOTAL BUFFERS
008	BMSAVBCT	004	COUNT OF AVAILABLE BUFFERS
00C	BMSPDBCT	004	COUNT OF PENDING BUFFERS
010		F	RESERVED FOR FUTURE USE
014		F	RESERVED FOR FUTURE USE
018	BMSLOCK	008	SPIN LOCK FOR THE BMS BLOCK
030	BMSAVPTR	004	POINTER TO AVAILABLE BUFFERS
034	BMSPDOFF	004	POINTER TO FIRST BUFFER ON THE QUEUE
038	BMSPDON	004	POINTER TO NEXT AVAILABLE SLOT ON THE QUEUE
03C	BMSPDLST	004	ADDRESS OF THE LAST SLOT IN THE ARRAY

EQUATES

08	BMSHSIZE	SIZE OF THE BMS HEADER

040	BMSPDST	004	START OF VARIABLE LENGTH DATA ARRAY OF POINTERS TO PENDING BUFFERS

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1000 BUFFERS ARE MAXIMUM

MORE EQUATES

00	BMSFRE	BMSBK IS FROM FREE STORAGE
01	BMSPAG	BMSBK IS A REAL FRAME (PAGE)

CROSS REFERENCE

Name	Len	Value/Disp
BMSAVBCT	004	008
BMSAVPTR	004	030
BMSBK	001	000
BMSBUFCT	004	004
BMSCNRLS	001	000
BMSDWSZ	002	002
BMSFRE	001	000
BMSHSIZE	001	008
BMSLOCK	008	018
BMSPAG	001	001
BMSPDBCT	004	00C
BMSPDLST	004	03C
BMSPDOFF	004	034
BMSPDON	004	038
BMSPDST	004	040
BMSSTTYP	001	000
BMSUNRLS	001	004

HCPCACBK— VIRTUAL CHANNEL-TO-CHANNEL ADAPTER CONTROL BLOCK

DSECT NAME: CACBK

DESCRIPTIVE NAME: VIRTUAL CHANNEL-TO-CHANNEL ADAPTER CONTROL BLOCK

FUNCTION: THIS CONTROL BLOCK CONTAINS ALL THE PERTINENT CHANNEL-TO- CHANNEL ADAPTER INFORMATION FOR A GIVEN CTCA.

LOCATED BY:

VDEVCTCA FIELD OF HCPVDEV
CACXYCAC (Y-SIDE CACBK) FIELD OF HCPCACBK
CACYXCAC (X-SIDE CACBK) FIELD OF HCPCACBK

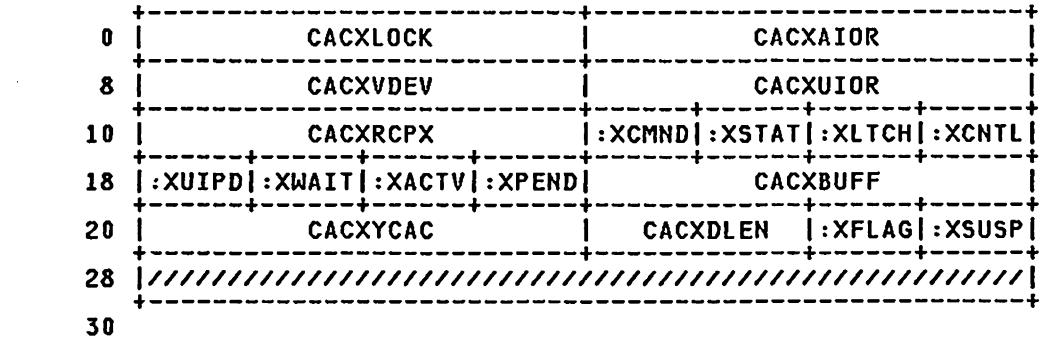
CREATED BY:

HCPCTCDF - WHEN DEFINING A CTCA.

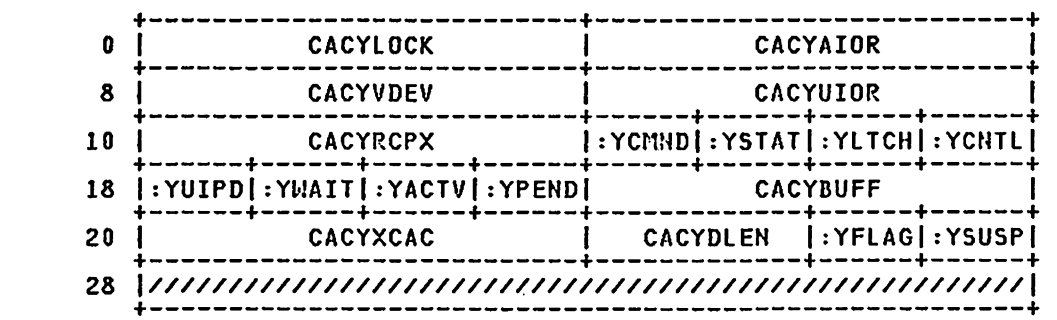
DELETED BY:

HCPCTCDT - WHEN DETACHING A CTCA.

CACBK - CHANNEL ADAPTER CONTROL BLOCK



REDEFINITION -



disp	name	length	description
000		0F	
000	CACXLOCK	004	LOCKWORD FOR EXCLUSIVE CONTROL
004	CACXAIOR	004	ACTIVE IORBK (POINTER)
008	CACXVDEV	004	VIRTUAL DEVICE BLOCK (POINTER)
00C	CACXUIOR	004	UNSOLICITED IORBK (POINTER)
010	CACXRCPX	004	RESUME CPEBK (POINTER)
014	CACXCMND	001	COMMAND CODE ACTIVE IN ADAPTER
015	CACXSTAT	001	CTC ADAPTER STATUS
016	CACXLTCH	001	CTC ADAPTER LATCH

BITS DEFINED IN CACXLTCH (AT HEX DISPLACEMENT: 16)

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```
         80     CACEOFLE    END OF FILE
         40     CACICMDE    INHIBIT COMPATABILITY MODE
         20     CACNTRDY    NOT READY
         10     CACIDISC    INTERFACE OR SELECTIVE DISCONNECT

017    CACXCNTL    001       ADAPTER CONTROL FLAGS

         BITS DEFINED IN CACXCNTL (AT HEX DISPLACEMENT: 17)

         80     CACEODTR    END OF DATA TRANSFER(Y SIDE)
         40     CACHALTD    HALTED BY Y SIDE

018    CACXUIPD    001       UNSOLICITED INTERRUPT FLAG

         BITS DEFINED IN CACXUIPD (AT HEX DISPLACEMENT: 18)

         80     CACUNSAT    UNSOLICITED ATTENTION
         40     CACUNSDE    UNSOLICITED DEVICE END

019    CACXWAIT    001       COMMAND WAITING IN ADAPTER

         BITS DEFINED IN CACXWAIT (AT HEX DISPLACEMENT: 19)

         80     CACWRTWT    WRITE WAITING
         40     CACRDXWT    READ WAITING
         20     CACCTLWT    CONTROL WAITING

01A    CACXACTV    001       COMMAND ACTIVE IN ADAPTER

         BITS DEFINED IN CACXACTV (AT HEX DISPLACEMENT: 1A)

         80     CACWRTAC    WRITE ACTIVE
         40     CACRDXAC    READ ACTIVE
         20     CACCTLAC    CONTROL ACTIVE

01B    CACXPEND    001       COMMAND PENDING FOR ADAPTER

         BITS DEFINED IN CACXPEND (AT HEX DISPLACEMENT: 1B)

         80     CACWRTPD    WRITE PENDING
         40     CACRDXPD    READ PENDING
         20     CACCTLPD    CONTROL PENDING

01C    CACXBUFF    004       DATA BUFFER ADDRESS
020    CACXYCAC    004       CACBK OF Y SIDE
024    CACXDLEN    002       DATA LENGTH IN ADAPTER
026    CACXFLAG    001       COMMAND CHAINING FLAG

         BITS DEFINED IN CACXFLAG (AT HEX DISPLACEMENT: 26)

         10     CACXCCCW    COMMAND CHAINING BIT

027    CACXSUSP    001       SUSPEND COMMAND - SENSE

         BITS DEFINED IN CACXSUSP (AT HEX DISPLACEMENT: 27)

         10     CACXSNS     SUSPENDED SENSE COMMAND

028              2F          RESERVED FOR EXPANSION OF BLOCK

                    EQUATES

         06     CACSIZE     TOTAL BLOCK SIZE IN DBL-WDS


          REDEFINITION -

000    CACYLOCK    004       LOCKWORD FOR EXCLUSIVE CONTROL
004    CACYAIOR    004       ACTIVE IORBK          (POINTER)
008    CACYVDEV    004       VIRTUAL DEVICE BLOCK  (POINTER)
00C    CACYUIOR    004       UNSOLICITED IORBK     (POINTER)
010    CACYRCPX    004       RESUME CPEBK          (POINTER)
014    CACYCMND    001       COMMAND CODE ACTIVE IN ADAPTER
```

```
015   CACYSTAT   001      CTC ADAPTER STATUS
016   CACYLTCH   001      CTC ADAPTER LATCH

        BITS DEFINED FOR CACYLTCH BY HCPCACBK CACXLTCH

017   CACYCNTL   001      ADAPTER CONTROL FLAGS

        BITS DEFINED FOR CACYCNTL BY HCPCACBK CACXCNTL

018   CACYUIPD   001      UNSOLICITED INTERRUPT FLAG

        BITS DEFINED FOR CACYUIPD BY HCPCACBK CACXUIPD

019   CACYWAIT   001      COMMAND WAITING IN ADAPTER

        BITS DEFINED FOR CACYWAIT BY HCPCACBK CACXWAIT

01A   CACYACTV   001      COMMAND ACTIVE IN ADAPTER

        BITS DEFINED FOR CACYACTV BY HCPCACBK CACXACTV

01B   CACYPEND   001      COMMAND PENDING FOR ADAPTER

        BITS DEFINED FOR CACYPEND BY HCPCACBK CACXPEND

01C   CACYBUFF   004      DATA BUFFER ADDRESS
020   CACYXCAC   004      CACBK OF X SIDE
024   CACYDLEN   002      DATA LENGTH IN ADAPTER
026   CACYFLAG   001      COMMAND CHAINING FLAG

        BITS DEFINED IN CACYFLAG (AT HEX DISPLACEMENT: 26)

        10     CACYCCCW    COMMAND CHAINING BIT

027   CACYSUSP   001      SUSPEND COMMAND - SENSE

        BITS DEFINED IN CACYSUSP (AT HEX DISPLACEMENT: 27)

        10     CACYSNS     SUSPENDED SENSE COMMAND

028              2F       RESERVED FOR EXPANSION OF BLOCK
030              0F
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
CACBK	001	000	CACWRTWT	001	080	CACXUIPD	001	018
CACCTLAC	001	020	CACXACTV	001	01A	CACXVDEV	004	008
CACCTLPD	001	020	CACXAIOR	004	004	CACXWAIT	001	019
CACCTLWT	001	020	CACXBUFF	004	01C	CACXYCAC	004	020
CACEODTR	001	080	CACXCCCW	001	010	CACYACTV	001	01A
CACEOFLE	001	080	CACXCMND	001	014	CACYAIOR	004	004
CACHALTD	001	040	CACXCNTL	001	017	CACYBUFF	004	01C
CACICMDE	001	040	CACXDLEN	002	024	CACYCCCW	001	010
CACIDISC	001	010	CACXFLAG	001	026	CACYCMND	001	014
CACNTRDY	001	020	CACXLOCK	004	000	CACYCNTL	001	017
CACRDXAC	001	040	CACXLTCH	001	016	CACYDLEN	002	024
CACRDXPD	001	040	CACXPEND	001	01B	CACYFLAG	001	026
CACRDXWT	001	040	CACXRCPX	004	010	CACYLOCK	004	000
CACSIZE	001	006	CACXSIDE	001	000	CACYLTCH	001	016
CACUNSAT	001	080	CACXSNS	001	010	CACYPEND	001	01B
CACUNSDE	001	040	CACXSTAT	001	015	CACYRCPX	004	010
CACWRTAC	001	080	CACXSUSP	001	027	CACYSIDE	001	000
CACWRTPD	001	080	CACXUIOR	004	00C	CACYSNS	001	010

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Name	Len	Value/Disp
CACYSTAT	001	015
CACYSUSP	001	027
CACYUIOR	004	00C
CACYUIPD	001	018
CACYVDEV	004	008
CACYWAIT	001	019
CACYXCAC	004	020

HCPCBIBK— CONTROL BLOCK IDENTIFIERS AND LENGTHS

DSECT NAME: CBIBK

DESCRIPTIVE NAME: CONTROL BLOCK IDENTIFIERS AND LENGTHS MAPPING

FUNCTION: PROVIDES A MAP FOR A CONTROL BLOCK'S INFORMATION IN THE HCPCBI TABLE.

LOCATED BY:

THE LOCATION OF HCPCBI AND THE OFFSET INTO HCPCBI
PROVIDED BY THE HCPGETST AND HCPRELST MACROS

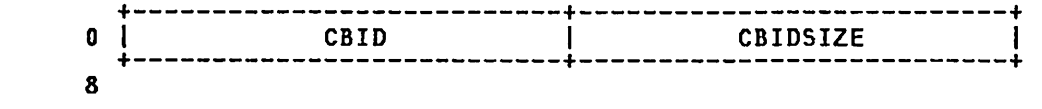
CREATED BY:

THIS BLOCK IS NEVER CREATED. IT IS USED TO MAP PORTIONS
OF THE HCPCBI DATA AREA

DELETED BY:

NEVER DELETED

CBIBK - CONTROL BLOCK IDENTIFIERS AND LENGTHS MAPPING



disp	name	length	description
000	CBID	004	THE BLOCK'S IDENTIFIER, '<XXX'. WHERE 'XXX' IS UNIQUE TO EACH BLOCK AND THE WHOLE ID IS '<<<<' FOR UNDEFINED BLOCKS.
004	CBIDSIZE	004	THE BLOCK'S LENGTH IN DOUBLEWORDS. THIS FIELD IS 0 IF THE BLOCK IS A VARIABLE LENGTH OR UNDEFINED BLOCK.

EQUATES

08	CBIBSIZE	LENGTH OF THE CBIBK IN BYTES
01	CBISIZE	LENGTH OF THE CBIBK IN DOUBLEWORDS

CROSS REFERENCE

Name	Len	Value/Disp
CBIBK	001	000
CBIBSIZE	001	008
CBID	004	000
CBIDSIZE	004	004
CBISIZE	001	001

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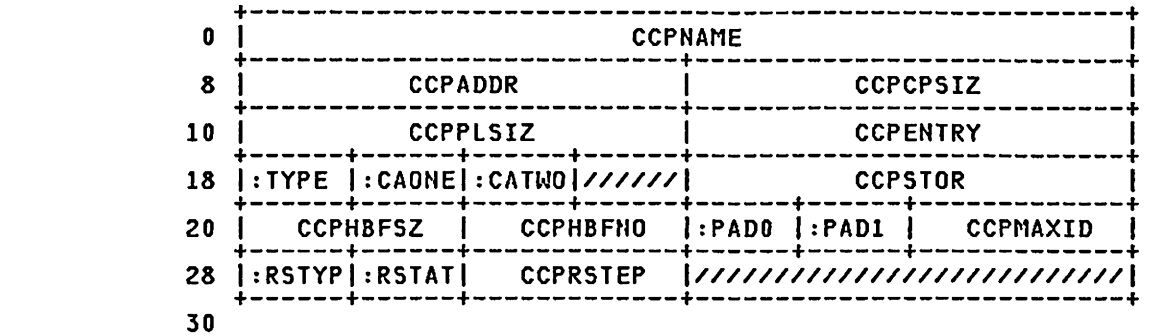
CCPAR - COMMUNICATION CONTROLS PARAMETERS



disp	name	length	description
000	CCPNAME	008	NCPNAME SPECIFIED IN NAMECP MACRO
008	CCPADDR	004	ORIGIN OF CONTROL PROGRAM IMAGE
00C	CCPCPSIZ	004	CONTROL PROGRAM SIZE IN BYTES
010	CCPPLSIZ	004	PARAMETER LIST SIZE IN BYTES
014	CCPENTRY	004	CONTROL PROGRAM ENTRY POINT ADDR.
018	CCPTYPE	001	CONTROL PROGRAM TYPE FLAG
	BITS DEFINED IN CCPTYPE (AT HEX DISPLACEMENT: 18)		
	01 CCPTNCP		NETWORK CONTROL PROGRAM
	02 CCPTEP		270X EMULATION PROGRAM
	03 CCPTPEP		PARTITIONED EMULATION PROGRAM
019	CCPCAONE	001	FIRST CHANNEL ADAPTER TYPE FLAG
	BITS DEFINED IN CCPCAONE (AT HEX DISPLACEMENT: 19)		
	01 CCPTYPE1		CHANNEL ADAPTER TYPE ONE
	02 CCPTYPE2		CHANNEL ADAPTER TYPE TWO
01A	CCPCATWO	001	SECOND CHANNEL ADAPTER TYPE FLAG
	BITS DEFINED FOR CCPCATWO BY HCPCCPAR CCPCAONE		
01B		1X	RESERVED FOR FUTURE IBM USE
01C	CCPSTOR	004	370X STORAGE SIZE SPECIFIED (BYTES)
020	CCPHBFSZ	002	BUFFER SIZE FROM 'HOST' MACRO
022	CCPHBFNO	002	NUMBER OF BUFFERS IN READ LIST
024	CCPPAD0	001	FIRST BUFFER PAD COUNT (BYTES)
025	CCPPAD1	001	SUBSEQUENT BUFFER PAD COUNT
026	CCPMAXID	002	HIGHEST RESOURCE I.D. DEFINED
028	CCPRESID	004	RESOURCE I.D. DESCRIPTION
028	CCPRSTYP	001	RESOURCE TYPE FLAG
029	CCPRSTAT	001	RESOURCE INITIAL STATUS FLAGS
02A	CCPRSTEP	002	SUBCHANNEL ADDRESS WHEN IN EP-MODE
02C		1F	RESERVED FOR FUTURE IBM USE
	EQUATES		
	06 CCPSIZE		LENGTH OF CCPAR BLOCK
			HOST VALUES REQUIRED FOR 3704/3705:
	22 CCPVPAD0		34-BYTE PAD IN FIRST BTU BUFFER
	22 CCPVPAD1		34-BYTE PAD IN SUBSEQUENT BUFFERS

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CROSS REFERENCE

Name	Len	Value/Disp
CCPADDR	004	008
CCPAR	001	000
CCPCAONE	001	019
CCPCATWO	001	01A
CCPCPSIZ	004	00C
CCPENTRY	004	014
CCPHBFNO	002	022
CCPHBFSZ	002	020
CCPMAXID	002	026
CCPNAME	008	000
CCPPAD0	001	024
CCPPAD1	001	025
CCPPLSIZ	004	010
CCPRESID	004	028
CCPRSTAT	001	029
CCPRSTEP	002	02A
CCPRSTYP	001	028
CCPSIZE	001	006
CCPSTOR	004	01C
CCPTEP	001	002
CCPTNCP	001	001
CCPTPEP	001	003
CCPTYPE	001	018
CCPTYPE1	001	001
CCPTYPE2	001	002
CCPVPAD0	001	022
CCPVPAD1	001	022

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HCPCCTBK— COMMUNICATIONS CONTROL TABLE

DSECT NAME: CCTBK

DESCRIPTIVE NAME: COMMUNICATIONS CONTROL TABLE

FUNCTION: THIS CONTROL BLOCK DEFINES THE COMMUNICATION CONTROL TABLE FOR AN IUCV USER.

LOCATED BY:

IUCVCCT FIELD OF HCPIUCVB

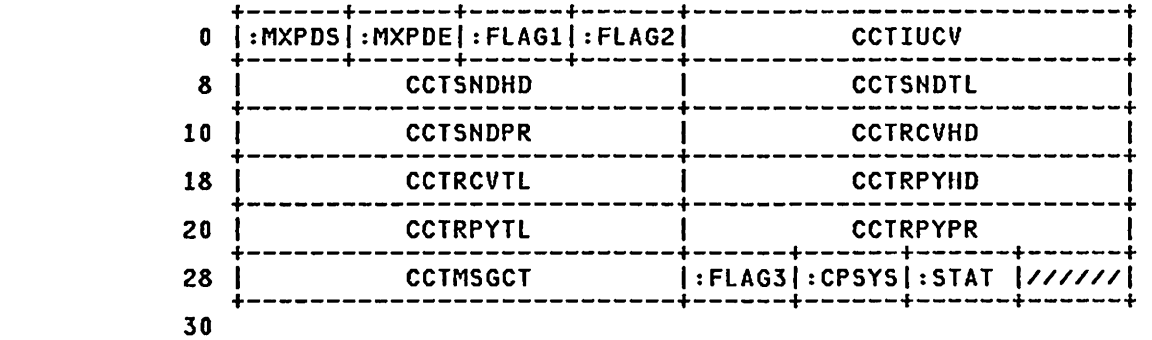
CREATED BY:

HCPIUBDB - IUCV DECLARE BUFFER FUNCTION

DELETED BY:

HCPIUERB - IUCV RETRIEVE BUFFER FUNCTION

CCTBK - COMMUNICATIONS CONTROL TABLE



disp	name	length	description
000	CCTMXPID	002	CURRENT MAX PATH ID FOR THIS CCT
000	CCTMXPDS	001	MAX PDSEG NUMBER
001	CCTMXPDE	001	MAX PDEBK NUMBER IN LAST PDSEG
002	CCTFLAG1	001	IUCV INTERRUPTS ENABLED

BITS DEFINED IN CCTFLAG1 (AT HEX DISPLACEMENT: 2)

80	CCTSNDN	IUCV NON-PRIORITY MSGS ENABLED
40	CCTSNDP	IUCV PRIORITY MESSAGES ENABLED
20	CCTRPYN	IUCV NON-PRIORITY REPLIES ENABLED
10	CCTRPYP	IUCV PRIORITY REPLIES ENABLED
08	CCTICTRL	IUCV CONTROL INTERRUPT ENABLED

003	CCTFLAG2	001	IUCV INTERRUPTS PENDING

BITS DEFINED IN CCTFLAG2 (AT HEX DISPLACEMENT: 3)

80	CCTPNDSN	IUCV NON-PRIORITY MSGS PENDING
40	CCTPNDSP	IUCV PRIORITY MESSAGES PENDING
20	CCTPNDRN	IUCV NON-PRIORITY REPLIES PENDING
10	CCTPNDRP	IUCV PRIORITY REPLIES PENDING
08	CCTPNDCT	IUCV CONTROL INTERRUPT PENDING

004	CCTIUCV	004	POINTER TO THE USER'S IUCVBK
008	CCTSNDHD	004	SEND QUEUE HEAD
00C	CCTSNDTL	004	SEND QUEUE TAIL
010	CCTSNDPR	004	SEND PRIORITY QUEUE TAIL
014	CCTRCVHD	004	RECEIVE QUEUE HEAD
018	CCTRCVTL	004	RECEIVE QUEUE TAIL

```
01C   CCTRPYHD   004      REPLY QUEUE HEAD
020   CCTRPYTL   004      REPLY QUEUE TAIL
024   CCTRPYPR   004      REPLY PRIORITY QUEUE TAIL
028   CCTMSGCT   004      TOTAL MSGS SENT ON ALL PATHS

02C   CCTFLAG3   001      CONTROL INTERRUPTS ENABLED

        BITS DEFINED IN CCTFLAG3 (AT HEX DISPLACEMENT: 2C)

        80     CCTCLPC     PENDING CONNECTONS ENABLED
        40     CCTCLCC     COMPLETE CONNECTIONS ENABLED
        20     CCTCLPS     SEVER INTERRUPTS ENABLED
        10     CCTCLPQ     QUIESCE INTERRUPTS ENABLED
        08     CCTCLPR     RESUME INTERRUPTS ENABLED


02D   CCTCPSYS   001      CP SYSTEM SERVICE CODE

02E   CCTSTAT    001      STATUS

        BITS DEFINED IN CCTSTAT  (AT HEX DISPLACEMENT: 2E)

        80     CCTRTVBF    RETRIEVE BUFFER IN PROGRESS


02F              X        RESERVED

                          START OF PATH DESCRIPTION SEGMENT POINTERS (DWD ALIGNED)
030              0D       ALIGNMENT
030   CCTPDSEG   004      N (1<=N<=256) PDSEG POINTERS

                    EQUATES

        33     CCTPDSLO    BYTE FOR INVALID PDSEG TEST
        01     CCTSINV     PDSEG INVALID BIT

        06     CCTSIZE     CCTBK SIZE IN DOUBLEWORDS
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
CCTBK	001	000	CCTPNDSP	001	040
CCTCLCC	001	040	CCTRCVHD	004	014
CCTCLPC	001	080	CCTRCVTL	004	018
CCTCLPQ	001	010	CCTRPYHD	004	01C
CCTCLPR	001	008	CCTRPYN	001	020
CCTCLPS	001	020	CCTRPYP	001	010
CCTCPSYS	001	02D	CCTRPYPR	004	024
CCTFLAG1	001	002	CCTRPYTL	004	020
CCTFLAG2	001	003	CCTRTVBF	001	080
CCTFLAG3	001	02C	CCTSINV	001	001
CCTICTRL	001	008	CCTSIZE	001	006
CCTIUCV	004	004	CCTSNDHD	004	008
CCTMSGCT	004	028	CCTSNDN	001	080
CCTMXPDE	001	001	CCTSNDP	001	040
CCTMXPDS	001	000	CCTSNDPR	004	010
CCTMXPID	002	000	CCTSNDTL	004	00C
CCTPDSEG	004	030	CCTSTAT	001	02E
CCTPDSLO	004	033			
CCTPNDCT	001	008			
CCTPNDRN	001	020			
CCTPNDRP	001	010			
CCTPNDSN	001	080			

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HCPCHCBK— CHANNEL CLASS BLOCK

DSECT NAME: CHCBK

DESCRIPTIVE NAME: CHANNEL CLASS BLOCK

FUNCTION: DESCRIBES THE STATUS OF THE CHANNELS (IN XA MODE, THE CHANNEL CLASSES) FOR A VIRTUAL MACHINE. ANCHORS THE QUEUE OF DEVICES (FOR EACH CHANNEL NUMBER OR CLASS) FOR WHICH INTERRUPTS ARE PENDING.

LOCATED BY:

VMDCHC FIELD IN THE VIRTUAL MACHINE'S DEFINITION BLOCK

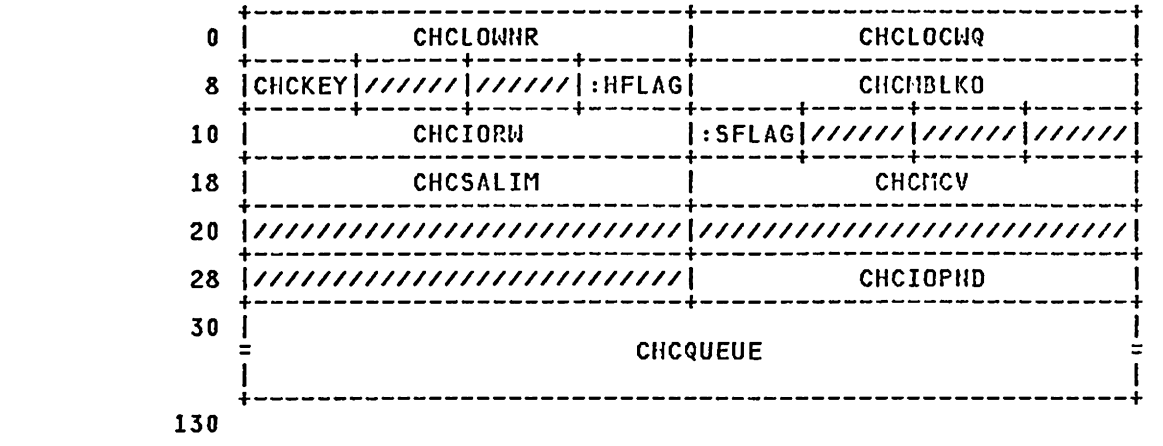
CREATED BY:

VIRTUAL MACHINE CREATION PROCESS - HCPBVM

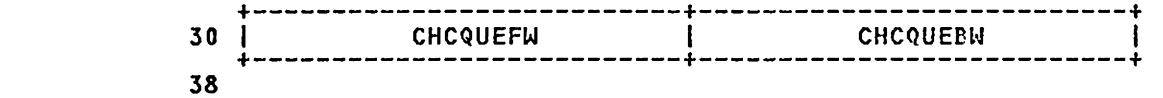
DELETED BY:

VIRTUAL MACHINE DESTRUCTION PROCESS

CHCBK - CHANNEL CLASS BLOCK



REDEFINITION - CHANNEL INTERRUPT QUEUE ELEMENT



disp	name	length	description
000	CHCLOCK	008	LOCKWORD FOR THIS BLOCK
000	CHCLOWNR	004	ADDRESS OF OWNING VMDBK
004	CHCLOCWQ	004	QUEUE OF WAITING TASKS
008	CHCSCHMD	008	SET-CHANNEL-MONITOR DOUBLEWORD THE FOLLOWING FIELDS CONTROL GUEST CHANNEL MONITORING. THEY ARE KEPT WITHIN A DOUBLEWORD TO ALLOW A STORE-MULTIPLE TO PERFORM MP-CONSISTENT SETTING OF THE CONTROLS ON A HOST MP.
008	CHCKEY	001	KEY OF USER MEASUREMENT BLOCK
009		1X	RESERVED FOR FUTURE IBM USE
00A		1X	RESERVED FOR FUTURE IBM USE
00B	CHCHFLAG	001	HARDWARE CONTROLS

BITS DEFINED IN CHCHFLAG (AT HEX DISPLACEMENT: B)

02	CHCMSM	MEASUREMENT ACTIVE

```
        01    CHCTIM      TIMING (SHOULD BE) ACTIVE

00C   CHCMBLKO   004       MEASUREMENT BLOCK INDEX
010   CHCIORW    004       POINTER TO CHAIN OF CRWBK'S.
014   CHCSFLAG   001       SOFTWARE CONTROLS

        BITS DEFINED IN CHCSFLAG (AT HEX DISPLACEMENT: 14)

        80    CHCRWCC1    CONDITION CODE 1 REMAINS TO BE
                          GIVEN TO A GUEST STORE CHANNEL
                          REPORT WORD SINCE GENERATING A
                          MACHINE CHECK FOR  A  PREVIOUS
                          CHANNEL REPORT WORD CONDITION.
                          THIS BIT IS CLEARED BY AN  I/O
                          SYSTEM RESET.  IT PREVENTS THE
                          GENERATION OF A  MACHINE CHECK
                          FOR  CHANNEL REPORT WORDS MADE
                          PENDING.

015               1X      RESERVED FOR FUTURE IBM USE
016               1X      RESERVED FOR FUTURE IBM USE
017               1X      RESERVED FOR FUTURE IBM USE
018   CHCSALIM    004     SET ADDRESS LIMIT VALUE
01C   CHCMCV      004     POINTER TO MCVBK.  FOR FLOATING
                          MACHINE CHECKS (THEY ARE RELATED
                          TO THE I/O SUBSYSTEM).
020               1F      RESERVED FOR FUTURE IBM USE
024               1F      RESERVED FOR FUTURE IBM USE
028               1F      RESERVED FOR FUTURE IBM USE
02C   CHCIOPND    004     MASK OF PENDING INTERRUPTIONS
030   CHCQUEUE    008     FWD AND BWD INTERRUPT PTRS

                    EQUATES

        20    CHCQSIZE    DEFINE NUMBER OF CHANNELS
        26    CHCSIZE     SIZE OF FLOATING CHANNEL BLOCK


         REDEFINITION - CHANNEL INTERRUPT QUEUE ELEMENT

030   CHCQUEFW    004     CHANNEL INT. QUEUE FORWARD PTR
034   CHCQUEBW    004     CHANNEL INT. QUEUE BACKWARD PTR

                    EQUATES

        08    CHCQENTL    LENGTH OF QUEUE POINTERS
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
CHCBK	001	000	CHCQUEBW	004	034
CHCHFLAG	001	00B	CHCQUEFW	004	030
CHCIOPND	004	02C	CHCQUEUE	008	030
CHCIORW	004	010	CHCRWCC1	001	080
CHCKEY	001	008	CHCSALIM	004	018
CHCLOCK	008	000	CHCSCHMD	008	008
CHCLOCWQ	004	004	CHCSFLAG	001	014
CHCLOWNR	004	000	CHCSIZE	001	026
CHCMBLKO	004	00C	CHCTIM	001	001
CHCMCV	004	01C			
CHCMSM	001	002			
CHCQENTL	001	008			
CHCQSIZE	001	020			

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HCPCHRBK— DEVICE / SUBCHANNEL INDEX STRUCTURE

DSECT NAME: CHRBK

DESCRIPTIVE NAME: DEVICE / SUBCHANNEL INDEX STRUCTURE

FUNCTION: THE DEVICE / SUBCHANNEL RADIX TREE BLOCK IS USED TO REPRESENT THE DEVICE BLOCK INDEX STRUCTURE.

LOCATED BY:

HCPRIOIX CONTAINS THE RADIX TREE FOR THE REAL DEVICE NUMBERS WHICH ADDRESSES THE CHRBK FOR THE FIRST DIGIT OF THE DEVICE NUMBER.

CREATED BY:

CHRBK'S ARE DYNAMICALLY CREATED BY CALLING HCPFREE.

DELETED BY:

CHRBK'S ARE DELETED BY CALLING HCPFRET

CHRBK - CHANNEL RADIX TREE INDEX BLOCK

0	CHRINDX0	CHRINDX1
8	CHRINDX2	CHRINDX3
10	CHRINDX4	CHRINDX5
18	CHRINDX6	CHRINDX7
20	CHRINDX8	CHRINDX9
28	CHRINDXA	CHRINDXB
30	CHRINDXC	CHRINDXD
38	CHRINDXE	CHRINDXF
40		

disp	name	length	description
000	CHRINDX0	004	INDEX FOR DIGIT 0 MOD 16
004	CHRINDX1	004	INDEX FOR DIGIT 1 MOD 16
008	CHRINDX2	004	INDEX FOR DIGIT 2 MOD 16
00C	CHRINDX3	004	INDEX FOR DIGIT 3 MOD 16
010	CHRINDX4	004	INDEX FOR DIGIT 4 MOD 16
014	CHRINDX5	004	INDEX FOR DIGIT 5 MOD 16
018	CHRINDX6	004	INDEX FOR DIGIT 6 MOD 16
01C	CHRINDX7	004	INDEX FOR DIGIT 7 MOD 16
020	CHRINDX8	004	INDEX FOR DIGIT 8 MOD 16
024	CHRINDX9	004	INDEX FOR DIGIT 9 MOD 16
028	CHRINDXA	004	INDEX FOR DIGIT A MOD 16
02C	CHRINDXB	004	INDEX FOR DIGIT B MOD 16
030	CHRINDXC	004	INDEX FOR DIGIT C MOD 16
034	CHRINDXD	004	INDEX FOR DIGIT D MOD 16
038	CHRINDXE	004	INDEX FOR DIGIT E MOD 16
03C	CHRINDXF	004	INDEX FOR DIGIT F MOD 16

EQUATES

3C	CHROMASK	MASK TO ISOLATE THE OFFSET TO INDX0-INDXF
08	CHRSIZE	SIZE OF BLOCK IN DBW'S

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CROSS REFERENCE

Name	Len	Value/Disp
CHRBK	001	000
CHRINDXA	004	028
CHRINDXB	004	02C
CHRINDXC	004	030
CHRINDXD	004	034
CHRINDXE	004	038
CHRINDXF	004	03C
CHRINDX0	004	000
CHRINDX1	004	004
CHRINDX2	004	008
CHRINDX3	004	00C
CHRINDX4	004	010
CHRINDX5	004	014
CHRINDX6	004	018
CHRINDX7	004	01C
CHRINDX8	004	020
CHRINDX9	004	024
CHROMASK	004	03C
CHRSIZE	001	008

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HCPCKIBK— SYSTEM CHECK POINT INTERFACE BLOCK

DSECT NAME: CKIBK

DESCRIPTIVE NAME: SYSTEM CHECK POINT INTERFACE BLOCK

FUNCTION: CONTAINS THE INFORMATION SHARED BY MODULES HCPCKP AND HCPCKS DURING THE CHECKPOINT PROCESS.

LOCATED BY:

HCPWRKCK - STORAGE IN THE HCPWRK DATA AREA. THIS IS ONE OF THE FIRST MODULES LOADED AT IPL AND REMAINS IN STORAGE ACROSS A BOUNCE.

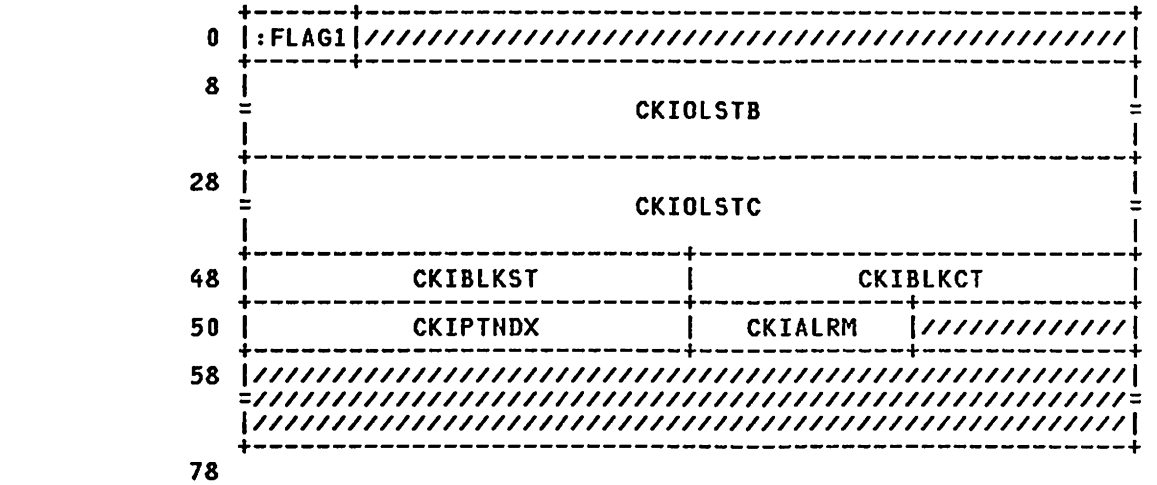
CREATED BY:

N/A

DELETED BY:

N/A

CKIBK - SYSTEM CHECK POINT INTERFACE BLOCK



disp	name	length	description
000	CKIFLAG1	001	PROGRAM EXECUTION FLAG
001		XL7	RESERVED FOR IBM USE
008	CKIOLSTB	008	STAND-ALONE BLOCK I/O PLIST
028	CKIOLSTC	008	STAND-ALONE ASA I/O PLIST
048	CKIBLKST	004	STARTING BLOCK NO. FOR ENTRY
04C	CKIBLKCT	004	NO. BLOCKS IN CURRENT ENTRY
050	CKIPTNDX	004	BUFFER OFFSET TO NEXT RECORD SLOT
054	CKIALRM	002	ALARM CODE FOR OPERATOR OR NOT

EQUATES

	55	CKIALRM2	ACTUAL ALARM BYTE
056		H	RESERVED FOR IBM USE
058		4D	RESERVED FOR IBM USE

EQUATES

	0F	CKISIZE	CKIBK SIZE IN DOUBLEWORDS

MORE EQUATES

01	CKINOCLK	TIME OF DAY CLOCK IS INVALID
02	CKIRSUME	RESUME INTERRUPTED CHECKPOIN
10	CKIALLFL	CHECKPOINT CYLINDER(S) FULL
20	CKINM981	MESSAGE 981 ALREADY ISSUED
40	CKINM982	MESSAGE 982 ALREADY ISSUED

CROSS REFERENCE

Name	Len	Value/Disp
CKIALLFL	001	010
CKIALRM	002	054
CKIALRM2	002	055
CKIBK	001	000
CKIBLKCT	004	04C
CKIBLKST	004	048
CKIFLAG1	001	000
CKINM981	001	020
CKINM982	001	040
CKINOCLK	001	001
CKIOLSTB	008	008
CKIOLSTC	008	028
CKIPTNDX	004	050
CKIRSUME	001	002
CKISIZE	001	00F

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HCPCKPBK— SYSTEM CHECK POINT CONTROL BLOCK

DSECT NAME: CKPBK

DESCRIPTIVE NAME: SYSTEM CHECK POINT CONTROL BLOCK

FUNCTION: DOCUMENTS THE PROGRESS OF THE CHECKPOINT PROCESS BY RECORDING THE STARTING AND ENDING TIMES OF EACH DATA COLLECTION, THE DASD EXTENT OF THE COLLECTED DATA, AND THE DASD LOCATION OF THAT DATA. THUS, THE CKPBK CHECKPOINTS THE PROGRESS OF THE CHECKPOINT PROCESS WHILE MAINTAINING A DIRECTORY OF THE DATA FILES CREATED DURING THAT PROCESS.

LOCATED BY:

SYSCKPS - POINTER TO FIRST CHECKPOINT CYLINDER ON SYSRES
ON WHICH THE CKPBK IS THE FIRST RECORD

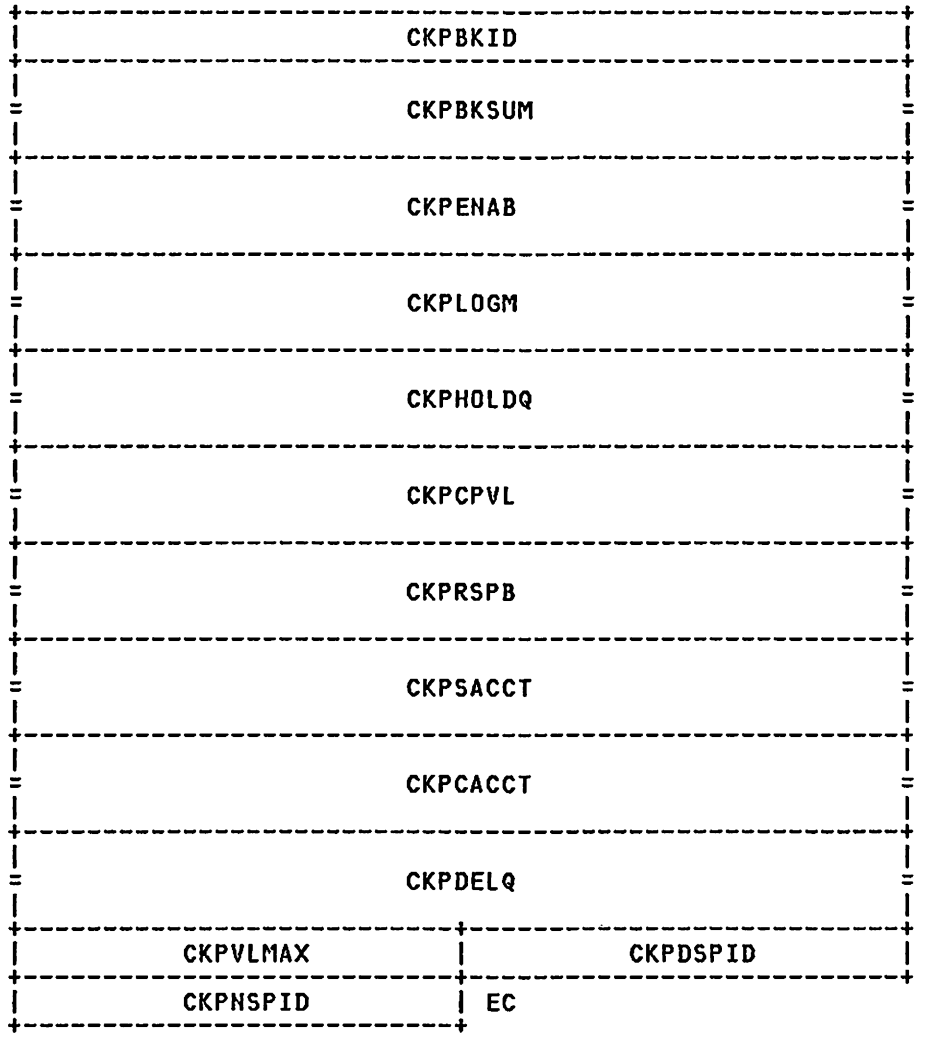
CREATED BY:

HCPCKPSH - DURING SYSTEM SHUTDOWN OR ABNORMAL TERMINATION
HCPCKPRS - BEFORE SYSTEM INITIALIZATION

DELETED BY:

NEVER DELETED; ALWAYS REFRESHED

CKPBK - SYSTEM CHECK POINT CONTROL BLOCK



disp	name	length	description
000	CKPBKID	008	EYECATCHER FOR IDENTIFICATION
008	CKPBKSUM	008	OVERALL CHECKPOINT STATUS
020	CKPENAB	008	RDEV ENABLE STATUS
038	CKPLOGM	008	LOG MESSAGES
050	CKPHOLDQ	008	HOLD QUEUES
068	CKPCPVL	008	CPVOL BLOCKS
080	CKPRSPB	008	RSPBLOKS
098	CKPSACCT	008	RESIDUAL ACCOUNTING RECORDS
0B0	CKPCACCT	008	GENERATED ACCOUNTING RECORDS
0C8	CKPDELQ	008	DELETE QUEUE
			MISCELLANEOUS CHECKPOINT DATA ITEMS
0E0	CKPVLMAX	004	HIGHEST CPVOL USED AT SHUTDOWN
0E4	CKPDSPID	004	SYSTEM ABEND DUMP SPOOL FILE ID
0E8	CKPNSPID	004	NEXT AVAILABLE
			SYSTEM SPOOL FILE ID

MORE EQUATES

00	CKPTIME1	START TIME
08	CKPTIME2	END TIME
10	CKPBLKS	START BLOCK
14	CKPBLKN	BLOCK COUNT
18	CKPENTLN	
1E	CKPSIZE	CKPBK SIZE IN DOUBLE-WORDS

CROSS REFERENCE

Name	Len	Value/Disp
CKPBK	001	000
CKPBKID	008	000
CKPBKSUM	008	008
CKPBLKN	004	014
CKPBLKS	004	010
CKPCACCT	008	0B0
CKPCPVL	008	068
CKPDELQ	008	0C8
CKPDSPID	004	0E4
CKPENAB	008	020
CKPENTLN	004	018
CKPHOLDQ	008	050
CKPLOGM	008	038
CKPNSPID	004	0E8
CKPRSPB	008	080
CKPSACCT	008	098
CKPSIZE	001	01E
CKPTIME1	008	000
CKPTIME2	008	008
CKPVLMAX	004	0E0

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HCPCMDBK— COMMAND TABLE ENTRY BLOCK

DSECT NAME: CMDBK

DESCRIPTIVE NAME: COMMAND TABLE ENTRY BLOCK

FUNCTION: THIS DSECT CAN BE USED TO MAP THE ENTRIES IN THE TABLE OF COMMANDS (HCPCOMTB).

LOCATED BY:

START OF THE COMMAND TABLE IS THE ENTRY POINT HCPCOMTB.

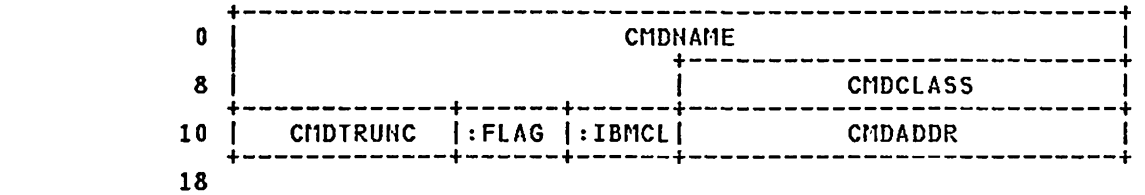
CREATED BY:

N/A - MAPS COMMAND TABLE ENTRIES

DELETED BY:

N/A - MAPS COMMAND TABLE ENTRIES

CMDBK - COMMAND TABLE ENTRY BLOCK



disp	name	length	description
000	CMDNAME	012	COMMAND NAME
00C	CMDCLASS	004	CLASS MASK
010	CMDTRUNC	002	ABREVIATION COUNT
012	CMDFLAG	001	COMMAND FLAGS
013	CMDIBMCL	001	IBMCLASS
014	CMDADDR	004	ROUTINE ADDRESS

EQUATES

18	CMDNEXT	NEXT COMMAND
03	CMDSIZE	SIZE OF CMDBK IN DOUBLE WORDS
18	CMDBSIZE	SIZE OF CMDBK IN BYTES

MORE EQUATES

80	CMDALOG	COMMAND ALLOWED BEFORE LOGON
40	CMDOLOG	COMMAND ALLOWED ONLY AT LOGON
20	CMDALIAS	ENTRY IS AN 'ALIAS'
10	CMDSUBCM	CMDADDR POINTS TO SUBCOMMANDS
08	CMDEP	ADDR IS ACTUAL CMD PROCESSOR
04	CMDLAST	THIS IS THE LAST COMMAND IN THE TA
02	CMDONLY	COMMAND HAS ONLY ONE VERSION (IBMC
01	CMDNOCL	ANY CLASS USER MAY USE THIS CMD

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CROSS REFERENCE

Name	Len	Value/Disp
CMDADDR	004	014
CMDALIAS	001	020
CMDALOG	001	080
CMDBK	001	000
CMDBSIZE	001	018
CMDCLASS	004	00C
CMDEP	001	008
CMDFLAG	001	012
CMDIBMCL	001	013
CMDLAST	001	004
CMDNAME	012	000
CMDNEXT	001	018
CMDNOCL	001	001
CMDOLOG	001	040
CMDONLY	001	002
CMDSIZE	001	003
CMDSUBCM	001	010
CMDTRUNC	002	010

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HCPCOMBK— CONSOLE COMMUNICATIONS CONTROL BLOCK

DSECT NAME: COMBK

DESCRIPTIVE NAME: CONSOLE COMMUNICATIONS CONTROL BLOCK

FUNCTION: CONTAINS DATA AND CONTROL INFORMATION PERTINENT TO THE CONTROL AND COMMUNICATION BETWEEN VIRTUAL AND REAL TERMINAL CONSOLE TASKS AND COMMAND STREAMS.

LOCATED BY:

COMPNT CHAINED
RDEVCON FIELD OF HCPRDEV

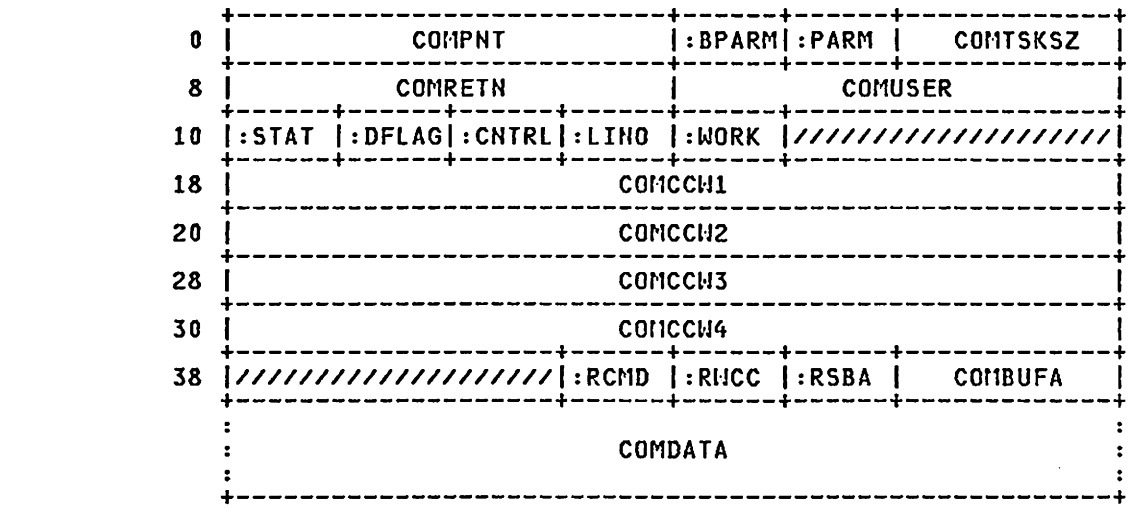
CREATED BY:

HCPQCN - WHENEVER A READ OR WRITE IS TO BE DONE.
HCPGFS - WHEN SWITCHING FROM FULL SCREEN MODE TO CP, A COMBK IS BUILT TO CLEAR THE SCREEN.
HCPGRF - FOR APL/TEXT TRANSLATIONS. WHEN SWITCHING FROM FULL SCREEN MODE TO CP, A COMBK IS BUILT TO CLEAR THE SCREEN.
HCPGIN - UPPERCASE TRANSLATION.

DELETED BY:

HCPQCOET - GENERAL SYSTEM ROUTINE TO RETURN COMBK'S TO FREE STORAGE.
HCPQCN - DELETED WHEN A MESSAGE WON'T BE DISPLAYED ON THE SCREEN OR WHEN A COMBK IS SPLIT INTO TWO OR MORE COMBKS.
HCPGIN - WHEN UPPERCASE TRANSLATION IS COMPLETED.
HCPGRF - WHEN APL/TEXT TRANSLATION IS COMPLETED.

COMBK - CONSOLE COMMUNICATIONS CONTROL BLOCK



REDEFINITION -

REDEFINITION - TERMINAL HANDLING

40

disp	name	length	description
000	COMPNT	004	POINTER TO NEXT COMBK
004	COMHPARM	002	CALLING PARMS (SEE EQUATES COPY)
004	COMBPARM	001	BYTE 1 OF CALLING PARMS
005	COMPARM	001	CALLING PARMS (SEE EQUATES COPY)
006	COMTSKSZ	002	COMBK SIZE IN DOUBLE WORDS
008	COMRETN	004	POINTER TO SAVEAREA FOR RETURN
00C	COMUSER	004	ADDRESS OF VMDBK FOR DESTINATION USER
010	COMSTAT	001	COMBK STATUS CONTROL FLAGS

BITS DEFINED IN COMSTAT (AT HEX DISPLACEMENT: 10)

80	COMOUTPT	OUTPUT COMBK
40	COMRESP	RESPONSE EXPECTED FROM THIS COMBK
20	COMACTV	COMBK IS ACTIVE ON REAL DEVICE
10	COMCNTL	THIS IS A CONTROL COMBK ONLY
08	COMESCP	COMBK CONTAINS DEVICE DEPENDENT DATA
04	COMLOALM	THIS COMBK HAS BEEN INHIBITED FROM BREAKING INTO FULL SCREEN MODE AND THE ALARM HAS ALREADY BEEN RUNG TO NOTIFY THE USER
02	COMSPLT	OUTPUT DATA BEING SPLIT
01	COMSYNC	COMBK FOR SYNCHRONIZATION ONLY

011	COMDFLAG	001	DIAGNOSE DISPLAY FLAG

BITS DEFINED IN COMDFLAG (AT HEX DISPLACEMENT: 11)

012	COMCNTRL	001	CONTROL FLOW FLAGS

BITS DEFINED IN COMCNTRL (AT HEX DISPLACEMENT: 12)

013	COMLINO	001	DIAGNOSE DISPLAY LINE NO
014	COMWORK	001	TEMPORARY WORK FIELD
015		3X	RESERVED FOR FUTURE IBM USE
018	COMCCW1	008	FIRST CONSOLE I/O CCW
020	COMCCW2	008	SECOND CONSOLE I/O CCW
028	COMCCW3	008	THIRD CONSOLE I/O CCW
030	COMCCW4	008	FOURTH CONSOLE I/O CCW
038		3X	RESERVED FOR FUTURE IBM USE
03B	COMRCMD	001	3270 COMMAND CHARACTER
03C	COMRWCC	001	3270 WRITE CONTROL CHARACTER
03D	COMRSBA	001	3270 'SBA' ORDER CHARACTER
03E	COMBUFA	002	3270 BUFFER ADDRESS CHARACTERS
040		0D	ALIGNMENT

EQUATES

08	COMSIZE	COMBK HEADER SIZE IN DOUBLE WORDS

040	COMDATA	001	START OF VARIABLE LENGTH DATA

COMCCW DEFINITION

REDEFINITION -

018	COM1CMND	001	CCW COMMAND CODE
019	COM1FLAG	001	CCW FLAG BITS

BITS DEFINED FOR COM1FLAG BY HCPEQUAT CCWFLAG

01A	COM1CNT	002	CCW DATA COUNT
01C	COM1ADDR	004	CCW DATA ADDRESS

EQUATES

1F	COM1ADRX	CCW FINAL BYTE OF ADDRESS

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```
020   COM1NEXT   008      CCW FOLLOWING CURRENT CCW

                    EQUATES

        0F    COMWIS      ICM/STCM MASK  FOR 31 BIT ADDRESS
        04    COMWMC      MVC/CLC LENGTH FOR 31 BIT ADDRESS
        80    COMWIDAL    IDAL INVALID BIT  MASK
        08    COMWLEN     LENGTH OF A SINGLE CCW (8 BYTES)


         REDEFINITION - TERMINAL HANDLING

03E   COMBUFAD   001      BUFFER ADDRESS
03F   COMBUFLC   001      LOCATION ON THE HEADER

                    MORE EQUATES

        FF    COMCNCL     DISPLAY - CANCEL FUNCTION REQUESTED
        FE    COMCLEAR    DISPLAY - CLEAR FUNCTION REQUESTED
                          ERASE THE ENTIRE SCREEN,
                          REWRITE THE ATTRIBUTE BYTES
                          FOR CP SCREEN FORMAT, AND
                          RESET THE CURSOR TO THE
                          BEGINNING OF THE INPUT AREA
        80    COMCLRS     DISPLAY - CLEAR SCREEN BEFORE OUTPUT
        40    COMFSRQ     DISPLAY - FULL-SCREEN CONTROL REQUEST
        3F    COMLMSK     DISPLAY - MASK FOR BITS IN LINE NUM
        80    COMHOLD     DISPLAY - SCREEN STATUS HOLDING
        04    COMEXTHC    EXTENDED COLOR AND EXTENDED
                          HIGHLIGHTING ATTRIBUTES ARE TO BE
                          ADDED INTO THIS COMBK
        02    COMHIGH     HILIGHTING ATTRIBUTES ARE TO BE
                          ADDED INTO THIS COMBK
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
COMACTV	001	020	COMPARM	001	005
COMBK	001	000	COMPNT	004	000
COMBPARM	001	004	COMRCMD	001	03B
COMBUFA	002	03E	COMRESP	001	040
COMBUFAD	001	03E	COMRETN	004	008
COMBUFLC	001	03F	COMRSBA	001	03D
COMCCW1	008	018	COMRWCC	001	03C
COMCCW2	008	020	COMSIZE	001	008
COMCCW3	008	028	COMSPLT	001	002
COMCCW4	008	030	COMSTAT	001	010
COMCLEAR	001	0FE	COMSYNC	001	001
COMCLRS	001	080	COMTSKSZ	002	006
COMCNCL	001	0FF	COMUSER	004	00C
COMCNTL	001	010	COMWIDAL	001	080
COMCNTRL	001	012	COMWIS	001	00F
COMDATA	001	040	COMWLEN	001	008
COMDFLAG	001	011	COMWMC	001	004
COMESCP	001	008	COMWORK	001	014
COMEXTHC	001	004	COM1ADDR	004	01C
COMFSRQ	001	040	COM1ADRX	001	01F
COMHIGH	001	002	COM1CMND	001	018
COMHOLD	001	080	COM1CNT	002	01A
COMHPARM	002	004	COM1FLAG	001	019
COMLINO	001	013	COM1NEXT	008	020
COMLMSK	001	03F			
COMLOALM	001	004			
COMOUTPT	001	080			

HCPCPABK— CPUBK ANCHOR BLOCK

DSECT NAME: CPABK

DESCRIPTIVE NAME: CPUBK ANCHOR BLOCK

FUNCTION: THE CPABK CONTAINS INFORMATION ABOUT THE CHAIN OF CPUBKS WHICH IT ANCHORS.

LOCATED BY:

NONE

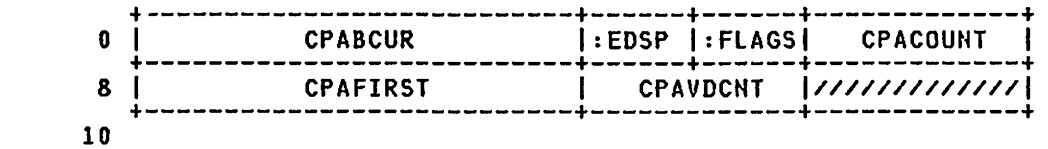
CREATED BY:

HCPCPU

DELETED BY:

HCPCPU

CPABK - CPUBK ANCHOR BLOCK



disp	name	length	description
000	CPABCUR	004	POINTER TO CURRENT CPUBK BEING PROCESSED
004	CPAEDSP	001	CURRENT DISPLACEMENT WITHIN CPUBK POINTED TO BY CPABCUR
005	CPAFLAGS	001	GLOBAL FLAGS FOR CPUBK CHAIN

BITS DEFINED IN CPAFLAGS (AT HEX DISPLACEMENT: 5)

80	CPACALL	'ALL' WAS SPECIFIED AS CPU ADDRESS
40	CPASCAN	SCAN IS IN PROGRESS

006	CPACOUNT	002	COUNT OF CPUS SPECIFIED IN COMMAND LINE
008	CPAFIRST	004	ADDRESS OF FIRST CPUBK IN CHAIN
00C	CPAVDCNT	002	COUNT OF EXISTING CPUS SPECIFIED
00E		1H	RESERVED FOR IBM USE

EQUATES

10	CPALEN	LENGTH OF CPABK
02	CPASIZE	SIZE OF CPABK (IN DOUBLEWORDS)

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
CPABCUR	004	000	CPAFLAGS	001	005
CPABK	001	000	CPALEN	001	010
CPACALL	001	080	CPASCAN	001	040
CPACOUNT	002	006	CPASIZE	001	002
CPAEDSP	001	004	CPAVDCNT	002	00C
CPAFIRST	004	008			

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HCPCPCBK— CHANNEL PROGRAM CONTROL BLOCK

DSECT NAME: CPCBK

DESCRIPTIVE NAME: CHANNEL PROGRAM CONTROL BLOCK

FUNCTION: DESCRIBES THE STATUS OF THE SIMULATION OF A CHANNEL PROGRAM BY THE VIRTUAL CHANNEL SIMULATOR.

LOCATED BY:

N/A. THE CPCBK IS INTERNAL TO THE VIRTUAL CHANNEL SIMULATOR. IT MAPS THE WORK AREA PORTION OF THE SAVBK ADDRESSED BY IORSAVE. IT IS SHARED BY HCPTRV, WHICH TRACES THE OPERATION OF THE VIRTUAL CHANNEL. REFER TO CURRENT LISTINGS OF HCPIOV AND HCPTRV FOR USAGE INFORMATION.

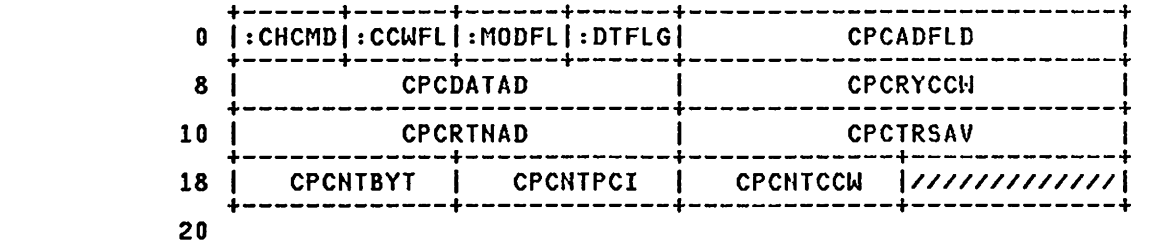
CREATED BY:

N/A

DELETED BY:

N/A

CPCBK - CHANNEL PROGRAM CONTROL BLOCK



disp	name	length	description
000	CPCCHCMD	001	DEVICE COMMAND BEING SIMULATED
001	CPCCCWFL	001	CCW CHANNEL CONTROL FLAGS
	BITS DEFINED FOR CPCCCWFL BY HCPEQUAT CCWFLAG		
002	CPCMODFL	001	BYTE 5 OF FORMAT-0 CCW
003	CPCDTFLG	001	DATA TRANSFER CONTROL BYTE
	BITS DEFINED IN CPCDTFLG (AT HEX DISPLACEMENT: 3)		
	80 CPCPSNSP		SENSE DATA PENDING AT CCWFETCH
	40 CPCDTBWD		READ-BACKWARD OPERATION
	20 CPCDTRTY		COMMAND RETRY IS IN EFFECT
	10 CPCDTBEG		DATA TRANSFER HAS BEGUN
	04 CPCDTSTP		'STOP' WAS SIGNALLED
	02 CPCDTCER		CHANNEL END RECEIVED
	01 CPCDTEND		RECEIVED FINAL STS FOR CMD
004	CPCADFLD	004	ADDRESS FIELD FROM CURRENT CCW
008	CPCDATAD	004	CURRENT USER DATA ADDRESS
00C	CPCRYCCW	004	CCW ADDRESS FOR INST RETRY
010	CPCRTNAD	004	ADDRESS OF SIMULATION ROUTINE
014	CPCTRSAV	004	A(SAVEAREA) FOR I/O TRACING
018	CPCNTBYT	002	FETCH/STORE BYTE COUNT
01A	CPCNTPCI	002	PCI STATUS PRESENTATIONS
01C	CPCNTCCW	002	COUNT CCWS FETCHED W/O DATA XFER
01E		2X	RESERVED FOR FUTURE IBM USE

CROSS REFERENCE

Name	Len	Value/Disp
CPCADFLD	004	004
CPCBK	001	000
CPCCCWFL	001	001
CPCCHCMD	001	000
CPCDATAD	004	008
CPCDTBEG	001	010
CPCDTBWD	001	040
CPCDTCER	001	002
CPCDTEND	001	001
CPCDTFLG	001	003
CPCDTRTY	001	020
CPCDTSTP	001	004
CPCMODFL	001	002
CPCNTBYT	002	018
CPCNTCCW	002	01C
CPCNTPCI	002	01A
CPCPSNSP	001	080
CPCRTNAD	004	010
CPCRYCCW	004	00C
CPCTRSAV	004	014

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HCPCPEBK— CP TASK EXECUTION BLOCK

DSECT NAME: CPEBK

DESCRIPTIVE NAME: CP TASK EXECUTION BLOCK

FUNCTION: HCPCPEBK MAINTAINS REGISTER VALUES AND ADDRESSING INFORMATION (MODULE ADDRESS OR ENTRY POINT ADDRESS) TO ALLOW CODE TO BE EXECUTED ASYNCHRONOUSLY. NOTE: A CPEBK IS IDENTICAL TO A SAVBK.

LOCATED BY:

CPEXFPNT	DOUBLY CHAINED	
CPEXBPNT	DOUBLY CHAINED	
CACXRCPX	FIELD OF HCPCACBK	(X-SIDE CHANNEL RECONNECT)
CACYRCPX	FIELD OF HCPCACBK	(Y-SIDE CHANNEL RECONNECT)
GSDCPEX	FIELD OF HCPGSDBK	
LCKQUE	FIELD OF HCPLCKBK	(OBTAIN LOCK QUEUE)
PIOCPEX	FIELD OF HCPPIOBK	(PAGING I/O)
RDEVWTDV	FIELD OF HCPRDEV	(WAIT-DEVICE)
SYSDCPEX	FIELD OF HCPSYSCM	(DIRECTORY SWAP CONTROL BLOCK)
VDSDSTK	FIELD OF HCPVDSBK	(DEFERRED STACK FOR DEVICE)
VMDQURCP	FIELD OF HCPVMDBK	(URGENT CPEBK STACK)
VMDQCPEF	FIELD OF HCPVMDBK	(NORMAL CPEBK STACK)
HCPPAGQ	FIELD OF HCPPAG	(TASKS IN TRANSIT - ACTIVE I/O)
HCPPTRKQ	FIELD OF HCPPTR	(TASKS IN PAGE WAIT FROM A STEAL TASK WRITE)
HCPPTRRQ	FIELD OF HCPPTR	(PAGING READ REQUEST QUEUE)
HCPPTRWQ	FIELD OF HCPPTR	(PAGING WRITE REQUEST QUEUE)
FREEQ	FIELD OF HCPPTR	(TASKS WAITING FOR FREE FRAME)
STACKQ	FIELD OF HCPPTR	(RELATED TASKS WAITING FOR A PAGE)
WAITQ	FIELD OF HCPPTR	(TASKS WAITING FOR USERS IN PAGE WAIT)

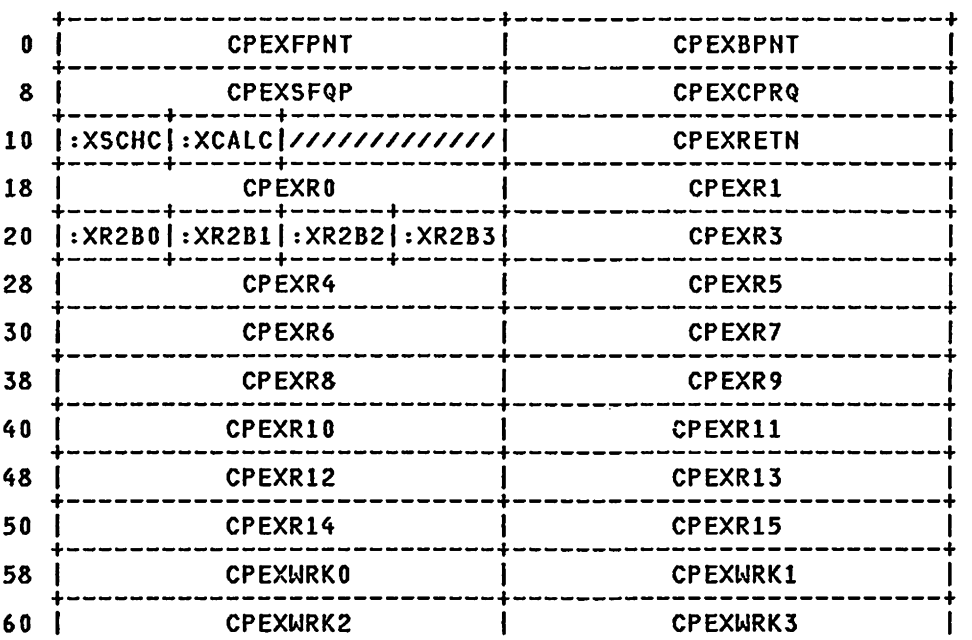
CREATED BY:

	HCPABN	SWITCH BACK TO ORIGINAL USER DURING SOFT ABEND
	HCPCSP	SWITCH TO BASE VMDBK DURING CLOSE OR SPOOL COMMAND
	HCPCTC	SUSPEND COMMANDS DURING CTCA PROCESSING
BLK	HCPBLK	(CP) VM/XA - SYSTEM PRODUCT 5664-308

DELETED BY:

	HCPSVC	CPEBKS ARE DELETED AS SAVBKS

CPEBK - CP TASK EXECUTION BLOCK



```
   +--------------------------+--------------------------+
68 |          CPEXWRK4        |          CPEXWRK5        |
   +--------------------------+--------------------------+
70 |          CPEXWRK6        |          CPEXWRK7        |
   +--------------------------+--------------------------+
78 |          CPEXWRK8        |          CPEXWRK9        |
   +--------------------------+--------------------------+
80
```

disp	name	length	description
000	CPEXFPNT	004	GENERAL FORWARD POINTER
004	CPEXBPNT	004	GENERAL BACKWARD POINTER (BACKWARD POINTER NOT USED FOR SINGLE-THREAD LISTS)
008	CPEXSFQP	004	SAVBK FRAME QUEUE POINTER
00C	CPEXCPRQ	004	CROSS PROCESSOR RETURN QUEUE ADDR
010	CPEXSCHD	008	SAVBK STACKING CONTROL FIELDS
010	CPEXSCHC	001	HCPSAVBK DISPATCHING CONTROLS
	BITS DEFINED FOR CPEXSCHC BY HCPSAVBK SAVESCHC		
011	CPEXCALC	001	SAVEBK USAGE STATUS
	BITS DEFINED FOR CPEXCALC BY HCPSAVBK SAVECALC		
012		H	RESERVED
014	CPEXRETN	004	RETURN LINKAGE ROUTINE ADDRESS
018	CPEXREGS	064	CALLERS REGISTERS - R0 TO R15
018	CPEXR0	004	REGISTER 0
01C	CPEXR1	004	REGISTER 1
020	CPEXR2	004	REGISTER 2 THE FOLLOWING BYTE DEFINITIONS FOR CPEXR2 ARE FOR TESTING OF PARAMETERS PASSED BETWEEN MODULES.
020	CPEXR2B0	001	REGISTER 2 BYTE 0
021	CPEXR2B1	001	REGISTER 2 BYTE 1
022	CPEXR2B2	001	REGISTER 2 BYTE 2
023	CPEXR2B3	001	REGISTER 2 BYTE 3
024	CPEXR3	004	REGISTER 3
028	CPEXR4	004	REGISTER 4
02C	CPEXR5	004	REGISTER 5
030	CPEXR6	004	REGISTER 6
034	CPEXR7	004	REGISTER 7
038	CPEXR8	004	REGISTER 8
03C	CPEXR9	004	REGISTER 9
040	CPEXR10	004	REGISTER 10
044	CPEXR11	004	REGISTER 11; ALSO VMDBK ADDRESS OF USER ON WHICH CPEBK IS SCHEDULED
048	CPEXR12	004	REGISTER 12
04C	CPEXR13	004	REGISTER 13; ALSO PREVIOUS SAVE AREA ADDRESS ON CALL
050	CPEXR14	004	REGISTER 14; ALSO RETURN ADDRESS ON CALL OR STACKED SAVBK RETURN
054	CPEXR15	004	GOTO ADDRESS ON SCHEDULED CPEBK EXECUTION
058	CPEXWRK	040	WORK AREA
058	CPEXWRK0	004	WORK AREA
05C	CPEXWRK1	004	WORK AREA
060	CPEXWRK2	004	WORK AREA
064	CPEXWRK3	004	WORK AREA
068	CPEXWRK4	004	WORK AREA
06C	CPEXWRK5	004	WORK AREA
070	CPEXWRK6	004	WORK AREA
074	CPEXWRK7	004	WORK AREA
078	CPEXWRK8	004	WORK AREA
07C	CPEXWRK9	004	WORK AREA

EQUATES

10	CPEXSIZE	SIZE IN DOUBLE WORDS

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CROSS REFERENCE

Name	Len	Value/Disp
CPEBK	001	000
CPEXBPNT	004	004
CPEXCALC	001	011
CPEXCPRQ	004	00C
CPEXFPNT	004	000
CPEXREGS	064	018
CPEXRETN	004	014
CPEXR0	004	018
CPEXR1	004	01C
CPEXR10	004	040
CPEXR11	004	044
CPEXR12	004	048
CPEXR13	004	04C
CPEXR14	004	050
CPEXR15	004	054
CPEXR2	004	020
CPEXR2B0	001	020
CPEXR2B1	001	021
CPEXR2B2	001	022
CPEXR2B3	001	023
CPEXR3	004	024
CPEXR4	004	028
CPEXR5	004	02C
CPEXR6	004	030
CPEXR7	004	034
CPEXR8	004	038
CPEXR9	004	03C
CPEXSCHC	001	010
CPEXSCHD	008	010
CPEXSFQP	004	008
CPEXSIZE	001	010
CPEXWRK	040	058
CPEXWRK0	004	058
CPEXWRK1	004	05C
CPEXWRK2	004	060
CPEXWRK3	004	064
CPEXWRK4	004	068
CPEXWRK5	004	06C
CPEXWRK6	004	070
CPEXWRK7	004	074
CPEXWRK8	004	078
CPEXWRK9	004	07C

HCPCPUBK— CPU DATA BLOCK

DSECT NAME: CPUBK

DESCRIPTIVE NAME: CPU DATA BLOCK

FUNCTION: THE CPUBK CONTAINS INFORMATION ABOUT SPECIFIED VIRTUAL CPUS IN A CP COMMAND LINE.

LOCATED BY:

CPUBNXT CHAINED, CPABCUR (CPABK)

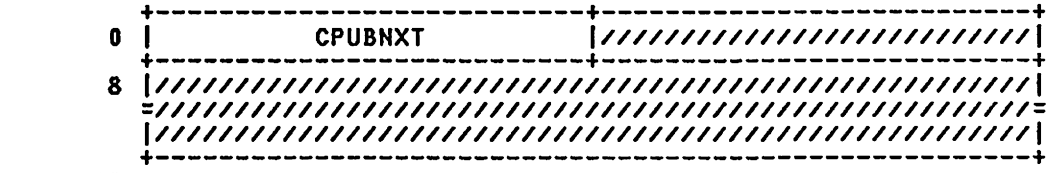
CREATED BY:

HCPCPU

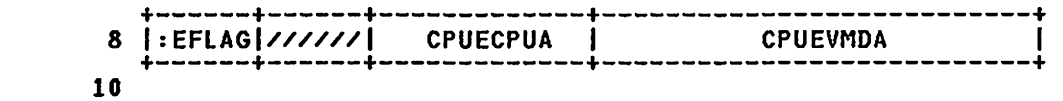
DELETED BY:

HCPCPU

CPUBK - CPU DATA BLOCK



REDEFINITION -



disp	name	length	description
000	CPUBNXT	004	POINTER TO NEXT CPUBLOK
004		1F	RESERVED FOR IBM USE 16 DOUBLE WORDS FOR CPU ENTRIES

EQUATES

08	CPUHDRLN	LENGTH OF CPUBK HEADER

008	CPUENTRY	002	MAP OF THE ENTRIES IN CPUBK
008		16D	16 ENTRIES IN EACH CPUBK

REDEFINITION -

008	CPUEFLAG	001	CPUBK ENTRY FLAGS

BITS DEFINED IN CPUEFLAG (AT HEX DISPLACEMENT: 8)

80	CPUEXIST	FLAGS IF VMDBK EXIST FOR CPU
40	CPUETYMP	MP TYPE ADJUNCT VMDBK (VMDTYPMP)
20	CPUETYUS	BASE TYPE VMDBK (VMDTYPUS)
10	CPUELAST	LAST ENTRY IN THIS BLOCK

009		X	RESERVED FOR IBM USE
00A	CPUECPUA	002	THE CPU ADDRESS
00C	CPUEVMDA	004	ADDRESS OF THIS CPU'S VMDBK IF IT EXISTS

EQUATES

08	CPUENTLN	LENGTH OF THE DATA IN CPUBK

MORE EQUATES

88	CPULEN	LENGTH OF CPUBK
11	CPUSIZE	SIZE OF CPUBK (DOUBLEWORDS)

CROSS REFERENCE

Name	Len	Value/Disp
CPUBK	001	000
CPUBNXT	004	000
CPUECPUA	002	00A
CPUEFLAG	001	008
CPUELAST	001	010
CPUENTLN	001	008
CPUENTRY	002	008
CPUETYMP	001	040
CPUETYUS	001	020
CPUEVMDA	004	00C
CPUEXIST	001	080
CPUHDRLN	001	008
CPUIDVM	001	0FF
CPUKEY	001	040
CPULEN	001	088
CPUNOALL	001	020
CPUNOKEY	001	080
CPUSIZE	001	011

HCPCPVOL— SYSTEM VOLUME LIST ENTRY

DSECT NAME: CPVOL

DESCRIPTIVE NAME: SYSTEM VOLUME LIST ENTRY

FUNCTION: A CPVOL DESCRIBES A VOLUME THAT IS DEDICATED FOR USE BY THE SYSTEM.

LOCATED BY:

CPVNEXT - FIELD OF HCPCPVOL BLOCK USED FOR PAGING REFERENCE TO INDICATE THE NEXT DEVICE OF THE SAME TYPE.
RDEVVOL - FIELD OF HCPRDEV BLOCK
SYSVOLS - CONTAINS THE POINTER TO THE BEGINNING OF CP-OWNED VOLUMES THAT ARE CONTIGUOUS IN STORAGE. THE VOLUME INDEX OF THE ASA CAN BE USED TO INDEX INTO THE TABLE TO DETERMINE THE CORRECT VOLUME FOR THAT ASA. MULTIPLY THE INDEX BY THE SIZE OF A CPVOL.

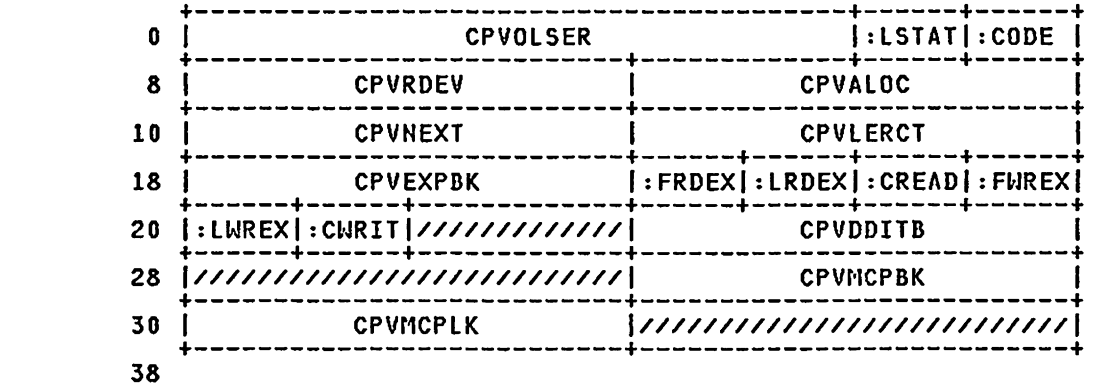
CREATED BY:

HCPGENER MACRO AFTER THE SYSCPVOL MACRO HAS BEEN EXECUTED.

DELETED BY:

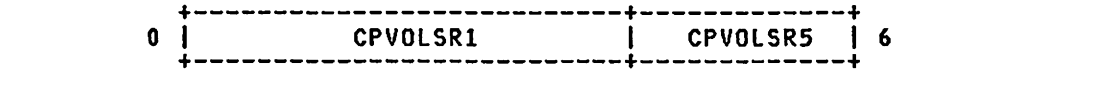
THE CPVOL IS NEVER DELETED.

CPVOL - SYSTEM VOLUME LIST ENTRY



REDEFINITION - USERVOL ENTRY

REDEFINITION - REDEF FOR PASSING IN REGISTERS



disp	name	length	description
000	CPVOLSER	006	VOLUME SERIAL IDENTIFIER
006	CPVLSTAT	001	VOLUME STATUS FLAGS

BITS DEFINED IN CPVLSTAT (AT HEX DISPLACEMENT: 6)

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```
         80     CPVLPREF    VOLUME CONTAINS PREFERRED SLOTS
         40     CPVLDRCT    VOLUME CONTAINS VALID DIRECTORY
                            SLOTS
         20     CPVLALPG    VOLUME HAS BEEN USED FOR PAGING
                            ACTIVITY.  THIS BIT IS TURNED ON
                            WHEN THE FIRST SLOT IS ALLOCATED,
                            AND REMAINS ON UNTIL THE VOLUME
                            IS DETACHED FROM THE SYSTEM.

007    CPVCODE     001      INDEX NUMBER INTO CPVOL LIST
008    CPVRDEV     004      ADDRESS OF THE RDEV BLOCK IF ATTACHED
                            OTHERWISE IT CONTAINS ZEROES
00C    CPVALOC     004      ADDRESS OF THE ALOC BLOCK
010    CPVNEXT     004      NEXT CPVOL OF SAME DEVICE TYPE.
                            THE END POINTER IS ZERO.
014    CPVLERCT    004
                            THIS FIELD MUST BE UPDATED BY
                            COMPARE AND SWAP LOGIC

                       EQUATES

         06     CPVMAXER    THE MAXIMUN NUMBER OF CONTINUOUS
                            ERRORS ALLOWED

018    CPVEXPBK    004      CONTAINS ADDRESS OF EXPOSURE BLOCK
01C    CPVRDWRI    006
01C    CPVFRDEX    001      FIRST READ EXPOSURE
01D    CPVLRDEX    001      LAST READ EXPOSURE
01E    CPVCREAD    001      CURRENT AVAILABLE READ EXPOSURE
01F    CPVFWREX    001      FIRST AVAILABLE WRITE EXPOSURES
020    CPVLWREX    001      LAST WRITE EXPOSURE
021    CPVCWRIT    001      CURRENT AVAILABLE WRITE EXPOSURE
022                2X       RESERVED FOR IBM USE
024    CPVDDITB    004      CONTAINS THE POINTER TO A DEVICE
                            DEPENDENT INFORMATION TABLE
028                F        RESERVED FOR IBM USE
02C    CPVMCPBK    004      POINTER TO MCPBK FOR THIS VOLUME
030    CPVMCPLK    004      LOCKWORD FOR MCPBK
034                F        RESERVED FOR IBM USE.
038    CPVOLEND    008      END OF CPVOL.

          REDEFINITION - USERVOL ENTRY

000                CL6      VOLUME SERIAL IDENTIFIER
006                XL2      RESERVED FOR IBM USE

                       EQUATES

         01     CPVUSIZE    CPVOL SIZE IN DW'S
                            (FOR USER VOLUMES)


          REDEFINITION - REDEF FOR PASSING IN REGISTERS

000    CPVOLSR1    004      BYTES 1-4 OF CPVOLSER
004    CPVOLSR5    002      BYTES 5 & 6 OF CPVOLSER

                       MORE EQUATES

         07     CPVSIZE     CPVOL ENTRY SIZE IN DOUBLEWORDS
                            (FOR PAGING/SPOOLING SYSTEM VOLUMES)
         38     CPVBSIZE    CPVOL ENTRY SIZE IN BYTES
```

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CROSS REFERENCE

Name	Len	Value/Disp
CPVALOC	004	00C
CPVBSIZE	001	038
CPVCODE	001	007
CPVCREAD	001	01E
CPVCWRIT	001	021
CPVDDITB	004	024
CPVEXPBK	004	018
CPVFRDEX	001	01C
CPVFWREX	001	01F
CPVLALPG	001	020
CPVLDRCT	001	040
CPVLERCT	004	014
CPVLPREF	001	080
CPVLRDEX	001	01D
CPVLSTAT	001	006
CPVLWREX	001	020
CPVMAXER	001	006
CPVMCPBK	004	02C
CPVMCPLK	004	030
CPVNEXT	004	010
CPVOL	001	000
CPVOLEND	008	038
CPVOLSER	006	000
CPVOLSR1	004	000
CPVOLSR5	002	004
CPVRDEV	004	008
CPVRDWRI	006	01C
CPVSIZE	001	007
CPVUSIZE	004	001

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CRDREC— CHANNEL REPORT WORD ERROR RECORD

DSECT NAME: CRDREC

DESCRIPTIVE NAME: CHANNEL REPORT WORD ERROR RECORD

FUNCTION: CRDREC PROVIDES STATISTICAL DATA FOR ERROR RECOVERY AND/OR ERROR RECORDING RELATED TO PREVIOUSLY PERFORMED CHANNEL OPERATION THAT DID NOT SUCCESSFULLY COMPLETE.

LOCATED BY:

GPR6 IN HCPRFC AND HCPIOE. THE ADDRESS IS PASSED TO HCPREC IN GPR1.

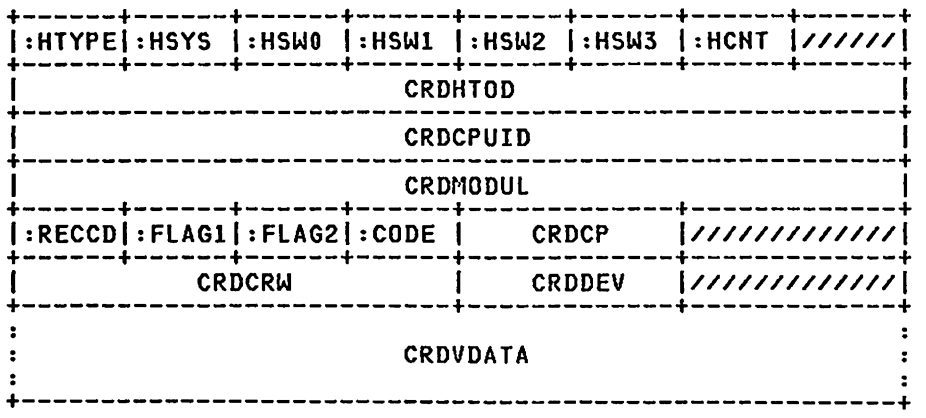
CREATED BY:

HCPRFC

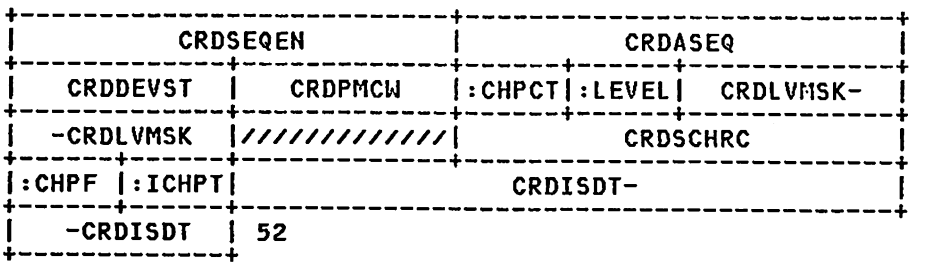
DELETED BY:

HCPIOE AFTER HCPREC HAS COPIED IT INTO A GSDBK.

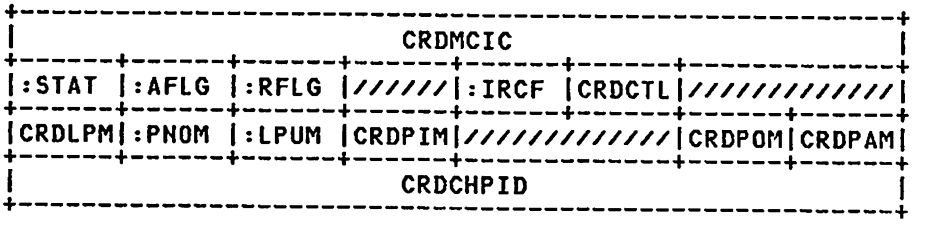
CRDREC - CHANNEL REPORT WORD ERROR RECORD



REDEFINITION - CRDVDATA - UCB DATA FORMAT



REDEFINITION - CRDVDATA - MCIC FORMAT RECORD



```
   50


         REDEFINITION - CRDHTOD

      +--------------------------+--------------------------+
    8 |          CRDHDATE        |          CRDHTIME        |
      +--------------------------+--------------------------+
   10


         REDEFINITION - CRDCPUID

      +------+--------------------+-------------+-------------+
   10 |:HCPID|      CRDHSER       |   CRDHMDL   |   CRDHMCEL  |
      +------+--------------------+-------------+-------------+
   18


         REDEFINITION - CRDMCIC

      +------+------+------+------+------+------+------+------+
   30 |:MCIC0|:MCIC1|:MCIC2|:MCIC3|:MCIC4|:MCIC5|:MCIC6|:MCIC7|
      +------+------+------+------+------+------+------+------+
   38
```

disp	name	length	description
000	CRDHTYPE	001	CLASS/SOURCE
	CODES DEFINED IN CRDHTYPE (AT HEX DISPLACEMENT: 0)		
	25 CRDHTYCR		CRW RECORD
001	CRDHSYS	001	SYSTEM/RELEASE LEVEL
	BITS DEFINED FOR CRDHSYS BY HDRREC HDRHSYS		
002	CRDHSW0	001	RECORD INDEPENDENT SWITCHES
	BITS DEFINED FOR CRDHSW0 BY HDRREC HDRHSW0		
003	CRDHSW1	001	RESERVED REC DEPENDENT SWITCH 1
004	CRDHSW2	001	RESERVED REC DEPENDENT SWITCH 2
005	CRDHSW3	001	RESERVED REC DEPENDENT SWITCH 3
006	CRDHCNT	001	RECORD COUNT
	BITS DEFINED FOR CRDHCNT BY HDRREC HDRHCNT		
007		XL1	RESERVED FOR FUTURE IBM USE
008	CRDHTOD	008	TOD OF SYSTEM FAILURE
010	CRDCPUID	008	CPU ID
018	CRDMODUL	008	CSECT NAME OF MODULE/USERID
020	CRDRECCD	001	CRW RECORD FORMAT CODE
	CODES DEFINED IN CRDRECCD (AT HEX DISPLACEMENT: 20)		
	01 CRDRECUC		UCB DATA FORMAT RECORD
	02 CRDRECMC		MCIC FORMAT RECORD
021	CRDFLAG1	001	FLAG BYTE 1
	BITS DEFINED IN CRDFLAG1 (AT HEX DISPLACEMENT: 21)		
	80 CRDF1HCC		HARDWARE CREATED CRW
	40 CRDF1SCC		SOFTWARE CREATED CRW
	01 CRDF1INV		INVALID CRW RECORDING

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```
022   CRDFLAG2   001      FLAG BYTE 2
023   CRDCODE    001      CODE BYTE

        CODES DEFINED IN CRDCODE  (AT HEX DISPLACEMENT: 23)

        01     CRDCOCPM    CRW PENDING MCH
        02     CRDCOSDM    SYSTEM DAMAGE MCH
        03     CRDCOACR    ALTERNATE CPU RECOVERY
        06     CRDCOIRC    HOT I/O RECOVER CHAN PATH
        07     CRDCOIRM    HOT I/O REMOVE CHAN PATH
        08     CRDCOVCP    VARY CHAN PATH - FORCE

024   CRDCP        002      PROCESSOR ADDRESS CRW RETRIEVED
026                H        RESERVED FOR FUTURE IBM USE
028   CRDCRW       004      CRW
02C   CRDDEV       002      DEVICE NUMBER
02E                XL2      RESERVED FOR FUTURE IBM USE
030   CRDVDATA     008      START OF VARIABLE LENGTH DATA

          REDEFINITION - CRDVDATA - UCB DATA FORMAT

030   CRDSEQEN     004      CRW SEQUENCE NUMBER
034   CRDASEQ      004      CRW ASSOCIATED SEQ NBR
038   CRDDEVST     002      UCB DEVICE STATUS FLAGS
03A   CRDPMCW      002      PATH MANAGEMENT CONTROL WORD FROM
                            THE UCB
03C   CRDCHPCT     001      CHANNEL PATH RECOVERY COUNT FROM
                            THE UCB
03D   CRDLEVEL     001      UCB LEVEL VALUE
03E   CRDLVMSK     004      UCB LEVEL BIT MASK
042                XL2      RESERVED FOR FUTURE IBM USE
044   CRDSCHRC     004      UCB SUBCHANNEL RECOVERY ANCHOR
048   CRDCHPF      001      CHANNEL PATH FLAGS
049   CRDICHPT     001      ICHPT FLAGS ASSOCIATED WITH THE
                            CRW CHANNEL PATH ID
04A   CRDISDT      008      COPY OF THE IOSVISDT

                      EQUATES

        52     CRDLENUC    LENGTH OF UCB FORMAT CRDREC
        0B     CRDSIZUC    UCB CRDREC SIZE IN DBL WDS


          REDEFINITION - CRDVDATA - MCIC FORMAT RECORD

030   CRDMCIC      008      MCIC, IF AVAILABLE
038   CRDSTAT      001      DEVICE OPERATION STATUS FLAG FROM
                            RDEV

        BITS DEFINED FOR CRDSTAT BY HCPRDEV RDEVSTAT

039   CRDAFLG      001      DEVICE ALLOCATION CONTROL FLAG
                            FROM RDEV

        BITS DEFINED FOR CRDAFLG BY HCPRDEV RDEVAFLG

03A   CRDRFLG      001      DEVICE ERROR RECOVERY CONTROL
                            FLAG FROM RDEV

        BITS DEFINED FOR CRDRFLG BY HCPRDEV RDEVRFLG

03B                XL1      RESERVED FOR FUTURE IBM USE
03C   CRDIRCF      001      INTERRUPT REQUEST CODE FROM SCHIB

        BITS DEFINED FOR CRDIRCF BY HCPEQUAT CSWIRCF

03D   CRDCTL       001      CONTROL FLAGS FROM SCHIB

        BITS DEFINED FOR CRDCTL BY HCPEQUAT CSWCTL

03E                XL2      RESERVED FOR FUTURE IBM USE
040   CRDLPM       001      LOGICAL PATH MASK FROM SCHIB
041   CRDPNOM      001      PATH NOT OPERATIONAL MASK FROM
```

```
                                SCHIB
042   CRDLPUM     001       LAST PATH USED MASK FROM SCHIB
043   CRDPIM      001       PATH INVALID MASK FROM SCHIB
044               XL2       RESERVED FOR FUTURE IBM USE
046   CRDPOM      001       PATH OPERATIONAL MASK FROM SCHIB
047   CRDPAM      001       PATH AVAILABLE MASK FROM SCHIB
048   CRDCHPID    008       CHANNEL PATH IDS FROM SCHIB

                    EQUATES

        50     CRDLENMC     LENGTH OF MCIC FORMAT CRDREC
        0A     CRDSIZMC     MCIC CRDREC SIZE IN DBL WDS


         REDEFINITION - CRDHTOD

008   CRDHDATE    004       SYSTEM DATE OF FAILURE
00C   CRDHTIME    004       SYSTEM TIME OF FAILURE

         REDEFINITION - CRDCPUID

010   CRDHCPID    001       MACHINE VERSION CODE
011   CRDHSER     003       CPU SERIAL NUMBER
014   CRDHMDL     002       CPU MACHINE MODEL NUMBER
016   CRDHMCEL    002       RESERVED FOR FUTURE IBM USE

         REDEFINITION - CRDMCIC

030   CRDMCIC0    001       COPY OF MCIC BYTE 0.

        BITS DEFINED FOR CRDMCIC0 BY HCPEQUAT MCIC0

031   CRDMCIC1    001       COPY OF MCIC BYTE 1.

        BITS DEFINED FOR CRDMCIC1 BY HCPEQUAT MCIC1

032   CRDMCIC2    001       COPY OF MCIC BYTE 2.

        BITS DEFINED FOR CRDMCIC2 BY HCPEQUAT MCIC2

033   CRDMCIC3    001       COPY OF MCIC BYTE 3.

        BITS DEFINED FOR CRDMCIC3 BY HCPEQUAT MCIC3

034   CRDMCIC4    001       COPY OF MCIC BYTE 4.
035   CRDMCIC5    001       COPY OF MCIC BYTE 5.

        BITS DEFINED FOR CRDMCIC5 BY HCPEQUAT MCIC5

036   CRDMCIC6    001       COPY OF MCIC BYTE 6.
037   CRDMCIC7    001       COPY OF MCIC BYTE 7.
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
CRDAFLG	001	039	CRDCOIRM	001	007	CRDFLAG1	001	021
CRDASEQ	004	034	CRDCOSDM	001	002	CRDFLAG2	001	022
CRDCHPCT	001	03C	CRDCOVCP	001	008	CRDF1HCC	001	080
CRDCHPF	001	048	CRDCP	002	024	CRDF1INV	001	001
CRDCHPID	008	048	CRDCPUID	008	010	CRDF1SCC	001	040
CRDCOACR	001	003	CRDCRW	004	028	CRDHCNT	001	006
CRDCOCPM	001	001	CRDCTL	001	03D	CRDHCPID	001	010
CRDCODE	001	023	CRDDEV	002	02C	CRDHDATE	004	008
CRDCOIRC	001	006	CRDDEVST	002	038	CRDHMCEL	002	016

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Name	Len	Value/Disp
CRDHMDL	002	014
CRDHSER	003	011
CRDHSW0	001	002
CRDHSW1	001	003
CRDHSW2	001	004
CRDHSW3	001	005
CRDHSYS	001	001
CRDHTIME	004	00C
CRDHTOD	008	008
CRDHTYCR	001	025
CRDHTYPE	001	000
CRDICHPT	001	049
CRDIRCF	001	03C
CRDISDT	008	04A
CRDLENMC	001	050
CRDLENUC	001	052
CRDLEVEL	001	03D
CRDLPM	001	040
CRDLPUM	001	042
CRDLVMSK	004	03E
CRDMCIC	008	030
CRDMCIC0	001	030
CRDMCIC1	001	031
CRDMCIC2	001	032
CRDMCIC3	001	033
CRDMCIC4	001	034
CRDMCIC5	001	035
CRDMCIC6	001	036
CRDMCIC7	001	037
CRDMODUL	008	018
CRDPAM	001	047
CRDPIM	001	043
CRDPMCW	002	03A
CRDPNOM	001	041
CRDPOM	001	046
CRDREC	001	000
CRDRECCD	001	020
CRDRECMC	001	002
CRDRECUC	001	001
CRDRFLG	001	03A
CRDSCHRC	004	044
CRDSEQEN	004	030
CRDSIZMC	001	00A
CRDSIZUC	001	00B
CRDSTAT	001	038
CRDVDATA	008	030

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HCPCRWBK— CHANNEL REPORT WORD BLOCK

DSECT NAME: CRWBK

DESCRIPTIVE NAME: CHANNEL REPORT WORD BLOCK

FUNCTION: THE CRWBK IS A QUEUE ELEMENT ON THE QUEUE OF PENDING CHANNEL REPORT WORDS AWAITING PRESENTATION (VIA A MACHINE CHECK INTERRUPTION) TO THE VIRTUAL MACHINE.

LOCATED BY:

CHCIORW - ANCHOR OF QUEUE IN CHCBK
MCVCRWS - ANCHOR OF QUEUE IN MCVBK
CRWNEXT - FORWARD POINTER IN PRECEEDING QUEUE ELEMENT

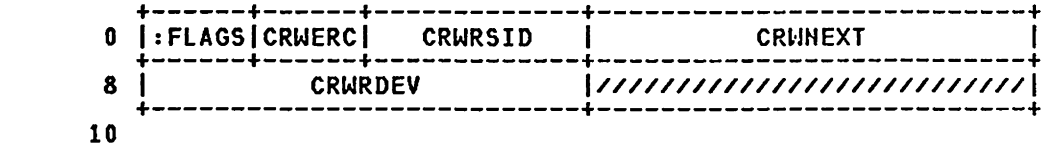
CREATED BY:

HCPVDB - WHEN A DEVICE IS DEFINED FOR A VIRTUAL XA MACHINE
HCPVOF - DURING SIMULATION OF A RCHP INSTRUCTION
HCPRFC - TO PASS ON A CRW FOR A DEDICATED DEVICE TO CONCERNED VIRTUAL MACHINE

DELETED BY:

HCPMCV - WHEN A VIRTUAL MACHINE IS RESET
- WHEN THE CRW IS STORED IN THE VIRTUAL MACHINE DURING SIMULATION OF A MACHINE CHECK INTERRUPT
HCPVOF - DURING SIMULATION OF A STCRW INSTRUCTION

CRWBK - CHANNEL REPORT WORD BLOCK



disp	name	length	description
000	CRWWORD	004	CRW REPORT WORD CONTENTS
000	CRWFLAGS	001	CHANNEL REPORT FLAGS AND CODES

BITS DEFINED IN CRWFLAGS (AT HEX DISPLACEMENT: 0)

40	CRWSOLIC	SOLICITED - FOR EXAMPLE, CHANNEL PATH INITIALIZED IN RESPONSE TO RCHP AS OPPOSED TO CHANNEL PATH INITIALIZED DUE TO LOSS-OF-POWER.
20	CRWOVER	OVERFLOW - ONE OR MORE SUBSEQUENT CHANNEL REPORT WORDS HAVE BEEN LOST.
10	CRWCHAIN	SUBSEQUENT CHANNEL REPORT WORD(S) REQUIRED TO DESCRIBE ONE EVENT IF A CHAINED CHANNEL REPORT WORD IS LOST FROM OVERFLOW, ALL OF THE CHANNEL REPORT WORDS CHAINED TO THAT CHANNEL REPORT WORD ARE LOST AS WELL.
0F	CRWRSC	REPORTING SOURCE CODE (RSC) MASK
02	CRWMONIT	SOURCE = CHANNEL MONITORING FACILITY
03	CRWSUBCH	SOURCE = SUBCHANNEL. THE SUBCHANNEL NUMBER IS SPECIFIED IN THE REPORTING SOURCE ID.
04	CRWCHPID	SOURCE = CHANNEL PATH. THE CHANNEL PATH IDENTIFIER IS SPECIFIED IN THE REPORTING SOURCE ID.
09	CRWCAF	SOURCE = CONFIGURATION ALERT TEMPORARY ERROR. THE FAILING CHANNEL PATH IS SPECIFIED IN THE IN THE REPORTING SOURCE ID.

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```
001   CRWERC     001      ERROR REPORTING CODE (ERC)

        CODES DEFINED IN CRWERC   (AT HEX DISPLACEMENT: 1)

        01    CRWAVAIL    000001 - AVAILABLE
        02    CRWINIT     000010 - INITIALIZED, PARAMETERS
                          NOT CHANGED
        03    CRWTEMP     000011 - TEMPORARY
        04    CRWALERT    000100 - INSTALLED,   PARAMETERS
                          INITIALIZED. THE DEVICE
                          VALID BIT AND ANY OTHER
                          FIELD WITHIN THE SUBCH-
                          CHANNEL MAY BE CHANGED.
        05    CRWTERM     000101 - TERMINAL
        07    CRWPERMI    000111 - PERMANENT, INITIALIZED.

002   CRWRSID    002      RESOURCE IDENTIFIER CODE
004   CRWNEXT    004      NEXT CRW IF ANY
008   CRWRDEV    004      ASSOCIATED RDEVBLOK IF ANY
00C              1F       RESERVED FOR FUTURE IBM USE

                    EQUATES

        02    CRWSIZE     CRWBK SIZE IN DOUBLE WORDS
```

CROSS REFERENCE

Name	Len	Value/Disp
CRWALERT	001	004
CRWAVAIL	001	001
CRWBK	001	000
CRWCAF	001	009
CRWCHAIN	001	010
CRWCHPID	001	004
CRWERC	001	001
CRWFLAGS	001	000
CRWINIT	001	002
CRWMONIT	001	002
CRWNEXT	004	004
CRWOVER	001	020
CRWPERMI	001	007
CRWRDEV	004	008
CRWRSC	001	00F
CRWRSID	002	002
CRWSIZE	001	002
CRWSOLIC	001	040
CRWSUBCH	001	003
CRWTEMP	001	003
CRWTERM	001	005
CRWWORD	004	000

HCPCSFBK— CHANGE SPOOL FILE ROUTINE COMMUNICATIONS BLOCK

DSECT NAME: CSFBK

DESCRIPTIVE NAME: CHANGE SPOOL FILE ROUTINE COMMUNICATIONS BLOCK

FUNCTION: PASSES COMMAND LINE OPTIONS FROM THE CHANGE AND TRANSFER COMMANDS IN HCPCSC, TO THE ROUTINE HCPCSFCX WHICH SEARCHES THE QUEUES AND EFFECTS THE CHANGES. ALSO PASSES OPTIONS FROM THE SYSTEM DATA FILE CHANGE ROUTINE IN HCPSDFCH TO HCPCSFCX.

LOCATED BY:

REGISTER 4

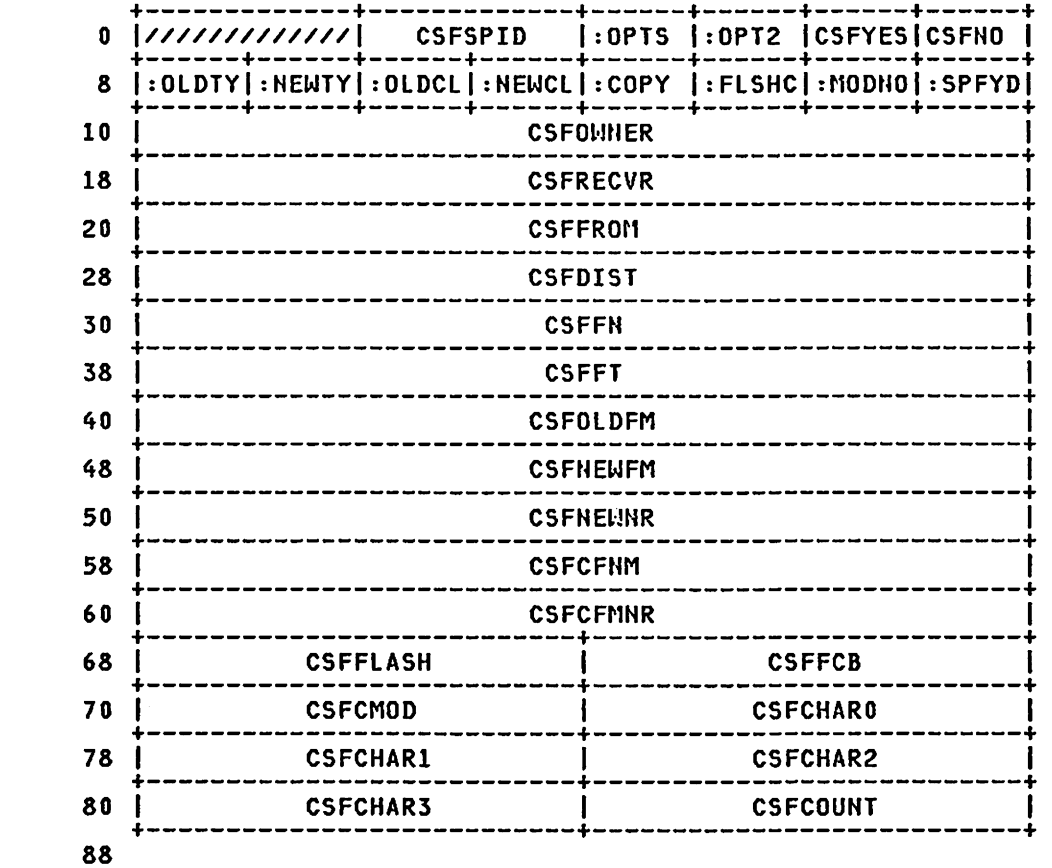
CREATED BY:

HCPCSC - COMMAND PARSING
HCPSDFCH - TO CHANGE THE CHARACTERISTICS OF SYSTEM DATA FILE

DELETED BY:

HCPCSC - AFTER RETURN FROM HCPCSFCX
HCPSDFCH - AFTER RETURN FROM HCPCSFCX

CSFBK - CHANGE SOOL FILE COMMUNICATION BLOCK



disp	name	length	description	
000		1H	RESERVED FOR FUTURE IBM USED	
002	CSFSPID	002	SPOOL ID OF FILE TO BE CHANGED	MARKER
004	CSFOPTS	001	COMMAND OPTIONS	MARKER

BITS DEFINED IN CSFOPTS (AT HEX DISPLACEMENT: 4)

```
         80     CSFSYS       SYSTEM SPECIFIED
         40     CSFSPEC      SPECIFIC SPOOLID
         20     CSFNACT      OPTION NOT VALID FOR ACTIVE FILE
         10     CSFINEL      SPID FOUND, FILE NOT ELIGIBLE
         08     CSFCLASS     CLASS SPECIFIED
         04     CSFCHNG      PROCESSING "CHANGE" COMMAND
         02     CSFXFER      PROCESSING "TRANSFER" COMMAND
         01     CSFORIG      SPFORIG DETERMINES OWNERSHIP

005   CSFOPT2     001         COMMAND OPTIONS

        BITS DEFINED IN CSFOPT2  (AT HEX DISPLACEMENT: 5)

         80     CSFFORM      SELECT FILES BY FORM
         40     CSFCFNMR     IF ON, FORM IS OPERATOR FORM NUMBER.
                             IF OFF, FORM IS USER FORM NAME
         20     CSFPGCPY     COPY COUNT IS PAGE COPIES (*NNN)
         10     CSFFLALL     FLASH ALL COPIES OF THE FILE

006   CSFYES      001         POSITIVE OPTIONS

        BITS DEFINED IN CSFYES   (AT HEX DISPLACEMENT: 6)

         80     CSFHO        HOLD OR NOHOLD OPTION
         40     CSFKE        KEEP OR NOKEEP OPTION
         20     CSFMS        MSG OR NOMSG OPTION
         10     CSFDI        DIST OPTION
         08     CSFSY        SYS OR NOSYS OPTION
         04     CSFNA        NAME OR NONAME OPTION

007   CSFNO       001         NEGATIVE OPTIONS

        BITS DEFINED FOR CSFNO BY HCPCSFBK CSFYES

008   CSFOLDTY    001         QUEUE ON WHICH FILES TO BE
                              CHANGED CURRENTLY RESIDE

        BITS DEFINED FOR CSFOLDTY BY HCPSPFBK SPFQUEUE

009   CSFNEWTY    001         QUEUE TO WHICH FILES WILL BE SENT MARKER

        BITS DEFINED FOR CSFNEWTY BY HCPSPFBK SPFQUEUE

00A   CSFOLDCL    001         CLASS OF FILE TO BE CHANGED
00B   CSFNEWCL    001         NEW CLASS TO BE SET ON FILE
00C   CSFCOPY     001         NEW COPY COUNT
00D   CSFFLSHC    001         NEW FLASH COUNT
00E   CSFMODNO    001         NEW COPY MOD CHAR SET NUMBER (0-3)
00F   CSFSPFYD    001         SPECIFIED 3800 OPTIONS

        BITS DEFINED IN CSFSPFYD (AT HEX DISPLACEMENT: F)

         80     CSFFCBS      'FCB' SPECIFIED
         40     CSFCHRSP     'CHARS' SPECIFIED
         20     CSFMODS      'MODIFY' SPECIFIED
         10     CSFFLSHS     'FLASH' SPECIFIED

010   CSFCHFLD    008         CHARACTER FIELDS (INIT TO BLANKS)
010   CSFOWNER    008         CURRENT OWNER OF FILES
018   CSFRECVR    008         USER TO RECIEVE THE FILES
020   CSFFROM     008         USER FROM WHOM TO TAKE FILES
028   CSFDIST     008         NEW DISTRIBUTION CODE TO BE SET
030   CSFFN       008         NEW FILE NAME, IF ANY
038   CSFFT       008         NEW FILE TYPE, IF ANY
040   CSFOLDFM    008         FORM OF FILES TO BE CHANGED
048   CSFNEWFM    008         NEW FORM NAME TO BE SET ON FILE
050   CSFNEWNR    008         NEW FORM NUMBER TO BE SET ON FILE
058   CSFCFNM     008         CONSOLE FORM NAME
060   CSFCFMNR    008         CONSOLE FORM NUMBER
068   CSFFLASH    004         NEW FLASH NAME
06C   CSFFCB      004         NEW FCB NAME
070   CSFCMOD     004         NEW COPY MODIFICATION MODULE
074   CSFCHARS    016         LENGTH ATTR TO CLEAR CHAR0-CHAR3
```

```
074    CSFCHAR0    004       NEW CHARACTER SET NAME (FIRST)
078    CSFCHAR1    004       NEW CHARACTER SET NAME (SECOND)
07C    CSFCHAR2    004       NEW CHARACTER SET NAME (THIRD)
080    CSFCHAR3    004       NEW CHARACTER SET NAME (FOURTH)

                       EQUATES

         74     CSFCHSIZ     SIZE OF CSFCHFLD FIELD

084    CSFCOUNT    004       COUNT OF FILES PROCESSED

                       EQUATES

         11     CSFSIZE      SIZE IN DOUBLE WORDS
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
CSFBK	001	000	CSFOPTS	001	004
CSFCFMNR	008	060	CSFOPT2	001	005
CSFCFNM	008	058	CSFORIG	001	001
CSFCFNMR	001	040	CSFOWNER	008	010
CSFCHARS	016	074	CSFPGCPY	001	020
CSFCHAR0	004	074	CSFRECVR	008	018
CSFCHAR1	004	078	CSFSIZE	001	011
CSFCHAR2	004	07C	CSFSPEC	001	040
CSFCHAR3	004	080	CSFSPFYD	001	00F
CSFCHFLD	008	010	CSFSPID	002	002
CSFCHNG	001	004	CSFSY	001	008
CSFCHRSP	001	040	CSFSYS	001	080
CSFCHSIZ	001	074	CSFXFER	001	002
CSFCLASS	001	008	CSFYES	001	006
CSFCMOD	004	070			
CSFCOPY	001	00C			
CSFCOUNT	004	084			
CSFDI	001	010			
CSFDIST	008	028			
CSFFCB	004	06C			
CSFFCBS	001	080			
CSFFLALL	001	010			
CSFFLASH	004	068			
CSFFLSHC	001	00D			
CSFFLSHS	001	010			
CSFFN	008	030			
CSFFORM	001	080			
CSFFROM	008	020			
CSFFT	008	038			
CSFHO	001	080			
CSFINEL	001	010			
CSFKE	001	040			
CSFMODNO	001	00E			
CSFMODS	001	020			
CSFMS	001	020			
CSFNA	001	004			
CSFNACT	001	020			
CSFNEWCL	001	00B			
CSFNEWFM	008	048			
CSFNEWNR	008	050			
CSFNEWTY	001	009			
CSFNO	001	007			
CSFOLDCL	001	00A			
CSFOLDFM	008	040			
CSFOLDTY	001	008			

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HCPDCPU— DIRECTORY CPU BLOCK

DSECT NAME: DCPU

DESCRIPTIVE NAME: DIRECTORY CPU BLOCK

FUNCTION: THE DCPU BLOCK CONTAINS INFORMATION DERIVED FROM ONE DIRECTORY CPU STATEMENT.

LOCATED BY:

DVMDCDAS (DIRECTORY DASD ADDRESS)
DVMDCDSP (OFFSET WITHIN A PAGE)

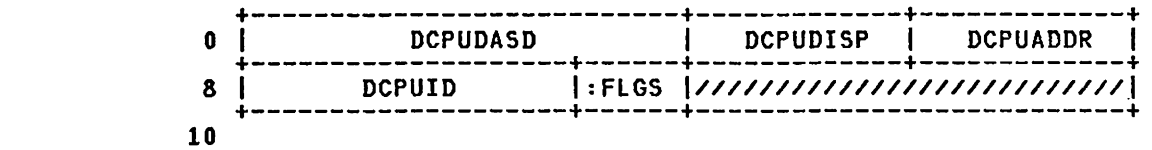
CREATED BY:

HCPDIR, HCPUDS

DELETED BY:

HCPLGN

DCPU - DIRECTORY CPU BLOCK



disp	name	length	description
000	DCPUDASD	004	DASD ADDRESS OF THE NEXT DCPU
004	DCPUDISP	002	OFFSET TO THE NEXT DCPU
006	DCPUADDR	002	CPU ADDRESS. VALID RANGE IS 0-3F.
008	DCPUID	003	CPU ID. BECOMES BITS 8-31 OF THE RESPONSE TO THE STIPD INSTRUCTION.
00B	DCPUFLGS	001	CPU DEFINITION FLAGS.

BITS DEFINED IN DCPUFLGS (AT HEX DISPLACEMENT: B)

80	DCPUVECT	ON IF VECTOR SPECIFIED.
40	DCPUNOVE	ON IF NOVECTOR SPECIFIED.
20	DCPUIDFL	ON IF CPUID SPECIFIED.

00C		F	RESERVED FOR FUTURE IBM USE.

EQUATES

02	DCPUSIZE	DCPU BLOCK SIZE IN DW'S.
10	DCPULEN	DCPU BLOCK SIZE IN BYTES.

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
DCPU	001	000	DCPUID	003	008	DCPUVECT	001	080
DCPUADDR	002	006	DCPUIDFL	001	020			
DCPUDASD	004	000	DCPULEN	001	010			
DCPUDISP	002	004	DCPUNOVE	001	040			
DCPUFLGS	001	00B	DCPUSIZE	001	002			

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HCPDCTBL— DEVICE CHARACTERISTICS TABLE

DSECT NAME: DCTBL

DESCRIPTIVE NAME: DEVICE CHARACTERISTICS TABLE

FUNCTION: THE DEVICE CHARACTERISTICS TABLE IS USED TO MAP STATUS INFORMATION FOR EACH TYPE OF DEVICE SUPPORTED.

LOCATED BY:

VIODDITB - VIOMI POINTER CONTAINING ADDRESS OF THIS TABLE.

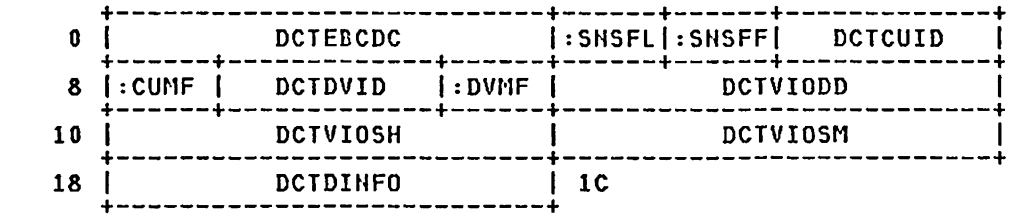
CREATED BY:

DCTBLS ARE GENERATED BY INVOKING THE HCPDCTGN MACRO.

DELETED BY:

DCTBLS ARE NEVER DELETED.

DCTBL - DEVICE CHARACTERISTICS TABLE



disp	name	length	description
000	DCTEBCDC	004	EBCDIC DEVICE TYPE
004	DCTSNSFL	001	SENSE DATA VALIDITY FLAGS
	BITS DEFINED IN DCTSNSFL (AT HEX DISPLACEMENT: 4)		
	80 DCTCUIV		CONTROL UNIT INFO IS VALID
	40 DCTDVIV		DEVICE INFO IS VALID
005	DCTSNSID	007	SENSE ID INFORMATION:
005	DCTCUINF	004	(X'FF' & CONTROL UNIT INFO)
005	DCTSNSFF	001	'FF'X
006	DCTSNSDT	006	(ACTUAL DATA PORTION)
006	DCTCUID	002	CONTROL UNIT ID
008	DCTCUMF	001	CONTROL UNIT MODEL/FEATURES
009	DCTDVINF	003	(DEVICE INFO)
009	DCTDVID	002	DEVICE ID
00B	DCTDVMF	001	DEVICE MODEL/FEATURES
00C	DCTVIODD	004	ADDRESS OF DEDICATED-DEVICE VIOMI
010	DCTVIOSH	004	ADDRESS OF SHARED-DEVICE VIOMI
014	DCTVIOSM	004	ADDRESS OF SIMULATED-DEVICE VIOMI
018	DCTDINFO	004	ADDRESS OF DEVICE-SPECIFIC INFO
	EQUATES		
	04 DCTSIZE		SIZE, IN DOUBLEWORDS, OF DCTBL

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CROSS REFERENCE

Name	Len	Value/Disp
DCTBL	001	000
DCTCUID	002	006
DCTCUINF	004	005
DCTCUIV	001	080
DCTCUMF	001	008
DCTDINFO	004	018
DCTDVID	002	009
DCTDVINF	003	009
DCTDVIV	001	040
DCTDVMF	001	00B
DCTEBCDC	004	000
DCTSIZE	001	004
DCTSNSDT	006	006
DCTSNSFF	001	005
DCTSNSFL	001	004
DCTSNSID	007	005
DCTVIODD	004	00C
DCTVIOSH	004	010
DCTVIOSM	004	014

HCPDDEV— DIRECTORY DEVICE DEFINITION BLOCK

DSECT NAME: DDEV

DESCRIPTIVE NAME: DIRECTORY DEVICE DEFINITION BLOCK

FUNCTION: THE HCPDDEV BLOCK DESCRIBES THE DEVICES ASSOCIATED WITH A VIRTUAL MACHINE AS SPECIFIED IN THE SYSTEM DIRECTORY.

LOCATED BY:

DUNIDDAS FIELD OF HCPDUNDX
DUNIDDSP FIELD OF HCPDUNDX

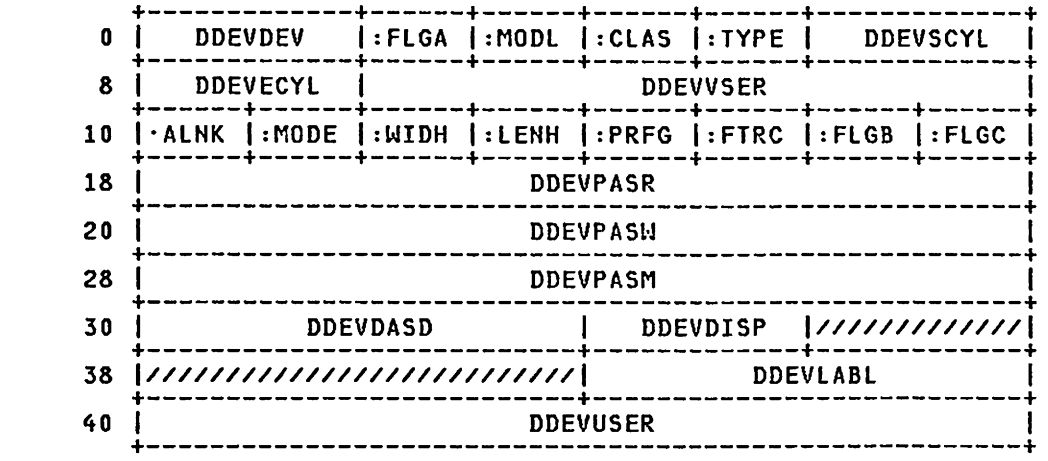
CREATED BY:

HCPDEF, HCPUDR

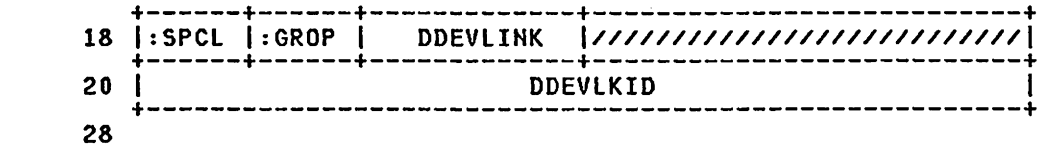
DELETED BY:

HCPDEF, HCPLND, HCPLNK

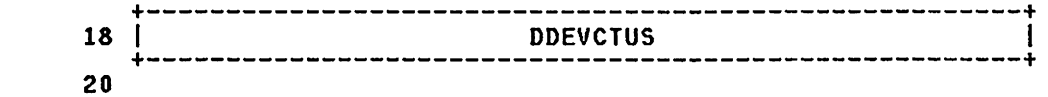
DDEV - DIRECTORY DEVICE DEFINITION BLOCK



REDEFINITION - SPOOL, CONSOLE AND LINK ENTRIES



REDEFINITION - SPECIAL CTCA ENTRIES



disp	name	length	description
000	DDEVDEV	002	VIRTUAL DEVICE ADDRESS
002	DDEVFLGA	001	DIRECTORY DEVICE INFORMATION

BITS DEFINED IN DDEVFLGA (AT HEX DISPLACEMENT: 2)

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```
        80     DDEVTMDK    MDISK DIRECTORY ENTRY
        40     DDEVTLNK    LINK DIRECTORY ENTRY
        20     DDEVTSPC    SPECIAL DIRECTORY ENTRY
        10     DDEVTDED    DEDICATE DIRECTORY ENTRY
        08     DDEVTSPL    SPOOL / CONSOLE DIRECTORY ENTRY
        04     DDEVTDSK    T-DISK TO BE ALLOCATED
        02     DDEVRO      DEVICE IS READ ONLY
        01     DDEVRELR    VIRTUAL RESERVE RELEASE REQUESTED

003   DDEVMODL    001       DIRECTORY DEVICE MODEL INFORMATION
004   DDEVCODE    002       VIRTUAL DEVICE CLASS AND TYPE
004   DDEVCLAS    001       VIRTUAL DEVICE CLASS

        BITS DEFINED FOR DDEVCLAS BY HCPDVTYP DEVCLAS

005   DDEVTYPE    001       VIRTUAL DEVICE TYPE

        BITS DEFINED FOR DDEVTYPE BY HCPDVTYP DEVTYPE

006   DDEVEXTN    004       VIRTUAL DASD CYLINDER EXTENTS
006   DDEVSCYL    002       VIRTUAL DASD START CYLINDER
008   DDEVECYL    002       VIRTUAL DASD END CYLINDER
00A   DDEVVSER    006       VOLUME SERIAL NUMBER
010   DDEVALNK    001       TYPES OF LINKS ALLOW TO THIS DEV

        BITS DEFINED IN DDEVALNK (AT HEX DISPLACEMENT: 10)

        80     DDEVLR      READ LINKS ALLOWED
        40     DDEVLW      WRITE LINKS ALLOWED
        20     DDEVLM      MULT-WRITE LINKS ALLOWED

011   DDEVMODE    001       ACCESS MODE

        CODES DEFINED IN DDEVMODE (AT HEX DISPLACEMENT: 11)

        00     DDEVR       'R'  LINK-MODE FOR OWNER
        04     DDEVRR      'RR' LINK-MODE FOR OWNER
        0C     DDEVW       'W'  LINK-MODE FOR OWNER
        10     DDEVWR      'WR' LINK-MODE FOR OWNER
        1C     DDEVM       'M'  LINK-MODE FOR OWNER
        20     DDEVMR      'MR' LINK-MODE FOR OWNER
        24     DDEVMW      'MW' LINK-MODE FOR OWNER

012   DDEVWIDH    001       PAPER WIDTH CODE FOR 3800 PRINTER
013   DDEVLENH    001       PAPER LEN FOR 3800 (HALF-INCHES)
014   DDEVPRFG    001       VIRTUAL 3800 FLAG BYTE

        BITS DEFINED IN DDEVPRFG (AT HEX DISPLACEMENT: 14)

        80     DDEVBTS     BURSTER TRIMMER STACKER (BTS)
        40     DDEVFULL    REFLECT ALL DATA CHECKS (DATCK)

015   DDEVFTRC    001       DEVICE FEATURE CODES

        BITS DEFINED IN DDEVFTRC (AT HEX DISPLACEMENT: 15)

        80     DDEV4WCG    3800 HAS 4 WCGM'S (OFF = 2WCGM)

016   DDEVFLGB    001       ACCESS CONTROL FOR CACHE DASD

        BITS DEFINED IN DDEVFLGB (AT HEX DISPLACEMENT: 16)

        40     DDEVCNA     CACHING NOT AVAILABLE
        20     DDEVSCTL    SUBSYSTEM CONTROL
        10     DDEVDCTL    DEVICE CONTROL
        08     DDEVNCTL    NO CONTROL

017   DDEVFLGC    001       EXTENSION OF DIRECTORY DEVICE INFO

        BITS DEFINED IN DDEVFLGC (AT HEX DISPLACEMENT: 17)

        80     DDEVNOSG    "NOASSIGN" OPTION
        20     DDEVZERO    DDEVDISP IS SET TO ZERO
```

```
018   DDEVPASR   008      PASSWORD FOR READ ACCESS
020   DDEVPASW   008      PASSWORD FOR WRITE ACCESS
028   DDEVPASM   008      PASSWORD FOR MULTIPLE ACCESS

                  EQUATES

        06    DDEVSIZE    DDEV SIZE IN DW'S

030   DDEVDASD   004      SLOT ADDR OF NEXT USER RECORD

                  EQUATES

        30    DDEVCCP     CCP PORTION OF DDEVDASD FIELD

034   DDEVDISP   002      DISP OF NEXT RECORD INTO PAGE
036              1H       RESERVED FOR FUTURE IBM USE
038              1F       RESERVED FOR FUTURE IBM USE
03C   DDEVLABL   004      LABEL TO VALIDATE THIS BLOCK
040   DDEVUSER   008      USERID TO VALIDATE THIS BLOCK

                  EQUATES

        09    DDEVESIZ    EXTENDED DDEVBK SIZE IN DW' S
        48    DDEVESZB    EXTENDED DDEVBK SIZE IN BYTES


         REDEFINITION - SPOOL, CONSOLE AND LINK ENTRIES

018   DDEVSPCL   001      SPOOL DEVICE OUTPUT CLASS
019   DDEVGROP   001      CONSOLE DEFINITION FLAGS

        BITS DEFINED IN DDEVGROP (AT HEX DISPLACEMENT: 19)

        80    DDEVGRCN    GRAPHICS CONSOLE

01A   DDEVLINK   002      USER LINK TO DISK
01C              1F       RESERVED FOR FUTURE IBM USE
020   DDEVLKID   008      USER LINK TO USERID

         REDEFINITION - SPECIAL CTCA ENTRIES

018   DDEVCTUS   008      ALLOWED USERID TO COUPLE TO CTCA
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
DDEV	001	000	DDEVFLGC	001	017	DDEVNOSG	001	080
DDEVALNK	001	010	DDEVFTRC	001	015	DDEVPASM	008	028
DDEVBTS	001	080	DDEVFULL	001	040	DDEVPASR	008	018
DDEVCCP	003	030	DDEVGRCN	001	080	DDEVPASW	008	020
DDEVCLAS	001	004	DDEVGROP	001	019	DDEVPRFG	001	014
DDEVCNA	001	040	DDEVLABL	004	03C	DDEVR	001	000
DDEVCODE	002	004	DDEVLENH	001	013	DDEVRELR	001	001
DDEVCTUS	008	018	DDEVLINK	002	01A	DDEVRO	001	002
DDEVDASD	004	030	DDEVLKID	008	020	DDEVRR	001	004
DDEVDCTL	001	010	DDEVLM	001	020	DDEVSCTL	001	020
DDEVDEV	002	000	DDEVLR	001	080	DDEVSCYL	002	006
DDEVDISP	002	034	DDEVLW	001	040	DDEVSIZE	001	006
DDEVECYL	002	008	DDEVM	001	01C	DDEVSPCL	001	018
DDEVESIZ	001	009	DDEVMODE	001	011	DDEVTDED	001	010
DDEVESZB	001	048	DDEVMODL	001	003	DDEVTDSK	001	004
DDEVEXTN	004	006	DDEVMR	001	020	DDEVTLNK	001	040
DDEVFLGA	001	002	DDEVMW	001	024	DDEVTMDK	001	080
DDEVFLGB	001	016	DDEVNCTL	001	008	DDEVTSPC	001	020

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Name	Len	Value/Disp
DDEVTSPL	001	008
DDEVTYPE	001	005
DDEVUSER	008	040
DDEVVSER	006	00A
DDEVW	001	00C
DDEVWIDH	001	012
DDEVWR	001	010
DDEVZERO	001	020
DDEV4WCG	001	080

HCPDDITB— DASD DEVICE INFORMATION TABLE

DSECT NAME: DDITB

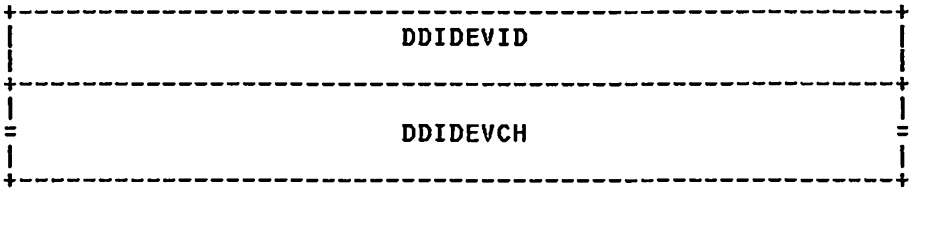
DESCRIPTIVE NAME: DASD DEVICE INFORMATION TABLE

FUNCTION: DDITB MAPS THE DEVICE INFORMATION TABLE ENTRIES IN HCPDDIDS.

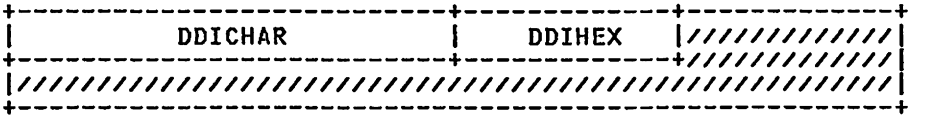
LOCATED BY:

CPVDDIDS - CPVOL POINTER CONTAINING ADDRESS OF THIS BLOCK.

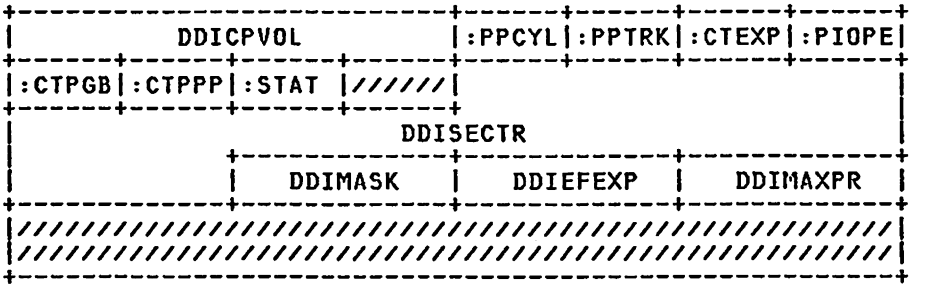
DDITB - DEVICE DEPENDENT INFORMATION TABLE



REDEFINITION - DEVICE INDENTIFICATION INFO



REDEFINITION - GENERAL DEVICE CHARACTERISTICS



disp	name	length	description
000	DDIDEVID	016	DEVICE IDENTIFICATION INFO
010	DDIDEVCH	048	GENERAL DEVICE CHARACTERISTICS

EQUATES

08	DDISIZE	SIZE OF DDITB IN DOUBLEWORDS
40	DDIBSIZE	SIZE OF DDITB IN BYTES

REDEFINITION - DEVICE INDENTIFICATION INFO

000	DDICHAR	004	EBCDIC DEVICE TYPE REPRESENTATION
004	DDIHEX	002	HEX DEVICE TYPE REPRESENTATION
006		XL10	RESERVED FOR IBM USE

REDEFINITION - GENERAL DEVICE CHARACTERISTICS

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010	DDICPVOL	004	CPVOL LIST ANCHOR
014	DDIPPCYL	001	NUMBER OF PAGES PER CYLINDER
015	DDIPPTRK	001	NUMBER OF PAGES PER TRACK
016	DDICTEXP	001	NUMBER OF EXPOSURES PER DEVICE

EQUATES

01	DDISNGEX	SINGLE EXPOSURE

017	DDIPIOPE	001	NUMBER OF PIOBKS PER EXPOSURE
018	DDICTPGB	001	NUMBER OF PAGES REQUIRED TO BUILD CCW PACKAGES IN
019	DDICTPPP	001	NUMBER OF PASSES PER PAGE
01A	DDISTAT	001	STATUS FLAG BYTE
01B		X	RESERVED FOR IBM USE
01C	DDISECTR	001	REAL SECTOR NUMBERS FOR CPFORMATTED PACKS
02A	DDIMASK	002	MASK FOR PAGES RESERVED ON CYLINDER 0, TRACK 0 IN PALMAP
02C	DDIEFEXP	002	NUMBER OF PAGING READ EXPOSURES (THE 'EFFECTIVE' NUMBER OF EXPOSURES), INDICATES NUMBER OF USERS THEORETICALLY REQUIRED TO FULLY DRIVE DEVICE
02E	DDIMAXPR	002	MAXIMUM THEORETICAL PAGING RATE
030		4F	RESERVED FOR IBM USE

MORE EQUATES

80	DDIPREF	PREFERRED PAGING DEVICE
40	DDIRSTD	DEVICE RESTRICTED TO PAGING USE ONLY
00	DDINPREF	NOT PREFERRED (FOR MACRO IN DDI)
00	DDINRSTD	NOT RESTRICTED (FOR MACRO IN DDI)

CROSS REFERENCE

Name	Len	Value/Disp
DDIBSIZE	001	040
DDICHAR	004	000
DDICPVOL	004	010
DDICTEXP	001	016
DDICTPGB	001	018
DDICTPPP	001	019
DDIDEVCH	048	010
DDIDEVID	016	000
DDIEFEXP	002	02C
DDIHEX	002	004
DDIMASK	002	02A
DDIMAXPR	002	02E
DDINPREF	001	000
DDINRSTD	001	000
DDIPIOPE	001	017
DDIPPCYL	001	014
DDIPPTRK	001	015
DDIPREF	001	080
DDIRSTD	001	040
DDISECTR	001	01C
DDISIZE	001	008
DDISNGEX	001	001
DDISTAT	001	01A
DDITB	001	000

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DDRREC— DYNAMIC RECONFIGURATION RECORD

DSECT NAME: DDRREC

DESCRIPTIVE NAME: DYNAMIC RECONFIGURATION RECORD

FUNCTION: DDRREC IS USED IN SVC 76 INITIATED ERROR RECORDING PROCESS FOR TYPE 60 DASD DUMP RESTORE (DDR) DYNAMIC DEVICE REALLOCATION RECORDS. THE REALLOCATION RECORDS CONTAIN THE REPLACEMENT OF THE VIRTUAL "FROM" AND "TO" CONTROL UNIT ADDRESSES (CUA) BY THE REAL ADDRESSES OF THE REAL DASD DEVICES.

LOCATED BY:

GPR9 IN HCPVER. THE ADDRESS IS PASSED TO HCPIOE AND HCPREC IN GPR1.

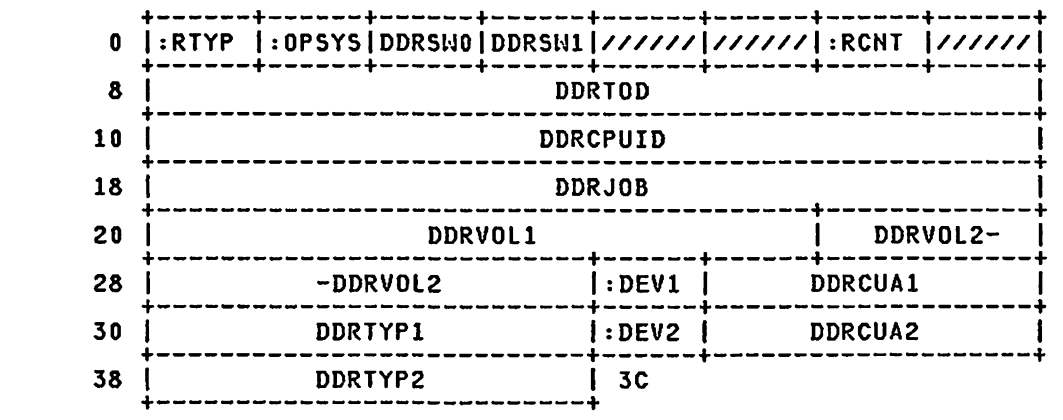
CREATED BY:

GUEST; COPIED TO FREE STORAGE BY HCPVER.

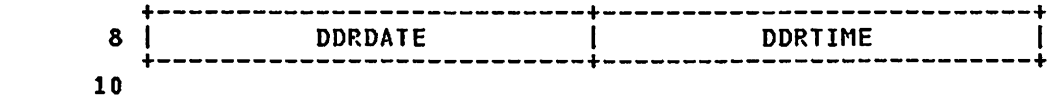
DELETED BY:

HCPIOE AFTER HCPREC HAS COPIED IT INTO A GSDBK.

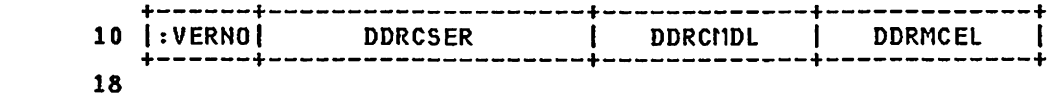
DDRREC - DYNAMIC RECONFIGURATION RECORDING RECORD



REDEFINITION - DDRTOD



REDEFINITION - DDRCPUID



disp	name	length	description
000	DDRRTYP	001	RECORD TYPE

CODES DEFINED IN DDRRTYP (AT HEX DISPLACEMENT: 0)

60	DDRRDDR	DDR RECORD

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```
001   DDROPSYS   001      OPERATING SYSTEM

        BITS DEFINED FOR DDROPSYS BY HDRREC HDRHSYS

002   DDRSW0     001      SWITCH BYTE 0

        BITS DEFINED FOR DDRSW0 BY HDRREC HDRHSW0

003   DDRSW1     001      SWITCH BYTE 1

        BITS DEFINED IN DDRSW1   (AT HEX DISPLACEMENT: 3)

        80    DDRSWPSR    PRIMARY STORAGE RECONFIGURATION
        40    DDRSWSSR    SECONDARY STORAGE RECONFIGURATION
        20    DDRSWORR    OPERATOR REQUESTED RECONFIGURATION
        10    DDRSWPER    PERMANENT ERROR CAUSED
                          RECONFIGURATION

004               XL1     RESERVED FOR FUTURE IBM USE
005               XL1     RESERVED FOR FUTURE IBM USE
006   DDRRCNT     001     RECORD COUNT

        BITS DEFINED FOR DDRRCNT BY HDRREC HDRHCNT

007               XL1     RESERVED FOR FUTURE IBM USE
008   DDRTOD      008     TOD OF SYSTEM FAILURE
010   DDRCPUID    008     CPU ID
018   DDRJOB      008     USERID USING 'FROM' DEVICE
020   DDRVOL1     006     VOLUME SERIAL 'FROM' DEVICE
026   DDRVOL2     006     VOLUME SERIAL 'TO' DEVICE
02C   DDRDEV1     001     PHYS. DEVICE ID OF 'FROM' DEVICE
02D   DDRCUA1     003     DEVICE NUMBER OF 'FROM' DEVICE
030   DDRTYP1     004     DEVICE TYPE OF 'FROM' DEVICE
034   DDRDEV2     001     PHYS. DEVICE ID OF 'TO' DEVICE
035   DDRCUA2     003     DEVICE NUMBER CUA OF 'TO' DEVICE
038   DDRTYP2     004     DEVICE TYPE OF 'TO' DEVICE

                    EQUATES

        3C    DDRBLEN     SIZE IN BYTES
        08    DDRSIZE     SIZE IN DOUBLE WORDS


         REDEFINITION - DDRTOD

008   DDRDATE     004     DATE OF SYSTEM FAILURE
00C   DDRTIME     004     TIME OF SYSTEM FAILURE

         REDEFINITION - DDRCPUID

010   DDRVERNO    001     MACHINE VERSION CODE
011   DDRCSER     003     CPU SERIAL NUMBER
014   DDRCMDL     002     CPU MACHINE MODEL NUMBER
016   DDRMCEL     002     MAX LENGTH OF MACHINE-DEPENDENT
                          MACHINE CHECK EXTENDED LOGOUT AREA
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
DDRBLEN	001	03C	DDRCUA2	003	035	DDRMCEL	002	016
DDRCMDL	002	014	DDRDATE	004	008	DDROPSYS	001	001
DDRCPUID	008	010	DDRDEV1	001	02C	DDRRCNT	001	006
DDRCSER	003	011	DDRDEV2	001	034	DDRRDDR	001	060
DDRCUA1	003	02D	DDRJOB	008	018	DDRREC	001	000

Name	Len	Value/Disp
DDRRTYP	001	000
DDRSIZE	001	008
DDRSWORR	001	020
DDRSWPER	001	010
DDRSWPSR	001	080
DDRSWSSR	001	040
DDRSW0	001	002
DDRSW1	001	003
DDRTIME	004	00C
DDRTOD	008	008
DDRTYP1	004	030
DDRTYP2	004	038
DDRVERN0	001	010
DDRVOL1	006	020
DDRVOL2	006	026

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HCPDE4PL— DIAGNOSE X'E4' PARAMETER LIST

DSECT NAME: DE4PL

DESCRIPTIVE NAME: DIAGNOSE X'E4' PARAMETER LIST

FUNCTION: DE4PL MAPS THE PARAMETER LIST FOR DIAGNOSE X'E4' REQUESTS.

LOCATED BY:

DIAGNOSE-SPECIFIED USER REGISTER "RX"

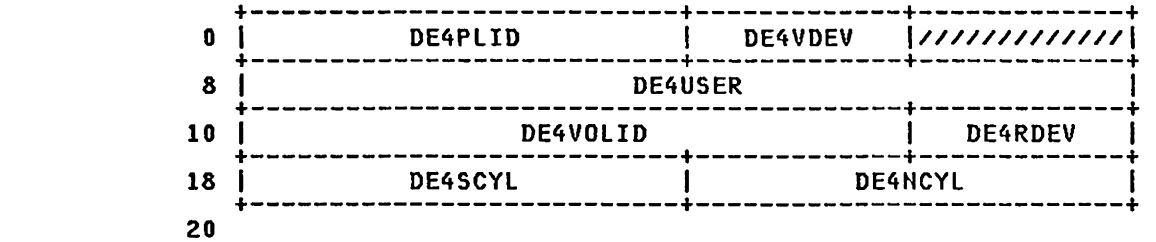
CREATED BY:

A VIRTUAL MACHINE

DELETED BY:

THE CREATING VIRTUAL MACHINE

DE4PL - DIAGNOSE X'E4' PARAMETER LIST



REDEFINITION - REDEFINE PARMLIST ID FIELD

disp	name	length	description
000	DE4INPUT	008	INPUT FIELDS BEGIN HERE
000	DE4PLID	004	DIAGNOSE PARAMETER LIST ID
004	DE4VDEV	002	VIRTUAL DEVICE NUMBER
006		XL2	RESERVED FOR FUTURE USE
008	DE4USER	008	USERID OWNING SPECIFIED VIRTUAL DEVICE
010	DE4OUTPT	002	OUTPUT FIELDS BEGIN HERE
010	DE4VOLID	006	DASD VOLUME LABEL
016	DE4RDEV	002	REAL DEVICE NUMBER
018	DE4SCYL	004	STARTING MINIDISK CYLINDER NUMBER
01C	DE4NCYL	004	NUMBER OF MINIDISK CYLINDERS
020	DE4ENDBK	002	END OF BLOCK

EQUATES

20	DE4SIZE	SIZE OF DE4PL IN BYTES

REDEFINITION - REDEFINE PARMLIST ID FIELD

000	DE4CODE	002	DIAGNOSE CODE NUMBER

CODES DEFINED IN DE4CODE (AT HEX DISPLACEMENT: 0)

E4	DE4DIAGC	DIAGNOSE X'E4' CODE

002	DE4FCTN	001	DIAGNOSE X'E4' SUBFUNCTION CODE

CODES DEFINED IN DE4FCTN (AT HEX DISPLACEMENT: 2)

	00	DE4UMLOG	DIAGNOSE X'E4': OBTAIN MINIDISK REAL DEVICE INFORMATION FOR LOGGED-ON USER
003	DE4LENTH	001	SIZE, IN BYTES, OF THIS PARMLIST

CROSS REFERENCE

Name	Len	Value/Disp
DE4CODE	002	000
DE4DIAGC	001	0E4
DE4ENDBK	002	020
DE4FCTN	001	002
DE4INPUT	008	000
DE4LENTH	001	003
DE4NCYL	004	01C
DE4OUTPT	002	010
DE4PL	001	000
DE4PLID	004	000
DE4RDEV	002	016
DE4SCYL	004	018
DE4SIZE	001	020
DE4UMLOG	001	000
DE4USER	008	008
DE4VDEV	002	004
DE4VOLID	006	010

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HCPDFIR— DUMP FILE INFORMATION RECORD

DSECT NAME: DFIR

DESCRIPTIVE NAME: DUMP FILE INFORMATION RECORD

FUNCTION: HCPDFIR CONTAINS VITAL SYSTEM REGISTER AND STORAGE LOCATION VALUF NECESSARY TO PROCESS A DUMP TO TAPE DASD.

LOCATED BY:

THE DFIR IS THE SECOND RECORD OF A SYSTEM ABEND DUMP TO TAPE OR DASD, OF A STANDALONE DUMP TO TAPE, OR OF AN XA-FORMAT VMDUMP SPOOL FILE.

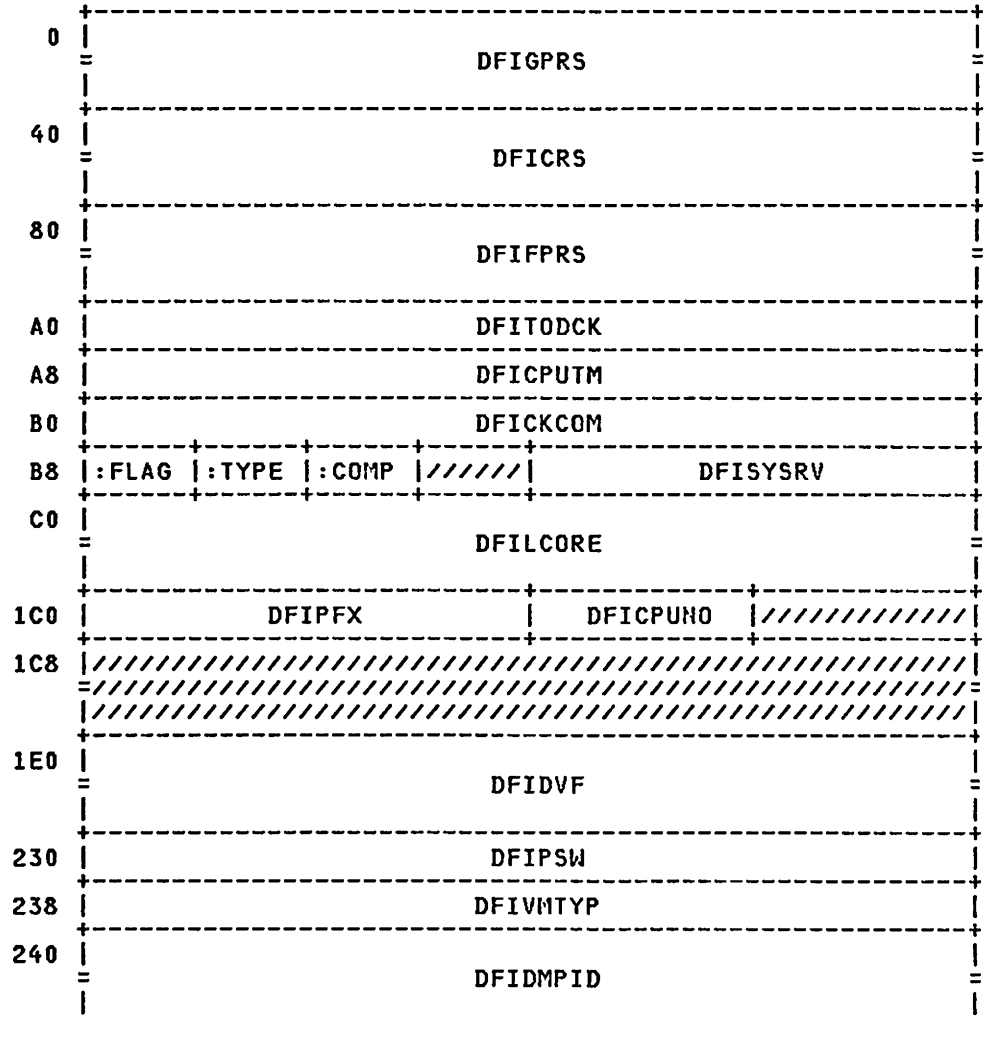
CREATED BY:

HCPDMP (SYSTEM ABEND DUMP PROCESSOR) DURING A SYSTEM ABEND DUMP
HCPEDM (DUMP PROCESSOR) WHEN PROCESSING A SYSTEM ABEND OR STANDALONE DUMP
HCPSAD (STANDALONE DUMP PROCESSOR) DURING A STANDALONE DUMP
HCPVDU (VIRTUAL MACHINE DUMP PROCESSOR) DURING A VIRTUAL MACHINE DUMP

DELETED BY:

NOT APPLICABLE

DFIR - DUMP FILE INFORMATION RECORD FORMATS



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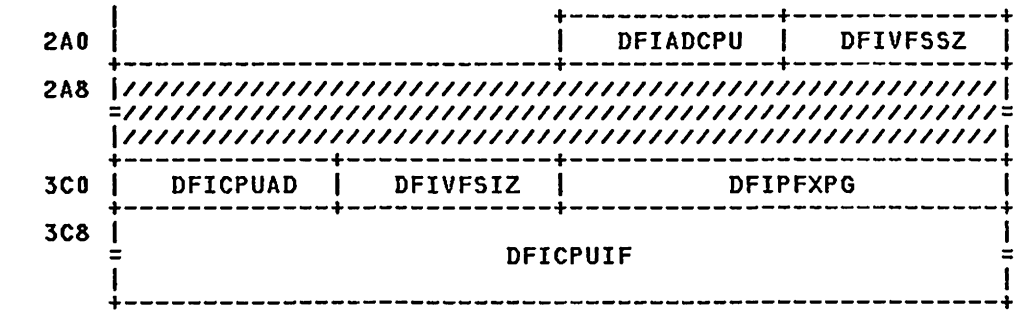

disp	name	length	description
000	DFIGPRS	064	16 GENERAL PURPOSE REGISTERS
040	DFICRS	064	16 CONTROL REGISTERS
080	DFIFPRS	032	4 FLOATING POINT REGISTERS
0A0	DFITODCK	008	TIME OF DAY CLOCK
0A8	DFICPUTM	008	CPU TIMER
0B0	DFICKCOM	008	CLOCK COMPARATOR
0B8	DFIFLAG	001	FLAG BYTE
	BITS DEFINED IN DFIFLAG (AT HEX DISPLACEMENT: B8)		
	80 DFIHALF		LAST RECORD IN DUMP FILE = 2K
	40 DFI370		370 DUMP INDICATOR
	20 DFIXA		XA DUMP INDICATOR
0B9	DFITYPE	001	TYPE OF DUMP FLAG
	CODES DEFINED IN DFITYPE (AT HEX DISPLACEMENT: B9)		
	00 DFICP		CP ABEND OR STAND-ALONE DUMP
	80 DFIVM		VIRTUAL MACHINE DUMP
0BA	DFICOMP	001	DUMP COMPLETION FLAG
	CODES DEFINED IN DFICOMP (AT HEX DISPLACEMENT: BA)		
	00 DFIDONE		DUMP IS COMPLETE
	40 DFINOLOD		DUMP WAS NOT COMPLETELY LOADED BY THE DUMPLOAD COMMAND
	80 DFIINC		DUMP WAS NOT COMPLETE WHEN CREATED
0BB		1X	RESERVED FOR FUTURE IBM USE
0BC	DFISYSRV	004	SYSTEM GENERATED STORAGE SIZE
0C0	DFILCORE	001	LOCATIONS 0-255 OF REAL MEMORY
1C0	DFIPFX	004	PREFIX ADDR FOR DUMPED SYSTEM
1C4	DFICPUNO	002	NUMBER OF ON-LINE CPUS
1C6		1H	RESERVED FOR FUTURE IBM USE
1C8		6F	RESERVED FOR FUTURE IBM USE
1E0	DFIDVF	004	RESERVED FOR USE BY THE VM/XA MA DUMP VIEWING FACILITY
230	DFIPSW	008	PSW OF THE VIRTUAL MACHINE ONLY USED FOR VMDUMPS
238	DFIVMTYP	008	TYPE OF DUMP FROM VMDUMP "FORMAT" OPTION - ONLY USED FOR VMDUMPS
240	DFIDMPID	100	DUMPID FROM VMDUMP "*DUMPID" OPTION ONLY USED FOR VMDUMPS
2A4	DFIADCPU	002	CPU ADDRESS
2A6	DFIVFSSZ	002	SECTION SIZE FOR THE VECTOR FACILITY
2A8		70F	RESERVED FOR FUTURE IBM USE
3C0	DFICPU	304	OTHER CPU INFORMATION
3C0	DFICPUAD	002	CPU ADDRESS
3C2	DFIVFSIZ	002	SECTION SIZE FOR THE VECTOR FACILITY
3C4	DFIPFXPG	004	ADDRESS OF PREFIX PAGE FOR CPU
3C8	DFICPUIF	296	CPU'S REAL STORAGE LOC. 216-511

EQUATES

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30	DFICPULN	LENGTH OF OTHER PROCESSOR INFO
9E	DFISIZE	SIZE OF DUMP INFO. RECORD

MORE EQUATES

00	DFIMCPUT	CPU TIMER LOGOUT
08	DFIMCKCP	TOD COMPARATOR LOGOUT
10	DFIMCHIN	MACHINE CHECK INTERRUPT CODE
18	DFISPAR1	RESERVED FOR FUTURE HARDWARE USE
20	DFIMCFSA	MACHINE CHECK FAILING STORAGE ADDRESS
24	DFIMCHRD	MACHINE DEPENDENT REGION CODE
28	DFIFXLOG	MACHINE DEPENDENT FIXED LOGOUT AREA
38	DFISPAR2	RESERVED FOR FUTURE HARDWARE USE
88	DFIFPRLG	FLOATING POINT REGS
A8	DFIGPRLG	GENERAL REGISTERS
E8	DFICRLG	CONTROL REGISTERS

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
DFIADCPU	002	2A4	DFISPAR2	080	038
DFICKCOM	008	0B0	DFISYSRV	004	0BC
DFICOMP	001	0BA	DFITODCK	008	0A0
DFICP	001	000	DFITYPE	001	0B9
DFICPU	304	3C0	DFIVFSIZ	002	3C2
DFICPUAD	002	3C0	DFIVFSSZ	002	2A6
DFICPUIF	296	3C8	DFIVM	001	080
DFICPULN	001	130	DFIVMTYP	008	238
DFICPUNO	002	1C4	DFIXA	001	020
DFICPUTM	008	0A8	DFI370	001	040
DFICRLG	064	0E8			
DFICRS	064	040			
DFIDMPID	100	240			
DFIDONE	001	000			
DFIDVF	004	1E0			
DFIFLAG	001	0B8			
DFIFPRLG	032	088			
DFIFPRS	032	080			
DFIFXLOG	016	028			
DFIGPRLG	064	0A8			
DFIGPRS	064	000			
DFIHALF	001	080			
DFIINC	001	080			
DFILCORE	001	0C0			
DFIMCFSA	004	020			
DFIMCHIN	008	010			
DFIMCHRD	004	024			
DFIMCKCP	008	008			
DFIMCPUT	008	000			
DFINOLOD	001	040			
DFIPFX	004	1C0			
DFIPFXPG	004	3C4			
DFIPSW	008	230			
DFIR	001	000			
DFISIZE	001	09E			
DFISPAR1	008	018			

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HCPDISBK— DISPLAY/DUMP FORMATTING RECORD

DSECT NAME: DISBK

DESCRIPTIVE NAME: DISPLAY/DUMP FORMATTING RECORD

FUNCTION: USED TO CONTAIN INFORMATION FOR SETTING UP AND DISPLAYING (DUMPING) DATA REQUESTED BY THE DISPLAY (DUMP) COMMAND

LOCATED BY:

R10 IN MODULE HCPCDB
R10 IN MODULE HCPCDA
R10 IN MODULE HCPCDC

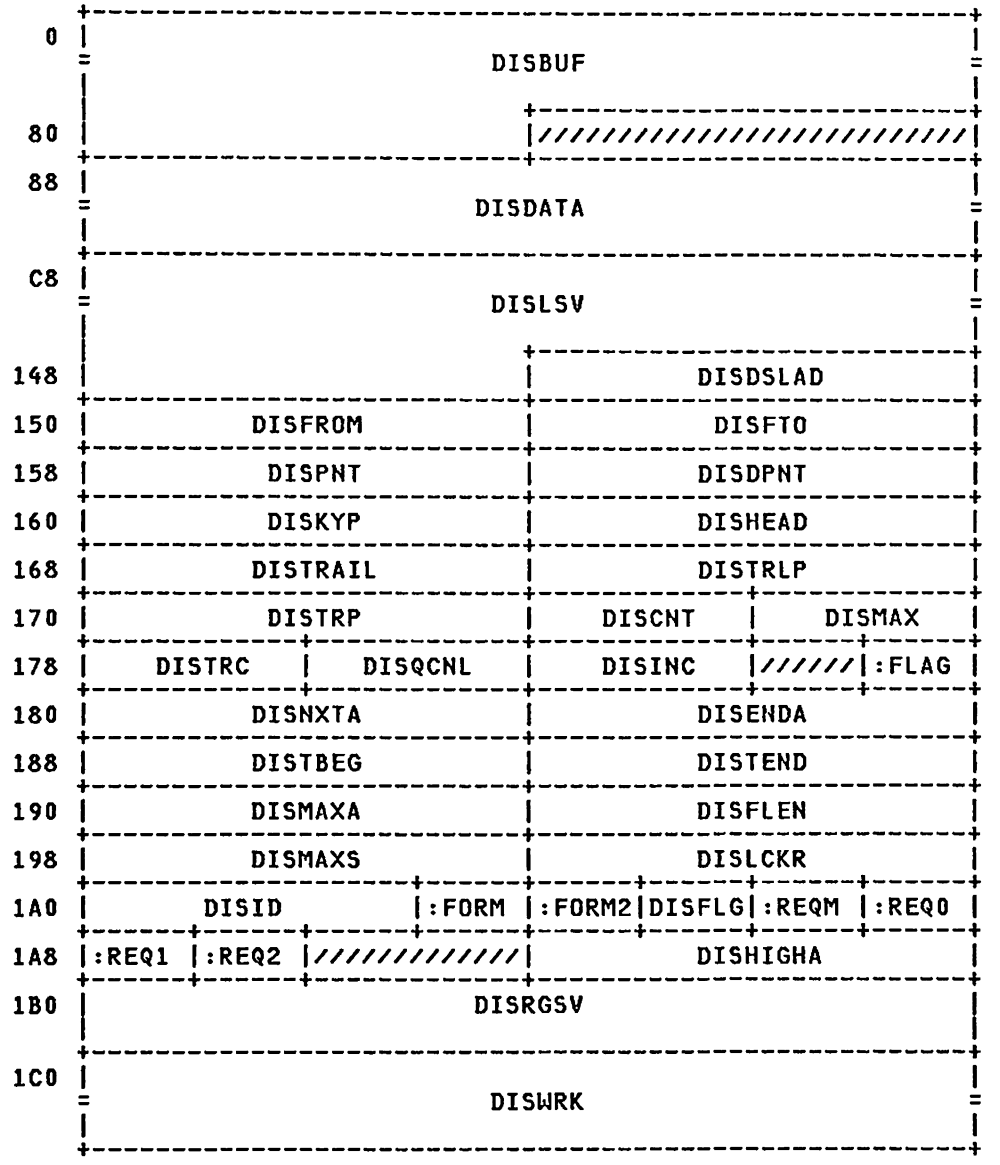
CREATED BY:

MODULE HCPCDB (ALWAYS, UPON ENTRY)

DELETED BY:

MODULE HCPCDB (ALWAYS, BEFORE EXITING)

DISBK - DISPLAY/DUMP FORMATTING BUFFER



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1E0

disp	name	length	description
000	DISBUF	132	132 CHARACTER BUFFER DISBUF MUST BE THE FIRST VARIABLE IN DISBK
084		F	RESERVED FOR FUTURE IBM USE
088	DISDATA	064	DATA TO BE PROCESSED FOR OUTPUT
0C8	DISLSV	132	SAVE AREA FOR DATA OF LAST LINE
14C	DISDSLAD	004	ADDRESS OF THE DISCONTIGUOUS STORAGE LIST
150	DISFROM	004	'FROM' ADDR, SUPPRESSED LINE MSG
154	DISFTO	004	'TO' ADDRESS FOR SUPPRESSED LINE
158	DISPNT	004	PTR TO NEXT SPOT IN DISBUF
15C	DISDPNT	004	PTR TO NEXT SPOT IN DATA AREA
160	DISKYP	004	PTR TO KEY POSITION IN OUTPUT
164	DISHEAD	004	BINARY ADDR FOR HEADER
168	DISTRAIL	004	SPACE FOR GR ADDR TRAIL VALUE
16C	DISTRLP	004	DISBUF TRAILER POSITION
170	DISTRP	004	PTR TO STORE DATA FOR TRANSLATE
174	DISCNT	002	BYTE COUNT OF CHARACTERS IN BUFF
176	DISMAX	002	MAXIMUM VALUE OF LINE SIZE
178	DISTRC	002	NUMBER OF BYTES TO BE TRANSLATED
17A	DISQCNL	002	DISBUF LENGTH FOR DMXQCNNT
17C	DISINC	002	ADDRESS INCREMENT
17E		X	RESEVED FOR FUTURE IBM USE
17F	DISFLAG	001	GENERAL FLAGS

EQUATES

80	DISDCSS	THERE ARE ADDRESSES HIGHER THAN VMDSSIZE

180	DISNXTA	004	NEXT ADDRESS TO BE DISPLAYED
184	DISENDA	004	LAST ADDRESS TO BE DISPLAYED
188	DISTBEG	004	TRUE BEGIN ADDRESS
18C	DISTEND	004	TRUE END ADDRESS
190	DISMAXA	004	MAXIMUM END ADDRESS
194	DISFLEN	004	MAXIMUM ADDRESS LENGTH
198	DISMAXS	004	MAXIMUM STORAGE FOR STORE
19C	DISLCKR	004	REAL STOR ADDR OF LOCKED PAGE
1A0	DISID	003	LINE IDENTIFICATION CHARACTERS
1A3	DISFORM	001	BUFFER FORMAT FLAGS

BITS DEFINED IN DISFORM (AT HEX DISPLACEMENT: 1A3)

80	DISFTRL	A VALUE IS IN DISTRAIL
40	DISFKEY	AT 2K BOUNDRY, FOR KEY FORMAT
20	DISFREGS	DO GPR & CR BINARY TO HEX FORMAT
10	DISSEGM	SEND MSG DUE TO SEGMENT CROSS

1A4	DISFORM2	001	BUFFER FORMAT FLAGS
1A5	DISFLG	001	BUFFER CONTROL FLAGS

BITS DEFINED IN DISFLG (AT HEX DISPLACEMENT: 1A5)

80	DISSUPS	SUPPRESSED LINE MSG SENT
40	DISFRST	FIRST LINE OF RESPONSE
20	DISSAME	LAST LINE WAS THE SAME
10	DISMSG	BUFFER MESSAGE IS PRESET
08	DISNSUP	DO NOT SUPPRESS LINES
04	DISNOSEG	SEGMENT IS INVALID

1A6	DISREQM	001	DISPLAY STORAGE MODE
1A7	DISREQ0	001	DISPLAY HARDWARE REGISTERS

BITS DEFINED IN DISREQ0 (AT HEX DISPLACEMENT: 1A7)

80	DISREQLL	REMEMBER THIS IS AN L TYPE REQUEST
40	DISREQVR	VECTOR REGISTER REQUEST
20	DISREQVP	VECTOR REGISTER PAIRS REQUEST

```
        08     DISREQG     GENERAL PURPOSE REG REQUEST
        04     DISREQP     PSW DISPLAY
        02     DISREQX     CONTROL REG REQUEST
        01     DISREQY     FLOATING POINT REG REQUEST

1A8   DISREQ1     001      DUMP/DISPLAY REQUESTS

        BITS DEFINED FOR DISREQ1 BY HCPEQUAT DSTORE

1A9   DISREQ2     001      DUMP/DISPLAY REQUESTS

        BITS DEFINED IN DISREQ2  (AT HEX DISPLACEMENT: 1A9)

        80     DISREQI     INSTRUCTION MNEMONICS
        40     DISREQS     HEX STRING REQUEST
        20     DISREQT     TRANSLATE REQUEST
        10     DISREQK     KEY REQUEST
        08     DISREQN     SUPPRESS TRANSLATION
        04     DISREQU     EBCDIC STRING
        02     DISREQSC    DISPLAY SCHIB
        01     DISREQPX    DISPLAY PREFIX REGISTER

1AA               H        RESERVED FOR FUTURE IBM USE
1AC   DISHIGHA    004       HIGHEST ADDRESS IN THE DISCONTIGUOUS
                             STORAGE
1B0   DISRGSV     004       TEMPORARY SAVE AREA FOR R0-R3
1C0   DISWRK     008       WORK AREA

                    EQUATES

        3C     DISSIZE     BUFFER SIZE IN DOUBLE WORDS


                  MORE EQUATES

        CE     DISRHEE     EBCDIC STRING
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
DISBK	001	000	DISLCKR	004	19C	DISREQVR	001	040
DISBUF	132	000	DISLSV	132	0C8	DISREQX	001	002
DISCNT	002	174	DISMAX	002	176	DISREQY	001	001
DISDATA	064	088	DISMAXA	004	190	DISREQ0	001	1A7
DISDCSS	001	080	DISMAXS	004	198	DISREQ1	001	1A8
DISDPNT	004	15C	DISMSG	001	010	DISREQ2	001	1A9
DISDSLAD	004	14C	DISNOSEG	001	004	DISRGSV	004	1B0
DISENDA	004	184	DISNSUP	001	008	DISSAME	001	020
DISFKEY	001	040	DISNXTA	004	180	DISSEGM	001	010
DISFLAG	001	17F	DISPNT	004	158	DISSIZE	001	03C
DISFLEN	004	194	DISQCNL	002	17A	DISSUPS	001	080
DISFLG	001	1A5	DISREQG	001	008	DISTBEG	004	188
DISFORM	001	1A3	DISREQI	001	080	DISTEND	004	18C
DISFORM2	001	1A4	DISREQK	001	010	DISTRAIL	004	168
DISFREGS	001	020	DISREQLL	001	080	DISTRC	002	178
DISFROM	004	150	DISREQM	001	1A6	DISTRLP	004	16C
DISFRST	001	040	DISREQN	001	008	DISTRP	004	170
DISFTO	004	154	DISREQP	001	004	DISWRK	008	1C0
DISFTRL	001	080	DISREQPX	001	001			
DISHEAD	004	164	DISREQS	001	040			
DISHIGHA	004	1AC	DISREQSC	001	002			
DISID	003	1A0	DISREQT	001	020			
DISINC	002	17C	DISREQU	001	004			
DISKYP	004	160	DISREQVP	001	020			

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HCPDIUCV— DIRECTORY IUCV BLOCK

DSECT NAME: DIUCV

DESCRIPTIVE NAME: DIRECTORY IUCV BLOCK

FUNCTION: TO PRESERVE INFORMATION FROM THE "IUCV" DIRECTORY CONTROL STATEMENT. THERE WILL BE ONE HCPDIUCV CREATED FOR EACH "IUCV" STATEMENT IN THE SOURCE DIRECTORY.

LOCATED BY:

FIELDS DVMDIDAS AND DVMDIDSP IN DVMD
FIELDS DIUCDASD AND DIUCDISP IN DIUCV
GPR2 IN HCPIUBAC
GPR2 IN HCPIUBCO

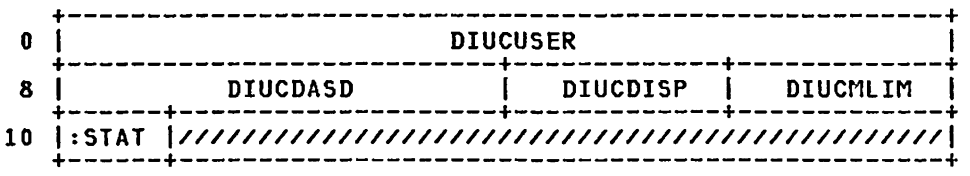
CREATED BY:

HCPDIR, HCPUDRIA

DELETED BY:

HCPIUBAC, HCPIUBCO

DIUCV - DIRECTORY IUCV DEFINITION BLOCK



disp	name	length	description
000	DIUCUSER	008	USERID AUTHORIZED TO CONNECT TO
008	DIUCDASD	004	DASD ADDRESS OF NEXT DIUCV
00C	DIUCDISP	002	DISPLACEMENT OF NEXT DIUCV
00E	DIUCMLIM	002	MESSAGE LIMIT
010	DIUCSTAT	001	FLAGS

BITS DEFINED IN DIUCSTAT (AT HEX DISPLACEMENT: 10)

80	DIUCPRTY	PRIORITY WAS SPECIFIED
011	XL7	RESERVED FOR FUTURE IBM USE

EQUATES

03	DIUCSIZE	DIUCV SIZE IN DW'S
18	DIUCLEN	DIUCV SIZE IN BYTES

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
DIUCDASD	004	008	DIUCMLIM	002	00E	DIUCSTAT	001	010
DIUCDISP	002	00C	DIUCPRTY	001	080	DIUCUSER	008	000
DIUCLEN	001	018	DIUCSIZE	001	003	DIUCV	001	000

DMPINREC— VM/370 SYSTEM PRODUCT DUMP INFORMATION RECORD

DSECT NAME: DMPINREC

DESCRIPTIVE NAME: VM/370 SYSTEM PRODUCT DUMP INFORMATION RECORD

FUNCTION: TO MAP OUT THE VM/370 DUMP INFORMATION RECORD

LOCATED BY:

FIRST RECORD IN A 370-FORMAT VIRTUAL MACHINE DUMP (VMDUMP) READER SPOOL FILE

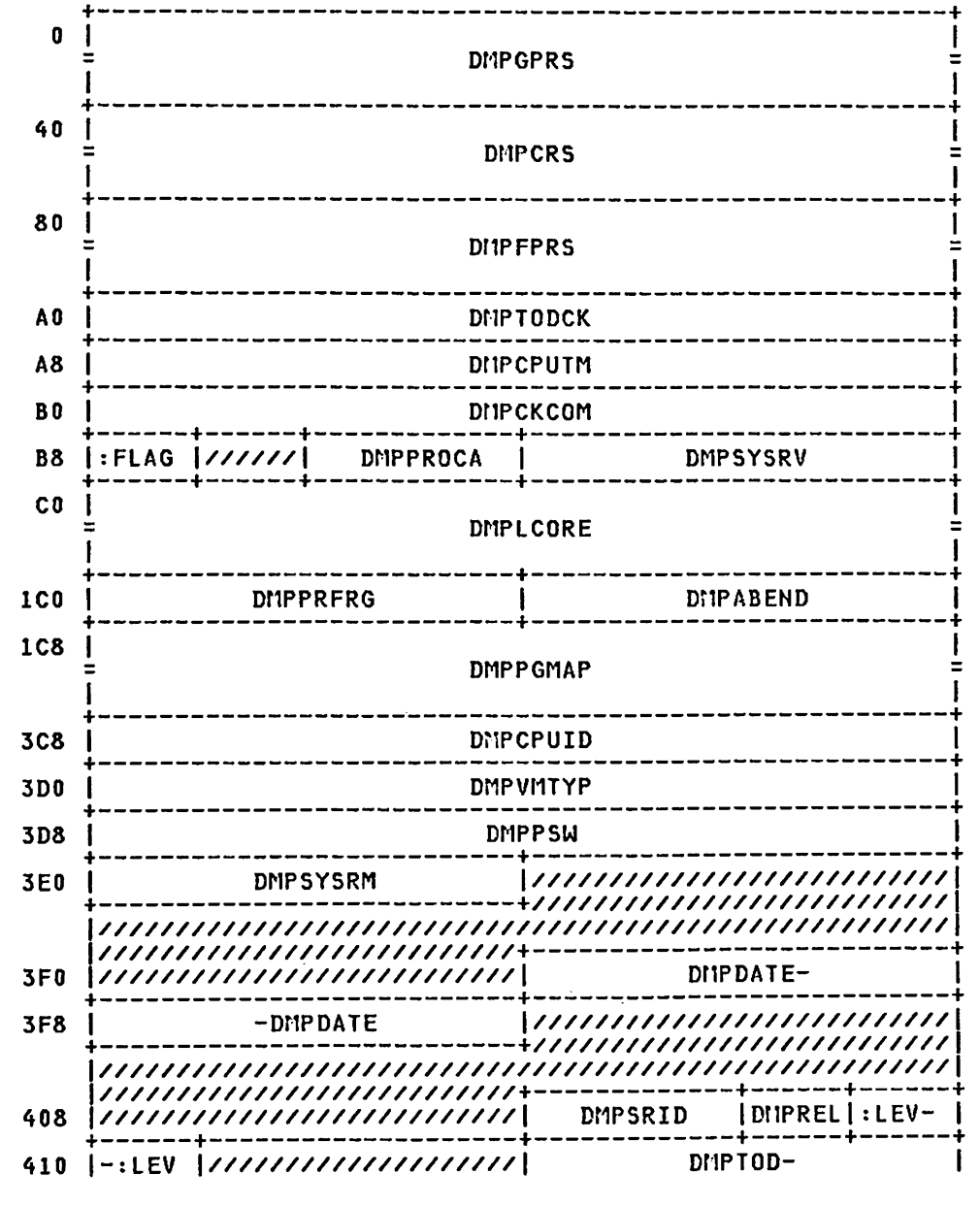
CREATED BY:

HCPVDUMP - WHEN CREATING A 370-FORMAT VIRTUAL MACHI DUMP USING THE VMDUMP COMMAND

DELETED BY:

NOT DELETED

DMPINREC - VM/370 SYSTEM PRODUCT DUMP INFORMATION RECORD



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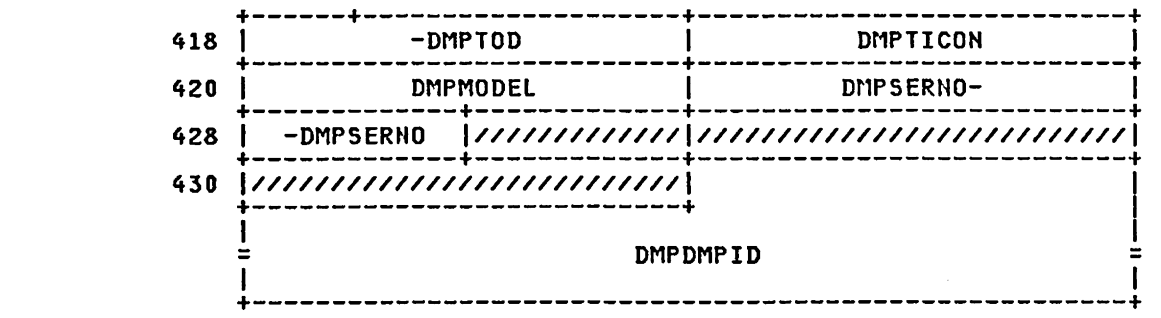

disp	name	length	description
000	DMPGPRS	064	16 GENERAL PURPOSE REGISTERS
040	DMPCRS	064	16 CONTROL REGISTERS
080	DMPFPRS	032	4 FLOATING POINT REGISTERS
0A0	DMPTODCK	008	TIME-OF-DAY CLOCK
0A8	DMPCPUTM	008	CPU TIMER
0B0	DMPCKCOM	008	TIME-OF-DAY CLOCK COMPARATOR
0B8	DMPFLAG	001	FLAG BYTE
0B9		1X	RESERVED FOR FUTURE IBM USE
0BA	DMPPROCA	002	ABENDING PROCESSOR ADDRESS (NOT USED FOR VMDUMPS)
0BC	DMPSYSRV	004	SYSTEM GENERATED STORAGE SIZE
0C0	DMPLCORE	001	LOCATIONS 0-256 OF REAL MEMORY (NOT USED FOR VMDUMPS)
1C0	DMPPRFRG	004	PREFIX REGISTER
1C4	DMPABEND	004	ABEND CODE FOR FAILING PROCESSOR
1C8	DMPPGMAP	512	PAGE MAP -INDICATES WHICH PAGES WERE DUMPED. EACH BIT REPRESENTS ONE 4K PAGE
3C8	DMPCPUID	008	CPU IDENTIFICATION FROM REAL CPU
3D0	DMPVMTYP	008	ID OF VM MACHINE TYPE, OBTAINED FROM 'FORMAT' PARAMETER ONLY FOR VMDUMPS NOT CP DUMPS
3D8	DMPPSW	008	PSW OF VIRTUAL MACHINE ONLY FOR VMDUMPS NOT CP DUMPS
3E0	DMPSYSRM	004	REAL SIZE OF STORAGE...IT IS THE HARDWARE SIZE OF THE MACHINE FOR CP DUMPS AND THE VIRTUAL MACHINE (INCLUDING DISCONTIGUOUS SAVED SEGMENTS) FOR VMDUMPS
3E4	DMPIPCS	080	RESERVED FOR USE BY IPCS
3E4		4F	RESERVED FOR USE BY IPCS; NOT USED BY THE VMDUMP COMMAND
3F4	DMPDATE	008	DATE OF FAILURE IN FORM MM/DD/YY
3FC		4F	RESERVED FOR USE BY IPCS; NOT USED BY THE VMDUMP COMMAND
40C	DMPSRID	002	'SR' SYMPTOM RECORD ID
40E	DMPREL	001	CP RELEASE NUMBER
40F	DMPLEV	002	CP FEATURE (SERVICE) LEVEL
411		XL3	RESERVED FOR USE BY IPCS
414	DMPTOD	004	LOCAL MIDNIGHT IN TOD CLOCK VALUE
41C	DMPTICON	004	LOCAL TIME ZONE CONVERSION FACTOR
420	DMPMODEL	004	CPU MODEL NUMBER
424	DMPSERNO	006	CPU SERIAL NUMBER
42A		1H	RESERVED FOR FUTURE IBM USE
42C		2F	RESERVED FOR USE BY IPCS; NOT USED BY THE VMDUMP COMMAND
434	DMPDMPID	100	DUMP IDENTIFIER SPECIFIED ON THE VMDUMP COMMAND LINE, PADDED ON THE RIGHT WITH BLANKS IF NECESSARY

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MORE EQUATES

```
        80     DMPHALF      ON MEANS LAST RECORD IN DUMP
                            FILE = 2K
```

CROSS REFERENCE

Name	Len	Value/Disp
DMPABEND	004	1C4
DMPCKCOM	008	0B0
DMPCPUID	008	3C8
DMPCPUTM	008	0A8
DMPCRS	064	040
DMPDATE	008	3F4
DMPDMPID	100	434
DMPFLAG	001	0B8
DMPFPRS	032	080
DMPGPRS	064	000
DMPHALF	001	080
DMPINREC	001	000
DMPIPCS	080	3E4
DMPLCORE	001	0C0
DMPLEV	002	40F
DMPMODEL	004	420
DMPPGMAP	512	1C8
DMPPRFRG	004	1C0
DMPPROCA	002	0BA
DMPPSW	008	3D8
DMPREL	001	40E
DMPSERNO	006	424
DMPSRID	002	40C
DMPSYSRM	004	3E0
DMPSYSRV	004	0BC
DMPTICON	004	41C
DMPTOD	004	414
DMPTODCK	008	0A0
DMPVMTYP	008	3D0

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HCPDNSA— DIRECTORY NSS/DCSS AUTHORIZATION BLOCK

DSECT NAME: DNSA

DESCRIPTIVE NAME: DIRECTORY NSS/DCSS AUTHORIZATION BLOCK

FUNCTION: THE DIRECTORY NSS/DCSS AUTHORIZATION BLOCK DEFINES THE PROTECTED SYSTEMS THAT A USER MAY ACCESS AS SPECIFIED IN THE SYSTEM DIRECTORY FILE.

LOCATED BY:

DVMDNDAS FIELD OF HCPDVMD
DVMDNDSP FIELD OF HCPDVMD
DNSANADD FIELD OF HCPDNSA
DNSANOFF FIELD OF HCPDNSA

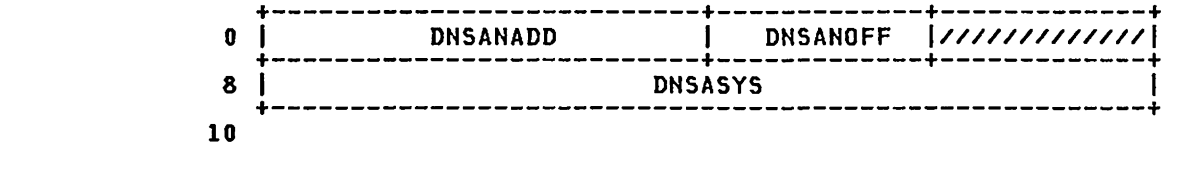
CREATED BY:

HCPDIR, HCPUDRNS

DELETED BY:

HCPUDRNS

DNSA - DIRECTORY NSS/DCSS AUTHORIZATION BLOCK



disp	name	length	description
000	DNSANADD	004	DASD ADDRESS OF THE NEXT DNSA
004	DNSANOFF	002	OFFSET TO THE NEXT DNSA
006		2X	RESERVED FOR FUTURE IBM USE
008	DNSASYS	008	NSS/DCSS THIS USER CAN USE

EQUATES

02	DNSASIZE	DNSA BLOCK SIZE IN DW'S
10	DNSALEN	DNSA BLOCK SIZE IN BYTES

CROSS REFERENCE

Name	Len	Value/Disp
DNSA	001	000
DNSALEN	001	010
DNSANADD	004	000
DNSANOFF	002	004
DNSASIZE	001	002
DNSASYS	008	008

HCPDPLID— DIAGNOSE PARAMETER LIST IDENTIFIER

DSECT NAME: DPLID

DESCRIPTIVE NAME: DIAGNOSE PARAMETER LIST IDENTIFIER

FUNCTION: DPLID MAPS THE PARAMETER LIST IDENTIFIER FOR DIAGNOSE PARAMETER LISTS.

LOCATED BY:

DIAGNOSE-SPECIFIED USER REGISTER "RX"

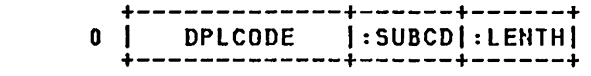
CREATED BY:

A VIRTUAL MACHINE

DELETED BY:

THE CREATING VIRTUAL MACHINE

DPLID - DIAGNOSE PARAMETER LIST IDENTIFICATION



disp	name	length	description
000	DPLCODE	002	DIAGNOSE CODE NUMBER
002	DPLSUBCD	001	DIAGNOSE FUNCTION CODE
003	DPLLENTH	001	SIZE, IN BYTES, OF THIS PARMLIST

EQUATES

04	DPLSIZE	SIZE, IN BYTES, OF PARM LIST ID

CROSS REFERENCE

Name	Len	Value/Disp
DPLCODE	002	000
DPLID	001	000
DPLLENTH	001	003
DPLSIZE	001	004
DPLSUBCD	001	002

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HCPDSLBK— DISJOINT STORAGE LIST

DSECT NAME: DSLBK

DESCRIPTIVE NAME: DISJOINT STORAGE LIST

FUNCTION: A DSLBK IS BUILT FOR EACH AREA OF USER STORAGE REQUESTED TO BE DUMPED.

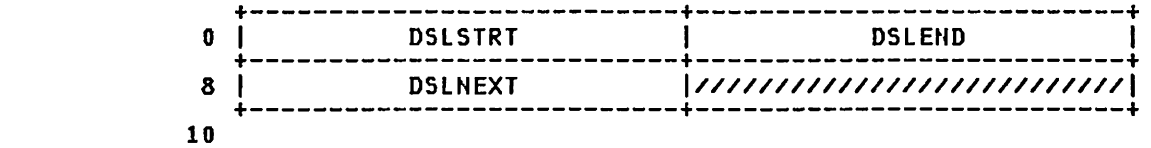
LOCATED BY:

DSLBK IS A TEMPORARY BLOCK AND IS USUALLY
LOCATED BY A POINTER IN A REGISTER

CREATED BY:

HCPVMDMP, HCPNSBMP

DSLBK - DISJOINT STORAGE LIST



disp	name	length	description
000	DSLSTRT	004	ADDRESS OF FIRST PAGE
004	DSLEND	004	ADDRESS OF LAST PAGE
008	DSLNEXT	004	ADDRESS OF NEXT BLOCK OR 0
00C		F	RESERVED FOR FUTURE IBM USE

EQUATES

02	DSLSIZE	BLOCK SIZE IN DOUBLE WORDS

CROSS REFERENCE

Name	Len	Value/Disp
DSLBK	001	000
DSLEND	004	004
DSLNEXT	004	008
DSLSIZE	001	002
DSLSTRT	004	000

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HCPDSRBK— DUMP SYMPTOM RECORD BLOCK

DSECT NAME: DSRBK

DESCRIPTIVE NAME: DUMP SYMPTOM RECORD BLOCK

FUNCTION: THE INFORMATION IN THIS RECORD IS DESIGNED TO GIVE AN INDICATION OF THE STATE OF THE SYSTEM WHEN THE PROBLEM CAUSING THE DUMP WAS ENCOUNTERED. IT WILL BE USED BY CUSTOMER AND IBM SERVICE PERSONNEL TO DETERMINE IF DUPLICATE PROBLEMS EXIST.

LOCATED BY:

THE DSRBK IS THE FIRST RECORD OF A SYSTEM ABEND DUMP TO TAPE OR DASD, A STANDALONE DUMP TO TAPE, OR A 370-XA FORMAT VIRTUAL MACHINE DUMP IN A SPOOL FILE. ALL CMS FILES CREATED BY THE DUMPLOAD COMMAND HAVE THE SYMPTOM RECORD AS THE FIRST RECORD.

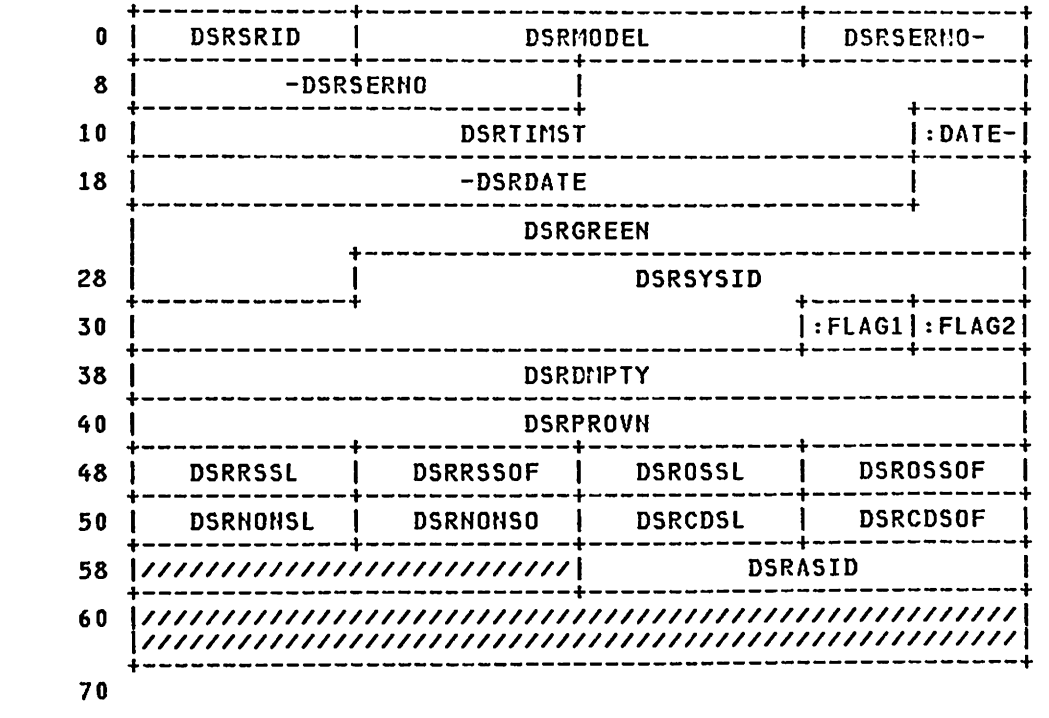
CREATED BY:

HCPDMP (SYSTEM ABEND DUMP PROCESSOR) DURING A SYSTEM ABEND DUMP
HCPEDM (DUMPLOAD COMMAND PROCESSOR) WHEN CONVERTING A 370 FORMAT VIRTUAL MACHINE DUMP TO A 370-XA FORMAT VIRTUAL MACHINE DUMP
HCPSAD (STANDALONE DUMP PROCESSOR) DURING A STANDALONE DUMP
HCPVDU (VIRTUAL MACHINE DUMP) DURING A 370-XA FORMAT VIRTUAL MACHINE DUMP

DELETED BY:

NOT APPLICABLE

DSRBK - DUMP SYMPTOM RECORD BLOCK



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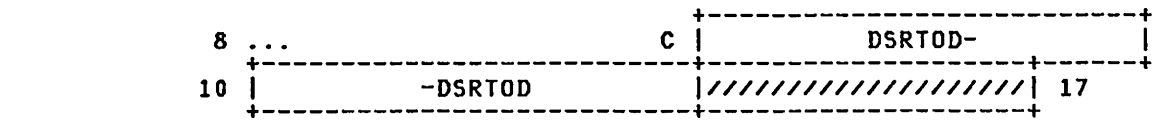
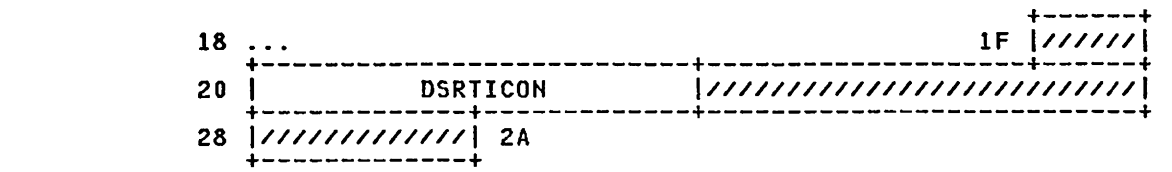
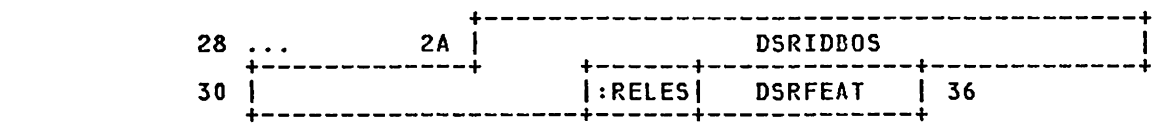
REDEFINITION - REDEFINITION OF DSRTIMST FOR VM



REDEFINITION - DSRGREEN REDEFINITION FOR VM



REDEFINITION - (AT HEX DISPLACEMENT: 2A)



disp	name	length	description
000	DSRSRID	002	'SR' SYMPTOM RECORD ID
002	DSRMODEL	004	CPU MODEL NUMBER
006	DSRSERNO	006	CPU SERIAL NUMBER
00C	DSRTIMST	011	LOCAL TIME STAMP (HH:MM:SS:H)
5			
01F	DSRGREEN	011	GREENWICH MEAN TIME
02A	DSRSYSID	012	SYSTEM IDENTIFIER
036	DSRFLAG1	001	SYMPTOM RECORD FLAG 1
	BITS DEFINED IN DSRFLAG1 (AT HEX DISPLACEMENT: 36)		
	80 DSRMORE2		SYMPTOM RECORD EXCEEDS 2K
	40 DSRGUEST		SYMPTOM REC FROM GUEST MACHINE
	00 DSRHOST		SYMPTOM REC IS IN 2K AND COMES FROM HOST MACHINE
037	DSRFLAG2	001	SYMPTOM RECORD FLAG 2
	BITS DEFINED IN DSRFLAG2 (AT HEX DISPLACEMENT: 37)		
	80 DSRFLTOD		USING REDEFINTIONS OF FIELDS ENCTIMST, DSRDATE, AND DSRGREEN
038	DSRDMPTY	008	TYPE OF DUMP, LEFT JUSTIFIED AND PADDED
040	DSRPROVN	008	PROBLEM NUMBER
	EQUATES		
	48 DSRSIZ1		SIZE OF DSRBK SECTION 1 IN BYTES
048	DSRRSSL	002	LENGTH (IN BYTES) OF REQUIRED SYMPTOM STRING AREA (PART 3 OF SYMPTOM RECORD)
04A	DSRRSSOF	002	OFFSET TO 1ST BYTE OF REQUIRED SYMPTOM STRING AREA
04C	DSROSSL	002	LENGTH (IN BYTES) OF OPTIONAL SDB-FORMAT SYMPTOM STRING AREA

```
                                (PART 4 OF SYMPTOM RECORD)
04E   DSROSSOF   002       OFFSET TO 1ST BYTE OF OPTIONAL
                           SDB-FORMAT SYMPTOM STRING AREA
050   DSRNONSL   002       LENGTH (IN BYTES) OF NON-SDB
                           SECTION (PART 5 OF SYMPTOM REC)
052   DSRNONSO   002       OFFSET TO 1ST BYTE OF NON-SDB
                           SECTION
054   DSRCDSL    002       LENGTH OF COMPONENT DEPENDENT
                           SYMPTOM AREA (PART 6 OF SYMPTOM
                           RECORD)
056   DSRCDSOF   002       OFFSET TO 1ST BYTE OF COMPONENT
                           DEPENDENT SYMPTOM RECORD
058              1F        RESERVED FOR FUTURE IBM USE
05C   DSRASID    004       ASID OF COMPONENT DEPENDENT
                           SYMPTOM AREA (MVS ONLY)
060              4F        RESERVED FOR FUTURE IBM USE

                     EQUATES

        28     DSRSIZ2     SIZE OF DSRBK SECTION 2 IN BYTES

070   DSRPART3   001       START OF SECTION 3 (VARIABLE
                           LENGTH) OF SYMPTOM RECORD

                     EQUATES

        70     DSRBKSIZ    SIZE OF DSRBK IN BYTES
        0E     DSRSIZE     SIZE OF DSRBK IN DOUBLEWORDS


        REDEFINITION - REDEFINITION OF DSRTIMST FOR VM


        5272           ORG   DSRTIMST      REDEFINITION OF DSRTIMST FOR VM


        REDEFINITION - DSRGREEN REDEFINITION FOR VM

01F              1C        RESERVED FOR FUTURE IBM USE
020   DSRTICON   004       LOCAL TIME CONVERSION FACTOR
024              CL6       RESERVED FOR FUTURE IBM USE

        REDEFINITION - (AT HEX DISPLACEMENT: 2A)

02A   DSRIDBOS   009       COMPONENT ID OF BASE OPERATING
                           SYSTEM
033   DSRRELES   001       RELEASE
034   DSRFEAT    001       FEATURE
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
DSRASID	004	05C	DSRGUEST	001	040	DSRRSSL	002	048
DSRBK	001	000	DSRHOST	001	000	DSRRSSOF	002	04A
DSRBKSIZ	001	070	DSRIDBOS	009	02A	DSRSERNO	006	006
DSRCDSL	002	054	DSRMODEL	004	002	DSRSIZE	001	00E
DSRCDSOF	002	056	DSRMORE2	001	080	DSRSIZ1	001	048
DSRDATE	008	017	DSRNONSL	002	050	DSRSIZ2	001	028
DSRDMPTY	008	038	DSRNONSO	002	052	DSRSRID	002	000
DSRFEAT	001	034	DSROSSL	002	04C	DSRSYSID	012	02A
DSRFLAG1	001	036	DSROSSOF	002	04E	DSRTICON	004	020
DSRFLAG2	001	037	DSRPART3	001	070	DSRTIMST	011	00C
DSRFLTOD	001	080	DSRPROVN	008	040	DSRTOD	008	00C
DSRGREEN	011	01F	DSRRELES	001	033			

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HCPDSVBK— DISPATCH VECTOR BLOCK

DSECT NAME: DSVBK

DESCRIPTIVE NAME: DISPATCH VECTOR BLOCK

FUNCTION: THE DSVBK MAPS THE FORMAT OF A PROCESSOR LOCAL DISPATCH VECTOR (PLDV). THERE IS ONE PLDV FOR EACH REAL CPU, PLUS AN ADDITIONAL ONE TO CONTAIN MASTER- ONLY WORK. THIS DSECT MAPS THE STORAGE DEFINED IN THE MODULE HCPDSV.

LOCATED BY:

HCPDSVMS IS THE ADDRESS OF THE MASTER-ONLY PLDV.
HCPDSVST IS THE STARTING ADDRESS OF THE OTHER PLDVS.
THEY ARE CONTIGUOUS IN STORAGE.

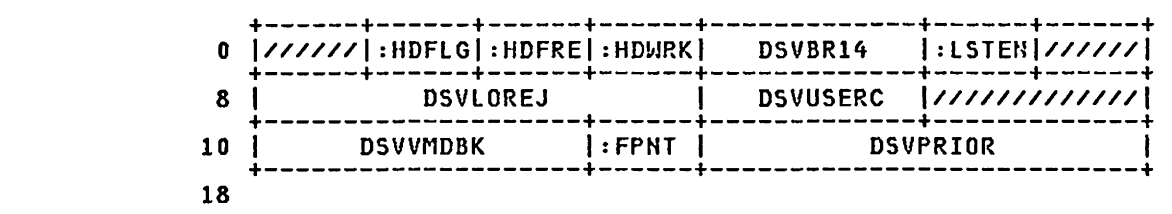
CREATED BY:

THE PLDVS ARE DCED IN MODULE HCPDSV.

DELETED BY:

NEVER DELETED

DSVBK - DISPATCH VECTOR BLOCK



disp	name	length	description
000		X	RESERVED FOR FUTURE IBM USE
001	DSVHDFLG	001	FLAG BYTE FOR PLDV STATUS
	BITS DEFINED IN DSVHDFLG (AT HEX DISPLACEMENT: 1)		
	80 DSVHDOFL		SET WHEN PLDV HAS "OVERFLOWED"
	40 DSVTIDLE		SET TO INDICATE THAT A SCAN ..SHOULD BE MADE OF THE ..TEST-IDLE USERS BY HCPDSP.
	20 DSVSTLST		WE MUST SET UP THE 'LAST ENTRY ..IN THE PLDV'. THIS FLAG IS ..USED DURING ADD TO PLDV ..PROCESSING
002	DSVHDFRE	001	ANCHOR OF THE "ENTRIES NOT IN ..USE" QUEUE.
003	DSVHDWRK	001	ANCHOR OF THE "ENTRIES IN USE" ..QUEUE.
004	DSVBR14	002	THIS IS REALLY THE FOLLOWING:
006	DSVLSTEN	001	LAST ENTRY IN THE PLDV
007		AL1	RESERVED FOR FUTURE IBM USE
008	DSVLOREJ	004	LOWEST-VALUE (BEST) PRIORITY ..WHICH WAS REJECTED FROM THIS ..PLDV
00C	DSVUSERC	002	USER COUNT - NUMBER OF VMDBKS IN ..THIS PLDV
00E		H	RESERVED FOR FUTURE IBM USE
	EQUATES		
	10 DSVHDLEN		LENGTH IN BYTES OF THE PLDV ..HEADER.
010	DSVVMDBK	003	BITS 0 TO 19 OF THE USER'S VMDBK ..ADDRESS. BITS 20 TO 31 ARE

```
                        ..KNOWN TO BE ZERO AND NEED NOT
                        ..BE STORED IN THE VECTOR ENTRY.

        BITS DEFINED IN DSVVMDBK (AT HEX DISPLACEMENT: 10)

        80     DSVINUSE     HIGH-ORDER BIT IS SET WHEN THE
                            ..PLDV ENTRY IS "IN USE",
                            ..WHENEVER THE ENTRY IS IN THE
                            ..CHAIN STARTING FROM DSVHDWRK.

012   DSVFLAGS   001        A FLAG NIBBLE

                    EQUATES

        08     DSVNOSTL     SET WHEN WORK MUST NOT BE STOLEN,
                            IN ORDER TO RESPECT VMDBK'S
                            AFFINITY REQUIREMENTS

013   DSVFPNT    001        FORWARD POINTER TO NEXT ENTRY
                            ..IN QUEUE.  ZERO IF THIS IS THE
                            ..LAST ENTRY.
014   DSVPRIOR   004        A REPRESENTATION OF THIS VMDBK'S
                            ..PRIORITY IN THE DISPATCH LIST.
                            ..THE VALUE IN THIS FIELD IS A
                            ..FUNCTION OF THE VMDBK'S
                            ..VMDDPRTY.

                    EQUATES

        08     DSVENTLN     LENGTH IN BYTES OF A PLDV ENTRY
        0E     DSVMAXUS     MAXIMUM NUMBER OF USERS IN A
                            ..PLDV
        80     DSVLEN       LENGTH IN BYTES OF
                            ..A PLDV.
        10     DSVSIZE      SIZE IN DOUBLEWORDS OF A PLDV


                    MORE EQUATES

        00     DSVHEADR     BASE VALUE TO BE USED WHEN
                            ..REFERENCING THE PLDV HEADER.
        10     DSVENTRY     BASE VALUE TO BE USE WHEN
                            ..REFERENCING A PLDV ENTRY.
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
DSVBK	001	000	DSVNOSTL	001	008
DSVBR14	002	004	DSVPRIOR	004	014
DSVENTLN	001	008	DSVSIZE	001	010
DSVENTRY	001	010	DSVSTLST	001	020
DSVFLAGS	001	012	DSVTIDLE	001	040
DSVFPNT	001	013	DSVUSERC	002	00C
DSVHDFLG	001	001	DSVVMDBK	003	010
DSVHDFRE	001	002			
DSVHDLEN	001	010			
DSVHDOFL	001	080			
DSVHDWRK	001	003			
DSVHEADR	001	000			
DSVINUSE	001	080			
DSVLEN	001	080			
DSVLOREJ	004	008			
DSVLSTEN	001	006			
DSVMAXUS	001	00E			

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HCPDUNDX— DIRECTORY USER INDEX BLOCK

DSECT NAME: DUNDX

DESCRIPTIVE NAME: DIRECTORY USER INDEX BLOCK

FUNCTION: THE DIRECTORY USER INDEX BLOCK CONTAINS ACCESS INFORMATION TO A USER'S HCPDDEV AND HCPDVMD BLOCKS.

LOCATED BY:

DUNUFPNT CHAINED
SYSDINDX FIELD OF HCPSYSCM BLOCK

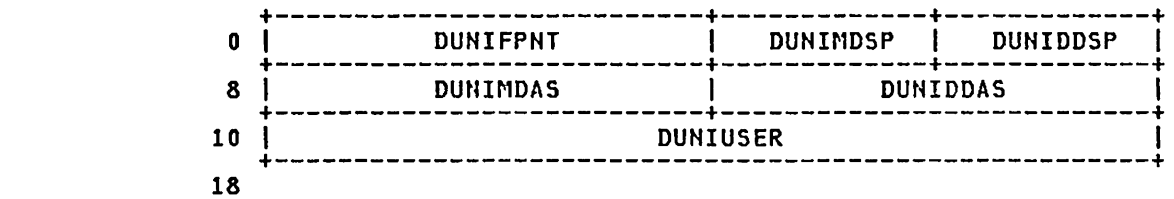
CREATED BY:

HCPDIR, HCPUDR

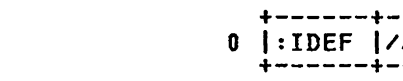
DELETED BY:

HCPUDR

DUNDX - DIRECTORY USER INDEX BLOCK



REDEFINITION - DASD RECORD FORMAT



disp	name	length	description
000	DUNIFPNT	004	OPEN QUEUE PTR FOR USE BY HCPUDR
004	DUNIMDSP	002	DISP OF DVMD BLOCK IN PAGE
006	DUNIDDSP	002	DISP OF DDEV BLOCK IN PAGE
008	DUNIMDAS	004	SLOT ADDR OF USER DVMD BLOCK
00C	DUNIDDAS	004	SLOT ADDR OF 1ST USER DDEV BLOCK
010	DUNIUSER	008	VIRTUAL MACHINE USERID

EQUATES

03	DUNISIZE	DUNDX BLOCK SIZE IN DW'S

REDEFINITION - DASD RECORD FORMAT

000	DUNIDEF	001	VIRTUAL MACHINE DEFINITION FLAGS

BITS DEFINED FOR DUNIDEF BY HCPDVMD DVMDDEF

001	3X	RESERVED FOR FUTURE IBM USE

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CROSS REFERENCE

Name	Len	Value/Disp
DUNDX	001	000
DUNIDDAS	004	00C
DUNIDDSP	002	006
DUNIDEF	001	000
DUNIFPNT	004	000
DUNIMDAS	004	008
DUNIMDSP	002	004
DUNISIZE	001	003
DUNIUSER	008	010

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HCPDVMD— GUEST VIRTUAL MACHINE DIRECTORY BLOCK

DSECT NAME: DVMD

DESCRIPTIVE NAME: GUEST VIRTUAL MACHINE DIRECTORY BLOCK

FUNCTION: THE GUEST VIRTUAL MACHINE DIRECTORY BLOCK DEFINES A USER'S VIRTUAL MACHINE ENVIRONMENT AS SPECIFIED IN THE SYSTEM DIRECTORY FILE.

LOCATED BY:

DUNIMDAS FIELD OF HCPDUNDX
DUNIMDAS FIELD OF HCPDUNDX

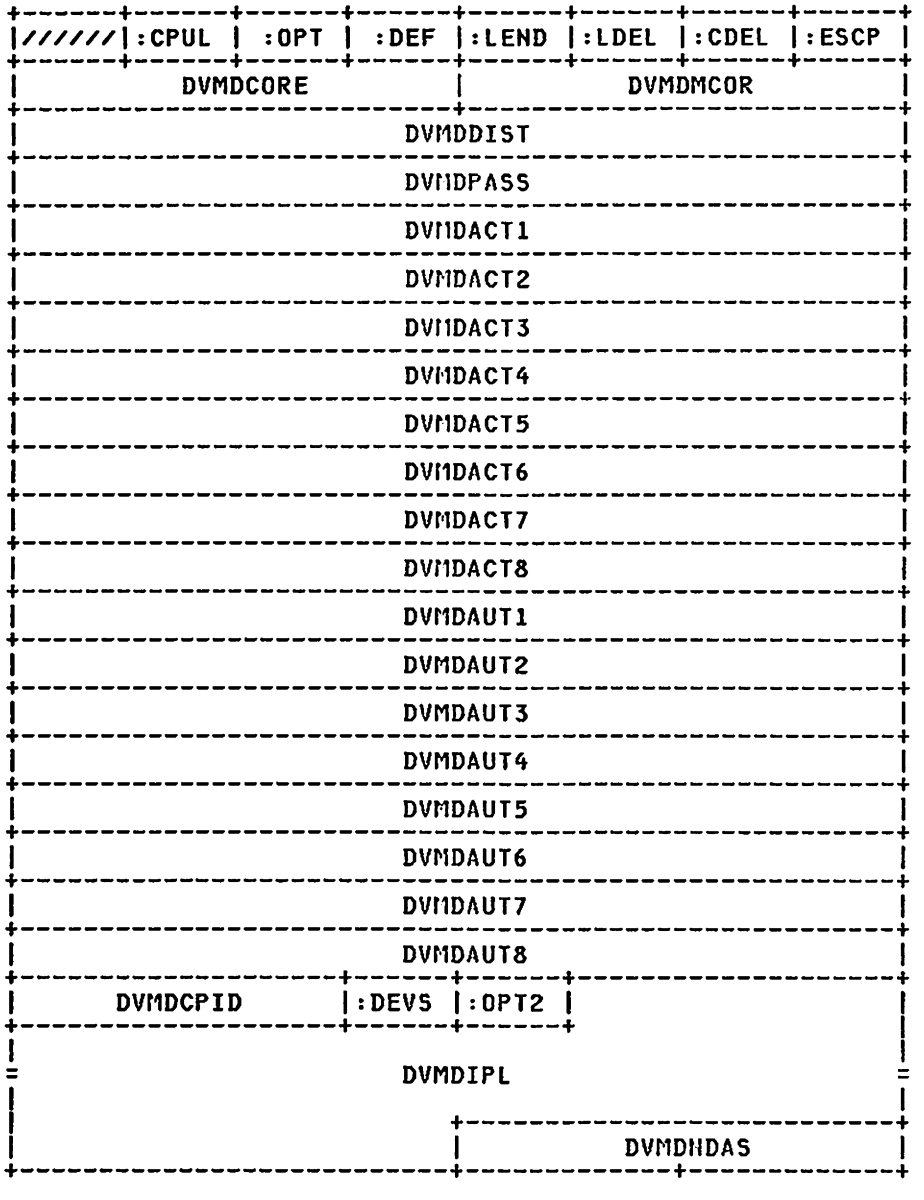
CREATED BY:

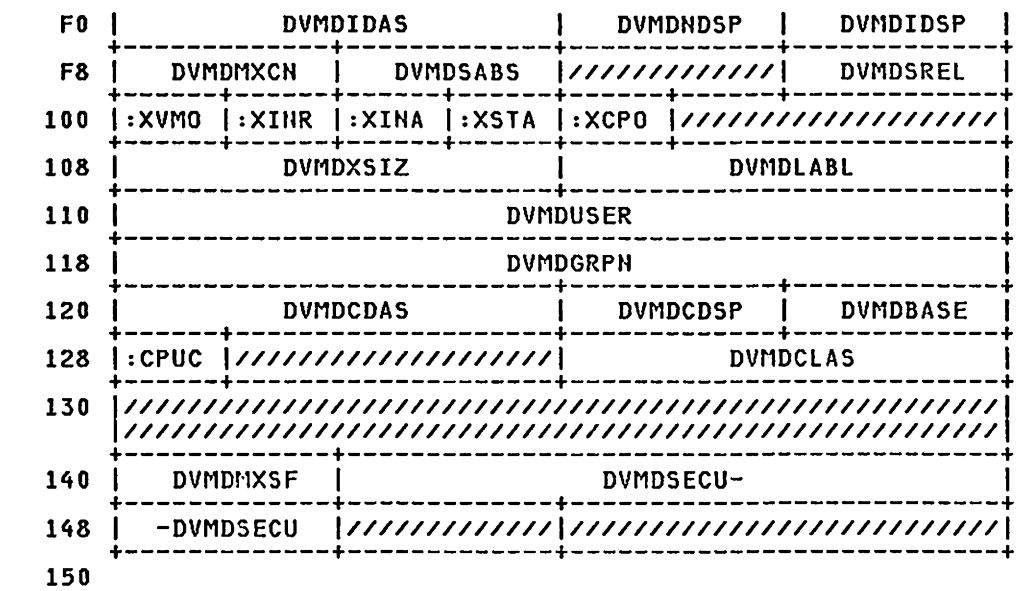
HCPDIR, HCPUDR

DELETED BY:

HCPCFS, HCPCSC, HCPCSP, HCPDEF, HCPHVD, HCPLOG, HCPUDR

DVMD - GUEST VIRTUAL MACHINE DIRECTORY BLOCK





disp	name	length	description
000		1X	RESERVED FOR FUTURE IBM USE
001	DVMDCPUL	001	MAX NO OF CPU'S - 1
002	DVMDOPT	001	VIRTUAL MACHINE OPTION FLAGS

BITS DEFINED IN DVMDOPT (AT HEX DISPLACEMENT: 2)

80	DVMDNOVF	NO VIRTUAL VECTOR FACILITY .. ALLOWED FOR THIS USER
40	DVMDCPU	CPUID ON OPTION STATEMENT
20	DVMDMIH	MIH ON OPTION STATEMENT
10	DVMDVROP	VIRTUAL = REAL STORAGE OPTIONS
08	DVMDACC	ACCOUNTING OPTION
04	DVMDCONC	CONCEAL OPTION
02	DVMDQDSP	QUICKDSP OPTION
01	DVMDVTOD	TODENABLE OPTION

003	DVMDDEF	001	VIRTUAL MACHINE DEFINITION FLAGS

BITS DEFINED IN DVMDDEF (AT HEX DISPLACEMENT: 3)

80	DVMDXSTR	EXTENDED STORAGE FACILITY ALLOWED
40	DVMDNOP	'NOPDATA' STATEMENT IN ENTRY
02	DVMDVXA	GUEST IS A VIRTUAL XA
01	DVMDV370	GUEST IS A VIRTUAL 370

004	DVMDLEND	001	TERMINAL LINE END SYMBOL
005	DVMDLDEL	001	TERMINAL LINE DELETE SYMBOL
006	DVMDCDEL	001	TERMINAL CHARACTER DELETE SYMBOL
007	DVMDESCP	001	TERMINAL ESCAPE CHARACTER
008	DVMDCORE	004	VIRTUAL MEMORY SIZE IN BYTES
00C	DVMDMCOR	004	MAX VIRTUAL MEMORY SIZE IN BYTES
010	DVMDDIST	008	USER MACHINE DISTRIBUTION CODE
018	DVMDPASS	008	USER MACHINE LOGON PASSWORD
020	DVMDACT1	008	VIRTUAL MACHINE ACCT NUMBER (1)
028	DVMDACT2	008	VIRTUAL MACHINE ACCT NUMBER (2)
030	DVMDACT3	008	VIRTUAL MACHINE ACCT NUMBER (3)
038	DVMDACT4	008	VIRTUAL MACHINE ACCT NUMBER (4)
040	DVMDACT5	008	VIRTUAL MACHINE ACCT NUMBER (5)
048	DVMDACT6	008	VIRTUAL MACHINE ACCT NUMBER (6)
050	DVMDACT7	008	VIRTUAL MACHINE ACCT NUMBER (7)
058	DVMDACT8	008	VIRTUAL MACHINE ACCT NUMBER (8)

EQUATES

40	DVMDACLN	NUM OF CONTIGUOUS BYTES OF ACCT

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        08     DVMDACNM     NUMBER OF ACCOUNT NUMBERS

060     DVMDAUT1    008     AUTHORIZED AUTOLOG ID (1)
068     DVMDAUT2    008     AUTHORIZED AUTOLOG ID (2)
070     DVMDAUT3    008     AUTHORIZED AUTOLOG ID (3)
078     DVMDAUT4    008     AUTHORIZED AUTOLOG ID (4)
080     DVMDAUT5    008     AUTHORIZED AUTOLOG ID (5)
088     DVMDAUT6    008     AUTHORIZED AUTOLOG ID (6)
090     DVMDAUT7    008     AUTHORIZED AUTOLOG ID (7)
098     DVMDAUT8    008     AUTHORIZED AUTOLOG ID (8)

                      EQUATES

        40     DVMDATLN     NUM OF CONTIGUOUS BYTES OF AUTOLOG
        08     DVMDATNM     NUMBER OF AUTOLOG IDS ALLOWED

0A0     DVMDCPID    003     CPUID SERIAL NUMBER IN BINARY
                            BITS DEFINED FOR DVMDDEVS
0A3     DVMDDEVS    001     DOES THIS USER HAVE DDEVS

        BITS DEFINED FOR DVMDDEVS

        80     DVMDYES      USER HAS AT LEAST ONE DDEV

0A4     DVMDOPT2    001     VIRTUAL MACHINE OPTION FLAGS

        BITS DEFINED IN DVMDOPT2 (AT HEX DISPLACEMENT: A4)

        40     DVMDSVMS     REPRESENTS THE SVMSTAT OPTION OF THE
                            DIRECTORY OPTION STATEMENT

0A5     DVMDIPL     071     IPL STATEMENT FROM DIR. SOURCE

                      EQUATES

        09     DVMDIPSD     DVMDIPL SIZE IN DW'S

0EC     DVMDNDAS    004     DASD ADDRESS OF FIRST DNSA BLOCK
0F0     DVMDIDAS    004     DASD ADDRESS OF FIRST DIUCV BLOCK
0F4     DVMDNDSP    002     DISPLACEMENT TO FIRST DNSA BLOCK
0F6     DVMDIDSP    002     DISPLACEMENT TO FIRST DIUCV BLOCK
0F8     DVMDMXCN    002     MAXCONN VALUE FROM OPTION STATMNT
0FA     DVMDSABS    002     ABSOLUTE SHARE OF THE SYSTEM
0FC                 H       RESERVED FOR IBM USE
0FE     DVMDSREL    002     RELATIVE SHARE OF THE SYSTEM
100     DVMDXVMO    001     VM OUTPUT
101     DVMDXINR    001     INPUT REDISPLAY
102     DVMDXINA    001     INPUT AREA
103     DVMDXSTA    001     STATUS AREA
104     DVMDXCPO    001     CP OUTPUT
105                 3X      RESERVED FOR FUTURE IBM USE
108     DVMDXSIZ    004     SIZE IN MEGABYTES, OF REQUESTED
                            ..AMOUNT OF EXPANDED STORAGE, OR
                            ..4X'00' IF 'ALL' WAS SPECIFIED.
10C     DVMDLABL    004     LABEL TO VALIDATE THIS BLOCK
110     DVMDUSER    008     USERID TO VALIDATE THIS BLOCK
118     DVMDGRPN    008     ACI GROUPNAME
120     DVMDCDAS    004     DASD ADDRESS OF FIRST DCPU BLOCK
124     DVMDCDSP    002     DISPLACEMENT TO FIRST DCPU BLOCK
126     DVMDBASE    002     BASE CPU ADDRESS FOR THIS USER
128     DVMDCPUC    001     COUNT OF DCPUS FOR THIS USER
129                 XL3     RESERVED FOR FUTURE IBM USE
12C     DVMDCLAS    004     USER COMMAND CLASS(ES)
130                 4F      RESERVED FOR FUTURE IBM USE
140     DVMDMXSF    002     MAX NUMBER OF SPOOL FILES ALLOWED
142     DVMDSECU    008     SECONDARY USER USERID
14A                 H       RESERVED FOR FUTURE IBM USE
14C                 F       RESERVED FOR FUTURE IBM USE

                      EQUATES

        2A     DVMDSIZE     DVMD BLOCK SIZE IN DW'S
        50     DVMDBSIZ     DVMD BLOCK SIZE IN BYTES
```

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CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
DVMD	001	000	DVMDSIZE	001	02A
DVMDACC	001	008	DVMDSREL	002	0FE
DVMDACLN	001	040	DVMDSVMS	001	040
DVMDACNM	001	008	DVMDUSER	008	110
DVMDACT1	008	020	DVMDVROP	001	010
DVMDACT2	008	028	DVMDVTOD	001	001
DVMDACT3	008	030	DVMDVXA	001	002
DVMDACT4	008	038	DVMDV370	001	001
DVMDACT5	008	040	DVMDXCPO	001	104
DVMDACT6	008	048	DVMDXINA	001	102
DVMDACT7	008	050	DVMDXINR	001	101
DVMDACT8	008	058	DVMDXSIZ	004	108
DVMDATLN	001	040	DVMDXSTA	001	103
DVMDATNM	001	008	DVMDXSTR	001	080
DVMDAUT1	008	060	DVMDXVMO	001	100
DVMDAUT2	008	068	DVMDYES	001	080
DVMDAUT3	008	070			
DVMDAUT4	008	078			
DVMDAUT5	008	080			
DVMDAUT6	008	088			
DVMDAUT7	008	090			
DVMDAUT8	008	098			
DVMDBASE	002	126			
DVMDBSIZ	001	150			
DVMDCDAS	004	120			
DVMDCDEL	001	006			
DVMDCDSP	002	124			
DVMDCLAS	004	12C			
DVMDCONC	001	004			
DVMDCORE	004	008			
DVMDCPID	003	0A0			
DVMDCPU	001	040			
DVMDCPUC	001	128			
DVMDCPUL	001	001			
DVMDDEF	001	003			
DVMDDEVS	001	0A3			
DVMDDIST	008	010			
DVMDESCP	001	007			
DVMDGRPN	008	118			
DVMDIDAS	004	0F0			
DVMDIDSP	002	0F6			
DVMDIPL	071	0A5			
DVMDIPSD	001	009			
DVMDLABL	004	10C			
DVMDLDEL	001	005			
DVMDLEND	001	004			
DVMDMCOR	004	00C			
DVMDMIH	001	020			
DVMDMXCN	002	0F8			
DVMDMXSF	002	140			
DVMDNDAS	004	0EC			
DVMDNDSP	002	0F4			
DVMDNOP	001	040			
DVMDNOVF	001	080			
DVMDOPT	001	002			
DVMDOPT2	001	0A4			
DVMDPASS	008	018			
DVMDQDSP	001	002			
DVMDSABS	002	0FA			
DVMDSECU	008	142			

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HCPEMSBK— EMERGENCY SIGNAL SIGP TASK BLOCK

DSECT NAME: EMSBK

DESCRIPTIVE NAME: EMERGENCY SIGNAL SIGP TASK BLOCK

FUNCTION: HCPEMSBK REPRESENTS A REQUEST MADE BY ONE PROCESSOR FOR ANOTHER PROCESSOR TO PERFORM A PARTICULAR FUNCTION.

LOCATED BY:

PFXEMSAN FIELD OF HCPPFXPG (ANCHOR FOR EMSBK CHAIN)
EMSFWDPT FORWARD CHAINED

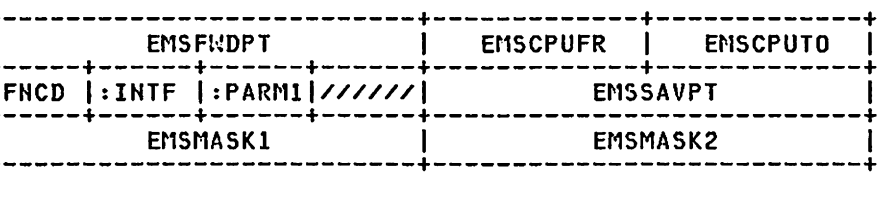
CREATED BY:

HCPSGP WHEN ANOTHER PROCESSOR SHOULD PERFORM A FUNCTION

DELETED BY:

HCPSGP WHEN THE TARGET PROCESSOR HAS RECEIVED THE REQUEST TO PERFORM THE FUNCTION
HCPMPS WHEN A PROCESSOR'S STORAGE IS RELEASED DURING VARY OFF OF THE PROCESSOR

EMSBK - EMERGENCY SIGNAL SIGP TASK BLOCK



disp	name	length	description
000	EMSFWDPT	004	FORWARD POINTER TO NEXT EMSBK
004	EMSCPUAD	004	EMS TO AND FROM CPU ADDRESSES
004	EMSCPUFR	002	CPU FROM -- SIGNALING PROCESSOR
006	EMSCPUTO	002	CPU TO -- SIGNALLED PROCESSOR
008	EMSCODES	004	EMS CODES
008	EMSFNCD	001	FUNCTION CODE
	CODES DEFINED IN EMSFNCD (AT HEX DISPLACEMENT: 8)		
	02 EMSFNAPR		FUNCTION ALTERNATE PROC RECOVERY
	03 EMSFNLC		FUNCTION LOAD CONTROL REGISTER
	04 EMSFNSWM		FUNCTION SWITCH MASTER PROCESSOR
	05 EMSFNSWP		FUNCTION SWITCH PROCESSOR
009	EMSINTF	001	EMSBK INTERRUPT STATUS FIELD
	CODES DEFINED IN EMSINTF (AT HEX DISPLACEMENT: 9)		
	00 EMSINTNR		INTERRUPT NOT YET RECEIVED DO NOT UNSTACK THE BLOCK
	FF EMSINTR		INTERRUPT HAS BEEN RECEIVED UNSTACK THE BLOCK
00A	EMSPARM1	001	BYTE PARAMETER
00B		X	RESERVED FOR FUTURE IBM USE
00C	EMSSAVPT	004	POINTER TO SAVEAREA FOR RETURN ALSO USED TO HOLD CONTROL REG DATA FOR LOAD CNTL FUNCTION
010	EMSMASK1	004	FOR LCTL FUNCTION: SGPLCORN - BITS TO TURN ON SGPLCOFF - BITS TO TURN OFF SGPLCREP - BITS TO BE REPLACED
014	EMSMASK2	004	FOR LCTL FUNCTION: SGPLCREP - BITS FOR REPLACEMENT

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EQUATES

```
03    EMSSIZE     SIZE IN DOUBLE WORDS
```

CROSS REFERENCE

Name	Len	Value/Disp
EMSBK	001	000
EMSCODES	004	008
EMSCPUAD	004	004
EMSCPUFR	002	004
EMSCPUTO	002	006
EMSFNAPR	001	002
EMSFNCD	001	008
EMSFNLC	001	003
EMSFNSWM	001	004
EMSFNSWP	001	005
EMSFWDPT	004	000
EMSINTF	001	009
EMSINTNR	001	000
EMSINTR	001	0FF
EMSMASK1	004	010
EMSMASK2	004	014
EMSPARM1	001	00A
EMSSAVPT	004	00C
EMSSIZE	001	003

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HCPEXPBK— EXPOSURE BLOCK

DSECT NAME: EXPBK

DESCRIPTIVE NAME: EXPOSURE BLOCK

FUNCTION: THE EXPOSURE BLOCK CONTAINS NECESSARY INFORMATION ABOUT A CP VOLUME FOR PAGING INFORMATION.

LOCATED BY:

CPVEXPBK - FOR SINGLE EXPOSURE DEVICES, POINTS TO THE EXPOSURE BLOCK.
FOR MULTIPLE EXPOSURE DEVICES, POINTS TO THE FIRST ONE OF A CONTIGUOUS GROUP.

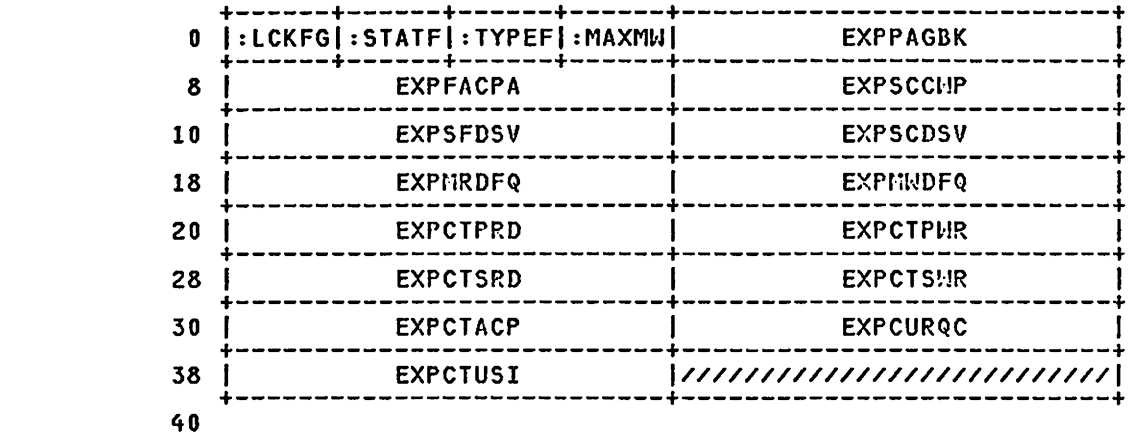
CREATED BY:

HCPRDAAT - WHEN THE CP OWNED VOLUME IS BROUGHT ON LINE AT IPL TIME AND DURING THE ATTACH COMMAND PROCESSING.

DELETED BY:

HCPRDADT - WHEN THE CP OWNED VOLUME IS DETACHED FROM THE SYSTEM.

EXPBK - EXPOSURE BLOCK



REDEFINITION -

disp	name	length	description
000	EXPFLAGS	004	FLAGS FOR THE EXPOSURE BLOCK
000	EXPLCKFG	001	EXPOSURE LOCK BYTE. X'FF' - INDICATES THIS EXPOSURE IS LOCKED. X'00' - INDICATES THIS EXPOSURE IS AVAILABLE FOR USE
			EQUATES
	00 EXPLCKRL		USED TO RELEASE THE EXPOSURE LOCK
001	EXPSTATF	001	EXPOSURE STATUS FLAG

CODES DEFINED IN EXPSTATF (AT HEX DISPLACEMENT: 1)

00	EXPNOP	INDICATES THAT NEITHER A RSCH OR A SSCH IS REQUIRED.
01	EXPRSCH	INDICATES THAT A RSCH IS REQUIRED
02	EXPSSCH	INDICATES THAT A SSCH IS REQUIRED
04	EXPDQINP	INDICATES A DEQUEUE IN PROGRESS

002	EXPTYPEF	001	EXPOSURE TYPE FLAG

BITS DEFINED IN EXPTYPEF (AT HEX DISPLACEMENT: 2)

01	EXPMLTEP	INDICATES THIS IS A MULTIPLE EXPOSURE DEVICE.

003	EXPMAXMW	001	MAXIMUM NUMBER OF MULTIPLE WRITES THAT CAN BE ADDED INTO THE CHANNEL PROGRAM. THIS VALUE IS 4 * NUMBER OF REOCRDS PER TRACK.
004	EXPPAGBK	004	PAGBK FOR THIS EXPOSURE
008	EXPFACPA	004	FIRST ACTIVE CHANNEL PROGRAM ADDR
00C	EXPSCCWP	004	SUSPENDED CCW PACKAGE
010	EXPSFDSV	004	FIRST DEFERRED SAVEAREA FOR SINGLE READS AND WRITES
014	EXPSCDSV	004	CURRENT DEFERRED SAVEAREA THAT WILL BE DEQUEUE FOR SINGLE READS AND WRITE
018	EXPMRDFQ	004	QUEUE ANCHOR FOR MULTIPLE READ. THIS ANCHOR CONTAINS FRAME TABLE ADDRESSES THAT ARE CHAINED TOGETHER WITH A MINUS ONE AS AN END POINTER(X'FFFFFFFF'). THIS ADDRESS IS ZERO IF NONE QUEUED.
01C	EXPMWDFQ	004	QUEUE ANCHOR FOR MULTIPLE WRITES. THIS ANCHOR CONTAINS FRAME TABLE ADDRESSES THAT ARE CHAINED TOGETHER WITH A MINUS ONE AS AN END POINTER(X'FFFFFFFF'). THIS ADDRESS IS ZERO IF NONE QUEUED.
020	EXPCTPRD	004	TOTAL COUNT OF PAGING READS FOR THIS DEVICE.
024	EXPCTPWR	004	TOTAL COUNT OF PAGING WRITES FOR THIS DEVICE.
028	EXPCTSRD	004	TOTAL COUNT OF SPOOLING READS FOR THIS DEVICE.
02C	EXPCTSWR	004	TOTAL COUNT OF SPOOLING WRITES FOR THIS DEVICE.
030	EXPCTACP	004	TOTAL COUNT OF PAGING/SPOOLING READS AND WRITES ADDED TO AN EXISTING CHANNEL PROGRAM WITHOUT EXECUTING A SSCH OR RSCH.
034	EXPCURQC	004	CARDINAL COUNT OF ALL OUTSTANDING PAGING/SPOOLING READS/WRITES FOR THIS DEVICE.
038	EXPCTUSI	004	TOTAL COUNT OF THE NUMBER OF TIMES THE CHANNEL PROGRAM HAD TO BE TERMINATED TO ALLOW USER I/O. THIS IS AN INDICATOR OF INTERFERENCE BETWEEN USER AND PAGING/SPOOLING I/O.
03C		F	RESERVED FOR IBM USE.
040	EXPBKEND	008	END OF EXPBK.

REDEFINITION -

004	EXPIORBK	004	IORBK FOR THIS EXPOSURE. THE IORBK IS ALWAYS AT THE BEGINNING OF EACH PAGBK.

MORE EQUATES

40	EXPBSIZE	SIZE OF THIS DSECT IN BYTES
08	EXPSIZE	SIZE IN DOUBLE-WORDS

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CROSS REFERENCE

Name	Len	Value/Disp
EXPBK	001	000
EXPBKEND	008	040
EXPBSIZE	001	040
EXPCTACP	004	030
EXPCTPRD	004	020
EXPCTPWR	004	024
EXPCTSRD	004	028
EXPCTSWR	004	02C
EXPCTUSI	004	038
EXPCURQC	004	034
EXPDQINP	001	004
EXPFACPA	004	008
EXPFLAGS	004	000
EXPIORBK	004	004
EXPLCKFG	001	000
EXPLCKRL	001	000
EXPMAXMW	001	003
EXPMLTEP	001	001
EXPMRDFQ	004	018
EXPMWDFQ	004	01C
EXPNOP	001	000
EXPPAGBK	004	004
EXPRSCH	001	001
EXPSCCWP	004	00C
EXPSCDSV	004	014
EXPSFDSV	004	010
EXPSIZE	001	008
EXPSSCH	001	002
EXPSTATF	001	001
EXPTYPEF	001	002

HCPFILID— FILE IDENTIFICATION TABLE

DSECT NAME: FILID

DESCRIPTIVE NAME: FILE IDENTIFICATION TABLE

FUNCTION: TO ASSOCIATE SPOOL FILES WITH EACH USERID IN THE SYSTEM

LOCATED BY:

SYSFILID

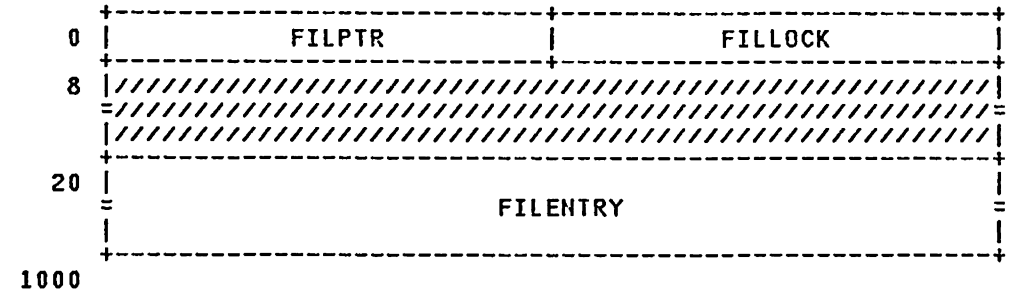
CREATED BY:

HCPWRSST - WHEN BUILDING THE FILID TABLE
DURING INITIALIZATION

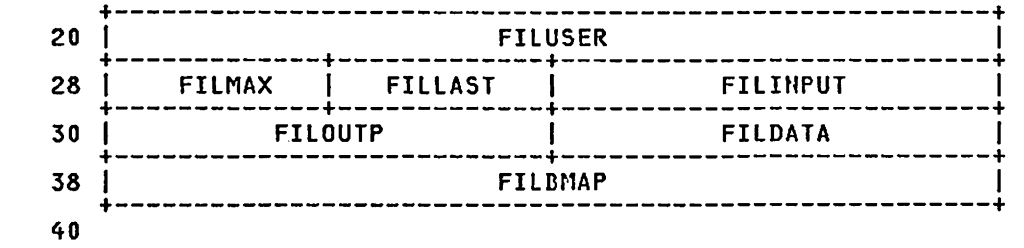
DELETED BY:

STORAGE FOR FILID TABLE IS RELEASED AT
SHUTDOWN

FILID - FILE IDENTIFICATION TABLE



REDEFINITION - DESCRIPTION OF ONE ENTRY



disp	name	length	description
000	FILPTR	004	POINTER TO NEXT FILID TABLE PG
004	FILLOCK	004	LOCK FOR ADDING THE TABLE ENTRY
008		3D	RESERVED FOR IBM USE
020	FILENTRY	032	127 ENTRIES IN TABLE

REDEFINITION - DESCRIPTION OF ONE ENTRY

020	FILUSER	008	USERID OF ENTRY IN THE TABLE
028	FILMAX	002	MAX NUMBER OF SPID FOR USER
02A	FILLAST	002	LAST SPID ALLOCATED FOR USER
02C	FILINPUT	004	POINTER TO USER'S INPUT QUEUE
030	FILOUTP	004	POINTER TO USER'S OUTPUT QUEUE
034	FILDATA	004	POINTER TO USER'S DATA QUEUE
038	FILBMAP	001	USER'S BITMAP OF ALLOCATED SPIDS
040	FILNEXT	004	NEXT ENTRY IN FILID TABLE

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CROSS REFERENCE

Name	Len	Value/Disp
FILBMAP	001	038
FILDATA	004	034
FILENTRY	032	020
FILID	001	000
FILINPUT	004	02C
FILLAST	002	02A
FILLOCK	004	004
FILMAX	002	028
FILNEXT	004	040
FILOUTP	004	030
FILPTR	004	000
FILUSER	008	020

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HCPFINBK— FLOATING EXTERNAL INTERRUPT CONTROL BLOCK

DSECT NAME: FINBK

DESCRIPTIVE NAME: FLOATING EXTERNAL INTERRUPT CONTROL BLOCK

FUNCTION: HCPFINBK MAINTAINS A GUESTS FLOATING EXTERNAL INTERRUPTS WHEN THE INTERRUPTS ARE PENDING. GUEST FLOATING EXTERNAL INTERRUPTS ARE INTERRUPTS THAT MAY BE PRESENTED TO ANY CPU IN THE VIRTUAL CONFIGURATION.

LOCATED BY:

VMDFIN FIELD OF HCPVMDBK (FLOATING INTERRUPTIONS)

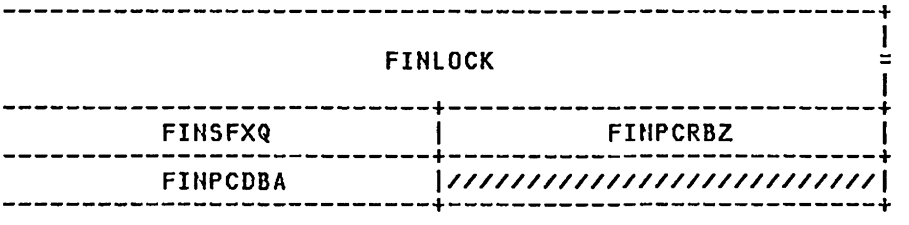
CREATED BY:

HCPBVM FOR A BASE VMDBK. NON-BASE VMDBKS ARE ASSIGNED THE ADDRESS OF THE BASE FINBK

DELETED BY:

HCPUSO DELETES THE FINBK WHEN A BASE VMDBK LOGS OFF

FINBK - FLOATING INTERRUPTION BLOCK



disp	name	length	description
000	FINLOCK	008	LOCKWORD FOR THIS BLOCK
018	FINSFXQ	004	QUEUE ANCHOR FOR SFXBKS REPRESENTING FLOATING EXTERNAL INTERRUPTIONS
01C	FINPCRBZ	004	VMDBK ADDRESS OF VIRTUAL CPU USING PROCESSOR CONTROLLER
020	FINPCDBA	004	PROCESSOR CONTROLLER DATA BLOCK ADDRESS FOR PREFERRED VIRTUAL MACHINE RECOVERY
024		1F	RESERVED FOR FUTURE IBM USE

EQUATES

28	FINSIZE	SIZE OF FINBK

CROSS REFERENCE

Name	Len	Value/Disp
FINBK	001	000
FINLOCK	008	000
FINPCDBA	004	020
FINPCRBZ	004	01C
FINSFXQ	004	018
FINSIZE	001	028

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HCPFIOBK— FORMATTED I/O BLOCK

DSECT NAME: FIOBK

DESCRIPTIVE NAME: FORMATTED I/O BLOCK

FUNCTION: DEFINE DASD I/O REQUEST TO STAND-ALONE DASD I/O ROUTINE WITH A DESCRIPTION OF THE AREA ON THE VOLUME THAT IS TO USED. THE DATA CAN BE ACCESSED BY EITHER RELATIVE BLOCK OR CCPV REFERENCE TECHNIQUES.

LOCATED BY:

GENERAL PURPOSE REGISTER 1 ON ENTRY TO HCPLODAS

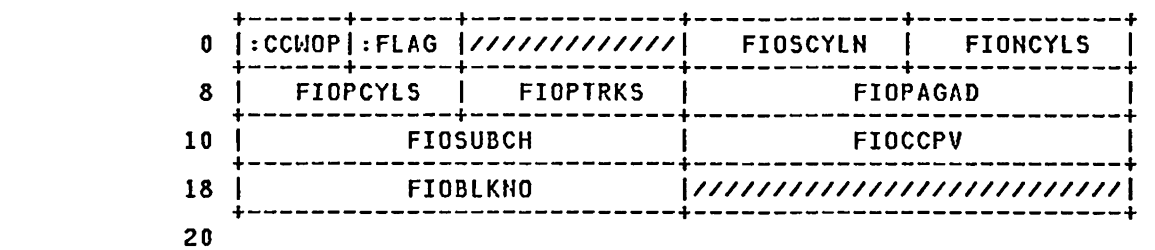
CREATED BY:

HCPCKPRS - BEFORE SYSTEM INITIALIZATION ON A SYSTEM BOUNCE
HCPCKPSH - DURING AN ABNORMAL TERMINATION OR SHUTDOWN
HCPLODNC - DURING THE SYSTEM LOAD PROCESS

DELETED BY:

FIOBK IS OBVIATED WHEN SYSTEM BECOMES FUNCTIONAL

FIOBK - FORMATTED I/O BLOCK



disp	name	length	description
000	FIOCCWOP	001	CCW OP-CODE, CWODRDTA OR CWODWDTA
001	FIOFLAG	001	I/O CONDITION FLAG (CC=1)

BITS DEFINED IN FIOFLAG (AT HEX DISPLACEMENT: 1)

80	FIOSTRFL	I/O STORAGE FAILURE, CANNOT LOAD BLOCK
40	FIOFAIL	I/O FAILURE AFTER 10 ATTEMPTS
20	FIODEVIC	I/O DEVICE DOES NOT RESPOND
10	FIORANGE	I/O OUTSIDE OF RANGE OF CYLINDERS
00	FIOSUCES	CC=0 I/O WAS SUCCESSFUL

002		H	RESERVED FOR FUTURE IBM USE
004	FIOSCYLN	002	STARTING CYLINDER NUMBER OF THE 'FILE'
006	FIONCYLS	002	NUMBER OF CYLINDERS IN THE 'FILE'
008	FIOPCYLS	002	PAGES PER CYLINDER ON THIS DEVICE
00A	FIOPTRKS	002	PAGES PER TRACK ON THIS DEVICE
00C	FIOPAGAD	004	ADDRESS OF PAGE TO BE READ OR WRITTEN
010	FIOSUBCH	004	SUBCHANNEL NUMBER OF UNIT
014	FIOCCPV	004	SPOOLING "CCPV" NUMBERED
018	FIOBLKNO	004	BLOCK NUMBER WITH 'FILE'
01C		F	RESERVED FOR FUTURE IBM USE

EQUATES

04	FIOSIZE	LENGTH OF FORMATTED I/O BLOCK

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CROSS REFERENCE

Name	Len	Value/Disp
FIOBK	001	000
FIOBLKNO	004	018
FIOCCPV	004	014
FIOCCWOP	001	000
FIODEVIC	001	020
FIOFAIL	001	040
FIOFLAG	001	001
FIONCYLS	002	006
FIOPAGAD	004	00C
FIOPCYLS	002	008
FIOPTRKS	002	00A
FIORANGE	001	010
FIOSCYLN	002	004
FIOSIZE	001	004
FIOSTRFL	001	080
FIOSUBCH	004	010
FIOSUCES	001	000

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HCPFLSPT— SPOOL-TO-TAPE FILE LIST

DSECT NAME: FLSPT

DESCRIPTIVE NAME: SPOOL-TO-TAPE FILE LIST

FUNCTION: CONTAINS THE SPOOL FILE ID'S OF THE SPOOL FILES TO BE DUMPED TO TAPE FOR AN SPTAPE DUMP COMMAND.

LOCATED BY:

(1) ROUTINES:
HCPSPSDP - FOR SPTAPE DUMP COMMANDS
(2) FIELDS:
SPTFLSPT IN HCPSPTBK. (THIS IS THE ANCHOR FLSPT FOR THE SPTAPE DUMP COMMAND ACTIVE ON THE DEVICE)
FLSPTNXT IN HCPFLSPT. (IF THERE IS MORE THAN ONE FLSPT)

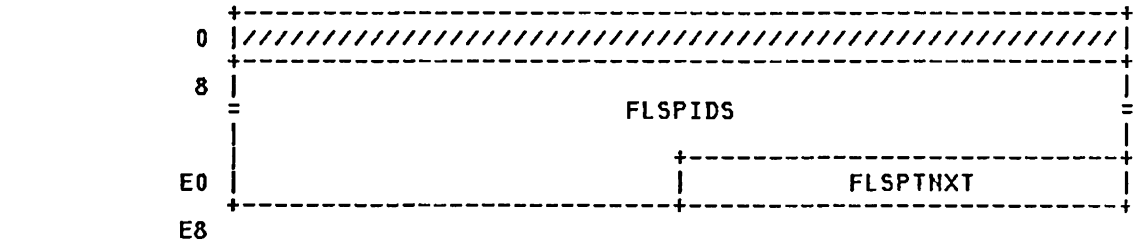
CREATED BY:

HCPSPTAP - FOR THE SPTAPE DUMP COMMAND

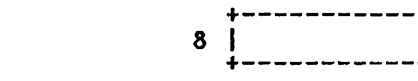
DELETED BY:

HCPSPSDP - AFTER DUMPING FILES TO TAPE, OR AFTER AN SPTAPE STOP OR CANCEL REQUEST.

FLSPT - SPOOL-TO-TAPE FILE LIST



REDEFINITION -



disp	name	length	description
000		D	RESERVED FOR IBM USE
008	FLSDATA	004	START OF THE SPOOL FILE ID LIST
			EQUATES
	08 FLSESTRT		OFFSET OF THE FIRST ENTRY
008	FLSPIDS	004	SPACE FOR 55 SPOOL FILE ID'S
			EQUATES
	E4 FLSEEND		THE OFFSET OF THE END OF THE SPOOL FILE ENTRIES
0E4	FLSPTNXT	004	THE ADDRESS OF THE NEXT FLSPT
			EQUATES

```
        1D    FLSSIZE     SIZE OF THE FLSPT BLOCK

         REDEFINITION -

008   FLSPID     004      A SPID ENTRY

                   EQUATES

        04     FLSELN      THE LENGTH OF A BLOCK ENTRY
```

CROSS REFERENCE

Name	Len	Value/Disp
FLSDATA	004	008
FLSEEND	001	0E4
FLSELN	001	004
FLSESTRT	001	008
FLSPID	004	008
FLSPIDS	004	008
FLSPT	001	000
FLSPTNXT	004	0E4
FLSSIZE	001	01D

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HCPFMABK— ADDRESSES OF CCW ROUTINES FOR CPFORMAT

DSECT NAME: FMABK

DESCRIPTIVE NAME: ADDRESSES OF CCW ROUTINES FOR CPFORMAT

FUNCTION: TO CONTAIN ADDRESSES OF VARIOUS CCW STRINGS USED BY CPFORMAT TO FORMAT, ALLOCATE, AND LABEL DISKS FOR CP USE.

LOCATED BY:

THE FMABK IS LOCATED AT THE BEGINNING OF EACH CCW MODULE (HCPFAA, HCPFAB, HCPFAC, HCPFAD). WHEN CPFORMAT IS RUN, THESE MODULES RESIDE IN THE USER'S VIRTUAL MACHINE. TO GET THE ADDRESS OF THE FMABK FOR:

(1) 2305 CCW ADDRESSES - A(HCPFAA05)
(2) 3330 CCW ADDRESSES - A(HCPFAB30)
(3) 3340 CCW ADDRESSES - A(HCPFAC40)
(4) 3350 CCW ADDRESSES - A(HCPFAD50)
(5) 3375 CCW ADDRESSES - A(HCPFAG75)
(6) 3380 CCW ADDRESSES - A(HCPFAE80)

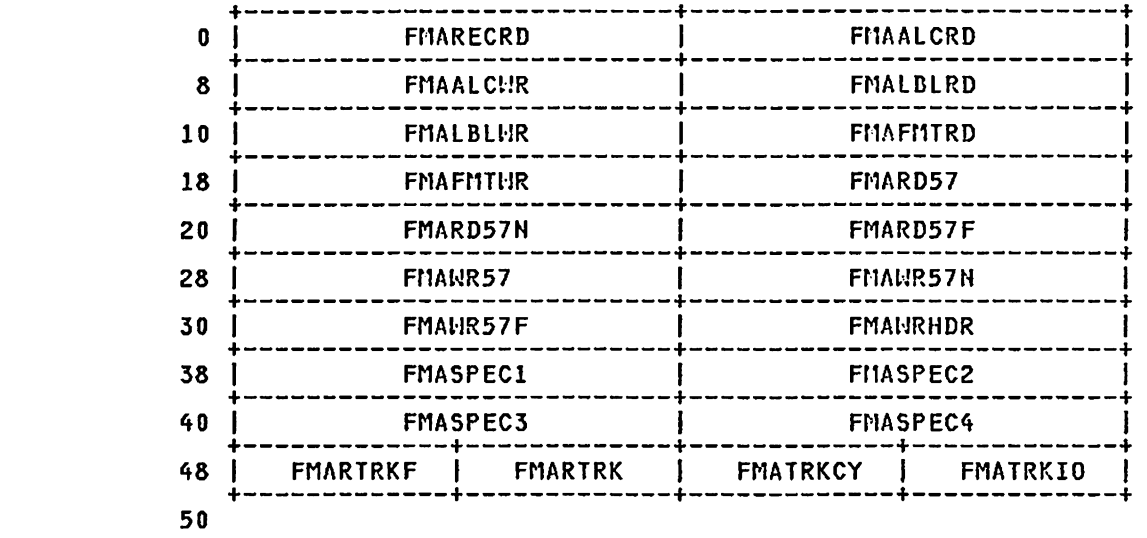
CREATED BY:

HCPLOD - THE ADDRESSES OF THE CCWS ARE FILLED IN BY THE LOADER AT LOAD TIME.

DELETED BY:

HCPRESCP - THIS BLOCK IS DELETED FROM THE USER'S VIRTUAL MACHINE WHEN THE CPFORMAT COMMAND COMPLETES OR IS TERMINATED.

FMABK - CP FORMAT COMMUNICATIONS AREA



disp	name	length	description
000		0D	
000	FMARECRD	004	DATA RECORDS ADDR
004	FMAALCRD	004	ALLOCATE READ CCWS ADDR
008	FMAALCWR	004	BITMAP WRITE CCWS ADDR
00C	FMALBLRD	004	VOL LAB READ CCWS ADDR
010	FMALBLWR	004	VOL LAB WRITE CCWS ADDR
014	FMAFMTRD	004	FORMAT READ CCWS ADDR
018	FMAFMTWR	004	FORMAT WRITE CCWS ADDR
01C	FMARD57	004	FORMAT READ CCWS ADR
020	FMARD57N	004	FORMAT READ CCWS ADR
024	FMARD57F	004	FORMAT READ CCWS ADR

028	FMAWR57	004	FORMAT WRITE CCW ADR
02C	FMAWR57N	004	FORMAT WRITE CCW ADR
030	FMAWR57F	004	FORMAT WRITE CCW ADR
034	FMAWRHDR	004	SPEC HDR WRT CCW ADR
038	FMASPEC1	004	RESERVED FOR FUTURE IBM USE
03C	FMASPEC2	004	RESERVED FOR FUTURE IBM USE
040	FMASPEC3	004	RESERVED FOR FUTURE IBM USE
044	FMASPEC4	004	RESERVED FOR FUTURE IBM USE
048	FMARTRKF	002	REC + FILLER PER TRACK
04A	FMARTRK	002	RECORDS PER TRACK
04C	FMATRKCY	002	TRACKS PER CYLINDER
04E	FMATRKIO	002	TRACKS PER I/O

CROSS REFERENCE

Name	Len	Value/Disp
FMAALCRD	004	004
FMAALCWR	004	008
FMABK	001	000
FMAFMTRD	004	014
FMAFMTWR	004	018
FMALBLRD	004	00C
FMALBLWR	004	010
FMARD57	004	01C
FMARD57F	004	024
FMARD57N	004	020
FMARECRD	004	000
FMARTRK	002	04A
FMARTRKF	002	048
FMASPEC1	004	038
FMASPEC2	004	03C
FMASPEC3	004	040
FMASPEC4	004	044
FMATRKCY	002	04C
FMATRKIO	002	04E
FMAWRHDR	004	034
FMAWR57	004	028
FMAWR57F	004	030
FMAWR57N	004	02C

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HCPFMNUC— CPFORMAT CONTROL BLOCK

DSECT NAME: FMNUC

DESCRIPTIVE NAME: CPFORMAT CONTROL BLOCK

FUNCTION: TO CONTAIN FLAGS AND CONTROL INFORMATION SET UP BY THE CPFORMAT COMMAND. ALSO, ADDRESSES OF CPFORMAT ROUTINES ARE ALSO LOCATED IN THIS CONTROL BLOCK. THIS BLOCK NORMALLY RESIDES IN THE USER'S VIRTUAL STORAGE.

LOCATED BY:

AZPOVLAY - FIELD IN AZPAG STARTING AT VIRTUAL ADDRESS X'A00'.

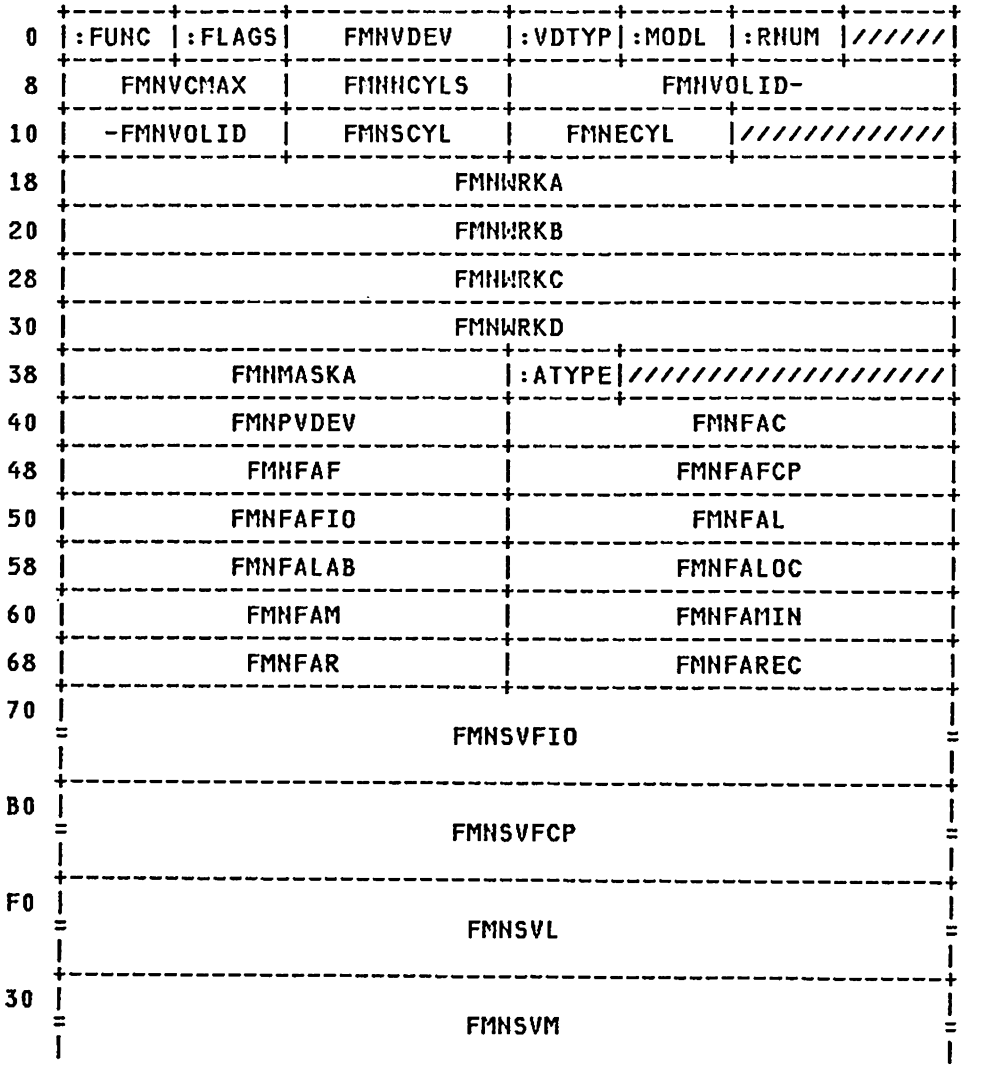
CREATED BY:

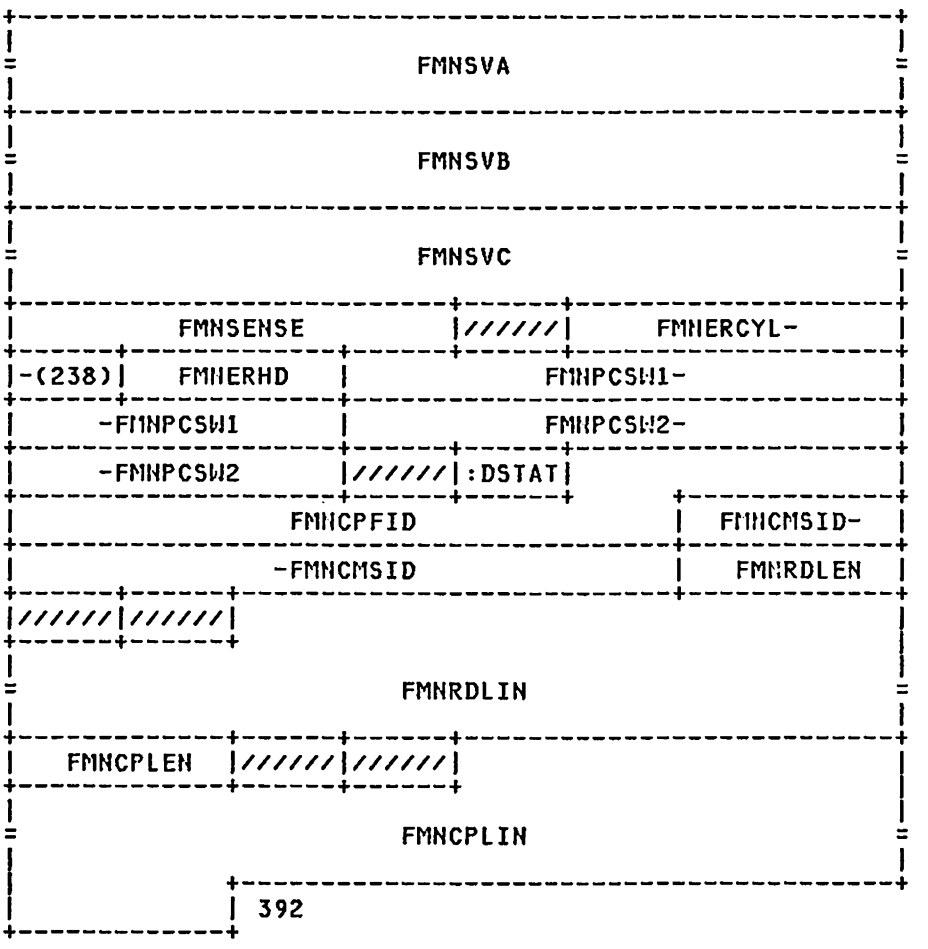
HCPFAN - INITIALIZES ALL OF THE USER'S VIRTUAL PAGE ZERO. THIS CONTROL BLOCK MAPS OUT PAGE ZERO STARTING FROM LOCATION X'A00'.

DELETED BY:

HCPRESCP - THIS BLOCK IS DELETED FROM THE USER'S VIRTUAL MACHINE WHEN THE CPFORMAT COMMAND COMPLETES OR IS TERMINATED.

FMNUC - CP FORMAT NUCLEUS





disp	name	length	description
000	FMNFUNC	001	CPFORMAT PROGRAM FUNCTION INDICATION
	BITS DEFINED IN FMNFUNC (AT HEX DISPLACEMENT: 0)		
	80 FMNFMT		CP VOLUME FORMAT FUNCTION
	40 FMNPASS		CP VOLUME FORMAT PASS NUMBER
	20 FMNALOC		CP VOLUME ALLOCATION FUNCTION
	10 FMNLAB		CP VOLUME LABEL FUNCTION
	08 FMNLABM		CP VOLUME LABEL MATCH REQUIRED
	04 FMNCMS		INDICATES CMS VERSION OF CPFORMAT
			EQU X'02' RESERVED FOR FUTURE IBM USE
			EQU X'01' RESERVED FOR FUTURE IBM USE
001	FMNFLAGS	001	SPECIAL PROCESSING FLAGS
	BITS DEFINED IN FMNFLAGS (AT HEX DISPLACEMENT: 1)		
	01 FMNNOTXA		FMRVLOWN DOESN'T CONTAIN THE 'CPVOL' KEYWORD, WHICH INDICATES THAT CYLINDER 0 HAS NOT BEEN FORMATTED FOR VM/XA CP USE. IT HAS PROBABLY BEEN FORMATTED BY ANOTHER OPERATING SYSTEM, FOR EXAMPLE, VM/SP OR CMS.
002	FMNVDEV	002	VIRTUAL DASD ADDRESS
004	FMNVDTYP	001	VIRTUAL DEVICE TYPE
005	FMNMODL	001	DASD HIGHEST RECORD NUMBER
006	FMNRNUM	001	DASD HIGHEST RECORD NUMBER
007		XL1	RESERVED FOR FUTURE IBM USE
008	FMNVCMAX	002	DASD HIGHEST CYLINDER ADDRESS

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```
00A   FMNNCYLS   002       NUMBER OF CYLINDERS ON DASD
00C   FMNVOLID   006       VOLID OF VIRTUAL DEVICE
012   FMNSCYL    002       STARTING CYLINDER REQUESTED
014   FMNECYL    002       ENDING CYLINDER REQUESTED
016              1H        RESERVED FOR FUTURE IBM USE
018   FMNWRKA    008       DOUBLEWORD WORKAREA
020   FMNWRKB    008       DOUBLEWORD WORKAREA
028   FMNWRKC    008       DOUBLEWORD WORKAREA
030   FMNWRKD    008       DOUBLEWORD WORKAREA
038   FMNMASKA   004       NUMERIC MASK
03C   FMNATYPE   001       CYLINDER ALLOCATION TYPE
03D              XL3'00'   RESERVED FOR FUTURE IBM USE
040   FMNPVDEV   004       PRINTABLE VDEV ADDRESS

                    EQUATES

        41     FMNCMS3V    EBCDIC CMS 3 DIGIT DEVICE ADDRESS

044   FMNFAC     004       FORMAT/ALLOC CCWS & DATA MOD ADDRESS
048   FMNFAF     004       BASE VALUE FOR MODULE HCPFAF
04C   FMNFAFCP   004       CPFORMAT FORMAT ROUTINE
050   FMNFAFIO   004       CPFORMAT DISK I/O ROUTINE
054   FMNFAL     004       BASE ADDRESS FOR MODULE HCPFAL
058   FMNFALAB   004       CPFORMAT LABEL ROUTINE
05C   FMNFALOC   004       CPFORMAT ALLOCATE ROUTINE
060   FMNFAM     004       BASE ADDRESS FOR MODULE HCPFAM
064   FMNFAMIN   004       CPFORMAT COMMAND ROUTER ROUTINE
068   FMNFAR     004       BASE ADDRESS FOR MODULE HCPFAR
06C   FMNFAREC   004       CPFORMAT ALLOCATION DATA RECORD
070   FMNSVFIO   004       HCPFAFIO REGISTER SAVE AREA
0B0   FMNSVFCP   004       HCPFAFCP REGISTER SAVE AREA
0F0   FMNSVL     004       HCPFAL REGISTER SAVE AREA
130   FMNSVM     004       HCPFAM REGISTER SAVE AREA
170   FMNSVA     004       FIRST LEVEL SAVE AREA (FOR SUBRTNS)
1B0   FMNSVB     004       SECOND LEVEL SAVE AREA (FOR SUBRTNS)
1F0   FMNSVC     004       THIRD LEVEL SAVE AREA  (FOR SUBRTNS)
230   FMNSENSE   004       SESNE DATA FROM PERMANENT I/O ERRORS
234              CL1'      WORK CHARACTER FOR SENSE DATA
235   FMNERCYL   004       FAILING CYLINDER NUMBER FOR ERR MSGS
239   FMNERHD    002       FAILING HEAD NUMBER FOR ERR MSGS
23B   FMNPCSW1   008       1ST HALF OF PRINTABLE CSW FOR ERR MSGS
243   FMNPCSW2   008       2ND HALF OF PRINTABLE CSW FOR ERR MSGS
24B              CL1'      WORK CHARACTER FOR CSW
24C   FMNDSTAT   001       I/O ERROR STATUS FLAGS
                           EQU   X'80'     RESERVED FOR FUTURE IBM USE

        BITS DEFINED IN FMNDSTAT (AT HEX DISPLACEMENT: 24C)

        40     FMNNOCH     NO CYLINDER OR HEAD INFORMATION
                           WAS CALCULATED.
        20     FMNCSWST    CSW WAS STORED
        10     FMNPERR     PERMANENT I/O ERROR
        08     FMNDIB      DEVICE IS BUSY
        04     FMNBRL      BAD RECORD LENGTH
        02     FMNUEP      UNIT EXCEPTION
        01     FMNDNA      DEVICE NOT ATTACHED

24D   FMNCPFID   009       CP CPFORMAT PROMPT
256   FMNCMSID   008       CMS CPFORMAT PROMPT
25E   FMNRDLEN   002       LENGTH OF TERMINAL INPUT LINE
260              XL1       RESERVED FOR FUTURE IBM USE
261              CL1'      BLANK USED FOR CLEARING FMNRDLIN
262   FMNRDLIN   150       TERMINAL INPUT LINE
2F8   FMNCPLEN   002       LENGTH OF TERMINAL OUTPUT LINE
2FA              XL1       RESERVED FOR FUTURE IBM USE
2FB              CL1'      BLANK USED FOR CLEARING FMNCPLIN
2FC   FMNCPLIN   150       TERMINAL OUTPUT LINE
```

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CROSS REFERENCE

Name	Len	Value/Disp
FMNALOC	001	020
FMNATYPE	001	03C
FMNBRL	001	004
FMNCMS	001	004
FMNCMSID	008	256
FMNCMS3V	003	041
FMNCPFID	009	24D
FMNCPLEN	002	2F8
FMNCPLIN	150	2FC
FMNCSWST	001	020
FMNDIB	001	008
FMNDNA	001	001
FMNDSTAT	001	24C
FMNECYL	002	014
FMNERCYL	004	235
FMNERHD	002	239
FMNFAC	004	044
FMNFAF	004	048
FMNFAFCP	004	04C
FMNFAFIO	004	050
FMNFAL	004	054
FMNFALAB	004	058
FMNFALOC	004	05C
FMNFAM	004	060
FMNFAMIN	004	064
FMNFAR	004	068
FMNFAREC	004	06C
FMNFLAGS	001	001
FMNFMT	001	080
FMNFUNC	001	000
FMNLAB	001	010
FMNLABM	001	008
FMNMASKA	004	038
FMNMODL	001	005
FMNNCYLS	002	00A
FMNNOCH	001	040
FMNNOTXA	001	001
FMNPASS	001	040
FMNPCSW1	008	23B
FMNPCSW2	008	243
FMNPERR	001	010
FMNPVDEV	004	040
FMNRDLEN	002	25E
FMNRDLIN	150	262
FMNRNUM	001	006
FMNSCYL	002	012
FMNSENSE	004	230
FMNSVA	004	170
FMNSVB	004	1B0
FMNSVC	004	1F0
FMNSVFCP	004	0B0
FMNSVFIO	004	070
FMNSVL	004	0F0
FMNSVM	004	130
FMNUC	001	000
FMNUEP	001	002
FMNVCMAX	002	008
FMNVDEV	002	002
FMNVDTYP	001	004
FMNVOLID	006	00C
FMNWRKA	008	018
FMNWRKB	008	020
FMNWRKC	008	028
FMNWRKD	008	030

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HCPFMREC— CPFORMAT RECORDS

DSECT NAME: FMREC

DESCRIPTIVE NAME: CPFORMAT RECORDS

FUNCTION: TO CONTAIN ALL RECORDS WHICH CPFORMAT WRITES TO DISK. ALSO, CCW SEEK DATA IS LOCATED IN THIS CONTROL BLOCK.

LOCATED BY:

FMARECRD - FIELD IN THE FMABK - CONTAINS THE ADDRESS OF WHERE THE DATA RECORDS START.

CREATED BY:

HCPFAA - CONTAINS THE DATA RECORDS NEEDED FOR A 2305 DRUM. THIS CONTROL BLOCK MAPS OUT THE MODULE STARTING WITH THE 'FMR05' FIELD. THE RECORDS RESIDE IN THE USER'S VIRTUAL STORAGE WHEN THEY ARE USED.

HCPFAB - CONTAINS THE DATA RECORDS NEEDED FOR A 3330 DISK. THIS CONTROL BLOCK MAPS OUT THE MODULE STARTING WITH THE 'FMR30' FIELD. THE RECORDS RESIDE IN THE USER'S VIRTUAL STORAGE WHEN THEY ARE USED.

HCPFAC - CONTAINS THE DATA RECORDS NEEDED FOR A 3340 DISK. THIS CONTROL BLOCK MAPS OUT THE MODULE STARTING WITH THE 'FMR40' FIELD. THE RECORDS RESIDE IN THE USER'S VIRTUAL STORAGE WHEN THEY ARE USED.

HCPFAD - CONTAINS THE DATA RECORDS NEEDED FOR A 3350 DISK. THIS CONTROL BLOCK MAPS OUT THE MODULE STARTING WITH THE 'FMR50' FIELD. THE RECORDS RESIDE IN THE USER'S VIRTUAL STORAGE WHEN THEY ARE USED.

HCPFAE - CONTAINS THE DATA RECORDS NEEDED FOR A 3350 DISK WHEN ATTACHED TO A

BLK HCPBLK (CP) VM/XA - SYSTEM PRODUCT 5664-308

DELETED BY:

HCPRESCP - THIS BLOCK IS DELETED FROM THE USER'S VIRTUAL MACHINE WHEN THE CPFORMAT COMMAND COMPLETES OR IS TERMINATED.

FMREC - CP FORMAT DATA RECORDS

0	FMREC1	//////////	//////	//////	//////////
8	FMRECX1	//////////	//////	//////	//////////
10	FMREC2	//////////	//////	//////	//////////
18	FMRECX2	//////////	//////	//////	//////////
20	FMREC3	//////////	//////	//////	//////////
28	FMRECX3	//////////	//////	//////	//////////
30	FMREC4	//////////	//////	//////	//////////
38	FMRECX4	//////////	//////	//////	//////////
40	FMREC5	//////////	//////	//////	//////////
48	FMRECX5	//////////	//////	//////	//////////

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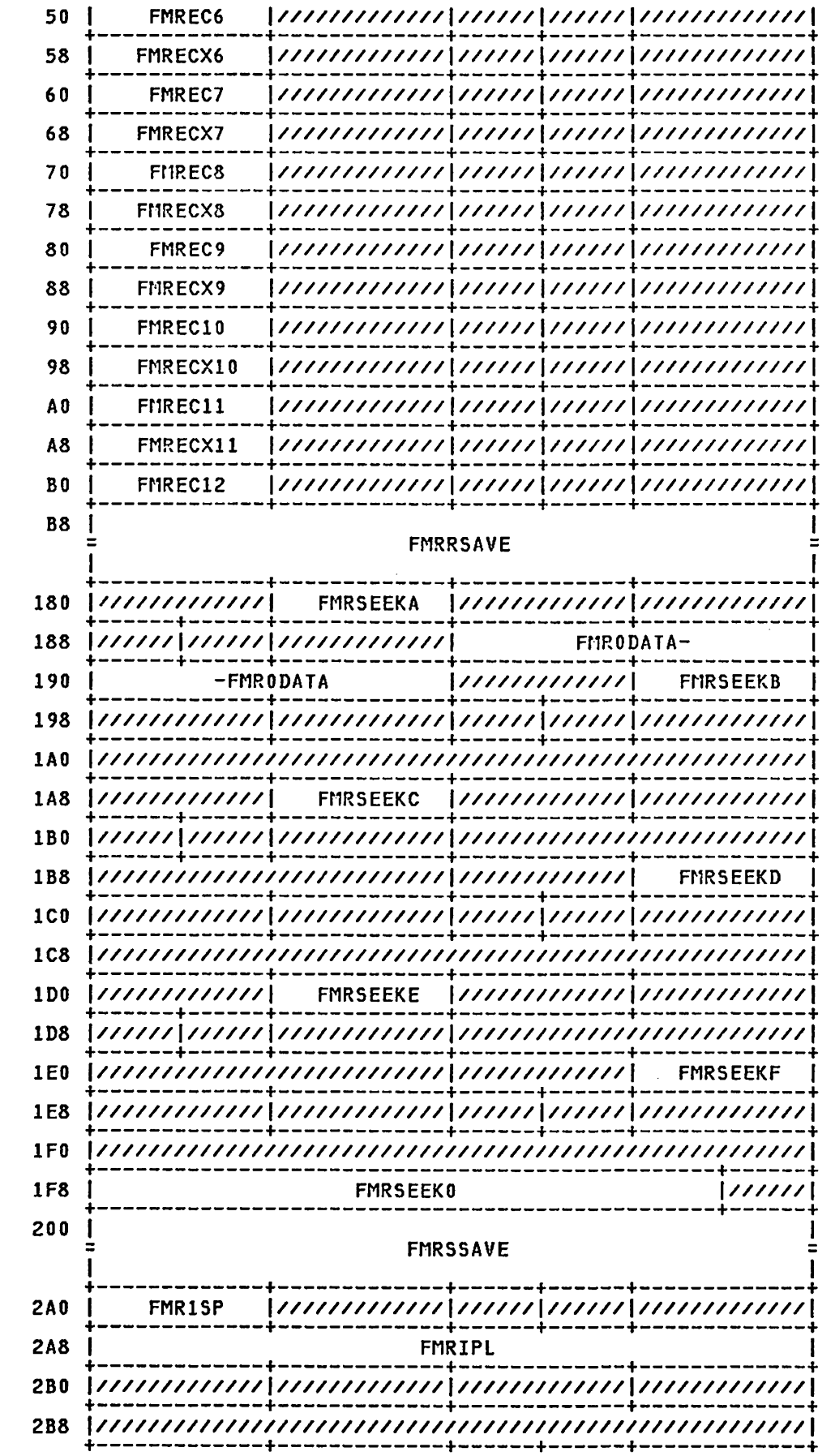

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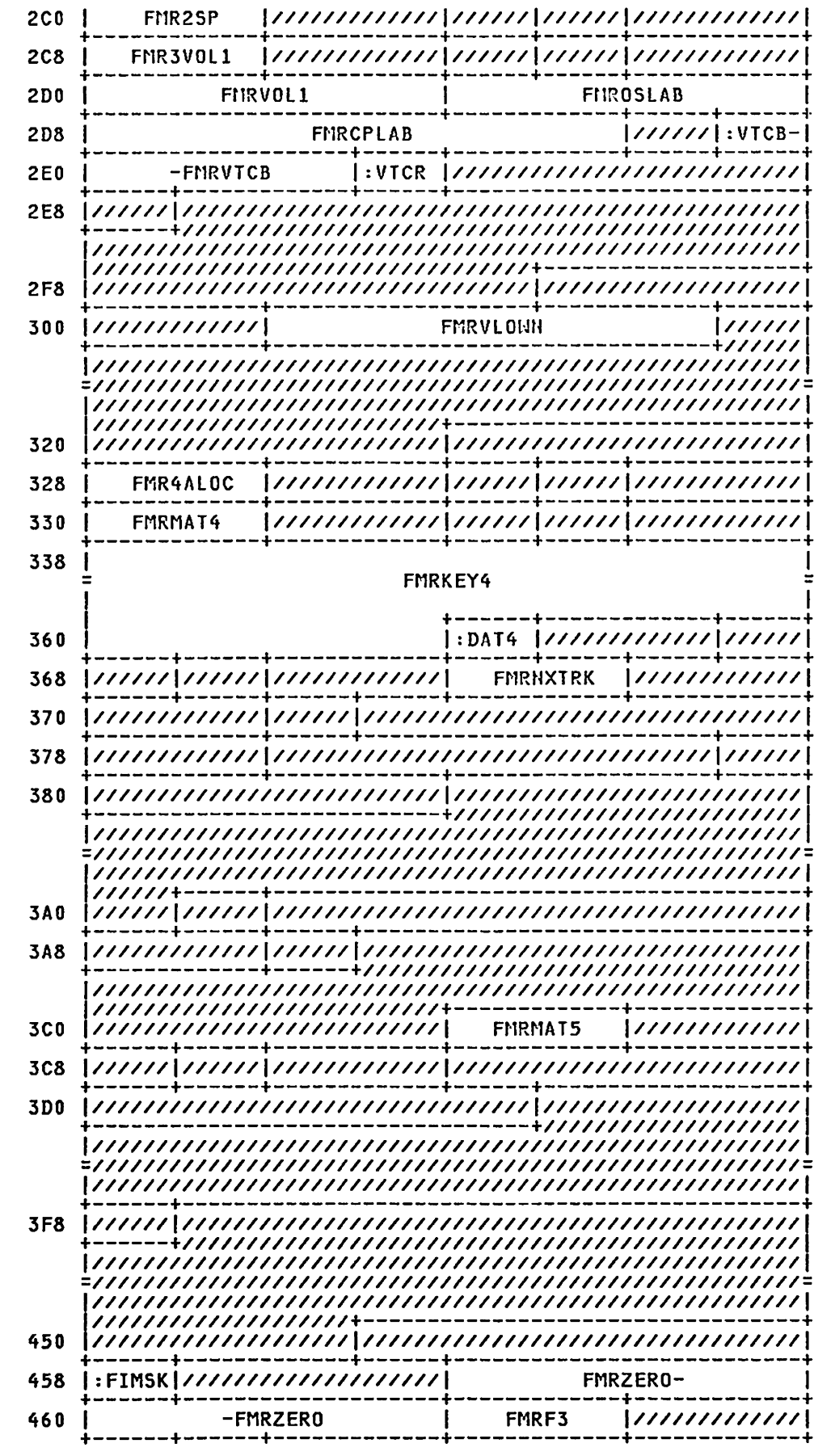
2C0 FMR2SP
2C8 FMR3VOL1
2D0 FMRVOL1
FMROSLAB
2D8 FMRCPLAB
:VTCB-
2E0 -FMRVTCB
:VTCR
2F8
300 FMRVLOWN
320
328 FMR4ALOC
330 FMRMAT4
338 FMRKEY4
360 :DAT4
368 FMRNXTRK
370
378
380
3A0
3A8
3C0 FMRMAT5
3C8
3D0
3F8
450
458 :FIMSK
FMRZERO-
460 -FMRZERO
FMRF3

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```
 468 |//////|//////|//////////////| 46C
     +------+------+--------------+
```

disp	name	length	description
000		0D	ALIGN ON A DOUBLEWORD BNDRY
000	FMREC1	002	CYLINDER NUMBER
002		XL2	TRACK NUMBER
004		XL1	RECORD NUMBER
005		XL1	KEY LENGTH
006		XL2	DATA LENGTH (4K RECORD)
008	FMRECX1	002	CYLINDER NUMBER
00A		XL2	TRACK NUMBER
00C		XL1	RECORD NUMBER
00D		XL1	KEY LENGTH
00E		XL2	DATA LENGTH (50 BYTE FILLER)
010	FMREC2	002	CYLINDER NUMBER
012		XL2	TRACK NUMBER
014		XL1	RECORD NUMBER
015		XL1	KEY LENGTH
016		XL2	DATA LENGTH (4K RECORD)
018	FMRECX2	002	CYLINDER NUMBER
01A		XL2	TRACK NUMBER
01C		XL1	RECORD NUMBER
01D		XL1	KEY LENGTH
01E		XL2	DATA LENGTH (50 BYTE FILLER)
020	FMREC3	002	CYLINDER NUMBER
022		XL2	TRACK NUMBER
024		XL1	RECORD NUMBER
025		XL1	KEY LENGTH
026		XL2	DATA LENGTH (4K RECORD)
028	FMRECX3	002	CYLINDER NUMBER
02A		XL2	TRACK NUMBER
02C		XL1	RECORD NUMBER
02D		XL1	KEY LENGTH
02E		XL2	DATA LENGTH (50 BYTE FILLER)
030	FMREC4	002	CYLINDER NUMBER
032		XL2	TRACK NUMBER
034		XL1	RECORD NUMBER
035		XL1	KEY LENGTH
036		XL2	DATA LENGTH (4K RECORD)
038	FMRECX4	002	CYLINDER NUMBER
03A		XL2	TRACK NUMBER
03C		XL1	RECORD NUMBER
03D		XL1	KEY LENGTH
03E		XL2	DATA LENGTH (50 BYTE FILLER)
040	FMREC5	002	CYLINDER NUMBER
042		XL2	TRACK NUMBER
044		XL1	RECORD NUMBER
045		XL1	KEY LENGTH
046		XL2	DATA LENGTH (4K RECORD)
048	FMRECX5	002	CYLINDER NUMBER
04A		XL2	TRACK NUMBER
04C		XL1	RECORD NUMBER
04D		XL1	KEY LENGTH
04E		XL2	DATA LENGTH (50 BYTE FILLER)
050	FMREC6	002	CYLINDER NUMBER
052		XL2	TRACK NUMBER
054		XL1	RECORD NUMBER
055		XL1	KEY LENGTH
056		XL2	DATA LENGTH (4K RECORD)
058	FMRECX6	002	CYLINDER NUMBER
05A		XL2	TRACK NUMBER
05C		XL1	RECORD NUMBER
05D		XL1	KEY LENGTH
05E		XL2	DATA LENGTH (50 BYTE FILLER)
060	FMREC7	002	CYLINDER NUMBER
062		XL2	TRACK NUMBER
064		XL1	RECORD NUMBER
065		XL1	KEY LENGTH
066		XL2	DATA LENGTH (4K RECORD)

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068    FMRECX7     002       CYLINDER NUMBER
06A                XL2       TRACK NUMBER
06C                XL1       RECORD NUMBER
06D                XL1       KEY LENGTH
06E                XL2       DATA LENGTH (50 BYTE FILLER)
070    FMREC8      002       CYLINDER NUMBER
072                XL2       TRACK NUMBER
074                XL1       RECORD NUMBER
075                XL1       KEY LENGTH
076                XL2       DATA LENGTH (4K RECORD)
078    FMRECX8     002       CYLINDER NUMBER
07A                XL2       TRACK NUMBER
07C                XL1       RECORD NUMBER
07D                XL1       KEY LENGTH
07E                XL2       DATA LENGTH (50 BYTE FILLER)
080    FMREC9      002       CYLINDER NUMBER
082                XL2       TRACK NUMBER
084                XL1       RECORD NUMBER
085                XL1       KEY LENGTH
086                XL2       DATA LENGTH (4K RECORD)
088    FMRECX9     002       CYLINDER NUMBER
08A                XL2       TRACK NUMBER
08C                XL1       RECORD NUMBER
08D                XL1       KEY LENGTH
08E                XL2       DATA LENGTH (50 BYTE FILLER)
090    FMREC10     002       CYLINDER NUMBER
092                XL2       TRACK NUMBER
094                XL1       RECORD NUMBER
095                XL1       KEY LENGTH
096                XL2       DATA LENGTH (4K RECORD)
098    FMRECX10    002       CYLINDER NUMBER
09A                XL2       TRACK NUMBER
09C                XL1       RECORD NUMBER
09D                XL1       KEY LENGTH
09E                XL2       DATA LENGTH (50 BYTE FILLER)
0A0    FMREC11     002       CYLINDER NUMBER
0A2                XL2       TRACK NUMBER
0A4                XL1       RECORD NUMBER
0A5                XL1       KEY LENGTH
0A6                XL2       DATA LENGTH (4K RECORD)
0A8    FMRECX11    002       CYLINDER NUMBER
0AA                XL2       TRACK NUMBER
0AC                XL1       RECORD NUMBER
0AD                XL1       KEY LENGTH
0AE                XL2       DATA LENGTH (50 BYTE FILLER)
0B0    FMREC12     002       CYLINDER NUMBER
0B2                XL2       TRACK NUMBER
0B4                XL1       RECORD NUMBER
0B5                XL1       KEY LENGTH
0B6                XL2       DATA LENGTH (4K RECORD)
```

EQUATES

```
       B8    FMRBYT1     NUMBER OF BYTES IN ALL RECORD
       17    FMRNRECS    NUMBER OF RECORDS

0B8    FMRRSAVE    004       RECORD SAVEAREA
180                1H        RESERVED FOR ALIGNMENT
182    FMRSEEKA    002       BIN NUMBER (ALWAYS 0)
184                XL2       CYLINDER NUMBER
186                XL2       TRACK NUMBER
188                XL1       RECORD NUMBER
189                XL1       KEY LENGTH
18A                XL2       DATA LENGTH
18C    FMR0DATA    004       DATA FIELD OF RECORD 0
                             CYLINDER 0 BIT MAP
194                1H        RESERVED FOR ALIGNMENT
196    FMRSEEKB    002       BIN NUMBER (ALWAYS 0)
198                XL2       CYLINDER NUMBER
19A                XL2       TRACK NUMBER
19C                XL1       RECORD NUMBER
19D                XL1       KEY LENGTH
19E                XL2       DATA LENGTH
1A0                2F        DATA FIELD
```

```
1A8                 1H          RESERVED FOR ALIGNMENT
1AA     FMRSEEKC    002         BIN NUMBER (ALWAYS 0)
1AC                 XL2         CYLINDER NUMBER
1AE                 XL2         TRACK NUMBER
1B0                 XL1         RECORD NUMBER
1B1                 XL1         KEY LENGTH
1B2                 XL2         DATA LENGTH
1B4                 2F          DATA FIELD
1BC                 1H          RESERVED FOR ALIGNMENT
1BE     FMRSEEKD    002         BIN NUMBER (ALWAYS 0)
1C0                 XL2         CYLINDER NUMBER
1C2                 XL2         TRACK NUMBER
1C4                 XL1         RECORD NUMBER
1C5                 XL1         KEY LENGTH
1C6                 XL2         DATA LENGTH
1C8                 2F          DATA FIELD
1D0                 1H          RESERVED FOR ALIGNMENT
1D2     FMRSEEKE    002         BIN NUMBER (ALWAYS 0)
1D4                 XL2         CYLINDER NUMBER
1D6                 XL2         TRACK NUMBER
1D8                 XL1         RECORD NUMBER
1D9                 XL1         KEY LENGTH
1DA                 XL2         DATA LENGTH
1DC                 2F          DATA FIELD
1E4                 1H          RESERVED FOR ALIGNMENT
1E6     FMRSEEKF    002         BIN NUMBER (ALWAYS 0)
1E8                 XL2         CYLINDER NUMBER
1EA                 XL2         TRACK NUMBER
1EC                 XL1         RECORD NUMBER
1ED                 XL1         KEY LENGTH
1EE                 XL2         DATA LENGTH
1F0                 2F          DATA FIELD
1F8     FMRSEEK0    007
1FF                 XL1         RESERVED FOR FUTURE IBM USE

                      EQUATES

       7E     FMRBYT2          NR. OF BYTES IN SEEK FIELDS

200     FMRSSAVE    004         SEEK FIELD SAVEAREA
2A0     FMR1SP      002         CYLINDER NUMBER (0)
2A2                 XL2         TRACK NUMBER (0)
2A4                 XL1         RECORD NUMBER (1)
2A5                 XL1         KEY LENGTH
2A6                 XL2         DATA LENGTH
2A8     FMRIPL      008         WAIT PSW
2B0                 XL2
2B2                 H
2B4                 XL2
2B6                 H
2B8                 2F
2C0     FMR2SP      002         CYLINDER NUMBER (0)
2C2                 XL2         TRACK NUMBER (0)
2C4                 XL1         RECORD NUMBER (2)
2C5                 XL1         KEY LENGTH
2C6                 XL2         KEY/DATA LEN(KL DL DL)
2C8     FMR3VOL1    002         CYLINDER NUMBER (0)
2CA                 XL2         TRACK NUMBER (0)
2CC                 XL1         RECORD NUMBER (3)
2CD                 XL1         KEY LENGTH (4) (KEY=FMRVOL1)
2CE                 XL2         DATA LENGTH (80 BYTE RECORD)
2D0     FMRVOL1     004         RECORD KEY
2D4     FMROSLAB    004         OS LABEL
2D8     FMRCPLAB    006         CP LABEL (ALSO KNOWN AS THE VOLID,
                                OR VOLUME IDENTIFIER)
2DE                 XL1         CHARACTER ZERO
2DF     FMRVTCB     004         VTOC PTR IN R3 (CCHH)
2E3     FMRVTCR     001         ... (R)
2E4                 XL5         ZEROS
2E9                 20XL1       BLANKS
2FD                 XL5         FILLER
302     FMRVLOWN    005         VOLUME OWNER - THIS FIELD WILL
                                CONTAIN THE CHARACTERS 'CPVOL'
                                IF CYLINDER ZERO BEEN FORMATTED
```

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```
                          FOR VM/XA CP USE.
307                 29XL1 BLANKS
324                 F     RESERVED FOR FUTURE IBM USE
328   FMR4ALOC      002   CYLINDER NUMBER
32A                 XL2   TRACK NUMBER
32C                 XL1   RECORD NUMBER
32D                 XL1   KEY LENGTH
32E                 XL2   DATA LENGTH OF ALLOCATION RECORD:
                          1K FOR 2305, 3330, 3340, 3350, 3375
                          4K FOR 3380
                          DISK ALLOCATION RECORD DATA                    *
330   FMRMAT4       002   CYLINDER NUMBER (0)
332                 XL2   TRACK NUMBER (0)
334                 XL1   RECORD NUMBER (5)
335                 XL1   KEY LENGTH (44) (KEY IS FMRKEY4)
336                 XL2   DATA LENGTH (96 BYTES)
                          DISK OS FORMAT 4 RECORD                        *
                          KEY
338   FMRKEY4       001   KEY OF HEX 04
                          DATA
364   FMRDAT4       001   FMT4 DSCB IDENTIFIER
365                 XL2   CYLINDER NUMBER (0)
367                 XL2   TRACK NUMBER (0)
369                 XL1   RECORD NUMBER (0)
36A                 XL2
36C   FMRNXTRK      002   NEXT AVAILABLE CYLINDER AND
36E                 XL2   NEXT AVAILABLE TRACK
370                 XL2
372                 XL1   VTOC INDICATORS
373                 XL7
37A                 XL5
37F                 XL5
384                 XL29
3A1                 XL1   TRACK ZERO
3A2                 XL8
3AA                 XL1   TRACK ZERO
3AB                 XL25
3C4   FMRMAT5       002   CYLINDER NUMBER (0)
3C6                 XL2   TRACK NUMBER (0)
3C8                 XL1   RECORD NUMBER (6)
3C9                 XL1   KEY LENGTH (44)
3CA                 XL2   DATA LENGTH (96 BYTES)
                          DISK OS FORMAT 5 RECORD                        *
                          KEY
3CC                 4XL1  KEY OF HEX 05
3D0                 XL5   TRACK ZERO NO CYLINDERS NO TRAC
3D5                 XL35  ZEROES
                          DATA
3F8                 XL1   CHARACTER 5
3F9                 XL90  ZEROES
453                 XL5   ZEROES
458   FMRFIMSK      001   FILE MASK
459                 XL3   RESERVED FOR FUTURE IBM USE
45C   FMRZERO       008   ZERO DATA ADDRESS
464   FMRF3         002   CYLINDER NUMBER (0)
466                 XL2   TRACK NUMBER (1)
468                 XL1   RECORD NUMBER
469                 XL1   KEY LENGTH
46A                 XL2   DATA LENGTH
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
FMRBYT1	001	0B8	FMRBYT2	001	07E	FMRCPLAB	006	2D8

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Name	Len	Value/Disp
FMRDAT4	001	364
FMREC	001	000
FMRECX1	002	008
FMRECX10	002	098
FMRECX11	002	0A8
FMRECX2	002	018
FMRECX3	002	028
FMRECX4	002	038
FMRECX5	002	048
FMRECX6	002	058
FMRECX7	002	068
FMRECX8	002	078
FMRECX9	002	088
FMREC1	002	000
FMREC10	002	090
FMREC11	002	0A0
FMREC12	002	0B0
FMREC2	002	010
FMREC3	002	020
FMREC4	002	030
FMREC5	002	040
FMREC6	002	050
FMREC7	002	060
FMREC8	002	070
FMREC9	002	080
FMRFIMSK	001	458
FMRF3	002	464
FMRIPL	008	2A8
FMRKEY4	001	338
FMRMAT4	002	330
FMRMAT5	002	3C4
FMRNRECS	001	017
FMRNXTRK	002	36C
FMROSLAB	004	2D4
FMRRSAVE	004	0B8
FMRSEEKA	002	182
FMRSEEKB	002	196
FMRSEEKC	002	1AA
FMRSEEKD	002	1BE
FMRSEEKE	002	1D2
FMRSEEKF	002	1E6
FMRSEEK0	007	1F8
FMRSSAVE	004	200
FMRVLOWN	005	302
FMRVOL1	004	2D0
FMRVTCB	004	2DF
FMRVTCR	001	2E3
FMRZERO	008	45C
FMR0DATA	004	18C
FMR1SP	002	2A0
FMR2SP	002	2C0
FMR3VOL1	002	2C8
FMR4ALOC	002	328

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HCPFORMS— SYSTEM SPOOL OUTPUT FORMS TABLE

DSECT NAME: FORMS

DESCRIPTIVE NAME: SYSTEM SPOOL OUTPUT FORMS TABLE

FUNCTION: THE TABLE WHICH CONTAINS THE DEFAULT FORMS FOR EACH SPOOL DEVICE TYPE. IT ALSO CONTAINS A LIST OF FORM NAMES AND FORM NUMBERS WHICH ARE EQUIVALENT.

LOCATED BY:

SYSFORMT FIELD IN HCPSYSCM POINTS TO THIS BLOCK

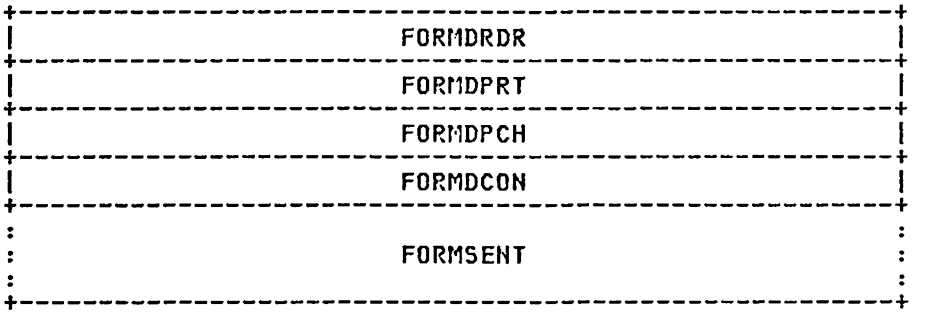
CREATED BY:

SYSFORM MACRO

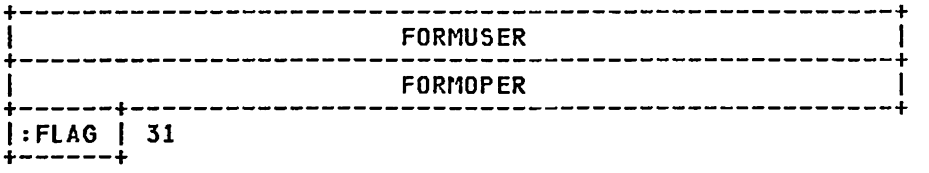
DELETED BY:

NOT DELETED

FORMS - SYSTEM SPOOL OUTPUT FORMS TABLE



REDEFINITION - FORM SYNONYM TABLE ENTRY



REDEFINITION - END OF FORMS TABLE

disp	name	length	description
000	FORMDRDR	008	DEFAULT READER FORM
008	FORMDPRT	008	DEFAULT PRINTER FORM
010	FORMDPCH	008	DEFAULT CONSOLE FORM
018	FORMDCON	008	DEFAULT CONSOLE FORM
020	FORMSENT	001	START OF VARIABLE LENGTH DATA
	REDEFINITION - FORM SYNONYM TABLE ENTRY		
020	FORMUSER	008	USER FORM NAME
028	FORMOPER	008	EQUIVALENT OPERATOR FORM NUMBER
030	FORMFLAG	001	FLAG BYTE

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```
        BITS DEFINED IN FORMFLAG (AT HEX DISPLACEMENT: 30)

        80     FORMNARR     ON IF NARROW FORM
        11     FORMENTL     SIZE OF ONE SYNONYM TABLE ENTRY
        FF     FORMSEND     END OF FORMS TABLE FENCE


         REDEFINITION - END OF FORMS TABLE

020   FORMEOT    001       LOCATION OF END OF TABLE MARKER
```

CROSS REFERENCE

Name	Len	Value/Disp
FORMDCON	008	018
FORMDPCH	008	010
FORMDPRT	008	008
FORMDRDR	008	000
FORMENTL	001	011
FORMEOT	001	020
FORMFLAG	001	030
FORMNARR	001	080
FORMOPER	008	028
FORMS	001	000
FORMSEND	001	0FF
FORMSENT	001	020
FORMUSER	008	020

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HCPFREBK— FREE STORAGE BLOCK

DSECT NAME: FREBK

DESCRIPTIVE NAME: FREE STORAGE BLOCK

FUNCTION: MAPS A FREE STORAGE BLOCK HEADER AND TRAILER FOR BOTH ACTIVE AND INACTIVE FREE STORAGE BLOCKS.

LOCATED BY:

HCPFREE OR HCPFREVM WHEN A BLOCK IS REQUESTED. THIS BLOCK IS NEVER ALLOCATED AS A SEPARATE BLOCK.

FREBK - FREE STORAGE BLOCK

	FRESTRT

REDEFINITION - ACTIVE FREE STORAGE BLK HEADER

0	FREHEADR
8	

REDEFINITION - ACTIVE FREE STORAGE BLK HEADER

0	FRETRALR
10	

REDEFINITION - ACTIVE FREE STORAGE BLK HEADER

0	FREESIZE	FREESFLG
8		

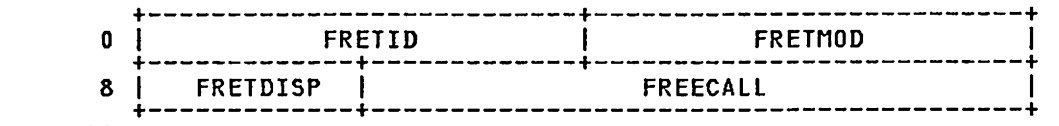
REDEFINITION - ACTIVE FREE STORAGE BLOCK TRAILER

0	FREEID	FREEEFLG
8	FREEDISP	FREEMOD
10		

REDEFINITION - INACTIVE FREE STORAGE BLK HEADER

0	FREEPNT	FRETSIZE
8		

REDEFINITION - INACTIVE FREE STORAGE BLK TRAILER



disp	name	length	description
000	FRESTRT	008	START OF VARIABLE LENGTH DATA
	REDEFINITION - ACTIVE FREE STORAGE BLK HEADER		
000	FREHEADR	008	FREE STORAGE BLOCK HEADER
	EQUATES		
08	FREHEADL		LENGTH OF HEADER IN BYTES
	REDEFINITION - ACTIVE FREE STORAGE BLK HEADER		
000	FRETRALR	008	FREE STORAGE BLOCK TRAILER
	EQUATES		
10	FRETRALL		LENGTH OF TRAILER IN BYTES
03	FRERECL		SIZE IN DOUBLE WORDS
	REDEFINITION - ACTIVE FREE STORAGE BLK HEADER		
000	FREESIZE	004	
004	FREESFLG	004	ALLOCATED BLOCK CHARACTER STRING
	REDEFINITION - ACTIVE FREE STORAGE BLOCK TRAILER		
000	FREEID	004	CONTROL BLOCK'S IDENTIFIER (THE FIRST CHARACTER IS '<', AND THE ID FOR UNDEFINED BLOCKS IS '<<<<')
004	FREEEFLG	004	CHARACTER STRING '<<<<'
008	FREEDISP	004	REQUEST'S OFFSET IN CALLING MODULE (1ST HALF WORD = X'00 00')
00C	FREEMOD	004	MODULE ID OF CALLING MODULE THE FIRST BYTE'S ALWAYS SET TO 0
	REDEFINITION - INACTIVE FREE STORAGE BLK HEADER		
000	FREEPNT	004	PNTR TO NEXT BLOCK IN FREE STORAGE
004	FRETSIZE	004	SIZE OF BLOCK IN DW'S OR THE SIZE IN BYTES FOR A LARGER THAN SUBPOOL SIZE BLOCK THAT IS ON THE FREE STORAGE CHAIN
	REDEFINITION - INACTIVE FREE STORAGE BLK TRAILER		
000	FRETID	004	CONTROL BLOCK'S IDENTIFIER (THE FIRST CHARACTER IS '<', AND THE ID FOR UNDEFINED BLOCKS IS '<<<<') THIS FIELD IS PRESERVED FROM THE HCPFREE CALL WHICH ORIGINALLY OBTAINED THIS CONTROL BLOCK
004	FRETMOD	004	MODID OF HCPFRET CALLER THE FIRST BYTE'S ALWAYS SET TO 0
008	FRETDISP	002	DISPL INTO MODID OF HCPFRET CALL
00A	FREECALL	001	LOW-ORDER 2 BYTES OF "FREEDISP" AND "FREEMOD PRESERVED FROM THE

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HCPFREE CALL WHICH ORIGINALLY
OBTAINED THIS CONTROL BLOCK

CROSS REFERENCE

Name	Len	Value/Disp
FREBK	001	000
FREECALL	001	00A
FREEDISP	004	008
FREEEFLG	004	004
FREEID	004	000
FREEMOD	004	00C
FREEPNT	004	000
FREESFLG	004	004
FREESIZE	004	000
FREHEADL	001	008
FREHEADR	008	000
FRERECL	001	003
FRESTRT	008	000
FRETDISP	002	008
FRETID	004	000
FRETMOD	004	004
FRETRALL	001	010
FRETRALR	008	000
FRETSIZE	004	004

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HCPFRMTE— FRAME TABLE ENTRY

DSECT NAME: FRMTE

DESCRIPTIVE NAME: FRAME TABLE ENTRY

FUNCTION: A FRAME TABLE ENTRY DESCRIBES ONE 4K ALIGNED BLOCK OF REAL STORAGE.

LOCATED BY:

```
PFXFTBL + (REAL FRAME ADDRESS / 4096
SYSFTBL + (REAL FRAME ADDRESS / 4096
VMDFR1ST  USER OWNED FRAME FORWARD ANCHOR
VMDFRLST  USER OWNED FRAME BACKWARD ANCHOR
FRMFPNT   FIELD OF HCPFRMTE FOR CHAINED FRAMES
FRMBPNT   FIELD OF HCPFRMTE FOR CHAINED FRAMES
FRMFRNXT  FREE STORAGE FRMTE FORWARD POINTER
```

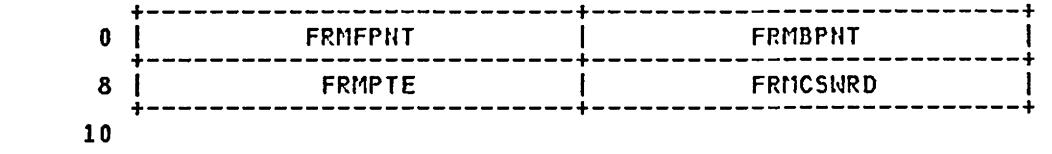
CREATED BY:

```
HCPIST    ENTRIES INITIALIZED AT STORAGE INIT
```

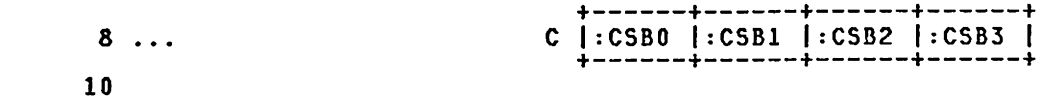
DELETED BY:

```
     NONE
```

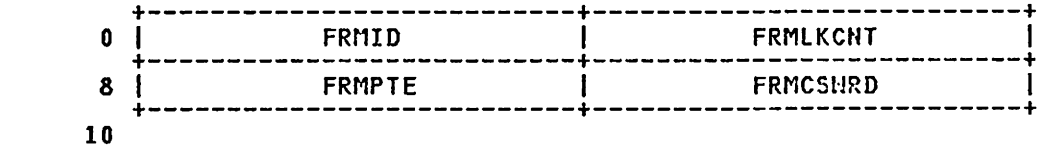
FRMTE - FRAME TABLE ENTRY



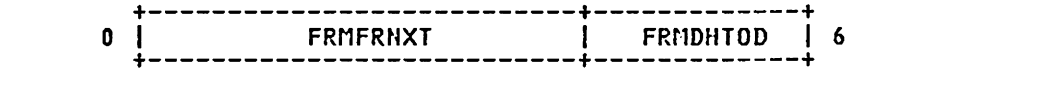
REDEFINITION - FRAME STATUS



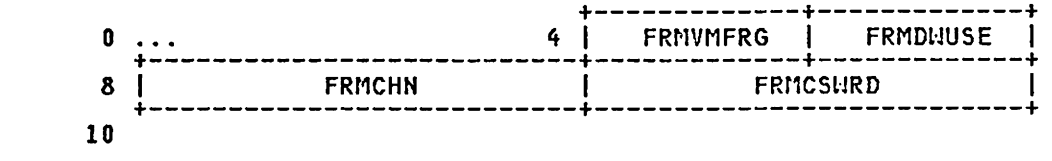
REDEFINITION - REDEFINITION FOR UNCHAINED FRAMES



REDEFINITION - REDEFINITION FOR FREE FRAMES



REDEFINITION -



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disp	name	length	description
000	FRMORGIN	004	FRAME TABLE ENTRY ORIGIN
000	FRMFPNT	004	CHAINED FRAME FORWARD POINTER
004	FRMBPNT	004	CHAINED FRAME BACKWARD POINTER
008	FRMPTE	004	POINTER TO PAGE TABLE ENTRY. THE PTE ADDRESS IS THE SAME AS THE VPGTE ADDRESS FOR THE 4K BLOCK OF VIRTUAL STORAGE, BUT THE VPGTE IS A MORE CONVENIENT MAPPING.
00C	FRMCSWRD	004	FRAME STATUS BITS AND FLAGS. ALL BITS ARE CONTAINED IN A SINGLE FULLWORD SO THAT COMPARE AND SWAP CAN BE USED TO SERIALIZE FRAME STATE CHANGES. THE FRAME STATE LOCKING CONVENTIONS ARE DEFINED WITHIN THE ALGORITHMS OF THE RSM MODULES THAT MANIPULATE FRAME TABLE ENTRIES. NOTE THAT IT IS PERMISSIBLE TO ALTER A BIT WITHIN THE FRMCSWRD WITHOUT DOING A CS IF THE STATE OF THE FRAME IS 'OWNED' (VIA A PREVIOUS CS).

EQUATES

10	FRMLENTH	LENGTH OF FRAME TABLE ENTRY

010	FRMNEXT	004	NEXT SEQUENTIAL ENTRY

REDEFINITION - FRAME STATUS

00C	FRMCSB0	001	COMPARE AND SWAP WORD BYTE 0. COMPARE AND SWAP NOT NECESSARILY REQUIRED TO ALTER THESE BITS. THESE CODES ARE PRIMARILY STATIC FRAME USE CODES

CODES DEFINED IN FRMCSB0 (AT HEX DISPLACEMENT: C)

10	FRMOFFLN	FRAME IS OFF-LINE AND UNAVAILABLE
40	FRMVR	VIRTUAL = REAL USER FRAME
63	FRMFRVR	FRAME IN USE FOR V=R FREE STORAGE
65	FRMFRVM	FRAME USED FOR USER VMDBK FREE
67	FRMFRSY	FRAME USED FOR SYSTEM FREE

00D	FRMCSB1	001	COMPARE AND SWAP WORD BYTE 1. COMPARE AND SWAP NOT NECESSARILY REQUIRED TO ALTER THESE BITS. THESE BITS ARE PRIMARILY STATIC FRAME FLAG BITS

BITS DEFINED IN FRMCSB1 (AT HEX DISPLACEMENT: D)

80	FRMLOCKD	FRAME IS LOCKED IN REAL STORAGE (FRMLCNT IS GREATER THAN ZERO)
40	FRMCPLOK	FRAME LOCKED BY CP LOCK COMMAND (FRAME IS PART OF CP NUCLEUS)
20	FRMOWNED	FRAME IS ON A USER OWNED LIST
10	FRMSHARE	FRAME IS SHARED STORAGE FRAME
08	FRMRONLY	FRAME IS A READ ONLY FRAME
04	FRMRCP	FRAME IS USED FOR USER RCP BYTES
02	FRMXTNDQ	FRAME NOT CURRENTLY ON FREE STORAGE LIST
01	FRMERROR	FRAME IS IN ERROR (STORAGE CHECK)

00E	FRMCSB2	001	COMPARE AND SWAP WORD BYTE 2. COMPARE AND SWAP NOT NECESSARILY

```
                        REQUIRED TO ALTER THESE BITS.

                        THESE BITS DENOTE DYNAMIC FRAME STATES


        BITS DEFINED IN FRMCSB2  (AT HEX DISPLACEMENT: E)

        20     FRMRFRSH     FRAME DATA INVALID, REFRESH
        10     FRMNOOWN     FRAME IS LOCKED BUT HAS NO OWNER.
                            UNLOCK SHOULD RETURN IT TO THE
                            AVAILABLE LIST WHEN THE LOCK
                            COUNT GOES TO ZERO.
        08     FRMNOGIV     FRAME IS BEING MANIPULATED
                            (FOR EXAMPLE BY DUMP/DISPLAY) AND
                            MUST NOT BE GIVEN OUT TO ANYONE
                            FROM THE AVAILABLE LIST MANAGER.
        01     FRMRECLM     FRAME IS BEING RECLAIMED


00F   FRMCSB3     001       COMPARE AND SWAP WORD BYTE 3.
                            THESE BITS CAN ONLY BE CHANGED
                            VIA A COMPARE AND SWAP OPERATION.

                            THESE BITS ARE USED TO SERIALIZE FRAME STATE CHANGES


        BITS DEFINED IN FRMCSB3  (AT HEX DISPLACEMENT: F)

        80     FRMAVAIL     FRAME IS ON THE AVAILABLE QUEUE
        40     FRMTRANS     FRAME IS BEING TRANSLATED
        20     FRMRELSE     FRAME IS BEING RELEASED
        10     FRMSTEAL     FRAME IS BEING STOLEN
        07     FRMLTRCT     FRAME CANNOT BE STOLEN.
                            THIS INDICATES THE COUNT OF
                            CPU'S WHICH HAVE THIS FRMTE
                            AS LAST TRANSLATED.
                            THIS EQUATE IS USED AS A MASK
                            ASSOCIATED WITH THE 3 BIT
                            LAST TRANSLATED COUNTER.
                            THE MAXIMUM VALUE FOR THIS
                            COUNTER IS THE NUMBER OF
                            ONLINE CPUS.
                            END OF DEFINITION       FOR FRAME TABLE ENTRIES


          REDEFINITION - REDEFINITION FOR UNCHAINED FRAMES


          5372           ORG   FRMORGIN      REDEFINITION FOR UNCHAINED FRAMES

000   FRMID       004       4 CHARACTER IDENTIFIER
                            IDENTIFIERS USED IN FRMID
                            THESE IDENTIFIERS ARE FOR VISUAL
                            RECOGNITION AND ARE NOT INTENDED
                            TO BE USED AS FLAGS.
                            '*CP*'                FRAME IN USE BY CONTROL PROGRAM
                            'TRAC'                CP TRACE TABLE PAGE
                            'FREE'                FRAME IN USE FOR FREE STORAGE
                            '*VR*'                VIRTUAL = REAL USER FRAME
                            'FRVR'                FRAME IN USE FOR V=R FREE STORAGE
                            'OFLN'                FRAME IS OFF-LINE AND UNAVAILABLE
                            'PRFX'                PREFIX PAGE FRAME

004   FRMLKCNT    004       FRAME LOCK COUNT
008               F
00C               F         FRMCSWRD (FLAGS AND STATUS BITS)

          REDEFINITION FOR FREE STORAGE FRAMES.                *


          REDEFINITION - REDEFINITION FOR FREE FRAMES

000   FRMFRNXT    004       NEXT FRMTE WITH AVAILABLE BLOCKS
004   FRMDHTOD    002       TOD TIME STAMP (SECS)
```


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REDEFINITION -

004	FRMVMFRG	002	FRAGMENT SIZE WHEN USED BY FREVM
006	FRMDWUSE	002	DOUBLE WORDS OF STORAGE IN USE
008	FRMCHN	004	POINTER TO FIRST FREE STORAGE AVAILABLE BLOCK IN THIS FRAME
00C		F	FRMCSWRD (FLAGS AND STATUS BITS)

CROSS REFERENCE

Name	Len	Value/Disp
FRMAVAIL	001	080
FRMBPNT	004	004
FRMCHN	004	008
FRMCP	001	001
FRMCPLOK	001	040
FRMCSB0	001	00C
FRMCSB1	001	00D
FRMCSB2	001	00E
FRMCSB3	001	00F
FRMCSWRD	004	00C
FRMDHTOD	002	004
FRMDWUSE	002	006
FRMERROR	001	001
FRMFPNT	004	000
FRMFREE	001	061
FRMFRNXT	004	000
FRMFRSY	001	067
FRMFRVM	001	065
FRMFRVR	001	063
FRMID	004	000
FRMLENTH	001	010
FRMLKCNT	004	004
FRMLOCKD	001	080
FRMLTRCT	001	007
FRMNEXT	004	010
FRMNOGIV	001	008
FRMNOOWN	001	010
FRMOFFLN	001	010
FRMORGIN	004	000
FRMOWNED	001	020
FRMPRFX	001	031
FRMPTE	004	008
FRMRCP	001	004
FRMRECLM	001	001
FRMRELSE	001	020
FRMRFRSH	001	020
FRMRONLY	001	008
FRMSHARE	001	010
FRMSTEAL	001	010
FRMSUSER	001	081
FRMTE	001	000
FRMTRACE	001	021
FRMTRANS	001	040
FRMUSER	001	080
FRMVMFRG	002	004
FRMVR	001	040
FRMXTNDQ	001	002

HCPFSDBK— FREE STORAGE DATA BLOCK

DSECT NAME: FSDBK

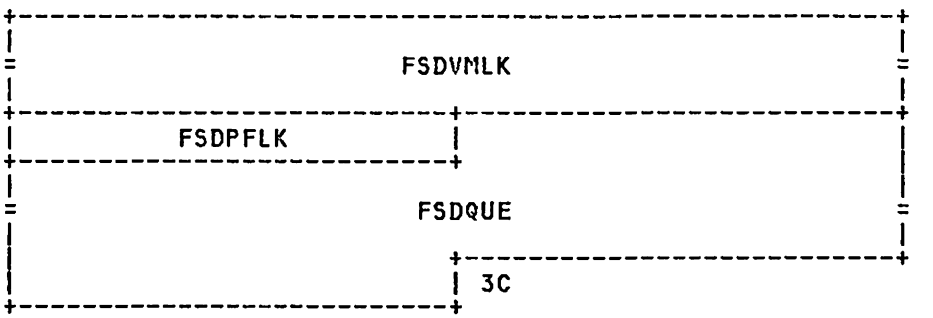
DESCRIPTIVE NAME: FREE STORAGE DATA BLOCK

FUNCTION: MAPS THE FIXED FREE STORAGE DATA AREA. INCLUDED ARE THE VMDBK FORMAL SPIN LOCK, AND PAGEABLE FREE STORAGE LOCK AND ANCHORS.

LOCATED BY:

N/A - NEVER RETURNED TO FREE STORAGE

FSDBK - FREE STORAGE DATA BLOCK



disp	name	length	description
000	FSDVMLK	008	FREE STORAGE FORMAL SPIN LOCK
018	FSDPFLK	004	PFMBK QUEUE LOCK
01C	FSDQUE	004	PFMBK QUEUE ANCHORS

CROSS REFERENCE

Name	Len	Value/Disp
FSDBK	001	000
FSDPFLK	004	018
FSDQUE	004	01C
FSDVMLK	008	000

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HCPFTPBK— FOOT-PRINT BLOCK

DSECT NAME: FTPBK

DESCRIPTIVE NAME: FOOT-PRINT BLOCK

FUNCTION: PROVIDE FOOT-PRINTING OF THE RECOVERY PROCESS FOR SUBSEQUENT DEBUGGING

LOCATED BY:

HCPWRKFP IS THE ANCHOR FOR THIS BLOCK.

CREATED BY:

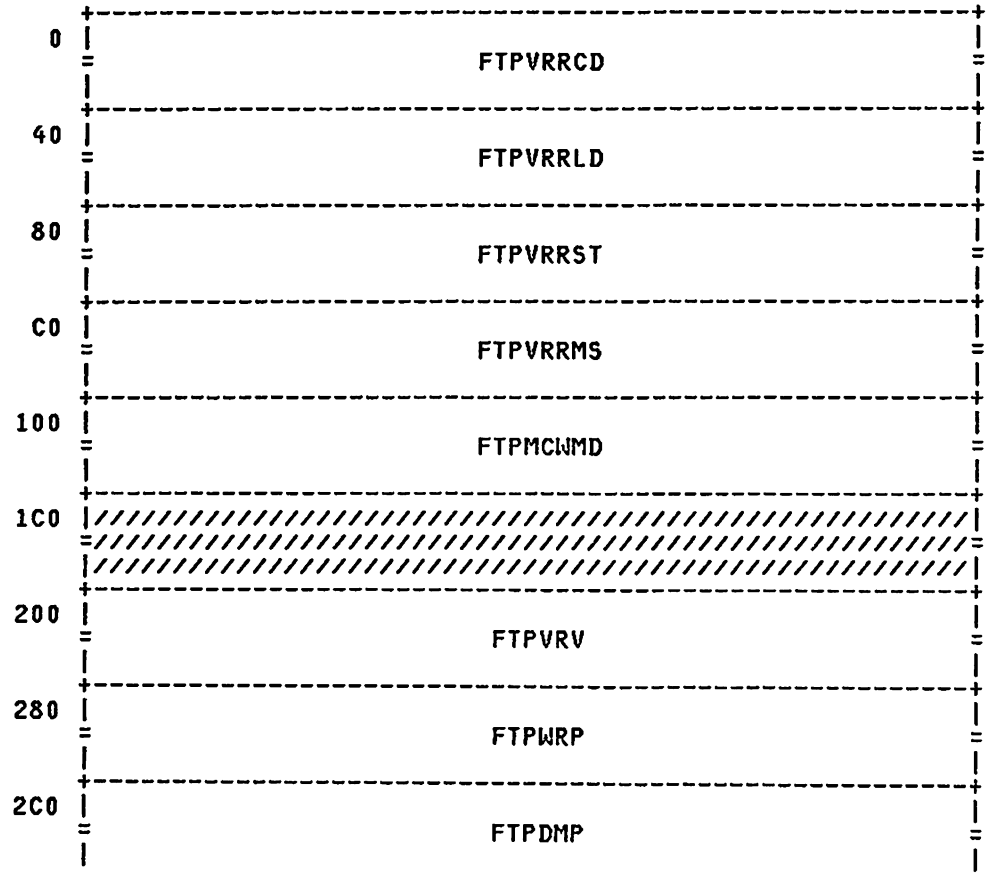
THE ASSEMBLY OF HCPWRK. THE FOOT-PRINT BLOCK ALWAYS REMAINS IN THE HOST CONTROL PROGRAM CRITICAL WORKAREA. EACH OF THE FOLLOWING MODULES 'OWN' AN AREA IN FTPBK WHICH THEY USE FOR RECORDING :

- HCPVRRCD
- HCPVRRLD
- HCPVRRST
- HCPVRRMS
- HCPMCWMD
- HCPVRV
- HCPWRP
- HCPDMP
- HCPVRE
- HCPCKP/HCPWRM

DELETED BY:

NONE, HOWEVER THE BLOCK IS CLEARED BY HCPWRP

FTPBK - FOOTPRINTS



```
    +-------------------------------------------------------+
300 |                                                       |
    =                        FTPVRE                         =
    |                                                       |
    +-------------------------------------------------------+
380 |                                                       |
    =                       FTPCKWRM                        =
    |                                                       |
    +-------------------------------------------------------+
3C0 |                       FTPBUFSZ                        |
    +-------------------------------------------------------+
3C8
```

REDEFINITION - FOOTPRINT AREA USED BY HCPMCWMD.

```
    +-------------------------------------------------------+
100 |                       FTPMDNAM                        |
    +------+------+-----------------------------------------+
108 |//////|:TODB1|/////////////////////////////////////////|
    +------+------+-----------------------------------------+
110 |                                                       |
    =                       FTPMDTAB                        =
    |                                                       |
    |                          +----------------------------+
188 |                          |         FTPFENCE           |
    +--------------------------+----------------------------+
190
```

REDEFINITION - DETAIL OF FOOTPRINT TABLE ENTRY.

```
    +------+------+------+------+
110 |:CPUAD|:MFLG1|:MFLG2|:MFLG3| 114
    +------+------+------+------+
```

REDEFINITION - REDEFINE OF FTPCKWRM FOR HCPCKP

```
    +-------------------------------------------------------+
380 |                       FTPWRMST                        |
    +-------------------------------------------------------+
388 |                       FTPWRMCT                        |
    +-------------------------------------------------------+
390
```

REDEFINITION - REDEFINE OF FTPVRRCD FOR HCPVRR

```
    +--------------------+------+--------------------------+
  0 |      FTPRCDFP      |:RCDGS|          FTPECKRC        |
    +------+------+------+------+--------------------------+
  8 |:VRECK|:MG813|:INTEG|:UNLOK| C
    +------+------+------+------+
```

REDEFINITION - REDEFINE OF FTPVRRLD FOR HCPVRR

```
    +--------------------+------+------+------+------+------+
 40 |      FTPRLDFP      |:RLDGS|:GSEXH|:GSCHN|:NVSIE|:NREST|
    +------+------+------+------+------+------+------+------+
 48 |:NTRAC|:NOIPL|:NOLOG|:NFORC|:NVMCF|:NPGFT|:NPGNT|:NADJ |
    +------+------+------+------+------+------+------+------+
 50 |:BASE |:RLDOK|:RLDRE|:VRERC|          FTPVMDBK        |
    +------+------+------+------+--------------------------+
 58 |:NPASS| 59
    +------+
```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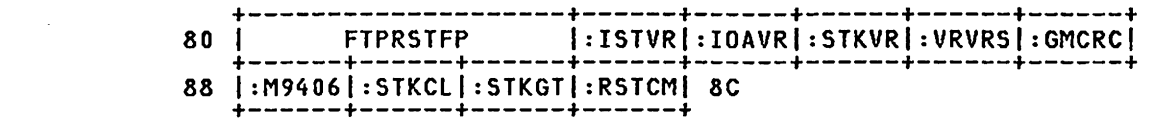
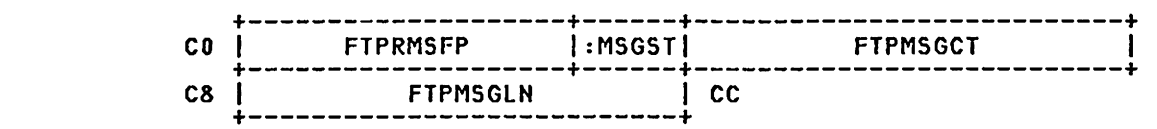
REDEFINITION - REDEFINE OF FTPVRRST FOR HCPVRR

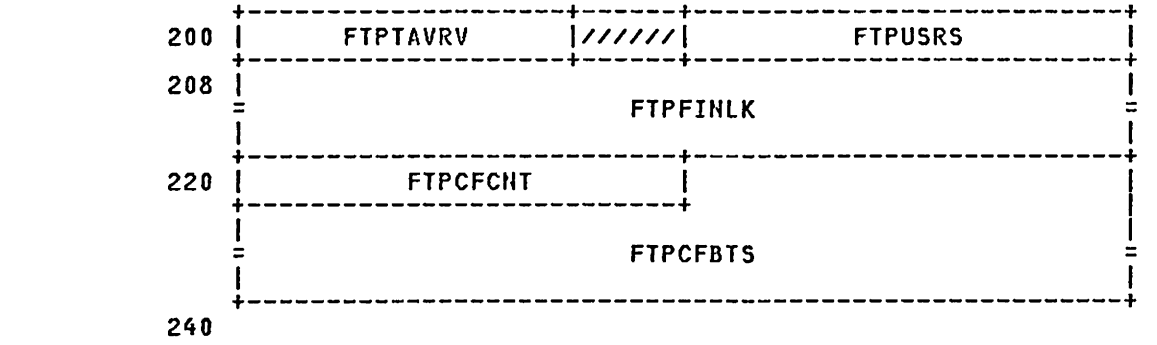


REDEFINITION - REDEFINE OF FTPVRRMS FOR HCPIOP

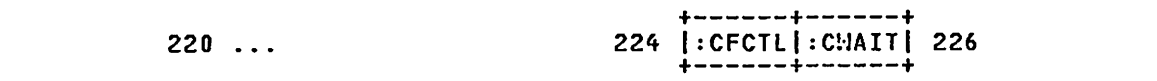


REDEFINITION - REDEFINE OF FTPWRP FOR HCPWRP

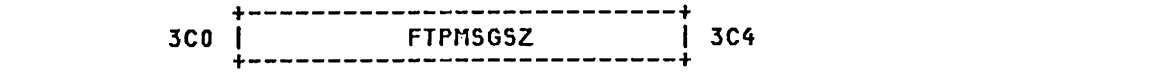
REDEFINITION - REDEFINE OF FTPVRV FOR HCPVRV



REDEFINITION -



REDEFINITION - REDEFINE OF FTPBUFSZ FOR HCPIOP



disp	name	length	description
000	FTPVRRCD	008	RECORD V=R USER BEFORE A BOUNCE
040	FTPVRRLD	008	RELOAD V=R USER AFTER BOUNCE
080	FTPVRRST	008	RESTART V=R USER FOOTPRINTS
0C0	FTPVRRMS	008	TERMINATION MSG BUFFER STATUS
100	FTPMCWMD	008	FINAL STATUS OF EACH CPU

```
1C0              8D        RESERVED FOR FUTURE IBM USE
200   FTPVRV     008       CONSOLE FUNCTION MODE AND GUEST
                           TIMERS
280   FTPWRP     008       SYSTEM TERMINATION FOOTPRINTS
2C0   FTPDMP     008       DUMP FOOTPRINTING

                   EQUATES

        60    FTPGSVDW     GSURV FOOTPRINT SIZE IN DBL-WORDS

300   FTPVRE     008       TRACE ENTRY MAPS DESCRIBING I/O

                   EQUATES

        70    FTPVREDW     FTPVRE SIZE IN DOUBLE-WORDS

380   FTPCKWRM   008       CHECKPOINT/WARMSTART FOOTPRINTS

                   EQUATES

        08    FTPCKWDW     FTPCKWRM SIZE IN DOUBLE-WORDS

3C0   FTPBUFSZ   008       TERM MESSAGE BUFFER SIZE

                   EQUATES

        01    FTPBUFSL     FTPBUFSZ IN DOUBLEWORDS
        79    FTPSIZE      FTPBK SIZE IN DOUBLE-WORDS


         REDEFINITION - FOOTPRINT AREA USED BY HCPMCWMD.

100   FTPMDNAM   008       THE NAME 'HCPMCWMD' GOES HERE.
108   FTPMDFF    001       INITIALIZE TO FF'S. (SEE FTPLEN2).
108   FTPTOD     008       TIMESTAMP ON ENTRY TO HCPMCWMD.
                           (ZEROS IF STORE-CLOCK FAILS.)
108              X
109   FTPTODB1   001       FIRST BYTE OF FOOTPRINT TOD FIELD
10A              6X
110   FTPMDTAB   004       TABLE OF FOOTPRINTS, ONE ENTRY
                           FOR EACH CPU.  WE SUPPORT AS MANY
                           AS 31 CPU'S (FOLLOWING THE SOMEWHAT
                           ARBITRARY CONVENTION USED ELSEWHERE).

                   EQUATES

        84    FTPLEN2      LENGTH TO BE INITIALIZED TO FF'S.

18C   FTPFENCE   004       THIS 'FENCE' OF ZEROES AT THE END
                           OF THE INITIALLY ALL-FF'S TABLE
                           PREVENTS US FROM RUNNING OFF THE END
                           IN THE EVENT OF A MESSED UP CHAIN OF
                           PREFIX PAGES.

                   EQUATES

        90    FTPLEN3      LENGTH OF AREA USED BY HCPMCWMD.


         REDEFINITION - DETAIL OF FOOTPRINT TABLE ENTRY.

110   FTPENTRY   001
110   FTPCPUAD   001       CONTAINS CPUID IN STAP FORMAT,
                           LOW ORDER BYTE ONLY.
111   FTPMFLG1   001

        BITS DEFINED IN FTPMFLG1 (AT HEX DISPLACEMENT: 111)

        80    FTPUNKWN     CPU IS IN AN 'UNKNOWN' STATE  (HCPSGPST
                           COULD NOT COMMUNICATE WITH IT).
        40    FTPCPUON     CPU ASSOCIATED WITH THE PREFIX PAGE WAS
                           ONLINE.  (EXPECT IT TO BE OFFLINE AT TIMES SINCE
                           PFX PAGE IS KEPT FOR 2 MINUTES AFTER VARY OFF.)
        20    FTPSTATX     THE STATE OF THE CPU HOLDING THE
```

```
                          THE TERMINATION LOCK WAS NOT 'PFXAVAIL'.
        10     FTPSOFER   HCPMCHND FOUND POSSIBLE SOFTWARE ERROR.
        08     FTPHABEN   HAD ABEND ON THIS CPU (AS REPORTED BY
                          THE PFXHABEN FLAG IN ITS PREFIX PAGE).
        04     FTPCKSTP   CPU IS CHECK-STOPPED AND FIRST NOTICED
                          DURING CURRENT INCIDENT (NOT A RE-DISCOVERY
                          OF A CHECK-STOP HANDLED EARLIER).
        02     FTPMCHKX   A MACHINE CHECK OCCURRED AND FOR SOME
                          REASON THE MACHINE-CHECK FLIH NEVER FINISHED
                          HANDLING IT.
        01     FTPBROAD   MACHINE CHECK IS ESSENTIALLY IDENTICAL
                          TO AN EARLIER ONE AND IS REGARDED AS A
                          'BROADCAST' MACHINE CHECK.

112   FTPMFLG2   001

        BITS DEFINED IN FTPMFLG2 (AT HEX DISPLACEMENT: 112)

        80     FTPFSIE    WE WERE RUNNING SIE (PFXHSIE WAS SET).
        40     FTPFERCS   ERROR WAS CHECK-STOP, NOT MACHINE CHECK.
        20     FTPF2ND    A SECONDARY ERROR OCCURRED WHILE
                          HANDLING A MACHINE CHECK.
        10     FTPF2CS    SECONDARY ERROR WAS A CHECK-STOP.
        08     FTPFMCIC   INVALID MCIC (REQUIRED BITS MISSING).
        04     FTPFABND   POSSIBLE SOFTWARE ERROR ENCOUNTERED.
                          WHERE WE CANNOT ISSUE HCPABEND, WE SET
                          THIS FLAG, THEN TERMINATE.
        02     FTPFATSK   ATTEMPTED TO RUN INTERRUPTED SYSTEM
                          TASK TO COMPLETION.
        01     FTPFXTSK   ATTEMPT TO COMPLETE INTERRUPTED SYSTEM
                          TASK WAS SUCCESSFUL.

113   FTPMFLG3   001

        BITS DEFINED FOR FTPMFLG3 BY HCPMCKBK MCKFTERM

        04     FTPELEN    LENGTH OF A SINGLE ENTRY IN TABLE.

114   FTPNEXTE   001       START OF NEXT ENTRY OF THE TABLE.



          REDEFINITION - REDEFINE OF FTPCKWRM FOR HCPCKP

380   FTPWRMST   008       WARM START TIME

                    EQUATES

        08     FTPWRMSL   WARM START TIME LENGTH

388   FTPWRMCT   008       WARM START COMPLETED TIME

                    EQUATES

        08     FTPWRMCL   WARM START COMPLETED TIME LENGTH



          REDEFINITION - REDEFINE OF FTPVRRCD FOR HCPVRR

000   FTPRCDFP   003       ENTERED HCPVRRCD WITH A V=R USER
003   FTPRCDGS   001       GUEST SURVIVAL IS POSSIBLE WHEN
                          WE ENTER HCPVRRCD
004   FTPECKRC   004       RETURN CODE FROM HCPVRECK
008   FTPVRECK   001       CALL TO HCPVRECK TO CHECKPOINT
                          V=R I/O CONFIGURATION
009   FTPMG813   001       MP VMDBK OUTSIDE RESERVED AREA -
                          ISSUE MESSAGE 813
00A   FTPINTEG   001       DATA INTEGRITY LOST
00B   FTPUNLOK   001       V=R AREA IS UNLOCKED
```

REDEFINITION - REDEFINE OF FTPVRRLD FOR HCPVRR

040	FTPRLDFP	003	ENTERED HCPVRRLD ON A V=R BOUNCE
043	FTPRLDGS	001	GUEST SURVIVAL IS POSSIBLE WHEN WHEN WE ENTER HCPVRRLD
044	FTPGSEXH	001	RESERVED FREEVM STORAGE AVAILABLE
045	FTPGSCHN	001	FREE STORAGE CHAIN INTACT
046	FTPCYC1	006	OVERLAY FOR NON-ORIGIN FOOTPRINTS
046	FTPNVSIE	001	V=R GUEST NOT IN VSIE
047	FTPNREST	001	V=R GUEST NOT RESETTING
048	FTPNTRAC	001	V=R GUEST NOT BEING TRACED
049	FTPNOIPL	001	V=R GUEST NOT IPLING
04A	FTPNOLOG	001	V=R GUEST NOT LOGGING OFF
04B	FTPNFORC	001	V=R GUEST NOT FORCED OFF
04C	FTPNVMCF	001	V=R GUEST NOT COMMUNICATING WITH VMCF
04D	FTPCYC2	002	OVERLAY FOR NON-ORIGIN FOOTPRINTS
04D	FTPNPGFT	001	V=R GUEST HAS NO PAGE FAULTS
04E	FTPNPGWT	001	V=R GUEST IS IN PAGE WAIT
04F	FTPNADJ	001	V=R GUEST MACHINE IS NOT ADJUNCT
050	FTPBASE	001	V=R GUEST MACHINE IS THE BASE
051	FTPRLDOK	001	RECOVERY FINE, SO FAR
052	FTPRLDRE	001	RECOVERY FAILED
053	FTPVRERC	001	RETURN CODE FROM HCPVREST
054	FTPVMDBK	004	ADDRESS OF VMDBK CAUSING GUEST SURVIVAL FAILURE
058	FTPNPASS	001	V=R GUEST NOT BEING REMOVED FROM I/O PASSTHRU

REDEFINITION - REDEFINE OF FTPVRRST FOR HCPVRR

080	FTPRSTFP	003	ENTERED HCPVRRST WITH V=R USER
083	FTPISTVR	001	CALL HCPISTVR TO VERIFY NEED FOR THE IFSNT
084	FTPIOAVR	001	CALL HCPIOAVR TO PROCESS IFSNT
085	FTPSTKVR	001	CALL HCPSTKVR TO REVIVE V=R USER
086	FTPVRVRS	001	REESTABLISH VIRTUAL CPU FIELDS
087	FTPGMCRC	001	CALL HCPGMCRC TO REFLECT MACHINE CHECKS
088	FTPM9406	001	V=R RECOVERY SUCCEEDED - MSG9406 SENT
089	FTPSTKCL	001	STACK A CALL TO HCPVRELG
08A	FTPSTKGT	001	STACK A GOTO TO HCPCFMFO TO FORCE THE GUEST
08B	FTPRSTCM	001	VRRST DONE, BOUNCE OVER

REDEFINITION - REDEFINE OF FTPVRRMS FOR HCPIOP

0C0	FTPRMSFP	003	ENTERED HCPVRRMS ALREADY
0C3	FTPMSGST	001	STATUS OF MESSAGE BUFFER
0C4	FTPMSGCT	004	COUNT OF MESSAGES IN BUFFER
0C8	FTPMSGLN	004	LENGTH OF MESSAGE BUFFER USED

REDEFINITION - REDEFINE OF FTPWRP FOR HCPWRP

280	FTPWRPFP	003	HCPWRP FOOTPRINT
283		XL1	RESERVED FOR ALIGNMENT
284	FTPWRPIN	004	HCPWRPUP INPUT PARAMETERS
288	FTPWRPDS	001	DUMP STATUS

EQUATES

02	FTPDMPIP	DUMP IN PROGRESS FLAG
01	FTPDMPFI	DUMP TAKEN FLAG

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289   FTPWRPTS   001      TERMINATION STATUS

                  EQUATES

        00    FTPTRMIP    TERMINATION IN PROGRESS
        01    FTPTRMFI    TERMINATION COMPLETE FLAG
        02    FTPTRMER    TERMINATION UNSUCCESSFUL

28A   FTPVECTR   001      VECTOR FACILITY UNLOAD STATUS

                  EQUATES

        01    FTPVECSV    ATTEMPT MADE TO UNLOAD VF REGS

28B   FTPWRPER   001      ERROR STATUS

                  EQUATES

        01    FTPPRGCK    PROGRAM CHECK CAUSED WAIT 921
        02    FTPSVCIN    SVC INTERRUPT CAUSED WAIT 921



          REDEFINITION - REDEFINE OF FTPVRV FOR HCPVRV

200   FTPTAVRV   003      FOOTPRINT AREA TAG ASSIGNED 'VRV'
203              X        RESERVED FOR FUTURE USE
204   FTPUSRS    004      CURRENT LOGGED ON USERS COUNT
208   FTPFINLK   024      COPY OF ORIGINAL FINLOCK
220   FTPCFCNT   004      COPY OF ORIGINAL VMDCFCNT
224   FTPCFBTS   002      AREA CONTAINING VMDCFCTL AND



          REDEFINITION -

224   FTPCFCTL   001      COPY OF ORIGINAL VMDCFCTL
225   FTPCWAIT   001      COPY OF ORIGINAL VMDCWAIT

          REDEFINITION - REDEFINE OF FTPBUFSZ FOR HCPIOP

3C0   FTPMSGSZ   004      LENGTH OF AVAILABLE MESSAGE BUFFER
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
FTPBASE	001	050	FTPCYC2	002	04D	FTPF2CS	001	010
FTPBK	001	000	FTPDMP	008	2C0	FTPF2ND	001	020
FTPBROAD	001	001	FTPDMPFI	001	001	FTPGMCRC	001	087
FTPBUFSL	001	001	FTPDMPIP	001	002	FTPGSCHN	001	045
FTPBUFSZ	008	3C0	FTPECKRC	004	004	FTPGSEXH	001	044
FTPCFBTS	002	224	FTPELEN	001	004	FTPGSVDW	001	060
FTPCFCNT	004	220	FTPENTRY	001	110	FTPHABEN	001	008
FTPCFCTL	001	224	FTPFABND	001	004	FTPINTEG	001	00A
FTPCKSTP	001	004	FTPFATSK	001	002	FTPIOAVR	001	084
FTPCKWDW	001	008	FTPFENCE	004	18C	FTPISTVR	001	083
FTPCKWRM	008	380	FTPFERCS	001	040	FTPLEN2	001	084
FTPCPUAD	001	110	FTPFINLK	024	208	FTPLEN3	001	090
FTPCPUON	001	040	FTPFMCIC	001	008	FTPMCHKX	001	002
FTPCWAIT	001	225	FTPFSIE	001	080	FTPMCHMD	008	100
FTPCYC1	006	046	FTPFXTSK	001	001	FTPMDFF	001	108

Name	Len	Value/Disp	Name	Len	Value/Disp
FTPMDNAM	008	100	FTPWRPIN	004	284
FTPMDTAB	004	110	FTPWRPTS	001	289
FTPMFLG1	001	111			
FTPMFLG2	001	112			
FTPMFLG3	001	113			
FTPMG813	001	009			
FTPMSGCT	004	0C4			
FTPMSGLN	004	0C8			
FTPMSGST	001	0C3			
FTPMSGSZ	004	3C0			
FTPM9406	001	088			
FTPNADJ	001	04F			
FTPNEXTE	001	114			
FTPNFORC	001	04B			
FTPNOIPL	001	049			
FTPNOLOG	001	04A			
FTPNPASS	001	058			
FTPNPGFT	001	04D			
FTPNPGWT	001	04E			
FTPNREST	001	047			
FTPNTRAC	001	048			
FTPNVMCF	001	04C			
FTPNVSIE	001	046			
FTPPRGCK	001	001			
FTPRCDFP	003	000			
FTPRCDGS	001	003			
FTPRLDFP	003	040			
FTPRLDGS	001	043			
FTPRLDOK	001	051			
FTPRLDRE	001	052			
FTPRMSFP	003	0C0			
FTPRSTCM	001	08B			
FTPRSTFP	003	080			
FTPSIZE	001	079			
FTPSOFER	001	010			
FTPSTATX	001	020			
FTPSTKCL	001	089			
FTPSTKGT	001	08A			
FTPSTKVR	001	085			
FTPSVCIN	001	002			
FTPTAVRV	003	200			
FTPTOD	008	108			
FTPTODB1	001	109			
FTPTRMER	001	002			
FTPTRMFI	001	001			
FTPTRMIP	001	000			
FTPUNKWN	001	080			
FTPUNLOK	001	00B			
FTPUSRS	004	204			
FTPVECSV	001	001			
FTPVECTR	001	28A			
FTPVMDBK	004	054			
FTPVRE	008	300			
FTPVRECK	001	008			
FTPVREDW	001	070			
FTPVRERC	001	053			
FTPVRRCD	008	000			
FTPVRRLD	008	040			
FTPVRRMS	008	0C0			
FTPVRRST	008	080			
FTPVRV	008	200			
FTPVRVRS	001	086			
FTPWRMCL	001	008			
FTPWRMCT	008	388			
FTPWRMSL	001	008			
FTPWRMST	008	380			
FTPWRP	008	280			
FTPWRPDS	001	288			
FTPWRPER	001	28B			
FTPWRPFP	003	280			

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HCPGCCW— GUEST CHANNEL CONTROL WORD MAPPING

DSECT NAME: GCCW

DESCRIPTIVE NAME: GUEST CHANNEL CONTROL WORD MAPPING

FUNCTION: PROVIDE SYMOLIC REFERENCES FOR THE FIELDS OF A CCW FOR A VIRTUAL MACHINE

LOCATED BY:

N/A

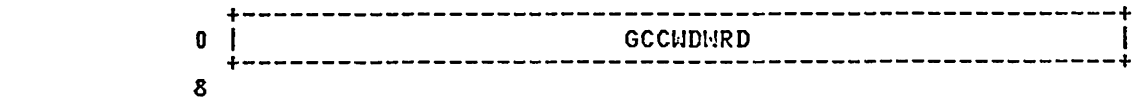
CREATED BY:

N/A

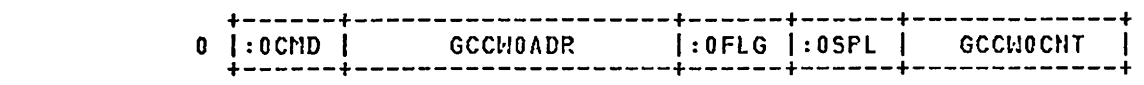
DELETED BY:

N/A

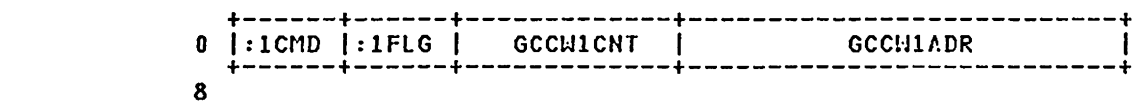
GCCW - GUEST CCW DEFINITION BLOCK



REDEFINITION - FORMAT 0 (S/370 = 24-BIT CCW)



REDEFINITION - FORMAT 1 (S/370/XA = 31-BIT CCW)



disp	name	length	description
000	GCCWDWRD	008	CCW STRUCTURE

REDEFINITION - FORMAT 0 (S/370 = 24-BIT CCW)

000	GCCW0WD0	004	FIRST WORD OF CCW
000	GCCW0CMD	001	CCW COMMAND CODE
001	GCCW0ADR	003	CCW ADDRESS (24-BIT)
004	GCCW0WD1	004	SECOND WORD OF CCW
004	GCCW0FLG	001	CONTROL OF CCW FLAGS

BITS DEFINED FOR GCCW0FLG BY HCPEQUAT CCWFLAG

005	GCCW0SPL	001	FORMAT 0 "UNUSED" BYTE.
006	GCCW0CNT	002	COUNT FOR I/O
008	GCCW0NXT	008	NEXT GUEST CCW

EQUATES

07	GCCW0IS	INSERT MASK
80	GCCW0IDL	IDAL INVALID BITS MASK
08	GCCW0LEN	LENGTH OF A FORMAT 0 CCW

REDEFINITION - FORMAT 1 (S/370/XA = 31-BIT CCW)

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000   GCCW1WD0   004      FIRST WORD OF CCW
000   GCCW1CMD   001      CCW COMMAND CODE
001   GCCW1FLG   001      CONTROL OF CCW FLAGS

        BITS DEFINED FOR GCCW1FLG BY HCPEQUAT CCWFLAG

002   GCCW1CNT   002      COUNT FOR I/O
004   GCCW1WD1   004      SECOND WORD OF CCW
004   GCCW1ADR   004      CCW ADDRESS (31-BIT)
008   GCCW1NXT   008      NEXT GUEST CCW

                    EQUATES

        0F    GCCW1IS     INSERT MASK
        80    GCCW1IDL    IDAL INVALID BIT  MASK
        08    GCCW1LEN    LENGTH OF A FORMAT 1 CCW
```

CROSS REFERENCE

Name	Len	Value/Disp
GCCW	001	000
GCCWDWRD	008	000
GCCW0ADR	003	001
GCCW0CMD	001	000
GCCW0CNT	002	006
GCCW0FLG	001	004
GCCW0IDL	001	080
GCCW0IS	001	007
GCCW0LEN	001	008
GCCW0NXT	008	008
GCCW0SPL	001	005
GCCW0WD0	004	000
GCCW0WD1	004	004
GCCW1ADR	004	004
GCCW1CMD	001	000
GCCW1CNT	002	002
GCCW1FLG	001	001
GCCW1IDL	001	080
GCCW1IS	001	00F
GCCW1LEN	001	008
GCCW1NXT	008	008
GCCW1WD0	004	000
GCCW1WD1	004	004

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HCPGSDBK— GENERAL SYSTEM DATA BLOCK

DSECT NAME: GSDBK

DESCRIPTIVE NAME: GENERAL SYSTEM DATA BLOCK

FUNCTION: THE GSDBK CONTAINS DATA TO BE PROCESSED BY CP, OR TO BE PASSED TO A VIRTUAL MACHINE.

LOCATED BY:

GSDNEXT CHAINED
BSCRPTR FIELD OF HCPBSCBK
VDSGSDVC FIELD OF HCPVDSBK (WORK)
VDSGSDW FIELD OF HCPVDSBK (HCPVSP WORK)
VDSGSDI FIELD OF HCPVDSBK (INPUT)
VDSGSDO FIELD OF HCPVDSBK (OUTPUT)
VDSGSDT FIELD OF HCPVDSBK (TAG)

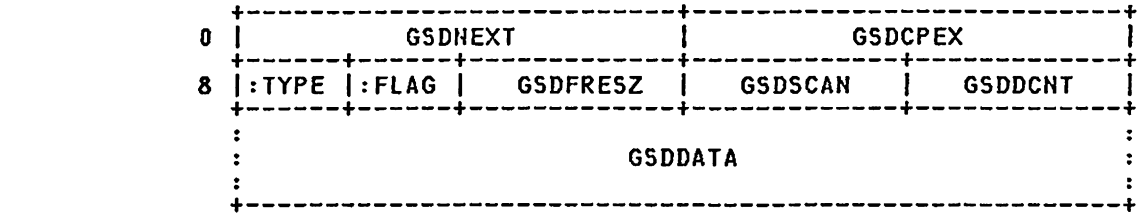
CREATED BY:

HCPCFM, HCPDAE, HCPDAS, HCPGRF, HCPGSV,
HCPHVC, HCPREC, HCPRSE, HCPRSP, HCPVCN,
HCPVSP, HCPVUR, HCPISU, HCPIOP, HCPITM,
HCPWRM, HCPERM, HCPCFS, HCPCQA, HCPCQE,
HCPCQO, HCPCQT, HCPCQU, HCPCQW, HCPCRC,
HCPCSO, HCPCST, HCPPWD, HCPSFR, HCPSFV,
HCPTRA, HCPTRI, HCPVEX

DELETED BY:

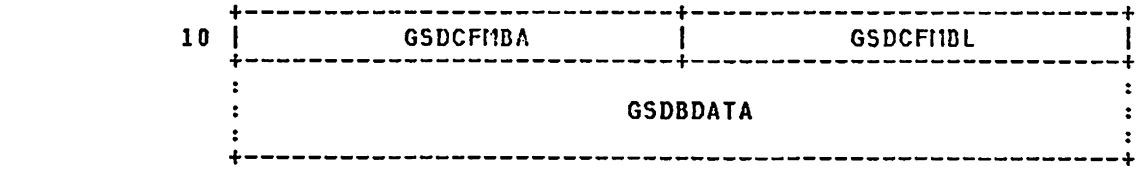
HCPCFM, HCPDAE, HCPDAS, HCPGIN, HCPGRF,
HCPREC, HCPRSE, HCPRSP, HCPVCN, HCPVSP,
HCPVUR, HCPIOP, HCPERM, HCPCFS, HCPCQA,
HCPCQD, HCPCQE, HCPCQO, HCPCQT, HCPCQW,
HCPCRC, HCPCSO, HCPCST, HCPDTD, HCPPWD,
HCPSFR, HCPSFV, HCPTRA, HCPTRI, HCPUSO,
HCPVEX

GSDBK - GENERAL SYSTEM DATA BLOCK



REDEFINITION - TERMINAL HANDLING

REDEFINITION -



REDEFINITION -

disp	name	length	description
000	GSDNEXT	004	POINTER TO NEXT GSDBLOK
004	GSDCPEX	004	POINTER TO CPEXBLOK
008	GSDTYFL	002	GSDTYPE AND GSDFLAG PARAMETERS
008	GSDTYPE	001	GSDBLOK TYPE

BITS DEFINED IN GSDTYPE (AT HEX DISPLACEMENT: 8)

80	GSDCFMDG	DIAGNOSE CONSOLE FUNCTION BUFFER
40	GSDCFMCP	BUFFER CONTAINS
20	GSDCFMTR	BUFFER FROM TRACE CMD OPERAND
		GSD2305 IS FOR INTERFACE TO HCPIOESD
10	GSD2305	2305 IOR EXTENSION
		FLAGS FOR LOGON AND IPL
08	GSDREIPL	GSDBK IS FOR ATTEMPTED RE-IPL COMMAND
04	GSDIPLOG	COMMAND WAS GENERATED BY THE LOGON PROCESSOR
02	GSDLOGIP	FIRST READ INPUT AFTER IPL

009	GSDFLAG	001	GSDBLOK FLAGS

BITS DEFINED IN GSDFLAG (AT HEX DISPLACEMENT: 9)

80	GSDCFMAD	COMMAND TRANSFERRED FROM ADJUNCT
40	GSDCFMDY	DISPLAY COMMAND TO TERMINAL
20	GSDCFMDZ	DISPLAY TO TERMINAL COMPLETE
10	GSDCFMRD	C.F. READ REQUEST IF RUN OFF
08	GSDPWSUP	PASSWORD SUPPRESSION FOR THIS CMD
04	GSDBUFWT	C.F. OUTPUT TO BUFFER FOR THIS CMD
02	GSDNCPRD	NO CP READ ON LINK COMMAND VIA DIAG 8
		FOR PROGRAM FUNCTION KEY SUPPORT
80	GSDPFKIM	IMMEDIATE EXECUTION OF PF-KEY
20	GSDICSET	IC COMMAND ADDED TO LINE
		FOR SPECIAL PRINTER HANDLING ON 2311..
80	GSDUSCB	TYPE 1 BUFFER READ (UCSB)
40	GSDFCB	TYPE 2 BUFFER READ (FCB)
20	GSDPLB	TYPE 3 BUFFER READ (PLB)
		FOR RECORDING AND ACCOUNTING
02	GSDRIOER	RECORD FOR INBOARD/OUTBOARD RECORDING
01	GSDRACNT	RECORD FOR ACCOUNTING
		FOR VIRTUAL UNIT RECORD DEVICE SIMULATION
80	GSDCCWO	GSDBLOK CONTAINS CCWS ONLY
20	GSDCCWRT	CCW WRITE OPERATION
		FOR INPUT DATA PROCESSING
08	GSDPHIDE	PREVENT DISPLAY OF THIS DATA

00A	GSDFRESZ	002	GSDBLOK BLOCK SIZE IN DOUBLE WORDS
00C	GSDSCAN	002	BYTE DISP OF NEXT FIELD IN GSDDATA
00E	GSDDCNT	002	LENGTH OF GSDDATA IN BYTES

EQUATES

10	GSDHLEN	GSDBK SIZE IN BYTES
02	GSDHSIZE	GSDBK SIZE IN DOUBLE-WORDS
12	GSDLGSIZ	LARGE GSDBK FOR 2305 USE

010	GSDDATA	001	START OF VARIABLE LENGTH DATA

REDEFINITION - TERMINAL HANDLING

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00C   GSDQCNFL   001      PARAMETER FLAGS FOR HCPQCN
00D   GSDFSMFL   001      FULL SCREEN PARMS FOR HCPQCN

         REDEFINITION -

010   GSDCFMBA   004      C.F. OUTPUT BUFFER ADDRESS
014   GSDCFMBL   004      C.F. OUTPUT BUFFER LENGTH
018   GSDBDATA   001      START OF VARIABLE LENGTH DATA  W/BUFFER

                     EQUATES

        08    GSDBSCAN    SCN PTR FOR C.F. CMD W/BUFFER


         REDEFINITION -

010   GSDQYMSG   080

                     EQUATES

        0C    GSDQYSIZ    GSDBK FOR 80 CHAR TEXT FIELD


                     MORE EQUATES

        11    GSDDATA1
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
GSDBDATA	001	018	GSDPWSUP	001	008
GSDBK	001	000	GSDQCNFL	001	00C
GSDBSCAN	001	008	GSDQYMSG	080	010
GSDBUFWT	001	004	GSDQYSIZ	001	00C
GSDCCWO	001	080	GSDRACNT	001	001
GSDCCWRT	001	020	GSDREIPL	001	008
GSDCFMAD	001	080	GSDRIOER	001	002
GSDCFMBA	004	010	GSDSCAN	002	00C
GSDCFMBL	004	014	GSDTYFL	002	008
GSDCFMCP	001	040	GSDTYPE	001	008
GSDCFMDG	001	080	GSDUSCB	001	080
GSDCFMDY	001	040	GSD2305	001	010
GSDCFMDZ	001	020			
GSDCFMRD	001	010			
GSDCFMTR	001	020			
GSDCPEX	004	004			
GSDDATA	001	010			
GSDDATA1	001	011			
GSDDCNT	002	00E			
GSDFCB	001	040			
GSDFLAG	001	009			
GSDFRESZ	002	00A			
GSDFSMFL	001	00D			
GSDHLEN	001	010			
GSDHSIZE	001	002			
GSDICSET	001	020			
GSDIPLOG	001	004			
GSDLGSIZ	001	012			
GSDLOGIP	001	002			
GSDNCPRD	001	002			
GSDNEXT	004	000			
GSDPFKIM	001	080			
GSDPHIDE	001	008			
GSDPLB	001	020			

HCPGSRBK— GUEST SURVIVAL RECORDING BLOCK

DSECT NAME: GSRBK

DESCRIPTIVE NAME: GUEST SURVIVAL RECORDING BLOCK

FUNCTION: CONTAINS SAVE AREAS FOR QUEUE ANCHORS AND PARTS OF THE GUESTS' PREFIX PAGE FOR GUEST SURVIVAL

LOCATED BY:

VMDGSRBK FIELD OF HCPVMDBK

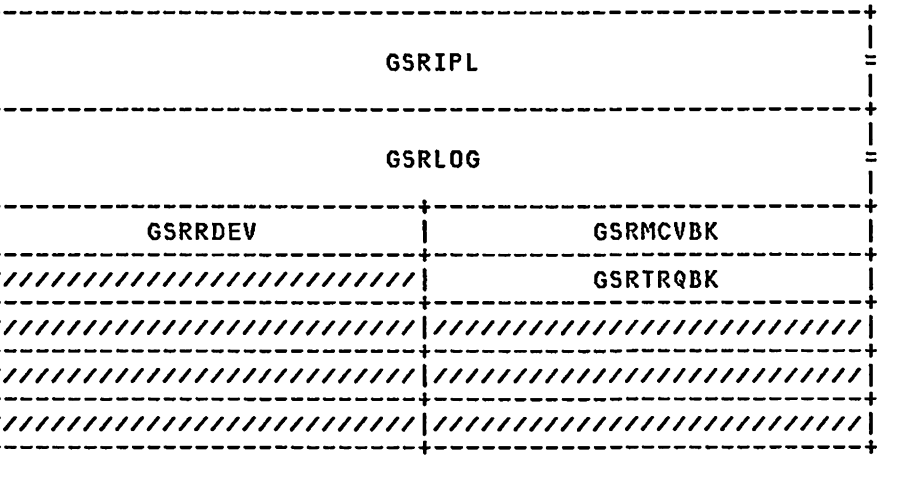
CREATED BY:

HCPVRR AT V=R LOGON

DELETED BY:

HCPVRR AT V=R LOGOFF

GSRBK - GUEST SURVIVAL RECORDING BLOCK



disp	name	length	description
000	GSRIPL	024	IPL RECORD (ABSOLUTE 0 TO 23 <X'00'-X'17'> IN V=R REGION).
018	GSRLOG	096	MACHINE CHECK LOGOUT AREA (ABSOLUTE 256-352 <X'100'-X'15F'> IN V=R REGION)
078	GSRRDEV	004	STACK OF RDEVS FOR RECOVERY
07C	GSRMCVBK	004	MACHINE CHECK BLOCK FOR V=R GUEST
080		A	RESERVED FOR FUTUTE IBM USE
084	GSRTRQBK	004	TIMER REGUEST TO BE REFLECTED
088		A	RESERVED FOR FUTURE IBM USE
08C		A	RESERVED FOR FUTURE IBM USE
090		A	RESERVED FOR FUTURE IBM USE
094		A	RESERVED FOR FUTURE IBM USE
098		A	RESERVED FOR FUTURE IBM USE
09C		A	RESERVED FOR FUTURE IBM USE

EQUATES

14	GSRSIZE	LENGTH OF A GSRBK

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CROSS REFERENCE

Name	Len	Value/Disp
GSRBK	001	000
GSRIPL	024	000
GSRLOG	096	018
GSRMCVBK	004	07C
GSRRDEV	004	078
GSRRVIRT	001	100
GSRSIZE	001	014
GSRTRQBK	004	084
GSRVVIRT	001	000

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HCPHCCW— HOST CHANNEL CONTROL WORD

DSECT NAME: HCCW

DESCRIPTIVE NAME: HOST CHANNEL CONTROL WORD

FUNCTION: PROVIDE SYMOLIC REFERENCES FOR THE FIELDS OF THE FORMAT ONE CCWS USED BY CP

LOCATED BY:

N/A

CREATED BY:

N/A

DELETED BY:

N/A

HCCW - HOST CCW DEFINITION BLOCK

disp	name	length	description
000	HCCW1	008	AN ENTIRE FORMAT 1 CCW
000	HCCWCFCT	004	FORMAT 1 CCW FIRST WORD - CMD, FLAG,
000	HCCWCMND	001	CCW COMMAND CODE
001	HCCWFLAG	001	CCW FLAG BITS
	BITS DEFINED FOR HCCWFLAG BY HCPEQUAT CCWFLAG		
002	HCCWCNT	002	CCW DATA COUNT
004	HCCWADDR	004	CCW DATA ADDRESS
	EQUATES		
	07 HCCWADRX		CCW FINAL BYTE OF ADDRESS
008	HCCWNEXT	008	CCW FOLLOWING CURRENT CCW
	EQUATES		
	0F HCCWIS		ICM/STCM MASK FOR 31 BIT ADDRESS
	04 HCCWMC		MVC/CLC LENGTH FOR 31 BIT ADDRESS
	80 HCCWIDAL		IDAL INVALID BIT MASK
	08 HCCWLEN		LENGTH OF A SINGLE CCW (8 BYTES)

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
HCCW	001	000	HCCWCNT	002	002	HCCWMC	001	004
HCCWADDR	004	004	HCCWFLAG	001	001	HCCWNEXT	008	008
HCCWADRX	001	007	HCCWIDAL	001	080	HCCW1	008	000
HCCWCFCT	004	000	HCCWIS	001	00F			
HCCWCMND	001	000	HCCWLEN	001	008			

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HDRREC— COMMON HEADER FOR ERROR RECORDS

DSECT NAME: HDRREC

DESCRIPTIVE NAME: COMMON HEADER FOR ERROR RECORDS

FUNCTION: PROVIDE THE COMMON FORMAT FOR THE HEADER PORTION (FIRST 24 BYTES) OF ALL ERROR RECORDS.

LOCATED BY:

ANY FIELD WHICH LOCATES ONE OF THE OTHER ERROR RECORDS. THE DEFINITIONS IN HDRREC MAY BE USED IN CONJUNCTION WITH OR IN PLACE OF THE HEADER OF ANY OTHER ERROR RECORD.

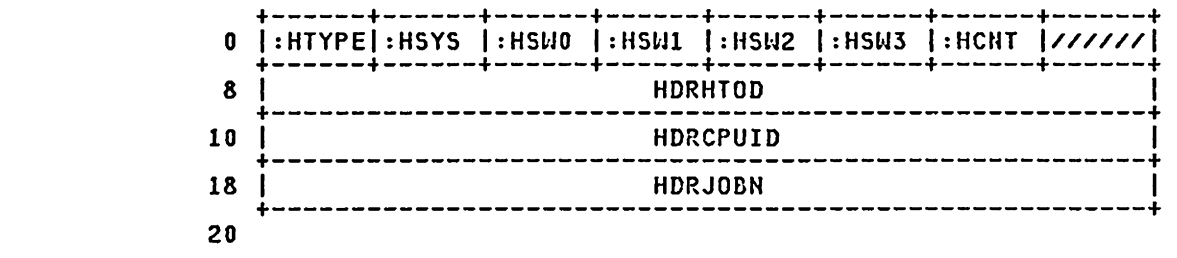
CREATED BY:

ANY MODULE WHICH CREATES ANY OTHER ERROR RECORD (AS THE FIRST 24 BYTES OF THAT ERROR RECORD).

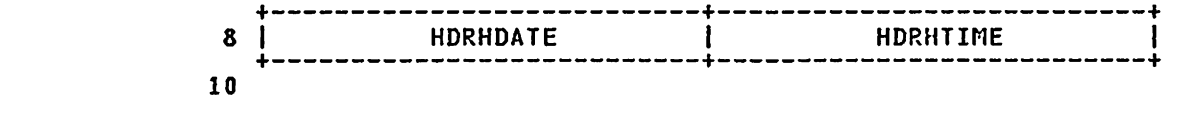
DELETED BY:

THE FIELDS DEFINED HERE ARE DELETED WITH WHATEVER ERROR RECORD THEY ARE CONTAINED IN.

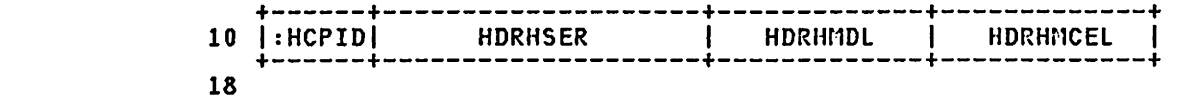
HDRREC - COMMON HEADER FOR ERROR RECORDS



REDEFINITION - HDRHTOD



REDEFINITION - HDRCPUID



disp	name	length	description
000	HDRHTYPE	001	CLASS/SOURCE

CODES DEFINED IN HDRHTYPE (AT HEX DISPLACEMENT: 0)

B0	HDRCCF	CHANNEL CHECK FRAME RECORD
A0	HDRMCF	MACHINE CHECK FRAME RECORD
93	HDRMDRCV	CONVERTED MDR RECORD (NOT FOR VS)
91	HDRMDR	MDR RECORD
90	HDRMDRSV	MDR RECORD FORMATTED BY SVC 91

```
        84     HDRIOS       EOP FROM IOS
        82     HDRTIME      TIME STAMP RECORD
        81     HDRMCHFR     MCH FORCED TERMINATION
        80     HDREOD       EOD RECORD

        71     HDRMIT       MIT RECORD
        70     HDRMIR       MIR RECORD

        60     HDRDDR       DDR RECORD

        50     HDRIPL       IPL RECORD

        4F     HDRLSTR      LOST RECORD SUMMARY
        48     HDRHDHD      HARDWARE DETECTED HARDWARE ERR REC
        44     HDROSFT      OPERATOR DETECTED SOFTWARE ERR REC
        42     HDRHSFT      HARDWARE DETECTED SOFTWARE ERR REC
        40     HDRSFT       SOFTWARE DETECTED SOFTWARE ERR REC

        3A     HDROBRDP     OBR DYNAMIC PATHING AVAILABLE
        36     HDROBRVT     OBR TP ACCESS METHOD (VTAM) RECORD
        34     HDROBRTC     OBR TP ACCESS METHOD (TCAM(OS)/
                            BTAM(DOS)) RECORD
        32     HDROBRCV     CONVERTED OBR RECORD (NOT FOR VS)
        30     HDROBR       OBR (UNIT CHECK) RECORD


        2F     HDRMCHIO     BOUNDARY BETWEEN MACHINE CHECK
                            TYPES OF RECORDS AND I/O TYPES
                            OF RECORDS -- HERE AND BELOW ARE
                            MACHINE CHECKS; ABOVE ARE I/O

        29     HDRCCHS2     CCH SER 0 RECORD
        28     HDRCCHS1     CCH SER 1 RECORD
        25     HDRCRD       CRD RECORD
        23     HDRSLH       SLH RECORD
        21     HDRCCMVS     CHANNEL CHK REC IN MVS ENVIRONMENT
        20     HDRCCH       CHANNEL CHECK RECORD

        1B     HDRMCHC0     CONVERTED MCH SER0 REC(NOT FOR VS)
        1A     HDRMCHC1     CONVERTED MCH SER1 REC(NOT FOR VS)
        19     HDRMCHS0     MCH SER0 RECORD (NOT FOR VS)
        18     HDRMCHS1     MCH SER1 RECORD (NOT FOR VS)
        13     HDRMCHVS     MCH REC RECORDED IN MULTIPLE
                            VIRTUAL STORAGE ENVIRONMENT
        12     HDRMCHCV     CONVERTED MCH REC (NOT FOR VS)
        10     HDRMCH       MCH RECORD

001   HDRHSYS     001       SYSTEM/RELEASE LEVEL

        BITS DEFINED IN HDRHSYS  (AT HEX DISPLACEMENT: 1)

        E0     HDRHSSYS     SYSTEM MASK
        80     HDRHSOS2     OS/VS2
        60     HDRHSVM      VM
        40     HDRHSOS1     OS/VS1
        20     HDRHSDOS     DOS
        1F     HDRHSLVL     RELEASE LEVEL MASK

002   HDRHSW0     001       RECORD INDEPENDENT SWITCH 0

        BITS DEFINED IN HDRHSW0  (AT HEX DISPLACEMENT: 2)

        80     HDRHSWMR     MORE RECORDS FOLLOW
        40     HDRHSWCI     TOD CLOCK INSTRUCTION ISSUED
        20     HDRHSWRT     RECORD TRUNCATED
        10     HDRHSWPK     370/XA MODE
        08     HDRHSWTI     TIME MACRO ISSUED
        04     HDRHSWPS     ERROR WAS PASSED (REFLECTED) TO A
                            GUEST

003   HDRHSW1     001       RECORD SWITCH 1
004   HDRHSW2     001       RECORD SWITCH 2
005   HDRHSW3     001       RECORD SWITCH 3
006   HDRHCNT     001       RECORD COUNT
```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BITS DEFINED IN HDRHCNT (AT HEX DISPLACEMENT: 6)

	F0	HDRRCSEQ	RECORD SEQUENCE NUMBER MASK
	0F	HDRRCPHY	TOTAL NUM. OF PHYSICAL RECORDS IN LOGICAL RECORD BIT MASK
007		XL1	RESERVED FOR FUTURE IBM USE
008	HDRHTOD	008	TOD OF SYSTEM FAILURE
010	HDRCPUID	008	CPU ID

EQUATES

18	HDRLEN	LENGTH OF HDRREC

018	HDRJOBN	008	JOB NAME/USERID (NOT USED IN CRDREC, MDRREC, OR OBRREC)

EQUATES

20	HDRXLEN	LENGTH OF EXTENDED HDRREC
04	HDRSIZE	HDRREC SIZE IN DOUBLE WORDS

REDEFINITION - HDRHTOD

008	HDRHDATE	004	SYSTEM DATE OF FAILURE
00C	HDRHTIME	004	SYSTEM TIME OF FAILURE

REDEFINITION - HDRCPUID

010	HDRHCPID	001	MACHINE VERSION CODE
011	HDRHSER	003	CPU SERIAL NUMBER
014	HDRHMDL	002	CPU MACHINE MODEL NUMBER
016	HDRHMCEL	002	MAX LENGTH OF MACHINE-DEPENDENT MACHINE CHECK EXTENDED LOGOUT

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
HDRCCF	001	0B0	HDRHSWMR	001	080	HDRMCHIO	001	02F
HDRCCH	001	020	HDRHSWPK	001	010	HDRMCHS0	001	019
HDRCCHS1	001	028	HDRHSWPS	001	004	HDRMCHS1	001	018
HDRCCHS2	001	029	HDRHSWRT	001	020	HDRMCHVS	001	013
HDRCCMVS	001	021	HDRHSWTI	001	008	HDRMDR	001	091
HDRCPUID	008	010	HDRHSW0	001	002	HDRMDRCV	001	093
HDRCRD	001	025	HDRHSW1	001	003	HDRMDRSV	001	090
HDRDDR	001	060	HDRHSW2	001	004	HDRMIR	001	070
HDREOD	001	080	HDRHSW3	001	005	HDRMIT	001	071
HDRHCNT	001	006	HDRHSYS	001	001	HDROBR	001	030
HDRHCPID	001	010	HDRHTIME	004	00C	HDROBRCV	001	032
HDRHDATE	004	008	HDRHTOD	008	008	HDROBRDP	001	03A
HDRHDHD	001	048	HDRHTYPE	001	000	HDROBRTC	001	034
HDRHMCEL	002	016	HDRIOS	001	084	HDROBRVT	001	036
HDRHMDL	002	014	HDRIPL	001	050	HDROSFT	001	044
HDRHSDOS	001	020	HDRJOBN	008	018	HDRRCPHY	001	00F
HDRHSER	003	011	HDRLEN	001	018	HDRRCSEQ	001	0F0
HDRHSFT	001	042	HDRLSTR	001	04F	HDRREC	001	000
HDRHSLVL	001	01F	HDRMCF	001	0A0	HDRSFT	001	040
HDRHSOS1	001	040	HDRMCH	001	010	HDRSIZE	001	004
HDRHSOS2	001	080	HDRMCHCV	001	012	HDRSLH	001	023
HDRHSSYS	001	0E0	HDRMCHC0	001	01B	HDRTIME	001	082
HDRHSVM	001	060	HDRMCHC1	001	01A	HDRXLEN	001	020
HDRHSWCI	001	040	HDRMCHFR	001	081			

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HCPIDAL— INDIRECT DATA ADDRESS LIST MAPPING

DSECT NAME: IDAL

DESCRIPTIVE NAME: INDIRECT DATA ADDRESS LIST MAPPING

FUNCTION: PROVIDE SYMBOLIC REFERENCE TO THE FIELDS OF A CHANNEL INDIRECT DATA ADDRESS LIST

LOCATED BY:

N/A

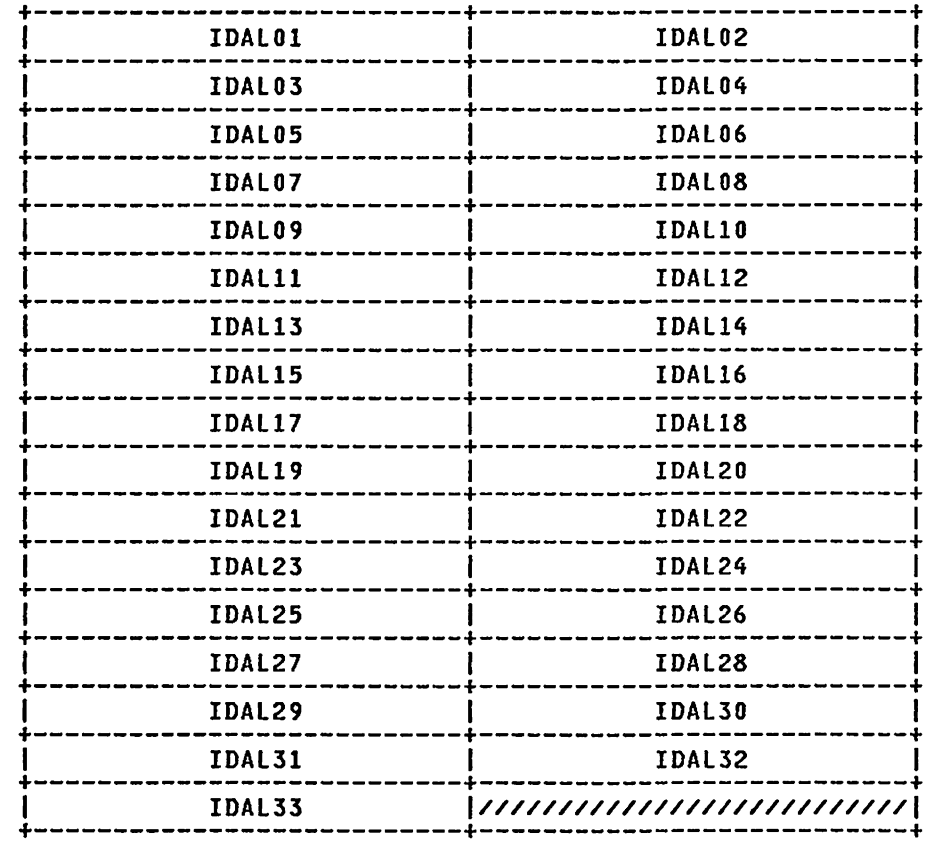
CREATED BY:

N/A

DELETED BY:

N/A

IDAL - INDIRECT DATA ADDRESSING LIST



disp	name	length	description
000	IDALLIST	004	2 TO 33 INDIRECT DATA WORDS
000	IDAL01	004	INDIRECT DATA ADDRESS WORD 01
004	IDAL02	004	INDIRECT DATA ADDRESS WORD 02
008	IDAL03	004	INDIRECT DATA ADDRESS WORD 03
00C	IDAL04	004	INDIRECT DATA ADDRESS WORD 04
010	IDAL05	004	INDIRECT DATA ADDRESS WORD 05
014	IDAL06	004	INDIRECT DATA ADDRESS WORD 06
018	IDAL07	004	INDIRECT DATA ADDRESS WORD 07
01C	IDAL08	004	INDIRECT DATA ADDRESS WORD 08
020	IDAL09	004	INDIRECT DATA ADDRESS WORD 09

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024    IDAL10      004       INDIRECT DATA ADDRESS WORD 20
028    IDAL11      004       INDIRECT DATA ADDRESS WORD 21
02C    IDAL12      004       INDIRECT DATA ADDRESS WORD 22
030    IDAL13      004       INDIRECT DATA ADDRESS WORD 23
034    IDAL14      004       INDIRECT DATA ADDRESS WORD 24
038    IDAL15      004       INDIRECT DATA ADDRESS WORD 25
03C    IDAL16      004       INDIRECT DATA ADDRESS WORD 26
040    IDAL17      004       INDIRECT DATA ADDRESS WORD 27
044    IDAL18      004       INDIRECT DATA ADDRESS WORD 28
048    IDAL19      004       INDIRECT DATA ADDRESS WORD 29
04C    IDAL20      004       INDIRECT DATA ADDRESS WORD 20
050    IDAL21      004       INDIRECT DATA ADDRESS WORD 21
054    IDAL22      004       INDIRECT DATA ADDRESS WORD 22
058    IDAL23      004       INDIRECT DATA ADDRESS WORD 23
05C    IDAL24      004       INDIRECT DATA ADDRESS WORD 24
060    IDAL25      004       INDIRECT DATA ADDRESS WORD 25
064    IDAL26      004       INDIRECT DATA ADDRESS WORD 26
068    IDAL27      004       INDIRECT DATA ADDRESS WORD 27
06C    IDAL28      004       INDIRECT DATA ADDRESS WORD 28
070    IDAL29      004       INDIRECT DATA ADDRESS WORD 29
074    IDAL30      004       INDIRECT DATA ADDRESS WORD 30
078    IDAL31      004       INDIRECT DATA ADDRESS WORD 31
07C    IDAL32      004       INDIRECT DATA ADDRESS WORD 32
080    IDAL33      004       INDIRECT DATA ADDRESS WORD 33
084                A         NEVER USED FINAL WORD
```

CROSS REFERENCE

Name	Len	Value/Disp
IDAL	001	000
IDALLIST	004	000
IDAL01	004	000
IDAL02	004	004
IDAL03	004	008
IDAL04	004	00C
IDAL05	004	010
IDAL06	004	014
IDAL07	004	018
IDAL08	004	01C
IDAL09	004	020
IDAL10	004	024
IDAL11	004	028
IDAL12	004	02C
IDAL13	004	030
IDAL14	004	034
IDAL15	004	038
IDAL16	004	03C
IDAL17	004	040
IDAL18	004	044
IDAL19	004	048
IDAL20	004	04C
IDAL21	004	050
IDAL22	004	054
IDAL23	004	058
IDAL24	004	05C
IDAL25	004	060
IDAL26	004	064
IDAL27	004	068
IDAL28	004	06C
IDAL29	004	070
IDAL30	004	074
IDAL31	004	078
IDAL32	004	07C
IDAL33	004	080

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HCPIDHBK— SPOOL IMAGE LIBRARY DIRECTORY HEADER

DSECT NAME: IDHBK

DESCRIPTIVE NAME: SPOOL IMAGE LIBRARY DIRECTORY HEADER

FUNCTION: TO MAP OUT THE DIRECTORY HEADER INFORMATION IN A 3800 IMAGE LIBRARY FILE.

LOCATED BY:

THE DIRECTORY HEADER IS LOCATED AT THE BEGINNING OF THE FIRST DIRECTORY RECORD IN THE FILE.

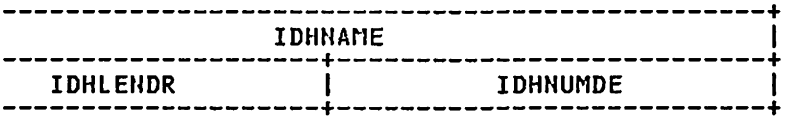
CREATED BY:

IMAGELIB COMMAND (HCPNMTBL)
IMAGEMOD COMMAND (DMSIMAGE)

DELETED BY:

ALL THE CONTENTS OF AN IMG FILE, INCLUDING THE IDHBKS, ARE DELETED BY THE "PURGE IMG" COMMAND PROCESSING (HCPCSUPU).

IDHBK - SPOOL IMAGE LIBRARY DIRECTORY HEADER



disp	name	length	description
000	IDHNAME	008	IMAGE LIBRARY NAME
008	IDHLENDR	004	LENGTH OF DIRECTORY RECORD, INCLUDING HEADER
00C	IDHNUMDE	004	NUMBER OF DIRECTORY ENTRIES (IDMBKS)

EQUATES

10	IDHSIZE	SIZE IN BYTES
02	IDHSZDW	SIZE IN DOUBLEWORDS

CROSS REFERENCE

Name	Len	Value/Disp
IDHBK	001	000
IDHLENDR	004	008
IDHNAME	008	000
IDHNUMDE	004	00C
IDHSIZE	001	010
IDHSZDW	001	002

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HCPIDMBK— SPOOL IMAGE LIBRARY DIRECTORY MEMBER

DSECT NAME: IDMBK

DESCRIPTIVE NAME: SPOOL IMAGE LIBRARY DIRECTORY MEMBER ENTRY BLOCK

FUNCTION: TO MAP OUT THE DIRECTORY MEMBER INFORMATION IN A 3800 IMAGE LIBRARY FILE.

LOCATED BY:

THE DIRECTORY MEMBERS ARE LOCATED AFTER THE IDHBK ON THE FIRST DIRECTORY RECORD IN THE FILE. THE IDHNUMDE DETERMINES HOW MANY IDMBKS THERE ARE ON THE DIRECTORY RECORD(S).

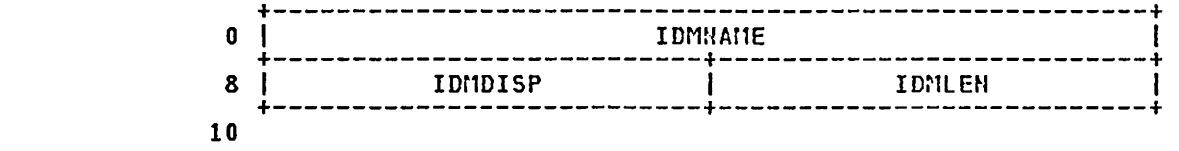
CREATED BY:

IMAGELIB COMMAND (HCPNMTBL)
IMAGEMOD COMMAND (DMSIMAGE)

DELETED BY:

ALL THE CONTENTS OF AN IMG FILE, INCLUDING THE IDMBKS, ARE DELETED BY THE "PURGE IMG" COMMAND PROCESSING (HCPCSUPU).

IDMBK - SPOOL IMAGE LIBRARY DIRECTORY MEMBER ENTRY BLOCK



disp	name	length	description
000	IDMNAME	008	LIBRARY MEMBER NAME
008	IDMDISP	004	STARTING DISPLACEMENT IN LIBRARY
00C	IDMLEN	004	LENGTH OF MEMBER IN BYTES (THIS INCLUDES THE IMHBK)

EQUATES

10	IDMSIZE	SIZE IN BYTES
02	IDMSZDW	SIZE IN DOUBLEWORDS

CROSS REFERENCE

Name	Len	Value/Disp
IDMBK	001	000
IDMDISP	004	008
IDMLEN	004	00C
IDMNAME	008	000
IDMSIZE	001	010
IDMSZDW	001	002

HCPIFSNT— INTERPRETATION FACILITY SUBCHANNEL NUMBER TABLE

DSECT NAME: IFSNT

DESCRIPTIVE NAME: INTERPRETATION FACILITY SUBCHANNEL NUMBER TABLE

FUNCTION: TO ALLOW THE MICROCODE TO DETERMINE IF A SIOF INSTRUCTION ISSUED, UNDER SIE, BY THE V=R GUEST SHOULD BE PASSED THROUGH OR CAUSE INTERCEPTION. THE IFSNT IS A 16K TABLE ON A PAGE FRAME BOUNDARY. IT IS CONTAINED IN FIXED, CONTIGUOUS REAL STORAGE. IT CONTAINS ONE ENTRY (4 BYTES LONG) FOR EACH DEVICE THAT COULD BE SUPPORTED UNDER I/O PASS THROUGH. IT IS ONLY APPLICABLE FOR A 370 V=R GUEST. DEVICES WITH ADDRESSES 000 THRU FFF ARE SUPPORTED UNDER I/O PASS THROUGH. THE MICROCODE USES THE DEVICE ADDRESS OPERAND OF THE SIOF INSTRUCTION TO INDEX INTO THE IFSNT. IF THE FIRST BYTE OF THE ENTRY IS NON-ZERO, THE SIOF INSTRUCTION IS ELIGIBLE TO BE PASSED THROUGH. THE FIRST BYTE THEN CONTAINS THE LOGICAL PATH MASK (LPM) TO BE PLACED IN THE OPERATION REQUEST BLOCK (ORB) CONSTRUCTED BY THE MICROCODE. IF THE FIRST BYTE OF THE ENTRY IS ZERO, SIOF MUST CAUSE INTERCEPTION. THE SECOND BYTE IS RESERVED AND THE THIRD AND FOURTH BYTES CONTAIN THE SUBCHANNEL NUMBER.

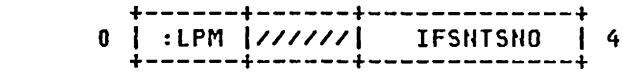
CREATED BY:

HCPIOAIT, HCPIOAGS

DELETED BY:

HCPIOARC, HCPIOARS

IFSNT - INTERPRETATION FACILITY SUBCHANNEL NUMBER TABLE



disp	name	length	description
000	IFSNTLPM	001	IF NON-ZERO, SIOF CAN BE PASSED THROUGH FOR THIS DEVICE. THIS BYTE CONTAINS LPM FOR MICROCODE BUILT ORB. IF ZERO, SIOF MUST CAUSE INTERCEPTION.
001		1X	RESERVED FOR FUTURE IBM USE
002	IFSNTSNO	002	SUBCHANNEL NUMBER FOR THIS DEVICE

EQUATES

00	IFSNTLEN	LENGTH OF IFSNT
04	IFSNTFCT	NUMBER OF FRAMES NEEDED FOR THE IFSNT

CROSS REFERENCE

Name	Len	Value/Disp
IFSNT	001	000
IFSNTFCT	001	004
IFSNTLEN	001	000
IFSNTLPM	001	000
IFSNTSNO	002	002

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HCPIMGBK— IMAGE FILE BLOCK

DSECT NAME: IMGBK

DESCRIPTIVE NAME: IMAGE FILE BLOCK

FUNCTION: THIS BLOCK IS USED FOR COMMUNICATIONS PURPOSES WHEN CP USERS REQUEST ACCESS TO AN IMAGE LIBRARY.

LOCATED BY:

THE POINTER TO THIS BLOCK IS KEPT IN RSPBK.

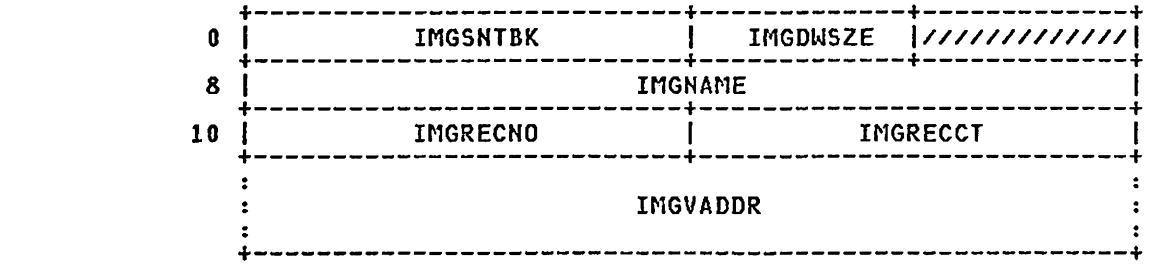
CREATED BY:

HCPSIL - WHEN A PRINTER IS STARTED

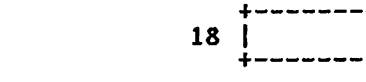
DELETED BY:

HCPSLD - WHEN A PRINTER IS DRAINED

IMGBK - IMAGE FILE BLOCK



REDEFINITION - START OF SYSTEM VIRTUAL ADDRESSES



disp	name	length	description
000	IMGSNTBK	004	POINTER TO THE SNTBK
004	IMGDWSZE	002	SIZE IN DOUBLEWORDS OF THE BLOCK
006		H	RESERVED FOR FUTURE USE
008	IMGNAME	008	FILE NAME OF THE IMAGE LIBRARY
010	IMGRECNO	004	FIRST RECORD OF THE IMAGE LIBRARY TO BE READ
014	IMGRECCT	004	COUNT OF RECORDS TO BE READ

EQUATES

03	IMGHDRSZ	HEADER SIZE IN DOUBLEWORDS

018	IMGVADDR	004	START OF VARIABLE LENGTH DATA

REDEFINITION - START OF SYSTEM VIRTUAL ADDRESSES

018	IMGVIRT	004	RETURNED SYSTEM VIRTUAL ADDRESS

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CROSS REFERENCE

Name	Len	Value/Disp
IMGBK	001	000
IMGDWSZE	002	004
IMGHDRSZ	001	003
IMGNAME	008	008
IMGRECCT	004	014
IMGRECNO	004	010
IMGSNTBK	004	000
IMGVADDR	004	018
IMGVIRT	004	018

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HCPIMHBK— SPOOL IMAGE LIBRARY MEMBER HEADER BLOCK

DSECT NAME: IMHBK

DESCRIPTIVE NAME: SPOOL IMAGE LIBRARY MEMBER HEADER BLOCK

FUNCTION: TO MAP OUT THE MEMBER HEADER INFORMATION PRECEDING EACH MEMBER IN THE 3800 IMAGE LIBRARY FILE.

LOCATED BY:

THE MEMBER HEADER PRECEEDS EACH IMAGE MODULE IN THE IMAGE LIBRARY. IT IS POINTED TO BY THE IDMDISP FIELD IN THE IDMBK.

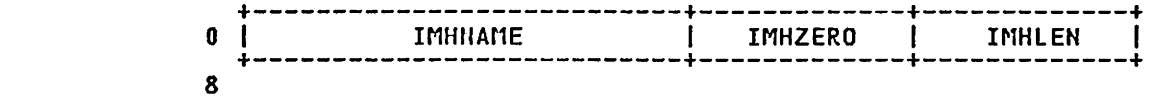
CREATED BY:

IMAGELIB COMMAND (HCPNMTBL)
IMAGEMOD COMMAND (DMSIMAGE)

DELETED BY:

ALL THE CONTENTS OF AN IMG FILE, INCLUDING THE IMHBKS, ARE DELETED BY THE "PURGE IMG" COMMAND PROCESSING (HCPCSUPU).

IMHBK - SPOOL IMAGE LIBRARY MEMBER HEADER BLOCK



disp	name	length	description
000	IMHNAME	004	NAME OF THE MODULE
004	IMHZERO	002	TWO ZERO BYTES
006	IMHLEN	002	LENGTH OF DATA (AFTER HEADER)

EQUATES

08	IMHTEXT	START OF IMAGE LOAD MODULE
08	IMHBSIZE	SIZE IN BYTES
01	IMHSIZE	SIZE IN DOUBLEWORDS

CROSS REFERENCE

Name	Len	Value/Disp
IMHBK	001	000
IMHBSIZE	001	008
IMHLEN	002	006
IMHNAME	004	000
IMHSIZE	001	001
IMHTEXT	001	008
IMHZERO	002	004

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Licensed Materials - Property of IBM

HCPIOIP— INPUT/OUTPUT INTERRUPT PARAMETER MAPPING

DSECT NAME: IOIP

DESCRIPTIVE NAME: INPUT/OUTPUT INTERRUPT PARAMETER MAPPING

FUNCTION: PROVIDE SYMOLIC REFERENCES FOR THE FIELDS STORED DURING AN XA MODE I/O INTERRUPT

LOCATED BY:

N/A

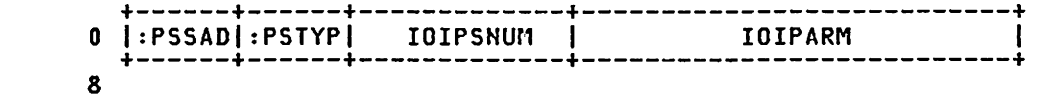
CREATED BY:

N/A

DELETED BY:

N/A

IOIP - I/O INTERRUPT PARAMETER BLOCK



disp	name	length	description
000	IOIPSSAD	001	SUBSYSTEM ADDRESS (X'00')
001	IOIPSTYP	001	SUBSYSTEM TYPE (X'01')
002	IOIPSNUM	002	SUBCHANNEL NUMBER
004	IOIPARM	004	I/O INTERRUPTION PARAMETER

EQUATES

01	IOIPSIZE	SIZE OF BLOCK IN DOUBLE-WORDS
08	IOIPBLEN	

CROSS REFERENCE

Name	Len	Value/Disp
IOIP	001	000
IOIPARM	004	004
IOIPBLEN	001	008
IOIPSIZE	001	001
IOIPSNUM	002	002
IOIPSSAD	001	000
IOIPSTYP	001	001

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HCPIOPBK— I/O PASSTHROUGH BLOCK

DSECT NAME: IOPBK

DESCRIPTIVE NAME: I/O PASSTHROUGH BLOCK

FUNCTION: A IOPBK CONTAINS INFORMATION RELATED TO THE EXECUTION OF A VIRTUAL MACHINE ELIGIBLE TO USE THE SIE ASSIST FOR ITS DEDICATED I/O.

LOCATED BY:

VMDIOPBK FIELD OF THE PREFERRED GUEST'S ORIGIN VMDBK
THE FIRST PART OF THE IOPBK IS A TRQBK, SO IT MAY ALSO APPEAR ON THE TIMER SUPERVISOR QUEUE, OR BE STACKED ON THE VMDBK.

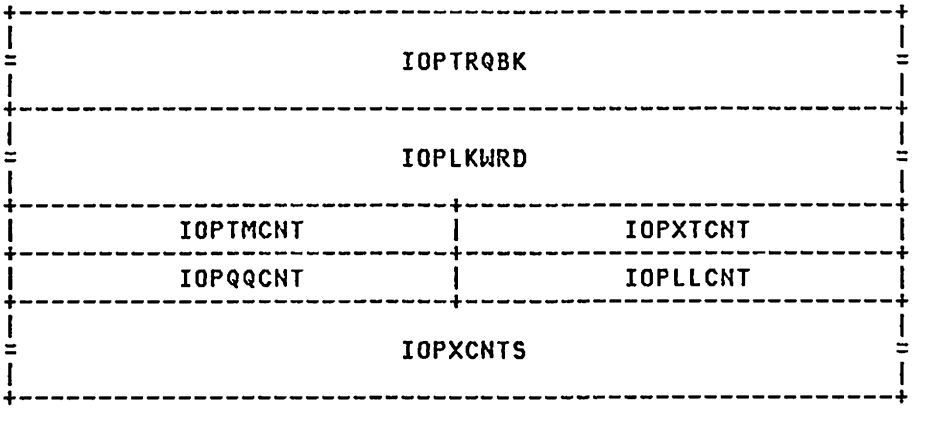
CREATED BY:

HCPBVM WHEN A USER LOGS ON IN THE V=R AREA.

DELETED BY:

HCPUSO WHEN THE V=R USER LOGS OFF.

IOPBK - I/O PASS THRU BLOCK



disp	name	length	description
000	IOPTRQBK	008	TIMER REQUEST BLOCK
038	IOPLKWRD	008	LOCKWORD FOR SYNCHRONIZING
050	IOPTMCNT	004	COUNT OF ENTRIES TO CFM WHILE I/O
054	IOPXTCNT	004	COUNT OF TIMER EXPIRATIONS BEFORE
058	IOPQQCNT	004	COUNT OF CANCELLATIONS IN LESS
05C	IOPLLCNT	004	COUNT OF CANCELLATION AFTER MORE
060	IOPXCNTS	004	ARRAY OF COUNTS OF CANCELLATIONS IN

MORE EQUATES

A0	IOPLEN	SIZE OF THE IOPBK IN BYTES
14	IOPSIZE	SIZE OF THE IOPBK IN DOUBLEWO

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Licensed Materials - Property of IBM

CROSS REFERENCE

Name	Len	Value/Disp
IOPBK	001	000
IOPLEN	001	0A0
IOPLKWRD	008	038
IOPLLCNT	004	05C
IOPQQCNT	004	058
IOPSIZE	001	014
IOPTMCNT	004	050
IOPTRQBK	008	000
IOPXCNTS	004	060
IOPXTCNT	004	054

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HCPIORBK— I/O REQUEST AND RESPONSE BLOCK

DSECT NAME: IORBK

DESCRIPTIVE NAME: I/O REQUEST AND RESPONSE BLOCK

FUNCTION: THE I/O REQUEST AND RESPONSE BLOCK IS USED TO REPRESENT AN I/O OPERATION.

LOCATED BY:

```
CACXUIOR FIELD OF CACBK - CTC UNSOLICITED IORBK
CACYUIOR FIELD OF CACBK - CTC UNSOLICITED IORBK
CPVIORS  FIELD OF CPVOL - PREFORMATTED PAGING IORBK
GSRIORBK FIELD OF GSRBK - IORBK'S FOR RECOVERY
IORFPNT  FIELD OF IORBK - FORWARD  IORBK POINTER
IORBPNT  FIELD OF IORBK - BACKWARD IORBK POINTER
IORPIOR  FIELD OF IORBK - NEXT PENDING INTERRUPTION IORBK
MDIDEOWD FIELD OF MDISK - DEVICE-END OWED IORBK
MDIDEPND FIELD OF MDISK - DEVICE-END PENDING IORBK
MDIQWAIT FILED OF MDISK - WAIT FOR "RELEASE" IORBK
MNDAIOR  FIELD OF MNDC  - MONITOR TAPE IORBK
PIOIOR   FIELD OF PIOBK - IORBK FOR THIS PIOBK
RDEVAIOR FIELD OF RDEV  - ACTIVE IORBK
RDEVNXTL FIELD OF RDEV  - NEXT LOWER  IORBK
RDEVNXTH FIELD OF RDEV  - NEXT HIGHER IORBK
RDEVNXTI FIELD OF RDEV  - NEXT IMMEDIATE IORBK
RDEVNXTW FIELD OF RDEV  - INTER-REQUIRED WAIT IORBK
VCTXDATN FIELD OF VCTCA - DEFERRED ATTENTION IORBK
VCTYDATN FIELD OF VCTCA - DEFERRED ATTENTION IORBK
VDEVAIOR FIELD OF VDEV  - ACTIVE IORBK
VDEVIORQ FIELD OF VDEV  - UNSOLICITED INTERRUPT IORBK
VDEVNIOR FIELD OF VDEV  - REDRIVE/SUSPENDED IORBK
VDEVPIOR FIELD OF VDEV  - PENDING INTERRUPT IORBK
VDEVSIOR FIELD OF VDEV  - PENDING SENSE DATA IORBK
VMDQIORF FIELD OF VMDBK - IORBK/TRQBK STACK
```

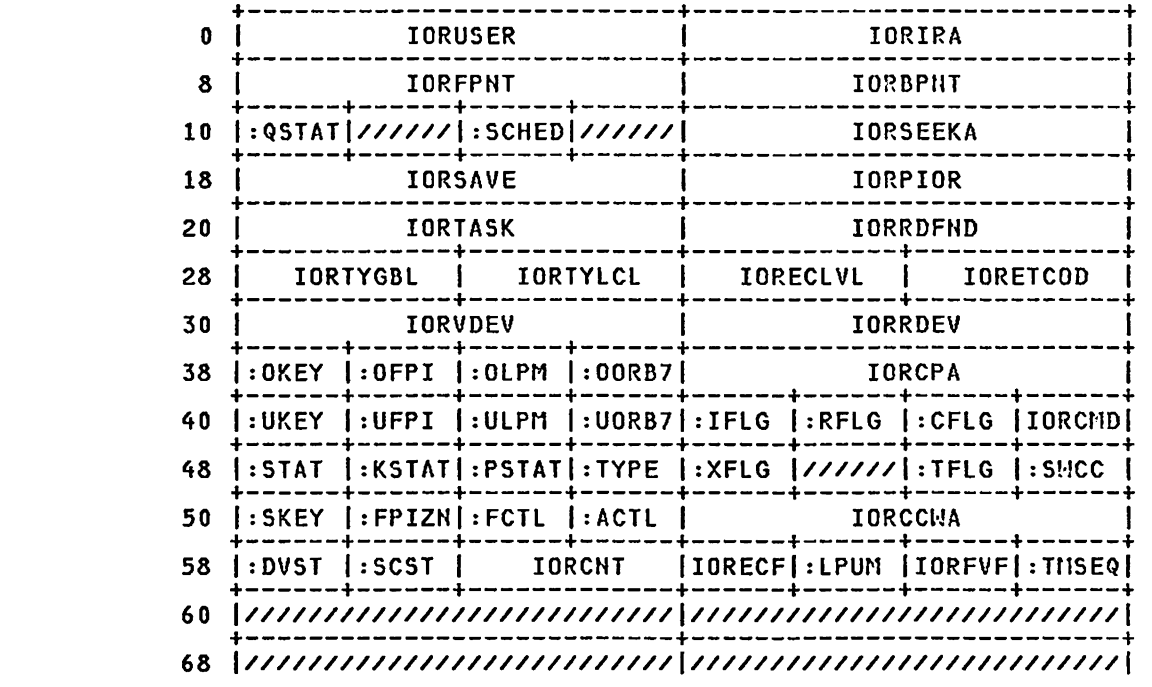
CREATED BY:

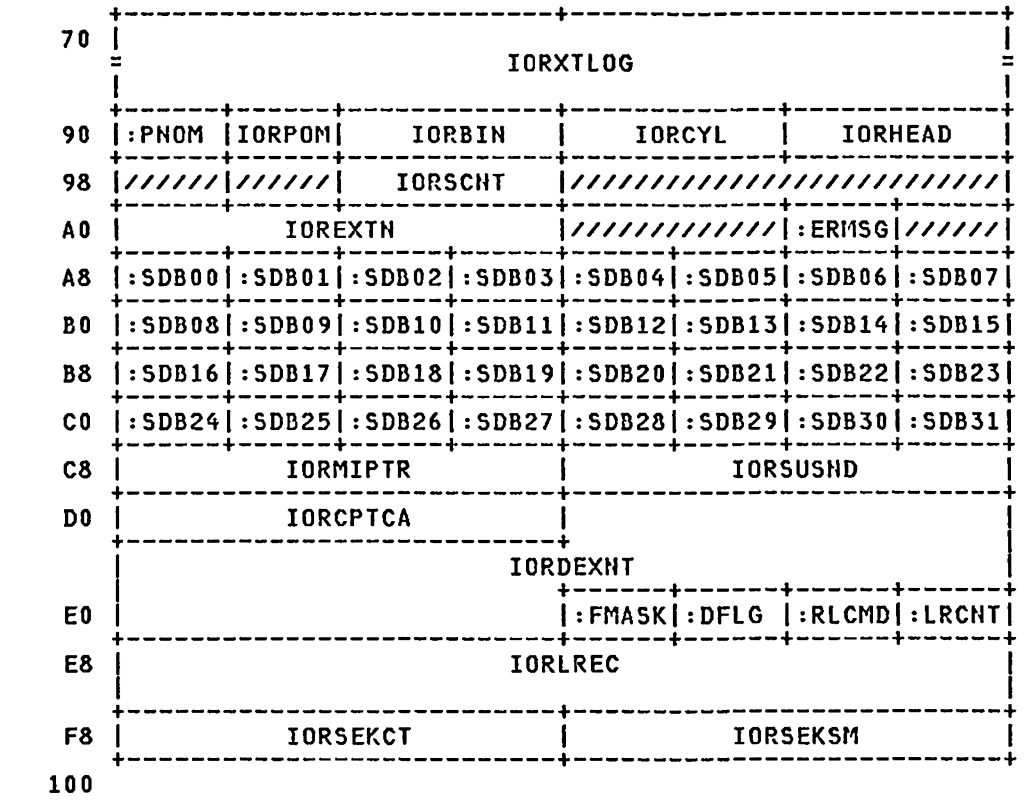
IORBK'S ARE DYNAMICALLY CREATED BY CALLING HCPFREE.

DELETED BY:

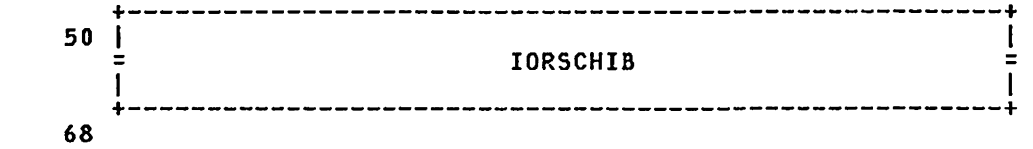
BLK HCPBLK (CP) VM/XA - SYSTEM PRODUCT 5664-308

IORBK - I/O REQUEST AND RESPONSE BLOCK

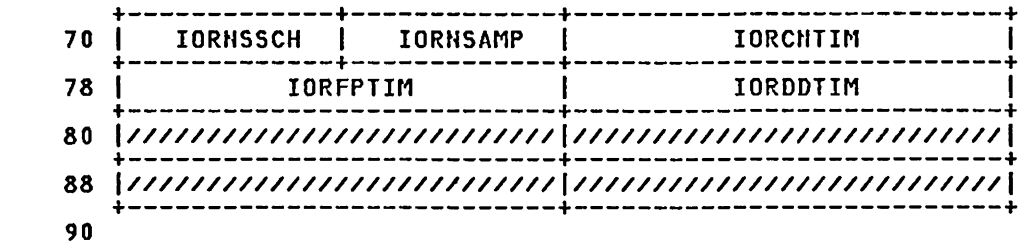




REDEFINITION - SCHIB OVERLAY



REDEFINITION - SCMBK OVERLAY



disp	name	length	description
000	IORUSER	004	VIRTUAL USER TO BE CHARGED
004	IORIRA	004	I/O INTERRUPTION RETURN ADDR.
008	IORFPNT	004	POINTER TO NEXT QUEUED IORBK
00C	IORBPNT	004	POINTER TO PREVIOUS QUEUED IORBK
010	IORDISPN	004	DISPATCHING FLAGS
010	IORQSTAT	001	DISPATCHING QUEUING STATUS

BITS DEFINED IN IORQSTAT (AT HEX DISPLACEMENT: 10)

80 IORQQUED WAITING AFTER STARTING I/O

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        40     IORQACTV    ACTIVE IN CHANNEL
        20     IORQDSP     DISPATCHER HAS CONTROL OF IORBK
        10     IORACT      ACTIVE I/O
        01     IORQANCH    CHANNEL SCHEDULING QUEUE (ANCHOR)

011                1X      RESERVED FOR FUTURE IBM USE
012    IORSCHED    001     SCHEDULING, UNSTACK CONTROL FLAGS

        BITS DEFINED IN IORSCHED (AT HEX DISPLACEMENT: 12)

        80     IORHIPRI    REQUEST TO GRANT A VERY HIGH
                           DISPATCHER/SCHEDULER PRIORITY FOR
                           THE VMDBK IDENTIFIED BY IORUSER
        40     IORUCALL    UNSTACK IORBK WITH CALL-LINKAGE
                           WHEN UNSTACKED BY THE DISPATCHER
        01     IORIDTRQ    TRQBK IDENTIFIER (1=TRQBK, 0=IORBK)

013                1X      RESERVED FOR FUTURE IBM USE
014    IORSEEKA    004     USER LAST SEEK CCW ADDRESS
018    IORSAVE     004     LOCATION TO SAVE R13 FOR IORSYN
                           HCPPAG USES THIS FIELD AS THE
                           POINTER IN A SINGLY LINKED LIST OF
                           IORBKS.
                           HCPCPH USES THIS FIELD AS THE
                           POINTER TO A HLTBLK. HCPCPH WILL
                           RESTORE THIS FIELD TO ITS ORIGINAL
                           VALUE WHEN HALT PROCESSING IS
                           COMPLETE.
01C    IORPIOR     004     PENDING INTERRUPTION LIST
020    IORTASK     004     ADDRESS OF RCWTASK/CONTASK CHAIN
024    IORRDFND    004     ADDR OF 3270 FULL SCREEN READ
                           CODE  DEFINED IN IORTYGBL
028    IORTYGBL    002     E.R.P. GLOBAL RETRY COUNT

                     EQUATES

        01     IORMXGCT    MAXIMUM GLOBAL RETRY COUNT

02A    IORTYLCL    002     E.R.P. LOCAL  RETRY COUNT
02C    IORECLVL    002     E.R.P. RECURSION LEVEL

        CODES DEFINED IN IORECLVL (AT HEX DISPLACEMENT: 2C)

        0A     IORMXRCT    MAXIMUM RECURSIVE COUNT

02E    IORETCOD    002     E.R.P. COMPLETION CODE

        CODES DEFINED IN IORETCOD (AT HEX DISPLACEMENT: 2E)

        00     IORRCOK     SUCCESSFUL COMPLETION
        04     IORRCDRV    REDRIVE / RESUME
        08     IORRCEOF    END-OF-FILE
        0C     IORRCFTL    FATAL I/O COMPLETION
        10     IORRCKIL    SEVERE I/O ERROR
        14     IORRCNCL    I/O CANCELLED

030    IORVDEV     004     ADDRESS OF VIRTUAL DEVICE BLOCK

                           PATH MANAGEMENT CONTROL WORD

034    IORPMCW     016     ALTERABLE SECTION OF PMCW - THIS
                           IS THE OPERAND TO IOSQM  - QUEUE
                           MODIFY-SUBCHANNEL REQUEST.
034    IORPMW01    008     PMCW WORD 0-1

                           OPERATION REQUEST BLOCK

034    IORORB      012     OPERATION REQUEST BLOCK
034    IORRDEV     004     ADDRESS OF REAL DEVICE BLOCK (PARM)
038    IOROCTL     004     FOLLOWING ARE CONTROL FIELDS
038    IOROKF      002     KEY AND FLAG BYTES
038    IOROKEY     001     KEY PLUS 4 REQUIRED ZEROS

        BITS DEFINED FOR IOROKEY BY HCPEQUAT CSWSKEY
```

```
039   IOROFPI    001      FETCH, PROTECT AND INITIAL STATUS

        BITS DEFINED FOR IOROFPI BY HCPEQUAT CSWFPIZN

03A   IOROLPM    001      LOGICAL PATH MASK
03B   IOROORB7   001      BYTE 7 OF SYSTEM ORB
03C   IORCCWS    004      FIRST CHANNEL COMMAND WORD
03C   IORCPA     004      CHANNEL PROGRAM ADDRESS

                          VIRTUAL MACHINE'S ORB CONTROLS

040   IORUCTL    004      SAVED GUEST CONTROL FIELD VALUES
040   IORUKF     002      KEY AND FLAG BYTES
040   IORUKEY    001      KEY PLUS 4 REQUIRED ZEROS

        BITS DEFINED FOR IORUKEY BY HCPEQUAT CSWSKEY

041   IORUFPI    001      FETCH, PROTECT AND INITIAL STATUS

        BITS DEFINED FOR IORUFPI BY HCPEQUAT CSWFPIZN

042   IORULPM    001      LOGICAL PATH MASK
043   IORUORB7   001      BYTE 7 OF GUEST ORB
044   IORRCTL    004      CONTROLS PRESERVED FOR CHANNEL
                          PROGRAM RESUMPTION (EXCEPT CFLG)
044   IORCCTL    002      CONTROLS PRESERVED FOR CHANNEL
                          PROGRAM CONTINUATION
044   IORIFLG    001      SPECIAL INFORMATION BLOCK

        BITS DEFINED IN IORIFLG  (AT HEX DISPLACEMENT: 44)

        80    IORCONT     CHANNEL PROGRAM CONTINUATION
        40    IORMDLCK    MINI-DISK LOCK HELD FOR THIS REQUEST
        20    IORTRTRM    TRACE CCW'S FOR TERMINAL OUTPUT
        10    IORTRPRT    TRACE CCW'S FOR PRINTER  OUTPUT
        30    IORTRCCW    TRACE CCW'S FOR THIS OPERAT'N
        08    IORRESUM    CHANNEL PROGRAM RESUMPTION
        04    IORVXA      VIRTUAL XA GUEST I/O REQUEST

045   IORRFLG    001      I/O REQUEST CONTROL FLAGS

        BITS DEFINED IN IORRFLG  (AT HEX DISPLACEMENT: 45)

        80    IORSYNCH    SYNCHRONOUS.  MERGE SOLICITED STS.
                          IORBK WILL NOT BE DISPATCHED UNTIL
                          ALL  SOLICITED STATUS IS RECIEVED.
        40    IORDQUNS    DEQUEUE WITH  UNSOLICITED  STATUS.
                          IF UNSOLICITED STATUS IS  RECIEVED
                          WHILE THIS IORBK IS  START-PENDING
                          OR ENQUEUED ON A REAL DEVICE,  THE
                          UNSOLICITED STATUS WILL BECOME THE
                          COMPLETION  STATUS FOR THIS IORBK.
                          THIS DOES NOT APPLY TO UNSOLICITED
                          ATTENTION FROM A CTCA. ATTENTION +
                          BUSY FROM A CTCA IS SOLICITED WHEN
                          THE SENSE DATA INDICATES THAT  THE
                          COMMANDS ON THE TWO SIDES  OF  THE
                          ADAPTOR ARE CONFLICTING. WHEN THEY
                          ARE NOT CONFLICTING, THE STATUS IS
                          SIMPLY DISCARDED.
        20    IORERPEQ    DETECT  EQUIPMENT CHECKS WHICH MAY
                          AFFECT OTHER I/O REQUESTS FOR  THE
                          SAME REAL DEVICE.
        10    IORERPCP    PERFORM FULL CP I/O ERROR RECOVERY.
        08    IORERPNW    IF REAL DEVICE IS  NOT-READY, DON'T
                          WAIT FOR IT TO BECOME READY.
        02    IORHSCH0    GENERATE NON-FINAL IORBK  FOR  CC 0
                          FROM HOST HALT-SUBCHANNEL.
        01    IORDIAG     GUEST DIAGNOSE INTERFACE CCWS

046   IORCFLG    001      I/O REQUEST COMPLETION FLAGS

        BITS DEFINED IN IORCFLG  (AT HEX DISPLACEMENT: 46)
```

	80	IORUNSL	UNSOLICITED STATUS
	40	IORCOPY	NON-FINAL SOLICITED STATUS
	20	IORCCWTR	CCW TRANSLATION PERFORMED
	10	IORNOERP	ERP INVOCATION NOT ALLOWED
	08	IORCOMP	REQUEST COMPLETED WITHOUT ERROR
	04	IORFATL	UNRECOVERABLE I/O ERROR
	02	IORERDAS	CALLED FOR DASDI ERRORS
	01	IORCCWDA	DIAGNOSE X'18' CCW TRANSLATION

047 IORCMD 001 COMMAND FIELD

CODES DEFINED IN IORCMD (AT HEX DISPLACEMENT: 47)

01	IORSTART	START REQUEST - ORB AT IORORB
02	IORHALT	HALT REQUEST - CSWRESPN SET IN IOROFPI TO REQUEST A NON-FINAL IORBK WHEN CC 0 RECEIVED FOR HSCH INSTRUCTION.
03	IORHALTD	HALTED START REQUEST
04	IORCLEAR	CLEAR REQUEST
05	IORMODFY	MODIFY REQUEST - 1ST 16 BYTES OF PMCW (THE SECTION WHICH CAN BE MODIFIED) AT IORPMCW.

048 IORSTAT 001 I/O REQUEST STATUS FLAGS

BITS DEFINED IN IORSTAT (AT HEX DISPLACEMENT: 48)

80	IORSNSRQ	SENSE WILL BE REQUIRED
40	IORSNSAC	SENSE CURRENTLY ACTIVE ON DEVICE
20	IORSNSIV	SENSE INFORMATION WILL BE INVALID
10	IORSNS	VALID SENSE INFORMATION PRESENT
04	IOR9C00	SIO OPERATION
02	IORSIFCC	ADD INTERFACE CONTROL CHECK. A MISSING INTERRUPT WAS DETECTED OR THE DEVICE PRESENTED INVALID STATUS (ALERT THE USER SO THE DEVICE WILL BE FIXED)
01	IORMBUPD	GUEST MEASUREMENT BLOCK UPDATED

049 IORKSTAT 001 STANDALONE PRELIMINARY SEEK CTLS

BITS DEFINED IN IORKSTAT (AT HEX DISPLACEMENT: 49)

80	IORSKREQ	PRELIMINARY SEEK IS REQUIRED
40	IORSKACT	PRELIMINARY SEEK CURRENTLY ACTIVE

04A IORPSTAT 001 PATH MANAGEMENT CONTROL STATUS

BITS DEFINED IN IORPSTAT (AT HEX DISPLACEMENT: 4A)

80	IORPNSTS	PNOM IN IORPNOM / POM IN IORPOM

04B IORTYPE 001 I/O OPERATION REQUEST TYPE

CODES DEFINED IN IORTYPE (AT HEX DISPLACEMENT: 4B)

00	IORSIO	START I/O
FE	IORCUSER	CHANGE IORUSER TO "SYSTEM"
FF	IORSPECL	INFORMATIONAL IORBK

04C IORXFLG 001 EXTENDED INFORMATION FLAG

BITS DEFINED IN IORXFLG (AT HEX DISPLACEMENT: 4C)

80	IORCPSUS	SUSPENDED CHANNEL PROGRAM
40	IORPMIP	PATH MASK RECONSTRUCTION IN PROGRESS
20	IORISAM	IORBK CONTAINS ISAM RCWTASKS
10	IORDISAB	IORBK CONTAINS DISABLE RCWTASK
08	IORMALPM	I/O MAY AFFECT PATH MASK VALIDITY
04	IORNOLPM	DISREGARD RDEVLPM ON SSCH'S
02	IORMSWSP	SPECIAL PROCESSING
01	IORUNLOK	PAGES ARE NOT LOCKED

```
04D                 1X        RESERVED FOR FUTURE IBM USE
04E   IORTFLG       001       TERMINAL CONTROL FLAG

        BITS DEFINED IN IORTFLG  (AT HEX DISPLACEMENT: 4E)

        80     IORCLSCR     CLEAR SCREEN & ISSUE FULL SCREEN I/O

04F   IORSWCC       001       WCC CHARACTER

                      EQUATES

        01     IORCSENQ     REQUEST ENQUEUED ON RDEVBLOK
        02     IORCSWAD     REQUEST WAITING FOR AVAILABLE DEV
        04     IORCSWBY     REQUEST WAITING FOR BUSY TO CLEAR
        08     IORCSTRU     REQUEST STARTED, NOT CONFIRMED
        10     IORCSTRC     REQUEST STARTED, CONFIRMED
        20     IORCSPCM     PARTIAL COMPLETION (CE OR PCI)
        40     IORCSHLT     DEVICE HALTED PRIOR TO COMPLETION
        80     IORCSFCM     FULL COMPLETION (SEE IORTTERM)

                            INTERRUPT RESPONSE BLOCK


050   IORIRB       064       INTERRUPTION RESPONSE BLOCK
050   IORSCSW      012       SUBCHANNEL CSW AREA
050   IORSCTLS     002       SUBCHANNEL CSW CONTROLS
050   IORSKEY      001       SCSW KEY, LOGOUT, COND CODE

        BITS DEFINED FOR IORSKEY BY HCPEQUAT CSWSKEY

051   IORFPIZN     001       CCW CONTROLS & INITIAL RESPONSES

        BITS DEFINED FOR IORFPIZN BY HCPEQUAT CSWFPIZN

052   IORFCAC      002       FUNCTION AND ACTIVITY BYTES
052   IORFCTL      001       FUNCTION CONTROL BYTE

        BITS DEFINED FOR IORFCTL BY HCPEQUAT CSWFCTL

053   IORACTL      001       ACTIVITY CONTROL PART

        BITS DEFINED FOR IORACTL BY HCPEQUAT CSWACTL

054   IORCASC      008       COMBINED CCW ADDRESS, DEVICE STATUS,
                             SUBCHANNEL STATUS, AND RESIDUAL
                             COUNT FIELDS
054   IORCCWA      004       SCSW CHANNEL CMD WORD ADDR
058   IORCSC       004       COMBINED DEVICE STATUS,
                             SUBCHANNEL STATUS, AND RESIDUAL
                             COUNT FIELDS
058   IORSTFLG     002       STATUS FLAG FIELDS TOGETHER
058   IORDVST      001       SCSW DEVICE STATUS BITS

        BITS DEFINED FOR IORDVST BY HCPEQUAT CSWDVST

059   IORSCST      001       SCSW SUBCHANNEL STATUS BITS

        BITS DEFINED FOR IORSCST BY HCPEQUAT CSWSCST

05A   IORCNT       002       SCSW RESIDUAL CCW DATA COUNT
05C   IORIRLG      004       LIMITED SUBCHANNEL LOGOUT WORD
05C   IORDETCT     001       S/370 ERROR DETECT FIELD

        BITS DEFINED FOR IORDETCT BY HCPEQUAT CSWDETCT

05C   IORECF       001       ERROR CHECK FLAGS

        BITS DEFINED FOR IORECF BY HCPEQUAT CSWECF

05D   IORSOURC     001       S/370 ERROR SOURCE FIELD

        BITS DEFINED FOR IORSOURC BY HCPEQUAT CSWSOURC
```

05D	IORLPUM	001	LAST PATH USED
05E	IORDCTI	002	DEVICE CONNECT TIME
05E	IORFVF	001	FIELD VALIDITY FLAGS

BITS DEFINED FOR IORFVF BY HCPEQUAT CSWFVF

05F	IORTMSEQ	001	TERMINATION AND SEQUENCE CODES

BITS DEFINED FOR IORTMSEQ BY HCPEQUAT CSWTMSEQ

060		1F	RESERVED FOR FUTURE HARDWARE USE
064		1F	RESERVED FOR FUTURE HARDWARE USE
068		1F	RESERVED FOR FUTURE HARDWARE USE
06C		1F	RESERVED FOR FUTURE HARDWARE USE
070	IORXTLOG	032	I/O EXTENDED LOGOUT AREA
090	IORPNOM	001	PNOM MASK IF N-BIT OR I/O CC 3
091	IORPOM	001	POM MASK IF N-BIT OR I/O CC 3
092	IORSEEK	006	BBCCHH FOR COUNT-KEY-DATA
092	IORSBBCC	004	BIN AND CYLINDER FOR COUNT-KEY-DATA
092	IORBIN	002	BIN NUMBER FOR COUNT-KEY-DATA
094	IORCYL	002	CYLINDER NUMBER FOR COUNT-KEY-DATA
096	IORHEAD	002	HEAD NUMBER FOR COUNT-KEY-DATA
098	IORSKCCW	008	PRELIMINARY SEEK TO BE EXECUTED
098	IORSCCW	008	SENSE CCW TO BE EXECUTED
098		1X	CCW OPCODE
099		1X	CCW FLAG BYTE
09A	IORSCNT	002	CCW COUNT FIELD / SENSE BYTE COUNT
09C		1F	CCW ADDRESS FIELD
0A0	IOREXTN	004	POINTER TO EXTENSION DATA
0A4		1H	RESERVED FOR FUTURE IBM USE
0A6	IORERMSG	001	ERROR MESSAGE CODE

CODES DEFINED IN IORERMSG (AT HEX DISPLACEMENT: A6)

00	IORMREJ	COMMAND REJECT MESSAGE
01	IORMIRQ	INTERVENTION REQUIRED MESSAGE
02	IORMBUS	BUSOUT CHECK MESSAGE
03	IORMEQP	EQUIPMENT CHECK MESSAGE
04	IORMDTA	DATA CHECK MESSAGE
05	IORMOVR	OVERRUN MESSAGE
06	IORMTRK	TRACK CONDITION MESSAGE
07	IORMSEK	SEEK CHECK MESSAGE
08	IORMPRM	PERMANENT ERROR MESSAGE
09	IORMTOV	TRACK OVERFLOW MESSAGE
0A	IORMCNV	CONVERTOR CHECK MESSAGE
0B	IORMCMP	COMPATIBILITY CHECK MESSAGE
0C	IORMLDP	LOAD POINT MESSAGE
0D	IORMPRT	PROTECTION CHECK MESSAGE
0E	IORMNRF	NO RECORD FOUND MESSAGE
0F	IORMEOC	END OF CYLINDER MESSAGE
10	IORMBSN	BAD SENSE MESSAGE
11	IORMUNK	UNKNOWN CCW MESSAGE
12	IORMRCV	RECOVERY ERROR MESSAGE
13	IORMPEB	PE BURST MESSAGE
14	IORMCHN	CHANNEL ERROR MESSAGE
15	IORMNDV	NO DEVICE MESSAGE
16	IORMGAP	ERASE GAP ERROR MESSAGE
17	IORMCTL	CONTROL CHECK MESSAGE
18	IORMLDC	LOAD CHECK MESSAGE
19	IORMFMT	FORMAT CHECK MESSAGE
1A	IORDSEF	TAPE DATA SECURITY ERASE FAILED
1B	IORMLST	LOST DATA MESSAGE
1C	IORMTIM	TIME OUT MESSAGE
1D	IORMPAR	PARITY CHECK MESSAGE
1E	IORMUSP	UNIT SPECIFICATION
1F	IORMDCK	DISPLAY CONTROL CHECK
20	IORMOCK	OPERATION CHECK
21	IORMEQPA	EQUPMENT CHECK WITH OPERATOR'S ACTION
22	IORMUCS	UNUSUAL COMMAND SEQUENCE
23	IORMOFF	DEVICE VARIED OFFLINE MESSAGE
24	IORMPLB	DASD PACKED LABEL NOT MATCHED
25	IORMELB	DASD LABEL CAN NOT BE READ
26	IORMUNS	REPETITIVE UNSOLICITED DEVICE END
27	IORMHDC	DASD POTENTIAL HEAD CRASH

```
         28     IORMSUP     COMMAND SUPPRESSION MESSSAGE
         2A     IORMINC     OPERATION INCOMPLETE
         57     IORMPEDP    MULTIPLE ENVIRONMENTAL DATA PRESENT
         5B     IORMCPRG    CHANNEL PROGRAM CHECK
         5F     IORMDLB     DASD LABEL DAMAGED
         EE     IORMBLFL    INDICATE BUFFER LOG FULL
         FE     IORMSGER    NON-CP (GUEST) ERROR

0A7               1X        RESERVED FOR FUTURE IBM USE
0A8    IORSDATA   032       BUFFER FOR 32 BYTES OF SENSE DATA
0A8    IORSDB00   001       BYTE 0 OF SENSE DATA
0A9    IORSDB01   001       BYTE 1 OF SENSE DATA
0AA    IORSDB02   001       BYTE 2 OF SENSE DATA
0AB    IORSDB03   001       BYTE 3 OF SENSE DATA
0AC    IORSDB04   001       BYTE 4 OF SENSE DATA
0AD    IORSDB05   001       BYTE 5 OF SENSE DATA
0AE    IORSDB06   001       BYTE 6 OF SENSE DATA
0AF    IORSDB07   001       BYTE 7 OF SENSE DATA
0B0    IORSDB08   001       BYTE 8 OF SENSE DATA
0B1    IORSDB09   001       BYTE 9 OF SENSE DATA
0B2    IORSDB10   001       BYTE 10 OF SENSE DATA
0B3    IORSDB11   001       BYTE 11 OF SENSE DATA
0B4    IORSDB12   001       BYTE 12 OF SENSE DATA
0B5    IORSDB13   001       BYTE 13 OF SENSE DATA
0B6    IORSDB14   001       BYTE 14 OF SENSE DATA
0B7    IORSDB15   001       BYTE 15 OF SENSE DATA
0B8    IORSDB16   001       BYTE 16 OF SENSE DATA
0B9    IORSDB17   001       BYTE 17 OF SENSE DATA
0BA    IORSDB18   001       BYTE 18 OF SENSE DATA
0BB    IORSDB19   001       BYTE 19 OF SENSE DATA
0BC    IORSDB20   001       BYTE 20 OF SENSE DATA
0BD    IORSDB21   001       BYTE 21 OF SENSE DATA
0BE    IORSDB22   001       BYTE 22 OF SENSE DATA
0BF    IORSDB23   001       BYTE 23 OF SENSE DATA
0C0    IORSDB24   001       BYTE 24 OF SENSE DATA
0C1    IORSDB25   001       BYTE 25 OF SENSE DATA
0C2    IORSDB26   001       BYTE 26 OF SENSE DATA
0C3    IORSDB27   001       BYTE 27 OF SENSE DATA
0C4    IORSDB28   001       BYTE 28 OF SENSE DATA
0C5    IORSDB29   001       BYTE 29 OF SENSE DATA
0C6    IORSDB30   001       BYTE 30 OF SENSE DATA
0C7    IORSDB31   001       BYTE 31 OF SENSE DATA
0C8    IORMIPTR   004       POINTER TO BLOCKS USED FOR HANDLING
                            MISSING INTERRUPT CONDITIONS (HCPMIHDR)
0CC    IORSUSND   004       ADDRESS OF ROUTINE TO ALLOW A SUSPENDED
                            CHANNEL PROGRAM TO COMPLETE
0D0    IORCPTCA   004       POINTER TO CHANNEL PROGRAM
                            TRANSLATION COMMUNICATION AREA
0D4    IORRDRV    036       DASD INFO PRESERVED DURING REDRIVE
0D4    IORDEXNT   016       DEFINE EXTENT DATA
0E4    IORFMASK   001       SET FILE MASK DATA
0E5    IORDFLG    001       DASD FLAG

       BITS DEFINED IN IORDFLG  (AT HEX DISPLACEMENT: E5)

         80     IORFMSET    FILE MASK CCW WAS TRANSLATED
         40     IORDESET    DEFINE EXTENT CCW WAS TRANSLATED
         20     IORSCSET    SPACE COUNT CCW WAS TRANSLATED
         10     IORLRSET    LOCATE RECORD WAS TRANSLATED
         08     IORRASET    RESET ALLEGIENCE WAS SIMULATED

0E6    IORRLCMD   001       LAST EXECUTED REAL COMMAND CODE
0E7    IORLRCNT   001       COUNT OF CCWS TRANSLATED AFTER A
                            LOCATE RECORD
0E8    IORLREC    016       LOCATE RECORD DATA
0F8    IORSEKCT   004       MONITOR SEEK COUNT
0FC    IORSEKSM   004       MONITOR DASD ARM MOTION

                   EQUATES

         20     IORSIZE     IORBLOK BLOCK SIZE

        REDEFINITION - SCHIB OVERLAY
```

050	IORDEVIB	008	SCHIB LOCATION FOR STSCH/MSCH
050	IORSCHIB	024	AREA TO COLLECT A SCHIB

REDEFINITION - SCMBK OVERLAY

070	IORSCMBK	004	OVERLAY FOR MEASUREMENT INFO
070	IORNSSCH	002	INITIAL/DELTA SSCH OR RSCH COUNT
072	IORNSAMP	002	INITIAL/DELTA SAMPLE COUNT
074	IORCNTIM	004	INITIAL/DELTA DEVICE-CONNECT TIME
078	IORFPTIM	004	INITIAL/DELTA FUNCTION-PENDING TIME
07C	IORDDTIM	004	INITIAL/DELTA DEVICE-DISCONNECT TIME
080		1F	RESERVED FOR FUTURE HARDWARE USE
084		1F	RESERVED FOR FUTURE HARDWARE USE
088		1F	RESERVED FOR FUTURE HARDWARE USE
08C		1F	RESERVED FOR FUTURE HARDWARE USE

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
IORACT	001	010	IORDQUNS	001	040	IORMCNV	001	00A
IORACTL	001	053	IORDSEF	001	01A	IORMCPRG	001	05B
IORBIN	002	092	IORDVST	001	058	IORMCTL	001	017
IORBK	001	000	IORECF	001	05C	IORMDCK	001	01F
IORBPNT	004	00C	IORECLVL	002	02C	IORMDLB	001	05F
IORCASC	008	054	IORERDAS	001	002	IORMDLCK	001	040
IORCCTL	002	044	IORERMSG	001	0A6	IORMDTA	001	004
IORCCWA	004	054	IORERPCP	001	010	IORMELB	001	025
IORCCWDA	001	001	IORERPEQ	001	020	IORMEOC	001	00F
IORCCWS	004	03C	IORERPNW	001	008	IORMEQP	001	003
IORCCWTR	001	020	IORETCOD	002	02E	IORMEQPA	001	021
IORCFLG	001	046	IOREXTN	004	0A0	IORMFMT	001	019
IORCLEAR	001	004	IORFATL	001	004	IORMGAP	001	016
IORCLSCR	001	080	IORFCAC	002	052	IORMHDC	001	027
IORCMD	001	047	IORFCTL	001	052	IORMINC	001	02A
IORCNT	002	05A	IORFMASK	001	0E4	IORMIPTR	004	0C8
IORCNTIM	004	074	IORFMSET	001	080	IORMIRQ	001	001
IORCOMP	001	008	IORFPIZN	001	051	IORMLDC	001	018
IORCONT	001	080	IORFPNT	004	008	IORMLDP	001	00C
IORCOPY	001	040	IORFPTIM	004	078	IORMLST	001	01B
IORCPA	004	03C	IORFVF	001	05E	IORMNDV	001	015
IORCPSUS	001	080	IORHALT	001	002	IORMNRF	001	00E
IORCPTCA	004	0D0	IORHALTD	001	003	IORMOCK	001	020
IORCSC	004	058	IORHEAD	002	096	IORMODFY	001	005
IORCSENQ	001	001	IORHIPRI	001	080	IORMOFF	001	023
IORCSFCM	001	080	IORHSCH0	001	002	IORMOVR	001	005
IORCSHLT	001	040	IORIDTRQ	001	001	IORMPAR	001	01D
IORCSPCM	001	020	IORIFLG	001	044	IORMPEB	001	013
IORCSTRC	001	010	IORIRA	004	004	IORMPEDP	001	057
IORCSTRU	001	008	IORIRB	064	050	IORMPRM	001	008
IORCSWAD	001	002	IORIRLG	004	05C	IORMPRT	001	00D
IORCSWBY	001	004	IORISAM	001	020	IORMRCV	001	012
IORCUSER	001	0FE	IORKSTAT	001	049	IORMREJ	001	000
IORCYL	002	094	IORLPUM	001	05D	IORMSEK	001	007
IORDCTI	002	05E	IORLRCNT	001	0E7	IORMSGER	001	0FE
IORDDTIM	004	07C	IORLREC	016	0E8	IORMSUP	001	028
IORDESET	001	040	IORLRSET	001	010	IORMSWSP	001	002
IORDETCT	001	05C	IORMALPM	001	008	IORMTIM	001	01C
IORDEVIB	008	050	IORMBLFL	001	0EE	IORMTOV	001	009
IORDEXNT	016	0D4	IORMBSN	001	010	IORMTRK	001	006
IORDFLG	001	0E5	IORMBUPD	001	001	IORMUCS	001	022
IORDIAG	001	001	IORMBUS	001	002	IORMUNK	001	011
IORDISAB	001	010	IORMCHN	001	014	IORMUNS	001	026
IORDISPN	004	010	IORMCMP	001	00B	IORMUSP	001	01E

Name	Len	Value/Disp
IORMWLB	001	024
IORMXGCT	001	801
IORMXRCT	001	00A
IORNOERP	001	010
IORNOLPM	001	004
IORNSAMP	002	072
IORNSSCH	002	070
IOROCTL	004	038
IOROFPI	001	039
IOROKEY	001	038
IOROKF	002	038
IOROLPM	001	03A
IOROORB7	001	03B
IORORB	012	034
IORPIOR	004	01C
IORPMCW	016	034
IORPMIP	001	040
IORPMW01	008	034
IORPNOM	001	090
IORPNSTS	001	080
IORPOM	001	091
IORPSTAT	001	04A
IORQACTV	001	040
IORQANCH	001	001
IORQDSP	001	020
IORQQUED	001	080
IORQSTAT	001	010
IORRASET	001	008
IORRCDRV	001	004
IORRCEOF	001	008
IORRCFTL	001	00C
IORRCKIL	001	010
IORRCNCL	001	014
IORRCOK	001	000
IORRCTL	004	044
IORRDEV	004	034
IORRDFND	004	024
IORRDRV	036	0D4
IORRESUM	001	008
IORRFLG	001	045
IORRLCMD	001	0E6
IORSAVE	004	018
IORSBBCC	004	092
IORSCCW	008	098
IORSCHED	001	012
IORSCHIB	024	050
IORSCMBK	004	070
IORSCNT	002	09A
IORSCSET	001	020
IORSCST	001	059
IORSCSW	012	050
IORSCTLS	002	050
IORSDATA	032	0A8
IORSDB00	001	0A8
IORSDB01	001	0A9
IORSDB02	001	0AA
IORSDB03	001	0AB
IORSDB04	001	0AC
IORSDB05	001	0AD
IORSDB06	001	0AE
IORSDB07	001	0AF
IORSDB08	001	0B0
IORSDB09	001	0B1
IORSDB10	001	0B2
IORSDB11	001	0B3
IORSDB12	001	0B4
IORSDB13	001	0B5
IORSDB14	001	0B6
IORSDB15	001	0B7
IORSDB16	001	0B8
IORSDB17	001	0B9
IORSDB18	001	0BA
IORSDB19	001	0BB
IORSDB20	001	0BC
IORSDB21	001	0BD
IORSDB22	001	0BE
IORSDB23	001	0BF
IORSDB24	001	0C0
IORSDB25	001	0C1
IORSDB26	001	0C2
IORSDB27	001	0C3
IORSDB28	001	0C4
IORSDB29	001	0C5
IORSDB30	001	0C6
IORSDB31	001	0C7
IORSEEK	006	092
IORSEEKA	004	014
IORSEKCT	004	0F8
IORSEKSM	004	0FC
IORSIFCC	001	002
IORSIO	001	000
IORSIZE	001	020
IORSKACT	001	040
IORSKCCW	008	098
IORSKEY	001	050
IORSKREQ	001	080
IORSNS	001	010
IORSNSAC	001	040
IORSNSIV	001	020
IORSNSRQ	001	080
IORSOURC	001	05D
IORSPECL	001	0FF
IORSTART	001	001
IORSTAT	001	048
IORSTFLG	002	058
IORSUSND	004	0CC
IORSWCC	001	04F
IORSYNCH	001	080
IORTASK	004	020
IORTFLG	001	04E
IORTMSEQ	001	05F
IORTRCCW	001	030
IORTRPRT	001	010
IORTRTRM	001	020
IORTYGBL	002	028
IORTYLCL	002	02A
IORTYPE	001	04B
IORUCALL	001	040
IORUCTL	004	040
IORUFPI	001	041
IORUKEY	001	040
IORUKF	002	040
IORULPM	001	042
IORUNLOK	001	001
IORUNSL	001	080
IORUORB7	001	043
IORUSER	004	000
IORVDEV	004	030
IORVXA	001	004
IORXFLG	001	04C
IORXTLOG	032	070
IOR9C00	001	004

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IPARML— IUCV PARAMETER LIST AND EXTERNAL INTERRUPT

DSECT NAME: IPARML

DESCRIPTIVE NAME: IUCV PARAMETER LIST AND EXTERNAL INTERRUPT MAPPING MACRO

FUNCTION: TO MAP THE PARAMETER LIST USED WHEN AN IUCV FUNCTION IS ISSUED, AND TO MAP THE EXTERNAL INTERRUPT BUFFER WHEN AN IUCV EXTERNAL INTERRUPT IS REFLECTED TO A VIRTUAL MACHINE.

LOCATED BY:

PARAMETER LIST ADDRESS IS SPECIFIED BY A USER VIRTUAL MACHINE.
EXTERNAL INTERRUPT IS SPECIFIED BY THE USER VIRTUAL MACHINE AND MAINTAINED IN IUCBFAD1 AND IUCBFAD2 FIELDS IN HCPIUCVB.

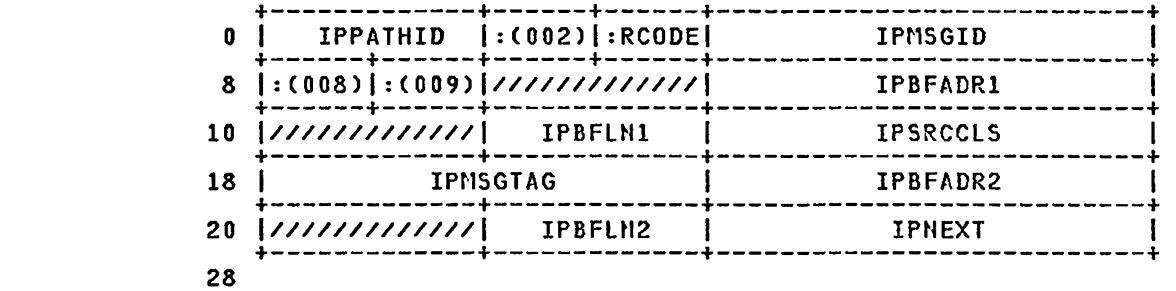
CREATED BY:

-PARAMETER LIST PASSED ON MOST IUCV FUNCTIONS

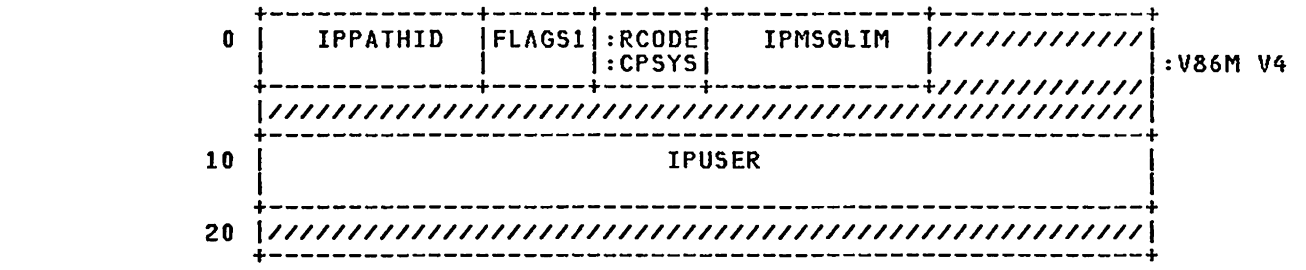
DELETED BY:

USER VIRTUAL MACHINE

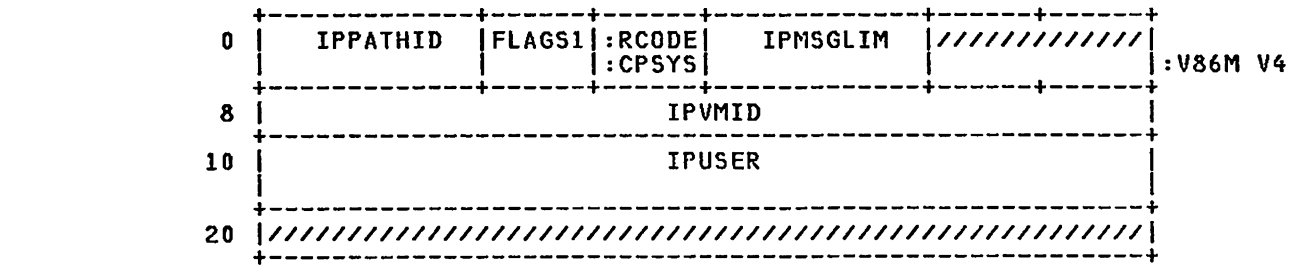
IPARML - IUCV PARAMETER LIST AND EXTERNAL INTERRUPT



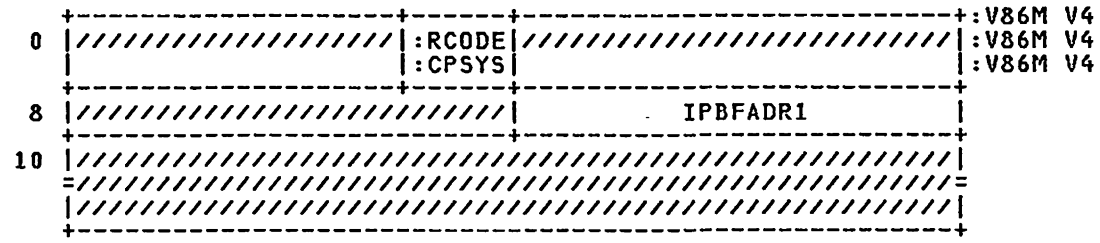
REDEFINITION - FUNCTION ACCEPT



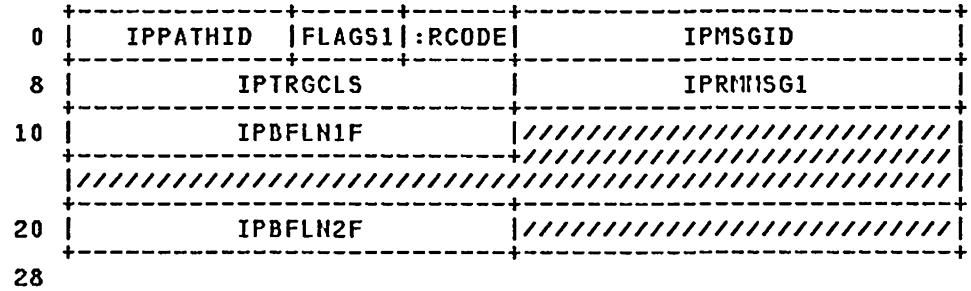
REDEFINITION - FUNCTION CONNECT



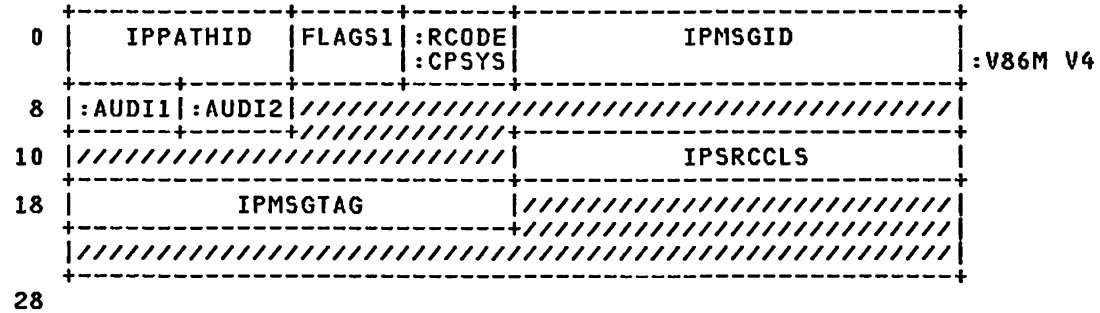
REDEFINITION - FUNCTION DCLBFR



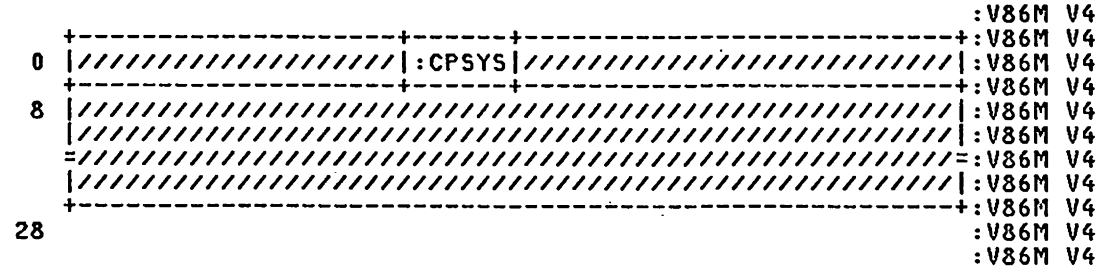
REDEFINITION - FUNCTION DESCRIBE



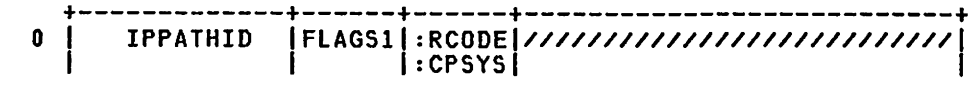
REDEFINITION - FUNCTION PURGE

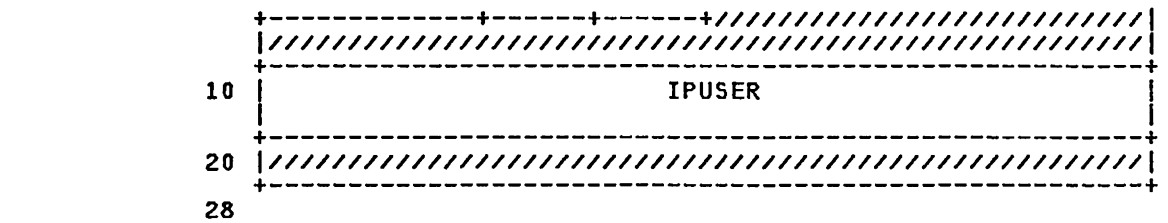


REDEFINITION - FUNCTION QUERY :V V4

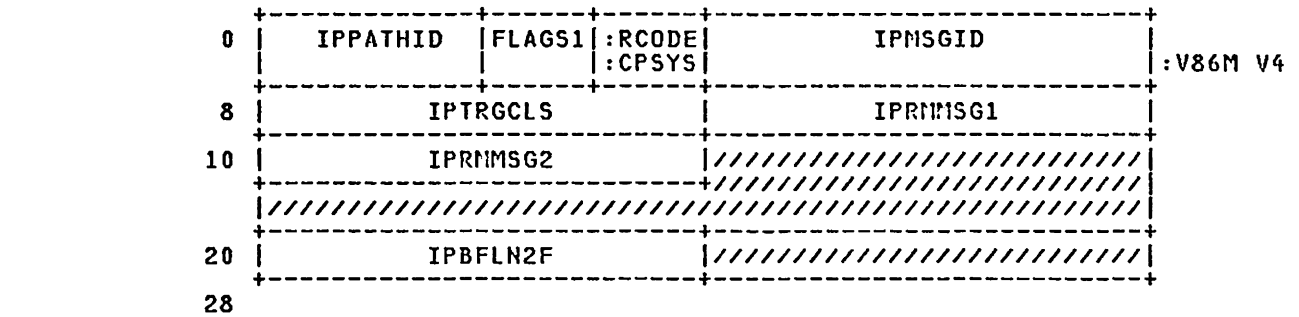


REDEFINITION - FUNCTION QUIESCE

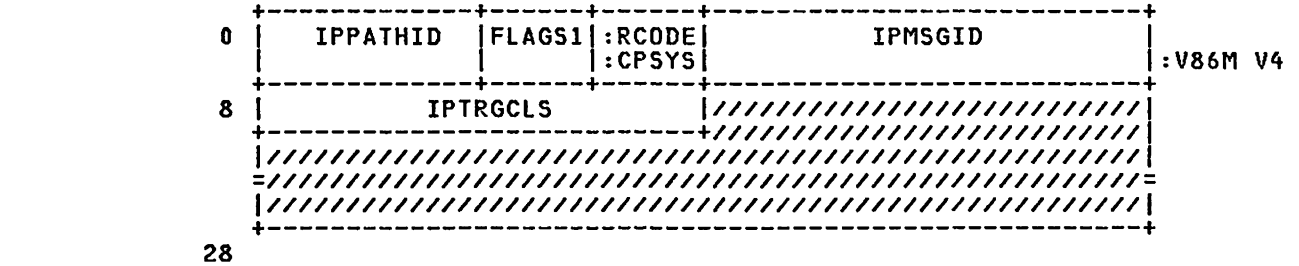




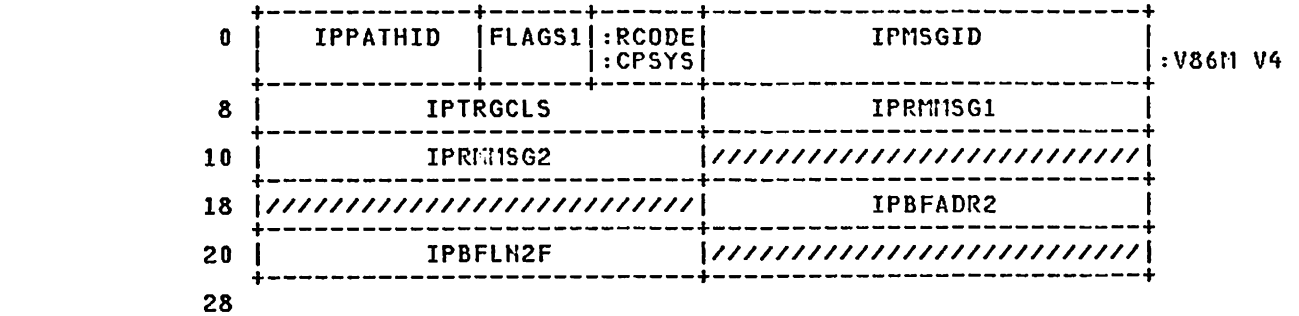
REDEFINITION - FUNCTION RECEIVE



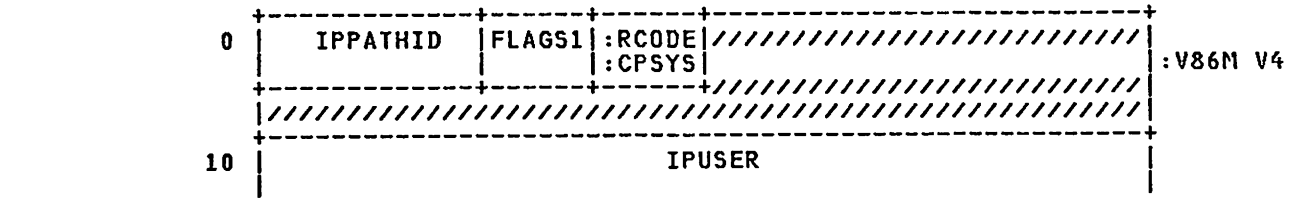
REDEFINITION - FUNCTION REJECT

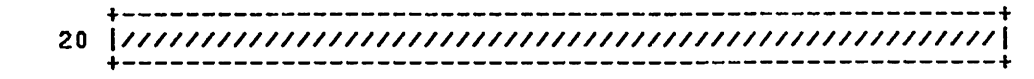


REDEFINITION - FUNCTION REPLY

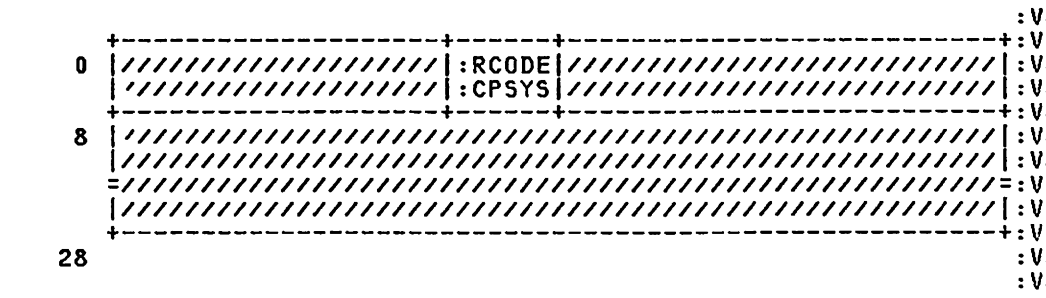


REDEFINITION - FUNCTION RESUME

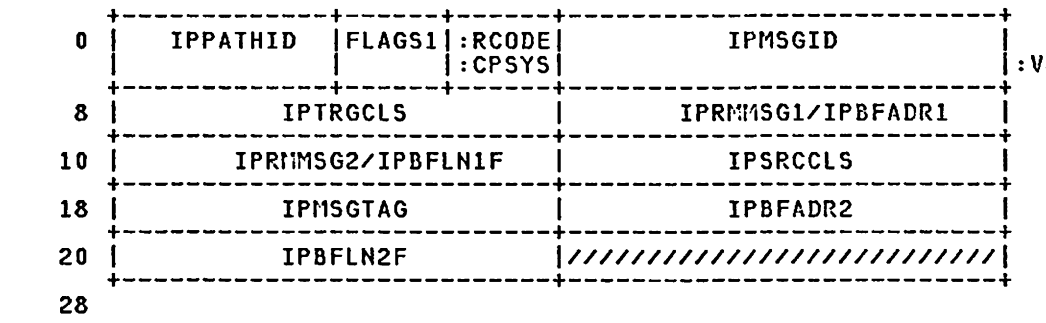




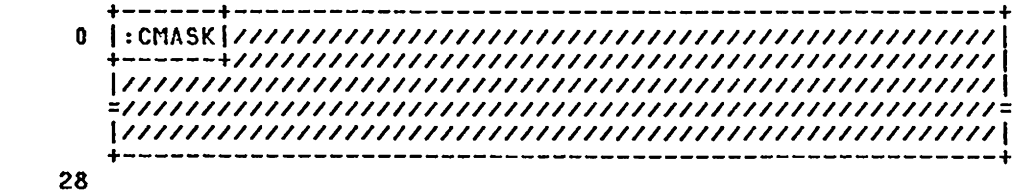
REDEFINITION - FUNCTION RTRVBFR :V V4



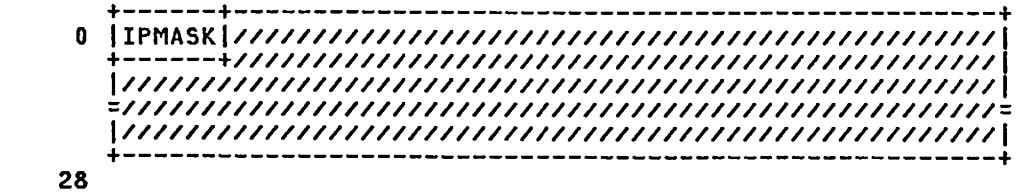
REDEFINITION - FUNCTION SEND



REDEFINITION - FUNCTION SETCMASK



REDEFINITION - FUNCTION SETMASK



REDEFINITION - FUNCTION SEVER

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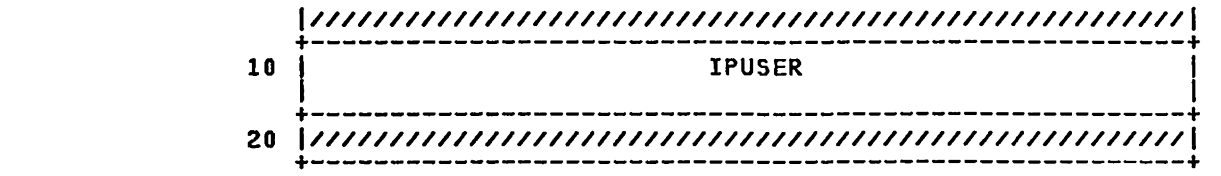
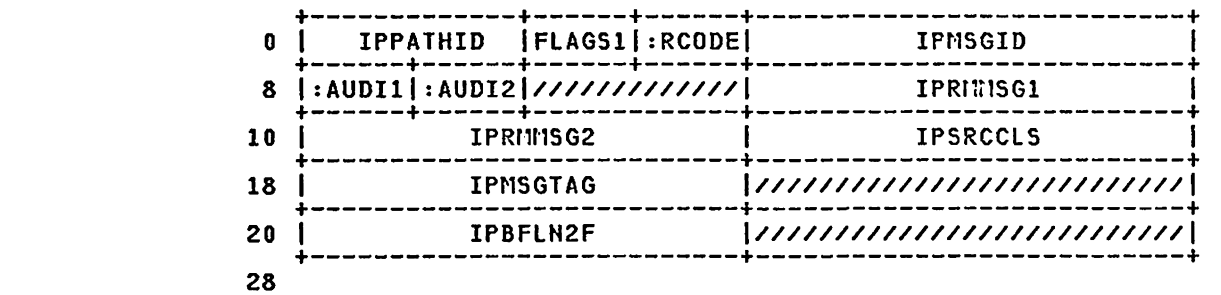
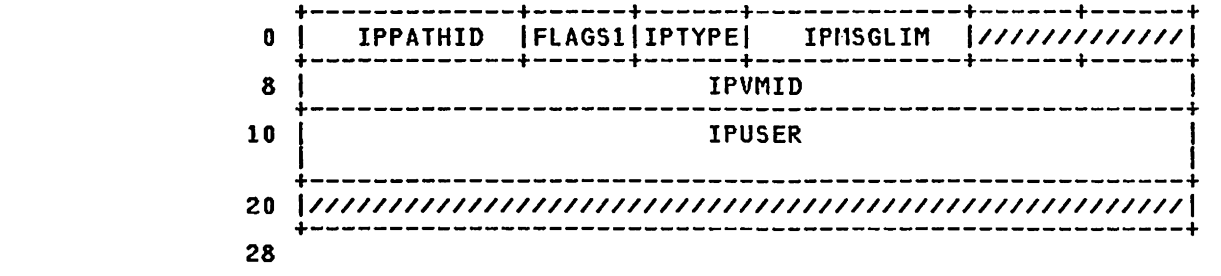


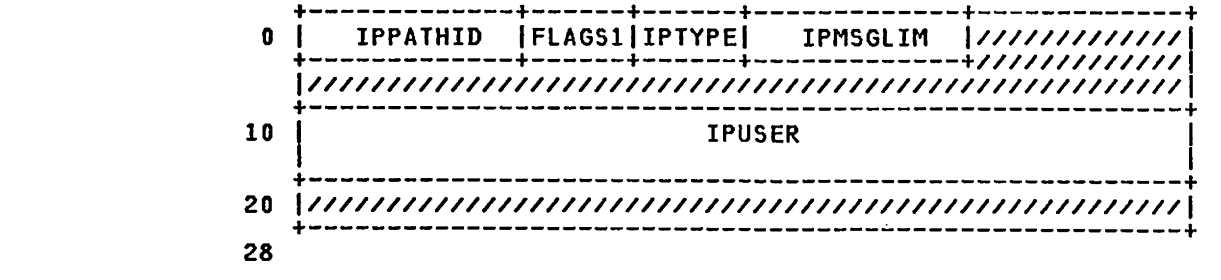
REDEFINITION - FUNCTION TESTCMPL



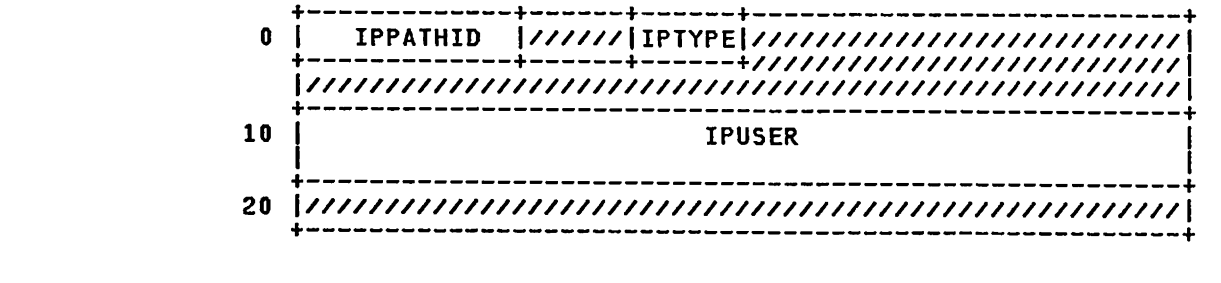
REDEFINITION - EXTERNAL INTERRUPT FOR IPTYPPC



REDEFINITION - EXTERNAL INTERRUPT FOR IPTYPCC



REDEFINITION - EXTERNAL INTERRUPT FOR IPTYPSV, IPTYPQS,
AND IPTYPRS



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   28
```

REDEFINITION - EXTERNAL INTERRUPT FOR IPTYPRP AND IPTYPR

```
    +-------------+------+------+---------------------------+
  0 |   IPPATHID  |FLAGS1|IPTYPE|          IPMSGID          |
    +------+------+------+------+---------------------------+
  8 |:AUDI1|:AUDI2|//////////////|          IPRMMSG1         |
    +------+------+--------------+---------------------------+
 10 |          IPRMMSG2          |          IPSRCCLS         |
    +----------------------------+---------------------------+
 18 |          IPMSGTAG          |////////////////////////////|
    +----------------------------+---------------------------+
 20 |          IPBFLN2F          |////////////////////////////|
    +----------------------------+---------------------------+
   28
```

REDEFINITION - EXTERNAL INTERRUPT FOR IPTYPMP AND IPTYPM

```
    +-------------+------+------+---------------------------+
  0 |   IPPATHID  |FLAGS1|IPTYPE|          IPMSGID          |
    +-------------+------+------+---------------------------+
  8 |          IPTRGCLS         |          IPRMMSG1         |
    +---------------------------+---------------------------+
 10 |       IPRMMSG2/IPBFLN1F   |////////////////////////////|
    +---------------------------+////////////////////////////|
    |////////////////////////////////////////////////////////|
    +---------------------------+---------------------------+
 20 |          IPBFLN2F         |////////////////////////////|
    +---------------------------+---------------------------+
   28
```

disp	name	length	description
000	IPMASK	001	ENABLE MASK

BITS DEFINED IN IPMASK (AT HEX DISPLACEMENT: 0)

80	IPSNDN	ENABLE FOR NON-PRIORITY MESSAGES
40	IPSNDP	ENABLE FOR PRIORITY MESSAGES
20	IPRPYN	ENABLE FOR NON-PRIORITY REPLIES
10	IPRPYP	ENABLE FOR PRIORITY REPLIES
08	IPCTRL	ENABLE FOR IUCV CONTROL INTERRUPT

000	IPCMASK	001	ENABLE CONTROL MASK

BITS DEFINED IN IPCMASK (AT HEX DISPLACEMENT: 0)

80	IPCLPC	ENABLE FOR PENDING CONNECTION
40	IPCLCC	ENABLE FOR COMPLETE CONNECTION
20	IPCLPS	ENABLE FOR SEVER INTERRUPT
10	IPCLPQ	ENABLE FOR QUIESCE INTERRUPT
08	IPCLPR	ENABLE FOR RESUME INTERRUPT

000	IPPATHID	002	PATHID
002	IPFLAGS1	001	FLAGS BYTE

BITS DEFINED IN IPFLAGS1 (AT HEX DISPLACEMENT: 2)

80	IPALL	QUIESCE, RESUME, SEVER ALL
80	IPRMDATA	MESSAGE IS IN PARAMETER LIST
40	IPQUSCE	CONNECT IN QUIESCE MODE
20	IPPRTY	PRIORITY MESSAGE OR REPLY
10	IPNORPY	ONE WAY PROTOCOL

```
        08     IPAPPC      USED IN SUPPORT OF CMS5.5 ONLY
        04     IPFGMID     MESSAGE ID SPECIFIED
        04     IPCNTRL     INDICATES CONTROL BUFFER OPTION
        02     IPFGPID     PATH ID SPECIFIED
        01     IPFGMCL     MESSAGE CLASS SPECIFIED


003   IPTYPE      001       EXTERNAL INTERRUPT CODE

        CODES DEFINED IN IPTYPE   (AT HEX DISPLACEMENT: 3)

        01     IPTYPPC     EXT INT TYPE - PENDING CONNECTION
        02     IPTYPCC     EXT INT TYPE - CONNECTION COMP.
        03     IPTYPSV     EXT INT TYPE - SEVERED CONNECTION
        04     IPTYPQS     EXT INT TYPE - QUIESCED CONN.
        05     IPTYPRS     EXT INT TYPE - RESUMED CONNECTION
        06     IPTYPRP     EXT INT TYPE - INCOMING PRTY RPLY
        07     IPTYPRNP    EXT INT TYPE - INCOMING REPLY
        08     IPTYPMP     EXT INT TYPE - INCOMING PRTY MSG
        09     IPTYPMNP    EXT INT TYPE - INCOMING MESSAGE

        81     IPTYPPCA    USED ONLY TO SUPPORT CMS5.5


003   IPCPSYS     001       CP SYSTEM ON THE INVOKER= PARM
003   IPRCODE     001       RETURN CODE
004   IPMSGLIM    002       MESSAGE LIMIT
004   IPMSGID     004       MESSAGE IDENTIFICATION
008   IPVMID      008       TARGET VIRTUAL MACHINE ID
008   IPTRGCLS    004       TARGET CLASS
008   IPAUDIT     002       AUDIT TRAIL

008   IPAUDIT1    001       AUDIT TRAIL BYTE 1

        BITS DEFINED IN IPAUDIT1 (AT HEX DISPLACEMENT: 8)

        80     IPADRPLE    REPLY TOO LONG FOR BUFFER
        40     IPADSNPX    PROTECTION EXCEPTION ON SEND BUFF
        20     IPADSNAX    ADDRESSING EXCEPTION ON SEND BUFF
        10     IPADANPX    PROTECTION EXCEPTION ANSWER BUFF
        08     IPADANAX    ADDRESSING EXCEPTION ANSWER BUFF
        04     IPADRJCT    MESSAGE WAS REJECTED
        02     IPADPRMD    REPLY SENT IN PARAMETER LIST


009   IPAUDIT2    001       AUDIT TRAIL BYTE 2

        BITS DEFINED IN IPAUDIT2 (AT HEX DISPLACEMENT: 9)

        80     IPADRCPX    PROTECTION EXCEPTION RECEIVE BUFF
        40     IPADRCAX    ADDRESSING EXCEPTION RECEIVE BUFF
        20     IPADRPPX    PROTECTION EXCEPTION REPLY BUFF
        10     IPADRPAX    ADDRESSING EXCEPTION REPLY BUFF
        08     IPADSVRD    PATH WAS SEVERED


00A                XL2       RESERVED
00C   IPRMMSG      008       MESSAGE DATA IN PARAMETER LIST
00C   IPRMMSG1     004       FIRST FULLWORD OF PRMLIST DATA
00C   IPBFADR1     004       ADDRESS OF BUFFER
010   IPRMMSG2     004       SECOND FULLWORD OF PRMLIST DATA
010   IPBFLN1F     004       FULLWORD LENGTH OF IPBFADR1
010   IPUSER       016       USER DATA
010                H
012   IPBFLN1      002       HALFWORD LENGTH OF IPBFADR1
014   IPSRCCLS     004       SOURCE CLASS
018   IPMSGTAG     004       MESSAGE TAG
01C   IPBFADR2     004       ADDRESS OF BUFFER 2
020   IPBFLN2F     004       FULLWORD LENGTH OF IPBFADR2
020                H         RESERVED
022   IPBFLN2      002       HALFWORD LENGTH OF IPBFADR2
024   IPNEXT       004       ADDRESS OF NEXT PENDING EXT INT
```

```
                EQUATES
      05    IPSIZE      IPARML SIZE IN DOUBLE WORDS

       REDEFINITION - FUNCTION ACCEPT

       REDEFINITION - FUNCTION CONNECT

       REDEFINITION - FUNCTION DCLBFR

       REDEFINITION - FUNCTION DESCRIBE

       REDEFINITION - FUNCTION PURGE

       REDEFINITION - FUNCTION QUERY

       REDEFINITION - FUNCTION QUIESCE

       REDEFINITION - FUNCTION RECEIVE

       REDEFINITION - FUNCTION REJECT

       REDEFINITION - FUNCTION REPLY

       REDEFINITION - FUNCTION RESUME

       REDEFINITION - FUNCTION RTRVBFR

       REDEFINITION - FUNCTION SEND

       REDEFINITION - FUNCTION SETCMASK

       REDEFINITION - FUNCTION SETMASK

       REDEFINITION - FUNCTION SEVER

       REDEFINITION - FUNCTION TESTCMPL

       REDEFINITION - EXTERNAL INTERRUPT FOR IPTYPPC

       REDEFINITION - EXTERNAL INTERRUPT FOR IPTYPCC

       REDEFINITION - EXTERNAL INTERRUPT FOR IPTYPSV, IPTYPQS

       REDEFINITION - EXTERNAL INTERRUPT FOR IPTYPRP AND IPTY

       REDEFINITION - EXTERNAL INTERRUPT FOR IPTYPMP AND IPTY

                MORE EQUATES
```


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01	IPRCNPTH	INVALID PATH ID
02	IPRCNSND	PATH QUIESCED - NO SENDS ALLOWED
03	IPRCMSCT	MESSAGE LIMIT EXCEEDED
04	IPRCNPTY	PRTY MESSAGES NOT ALLOWED ON PATH
05	IPRCRCVS	BUFFER TOO SHORT FOR MESSAGE
06	IPRCPRTC	FETCH PROTECTION EXCEPTION
07	IPRCADRC	ADDRESSING EXCEPTION
08	IPRCNODT	MSGID FND, BUT CLASS/PATH INVALID
09	IPRCPRGD	MESSAGE HAS BEEN PURGED
0A	IPRCMSLN	MESSAGE LENGTH NEGITIVE
0B	IPRCNLOG	TARGET IS NOT LOGGED ON
0C	IPRCNTRG	TARGET HAS NOT DECLARED A BUFFER
0D	IPRC2MYI	INVOKER MAX CONNECTIONS EXCEEDED
0E	IPRC2MYT	TARGET MAX CONNECTIONS EXCEEDED
0F	IPRCBADR	NOT AUTHORIZED TO CONNECT TO TARG
10	IPRCINSV	INVALID CP SYSTEM SERVICE NAME
11	IPRCBDFN	INVALID FUNCTION CODE
12	IPRCBDLM	INVALID MSGLIMIT
13	IPRCHSBF	ALREADY HAS DECLARED A BUFFER
14	IPRCPTSV	PATH HAS BEEN SEVERED
15	IPRCNPRM	PARAM. LIST MESSAGE NOT ALLOWED
1C	IPRCNCTL	NO CONTROL BUFFER EXISTS
30	IPRCNFCT	FUNCTION NOT SUPPORTED FOR CSS

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
IPADANAX	001	008	IPFLAGS1	001	002	IPRMMSG1	004	00C
IPADANPX	001	010	IPMASK	001	000	IPRMMSG2	004	010
IPADPRMD	001	002	IPMSGID	004	004	IPRPYN	001	020
IPADRCAX	001	040	IPMSGLIM	002	004	IPRPYP	001	010
IPADRCPX	001	080	IPMSGTAG	004	018	IPSIZE	001	005
IPADRJCT	001	004	IPNEXT	004	024	IPSNDN	001	080
IPADRPAX	001	010	IPNORPY	001	010	IPSNDP	001	040
IPADRPLE	001	080	IPPATHID	002	000	IPSRCCLS	004	014
IPADRPPX	001	020	IPPRTY	001	020	IPTRGCLS	004	008
IPADSNAX	001	020	IPQUSCE	001	040	IPTYPCC	001	002
IPADSNPX	001	040	IPRCADRC	001	007	IPTYPE	001	003
IPADSVRD	001	008	IPRCBADR	001	00F	IPTYPMNP	001	009
IPALL	001	080	IPRCBDFN	001	011	IPTYPMP	001	008
IPAPPC	001	008	IPRCBDLM	001	012	IPTYPPC	001	001
IPARML	001	000	IPRCHSBF	001	013	IPTYPPCA	001	081
IPAUDIT	002	008	IPRCINSV	001	010	IPTYPQS	001	004
IPAUDIT1	001	008	IPRCMSCT	001	003	IPTYPRNP	001	007
IPAUDIT2	001	009	IPRCMSLN	001	00A	IPTYPRP	001	006
IPBFADR1	004	00C	IPRCNCTL	001	01C	IPTYPRS	001	005
IPBFADR2	004	01C	IPRCNFCT	001	030	IPTYPSV	001	003
IPBFLN1	002	012	IPRCNLOG	001	00B	IPUSER	016	010
IPBFLN1F	004	010	IPRCNODT	001	008	IPVMID	008	008
IPBFLN2	002	022	IPRCNPRM	001	015			
IPBFLN2F	004	020	IPRCNPTH	001	001			
IPCLCC	001	040	IPRCNPTY	001	004			
IPCLPC	001	080	IPRCNSND	001	002			
IPCLPQ	001	010	IPRCNTRG	001	00C			
IPCLPR	001	008	IPRCODE	001	003			
IPCLPS	001	020	IPRCPRGD	001	009			
IPCMASK	001	000	IPRCPRTC	001	006			
IPCNTRL	001	004	IPRCPTSV	001	014			
IPCPSYS	001	003	IPRCRCVS	001	005			
IPCTRL	001	008	IPRC2MYI	001	00D			
IPFGMCL	001	001	IPRC2MYT	001	00E			
IPFGMID	001	004	IPRMDATA	001	080			
IPFGPID	001	002	IPRMMSG	008	00C			

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HCPIRBLK— INTERRUPTION RESPONSE BLOCK MAPPING

DSECT NAME: IRBLK

DESCRIPTIVE NAME: INTERRUPTION RESPONSE BLOCK MAPPING

FUNCTION: PROVIDE SYMOLIC REFERENCES FOR THE FIELDS RETURNED BY AN XA MACHINE IN RESPONSE TO A TSCH INSTRUCTION THAT SETS CONDITION CODE ZERO.

LOCATED BY:

N/A

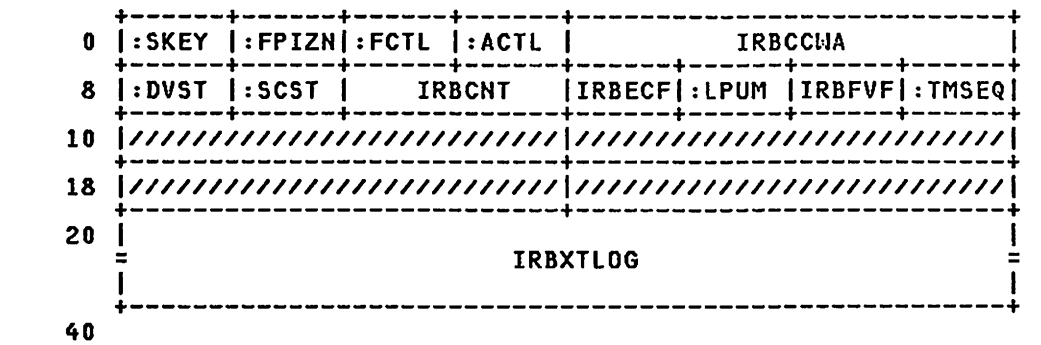
CREATED BY:

N/A

DELETED BY:

N/A

IRBLK - INTERRUPT RESPONSE BLOCK



disp	name	length	description
000	IRBSCSW	012	EXTENDED STATUS CSW
000	IRBWORD1	004	IRB WORD-1
000	IRBSKEY	001	KEY, EXTENDED STATUS AND DEFERRED CC
	BITS DEFINED FOR IRBSKEY BY HCPEQUAT CSWSKEY		
001	IRBFPIZN	001	CCW CONTROLS AND INITIAL RESPONSES
	BITS DEFINED FOR IRBFPIZN BY HCPEQUAT CSWFPIZN		
002	IRBFCTL	001	FUNCTION CONTROL BYTE
	BITS DEFINED FOR IRBFCTL BY HCPEQUAT CSWFCTL		
003	IRBACTL	001	ACTIVITY CONTROL BYTE
	BITS DEFINED FOR IRBACTL BY HCPEQUAT CSWACTL		
004	IRBCCWA	004	ADDRESS OF CCW AT INTERRUPT (+8)
008	IRBCSC	004	COMBINED DEVICE STATUS, SUBCHANNEL STATUS, AND RESIDUAL COUNT FIELDS
008	IRBDVST	001	DEVICE STATUS FLAGS
	BITS DEFINED FOR IRBDVST BY HCPEQUAT CSWDVST		
009	IRBSCST	001	SUBCHANNEL STATUS FLAGS
	BITS DEFINED FOR IRBSCST BY HCPEQUAT CSWSCST		

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```
00A   IRBCNT     002      UNEXPIRED COUNT IN CCW
00C   IRBXSTAT   004      EXTENDED STATUS/TIME WORD
00C   IRBECF     001      CHANNEL PROGRAM ERROR CHECK FLAGS

        BITS DEFINED FOR IRBECF BY HCPEQUAT CSWECF

00D   IRBLPUM    001      LAST-PATH-USED MASK

                    EQUATES

        0D    IRBCPID     *** TEMPORARY UNTIL CODE CHANGE ***

00E   IRBDCTI    002      DEVICE CONNECT TIME INTERVAL
00E   IRBFVF     001      TERMINATION CODE VALIDATION BITS

        BITS DEFINED FOR IRBFVF BY HCPEQUAT CSWFVF

00F   IRBTMSEQ   001      TERMINATION,ALERT AND SEQUENCE CODES

        BITS DEFINED FOR IRBTMSEQ BY HCPEQUAT CSWTMSEQ

010               1F       RESERVED FOR FUTURE HARDWARE USE
014               1F       RESERVED FOR FUTURE HARDWARE USE
018               1F       RESERVED FOR FUTURE HARDWARE USE
01C               1F       RESERVED FOR FUTURE HARDWARE USE

                    EQUATES

        20    IRBLEN      LENGTH OF THE IRB WITHOUT XLOGOUT

020   IRBXTLOG   032      EXTENDED LOGOUT INFORMATION

                    EQUATES

        40    IRBLENG     LENGTH OF ARCHITECTED IRB IN BYTES
        08    IRBSIZE     SIZE IN BYTES FOR CP ALLOCATION
```

CROSS REFERENCE

Name	Len	Value/Disp
IRBACTL	001	003
IRBCCWA	004	004
IRBCNT	002	00A
IRBCPID	001	00D
IRBCSC	004	008
IRBDCTI	002	00E
IRBDVST	001	008
IRBECF	001	00C
IRBFCTL	001	002
IRBFPIZN	001	001
IRBFVF	001	00E
IRBLEN	001	020
IRBLENG	001	040
IRBLK	001	000
IRBLPUM	001	00D
IRBSCST	001	009
IRBSCSW	012	000
IRBSIZE	001	008
IRBSKEY	001	000
IRBTMSEQ	001	00F
IRBWORD1	004	000
IRBXSTAT	004	00C
IRBXTLOG	032	020

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HCPIRMBK— INTENSIVE RECORDING MODE BLOCK

DSECT NAME: IRMBK

DESCRIPTIVE NAME: INTENSIVE RECORDING MODE BLOCK

FUNCTION: CONTAINS OPTIONS SET BY "SET RECORD ON" COMMAND

LOCATED BY:

SYSIRM FIELD OF SYSCM - IRMBK, INTENSIVE RECORDING OPTIONS

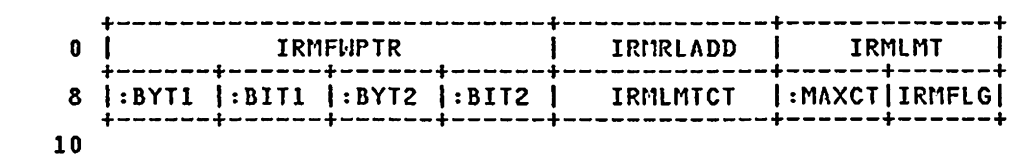
CREATED BY:

HCPCFO

DELETED BY:

HCPCFO, HCPIOE

IRMBK - INTENSIVE RECORDING MODE BLOCK



disp	name	length	description
000	IRMFWPTR	004	RESERVED
004	IRMRLADD	002	DEVICE ADDRESS TO BE MONITORED
006	IRMLMT	002	LIMIT COUNT - RECORD EVERY 'NTH' ERROR
008	IRMBYT1	001	FIRST SENSE BYTE SPECIFIED
009	IRMBIT1	001	SENSE BIT WITHIN SENSE BYTE
00A	IRMBYT2	001	SECOND SENSE BYTE SPECIFIED
00B	IRMBIT2	001	SENSE BIT WITHIN SENSE BYTE
00C	IRMLMTCT	002	SUMMARY COUNT FOR LIMIT DETECTION
00E	IRMMAXCT	001	COUNT OF RECORDINGS FOR THIS REQUEST
00F	IRMFLG	001	FLAG BYTE

BITS DEFINED IN IRMFLG (AT HEX DISPLACEMENT: F)

80	IRMAND	'AND' CONDITION SPECIFIED
40	IRMOR	'OR' CONDITION SPECIFIED
02	IRMSIZE	IRMBK SIZE IN DOUBLE WORDS

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
IRMAND	001	080	IRMMAXCT	001	00E
IRMBIT1	001	009	IRMOR	001	040
IRMBIT2	001	00B	IRMRLADD	002	004
IRMBK	001	000	IRMSIZE	001	002
IRMBYT1	001	008			
IRMBYT2	001	00A			
IRMFLG	001	00F			
IRMFWPTR	004	000			
IRMLMT	002	006			
IRMLMTCT	002	00C			

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HCPIUCVB— IUCV CONTROL BLOCK

DSECT NAME: IUCVB

DESCRIPTIVE NAME: IUCV CONTROL BLOCK

FUNCTION: THIS CONTROL BLOCK DEFINES THE INTER-USER COMMUNICATIONS VEHICLE CONTROL BLOCK FOR AN IUCV USER.

LOCATED BY:

-VMDIUCV FIELD OF HCPVMDBK FOR VIRTUAL MACHINES
-CALL TO HCPIUGAI FOR CP SYSTEM SERVICES

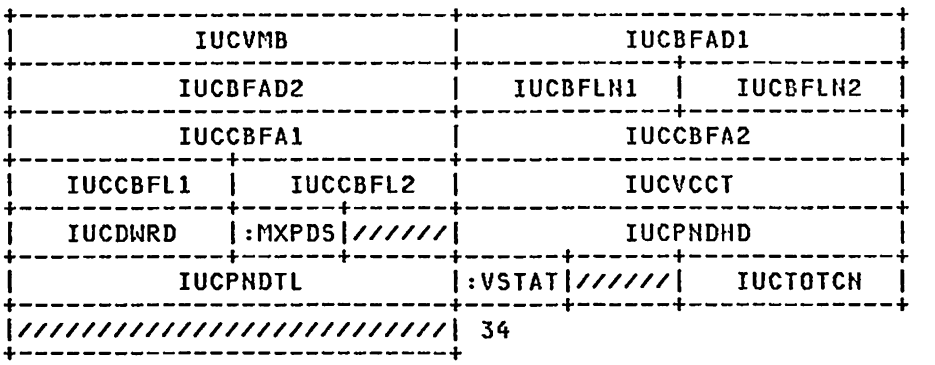
CREATED BY:

IUCV DECLARE BUFFER FUNCTION - HCPIUBDB

DELETED BY:

IUCV RETRIEVE BUFFER FUNCTION - HCPIUERB

IUCVB - IUCV CONTROL BLOCK



disp	name	length	description
000	IUCVMB	004	ADDRESS OF VMDBK
004	IUCBFAD1	004	ADDRESS OF EXTERNAL BUFFER
008	IUCBFAD2	004	2ND PAGE OF EXTERNAL BUFFER
00C	IUCBFLN1	002	LENGTH OF BUFF IN 1ST PAGE - 1
00E	IUCBFLN2	002	LENGTH OF BUFF IN 2ND PAGE - 1
010	IUCCBFA1	004	ADDRESS OF EXTERNAL CNTL BUFFER
014	IUCCBFA2	004	2ND PAGE OF EXTERNAL CNTL BUFFER
018	IUCCBFL1	002	LENGTH OF CNTL BUFF IN 1ST PAGE
01A	IUCCBFL2	002	LENGTH OF CNTL BUFF IN 2ND PAGE
01C	IUCVCCT	004	POINTER TO THE USER'S CCT
020	IUCDWRD	002	TOTAL D-WORDS IN CCT
022	IUCMXCN	002	MAX NUM OF CONN FROM DIRECTORY OR DEFAULT
022	IUCMXPDS	001	HIGHEST PDSEG NUMBER FROM MAX NUMBER OF CONNECTIONS
023		X	RESERVED
024	IUCPNDHD	004	PENDING CONTROL INT QUEUE HEAD
028	IUCPNDTL	004	PENDING CONTROL INT QUEUE TAIL
02C	IUCVSTAT	001	IUCV STATUS
	BITS DEFINED IN IUCVSTAT (AT HEX DISPLACEMENT: 2C)		
	80 IUCVWAIT		IUCV WAIT
02D		X	RESERVED
02E	IUCTOTCN	002	TOTAL NUMBER OF CONNECTIONS
030		F	RESERVED

EQUATES

```
07     IUCSIZE     IUCVB SIZE IN DOUBLEWORDS
```

CROSS REFERENCE

Name	Len	Value/Disp
IUCBFAD1	004	004
IUCBFAD2	004	008
IUCBFLN1	002	00C
IUCBFLN2	002	00E
IUCCBFA1	004	010
IUCCBFA2	004	014
IUCCBFL1	002	018
IUCCBFL2	002	01A
IUCDWRD	002	020
IUCMXCN	002	022
IUCMXPDS	001	022
IUCPNDHD	004	024
IUCPNDTL	004	028
IUCSIZE	001	007
IUCTOTCN	002	02E
IUCVB	001	000
IUCVCCT	004	01C
IUCVMB	004	000
IUCVSTAT	001	02C
IUCVWAIT	001	080

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HCPIUSBK— IUCV WORK AREA MAPPING MACRO

DSECT NAME: IUSBK

DESCRIPTIVE NAME: IUCV WORK AREA MAPPING MACRO

FUNCTION: TO PASS INFORMATION BETWEEN IUCV ENTRY POINTS.

LOCATED BY:

SEE ENTRY POINT REGISTERS

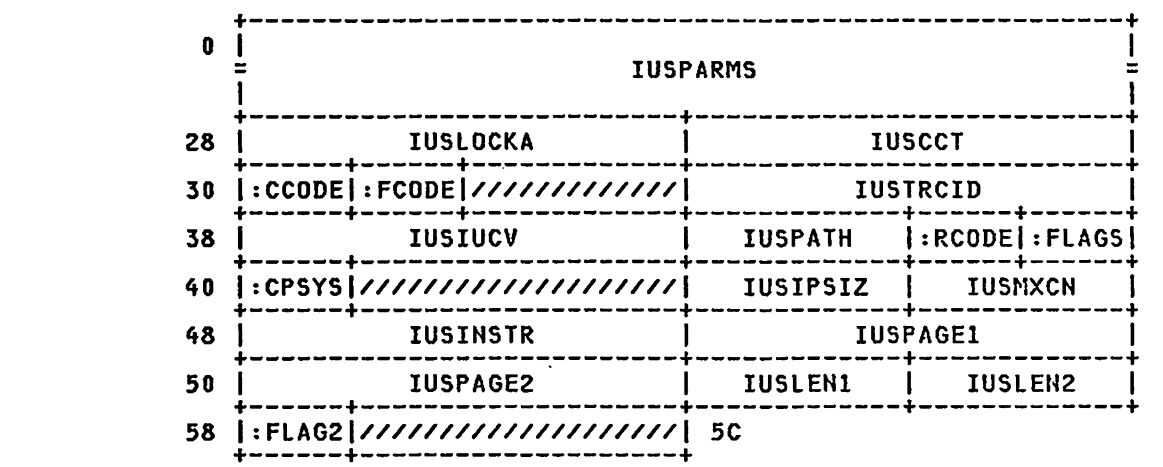
CREATED BY:

HCPIUAVM, HCPIUAIU, OR HCPIUACP

DELETED BY:

CREATOR (SEE ABOVE)

IUSBK - IUCV WORK AREA MAPPING MACRO



disp	name	length	description
000	IUSPARMS	008	PARM LIST - TEMP DATAMAP FIX
028	IUSLOCKA	004	IUCV LOCKWORD ADDRESS
02C	IUSCCT	004	CCTBK ADDRESS
030	IUSCCODE	001	CP CONDITION CODE
031	IUSFCODE	001	TRACE SUBTYPE
032		H	RESERVED
034	IUSTRCID	004	TRACE CODE IUSTRACE MUST BE ON A FULLWORD BOUNDRY
038	IUSTRACE	020	TRACE TABLE ENTRY
038	IUSIUCV	004	IUCVB ADDRESS
03C	IUSMASK	001	MASK FIELD
03C	IUSCC	001	CONDITON CODE FROM TESTMSG
03C	IUSPATH	002	PATH ID
03E	IUSRCODE	001	RETURN CODE
03F	IUSFLAGS	001	IUCV INPUT FLAGS
040	IUSCPSYS	001	CP SYSTEM SERVICE
041		XL3	RESERVED
044	IUSMSGBK	004	MSGBLOK ADDRESS
044	IUSBUFF	004	DECLARE BUFFER ADDRESS
044	IUSIPSIZ	002	PARMLIST SIZE FROM QUERY
046	IUSMXCN	002	MAXIMUM CONNECT FROM QUERY
048	IUSINSTR	004	IUCV INSTRUCTION ADDRESS END OF TRACE TABLE ENTRY
04C	IUSPAGE1	004	VIRTUAL ADDR OF PAGE ONE
050	IUSPAGE2	004	VIRTUAL ADDR OF PAGE TWO
054	IUSLEN1	002	LENGTH IN IUSPAGE1 - 1
056	IUSLEN2	002	LENGTH IN IUSPAGE2 - 1

```
058   IUSFLAG2   001
        BITS DEFINED IN IUSFLAG2 (AT HEX DISPLACEMENT: 58)
        80     IUSCPENT     INDICATES CP ENTRY
059              XL3        RESERVED

                    EQUATES
        0C     IUSSIZE      IUSBK SIZE IN DOUBLEWORDS
```

CROSS REFERENCE

Name	Len	Value/Disp
IUSBK	001	000
IUSBUFF	004	044
IUSCC	001	03C
IUSCCODE	001	030
IUSCCT	004	02C
IUSCPENT	001	080
IUSCPSYS	001	040
IUSFCODE	001	031
IUSFLAGS	001	03F
IUSFLAG2	001	058
IUSINSTR	004	048
IUSIPSIZ	002	044
IUSIUCV	004	038
IUSLEN1	002	054
IUSLEN2	002	056
IUSLOCKA	004	028
IUSMASK	001	03C
IUSMSGBK	004	044
IUSMXCN	002	046
IUSPAGE1	004	04C
IUSPAGE2	004	050
IUSPARMS	008	000
IUSPATH	002	03C
IUSRCODE	001	03E
IUSSIZE	001	00C
IUSTRACE	020	038
IUSTRCID	004	034

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HCPIUUBK— IUCV USERID AUTHORIZATION BLOCK

DSECT NAME: IUUBK

DESCRIPTIVE NAME: IUCV USERID AUTHORIZATION BLOCK

FUNCTION: USED TO DETERMINE IF A USER IS AUTHORIZED TO INITIATE IUCV COMMUNICATION WITH ANOTHER USER OR CP SYSTEM SERVICE.

LOCATED BY:

GPR1 IN ENTRY POINT HCPIUBAC
GPR1 IN ENTRY POINT HCPIUBCO
GPR1 IN ENTRY POINT HCPUDRIA

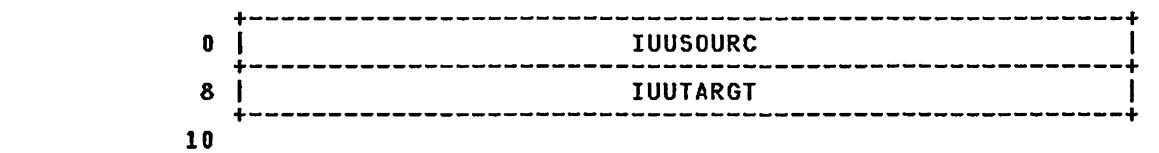
CREATED BY:

HCPIUBAC, HCPIUBCO

DELETED BY:

HCPIUBAC, HCPIUBCO

IUUBK - IUCV USERID AUTHORIZATION BLOCK



disp	name	length	description
000	IUUSOURC	008	USERID OF SOURCE COMMUNICATOR
008	IUUTARGT	008	USERID OF TARGET COMMUNICATOR

EQUATES

02	IUUSIZE	IUU BLOCK SIZE IN DW'S
17	IUULEN	IUU BLOCK SIZE IN BYTES

CROSS REFERENCE

Name	Len	Value/Disp
IUUBK	001	000
IUULEN	001	017
IUUSIZE	001	002
IUUSOURC	008	000
IUUTARGT	008	008

HCPIXBLK— IUCV DEFERRED EXECUTION BLOCK

DSECT NAME: IXBLK

DESCRIPTIVE NAME: IUCV DEFERRED EXECUTION BLOCK

FUNCTION: TO DEFER EXECUTION OF AN IUCV FUNCTION. USED BY IUCV CP SYSTEM SERVICES FOR THE SEND AND CONNECT IUCV FUNCTIONS.

LOCATED BY:

IUCPNDHD FIELD OF HCPCCTBK

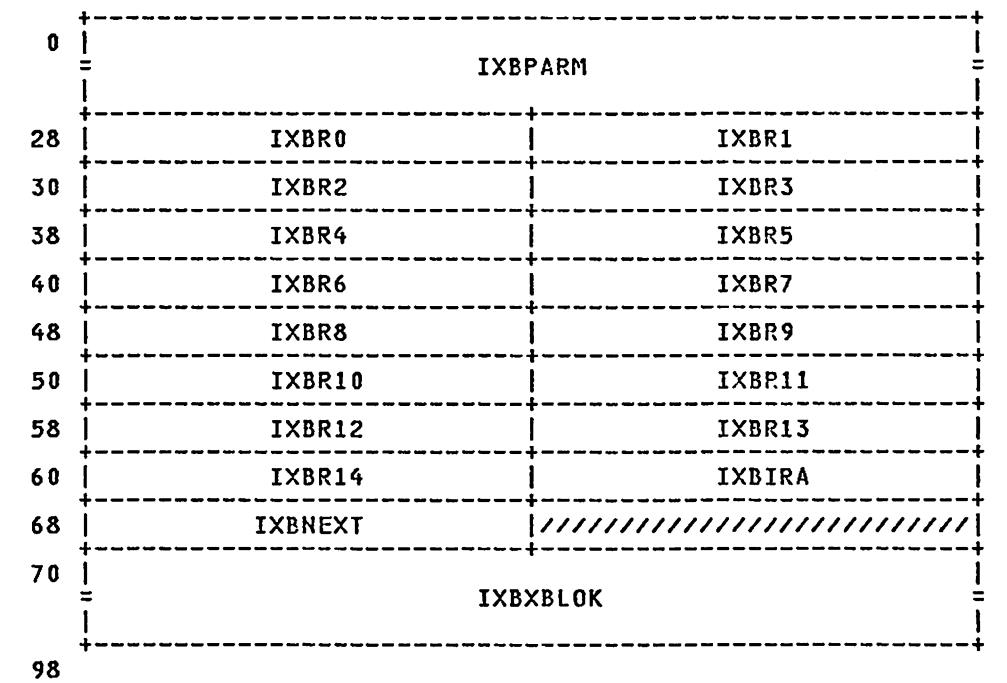
CREATED BY:

INVOKER OF IUCV FUNCTION

DELETED BY:

INVOKER OF IUCV FUNCTION

IXBLK - IUCV DEFERRED EXECUTION BLOCK



disp	name	length	description
000	IXBPARM	008	PARM LIST AREA
028	IXBREGS	064	REGISTER SAVE AREA
028	IXBR0	004	
02C	IXBR1	004	
030	IXBR2	004	
034	IXBR3	004	
038	IXBR4	004	
03C	IXBR5	004	
040	IXBR6	004	
044	IXBR7	004	
048	IXBR8	004	
04C	IXBR9	004	
050	IXBR10	004	
054	IXBR11	004	
058	IXBR12	004	
05C	IXBR13	004	
060	IXBR14	004	
064	IXBIRA	004	INTERRUPT RETURN ADDRESS

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068	IXBNEXT	004	ADD OF NEXT IXBLK IN PEND. CHAIN
06C		F	RESERVED
			* * THE VALUE OF IPSIZE FOR DATAMAP IS 5
070	IXBXBLOK	008	EXTERNAL BUFFER AREA

EQUATES

13	IXBSIZE	IXBLOK SIZE IN DOUBLEWORDS

CROSS REFERENCE

Name	Len	Value/Disp
IXBIRA	004	064
IXBLK	001	000
IXBNEXT	004	068
IXBPARM	008	000
IXBREGS	064	028
IXBR0	004	028
IXBR1	004	02C
IXBR10	004	050
IXBR11	004	054
IXBR12	004	058
IXBR13	004	05C
IXBR14	004	060
IXBR2	004	030
IXBR3	004	034
IXBR4	004	038
IXBR5	004	03C
IXBR6	004	040
IXBR7	004	044
IXBR8	004	048
IXBR9	004	04C
IXBSIZE	001	013
IXBXBLOK	008	070

HCPLBPBK— LOADBUF PARAMETER BLOCK

DSECT NAME: LBPBK

DESCRIPTIVE NAME: LOADBUF PARAMETER BLOCK

FUNCTION: PASSES THE INFORMATION NEEDED BY HCPCSB TO LOAD A FORMS CONTROL BUFFER OR A UNIVERSAL CHARACTER SET IN FROM THE SPECIFIED IMAGE LIBRARY.

LOCATED BY:

R1 ON ENTRY TO HCPCSBIN.

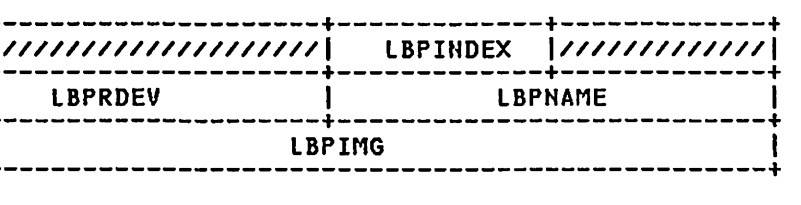
CREATED BY:

HCPCSS - START COMMAND
HCPLBF - LOADBUF COMMAND
HCPRSP - REAL PRINTER PROCESSING

DELETED BY:

HCPCSS - AFTER RETURN FROM HCPCSB
HCPLBF - AFTER RETURN FROM HCPCSB
HCPRSP - AFTER RETURN FROM HCPCSB

LBPBK - LOAD BUFF PARAMETER BLOCK



disp	name	length	description
000	LBPINFO	001	INFORMATION FOR LOADBUF
	BITS DEFINED IN LBPINFO (AT HEX DISPLACEMENT: 0)		
	80 LBPFCB		LOAD AN FCB
	40 LBPUCS		LOAD A UCS
	20 LBPFOLD		FOLD CHARACTERS INTO UPPERCASE
	10 LBPVER		VERIFY SPECIFIED ON LOADBUF
	08 LBPINDX		START PRINTING IN POSITION SPECIFIED BY LBPINDEX
	04 LBPCMD		LOADBUF OR START COMMAND ISSUED.
	02 LBPRSP		BUFFER LOAD OCCURING FROM RSP.
001		3X	RESERVED FOR IBM USE
004	LBPINDEX	001	INDEX VALUE
006		2X	RESERVED FOR IBM USE
008	LBPRDEV	004	RDEV OF DEVICE TO LOAD FCB OR UCS ONTO
00C	LBPNAME	004	NAME OF FCB OR UCS TO BE LOADED
010	LBPIMG	008	IMAGE LIBRARY WHERE FCB OR UCS CAN BE FOUND
	EQUATES		
	03 LBPSIZE		SIZE IN DOUBLE WORDS

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CROSS REFERENCE

Name	Len	Value/Disp
LBPBK	001	000
LBPCMD	001	004
LBPFCB	001	080
LBPFOLD	001	020
LBPIMG	008	010
LBPINDEX	001	004
LBPINDX	001	008
LBPINFO	001	000
LBPNAME	004	00C
LBPRDEV	004	008
LBPRSP	001	002
LBPSIZE	001	003
LBPUCS	001	040
LBPVER	001	010

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HCPLCKBK— LOCK BLOCK

DSECT NAME: LCKBK

DESCRIPTIVE NAME: LOCK BLOCK

FUNCTION: HCPLCKBK IS USED TO SYNCHRONIZE EXECUTION FOR SECTIONS OF NONREENTERABLE CODE. EACH SUCH SECTION OF CODE HAS ITS OWN UNIQUE 8 BYTE IDENTIFIER (NAME) WHICH IS PASSED TO THE LOCKING ROUTINES AS AN ARGUMENT. THIS IDENTIFIER IS SAVED IN 'LCKNAME'. A TASK THAT ATTEMPTS TO GET A LOCK THAT IS ALREADY HELD BY ANOTHER TASK IS FORCED TO WAIT UNTIL THE EARLIER TASK RELEASES THE LOCK. WHILE THE TASK IS WAITING, IT IS REPRESENTED BY A CPEBK THAT IS TEMPORARILY CHAINED OFF OF 'LCKQUE'. WHEN THE TASK HOLDING THE LOCK RELEASES IT, THE CPEBK REPRESENTING THE WAITING TASK IS STACKED SO THAT THE WAITING TASK RESUMES EXECUTION.

LOCATED BY:

SYSLOKQ	LOCK BLOCK ANCHOR: POINTS TO CHAIN OF LOCK BLOCKS.
LCKNEXT	POINTER TO NEXT LOCK BLOCK IN CHAIN.

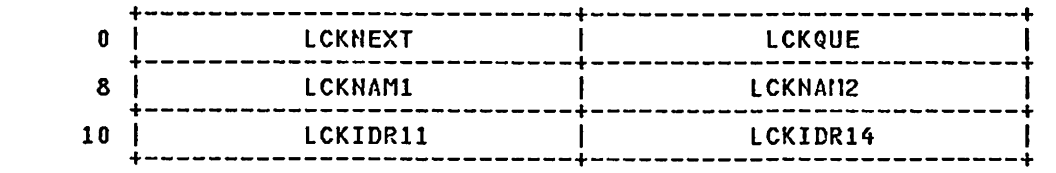
CREATED BY:

HCPLOC	WHEN A LOCK IS REQUESTED TO BE PUT ON A RESOURCE AND THAT RESOURCE IS NOT CURRENTLY LOCKED.

DELETED BY:

HCPLOC	WHEN A TASK RELEASES THE LOCK AND THERE ARE NO OTHER TASKS QUEUED ON THE LOCK.

LCKBK - LOCK BLOCK



disp	name	length	description
000	LCKNEXT	004	POINTER TO THE NEXT LOCK BLOCK
004	LCKQUE	004	POINTER TO CPEXBLOK QUEUE
008	LCKNAME	008	LOCK SYMBOL
008	LCKNAM1	004	FIRST FOUR BYTES OF SYMBOL
00C	LCKNAM2	004	SECOND FOUR BYTES OF SYMBOL
010	LCKIDR11	004	R11 OF LOCK REQUESTOR
014	LCKIDR14	004	R14 OF LOCK REQUESTOR

EQUATES

03	LCKSIZE	LOCK BLOCK SIZE IN DWORDS

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
LCKBK	001	000	LCKNAME	008	008	LCKNEXT	004	000
LCKIDR11	004	010	LCKNAM1	004	008	LCKQUE	004	004
LCKIDR14	004	014	LCKNAM2	004	00C	LCKSIZE	001	003

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HCPLDDBK— LOGICAL DISPLAY DEVICE SIMULATION BLOCK

DSECT NAME: LDDBK

DESCRIPTIVE NAME: LOGICAL DISPLAY DEVICE SIMULATION BLOCK

FUNCTION: THE LDDBK IS USED TO MAINTAIN INFORMATION NEEDED TO EFFECTIVELY SIMULATE LOGICAL 327X AND 328X DEVICES. THE DATA STRUCTURE THAT THESE BLOCKS RESIDE IN IS MAINTAINED IN THE MODULE HCPLDA, AND THESE BLOCKS ARE ONLY AVAILABLE VIA CALL TO THAT MODULE. SEE HCPLDA FOR DETAILS.

LOCATED BY:

HCPLDAFE

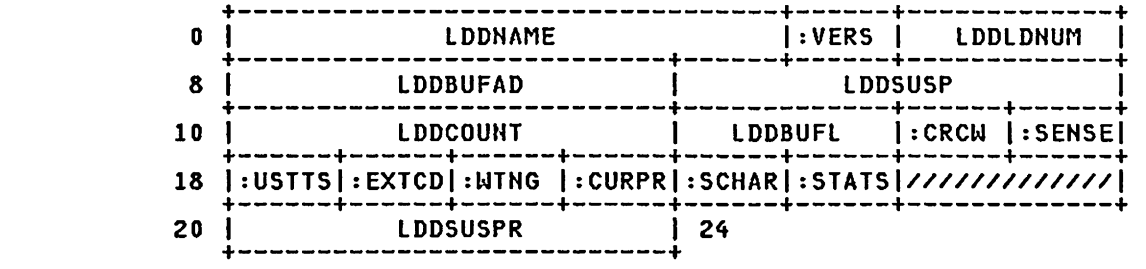
CREATED BY:

HCPLDACR

DELETED BY:

HCPLDADD

LDDBK - DISPLAY DEVICE SIMULATION BLOCK



disp	name	length	description
000	LDDBKID	008	BLOCK IDENTIFIER
000	LDDNAME	005	BLOCK NAME 'LDDBK'
005	LDDVERS	001	BLOCK VERSION NUMBER
	CODES DEFINED IN LDDVERS (AT HEX DISPLACEMENT: 5)		
	01 LDDCURVR		CURRENT VERSION OF THE LDDBK
	01 LDDMAR1		VM/XA MA RELEASE 1
006	LDDLDNUM	002	LOGICAL DEVICE NUMBER
008	LDDBUFAD	004	PENDING DATA BUFFER ADDRESS
00C	LDDSUSP	004	CPEBK ADDRESS FOR SUSPENDED TASK
010	LDDCOUNT	004	PENDING CCW DATA COUNT
014	LDDBUFL	002	PENDING DATA BUFFER LENGTH - BYTES
016	LDDCRCW	001	CURRENT CCW OPCODE
017	LDDSENSE	001	SENSE INFORMATION
018	LDDUSTTS	001	UNIT STATUS INFORMATION
019	LDDEXTCD	001	EXTERNAL INTERRUPT CODE TO REFLECT TO HOST MACHINE
	CODES DEFINED IN LDDEXTCD (AT HEX DISPLACEMENT: 19)		
	01 LDDKILLD		CP HAS TERMINATED THIS DEVICE
	02 LDDWRT		A WRITE WAS ISSUED TO THIS DEVICE
	03 LDDNTFY		A PREVIOUS PRESENT IS NOW COMPLETE
	04 LDDRDBUF		READ-BUFFER ISSUED TO THIS DEVICE
	05 LDDRDMOD		READ-MODIFIED ISSUED TO THIS DEVIC
01A	LDDWTNG	001	FUNCTION WE ARE WAITING FOR
	BITS DEFINED IN LDDWTNG (AT HEX DISPLACEMENT: 1A)		

```
         80     LDDACCWT    ACCEPT - WRITE CCW PENDING
         40     LDDPRBWT    PRESENT - READ-BUFFER PENDING
         20     LDDPRMWT    PRESENT - READ-MODIFIED PENDING
         10     LDDSTAWT    WAITING FOR STATUS DIAGNOSE
         08     LDDWACWT    IN WRITE/ACCEPT CHAIN - DON'T MOVE
                            CCW INTO DATA BUFFER
         04     LDDPREXT    PRESENT IN PROGRESS - REFLECT
                            INTERRUPT CODE 3 ON COMPLETION

01B   LDDCURPR   001        CURRENT PROCESSING FLAGS

        BITS DEFINED IN LDDCURPR (AT HEX DISPLACEMENT: 1B)

         80     LDDPRES     PRESENT IN PROGRESS
         40     LDDACCPT    ACCEPT IN PROGRESS
         20     LDDEXTRN    EXTERNAL INTERRUPT BEING REFLECTED
         10     LDDMVPTL    MOVE PARTIAL DATA ON ACCEPT
         08     LDDPRDBU    PRESENT OF READ BUFFER DATA

01C   LDDSCHAR   001        SPECIAL DEVICE CHARACTERISTICS

        BITS DEFINED IN LDDSCHAR (AT HEX DISPLACEMENT: 1C)

         80     LDDACCST    STATUS MUST FOLLOW ACCEPT FUNCTION
         40     LDDEXTFT    EXTENDED FEATURES SUPPORTED
         20     LDDNOEWA    ERASE/WRITE ALTERNATE NOT SUPPORTED

01D   LDDSTATS   001        MISCELLANEOUS STATUS

        BITS DEFINED IN LDDSTATS (AT HEX DISPLACEMENT: 1D)

         80     LDDPURGE    PRESENT DATA BUFFER WAS PURGED
         40     LDDCPBUF    BUFFER AT LDDBUFAD IS IN CP
                            STORAGE.
         20     LDDLERR     ERROR DETECTED DURING LIST FORM
                            PRESENT
         10     LDDDEAD     LOGICAL DEVICE IS DECEASED
         08     LDDBUFPG    BUFFER AT LDDBUFAD IS A PAGE AND WAS

01E              H          RESERVED
020   LDDSUSPR   004        CPEBK ADDRESS FOR SUSPENDED DIAGNOSE

                   MORE EQUATES

         04     LDDSELR     SELECTIVE RESET HAS BEEN DONE
                            ON THIS LDDBK.
         05     LDDSIZE     SIZE OF LDDBK IN DOUBLEWORDS
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
LDDACCPT	001	040	LDDDEAD	001	010	LDDPRDBU	001	008
LDDACCST	001	080	LDDEXTCD	001	019	LDDPRES	001	080
LDDACCWT	001	080	LDDEXTFT	001	040	LDDPREXT	001	004
LDDBK	001	000	LDDEXTRN	001	020	LDDPRMWT	001	020
LDDBKID	008	000	LDDKILLD	001	001	LDDPURGE	001	080
LDDBUFAD	004	008	LDDLDNUM	002	006	LDDRDBUF	001	004
LDDBUFL	002	014	LDDLERR	001	020	LDDRDMOD	001	005
LDDBUFPG	001	008	LDDMAR1	001	001	LDDSCHAR	001	01C
LDDCOUNT	004	010	LDDMVPTL	001	010	LDDSELR	001	004
LDDCPBUF	001	040	LDDNAME	005	000	LDDSENSE	001	017
LDDCRCW	001	016	LDDNOEWA	001	020	LDDSIZE	001	005
LDDCURPR	001	01B	LDDNTFY	001	003	LDDSTATS	001	01D
LDDCURVR	001	001	LDDPRBWT	001	040	LDDSTAWT	001	010

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CROSS REFERENCE

Name	Len	Value/Disp
LKWCSWAP	008	000
LKWDFRCT	004	00C
LKWDQLEN	004	010
LKWDQMAX	004	014
LKWHEXCL	001	080
LKWHOLD	001	000
LKWQUEUE	004	004
LKWRD	001	000
LKWRDSIZ	001	003
LKWREQCT	004	008
LKWSTAT	003	001
LKWSTATE	004	000

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HCPLOGMS— LOGON MESSAGE BLOCK

DSECT NAME: LOGMS

DESCRIPTIVE NAME: LOGON MESSAGE BLOCK

FUNCTION: CONTAINS LOG MESSAGE DATA FOR USE AT LOGON AND THE QUERY LOG COMMAND. MESSAGES ARE ADDED, CHANGED, AND DELETED BY THE SET LOG COMMAND.

LOCATED BY:

SYSLOGM FIELD OF HCPSYSCM

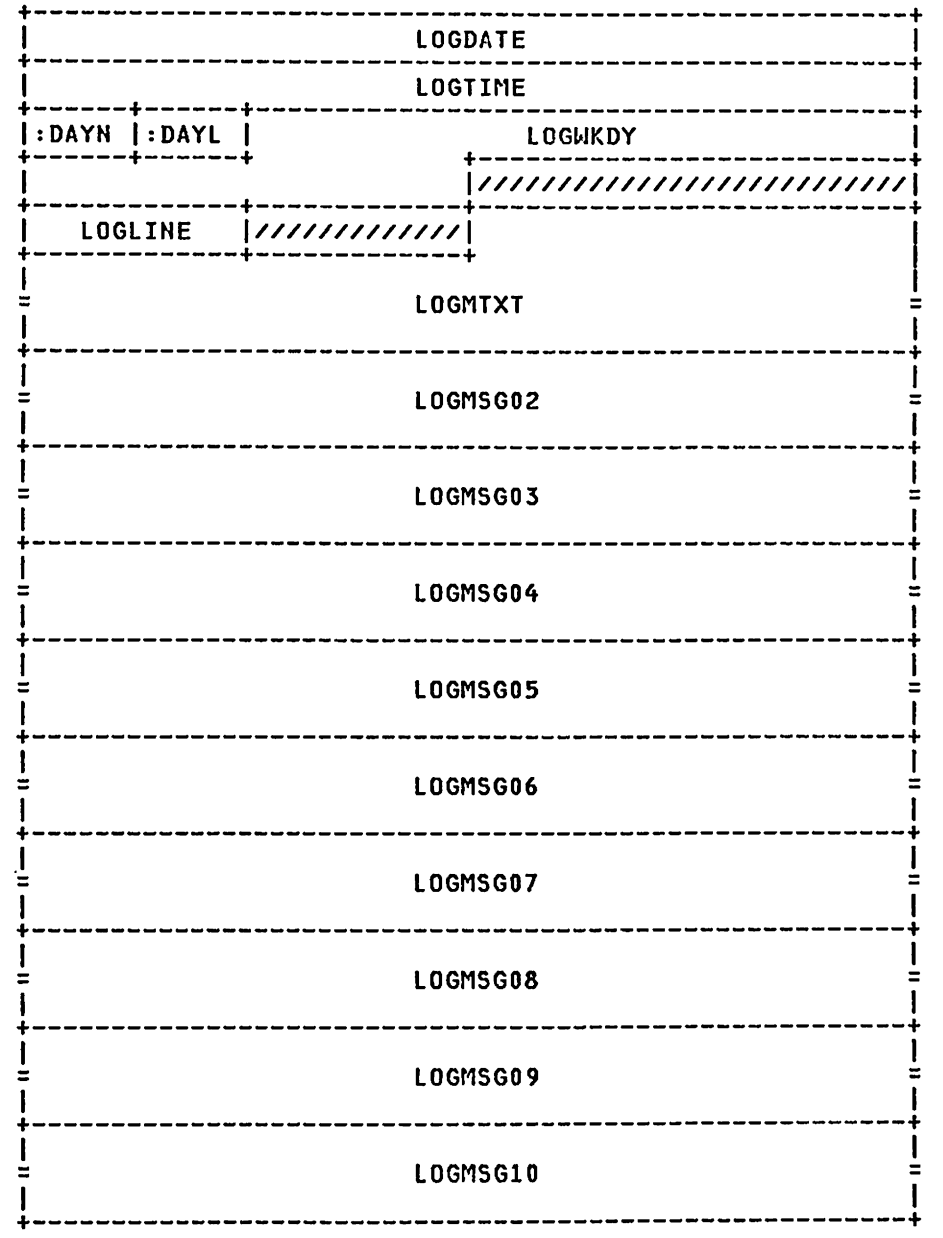
CREATED BY:

HCPSYS ASSEMBLY (SYSGEN)

DELETED BY:

NONE

LOGMS - LOGON MESSAGE BLOCK



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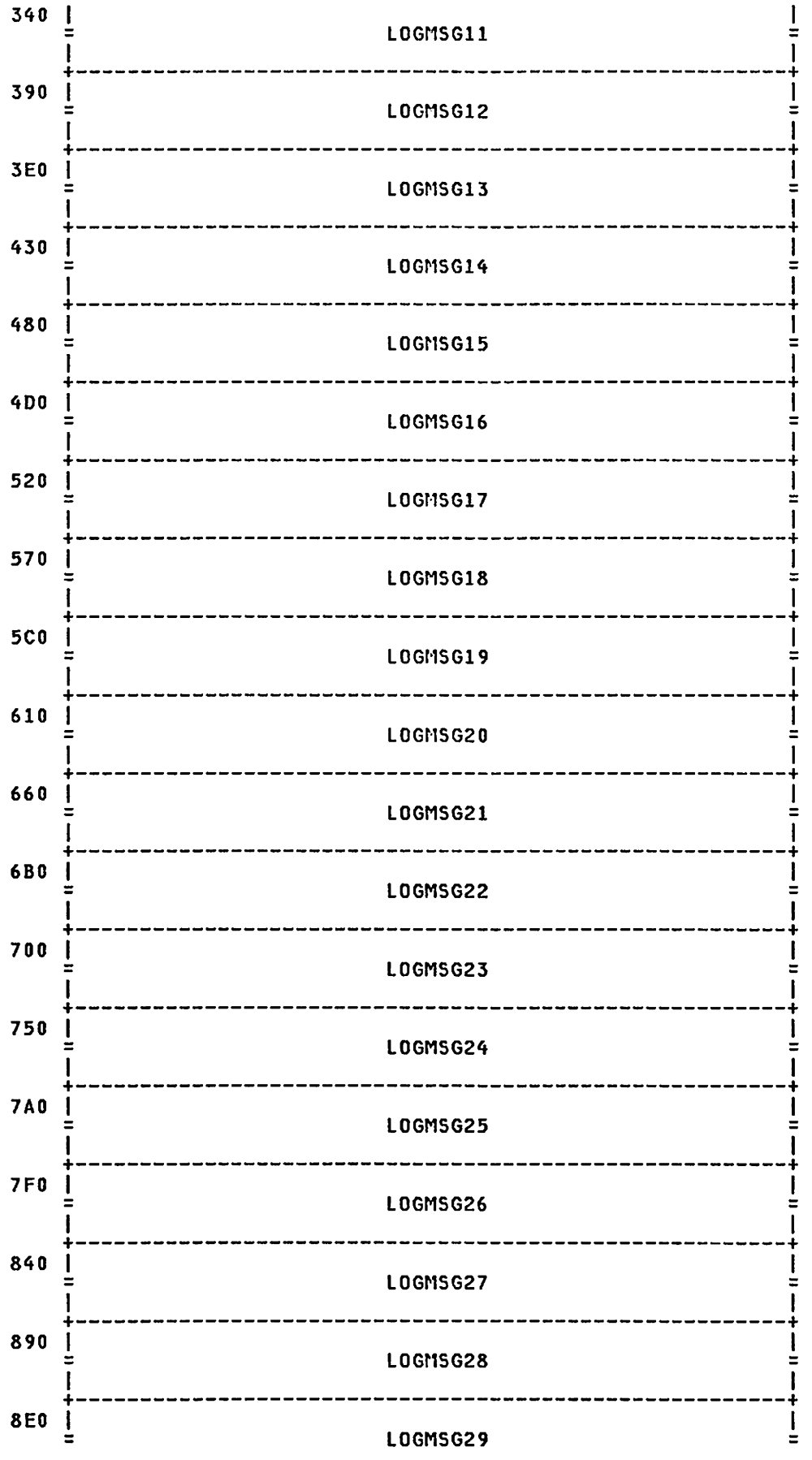
340
LOGMSG11
390
LOGMSG12
3E0
LOGMSG13
430
LOGMSG14
480
LOGMSG15
4D0
LOGMSG16
520
LOGMSG17
570
LOGMSG18
5C0
LOGMSG19
610
LOGMSG20
660
LOGMSG21
6B0
LOGMSG22
700
LOGMSG23
750
LOGMSG24
7A0
LOGMSG25
7F0
LOGMSG26
840
LOGMSG27
890
LOGMSG28
8E0
LOGMSG29

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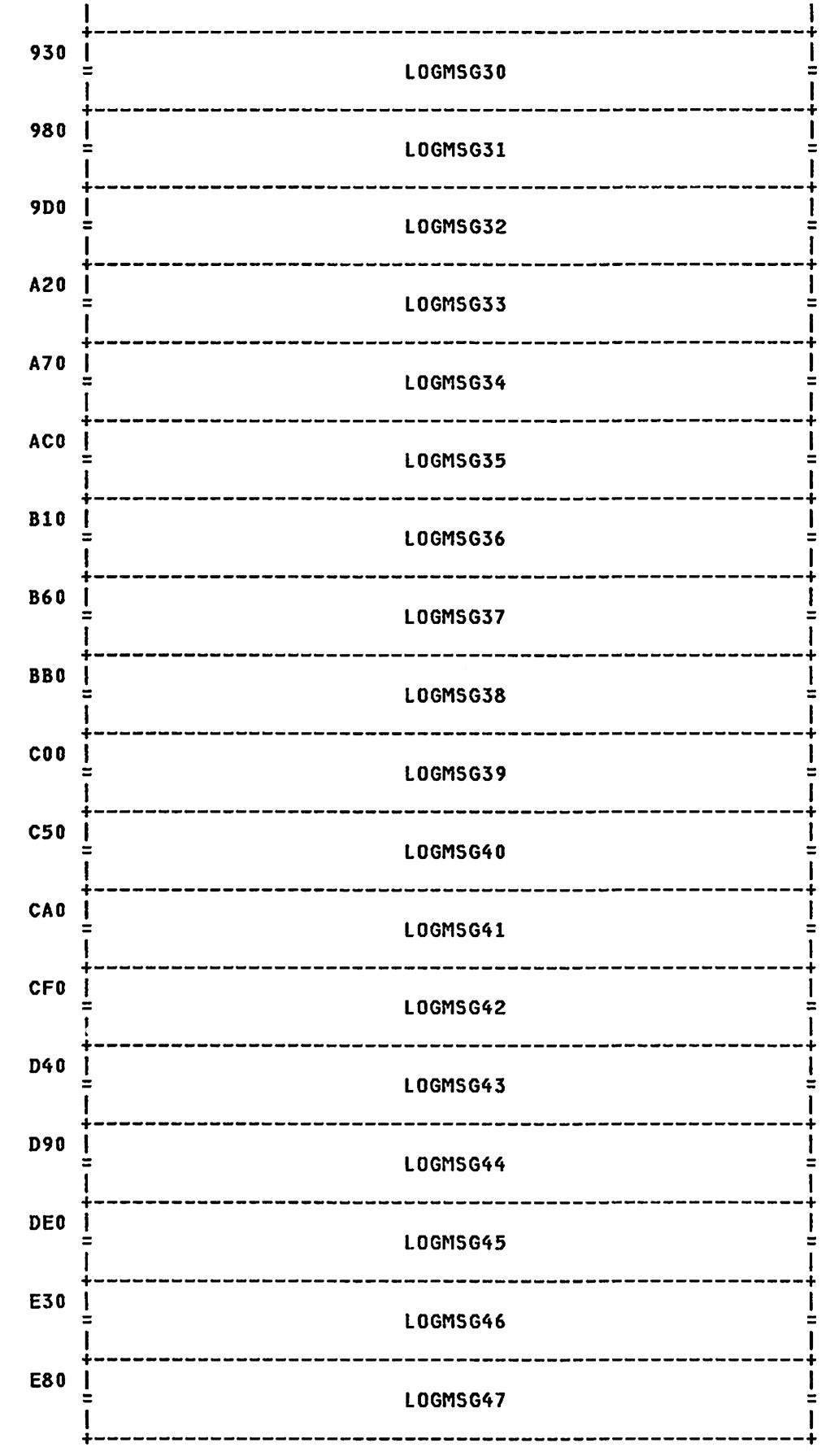

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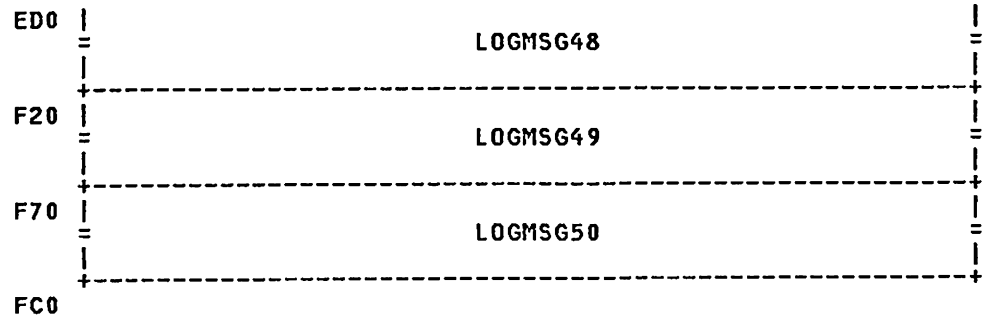

disp	name	length	description
000	LOGDATE	008	DATE OF LOG MSG SETTING
008	LOGTIME	008	TIME OF LOG MSG SETTING
010	LOGDAYN	001	DAY NUMBER OF LOG MSG SETTING
011	LOGDAYL	001	LENGTH OF WEEKDAY NAME
012	LOGWKDY	010	DAY-OF-WEEK WHEN LOG MSG SET
01C		F	RESERVED FOR FUTURE IBM USE
020	LOGMSGS	080	20 LOG MSGS WITH LINE NUMB & TEXT
020	LOGMSG01	080	LOG MESSAGE 01
020	LOGLINE	002	LOG MSG NUMBER (01 THRU 20)
022		CL2	BLANKS
024	LOGMTXT	076	LOG MESSAGE TEXT

EQUATES

50	LOGLEN	LENGTH OF EACH LOG MESSAGE

070	LOGMSG02	080	LOG MESSAGE 02
0C0	LOGMSG03	080	LOG MESSAGE 03
110	LOGMSG04	080	LOG MESSAGE 04
160	LOGMSG05	080	LOG MESSAGE 05
1B0	LOGMSG06	080	LOG MESSAGE 06
200	LOGMSG07	080	LOG MESSAGE 07
250	LOGMSG08	080	LOG MESSAGE 08
2A0	LOGMSG09	080	LOG MESSAGE 09
2F0	LOGMSG10	080	LOG MESSAGE 10
340	LOGMSG11	080	LOG MESSAGE 11
390	LOGMSG12	080	LOG MESSAGE 12
3E0	LOGMSG13	080	LOG MESSAGE 13
430	LOGMSG14	080	LOG MESSAGE 14
480	LOGMSG15	080	LOG MESSAGE 15
4D0	LOGMSG16	080	LOG MESSAGE 16
520	LOGMSG17	080	LOG MESSAGE 17
570	LOGMSG18	080	LOG MESSAGE 18
5C0	LOGMSG19	080	LOG MESSAGE 19
610	LOGMSG20	080	LOG MESSAGE 20
660	LOGMSG21	080	LOG MESSAGE 21
6B0	LOGMSG22	080	LOG MESSAGE 22
700	LOGMSG23	080	LOG MESSAGE 23
750	LOGMSG24	080	LOG MESSAGE 24
7A0	LOGMSG25	080	LOG MESSAGE 25
7F0	LOGMSG26	080	LOG MESSAGE 26
840	LOGMSG27	080	LOG MESSAGE 27
890	LOGMSG28	080	LOG MESSAGE 28
8E0	LOGMSG29	080	LOG MESSAGE 29
930	LOGMSG30	080	LOG MESSAGE 30
980	LOGMSG31	080	LOG MESSAGE 31
9D0	LOGMSG32	080	LOG MESSAGE 32
A20	LOGMSG33	080	LOG MESSAGE 33
A70	LOGMSG34	080	LOG MESSAGE 34
AC0	LOGMSG35	080	LOG MESSAGE 35
B10	LOGMSG36	080	LOG MESSAGE 36
B60	LOGMSG37	080	LOG MESSAGE 37
BB0	LOGMSG38	080	LOG MESSAGE 38
C00	LOGMSG39	080	LOG MESSAGE 39
C50	LOGMSG40	080	LOG MESSAGE 40
CA0	LOGMSG41	080	LOG MESSAGE 41

CF0	LOGMSG42	080	LOG MESSAGE 42
D40	LOGMSG43	080	LOG MESSAGE 43
D90	LOGMSG44	080	LOG MESSAGE 44
DE0	LOGMSG45	080	LOG MESSAGE 45
E30	LOGMSG46	080	LOG MESSAGE 46
E80	LOGMSG47	080	LOG MESSAGE 47
ED0	LOGMSG48	080	LOG MESSAGE 48
F20	LOGMSG49	080	LOG MESSAGE 49
F70	LOGMSG50	080	LOG MESSAGE 50

EQUATES

F8	LOGSIZE	LENGTH OF LOG MESSAGES
32	LOGCNT	TOTAL NUMBER OF LOG MESSAGE SLOTS

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
LOGCNT	050	032	LOGMSG38	080	BB0
LOGDATE	008	000	LOGMSG39	080	C00
LOGDAYL	001	011	LOGMSG40	080	C50
LOGDAYN	001	010	LOGMSG41	080	CA0
LOGLEN	001	050	LOGMSG42	080	CF0
LOGLINE	002	020	LOGMSG43	080	D40
LOGMS	001	000	LOGMSG44	080	D90
LOGMSGS	080	020	LOGMSG45	080	DE0
LOGMSG01	080	020	LOGMSG46	080	E30
LOGMSG02	080	070	LOGMSG47	080	E80
LOGMSG03	080	0C0	LOGMSG48	080	ED0
LOGMSG04	080	110	LOGMSG49	080	F20
LOGMSG05	080	160	LOGMSG50	080	F70
LOGMSG06	080	1B0	LOGMTXT	076	024
LOGMSG07	080	200	LOGSIZE	001	1F8
LOGMSG08	080	250	LOGTIME	008	008
LOGMSG09	080	2A0	LOGWKDY	010	012
LOGMSG10	080	2F0			
LOGMSG11	080	340			
LOGMSG12	080	390			
LOGMSG13	080	3E0			
LOGMSG14	080	430			
LOGMSG15	080	480			
LOGMSG16	080	4D0			
LOGMSG17	080	520			
LOGMSG18	080	570			
LOGMSG19	080	5C0			
LOGMSG20	080	610			
LOGMSG21	080	660			
LOGMSG22	080	6B0			
LOGMSG23	080	700			
LOGMSG24	080	750			
LOGMSG25	080	7A0			
LOGMSG26	080	7F0			
LOGMSG27	080	840			
LOGMSG28	080	890			
LOGMSG29	080	8E0			
LOGMSG30	080	930			
LOGMSG31	080	980			
LOGMSG32	080	9D0			
LOGMSG33	080	A20			
LOGMSG34	080	A70			
LOGMSG35	080	AC0			
LOGMSG36	080	B10			
LOGMSG37	080	B60			

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MCHREC— MACHINE CHECK ERROR RECORD

DSECT NAME: MCHREC

DESCRIPTIVE NAME: MACHINE CHECK ERROR RECORD

FUNCTION: MCHREC PROVIDES MACHINE CHECK INFORMATION FOR ERROR RECORDING.

LOCATED BY:

PFXMCHA FIELD IN PFXPG. ALSO POINTED TO BY GPR6 IN HCPIOE, AND PASSED TO HCPREC IN GPR1.

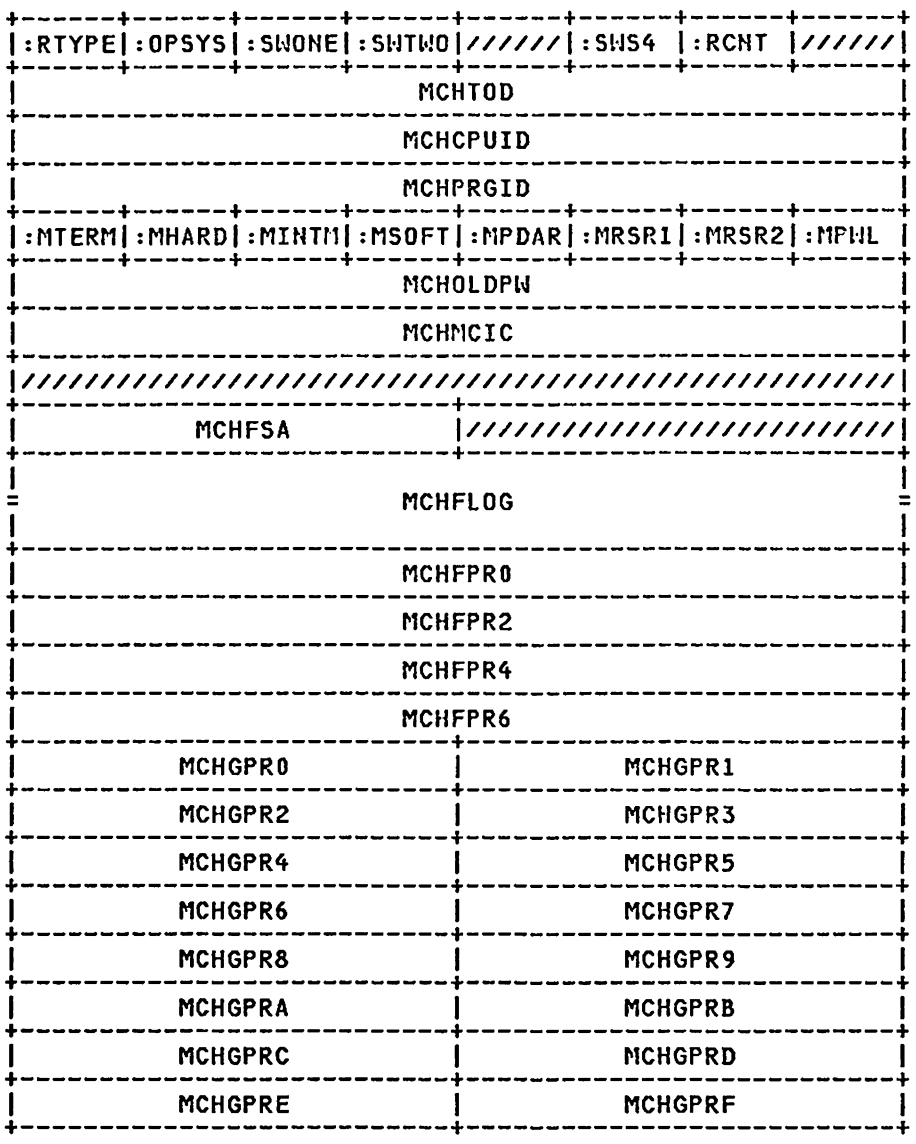
CREATED BY:

HCPMPS AT INITIALIZATION FOR EACH CPU. A COPY IS MADE BY HCPMCH FOR ERROR RECORDING.

DELETED BY:

HCPIOE AFTER HCPREC HAS COPIED IT INTO GSDBK. IF A CPU IS VARIED OFF, THEN IT'S MCHREC IS DELETED BY HCPMPS.

MCHREC - MACHINE CHECK ERROR RECORD



```
  108 |           MCHCR0          |           MCHCR1          |
      +---------------------------+---------------------------+
  110 |           MCHCR2          |           MCHCR3          |
      +---------------------------+---------------------------+
  118 |           MCHCR4          |           MCHCR5          |
      +---------------------------+---------------------------+
  120 |           MCHCR6          |           MCHCR7          |
      +---------------------------+---------------------------+
  128 |           MCHCR8          |           MCHCR9          |
      +---------------------------+---------------------------+
  130 |           MCHCRA          |           MCHCRB          |
      +---------------------------+---------------------------+
  138 |           MCHCRC          |           MCHCRD          |
      +---------------------------+---------------------------+
  140 |           MCHCRE          |           MCHCRF          |
      +---------------------------+---------------------------+
  148
```

REDEFINITION - MCHTOD

```
      +---------------------------+---------------------------+
    8 |          MCHHDATE         |          MCHHTIME         |
      +---------------------------+---------------------------+
   10
```

REDEFINITION - TOD OF SYSTEM FAILURE

```
      +-------------+-------------------------------------------+
    8 |/////////////|                 MCHTODB2                  |
      +-------------+-------------------------------------------+
   10
```

REDEFINITION - MCHCPUID

```
      +------+--------------------+-------------+-------------+
   10 |:HCPID|      MCHHSER       |   MCHHMDL   |   MCHHMCEL  |
      +------+--------------------+-------------+-------------+
   18
```

REDEFINITION - MCHOLDPW

```
      +------+------+------+------+---------------------------+
   28 |:OLDP0|:OLDP1|:OLDP2|:OLDP3|          MCHOLDIA         |
      +------+------+------+------+---------------------------+
   30
```

REDEFINITION - MCHMCIC

```
      +------+------+------+------+------+------+------+------+
   30 |:MCIC0|:MCIC1|:MCIC2|:MCIC3|:MCIC4|:MCIC5|:MCIC6|:MCIC7|
      +------+------+------+------+------+------+------+------+
   38
```

disp	name	length	description
000	MCHRTYPE	001	MACHINE CHECK RECORD TYPE

CODES DEFINED IN MCHRTYPE (AT HEX DISPLACEMENT: 0)

1B	MCHRTCS0	CONVERTED MCH SER0 RECORD (NOT FOR VS)
1A	MCHRTCS1	CONVERTED MCH SER1 RECORD (NOT

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```
                              FOR VS)
          19     MCHRTMS0     MCH SER0 RECORD (NOT FOR VS)
          18     MCHRTMS1     MCH SER1 RECORD (NOT FOR VS)
          13     MCHRTMVS     MCH RECORD RECORDED IN MULTIPLE
                              VIRTUAL STORAGE ENVIRONMENT
          12     MCHRTCVT     CONVERTED MCH RECORD (NOT FOR VS)
          10     MCHRTMCH     MCH RECORD

001    MCHOPSYS    001        OPERATING SYSTEM/RELEASE LEVEL

          BITS DEFINED FOR MCHOPSYS BY HDRREC HDRHSYS

002    MCHSWONE    001        RECORD INDEPENDENT SWITCH

          BITS DEFINED FOR MCHSWONE BY HDRREC HDRHSW0

003    MCHSWTWO    001        RECORD DEPENDENT SWITCH

          BITS DEFINED IN MCHSWTWO (AT HEX DISPLACEMENT: 3)

          20     MCHSYSTM     SYSTEM TERMINATED BY MCH
          10     MCHERROR     RECORD CONTAINS AN ERRORID
          04     MCHSOFTF     SOFT FAILURE
          02     MCHDEGRF     DEGRADE FAILURE
          06     MCHHARDF     HARD FAILURE

004               XL1         RESERVED FOR FUTURE IBM USE
005    MCHSWS4     001        MCH SYS1.LOGREC REC BUFFER
                              OVERLAID WITH ANOTHER RECORD

          BITS DEFINED IN MCHSWS4  (AT HEX DISPLACEMENT: 5)

          FF     MCHLOGRC     SVC 76 DOES NOT RECORD THIS
                              RECORD ON SYS1.LOGREC

006    MCHRCNT     001        RECORD COUNT

          BITS DEFINED FOR MCHRCNT BY HDRREC HDRHCNT

007               XL1         RESERVED FOR FUTURE IBM USE
008    MCHTOD      008        TOD OF SYSTEM FAILURE
010    MCHCPUID    008        CPU IDENTIFICATION
018    MCHPRGID    008        PROGRAM IDENTITY/USERID
020    MCHMTERM    001        TERMINAL ERROR INDICATORS

          BITS DEFINED IN MCHMTERM (AT HEX DISPLACEMENT: 20)

          20     MCHMTHRS     THRESHOLD REACHED
          10     MCHMTSEC     SECONDARY ERROR
          08     MCHMTCKS     CHECK STOP
          04     MCHMTWRN     POWER WARNING
          01     MCHMTINV     INVALID LOGOUT

021    MCHMHARD    001        HARD MACHINE ERROR SWITCHES

          BITS DEFINED IN MCHMHARD (AT HEX DISPLACEMENT: 21)

          80     MCHMHHRD     HARD ERROR ASSUMED
          10     MCHMHSD      SYSTEM DAMAGE
          08     MCHMHINV     REGISTER OR PSW INVALID
          04     MCHMHSTO     HARD STORAGE ERROR
          02     MCHMHKEY     HARD STORAGE PROTECT KEY ERROR
          01     MCHMHIPD     INSTRUCTION PROCESSING DAMAGE

022    MCHMINTM    001        INTERMEDIATE ERROR SWITCHES

          BITS DEFINED IN MCHMINTM (AT HEX DISPLACEMENT: 22)

          08     MCHMITOD     TOD CLOCK ERROR
          04     MCHMICKC     CLOCK COMPARATOR ERROR
          02     MCHMICTM     CPU TIMER ERROR
          01     MCHMIL80     INTERVAL TIMER ERROR

023    MCHMSOFT    001        SOFT MACHINE ERROR SWITCHES
```

BITS DEFINED IN MCHMSOFT (AT HEX DISPLACEMENT: 23)

80	MCHMSSFT	SOFT ERROR ASSUMED
08	MCHMSEXD	EXTERNAL DAMAGE
04	MCHMSECC	ECC CORRECTED STORAGE ERROR
02	MCHMSHIR	HIR CORRECTED CPU ERROR
01	MCHMSBUF	BUFFER ERROR

024	MCHMPDAR	001	PDAR DATA SUPPLIED BY RTM

BITS DEFINED IN MCHMPDAR (AT HEX DISPLACEMENT: 24)

10	MCHMINVP	STOR. RECONF. - PAGE INVALID
08	MCHMRSRC	STOR. RECONF. STAT AT MCHMRSR1&2
04	MCHMRSRF	STOR. RECONF. NOT ATTEMPTED

025	MCHMRSR1	001	STOR. RECONF. STATUS (BYTE 0)

BITS DEFINED IN MCHMRSR1 (AT HEX DISPLACEMENT: 25)

02	MCHMSER	STOR. ERROR. ALREADY IN FRAME
01	MCHMCHNG	FRAME HAD CHANGE INDIC. ON

026	MCHMRSR2	001	STOR. RECONF. STATUS (BYTE 1)

BITS DEFINED IN MCHMRSR2 (AT HEX DISPLACEMENT: 26)

80	MCHMOFLN	FRAME OFFLINE OR SCHED. OFFLINE
40	MCHMINTC	INTERCEPT - FRAME SCHED. TO GO OFFLINE, HAS PERM. STOR. ERROR OR SCHED. FOR V=R STATUS
20	MCHMSPER	PERM. ERROR IN FRAME
10	MCHMNUCL	FRAME HOLDS PERM. RES. SYS. STOR.
08	MCHMFSQA	FRAME IN USE FOR SQA
04	MCHMLSQA	FRAME IN USE FOR LSQA
02	MCHMPGFX	FRAME HOLDS PAGE FIXED DATA
01	MCHMVEQR	FRAME V=R OR SCHED. V=R

027	MCHMPWL	001	LENGTH OF MACHINE CHECKING BLOCK
028	MCHOLDPW	008	MACHINE-CHECK OLD PSW
030	MCHLOST1	024	COPY OF LOW STORAGE LOC. 232-255
030	MCHMCIC	008	COPY OF MCIC (MACHINE-CHECK INTERRUPTION CODE).
038		D	COPY OF STORAGE
040	MCHFSA	004	COPY OF FAILING STORAGE ADDRESS.
044		F	COPY OF STORAGE
048	MCHLOST2	256	COPY OF LOW STORAGE 256-511
048	MCHFLOG	008	COPY OF FIXED LOGOUT
0A8	MCHFPRS	008	COPY OF FLOATING POINT REGISTERS
0A8	MCHFPR0	008	COPY OF FLOATING POINT REG. 0.
0B0	MCHFPR2	008	COPY OF FLOATING POINT REG. 2.
0B8	MCHFPR4	008	COPY OF FLOATING POINT REG. 4.
0C0	MCHFPR6	008	COPY OF FLOATING POINT REG. 6.
0C8	MCHGPRS	004	COPY OF GENERAL REGISTERS
0C8	MCHGPR0	004	COPY OF GENERAL REGISTER 0.
0CC	MCHGPR1	004	COPY OF GENERAL REGISTER 1.
0D0	MCHGPR2	004	COPY OF GENERAL REGISTER 2.
0D4	MCHGPR3	004	COPY OF GENERAL REGISTER 3.
0D8	MCHGPR4	004	COPY OF GENERAL REGISTER 4.
0DC	MCHGPR5	004	COPY OF GENERAL REGISTER 5.
0E0	MCHGPR6	004	COPY OF GENERAL REGISTER 6.
0E4	MCHGPR7	004	COPY OF GENERAL REGISTER 7.
0E8	MCHGPR8	004	COPY OF GENERAL REGISTER 8.
0EC	MCHGPR9	004	COPY OF GENERAL REGISTER 9.
0F0	MCHGPRA	004	COPY OF GENERAL REGISTER 10.
0F4	MCHGPRB	004	COPY OF GENERAL REGISTER 11.
0F8	MCHGPRC	004	COPY OF GENERAL REGISTER 12.
0FC	MCHGPRD	004	COPY OF GENERAL REGISTER 13.
100	MCHGPRE	004	COPY OF GENERAL REGISTER 14.
104	MCHGPRF	004	COPY OF GENERAL REGISTER 15.
108	MCHCRS	004	COPY OF CONTROL REGISTERS
108	MCHCR0	004	COPY OF CONTROL REGISTER 0.
10C	MCHCR1	004	COPY OF CONTROL REGISTER 1.

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110   MCHCR2     004      COPY OF CONTROL REGISTER 2.
114   MCHCR3     004      COPY OF CONTROL REGISTER 3.
118   MCHCR4     004      COPY OF CONTROL REGISTER 4.
11C   MCHCR5     004      COPY OF CONTROL REGISTER 5.
120   MCHCR6     004      COPY OF CONTROL REGISTER 6.
124   MCHCR7     004      COPY OF CONTROL REGISTER 7.
128   MCHCR8     004      COPY OF CONTROL REGISTER 8.
12C   MCHCR9     004      COPY OF CONTROL REGISTER 9.
130   MCHCRA     004      COPY OF CONTROL REGISTER 10.
134   MCHCRB     004      COPY OF CONTROL REGISTER 11.
138   MCHCRC     004      COPY OF CONTROL REGISTER 12.
13C   MCHCRD     004      COPY OF CONTROL REGISTER 13.
140   MCHCRE     004      COPY OF CONTROL REGISTER 14.
144   MCHCRF     004      COPY OF CONTROL REGISTER 15.
148              0D       MUST HAVE DOUBLE WORD ALIGNMENT

                    EQUATES

       48    MCHFXLEN    LENGTH (IN BYTES) OF FIXED
                         LENGTH PORTION OF MCHREC
       29    MCHSIZE     MCHREC SIZE IN DOUBLE WORDS

                         THE MACHINE CHECK ERROR RECORD CONSISTS OF THE ABOVE BLOCK
                         WITH THE DAMAGE ASSESSMENT AREA (PART OF THE HCPMCKBK)
                         APPENDED TO IT.


        REDEFINITION - MCHTOD

008   MCHHDATE   004      SYSTEM DATE OF FAILURE
00C   MCHHTIME   004      SYSTEM TIME OF FAILURE

        REDEFINITION - TOD OF SYSTEM FAILURE

008   MCHTODHI   004      FIRST WORD OF MCHTOD
008              2X       BYTES 0 AND 1 OF MCHTOD
00A   MCHTODB2   006      BYTE 2 OF MCHTOD. BYTES 2 - 7 OF
                         MCHTOD USED TO BUILD TRACE ENTRY
                         FOR MACHINE CHECK INTERRUPTION OR
                         CHECK STOP

        REDEFINITION - MCHCPUID

010   MCHHCPID   001      MACHINE VERSION CODE
011   MCHHSER    003      CPU SERIAL NUMBER
014   MCHHMDL    002      CPU MACHINE MODEL NUMBER
016   MCHHMCEL   002      MAX LENGTH OF MACHINE-DEPENDENT
                         MACHINE CHECK EXTENDED LOGOUT

        REDEFINITION - MCHOLDPW

028   MCHOLDP0   001      MACHINE-CHECK OLD PSW BYTE 0

       BITS DEFINED FOR MCHOLDP0 BY HCPEQUAT PSW0

029   MCHOLDP1   001      MACHINE-CHECK OLD PSW BYTE 1

       BITS DEFINED FOR MCHOLDP1 BY HCPEQUAT PSW1

02A   MCHOLDP2   001      MACHINE-CHECK OLD PSW BYTE 2

       BITS DEFINED FOR MCHOLDP2 BY HCPEQUAT PSW2

02B   MCHOLDP3   001      MACHINE-CHECK OLD PSW BYTE 3
02C   MCHOLDIA   004      INSTR ADDR FIELD OF MCH-CHK OPSW.

        REDEFINITION - MCHMCIC

030   MCHMCWD1   004      FIRST WORD OF MCHMCIC.
030   MCHMCIC0   001      COPY OF MCIC BYTE 0.

       BITS DEFINED FOR MCHMCIC0 BY HCPEQUAT MCIC0
```

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031   MCHMCIC1   001      COPY OF MCIC BYTE 1.

        BITS DEFINED FOR MCHMCIC1 BY HCPEQUAT MCIC1

032   MCHMCIC2   001      COPY OF MCIC BYTE 2.

        BITS DEFINED FOR MCHMCIC2 BY HCPEQUAT MCIC2

033   MCHMCIC3   001      COPY OF MCIC BYTE 3.

        BITS DEFINED FOR MCHMCIC3 BY HCPEQUAT MCIC3

034   MCHMCIC4   001      COPY OF MCIC BYTE 4.
035   MCHMCIC5   001      COPY OF MCIC BYTE 5.

        BITS DEFINED FOR MCHMCIC5 BY HCPEQUAT MCIC5

036   MCHMCIC6   001      COPY OF MCIC BYTE 6.
037   MCHMCIC7   001      COPY OF MCIC BYTE 7.
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
MCHCPUID	008	010	MCHGPR6	004	0E0	MCHMNUCL	001	010
MCHCRA	004	130	MCHGPR7	004	0E4	MCHMOFLN	001	080
MCHCRB	004	134	MCHGPR8	004	0E8	MCHMPDAR	001	024
MCHCRC	004	138	MCHGPR9	004	0EC	MCHMPGFX	001	002
MCHCRD	004	13C	MCHHARDF	001	006	MCHMPWL	001	027
MCHCRE	004	140	MCHHCPID	001	010	MCHMRSRC	001	008
MCHCRF	004	144	MCHHDATE	004	008	MCHMRSRF	001	004
MCHCRS	004	108	MCHHMCEL	002	016	MCHMRSR1	001	025
MCHCR0	004	108	MCHHMDL	002	014	MCHMRSR2	001	026
MCHCR1	004	10C	MCHHSER	003	011	MCHMSBUF	001	001
MCHCR2	004	110	MCHHTIME	004	00C	MCHMSECC	001	004
MCHCR3	004	114	MCHLOGRC	001	0FF	MCHMSER	001	002
MCHCR4	004	118	MCHLOST1	024	030	MCHMSEXD	001	008
MCHCR5	004	11C	MCHLOST2	256	048	MCHMSHIR	001	002
MCHCR6	004	120	MCHMCHNG	001	001	MCHMSOFT	001	023
MCHCR7	004	124	MCHMCIC	008	030	MCHMSPER	001	020
MCHCR8	004	128	MCHMCIC0	001	030	MCHMSSFT	001	080
MCHCR9	004	12C	MCHMCIC1	001	031	MCHMTCKS	001	008
MCHDEGRF	001	002	MCHMCIC2	001	032	MCHMTERM	001	020
MCHERROR	001	010	MCHMCIC3	001	033	MCHMTHRS	001	020
MCHFLOG	008	048	MCHMCIC4	001	034	MCHMTINV	001	001
MCHFPRS	008	0A8	MCHMCIC5	001	035	MCHMTSEC	001	010
MCHFPR0	008	0A8	MCHMCIC6	001	036	MCHMTWRN	001	004
MCHFPR2	008	0B0	MCHMCIC7	001	037	MCHMVEQR	001	001
MCHFPR4	008	0B8	MCHMCWD1	004	030	MCHOLDIA	004	02C
MCHFPR6	008	0C0	MCHMFSQA	001	008	MCHOLDPW	008	028
MCHFSA	004	040	MCHMHARD	001	021	MCHOLDP0	001	028
MCHFXLEN	001	148	MCHMHHRD	001	080	MCHOLDP1	001	029
MCHGPRA	004	0F0	MCHMHINV	001	008	MCHOLDP2	001	02A
MCHGPRB	004	0F4	MCHMHIPD	001	001	MCHOLDP3	001	02B
MCHGPRC	004	0F8	MCHMHKEY	001	002	MCHOPSYS	001	001
MCHGPRD	004	0FC	MCHMHSD	001	010	MCHPRGID	008	018
MCHGPRE	004	100	MCHMHSTO	001	004	MCHRCNT	001	006
MCHGPRF	004	104	MCHMICKC	001	004	MCHREC	001	000
MCHGPRS	004	0C8	MCHMICTM	001	002	MCHRTCS0	001	01B
MCHGPR0	004	0C8	MCHMIL80	001	001	MCHRTCS1	001	01A
MCHGPR1	004	0CC	MCHMINTC	001	040	MCHRTCVT	001	012
MCHGPR2	004	0D0	MCHMINTM	001	022	MCHRTMCH	001	010
MCHGPR3	004	0D4	MCHMINVP	001	010	MCHRTMS0	001	019
MCHGPR4	004	0D8	MCHMITOD	001	008	MCHRTMS1	001	018
MCHGPR5	004	0DC	MCHMLSQA	001	004	MCHRTMVS	001	013

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Name	Len	Value/Disp
MCHRTYPE	001	000
MCHSIZE	001	029
MCHSOFTF	001	004
MCHSWONE	001	002
MCHSWS4	001	005
MCHSWTWO	001	003
MCHSYSTM	001	020
MCHTOD	008	008
MCHTODB2	006	00A
MCHTODHI	004	008

HCPMCKBK— MACHINE CHECK DESCRIPTOR BLOCK

DSECT NAME: MCKBK

DESCRIPTIVE NAME: MACHINE CHECK DESCRIPTOR BLOCK

FUNCTION: THE MCKBK IS THE MAIN WORK AREA OF THE MACHINE-CHECK AND CHECK-STOP HANDLERS. THE FIRST PART CONTAINS 'FOOTPRINT' FLAGS, AND A LOCAL TRACE TABLE FOR MACHINE CHECKS, AND OTHER STATUS FIELDS THAT MIGHT BE USEFUL IN DEBUGGING. THIS FIRST PART OF THE MCKBK IS APPENDED TO (AND RECORDED WITH) THE ERROR RECORD AND IS OCCASIONALLY REFERRED TO AS THE 'DAMAGE ASSESSMENT AREA'. THE SECOND PART OF THE MCKBK IS NOT REGARDED AS VALUABLE FOR DEBUGGING AND CONSEQUENTLY IS NOT INCLUDED IN THE RECORDED ERROR RECORD. THIS PART OF THE MCKBK IS SOMETIMES REFERRED TO AS THE 'MACHINE-CHECK WORK AREA'. DATA IS PLACED IN THE MCKBK AT THE START OF AN ERROR INCIDENT (MACHINE CHECK OR CHECK-STOP) AND, FOR THE MOST PART, IS NOT CLEARED UNTIL THE START OF THE NEXT INCIDENT.

LOCATED BY:

A CPU'S MCKBK IS ANCHORED IN THE CPU'S PREFIX PAGE, POINTED TO BY PFXMCHA.

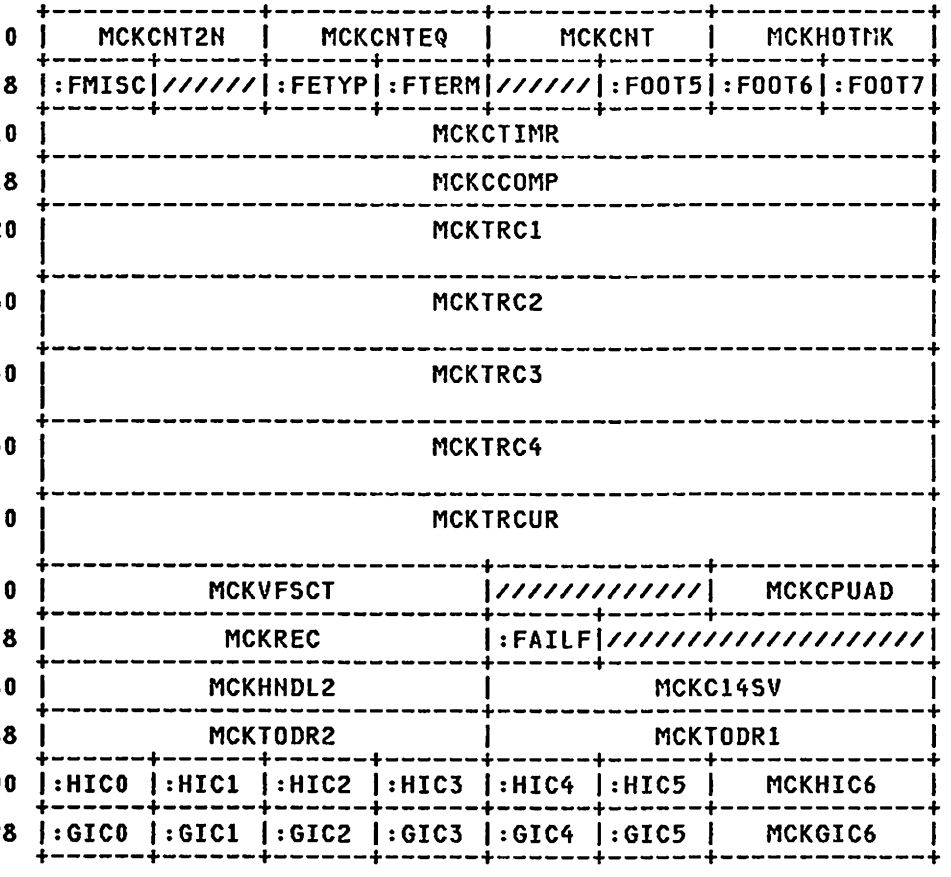
CREATED BY:

HCPMPS — WHEN A PROCESSOR IS INITIALIZED. EACH CPU HAS ONE OF THESE BLOCKS, ALLOCATED AT SYSTEM INITIALIZATION TIME OR WHEN THE CPU IS VARIED ONLINE.
NOTE: TO ACCOMODATE APPENDING THE MCKBK TO THE ERROR RECORD (MCHREC), THE MCHREC AND THE MCKBK ARE ALLOCATED FROM A SINGLE BLOCK OF STORAGE.

DELETED BY:

HCPMPS — TWO MINUTES AFTER A PROCESSOR IS VARIED OFFLINE.

MCKBK - MACHINE CHECK DESCRIPTOR BLOCK



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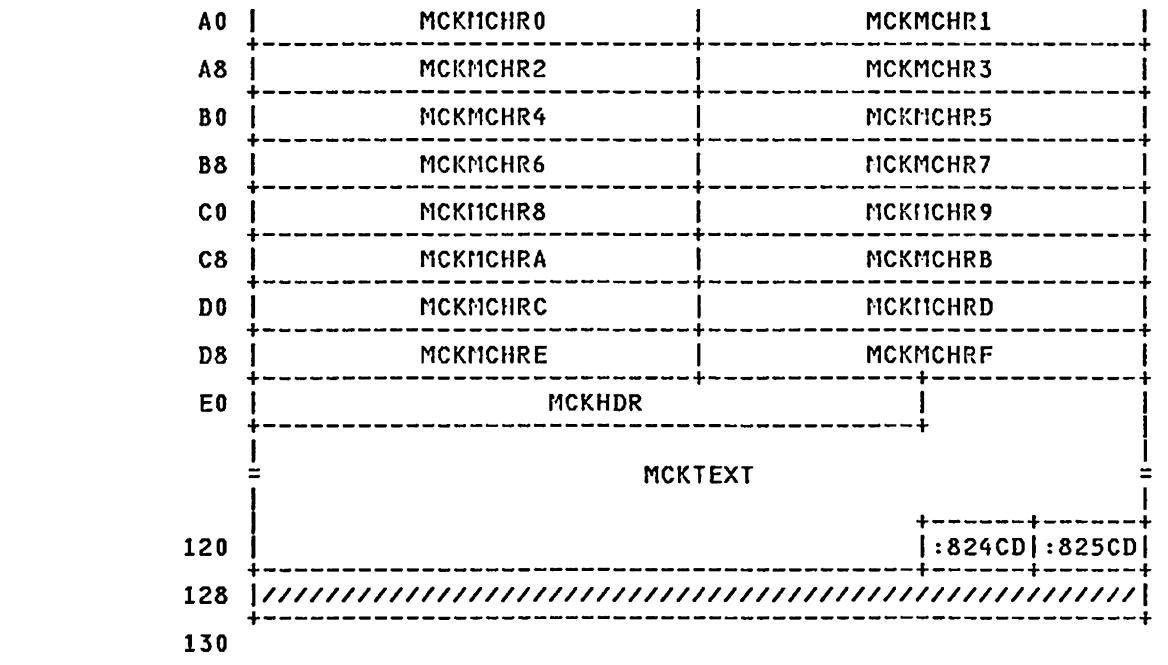
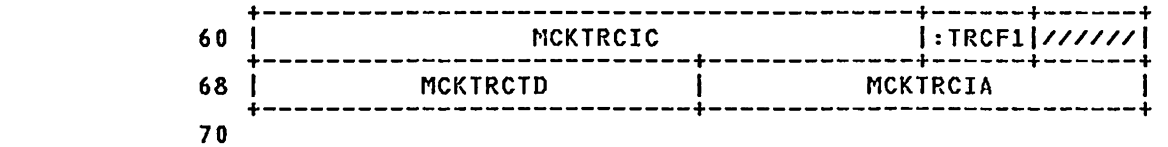


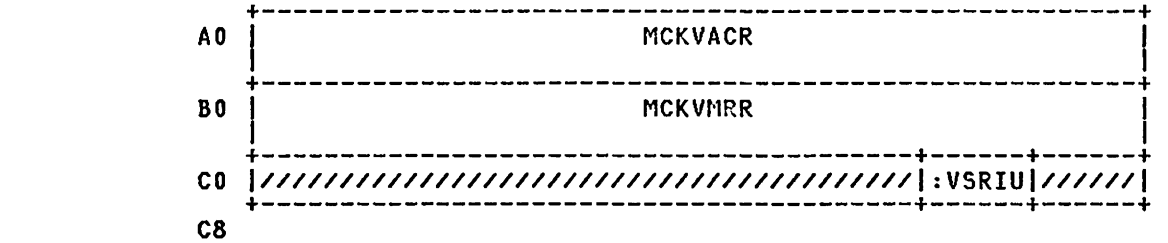
REDEFINITION - DETAIL OF LOCAL TRACE TABLE ENTRY



REDEFINITION - DETAIL OF LOCAL TRACE TABLE ENTRY

70

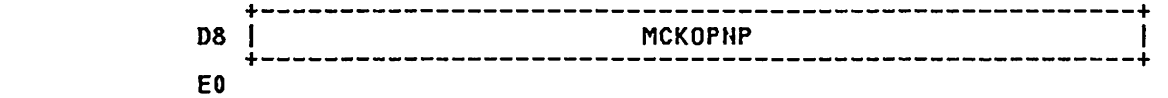
REDEFINITION -



REDEFINITION -

C8

REDEFINITION -



disp	name	length	description
000	MCKDAMAG	008	START OF DAMAGE ASSESSMENT AREA.
000	MCKCNT2N	002	COUNT OF SECONDARY MACHINE CHECKS SUBSEQUENT TO MOST RECENT PRIMARY.
002	MCKCNTEQ	002	COUNT OF CONSECUTIVE IDENTICAL MACHINE CHECKS (MCIC'S). WHEN THIS COUNT EXCEEDS A THRESHOLD (MCKTHLD1), ERROR RECORDING IS SUSPENDED (RECORDS ARE DISCARDED) UNTIL THE COUNT IS RESET. THE COUNT IS RESET WHEN A DIFFERENT MACHINE CHECK OCCURS. BUT EVEN WHEN THIS COUNT IS NOT SET, AN ERROR IS ALLOWED TO BE RECORDED ROUGHLY EVERY (MCKTIM1) SECONDS.
			EQUATES
	09	MCKTHLD1	THRESHOLD ASSOCIATED WITH MCKCNTEQ.
	58	MCKTIM1	UNIT IS SECONDS, APPROX. (SEE MCKCNTEQ).
004	MCKCNT	002	COUNT OF RECENT MACHINE CHECKS. WHEN THIS COUNT EXCEEDS A THRESHOLD (MCKTHLD2), ERROR RECORDING IS SUSPENDED (RECORDS ARE DISCARDED) UNTIL THE COUNT IS RESET. THE COUNT IS RESET WHEN A MACHINE CHECK OCCURS AND AT LEAST (MCKTIM2) SECONDS HAVE ELAPSED SINCE THE LAST RESET.
			EQUATES
	0A	MCKTHLD2	THRESHOLD ASSOCIATED WITH MCKCNT.
	2C	MCKTIM2	UNIT IS SECONDS, APPROX. (SEE MCKCNT).
006	MCKHOTMK	002	MASK OF RECENT ERROR CONDITIONS, THE 'OR' OF RECENT MACHINE CHECKS (MCIC BITS 0-15).
008	MCKFLAGS	008	ENCOMPASSES THE FOLLOWING 8 FLAG BYTES. THIS LABEL IS USED TO RESET ALL 8 AS A GROUP.
008	MCKFMISC	001	MISCELLANEOUS STATUS FLAGS.
			BITS DEFINED IN MCKFMISC (AT HEX DISPLACEMENT: 8)
	80	MCKFIXUP	SOME PROGRESS WAS MADE TOWARD RECOVERY. (AT LEAST ONE ERROR WAS CORRECTED.) THIS FLAG IS NOT A MERE FOOTPRINT; IT MUST BE MAINTAINED VERY PRECISELY AND MUST NOT BE TURNED ON CASUALLY. IT MUST BE TURNED ON ONLY WHEN A PROBLEM HAS REALLY BEEN FIXED, OTHERWISE, IN THE CASE OF 'PROCESSING BACKUP' WE MAY END RETRYING A HOPELESS CASE ENDLESSLY.
	40	MCKFSIE	WE WERE RUNNING SIE (PFXHSIE WAS SET).
	20	MCKFHOT	INTERRUPT CLASSIFIED HOT. NOT REPORTED.
009		1X	RESERVED FOR FUTURE IBM USE.
00A	MCKFETYP	001	TYPE OF ERROR.
			BITS DEFINED IN MCKFETYP (AT HEX DISPLACEMENT: A)
	40	MCKFERCS	ERROR WAS CHECK-STOP, NOT MACHINE CHECK.
	20	MCKF2ND	A SECONDARY ERROR OCCURRED WHILE HANDLING A MACHINE CHECK.
	10	MCKF2CS	SECONDARY ERROR WAS A CHECK-STOP.
	08	MCKFMCIC	INVALID MCIC (REQUIRED BITS MISSING).
	04	MCKFABND	POSSIBLE SOFTWARE ERROR ENCOUNTERED. WHERE WE CANNOT ISSUE HCPABEND, WE SET THIS FLAG, THEN TERMINATE.
00B	MCKFTERM	001	SYSTEM TERMINATION STATUS.
			BITS DEFINED IN MCKFTERM (AT HEX DISPLACEMENT: B)
	80	MCKFEMER	EMERGENCY HOST TERMINATION REQUIRED (AND OTHER FLAGS MAY BE MEANINGLESS).

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         40     MCKFNOTM    HOST TERMINATION NOT REQUIRED BY THE
                            MACHINE-CHECK FLIH.
         20     MCKFDIE1    HOST TERMINATION WAS REQUIRED BY THE
                            MACHINE-CHECK FLIH.
         10     MCKFDIE2    HOST TERMINATION WAS REQUIRED BY THE
                            MACHINE-CHECK SLIH.
         08     MCKFIPL     SOFT-RE-IPL AFTER TERMINATE DISALLOWED.
         04     MCKFIPLI    SOFT-RE-IPL DISALLOWED BY IO SUB-SYSTEM.
         02     MCKFNOVR    V=R SURVIVAL AFTER RE-IPL DISALLOWED BY
                            SOMETHING OTHER THAN THE I/O SUB-SYSTEM.
         01     MCKFIOVR    V=R SURVIVAL AFTER RE-IPL DISALLOWED BY
                            THE I/O SUB-SYSTEM.

00C               1X        RESERVED FOR FUTURE IBM USE.
00D    MCKFOOT5   001       FOOTPRINTS: MISCELLANEOUS.

         BITS DEFINED IN MCKFOOT5 (AT HEX DISPLACEMENT: D)

         80     MCKFVFIX    VIRTUAL SIDE WAS TOLD DAMAGE WAS FIXED.
         40     MCKFZTOD    FOUND TOD CLOCK BROKEN.  TIMESTAMP IN
                            MCHTOD AND IN TRACE ENTRY IS ALL FF'S.

00E    MCKFOOT6   001       FOOTPRINTS: CORRECTIVE ACTIONS TAKEN.

         BITS DEFINED IN MCKFOOT6 (AT HEX DISPLACEMENT: E)

         80     MCKFXCTL    RE-ESTABLISHED HOST CONTROL REGISTERS.
         20     MCKFXCKC    RE-ESTABLISHED CLOCK COMP'TOR (APPROX).
         10     MCKFXPT     RE-ESTABLISHED CPU TIMER (APPROX).

00F    MCKFOOT7   001       FOOTPRINTS: CORRECTIVE ACTIONS TAKEN.

         BITS DEFINED IN MCKFOOT7 (AT HEX DISPLACEMENT: F)

         80     MCKFATSK    ATTEMPTED TO RUN INTERRUPTED SYSTEM
                            TASK TO COMPLETION.
         40     MCKFXTSK    ATTEMPT TO COMPLETE INTERRUPTED SYSTEM
                            TASK WAS SUCCESSFUL.
         20     MCKFRMOF    MARKED FRAME TO BE TAKEN OFFLINE.
         10     MCKFXKEY    RESTORED HOST STORAGE KEY.
         08     MCKFXPAG    ACTED TO REFRESH AN UNCHANGED GUEST PG.

010               0D
010    MCKCLKS    016       LABEL FOR MOVING BOTH CLOCKS AT ONCE.
010    MCKCTIMR   008       LOGGED OUT CPU TIMER.
018    MCKCCOMP   008       LOGGED OUT CLOCK COMPARATOR.
020    MCKTRC     008       START OF LOCAL TRACE TABLE.  THE
                            ENTRIES IN THIS TABLE ARE DEFINED BY A
                            REDEFINITION (ORG) OF MCKTRCUR (BELOW).
020    MCKTRC1    016       OLDEST ENTRY IN TRACE TABLE.
030    MCKTRC2    016       2ND OLDEST ENTRY IN TRACE TABLE.
040    MCKTRC3    016       ... ETC.
050    MCKTRC4    016       ... ETC.
060    MCKTRCUR   016       CURRENT (MOST RECENT) TRACE ENTRY.

                    EQUATES

         70     MCKTRCZ     MARKS END OF TRACE TABLE.

070    MCKVFSCT   004       COUNT OF VECTOR FACILITY SOURCE MACHINE
                            CHECKS

                    EQUATES

         0C     MCKVFSMX    MAXIMUM NUMBER OF VFS MACHINE CHECKS
                            ALLOWED BEFORE TAKING THE VF OFFLINE

074               1H        RESERVED FOR FUTURE IBM USE.
076    MCKCPUAD   002       'STAP' CPUID, FOR MSG'S ISSUED BY SLIH.

                    EQUATES

         78     MCKDLEN     LENGTH OF DAMAGE ASSESSMENT AREA.
         0F     MCKDSIZE    SIZE (DBLWDS) OF D.A. AREA.
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078   MCKREC     004      ADDRESS OF RECORDING RECORD (MCHREC).
07C   MCKFAILF   001      FAILURE CLASSIFICATION CONTROL FLAGS

        BITS DEFINED IN MCKFAILF (AT HEX DISPLACEMENT: 7C)

        80     MCKSOMIN    SOME HOST VALIDITY BITS ARE INVALID
        10     MCKHARD     HARD FAILURE WAS ENCOUNTERED
        08     MCKDEGRP    DEGRADE FAILURE TO PASS TO GUEST
        04     MCKDEGRN    DEGRADE FAILURE NOT TO PASS TO GUEST
        02     MCKPASS     FAILURE TO BE PASSED TO GUEST
        01     MCKSOFT     SOFT FAILURE WAS ENCOUNTERED

07D              3X        RESERVED FOR FUTURE IBM USE.
080   MCKHNDL2   004      ADDRESS POINTING TO A SECONDARY MACHINE
                          CHECK HANDLER, OR ZERO IF THE PRIMARY
                          HANDLER IS TO HANDLE THE MACHINE CHECK.
084   MCKC14SV   004      VALUE IN CR14 PRIOR TO MACHINE CHECK.
088   MCKTODR2   004      1ST 4 BYTES OF TOD AT LAST MCKCNT RESET.
08C   MCKTODR1   004      1ST 4 OF TOD AT LAST MCKCNTEQ OVERRIDE.
090   MCKCLEAR   001      WE ZERO ALL FIELDS BETWEEN HERE AND
                          MCKEND (AND A FEW OF THE PRECEEDING FIELDS     *
                          AS WELL) WHEN WE START PROCESSING A PRIMARY    *
                          MACHINE CHECK.                                 *
090   MCKHIC     008      WORKING MCIC FOR HOST.  THIS STARTS OUT
                          AS A COPY OF THE REAL MCIC, THEN WE ALTER
                          THE VALIDITY BITS IN IT AS WE CORRECT DAMAGE
                          OR DISCOVER MORE DAMAGE.  IT'S VALIDITY BITS
                          MAINTAIN A RUNNING SCORE, AS WE GO THRU THE
                          MACHINE-CHECK HANDLER, OF WHAT ENTITIES
                          REMAIN DAMAGED.
090   MCKHIC0    001      HOST WORKING COPY, MCIC BYTE 0.

        BITS DEFINED FOR MCKHIC0 BY HCPEQUAT MCIC0

091   MCKHIC1    001      HOST WORKING COPY, MCIC BYTE 1.

        BITS DEFINED FOR MCKHIC1 BY HCPEQUAT MCIC1

092   MCKHIC2    001      HOST WORKING COPY, MCIC BYTE 2.

        BITS DEFINED FOR MCKHIC2 BY HCPEQUAT MCIC2

093   MCKHIC3    001      HOST WORKING COPY, MCIC BYTE 3.

        BITS DEFINED FOR MCKHIC3 BY HCPEQUAT MCIC3

094   MCKHIC4    001      HOST WORKING COPY, MCIC BYTE 4.
095   MCKHIC5    001      HOST WORKING COPY, MCIC BYTE 5.

        BITS DEFINED FOR MCKHIC5 BY HCPEQUAT MCIC5

096   MCKHIC6    002      HOST WORKING COPY, MCIC BYTES 6 & 7.
098   MCKGIC     008      WORKING MCIC FOR GUEST.  THIS STARTS
                          OUT AS A COPY OF THE REAL MCIC, THEN WE ALTER
                          THE VALIDITY BITS IN IT AS WE CORRECT DAMAGE
                          OR DISCOVER MORE DAMAGE.  IT'S VALIDITY BITS
                          MAINTAIN A RUNNING SCORE, AS WE GO THRU THE
                          MACHINE-CHECK HANDLER, OF WHAT ENTITIES
                          REMAIN DAMAGED.
098   MCKGIC0    001      GUEST WORKING COPY, MCIC BYTE 0.

        BITS DEFINED FOR MCKGIC0 BY HCPEQUAT MCIC0

099   MCKGIC1    001      GUEST WORKING COPY, MCIC BYTE 1.

        BITS DEFINED FOR MCKGIC1 BY HCPEQUAT MCIC1

09A   MCKGIC2    001      GUEST WORKING COPY, MCIC BYTE 2.

        BITS DEFINED FOR MCKGIC2 BY HCPEQUAT MCIC2

09B   MCKGIC3    001      GUEST WORKING COPY, MCIC BYTE 3.
```

BITS DEFINED FOR MCKGIC3 BY HCPEQUAT MCIC3

09C	MCKGIC4	001	GUEST WORKING COPY, MCIC BYTE 4.
09D	MCKGIC5	001	GUEST WORKING COPY, MCIC BYTE 5.

BITS DEFINED FOR MCKGIC5 BY HCPEQUAT MCIC5

09E	MCKGIC6	002	GUEST WORKING COPY, MCIC BYTES 6 & 7.
0A0		0D	
0A0	MCKMCHSV	064	SAVE AREA FOR HCPMCH AND HCPMCS USE ONLY
0A0	MCKMCHR0	004	SAVE REGISTER 0.
0A4	MCKMCHR1	004	SAVE REGISTER 1.
0A8	MCKMCHR2	004	SAVE REGISTER 2.
0AC	MCKMCHR3	004	SAVE REGISTER 3.
0B0	MCKMCHR4	004	SAVE REGISTER 4.
0B4	MCKMCHR5	004	SAVE REGISTER 5.
0B8	MCKMCHR6	004	SAVE REGISTER 6.
0BC	MCKMCHR7	004	SAVE REGISTER 7.
0C0	MCKMCHR8	004	SAVE REGISTER 8.
0C4	MCKMCHR9	004	SAVE REGISTER 9.
0C8	MCKMCHRA	004	SAVE REGISTER 10.
0CC	MCKMCHRB	004	SAVE REGISTER 11.
0D0	MCKMCHRC	004	SAVE REGISTER 12.
0D4	MCKMCHRD	004	SAVE REGISTER 13.
0D8	MCKMCHRE	004	SAVE REGISTER 14.
0DC	MCKMCHRF	004	SAVE REGISTER 15.
0E0	MCKMSG	004	MACHINE CHECK MESSAGE BUFFER.
0E0	MCKHDR	006	FIXED MESSAGE HEADER.
0E6	MCKTEXT	064	VARIABLE MESSAGE TEXT.
126	MCK824CD	001	IDENTIFIES TEXT FOR MSG MCH824E.
127	MCK825CD	001	IDENTIFIES TEXT FOR MSG MCH825E.
128		1D	RESERVED FOR FUTURE IBM USE.
130	MCKEND	001	END OF MCKAREA.

EQUATES

30	MCKLEN	LENGTH (BYTES) OF MCKBK.
26	MCKSIZE	SIZE (DBLWDS) OF MCKBK.

REDEFINITION - DETAIL OF LOCAL TRACE TABLE ENTRY

060	MCKTRCIC	006	BYTES 0-5 OF MCIC.
066	MCKTRCF1	001	BIT FLAGS OF LOCAL TRACE TABLE ENTRY.

BITS DEFINED IN MCKTRCF1 (AT HEX DISPLACEMENT: 66)

80	MCKTRCPM	PRIMARY (NOT 2NDARY) MCH-CHK OR CHK-STP.
40	MCKTRCCS	ERROR WAS CHECK-STOP, NOT MACHINE CHK.
01	MCKTRCSI	PFXHSIE FLAG WAS ON (RUNNING IN SIE).

067		1X	RESERVED FOR FUTURE IBM USE.
068	MCKTRCTD	004	1ST 4 BYTES FROM TOD CLOCK. (THIS IS STORED ONLY IN PRIMARY ENTRIES, NOT SECONDARY.)
06C	MCKTRCIA	004	INSTRUCTION ADDRESS FROM MCH OLD PSW.

REDEFINITION - DETAIL OF LOCAL TRACE TABLE ENTRY

THIS REDEFINITION IS USED DURING THE RESTORATION OF *

REDEFINITION -

REDEFINITION -

0D8	MCKOPNP	008	SAVED ORIGINAL PROGRAM NEW PSW

CROSS REFERENCE

Name	Len	Value/Disp
MCKBK	001	000
MCKCCOMP	008	018
MCKCLEAR	001	090
MCKCLKS	016	010
MCKCNT	002	004
MCKCNTEQ	002	002
MCKCNT2N	002	000
MCKCPUAD	002	076
MCKCTIMR	008	010
MCKC14SV	004	084
MCKDAMAG	008	000
MCKDEGRN	001	004
MCKDEGRP	001	008
MCKDLEN	001	078
MCKDSIZE	001	00F
MCKEND	001	130
MCKFABND	001	004
MCKFAILF	001	07C
MCKFATSK	001	080
MCKFDIE1	001	020
MCKFDIE2	001	010
MCKFEMER	001	080
MCKFERCS	001	040
MCKFETYP	001	00A
MCKFHOT	001	020
MCKFIOVR	001	001
MCKFIPL	001	008
MCKFIPLI	001	004
MCKFIXUP	001	080
MCKFLAGS	008	008
MCKFMCIC	001	008
MCKFMISC	001	008
MCKFNOTM	001	040
MCKFNOVR	001	002
MCKFOOT5	001	00D
MCKFOOT6	001	00E
MCKFOOT7	001	00F
MCKFRMOF	001	020
MCKFSIE	001	040
MCKFTERM	001	00B
MCKFVFIX	001	080
MCKFXCKC	001	020
MCKFXCTL	001	080
MCKFXKEY	001	010
MCKFXPAG	001	008
MCKFXPT	001	010
MCKFXTSK	001	040
MCKFZTOD	001	040
MCKF2CS	001	010
MCKF2ND	001	020
MCKGIC	008	098
MCKGIC0	001	098
MCKGIC1	001	099
MCKGIC2	001	09A
MCKGIC3	001	09B
MCKGIC4	001	09C
MCKGIC5	001	09D
MCKGIC6	002	09E
MCKHARD	001	010
MCKHDR	006	0E0
MCKHIC	008	090
MCKHIC0	001	090
MCKHIC1	001	091
MCKHIC2	001	092
MCKHIC3	001	093
MCKHIC4	001	094
MCKHIC5	001	095
MCKHIC6	002	096
MCKHNDL2	004	080
MCKHOTMK	002	006
MCKLEN	001	130
MCKMCHRA	004	0C8
MCKMCHRB	004	0CC
MCKMCHRC	004	0D0
MCKMCHRD	004	0D4
MCKMCHRE	004	0D8
MCKMCHRF	004	0DC
MCKMCHR0	004	0A0
MCKMCHR1	004	0A4
MCKMCHR2	004	0A8
MCKMCHR3	004	0AC
MCKMCHR4	004	0B0
MCKMCHR5	004	0B4
MCKMCHR6	004	0B8
MCKMCHR7	004	0BC
MCKMCHR8	004	0C0
MCKMCHR9	004	0C4
MCKMCHSV	064	0A0
MCKMSG	004	0E0
MCKOPNP	008	0D8
MCKPASS	001	002
MCKREC	004	078
MCKSIZE	001	026
MCKSOFT	001	001
MCKSOMIN	001	080
MCKTEXT	064	0E6
MCKTHLD1	001	009
MCKTHLD2	001	00A
MCKTIM1	001	258
MCKTIM2	001	12C
MCKTODR1	004	08C
MCKTODR2	004	088
MCKTRC	008	020
MCKTRCCS	001	040
MCKTRCF1	001	066
MCKTRCIA	004	06C
MCKTRCIC	006	060
MCKTRCPM	001	080
MCKTRCSI	001	001
MCKTRCTD	004	068
MCKTRCUR	016	060
MCKTRCZ	001	070
MCKTRC1	016	020
MCKTRC2	016	030
MCKTRC3	016	040
MCKTRC4	016	050
MCKVACR	008	0A0
MCKVFSCT	004	070
MCKVFSMX	001	00C
MCKVMRR	008	0B0
MCKVSRIU	001	0C6
MCKVSRR	008	0C0
MCK824CD	001	126
MCK825CD	001	127

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HCPMCVBK— VIRTUAL MACHINE CHECK BLOCK

DSECT NAME: MCVBK

DESCRIPTIVE NAME: VIRTUAL MACHINE CHECK BLOCK

FUNCTION: HCPMCVBK MAINTAINS THE DESCRIPTION OF A MACHINE CHECK INCIDENT BEFORE THE INTERRUPT IS REFLECTED TO THE GUEST. THERE ARE THREE TYPES OF MCVBKS MAINTAINED IN THE SYSTEM. (1). MCVBK (DYNAMICALLY ALLOCATED MCVBK): STORAGE IS OBTAINED FOR A DYNAMICALLY ALLOCATED MCVBK WHEN REQUIRED. IT HAS TWO USES. THE CONTROL PROGRAM BUILDS MCVBKS WHEN SOME SYSTEM INCIDENT, THAT IS NOT A REAL MACHINE CHECK, IS TO BE REFLECTED TO THE GUEST AS A MACHINE CHECK. IT IS ALSO USED TO MAKE COPIES OF MCVBKS TO ALLOW THE REFLECTION OF MACHINE CHECKS TO A GUEST TO OCCUR ASYNCHRONOUSLY WITH OTHER CP FUNCTIONS. (2). MCVBK (CPU MCVBK): WE REFER TO THIS MCVBK AS THE 'CPU MCVBK' BECAUSE EACH CPU OWNS ONE, AND TO DISTINGUISH IT FROM THE 'SYSTEM TERMINATION MCVBK' DESCRIBED BELOW. THE CPU MCVBK CONTAINS A DESCRIPTION OF A REAL ERROR INCIDENT (IF ANY) CURRENTLY IN PROGRESS ON THIS CPU. IT IS NEEDED MAINLY FOR THE BENEFIT OF THE VIRTUAL SIDE OF THE SYSTEM (HCPGMCMC) SO THAT MACHINE CHECKS CAN BE REFLECTED TO GUESTS. HCPMCH CALLS HCPGMCMC AND PASSES THE CPU MCVBK CONTAINING THE DESCRIPTION OF THE INCIDENT. THE CPU MCVBK IS ANCHORED IN THE PREFIX PAGE BY 'PFXMCVBK'. DATA IS PLACED IN THE MCVBK AT THE START OF AN INCIDENT AND IS CLEARED AT THE END OF THE INCIDENT SO THAT THE BLOCK REMAINS EMPTY UNTIL THE NEXT INCIDENT. (3). MCVBK (SYSTEM TERMINATION MCVBK): THERE ARE ALSO 'SYSTEM TERMINATION' MCVBKS THAT ARE PERMANENTLY ALLOCATED IN WORK AREA HCPWRKMC.

LOCATED BY:

HCPWRKMC	(ANCHOR) SYSTEM TERMINATION PERMANENT MCVBKS
VMDMCV	FIELD OF HCPVMDBK
PFXMCVBK	FIELD OF HCPPFXBK (PERMANENTLY ALLOCATED)
MCVNEXT	FORWARD CHAIN
CHCMCV	FIELD OF HCPCHCBK

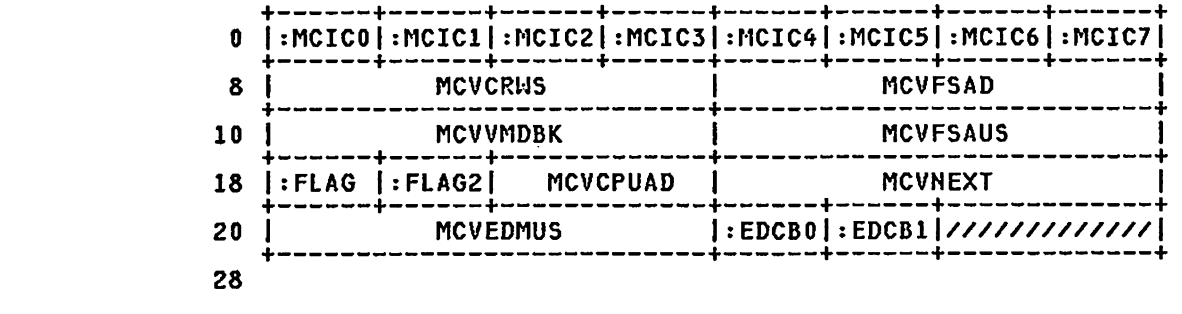
CREATED BY:

HCPGMC	TO SEPARATE MCVBKS RECEIVED INTO ELEMENTARY MACHINE CHECKS AND TO GENERATE MCVBKS FOR MACHINE CHECK REFLECTION TO A GUEST.
HCPMCH	TO COPY PERMANENTLY ALLOCATED MCVBK.
HCPMCW	WHEN GUEST WAS RUNNING ON A PROCESSOR THAT IS RESET. TO COPY MCVBK RECEIVED FROM HCPALL.
HCPMPS	ACQUIRES PERMANENTLY ALLOCATED MCVBK FOR EACH PROCESSOR.
HCPRFC	CREATES A CRW MCVBK.
HCPVDB	CREATES A CRW MCVBK.
HCPVOF	CREATES A CRW MCVBK.
HCPVSC	CREATES A CRW MCVBK.

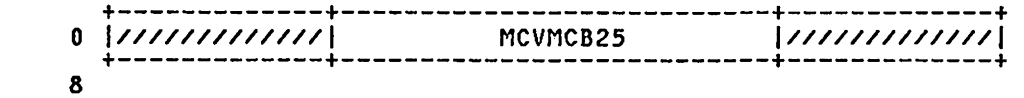
DELETED BY:

HCPMCH	DELETES MCVBKS CREATED BY HCPMCH
HCPMCW	DELETES MCVBKS CREATED BY HCPMCW
HCPMCV	DELETES MCVBK AFTER REFLECTING MACHINE CHECK TO THE GUEST
HCPMPS	RETURNS PERMANENTLY ALLOCATED MCVBK FOR EACH PROCESSOR.

MCVBK - VIRTUAL MACHINE-CHECK BLOCK



REDEFINITION - MACHINE CHECK INTERRUPTION CODE



disp	name	length	description
000	MCVMCIC	008	MACHINE CHECK INTERRUPTION CODE (FOR PURPOSES OF HCPGMC, THIS APPLIES TO THE MCVVMDBK GUEST, EXCEPT FOR THE STORAGE ERROR BITS WHICH APPLY TO MCVFSAUS.)
000	MCVMCWD0	004	FIRST WORD OF MCVMCIC
000	MCVMCB01	002	BYTES 0 AND 1 OF MCVMCIC
000	MCVMCIC0	001	MACHINE CHECK IRPT CODE BYTE 0
	BITS DEFINED FOR MCVMCIC0 BY HCPEQUAT MCIC0		
001	MCVMCIC1	001	MACHINE CHECK IRPT CODE BYTE 1
	BITS DEFINED FOR MCVMCIC1 BY HCPEQUAT MCIC1		
002	MCVMCIC2	001	MACHINE CHECK IRPT CODE BYTE 2
	BITS DEFINED FOR MCVMCIC2 BY HCPEQUAT MCIC2		
003	MCVMCIC3	001	MACHINE CHECK IRPT CODE BYTE 3
	BITS DEFINED FOR MCVMCIC3 BY HCPEQUAT MCIC3		
004	MCVMCWD1	004	SECOND WORD OF MCVMCIC
004	MCVMCIC4	001	MACHINE CHECK IRPT CODE BYTE 4
	BITS DEFINED FOR MCVMCIC4 BY HCPEQUAT MCIC4		
005	MCVMCIC5	001	MACHINE CHECK IRPT CODE BYTE 5
	BITS DEFINED FOR MCVMCIC5 BY HCPEQUAT MCIC5		
006	MCVMCIC6	001	MACHINE CHECK IRPT CODE BYTE 6
007	MCVMCIC7	001	MACHINE CHECK IRPT CODE BYTE 7
008	MCVCRWS	004	CHANNEL REPORT WORD ANCHOR
00C	MCVFSAD	004	GUEST ABSOLUTE FAILING STORAGE ADDRESS. (APPLIES TO THE MCVFSAUS GUEST FOR HCPGMC.)
010	MCVVMDBK	004	ADDR OF VMDBK RUNNING ON A REAL CPU AT THE TIME THE REAL CPU STATE WAS RECORDED IN THIS MCVBK. (FROM PFXRNUSR)
014	MCVFSAUS	004	ADDR OF VMDBK OWNING THE BAD FRAME IF HOST SEES A STORAGE ERROR AND VALID FSA. OTHERWISE ADDR IS ZERO.
018	MCVFLAG	001	MCVBK BIT FLAGS.
	BITS DEFINED IN MCVFLAG (AT HEX DISPLACEMENT: 18)		
	80 MCVABEND		FAILURE IS AN ABEND, NOT A MACHINE CHECK. (APPLIES TO THE MCVVMDBK GUEST FOR HCPGMC.)
	40 MCVCKSTP		FAILURE IS A CHECK-STOP, NOT A MACHINE CHECK. OR FAILURE IS TIME-OUT + CHECK-STOP. MCVMCIC AND MCVFSAD ARE PROBABLY 0. (APPLIES TO MCVVMDBK GUEST FOR HCPGMC.)
	20 MCVTMOUT		FAILURE IS TIMEOUT, NOT A MACHINE CHECK. MCVCKSTP WILL ALSO BE SET IF 'SIGP SENSE'

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			SHOWS CHECK-STOP AS CAUSE. MCVMCIC & MCVFSAD ARE PROBABLY ZERO. (APPLIES TO MCVVMDBK GUEST FOR HCPGMC.)
		10 MCVCUTOF	GUEST WAS TERMINATED ABRUPTLY. IF RUNNING SIE AT THE TIME, THE GUEST HAS NOT BEEN 'UN-RUN'. THE ONLY EXAMPLE AT PRESENT: GUEST WAS STOPPED BY SIGP RESET. (APPLIES TO R11 GUEST FOR HCPGMC.)
		08 MCVCMPLT	ANY DAMAGE TO THE TASK THAT WAS RUNNING WAS REPAIRED BY THE MACHINE-CHECK FLIH. EITHER: (1) A HOST TASK INTERRUPTED BY MACHINE CHECK WAS LATER RESUMED AND COMPLETED SUCCESSFULLY, OR (2) ALL DAMAGE TO AN INTERRUPTED GUEST HAS BEEN CORRECTED. (APPLIES TO THE MCVVMDBK GUEST FOR HCPGMC.)
		04 MCVQWRK	AT THE TIME OF THE INCIDENT THERE WAS QUEUED WORK FOR THE GUEST, BUT IT HAS BEEN LOST (NEVER COMPLETED). (APPLIES TO R11 GUEST FOR HCPGMC.)
		02 MCVSTGFX	THE STORAGE ERROR OR STORAGE KEY ERROR IDENTIFIED BY THE FAILING STORAGE ADDRESS IN MCVFSAD HAS BEEN CORRECTED BY THE MACHINE-CHECK FLIH. THIS FLAG IS MEANINGFUL ONLY IF THERE WAS A STORAGE ERROR AND A VALID FSA. (APPLIES TO THE MCVFSAUS GUEST FOR HCPGMC.)
019	MCVFLAG2	001	MCVBK BIT FLAGS.
	BITS DEFINED IN MCVFLAG2 (AT HEX DISPLACEMENT: 19)		
		80 MCVFSIE	IF SET, CP WAS IN THE 'SIE' STATE AT THE TIME OF THE ERROR. (APPLIES TO MCVVMDBK GUEST FOR HCPGMC.) SEE HCPMCH FOR HOW THIS WAS DETERMINED.
		40 MCVHRUN	THIS IS A COPY OF PFXHRUN, TAKEN AT THE TIME OF THE ERROR. IF SET, THE VMDBK WAS IN THE 'RUN' STATE AT THE TIME OF THE ERROR. (APPLIES TO MCVVMDBK GUEST FOR HCPGMC.)
		20 MCVUNRUN	THE MACHINE-CHECK HANDLER HAS SUCCESSFULLY UN-RUN THE GUEST. (THIS FLAG HAS MEANING ONLY IF MCVHRUN IS SET.) (APPLIES TO MCVVMDBK GUEST FOR HCPGMC.)
		10 MCVSCS	THE VIRTUAL CONFIGURATION MUST ENTER SYSTEM CHECK-STOP.
01A	MCVCPUAD	002	THE CPU ADDRESS OF THE CPU IN THE REAL HARDWARE CONFIGURATION WHOSE ERROR IS BEING REPORTED THROUGH THIS MCVBK.
01C	MCVNEXT	004	NEXT MCVBK IF ANY (APPLIES TO MCVVMDBK GUEST FOR HCPGMC.)
020	MCVEDMUS	004	EXTERNAL DAMAGE MACHINE CHECK USER. THIS CONTAINS THE ADDRESS OF THE VMDBK OWNING THE EXTENDED STORAGE FACILITY. THIS ADDRESS IS ZERO IF THE EXTENDED STORAGE FACILITY IS NOT ATTACHED TO A GUEST.
024	MCVEDMDC	004	MACHINE CHECK EXTERNAL-DAMAGE

```
                                CODE.
024   MCVEDCB0    001           FIRST BYTE OF EXTERNAL-DAMAGE
                                CODE.  (S/370 ONLY)
025   MCVEDCB1    001           SECOND BYTE OF EXTERNAL-DAMAGE
                                CODE.

        BITS DEFINED FOR MCVEDCB1 BY HCPEQUAT MCEXTDMC

026                 H           RESERVED FOR FUTURE IBM USE

                       EQUATES

          40     MCVZCRWA       *****.....????? TEMPORARY/OBSOLETE BIT
          20     MCVZCRWB       *****.....????? TEMPORARY/OBSOLETE BIT
          10     MCVZCRWC       *****.....????? TEMPORARY/OBSOLETE BIT
          04     MCVZCRWV       *****.....????? TEMPORARY/OBSOLETE BIT
                                FOLLOWING ARITHMETIC USED TO PRODUCE MCVZNM1.
          00     MCVZNMZ1
                                THE FOLLOWING ARE MASK VALUES WHICH DEFINE VALIDITY
                                BITS WITHIN THE MACHINE CHECK INTERRUPTION CODE
                                WHICH ARE NORMALLY ON (VALID).

                                MCVZNM1 IS FOR MCIC BITS 0-31.
                                MCVZNM2 IS FOR MCIC BITS 32-63.

                                THESE MASK VALUES ALSO DEFINE THE BITS WHICH ARE
                                AND-ED TOGETHER WHEN MERGING TWO MACHINE CHECK
                                INTERRUPTION CODES.  BITS NOT CALLED OUT BY
                                THE MASK VALUES ARE OR-ED TOGETHER.
          1D     MCVZNM1
          00     MCVZNM2
          28     MCVLEN         LENGTH OF AN MCVBK.
          05     MCVSIZE        MCVBK SIZE IN DOUBLE WORDS

         REDEFINITION - MACHINE CHECK INTERRUPTION CODE

000                 XL2           BYTES 0 AND 1 OF MCVMCIC
002   MCVMCB25      004           BYTES 2 - 5   OF MCVMCIC
006                 XL2           BYTES 6 AND 7 OF MCVMCIC
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
MCVABEND	001	080	MCVMCIC	008	000	MCVZCRWB	001	020
MCVBK	001	000	MCVMCIC0	001	000	MCVZCRWC	001	010
MCVCKSTP	001	040	MCVMCIC1	001	001	MCVZCRWV	001	004
MCVCMPLT	001	008	MCVMCIC2	001	002	MCVZNMZ1	001	F00
MCVCPUAD	002	01A	MCVMCIC3	001	003	MCVZNM1	001	F1D
MCVCRWS	004	008	MCVMCIC4	001	004	MCVZNM2	001	000
MCVCUTOF	001	010	MCVMCIC5	001	005			
MCVEDCB0	001	024	MCVMCIC6	001	006			
MCVEDCB1	001	025	MCVMCIC7	001	007			
MCVEDMDC	004	024	MCVMCWD0	004	000			
MCVEDMUS	004	020	MCVMCWD1	004	004			
MCVFLAG	001	018	MCVNEXT	004	01C			
MCVFLAG2	001	019	MCVQWRK	001	004			
MCVFSAD	004	00C	MCVSCS	001	010			
MCVFSAUS	004	014	MCVSIZE	001	005			
MCVFSIE	001	080	MCVSTGFX	001	002			
MCVHRUN	001	040	MCVTMOUT	001	020			
MCVLEN	001	028	MCVUNRUN	001	020			
MCVMCB01	002	000	MCVVMDBK	004	010			
MCVMCB25	004	002	MCVZCRWA	001	040			

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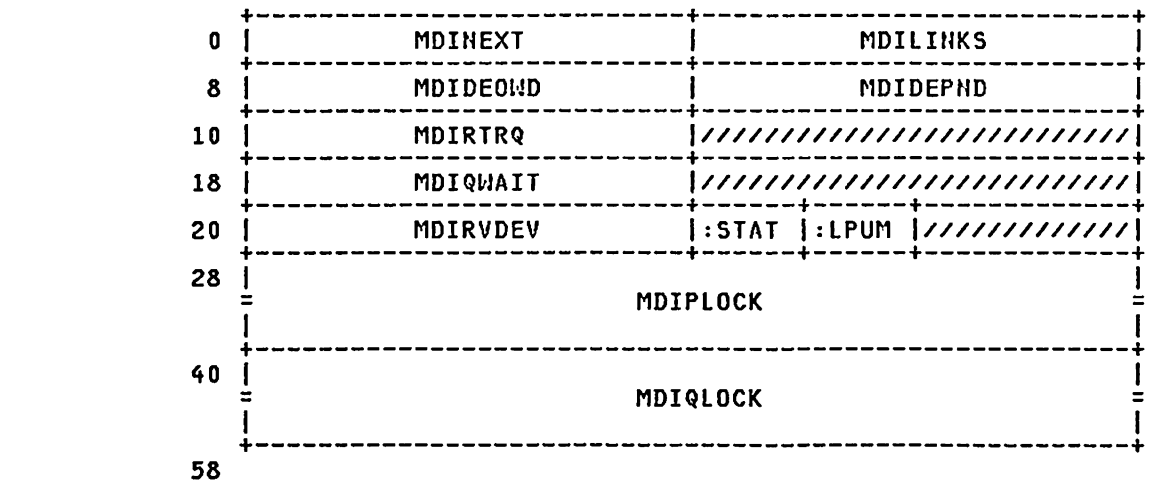
MDISK - MINIDISK CONTROL BLOCK



REDEFINITION -

disp	name	length	description
000	MDINEXT	004	NEXT MDISK ON THIS REAL DEVICE
004	MDILINKS	004	NUMBER OF LINKS TO THIS EXTENT
008	MDISIOQS	008	NORMAL START REQUEST QUEUES
008	MDIDEOWD	004	ANCHOR FOR QUEUE OF UNSOLICITED IORBKS OWED TO DEVICES
00C	MDIDEPND	004	ANCHOR FOR QUEUE OF PENDING UNSOLICITED IORBKS
010	MDIRTRQ	004	ADDRESS OF TIMER REQUEST BLOCK
014		A	RESERVED FOR FUTURE IBM USE
018	MDIDIAQS	008	DIAGNOSE I/O QUEUES
018	MDIQWAIT	004	ANCHOR FOR QUEUE OF IORBKS WAITING FOR RELEASE TO RETRY DIAGNOSE I/O
01C		A	RESERVED FOR FUTURE IBM USE
020	MDILLOCK	008	LOGICAL LOCK --- DEVICE RESERVED
020	MDIRSVD	004	VDEVBK HOLDING DEVICE RESERVED
020	MDIRVDEV	004	ADDRESS OF VDEV RESERVING MINI-DISK (BASE VDEV IF MULTIPLE EXPOSURE DEVICE)
024	MDISTAT	001	STATUS FLAGS

BITS DEFINED IN MDISTAT (AT HEX DISPLACEMENT: 24)

80	MDIRESVD	INDICATES ACTIVE RESERVE
40	MDIRRSVP	REAL RESERVE IS PENDING
20	MDIRELPD	REAL RELEASE IS PENDING

025	MDILPUM	001	MASK FOR LOGICAL PATH ON WHICH RESERVE WAS MADE
026		2X	RESERVED FOR FUTURE IBM USE
028	MDILOCK	008	LOCKWORD FOR RESERVE/RELEASE STATUS
028	MDIPLOCK	008	PHYSICAL LOCK --- EXTENT IN USE
040	MDIQLOCK	008	LOCKWORD FOR QUEUE MANIPULATION

EQUATES

0B	MDISIZE	SIZE IN DWS FOR FREE/FRET

REDEFINITION OF THE PHYSICAL LOCK MDIPLOCK *

REDEFINITION -

CROSS REFERENCE

Name	Len	Value/Disp
MDIDEOWD	004	008
MDIDEPND	004	00C
MDIDIAQS	008	018
MDILINKS	004	004
MDILLOCK	008	020
MDILOCK	008	028
MDILPUM	001	025
MDINEXT	004	000
MDIPLOCK	008	028
MDIQLOCK	008	040
MDIQWAIT	004	018
MDIRELPD	001	020
MDIRESVD	001	080
MDIRRSVP	001	040
MDIRSVD	004	020
MDIRTRQ	004	010
MDIRVDEV	004	020
MDISHARE	004	028
MDISIOQS	008	008
MDISIZE	001	00B
MDISK	001	000
MDISTAT	001	024

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MDRREC— MISCELLANEOUS DATA RECORD

DSECT NAME: MDRREC

DESCRIPTIVE NAME: MISCELLANEOUS DATA RECORD

FUNCTION: PROVIDES DATA NEEDED FOR ERROR RECORDING

LOCATED BY:

N/A

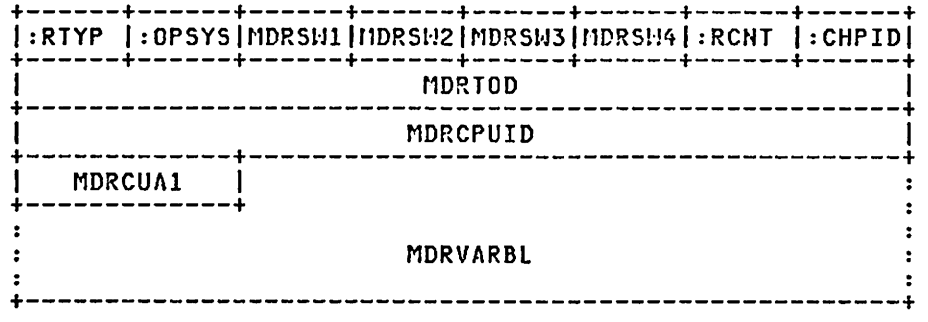
CREATED BY:

HCPIOE, HCPPEN, HCPDRN, OR A GUEST. COPIED TO FREE STORAGE BY HCPVER.

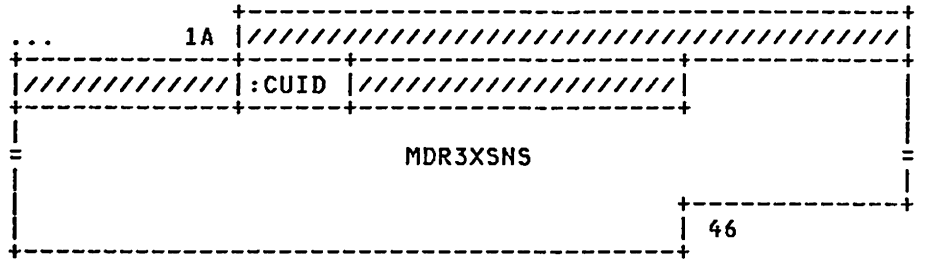
DELETED BY:

HCPIOE AFTER HCPREC HAS COPIED IT INTO A GSDBK.

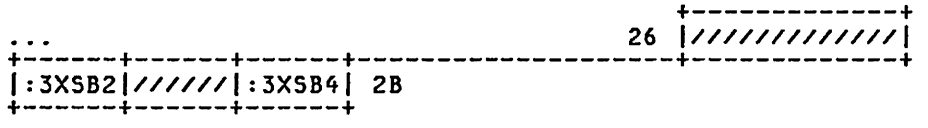
MDRREC - MISCELLANEOUS DATA RECORDING RECORD



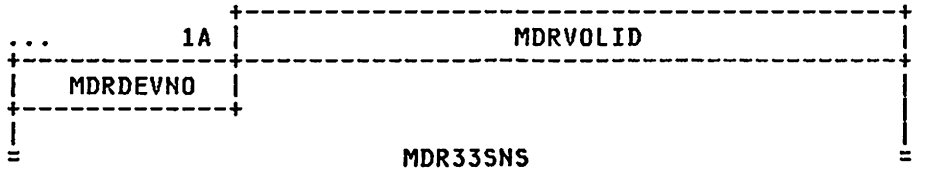
REDEFINITION - 3375/3380/3330/3340/3350 - LENGTH = 12

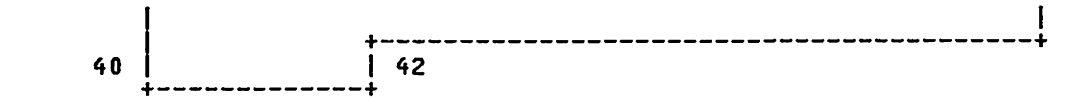


REDEFINITION - SENSE DATA BYTES

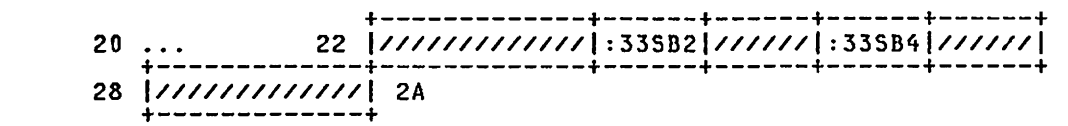


REDEFINITION - 3375/3380/3330/3340/3350 - LENGTH = 8

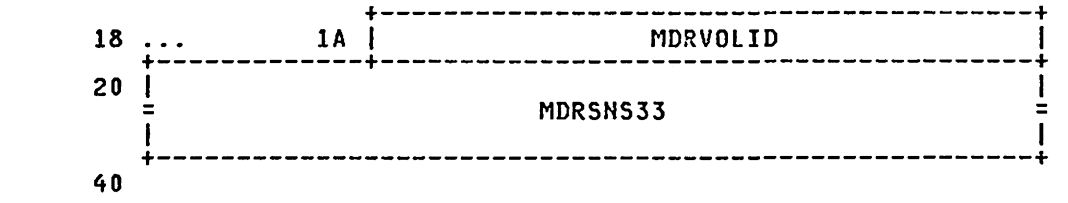




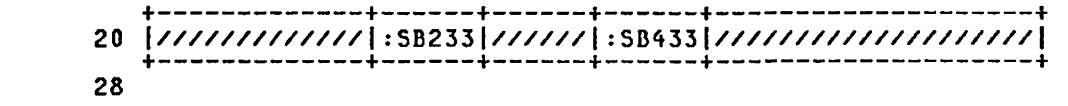
REDEFINITION - SENSE DATA BYTES



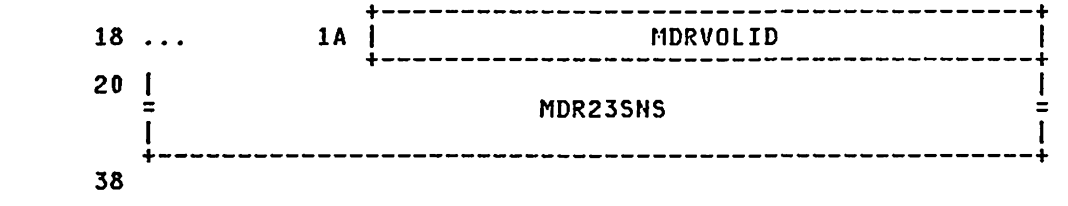
REDEFINITION - 3375/3380/3330/3340/3350 - LENGTH = 6 OLD



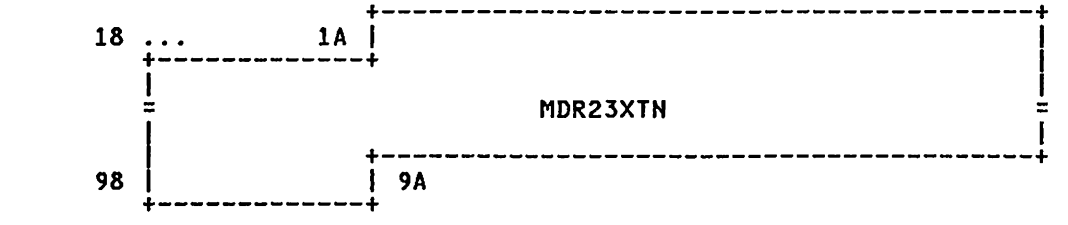
REDEFINITION - SENSE DATA BYTES



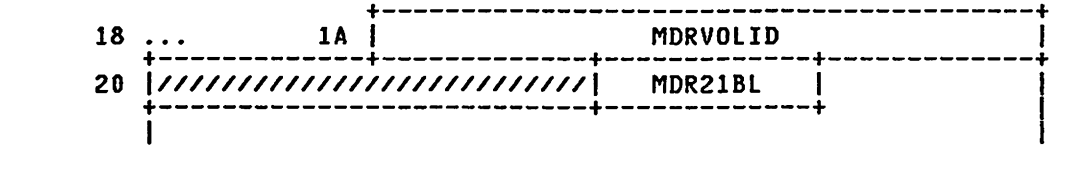
REDEFINITION - 2305 DASD DEVICES

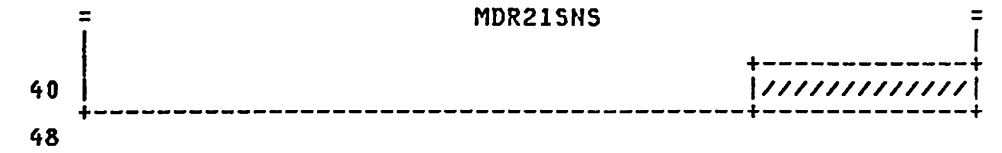


REDEFINITION - 2305 DASD - BUFFERED LOG

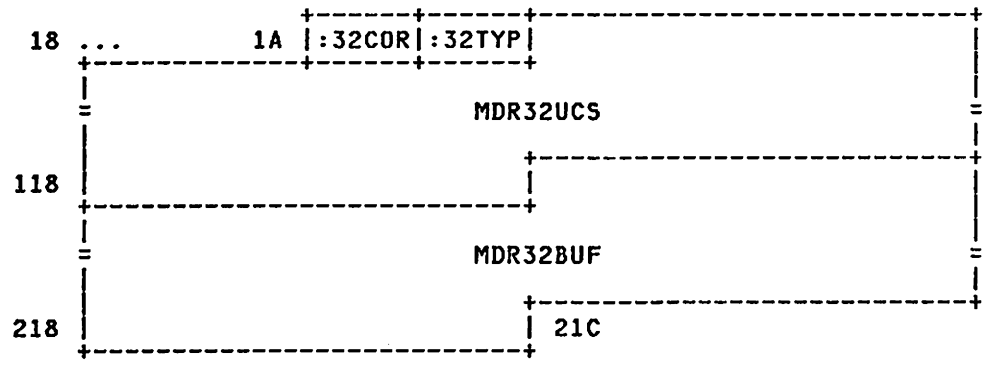


REDEFINITION - 3480 TAPE

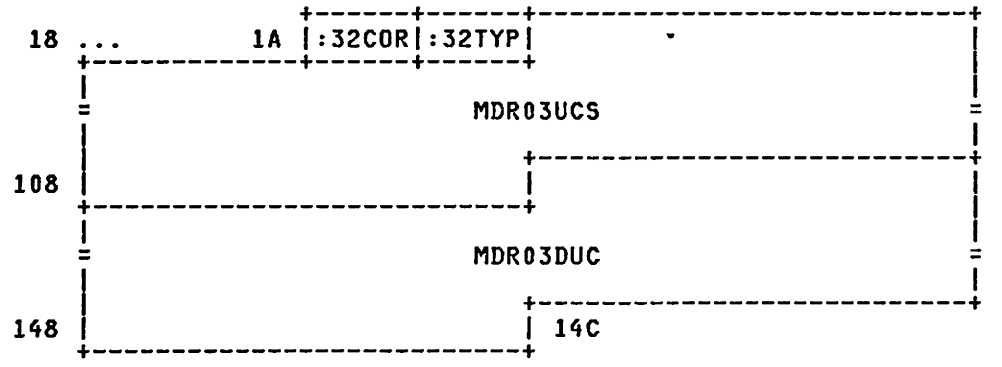




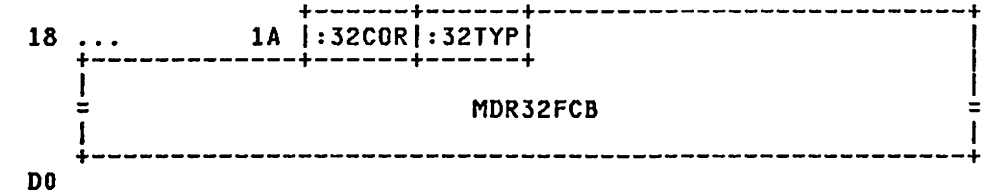
REDEFINITION - 3211 PRINTERS - TYPE 1



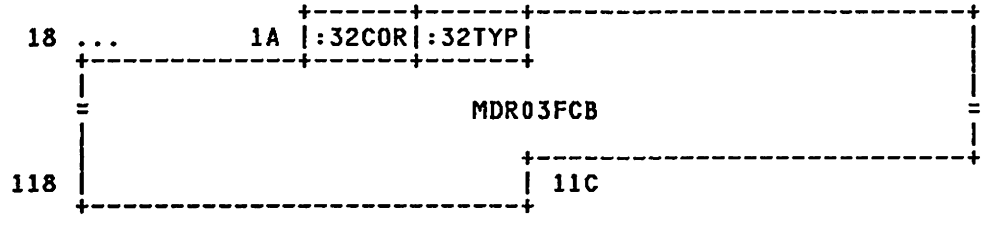
REDEFINITION - 3203 PRINTERS - TYPE 1



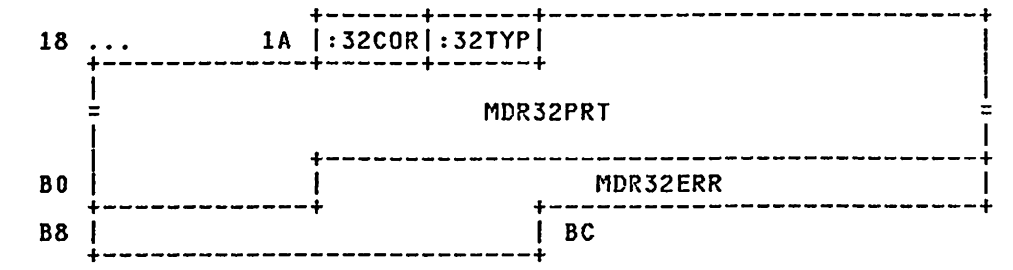
REDEFINITION - 3211 PRINTERS - TYPE 2



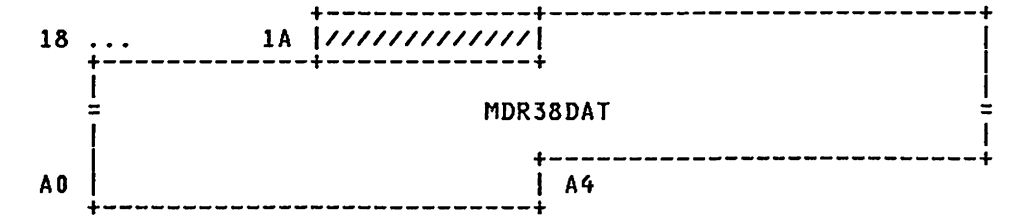
REDEFINITION - 3203 PRINTERS - TYPE 2



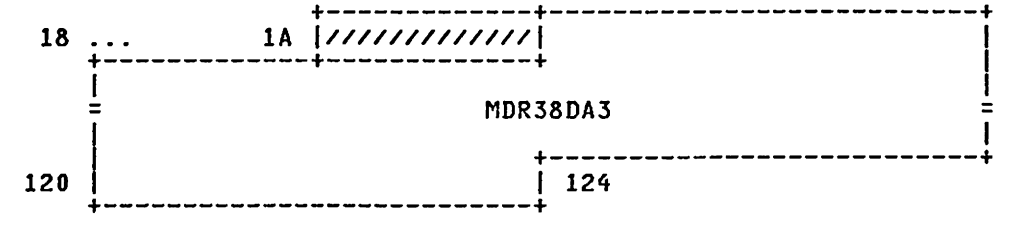
REDEFINITION - 3211/3203 PRINTERS - TYPE 3



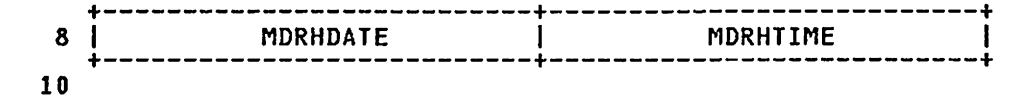
REDEFINITION - 3800 MODEL 1 PRINTER



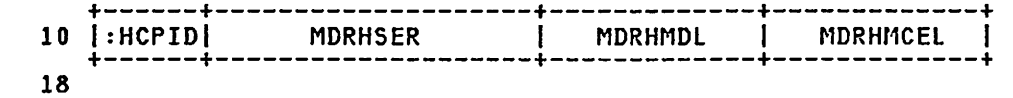
REDEFINITION - 3800 MODEL 3 PRINTER



REDEFINITION - MDRTOD



REDEFINITION - MDRCPUID



REDEFINITION - MDRCUA1 - PRIMARY UNIT ADDRESS

disp	name	length	description
000	MDRRTYP	001	RECORD TYPE

```
        CODES DEFINED IN MDRRTYP  (AT HEX DISPLACEMENT: 0)

        93     MDRRTCVT     CONVERTED MDR RECORD (NOT FOR VS)
        91     MDRRTMDR     MDR RECORD
        90     MDRRTSVC     MDR RECORD FORMATTED BY SVC 91

001   MDROPSYS   001        OPERATING SYSTEM

        BITS DEFINED FOR MDROPSYS BY HDRREC HDRHSYS

002   MDRSW1     001        SWITCH BYTE 1

        BITS DEFINED FOR MDRSW1 BY HDRREC HDRHSW0

003   MDRSW2     001        SWITCH BYTE 2

        BITS DEFINED IN MDRSW2   (AT HEX DISPLACEMENT: 3)

        40     MDRINCOM     RECORD INCOMPLETE

004   MDRSW3     001        SWITCH BYTE 3

        CODES DEFINED IN MDRSW3   (AT HEX DISPLACEMENT: 4)

        41     MDR3480      IBM 3480
        40     MDR8809      IBM 8809
        20     MDR3800S     IBM 3800 MODEL 3 / 8
        18     MDR3375      IBM 3375
        17     MDR3370      IBM 3370
        16     MDR3310      IBM 3310
        15     MDR3705N     IBM 3705 (NCP MODE)
        14     MDR3380      IBM 3380
        13     MDR3277N     IBM 3277 (NCP MODE)
        12     MDR23051     IBM 2305 MOD I
        11     MDR3350      IBM 3350
        10     MDR32XX      IBM 3203, 3262, 3289
        0F     MDRIGAR      IBM IGAR DISKETTE
        0E     MDR3850      IBM 3850
        0D     MDR3895      IBM 3895
        0C     MDR3800      IBM 3800 MOD I
        0B     MDR3277      IBM 3277
        0A     MDR33302     IBM 3330 MOD II
        09     MDR3340S     IBM 3340 AND 3344
        08     MDR2715      IBM 2715
        07     MDR3168      IBM 3168
        06     MDR3670      IBM 3670
        05     MDR3705      IBM 3705 (NON NCP-MODE)
        04     MDR3211      IBM 3211
        03     MDR32XXS     IBM 3277, 3286, 3284(NON NCP-MODE)
        02     MDR23052     IBM 2305 MOD 2
        01     MDR3330      IBM 3330

005   MDRSW4     001        SWITCH BYTE 4

        BITS DEFINED IN MDRSW4   (AT HEX DISPLACEMENT: 5)

        80     MDRSUBID     VARIABLE LENGTH SUB-ID FIELD USED
        0F     MDRSBLNM     SUB-ID FIELD LENGTH MASK

006   MDRRCNT    001        RECORD COUNT

        BITS DEFINED FOR MDRRCNT BY HDRREC HDRHCNT

007   MDRCHPID   001        CHANNEL PATH ID
008   MDRTOD     008        TOD OF SYSTEM FAILURE
010   MDRCPUID   008        CPU ID
018   MDRCUA1    002        PRIMARY CUA ADDRESS

                    EQUATES

        1A     MDRLEN       LENGTH OF FIXED LENGTH PORTION

01A   MDRVARBL   001        START OF VARIABLE LENGTH DATA
```

```
         REDEFINITION - 3375/3380/3330/3340/3350 - LENGTH = 12

01A              CL6       VOLUME SERIAL ID
020              CL2       DEVICE ADDRESS
022   MDRCUID    001       CONTROL UNIT ID
023              CL3       RESERVED

                    EQUATES

        0C     MDRSBL3X    LENGTH OF SUB-ID FIELD

026   MDR3XSNS   032       SENSE DATA

                    EQUATES

        46     MDR3XLEN    SIZE IN BYTES
        09     MDR3XSIZ    SIZE IN DOUBLE WORDS


         REDEFINITION - SENSE DATA BYTES

026              2XL1      SENSE BYTES 0-1
028   MDR3XSB2   001       SENSE BYTE 2

        BITS DEFINED FOR MDR3XSB2 BY HCPSNSEQ SNSB2DA

029              XL1       SENSE BYTE 3
02A   MDR3XSB4   001       SENSE BYTE 4

        BITS DEFINED FOR MDR3XSB4 BY HCPSNSEQ SNSB4DA


         REDEFINITION - 3375/3380/3330/3340/3350 - LENGTH = 8

01A   MDRVOLID   006       VOLUME SERIAL ID

                    EQUATES

        20     MDRVOLML
                          MINIMUM LENGTH OF DASD MDR RECORD
                          TO INCLUDE THE VOL ID FOR HCPVER

020   MDRDEVNO   002       DEVICE ADDRESS

                    EQUATES

        08     MDR33SBL    LENGTH OF SUB-ID FIELD

022   MDR33SNS   032       SENSE DATA

                    EQUATES

        42     MDR33LEN    SIZE IN BYTES
        09     MDR33SIZ    SIZE IN DOUBLE WORDS


         REDEFINITION - SENSE DATA BYTES

022              2XL1      SENSE BYTES 0-1
024   MDR33SB2   001       SENSE BYTE 2

        BITS DEFINED FOR MDR33SB2 BY HCPSNSEQ SNSB2DA

025              XL1       SENSE BYTE 3
026   MDR33SB4   001       SENSE BYTE 4

        BITS DEFINED FOR MDR33SB4 BY HCPSNSEQ SNSB4DA

027              3XL1      SENSE BYTES 5-7

         REDEFINITION - 3375/3380/3330/3340/3350 - LENGTH = 6 0

01A              CL6       VOLUME SERIAL ID
```

```
                    EQUATES

        06    MDRSBL33    LENGTH OF SUB-ID FIELD

020   MDRSNS33   032      SENSE DATA

                    EQUATES

        40    MDRLEN33    SIZE IN BYTES
        08    MDRSIZ33    SIZE IN DOUBLE WORDS


         REDEFINITION - SENSE DATA BYTES

020               2XL1     SENSE BYTES 0-1
022   MDRSB233    001      SENSE BYTE 2

        BITS DEFINED FOR MDRSB233 BY HCPSNSEQ SNSB2DA

023               XL1      SENSE BYTE 3
024   MDRSB433    001      SENSE BYTE 4

        BITS DEFINED FOR MDRSB433 BY HCPSNSEQ SNSB4DA

025               3XL1     SENSE BYTES 5-7

         REDEFINITION - 2305 DASD DEVICES

01A               CL6      VOLUME SERIAL ID

                    EQUATES

        06    MDR23SBL    LENGTH OF SUB-ID FIELD

020   MDR23SNS   024      SENSE DATA

                    EQUATES

        38    MDR23LEN    SIZE IN BYTES
        07    MDR23SIZ    SIZE IN DOUBLE WORDS


         REDEFINITION - 2305 DASD - BUFFERED LOG

01A   MDR23XTN   128      BUFFERED LOG SENSE DATA

                    EQUATES

        9A    MDRBLLEN    SIZE IN BYTES
        14    MDRBLSIZ    SIZE IN DOUBLE WORDS


         REDEFINITION - 3480 TAPE

01A               CL6      VOLUME SERIAL ID
020               F        IBM RESERVED
024   MDR21BL     002      BLOCK LENGTH

                    EQUATES

        0C    MDR21SBL    LENGTH OF SUB-ID FIELD

026   MDR21SNS   032      FORMAT 21 SENSE BYTES
046               XL2

                    EQUATES

        48    MDR21LEN    SIZE IN BYTES
        09    MDR21SIZ    SIZE IN DOUBLE WORDS


         REDEFINITION - 3211 PRINTERS - TYPE 1
```

```
01A   MDR32COR   001       CORRELATION COUNT
01B   MDR32TYP   001       TYPE OF 3211/3203 RECORD

        CODES DEFINED IN MDR32TYP (AT HEX DISPLACEMENT: 1B)

        01     MDR32TP1     UNIVERSAL CHARACTER SET
        02     MDR32TP2     FORMS CONTROL BUFFER
        03     MDR32TP3     PRINT LINE
        02     MDR32SBL     LENGTH OF SUB-ID FIELD

01C   MDR32UCS   256       UNIVERSAL CHARACTER SET
11C   MDR32BUF   256       BUFFER

                    EQUATES

        1C     MDR32LN1     SIZE IN BYTES
        44     MDR32SZ1     SIZE IN DOUBLE WORDS


         REDEFINITION - 3203 PRINTERS - TYPE 1

01A               XL1       CORRELATION COUNT
01B               XL1       TYPE OF 3211/3203 RECORD
01C   MDR03UCS    240       UNIVERSAL CHARACTER SET
10C   MDR03DUC    064       DUALING & UNCOMPARABLE CHAR TABLE

                    EQUATES

        4C     MDR03LN1     SIZE IN BYTES
        2A     MDR03SZ1     SIZE IN DOUBLE WORDS


         REDEFINITION - 3211 PRINTERS - TYPE 2

01A               XL1       CORRELATION COUNT
01B               XL1       TYPE OF 3211/3203 RECORD
01C   MDR32FCB    180       FORMS CONTROL BUFFER

                    EQUATES

        D0     MDR32LN2     SIZE IN BYTES
        1A     MDR32SZ2     SIZE IN DOUBLE WORDS


         REDEFINITION - 3203 PRINTERS - TYPE 2

01A               XL1       CORRELATION COUNT
01B               XL1       TYPE OF 3211/3203 RECORD
01C   MDR03FCB    256       FORMS CONTROL BUFFER

                    EQUATES

        1C     MDR03LN2     SIZE IN BYTES
        24     MDR03SZ2     SIZE IN DOUBLE WORDS


         REDEFINITION - 3211/3203 PRINTERS - TYPE 3

01A               XL1       CORRELATION COUNT
01B               XL1       TYPE OF 3211/3203 RECORD
01C   MDR32PRT    150       PRINT LINE BUFFER
0B2   MDR32ERR    010       FIRST 10 ERROR CHARACTERS

                    EQUATES

        BC     MDR32LN3     SIZE IN BYTES
        18     MDR32SZ3     SIZE IN DOUBLE WORDS


         REDEFINITION - 3800 MODEL 1 PRINTER

01A               XL2       RESERVED FOR FUTURE IBM USE

                    EQUATES
```

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```
        02    MDR38SBL    LENGTH OF SUB-ID FIELD

01C   MDR38DAT   136      3800 MODEL 1 DATA

                  EQUATES

        A4    MDR38LEN    SIZE IN BYTES
        15    MDR38SIZ    SIZE IN DOUBLE WORDS


         REDEFINITION - 3800 MODEL 3 PRINTER

01A             XL2       RESERVED FOR FUTURE IBM USE

                  EQUATES

        02    MDR38SB3    LENGTH OF SUB-ID FIELD

01C   MDR38DA3   264      3800 MODEL 3 DATA

                  EQUATES

        24    MDR38LE3    SIZE IN BYTES
        25    MDR38SI3    SIZE IN DOUBLE WORDS


         REDEFINITION - MDRTOD

008   MDRHDATE   004       SYSTEM DATE OF FAILURE
00C   MDRHTIME   004       SYSTEM TIME OF FAILURE

         REDEFINITION - MDRCPUID

010   MDRHCPID   001       MACHINE VERSION CODE
011   MDRHSER    003       CPU SERIAL NUMBER
014   MDRHMDL    002       CPU MACHINE MODEL NUMBER
016   MDRHMCEL   002       MAX LENGTH OF MACHINE-DEPENDENT
                           MACHINE CHECK EXTENDED LOGOUT

         REDEFINITION - MDRCUA1 - PRIMARY UNIT ADDRESS

018             XL1       UNCHANGED PORTION OF MDRCUA1

                  EQUATES

        02    MDR44CTL    NUMBER OF BITS TO SHIFT RIGHT
                          THE BITS DEFINED BY SNSCNTLR FROM
                          MDR33SB4 OR MDRSB433 FOR 3344
                          UNIT ADDRESS MODIFICATION

019   MDRPRIUA   001       BYTE THAT GETS MODIFIED

        BITS DEFINED IN MDRPRIUA (AT HEX DISPLACEMENT: 19)

        F8    MDR30UAM    UNIT ADDRESS UNCHANGED BITS MASK
                          FOR 3330
        DF    MDR5030M    UNCHANGED BITS MASK FOR 3350 IN
                          3330-1 COMPATIBILITY MODE
        C0    MDR44NCM    UNCHANGED BITS MASK FOR 3344


                MORE EQUATES

        00    MDRBLSBL    LENGTH OF SUB-ID FIELD
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
MDRBLLEN	001	09A	MDR3XSIZ	001	009
MDRBLSBL	001	000	MDR3XSNS	032	026
MDRBLSIZ	001	014	MDR30UAM	001	0F8
MDRCHPID	001	007	MDR3168	001	007
MDRCPUID	008	010	MDR32BUF	256	11C
MDRCUA1	002	018	MDR32COR	001	01A
MDRCUID	001	022	MDR32ERR	010	0B2
MDRDEVNO	002	020	MDR32FCB	180	01C
MDRHCPID	001	010	MDR32LN1	001	21C
MDRHDATE	004	008	MDR32LN2	001	0D0
MDRHMCEL	002	016	MDR32LN3	001	0BC
MDRHMDL	002	014	MDR32PRT	150	01C
MDRHSER	003	011	MDR32SBL	001	002
MDRHTIME	004	00C	MDR32SZ1	001	044
MDRIGAR	001	00F	MDR32SZ2	001	01A
MDRINCOM	001	040	MDR32SZ3	001	018
MDRLEN	001	01A	MDR32TP1	001	001
MDRLEN33	001	040	MDR32TP2	001	002
MDROPSYS	001	001	MDR32TP3	001	003
MDRPRIUA	001	019	MDR32TYP	001	01B
MDRRCNT	001	006	MDR32UCS	256	01C
MDRREC	001	000	MDR32XX	001	010
MDRRTCVT	001	093	MDR32XXS	001	003
MDRRTMDR	001	091	MDR3211	001	004
MDRRTSVC	001	090	MDR3277	001	00B
MDRRTYP	001	000	MDR3277N	001	013
MDRSBLNM	001	00F	MDR33LEN	001	042
MDRSBL3X	001	00C	MDR33SBL	001	008
MDRSBL33	001	006	MDR33SB2	001	024
MDRSB233	001	022	MDR33SB4	001	026
MDRSB433	001	024	MDR33SIZ	001	009
MDRSIZ33	001	008	MDR33SNS	032	022
MDRSNS33	032	020	MDR3310	001	016
MDRSUBID	001	080	MDR3330	001	001
MDRSW1	001	002	MDR33302	001	00A
MDRSW2	001	003	MDR3340S	001	009
MDRSW3	001	004	MDR3350	001	011
MDRSW4	001	005	MDR3370	001	017
MDRTOD	008	008	MDR3375	001	018
MDRVARBL	001	01A	MDR3380	001	014
MDRVOLID	006	01A	MDR3480	001	041
MDRVOLML	006	020	MDR3670	001	006
MDR03DUC	064	10C	MDR3705	001	005
MDR03FCB	256	01C	MDR3705N	001	015
MDR03LN1	001	14C	MDR38DAT	136	01C
MDR03LN2	001	11C	MDR38DA3	264	01C
MDR03SZ1	001	02A	MDR38LEN	001	0A4
MDR03SZ2	001	024	MDR38LE3	001	124
MDR03UCS	240	01C	MDR38SBL	001	002
MDR21BL	002	024	MDR38SB3	001	002
MDR21LEN	001	048	MDR38SIZ	001	015
MDR21SBL	001	00C	MDR38SI3	001	025
MDR21SIZ	001	009	MDR3800	001	00C
MDR21SNS	032	026	MDR3800S	001	020
MDR23LEN	001	038	MDR3850	001	00E
MDR23SBL	001	006	MDR3895	001	00D
MDR23SIZ	001	007	MDR44CTL	001	002
MDR23SNS	024	020	MDR44NCM	001	0C0
MDR23XTN	128	01A	MDR5030M	001	0DF
MDR23051	001	012	MDR8809	001	040
MDR23052	001	002			
MDR2715	001	008			
MDR3XLEN	001	046			
MDR3XSB2	001	028			
MDR3XSB4	001	02A			

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HCPMIHBK— MISSING INTERRUPT HANDLER INFO BLOCK

DSECT NAME: MIHBK

DESCRIPTIVE NAME: MISSING INTERRUPT HANDLER INFO BLOCK

FUNCTION: THE MIHBK IS USED TO REPRESENT TIME LIMITS TO BE CHECKED FOR DEVICES, DEVICE RANGES, OR DEVICE CLASSES WHEN CHECKING FOR MISSING INTERRUPTS

LOCATED BY:

BASEMIHS ANCHOR IN HCPMIH

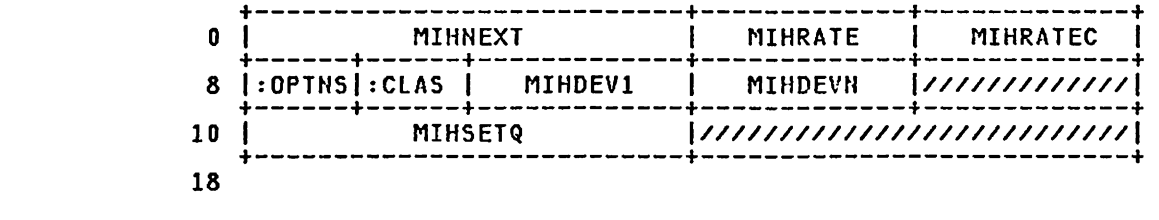
CREATED BY:

MIHBK'S ARE DYNAMICALLY CREATED BY HCPMDT VIA THE "SET MITIME" COMMAND

DELETED BY:

MIHBK'S ARE DELETED BY HCPMIH VIA THE "SET MITIME" COMMAND

MIHBK - MISSING INTERRUPT CONTROL BLOCK



disp	name	length	description
000	MIHNEXT	004	NEXT MIHBK ON THE CHAIN
004	MIHRATE	002	MULTIPLE OF BASE RATE
006	MIHRATEC	002	CURRENT RATE COUNTER
008	MIHOPTNS	001	OPTIONS FLAG

BITS DEFINED IN MIHOPTNS (AT HEX DISPLACEMENT: 8)

80	MIHON	ON SPECIFIED ON COMMAND
40	MIHOFF	OFF SPECIFIED ON COMMAND
20	MIHREADY	READY FOR ACTION

009	MIHCLAS	001	CLASS SPECIFIED ON COMMAND LINE

CODES DEFINED IN MIHCLAS (AT HEX DISPLACEMENT: 9)

FF	MIHALL	ALL DEVICE CLASSES
00	MIHRANGE	DEVICE (RANGE) SPECIFIED
64	MIHMISC	MISCELLANEOUS DEVICE CLASS - CONSISTS OF DASD, GRAF AND SPOOL

00A	MIHDEV1	002	FIRST DEVICE NUMBER IN RANGE
00C	MIHDEVN	002	LAST DEVICE NUMBER IN RANGE
00E		1H	RESERVED FOR FUTURE IBM USE
010	MIHSETQ	004	ADDRESS OF NEXT MIHBK FOR USE BY 'SET MITIME' COMMAND PROCESSING MODULE ONLY
014		1F	RESERVED FOR FUTURE IBM USE

EQUATES

03	MIHSIZE	MIHBK SIZE IN DOUBLE-WORDS

CROSS REFERENCE

Name	Len	Value/Disp
MIHALL	001	0FF
MIHBK	001	000
MIHCLAS	001	009
MIHDEVN	002	00C
MIHDEV1	002	00A
MIHMISC	001	064
MIHNEXT	004	000
MIHOFF	001	040
MIHON	001	080
MIHOPTNS	001	008
MIHRANGE	001	000
MIHRATE	002	004
MIHRATEC	002	006
MIHREADY	001	020
MIHSETQ	004	010
MIHSIZE	001	003

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HCPMIHDR— MISSING INTERRUPT HANDLER HEADER BLOCK

DSECT NAME: MIHDR

DESCRIPTIVE NAME: MISSING INTERRUPT HANDLER HEADER BLOCK

FUNCTION: THE MIHDR CONTAINS THE GENERAL INFORMATION THAT PERTAINS TO THE HANDLING OF MISSING INTERRUPT CONDITIONS. IN ADDITION, IT ACTS AS THE ANCHOR FOR THE CHAIN OF HCPMIOBJS.

LOCATED BY:

IORMIPTR FIELD OF IORBK - BLOCKS USED FOR HANDLING MISSING INTERRUPT CONDITIONS

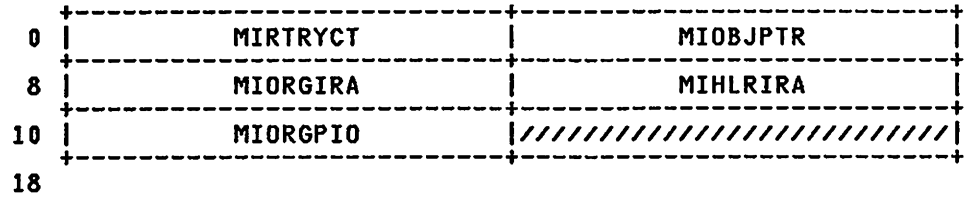
CREATED BY:

MIHDR'S ARE DYNAMICALLY CREATED BY HCPMHLAT.

DELETED BY:

MIHDR'S ARE DELETED BY HCPMHLDT WHEN THERE ARE NO MORE MIOBJ'S ASSOCIATED WITH THE MIHDR.

MIHDR - MISSING INTERRUPT HEADER BLOCK



disp	name	length	description
000	MIRTRYCT	004	RETRY COUNT
004	MIOBJPTR	004	ADDRESS OF FIRST MIOBJ IN CHAIN
008	MIORGIRA	004	THE ORIGINAL IRA VALUE
00C	MIHLRIRA	004	IRA USED DURING MISSING INTERRUPT PROCESSING
010	MIORGPIO	004	ORIGINAL IORPIOR VALUE
014		1F	RESERVED FOR FUTURE IBM USE

EQUATES

03	MIHDSIZE	MIHDR SIZE IN DOUBLE-WORDS

CROSS REFERENCE

Name	Len	Value/Disp
MIHDR	001	000
MIHDSIZE	001	003
MIHLRIRA	004	00C

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HCPMIOBJ— MISSING INTERRUPT OBJECT

DSECT NAME: MIOBJ

DESCRIPTIVE NAME: MISSING INTERRUPT OBJECT

FUNCTION: THE MIOBJ CONTAINS INFORMATION ABOUT WHAT SHOULD BE DONE FOR A SPECIFIC MISSING INTERRUPT CONDITION.

LOCATED BY:

MIOBJPTR FIELD OF MIHDR - POINTER TO THE FIRST MIOBJ IN CHAIN
MINXTPTR FIELD OF MIOBJ - POINTER TO NEXT MIOBJ IN CHAIN

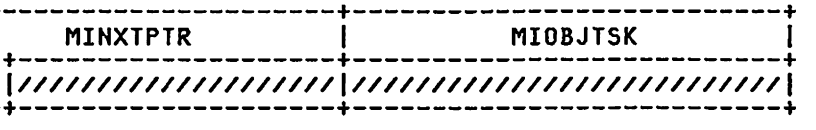
CREATED BY:

MIOBJ'S ARE DYNAMICALLY CREATED BY HCPMHLAT.

DELETED BY:

MIOBJ'S ARE DELETED BY HCPMHLDT.

MIOBJ - MISSING INTERRUPT OBJECT



disp	name	length	description
000	MINXTPTR	004	POINTER TO NEXT MIOBJ IN CHAIN
004	MIOBJTSK	004	ADDRESS OF THE NOTIFICATION TASK THAT IS TO GET CONTROL WHEN A MISSING INTERRUPT CONDITION IS DETECTED
008	MIHFLGS	001	MISSING INTERRUPT HANDLER FLAGS

BITS DEFINED IN MIHFLGS (AT HEX DISPLACEMENT: 8)

80	MIHINTVL	COMPLETE MISSING INTERRUPT DETECTION INTERVAL HAS ELAPSED
40	MIHIPND	HSCH INTERRUPT IS STILL PENDING
009	3X	RESERVED FOR FUTURE IBM USE
00C	1F	RESERVED FOR FUTURE IBM USE

EQUATES

02	MIOSIZE	MIOBJ SIZE IN DOUBLE-WORDS

CROSS REFERENCE

Name	Len	Value/Disp
MIOBJ	001	000
MIOBJTSK	004	004
MIOSIZE	001	002

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MIRREC— 370 MODE MISSING INTERRUPT RECORD

DSECT NAME: MIRREC

DESCRIPTIVE NAME: 370 MODE MISSING INTERRUPT RECORD

FUNCTION: MIRREC IS USED IN THE SVC 76 INITIATED ERROR RECORDING PROCESS OF TYPE 70 MIH (MISSING INTERRUPT HANDLER) RECORDS FOR 370 GUESTS.

LOCATED BY:

GPR9 IN HCPVER. THE ADDRESS IS PASSED TO HCPIOE AND HCPREC IN GPR1.

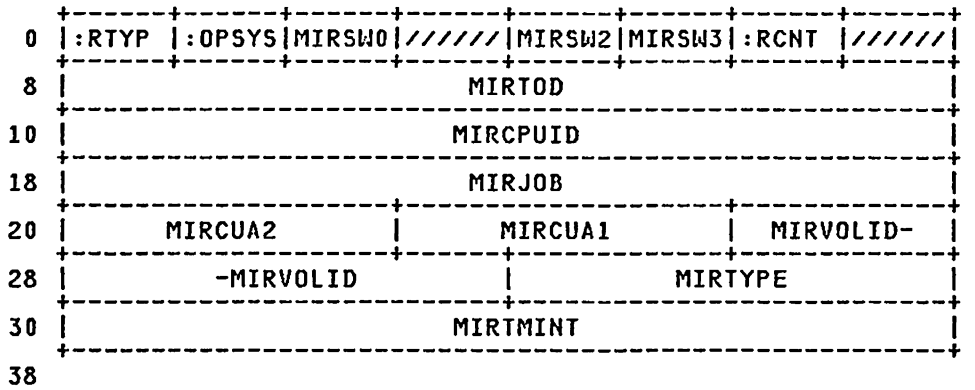
CREATED BY:

370 GUEST; COPIED TO FREE STORAGE BY HCPVER.

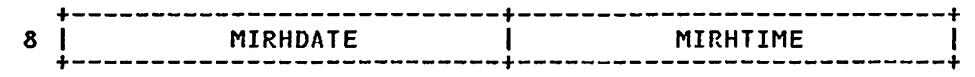
DELETED BY:

HCPIOE AFTER HCPREC HAS COPIED IT INTO A GSDBK.

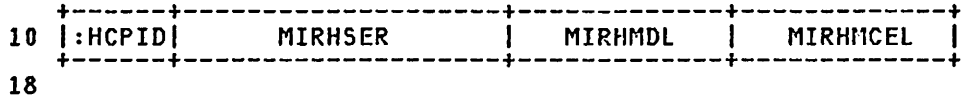
MIRREC - MISSING INTERRUPT RECORDING BLOCK



REDEFINITION - MIRHTOD



REDEFINITION - MIRCPUID



disp	name	length	description
000	MIRRTYP	001	RECORD TYPE
	CODES DEFINED IN MIRRTYP (AT HEX DISPLACEMENT: 0)		
	70 MIRRTMIR		MIR RECORD
001	MIROPSYS	001	OPERATING SYSTEM
	BITS DEFINED FOR MIROPSYS BY HDRREC HDRHSYS		

```
002   MIRSW0     001      RECORD INDEPENDENT SWITCH

        BITS DEFINED FOR MIRSW0 BY HDRREC HDRHSW0

003              XL1      RESERVED FOR FUTURE IBM USE
004   MIRSW2     001      SWITCH BYTE 2

        BITS DEFINED IN MIRSW2   (AT HEX DISPLACEMENT: 4)

        80    MIRSWCHE    CHANNEL END INTERRUPTION PENDING
        40    MIRSWDVE    DEVICE END INTERRUPTION PENDING

005   MIRSW3     001      CHANNEL SET ID FOR MVS
006   MIRRCNT    001      RECORD COUNT

        BITS DEFINED FOR MIRRCNT BY HDRREC HDRHCNT

007              XL1      RESERVED FOR FUTURE IBM USE
008   MIRTOD     008      TOD OF SYSTEM FAILURE
010   MIRCPUID   008      CPU ID
018   MIRJOB     008      JOB ID/USERID
020   MIRCUA2    003      SECONDARY CUA ADDRESS
023   MIRCUA1    003      PRIMARY CUA ADDRESS
026   MIRVOLID   006      VOLUME SERIAL ID
02C   MIRTYPE    004      DEVICE TYPE
030   MIRTMINT   008      TIME INTERVAL FOR INT CHECK

                  EQUATES

        38    MIRLEN      SIZE IN BYTES
        07    MIRSIZE     MIRREC SIZE IN DOUBLE WORDS


         REDEFINITION - MIRHTOD

008   MIRHDATE   004      SYSTEM DATE OF FAILURE
00C   MIRHTIME   004      SYSTEM TIME OF FAILURE

         REDEFINITION - MIRCPUID

010   MIRHCPID   001      MACHINE VERSION CODE
011   MIRHSER    003      CPU SERIAL NUMBER
014   MIRHMDL    002      CPU MACHINE MODEL NUMBER
016   MIRHMCEL   002      MAX LENGTH OF MACHINE-DEPENDENT
                          MACHINE CHECK EXTENDED LOGOUT
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
MIRCPUID	008	010	MIRRTYP	001	000
MIRCUA1	003	023	MIRSIZE	001	007
MIRCUA2	003	020	MIRSWCHE	001	080
MIRHCPID	001	010	MIRSWDVE	001	040
MIRHDATE	004	008	MIRSW0	001	002
MIRHMCEL	002	016	MIRSW2	001	004
MIRHMDL	002	014	MIRSW3	001	005
MIRHSER	003	011	MIRTMINT	008	030
MIRHTIME	004	00C	MIRTOD	008	008
MIRJOB	008	018	MIRTYPE	004	02C
MIRLEN	001	038	MIRVOLID	006	026
MIROPSYS	001	001			
MIRRCNT	001	006			
MIRREC	001	000			
MIRRTMIR	001	070			

MITREC— 370/XA MODE MISSING INTERRUPT RECORD

DSECT NAME: MITREC

DESCRIPTIVE NAME: 370/XA MODE MISSING INTERRUPT RECORD

FUNCTION: MITREC IS USED IN THE SVC 76 INITIATED ERROR RECORDING PROCESS OF TYPE 71 MIH (MISSING INTERRUPT HANDLER) RECORDS FOR XA GUESTS.

LOCATED BY:

GPR9 IN HCPVER. THE ADDRESS IS PASSED TO HCPIOE AND HCPREC IN GPR1.

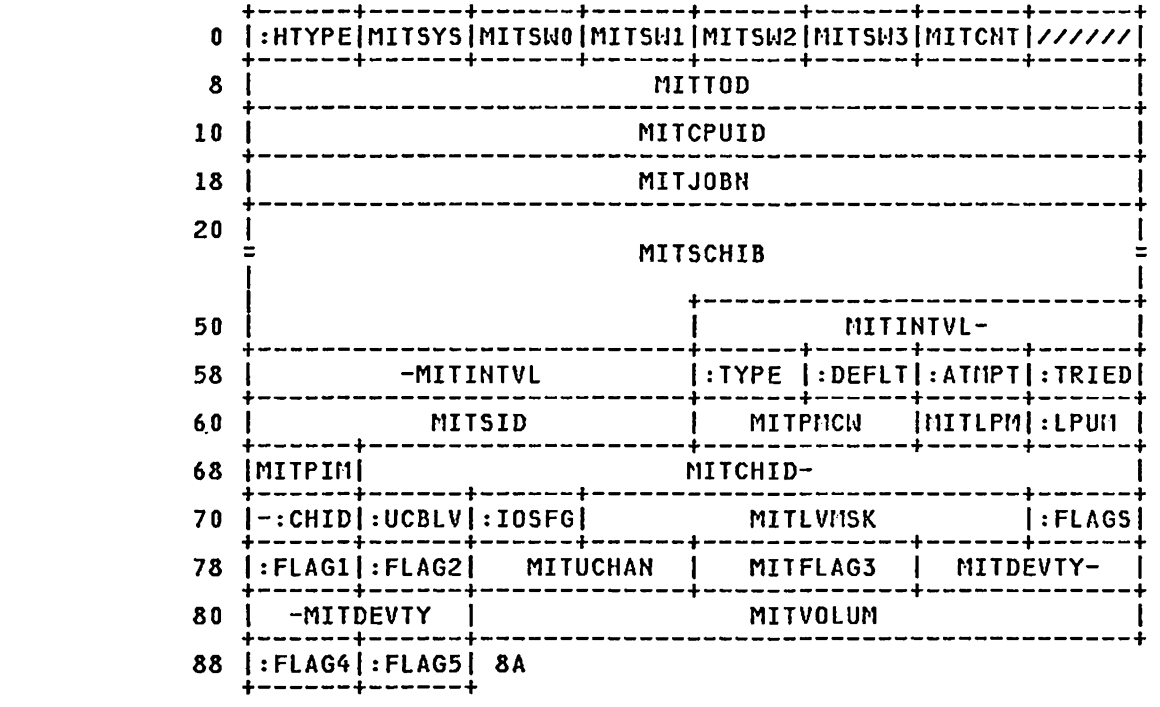
CREATED BY:

XA GUEST; COPIED TO FREE STORAGE BY HCPVER.

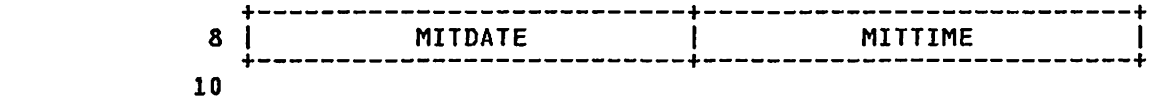
DELETED BY:

HCPIOE AFTER HCPREC HAS COPIED IT INTO A GSDBK.

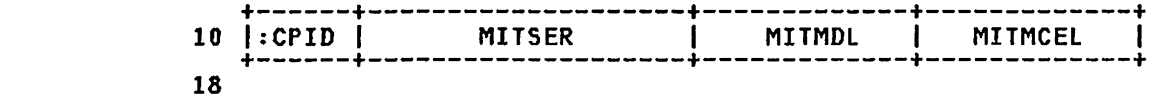
MITREC - 370/XA MODE MISSING INTERRUPT ERROR RECORD



REDEFINITION - MITTOD



REDEFINITION - MITCPUID



disp	name	length	description
000	MITHTYPE	001	CLASS/SOURCE
	CODES DEFINED IN MITHTYPE (AT HEX DISPLACEMENT: 0)		
	71 MITRTYMI		MIT RECORD TYPE-MISSING INTERRUPT
001	MITSYS	001	SYSTEM/RELEASE LEVEL
	BITS DEFINED FOR MITSYS BY HDRREC HDRHSYS		
002	MITSW0	001	RECORD INDEPENDENT SWITCHES
	BITS DEFINED FOR MITSW0 BY HDRREC HDRHSW0		
003	MITSW1	001	RESERVED REC DEPENDENT SWITCH 1
004	MITSW2	001	RESERVED REC DEPENDENT SWITCH 2
005	MITSW3	001	RESERVED REC DEPENDENT SWITCH 3
006	MITCNT	001	RECORD COUNT
	BITS DEFINED FOR MITCNT BY HDRREC HDRHCNT		
007		XL1	RESERVED FOR FUTURE IBM USE
008	MITTOD	008	TOD OF SYSTEM FAILURE
010	MITCPUID	008	CPU ID
018	MITJOBN	008	JOBNAME FROM ASID OR USERID
020	MITSCHIB	052	SUBCHANNEL INFORMATION BLOCK
054	MITINTVL	008	INTERVAL USED FOR DETECTION
05C	MITTYPE	001	TYPE OF MISSING INTERRUPT
	BITS DEFINED IN MITTYPE (AT HEX DISPLACEMENT: 5C)		
	80 MITTMCSI		MISSING CSCH INTERRUPT
	40 MITTMHCI		MISSING HSCH INTERRUPT
	20 MITTIDDV		IDLE DEVICE WITH WORK QUEUED
	10 MITTSPSC		START PENDING IN SUBCHANNEL
	04 MITTMP		MOUNT PENDING
	02 MITTMPS		MISSING PRIMARY STATUS
	01 MITTMSS		MISSING SECONDARY STATUS
05D	MITDEFLT	001	DEFAULT ACTIONS TO ATTEMPT
05E	MITATMPT	001	ACTIONS TO BE ATTEMPTED
05F	MITTRIED	001	ACTION ACTUALLY TRIED
	BITS DEFINED IN MITTRIED (AT HEX DISPLACEMENT: 5F)		
	80 MITTRHCS		HALT OR CLEAR SUBCHANNEL
	40 MITTRSIN		SIMULATED INTERRUPT
	20 MITTRRDD		REDRIVE DEVICE
	10 MITTRRIO		REQUEUE I/O REQUEST
	08 MITTRIM		ISSUE MESSAGE
	04 MITTRLC		LOG THE CONDITION
060	MITSID	004	SUBCHANNEL ID NUMBER
064	MITPMCW	002	PATH MNGMENT CTRL WORD
066	MITLPM	001	LOGICAL PATH MASK
067	MITLPUM	001	LAST PATH USED MASK
068	MITPIM	001	PATH INSTALL MASK
069	MITCHID	001	CHANNEL PATH ID
071	MITUCBLV	001	UCB LEVEL BYTE (NOT USED BY VM)
072	MITIOSFG	001	IOS FLAGS (NOT USED BY VM)
073	MITLVMSK	004	LEVEL MASK FROM UCBLVMSK (NOT USED BY VM)
077	MITFLAGS	001	MIT FLAG PROC. (UCBMITTI) (NOT USED BY VM)
078	MITFLAG1	001	FLAG BYTE (NOT USED BY VM)
	BITS DEFINED IN MITFLAG1 (AT HEX DISPLACEMENT: 78)		
	80 MITF1UCB		UCBALTCU

079	MITFLAG2	001	FLAG BYTE FROM UCBFLC (NOT USED BY VM)
07A	MITUCHAN	002	DEVICE NUMBER
07C	MITFLAG3	002	FLAG BYTES FROM UCBSFLS (NOT USED BY VM)
07E	MITDEVTY	004	DEVICE CLASS AND TYPE
082	MITVOLUM	006	VOLUME SERIAL, IF AVAILABLE
088	MITFLAG4	001	FLAG BYTE (NOT USED BY VM)

BITS DEFINED IN MITFLAG4 (AT HEX DISPLACEMENT: 88)

80	MITF4UCB	UCBMOUNT

089	MITFLAG5	001	FLAG BYTE FROM UCBFL4 (NOT USED BY VM)

EQUATES

8A	MITLEN	LENGTH OF MITREC
12	MITSIZE	NUMBER OF WORDS IN MITREC

REDEFINITION - MITTOD

008	MITDATE	004	SYSTEM DATE OF FAILURE
00C	MITTIME	004	SYSTEM TIME OF FAILURE

REDEFINITION - MITCPUID

010	MITCPID	001	MACHINE VERSION CODE
011	MITSER	003	CPU SERIAL NUMBER
014	MITMDL	002	CPU MACHINE MODEL NUMBER
016	MITMCEL	002	RESERVED FOR FUTURE IBM USE

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
MITATMPT	001	05E	MITPMCW	002	064	MITTSPSC	001	010
MITCHID	001	069	MITREC	001	000	MITTYPE	001	05C
MITCNT	001	006	MITRTYMI	001	071	MITUCBLV	001	071
MITCPID	001	010	MITSCHIB	052	020	MITUCHAN	002	07A
MITCPUID	008	010	MITSER	003	011	MITVOLUM	006	082
MITDATE	004	008	MITSID	004	060			
MITDEFLT	001	05D	MITSIZE	001	012			
MITDEVTY	004	07E	MITSW0	001	002			
MITFLAGS	001	077	MITSW1	001	003			
MITFLAG1	001	078	MITSW2	001	004			
MITFLAG2	001	079	MITSW3	001	005			
MITFLAG3	002	07C	MITSYS	001	001			
MITFLAG4	001	088	MITTIDDV	001	020			
MITFLAG5	001	089	MITTIME	004	00C			
MITF1UCB	001	080	MITTMCSI	001	080			
MITF4UCB	001	080	MITTMHCI	001	040			
MITHTYPE	001	000	MITTMP	001	004			
MITINTVL	008	054	MITTMPS	001	002			
MITIOSFG	001	072	MITTMSS	001	001			
MITJOBN	008	018	MITTOD	008	008			
MITLEN	001	08A	MITTRHCS	001	080			
MITLPM	001	066	MITTRIED	001	05F			
MITLPUM	001	067	MITTRIM	001	008			
MITLVMSK	004	073	MITTRLC	001	004			
MITMCEL	002	016	MITTRRDD	001	020			
MITMDL	002	014	MITTRRIO	001	010			
MITPIM	001	068	MITTRSIN	001	040			

HCPMSGBK— MESSAGE BLOCK MAPPING MACRO

DSECT NAME: MSGBK

DESCRIPTIVE NAME: MESSAGE BLOCK MAPPING MACRO

FUNCTION: TO HOLD IUCV MESSAGE INFORMATION THROUGH THE COMPLETE MESSAGE CYCLE.

LOCATED BY:

THE FOLLOWING FIELDS IN HCPCCTBK:
CCTSNDHD - WHEN ON SEND QUEUE
CCTRCVHD - WHEN ON RECEIVE QUEUE
CCTRPYHD - WHEN ON REPLY QUEUE

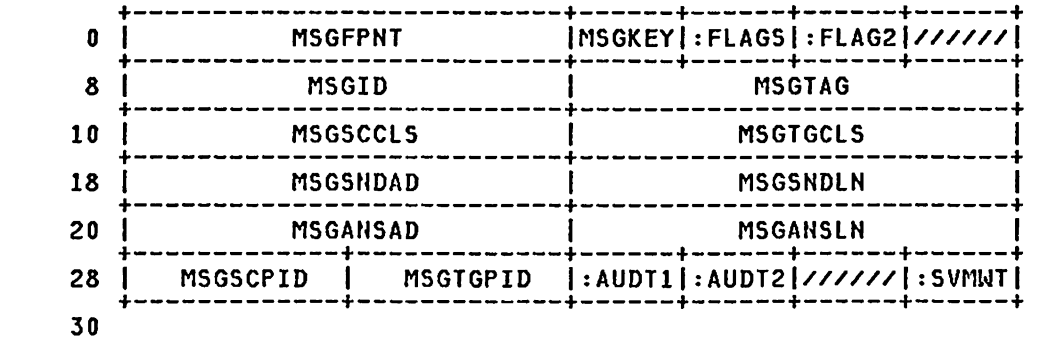
CREATED BY:

IUCV SEND FUNCTION (HCPIUDSE)

DELETED BY:

IUCV RECEIVE, REPLY OR TEST COMPLETION FUNCTION
(HCPIUDRC, HCPIUDRP, OR HCPIUCTC)

MSGBK - MESSAGE BLOCK MAPPING MACRO



disp	name	length	description
000	MSGFPNT	004	POINTER TO NEXT MESSAGE BLOCK
004	MSGKEY	001	STORAGE PROTECT KEY FOR BUFFERS
005	MSGFLAGS	001	STATUS

BITS DEFINED IN MSGFLAGS (AT HEX DISPLACEMENT: 5)

80	MSGPRMD	MESSAGE IN THE PARAMETER LIST
40	MSGPARTL	MESSAGE PARTIALLY RECEIVED
20	MSGPRTY	PRIORITY MESSAGE OR REPLY
10	MSGNORPY	ONE WAY PROTOCOL
08	MSGPURGE	MESSAGE HAS BEEN PURGED
02	MSGDESC	MESSAGE HAS BEEN DESCRIBED

006	MSGFLAG2	001	

BITS DEFINED IN MSGFLAG2 (AT HEX DISPLACEMENT: 6)

04	MSGCTLS	MESSAGE SENT ON CONTROL PATH
02	MSGCTLT	MESSAGE SENT TO CONTROL PATH

007		XL1	RESERVED
008	MSGID	004	UNIQUE MESSAGE ID
00C	MSGTAG	004	MESSAGE TAG
010	MSGSCCLS	004	SOURCE MESSAGE CLASS
014	MSGTGCLS	004	TARGET MESSAGE CLASS
018	MSGPRM	008	PARAMETER LIST DATA

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018   MSGSNDAD   004      SEND BUFFER ADDRESS
01C   MSGSNDLN   004      SEND BUFFER LENGTH
020   MSGANSAD   004      ANSWER BUFFER ADDRESS
024   MSGANSLN   004      ANSWER BUFFER LENGTH
028   MSGSCPID   002      SOURCE PATH ID
02A   MSGTGPID   002      TARGET PATH ID

02C   MSGAUDIT   002      AUDIT TRAIL FOR THIS MESSAGE

02C   MSGAUDT1   001      AUDIT TRAIL BYTE 1

        BITS DEFINED IN MSGAUDT1 (AT HEX DISPLACEMENT: 2C)

        80    MSGARPLE    REPLY TOO LONG FOR BUFFER
        40    MSGASNPX    PROTECTION EXCEPTION ON SEND BUFF
        20    MSGASNAX    ADDRESSING EXCEPTION ON SEND BUFF
        10    MSGAANPX    PROTECTION EXCEPT ON ANSWER BUFF
        08    MSGAANAX    ADDRESSING EXCEPT ON ANSWER BUFF
        04    MSGARJCT    MESSAGE WAS REJECTED
        02    MSGAPRMD    REPLY SENT IN PARAMETER LIST


02D   MSGAUDT2   001      AUDIT TRAIL BYTE 2

        BITS DEFINED IN MSGAUDT2 (AT HEX DISPLACEMENT: 2D)

        80    MSGARCPX    PROTECTION EXCEPT ON RECEIVE BUFF
        40    MSGARCAX    ADDRESSING EXCEPT ON RECEIVE BUFF
        20    MSGARPPX    PROTECTION EXCEPT ON REPLY BUFF
        10    MSGARPAX    ADDRESSING EXCEPT ON REPLY BUFF
        08    MSGASVRD    PATH WAS SEVERED


02E             XL1       RESERVED
02F   MSGSVMWT   001       SERVICE VIRTUAL MACHINE WAIT FLAG

                  EQUATES

        80    MSGEND      SVM TRANSACTION END

        06    MSGSIZE     MSGBK SIZE IN DOUBLEWORDS
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
MSGAANAX	001	008	MSGCPIO	001	003	MSGPRMD	001	080
MSGAANPX	001	010	MSGCTLS	001	004	MSGPRTY	001	020
MSGANSAD	004	020	MSGCTLT	001	002	MSGPURGE	001	008
MSGANSLN	004	024	MSGDESC	001	002	MSGSCCLS	004	010
MSGAPRMD	001	002	MSGEMSG	001	006	MSGSCIF	001	008
MSGARCAX	001	040	MSGEND	001	080	MSGSCPID	002	028
MSGARCPX	001	080	MSGFLAGS	001	005	MSGSIZE	001	006
MSGARJCT	001	004	MSGFLAG2	001	006	MSGSMSG	001	004
MSGARPAX	001	010	MSGFPNT	004	000	MSGSNDAD	004	018
MSGARPLE	001	080	MSGID	004	008	MSGSNDLN	004	01C
MSGARPPX	001	020	MSGIMSG	001	007	MSGSVMWT	001	02F
MSGASNAX	001	020	MSGKEY	001	004	MSGTAG	004	00C
MSGASNPX	001	040	MSGMALL	001	001	MSGTGCLS	004	014
MSGASVRD	001	008	MSGMSG	001	001	MSGTGPID	002	02A
MSGAUDIT	002	02C	MSGMSS	001	000	MSGVMIO	001	005
MSGAUDT1	001	02C	MSGNORPY	001	010	MSGWNG	001	002
MSGAUDT2	001	02D	MSGPARTL	001	040			
MSGBK	001	000	MSGPRM	008	018			

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HCPMSTBK— MESSAGE TEXT DATA BLOCK

DSECT NAME: MSTBK

DESCRIPTIVE NAME: MESSAGE TEXT DATA BLOCK

FUNCTION: THE MSTBK CONTAINS COMPLETE MESSAGE TEXT AND PARAMETERS REQUIRED TO PASS THE MESSAGE TO HCPQCNWT.

LOCATED BY:

PROMSPTR FIELD IN USER"S PROBK

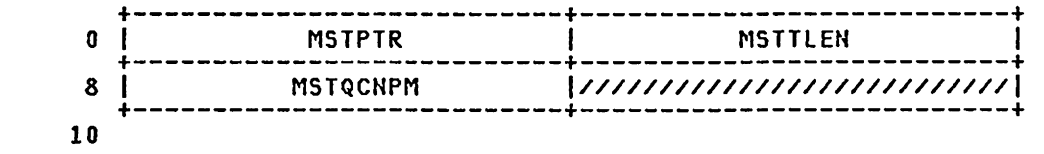
CREATED BY:

HCPERMSF , HCPREIPQ

DELETED BY:

HCPCNCRL, HCPREICB

MSTBK - MESSAGE TEXT DATA BLOCK



disp	name	length	description
000	MSTPTR	004	POINTER TO NEXT MESSAGE BLOCK
004	MSTTLEN	004	LENGTH OF MESSAGE TEXT
008	MSTQCNPM	004	HCPQCNWT PARAMETERS
00C		F	RESERVED FOR IBM USE
010	MSTTEXT	001	MESSAGE TEXT (VARIABLE LENGTH)

EQUATES

02	MSTSIZE	SIZE OF MSTBK

CROSS REFERENCE

Name	Len	Value/Disp
MSTBK	001	000
MSTPTR	004	000
MSTQCNPM	004	008
MSTSIZE	001	002
MSTTEXT	001	010
MSTTLEN	004	004

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HCPMTEBK— MONITOR TRANSACTION-END DATA BLOCK

DSECT NAME: MTEBK

DESCRIPTIVE NAME: MONITOR TRANSACTION-END DATA BLOCK

FUNCTION: MAP THE AREA FOR DATA ACCUMULATED AT TRANSACTION END

LOCATED BY:

HCPMNDTE FIELD OF HCPMND (MONITOR DATA MODULE)

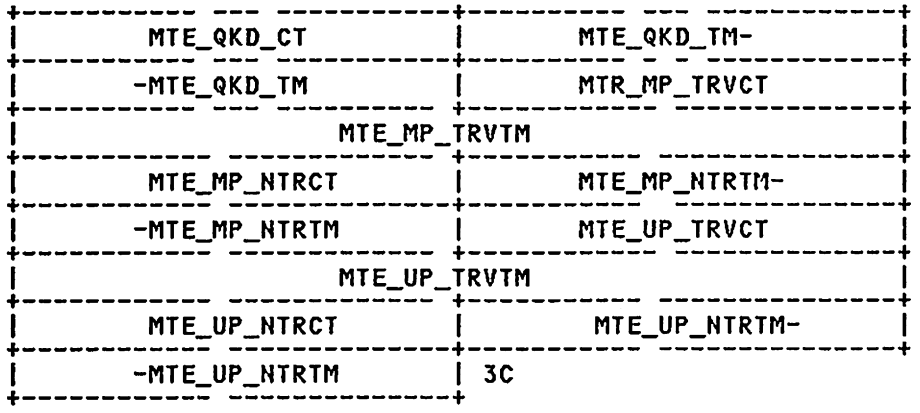
CREATED BY:

HCPMND DURING COMPILATION

DELETED BY:

NONE

MTEBK - MONITOR TRANSACTION-END DATA BLOCK



disp	name	length	description
000	MTE_QKD	012	"QUICK DISPATCH" TRANSACTION DATA
00C	MTE_MP	024	MULTI-PROCESSOR TRANSACTION DATA
024	MTE_UP	024	UNI-PROCESSOR TRANSACTION DATA

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
MTE_MP	024	00C	MTE_UP_NTR		
MTE_MP_NTR			MTE_UP_NTR		
MTE_MP_NTR			MTE_UP_NTR		
MTE_MP_NTR			MTE_UP_TRV		
MTE_MP_TRV			MTE_UP_TRV		
MTE_MP_TRV			MTE_UP_TRV		
MTE_MP_TRV			MTEBK	001	000
MTE_QKD	012	000			
MTE_QKD_CT					
MTE_QKD_TM					
MTE_TRANSA					
MTE_UP	024	024			

HCPMWTBK— MONITOR WRITER CONTROL RECORD BLOCK

DSECT NAME: MWTBK

DESCRIPTIVE NAME: MONITOR WRITER CONTROL RECORD BLOCK

FUNCTION: THE MONITOR WRITER CONTROL RECORD IS THE RECORD THAT DESCRIBES THE MONITOR DATA STORED IMMEDIATELY AFTER THIS RECORD IN THE OUTPUT FILE CREATED BY THE MONITOR WRITER.

LOCATED BY:

NONE.

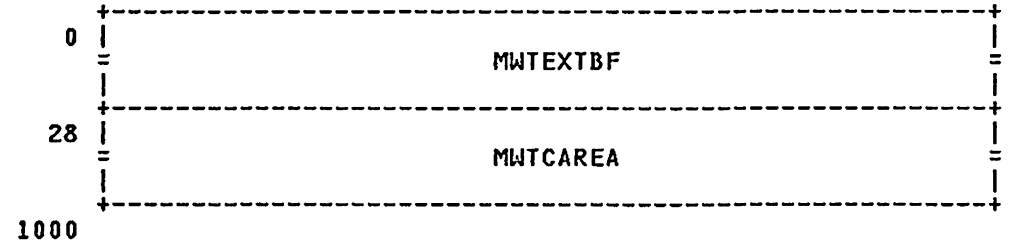
CREATED BY:

HCPMOWTR, MONITOR WRITER FUNCTION (MONWRITE)

DELETED BY:

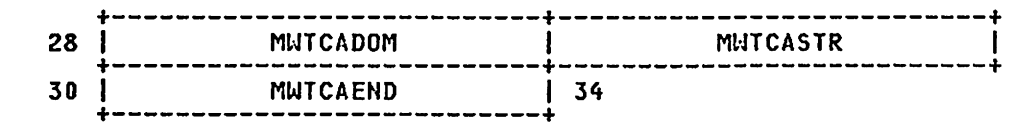
NONE.

MWTBK - MONITOR WRITER CONTROL RECORD BLOCK

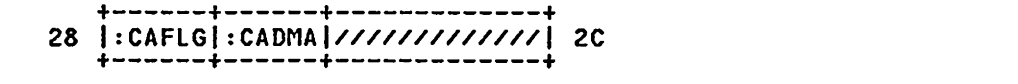


REDEFINITION -

REDEFINITION -



REDEFINITION -



disp	name	length	description
000	MWTEXTBF	040	MESSAGE PENDING EXTERNAL INTERRUPT BUFFER. THIS IS MAPPED BY THE IPARML CONTROL BLOCK.
028	MWTCAREA	056	CONTROL AREA FOR MONITOR DATA THAT FOLLOWS THIS RECORD.

REDEFINITION -

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028	MWTCAENT	004	CONTROL AREA ENTRY

REDEFINITION -

028	MWTCADOM	004	DOMAIN INFORMATION
02C	MWTCASTR	004	START ADDRESS FOR THE MONITOR RECORDS ASSOCIATED WITH THIS CONTROL AREA ENTRY.
030	MWTCAEND	004	END ADDRESS FOR THE MONITOR RECORDS ASSOCIATED WITH THIS CONTROL AREA ENTRY.

EQUATES

0C	MWTCALEN	LENGTH OF EACH CONTROL AREA ENTRY

REDEFINITION -

028	MWTCAFLG	001	TYPE OF MONITOR DATA

CODES DEFINED IN MWTCAFLG (AT HEX DISPLACEMENT: 28)

E2	MWTCASMP	SAMPLE DATA
C5	MWTCAEVT	EVENT DATA

029	MWTCADMA	001	DOMAINS WHOSE DATA IS GIVEN IN THIS CONTREL AREA ENTRY

BITS DEFINED IN MWTCADMA (AT HEX DISPLACEMENT: 29)

80	MWTSYSTM	SYSTEM DOMAIN
40	MWTMONTR	MONITOR DOMAIN
20	MWTSCHED	SCHEDULER DOMAIN
10	MWTSTORE	STORAGE DOMAIN
08	MWTUSER	USER DOMAIN
04	MWTPROC	PROCESSOR DOMAIN
02	MWTIO	I/O DOMAIN
01	MWTSEEKS	SEEKS DOMAIN

02A		2X	RESERVED FOR IBM USE

MORE EQUATES

00	MWTLENTH	THE MWTBK IS ALWAYS 4K LONG BUT MAY HAVE UNUSED AREAS DEPENDING ON THE NUMBER OF CONTROL AREA ENTRIES WITHIN A GIVEN RECORD.

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
MWTBK	001	000	MWTCALEN	001	00C	MWTMONTR	001	040
MWTCADMA	001	029	MWTCAREA	056	028	MWTPROC	001	004
MWTCADOM	004	028	MWTCASMP	001	0E2	MWTSCHED	001	020
MWTCAEND	004	030	MWTCASTR	004	02C	MWTSEEKS	001	001
MWTCAENT	004	028	MWTEXTBF	040	000	MWTSTORE	001	010
MWTCAEVT	001	0C5	MWTIO	001	002	MWTSYSTM	001	080
MWTCAFLG	001	028	MWTLENTH	001	000	MWTUSER	001	008

HCPNSABK— NSS/DCSS AUTHORIZATION BLOCK

DSECT NAME: NSABK

DESCRIPTIVE NAME: NSS/DCSS AUTHORIZATION BLOCK

FUNCTION: USED TO DETERMINE IF A USER IS AUTHORIZED TO ACCESS A PROTECTED NSS/DCSS AND TO OBTAIN THE PARMREGS SPECIFICATION FOR THE NSS

LOCATED BY:

GPR1 IN ENTRY POINT HCPCLSIP
GPR1 IN ENTRY POINT HCPNSLSY
GPR1 IN ENTRY POINT HCPUDRNS

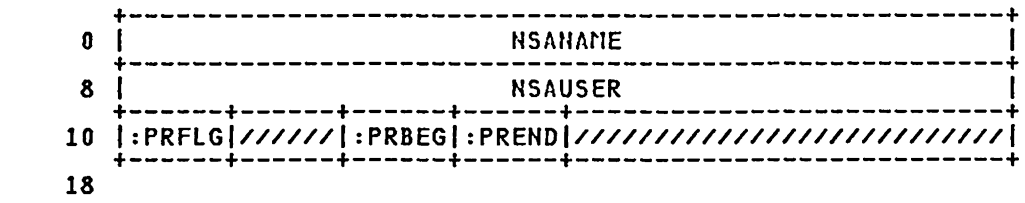
CREATED BY:

HCPCLSIP

DELETED BY:

HCPCLSIP

NSABK - NSS/DCSS AUTHORIZATION BLOCK



disp	name	length	description
000	NSANAME	008	NAMED SAVED SYSTEM TO BE IPL'ED
008	NSAUSER	008	NAMED SAVED SYSTEM USER
010	NSAPRFLG	001	PARMREGS INDICATOR FLAGS
011		X	RESERVED FOR IBM USE
012	NSAPREGS	002	NAMED SAVED SYSTEM PARMREGS
012	NSAPRBEG	001	BEGINNING OF PARMREGS RANGE
013	NSAPREND	001	END OF PARMREGS RANGE
014		F	RESERVED FOR IBM USE

EQUATES

03	NSASIZE	NSA BLOCK SIZE IN DW'S
18	NSALEN	NSA BLOCK SIZE IN BYTES

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
NSABK	001	000	NSAUSER	008	008
NSALEN	001	018			
NSANAME	008	000			
NSAPRBEG	001	012			
NSAPREGS	002	012			
NSAPREND	001	013			
NSAPRFLG	001	010			
NSASIZE	001	003			

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HCPNSUBK— AUXILLARY STORAGE MANAGEMENT UTILITY DATA

DSECT NAME: NSUBK

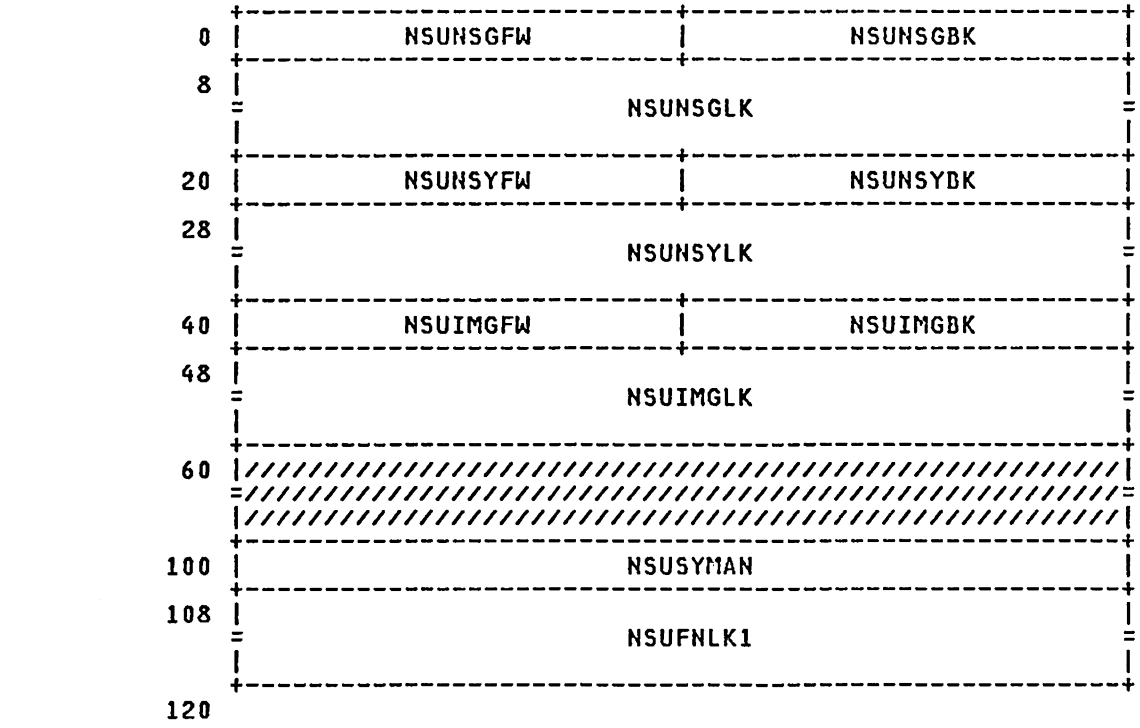
DESCRIPTIVE NAME: AUXILLARY STORAGE MANAGEMENT UTILITY DATA

FUNCTION: THIS BLOCK WILL MAP THE ASM DATA MODULE HCPNSUDA.

LOCATED BY:

THIS BLOCK IS LOCATED IN HCPNSUDA.

NSUDABK - SHARED STORAGE MANAGEMENT UTILITY DATA



disp	name	length	description
000	NSUNSGAN	008	ANCHORS TO QUEUE OF DCSS SNTBKS.
000	NSUNSGFW	004	FOWARD POINTER OF DCSS SNTBKS.
004	NSUNSGBK	004	BACKWARD POINTER OF DCSS SNTBKS.
008	NSUNSGLK	008	LOCKWORD FOR DCSS SNTBK QUEUE 000010 0000000000000000
020	NSUNSYAN	008	ANCHORS TO QUEUE OF NSS SNTBKS.
020	NSUNSYFW	004	FOWARD POINTER OF NSS SNTBKS.
024	NSUNSYBK	004	BACKWARD POINTER OF NSS SNTBKS.
028	NSUNSYLK	008	LOCKWORD FOR NSS SNTBK QUEUE LOCK.
040	NSUIMGAN	008	ANCHORS TO IMAGE HCPSNTBK QUEUE.
040	NSUIMGFW	004	FOWARD POINTER OF HCPSNTBK IMAGE QUEUE.
044	NSUIMGBK	004	BACKWARD POINTER OF HCPSNTBK IMAGE QUEUE.
048	NSUIMGLK	008	LOCKWORD FOR IMAGE SNTBK QUEUE 000050 0000000000000000
060		20D'0'	RESERVE FOR FUTURE IBM USE
100	NSUSYMAN	008	SYMBOLIC QUEUE LOCK ANCHOR FOR SYSTEM DATA FILES
108	NSUFNLK1	008	THIS LOCK SYNCRONIZES THOSE FUNC-TIONS THAT HAVE THE ABILITY TO AQUIRE TWO OR MORE SYMBOLIC LOCKS AT ANY GIVEN TIME. THIS LOCK IS MANAGED BY MODULE HCPLCK.

CROSS REFERENCE

Name	Len	Value/Disp
NSUDABK	001	000
NSUFNLK1	008	108
NSUIMGAN	008	040
NSUIMGBK	004	044
NSUIMGFW	004	040
NSUIMGLK	008	048
NSUNSGAN	008	000
NSUNSGBK	004	004
NSUNSGFW	004	000
NSUNSGLK	008	008
NSUNSYAN	008	020
NSUNSYBK	004	024
NSUNSYFW	004	020
NSUNSYLK	008	028
NSUSYMAN	008	100

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OBRREC— OUTBOARD RECORDING RECORD

DSECT NAME: OBRREC

DESCRIPTIVE NAME: OUTBOARD RECORDING RECORD

FUNCTION: OBRREC PROVIDES ERROR, SENSE, AND OTHER STATISTICAL DATA NEEDED FOR ERROR RECORDING ON A SPECIFIED CHANNEL-ATTACHED I/O DEVICE.

LOCATED BY:

N/A

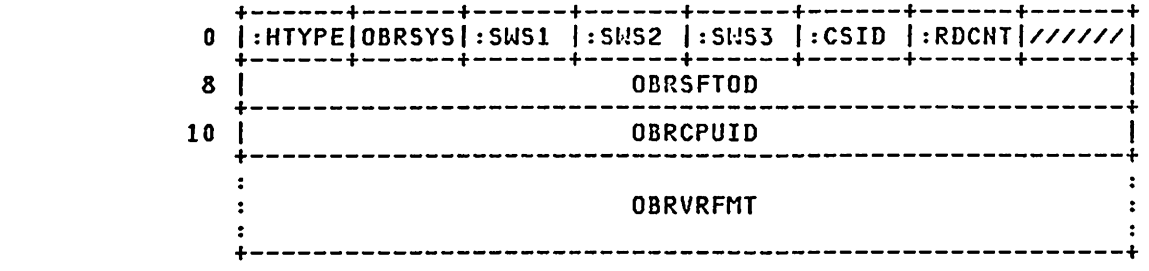
CREATED BY:

HCPIOE, HCPDUC, HCPPUC, OR A GUEST. COPIED TO FREE STORAGE BY HCPVER.

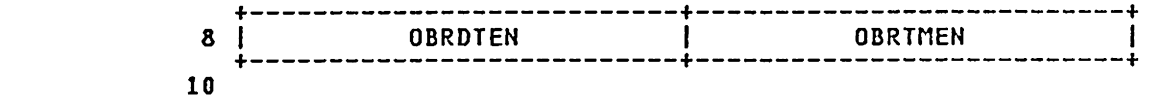
DELETED BY:

HCPIOE AFTER HCPREC HAS COPIED IT INTO A GSDBK.

OBRREC - OUTBOARD RECORDING RECORD

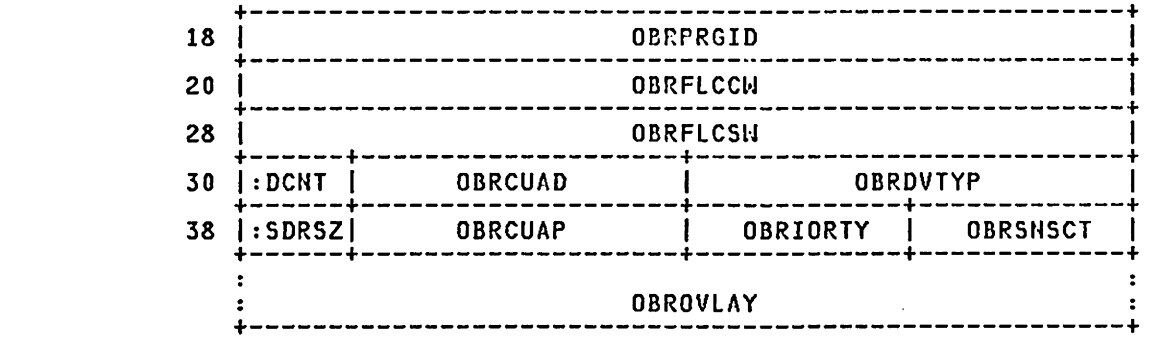


REDEFINITION - OBRSFTOD



REDEFINITION - OBRCPUID

REDEFINITION - LONG OBR RECORD FORMAT



REDEFINITION - OBRCUAP - 2 BYTE DEFINITION

```
      +------+-------------+
38 ...|//////|   OBRDVNO   | 3C
      +------+-------------+
```

REDEFINITION - OBRCUAD - 370/XA ONLY

```
      +------+-------------+
30 ...|:CHPID|   OBRDEVNO  | 34
      +------+-------------+
```

REDEFINITION - 3375/3380/3350/3340/3330/2305 DASD

```
   +-----------------------------------------+-------------+
40 |                 OBRVOLN                 |/////////////|
   +-----------------------------------------+-------------+
48 |                         OBRLSKN                       |
   +-------------------------+-----------------------------+
50 |          OBRHAN         |/////////////////////////////|
   +-------------------------+-----------------------------+
   :                         OBR33SNS                      :
   +-------------------------------------------------------+
```

REDEFINITION - OBRCUAP - PRIMARY UNIT ADDRESS

```
      +-------------+------+
38 ...|/////////////|:PRIUA| 3C
      +-------------+------+
```

REDEFINITION - LAST SEEK ADDRESS

```
   +------+-------------+-------------+-------------+------+
48 |:LSKM |   OBRLSKB   |   OBRLSKC   |   OBRLSKH   |:LSKR |
   +------+-------------+-------------+-------------+------+
50
```

REDEFINITION - HOME ADDRESS

```
   +-------------+-------------+
50 |   OBRHACYL  |   OBRHAHD   | 54
   +-------------+-------------+
```

REDEFINITION - SENSE DATA BYTES

```
   +-------------+------+------+------+------+------+------+
58 |/////////////|:33SB2|//////|:33SB4|:33SB5|:33SB6|:33SB7|
   +-------------+------+------+------+------+------+------+
60 |   OBR33SB8  | 62
   +-------------+
```

REDEFINITION - 34XX TAPE DEVICES

```
   +-----------------------------------------+-------------+
40 |                 OBRVOLN                 |/////////////|
   +-----------------------------------------+-------------+
48 |                         OBRDVDP                       |
```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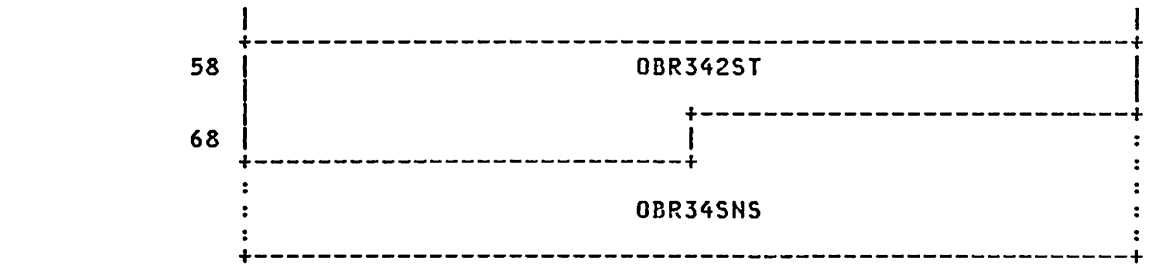
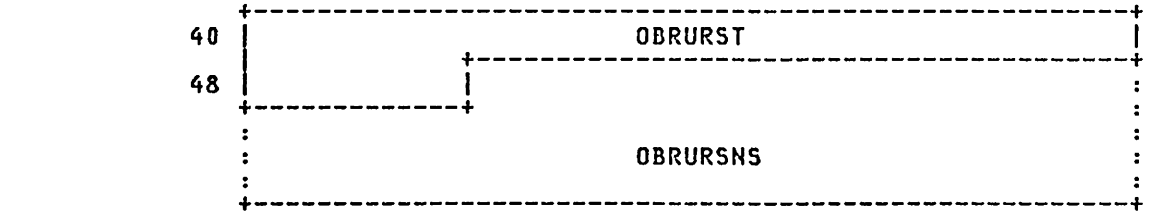
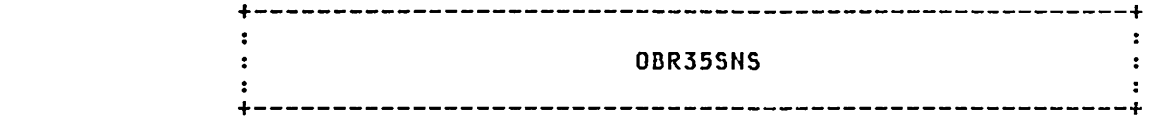


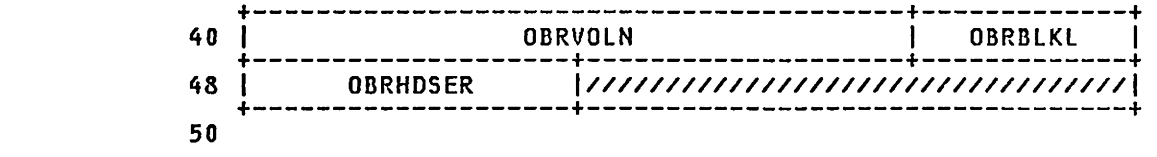
REDEFINITION - 25XX/14XX UNIT RECORD DEVICES



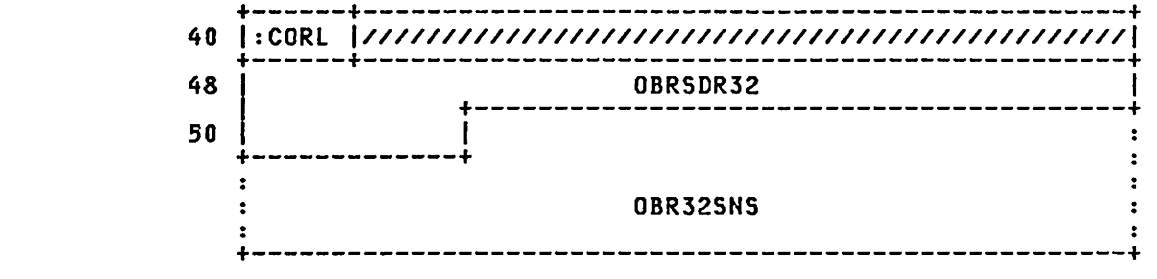
REDEFINITION - 3505/3525 UNIT RECORD DEVICES



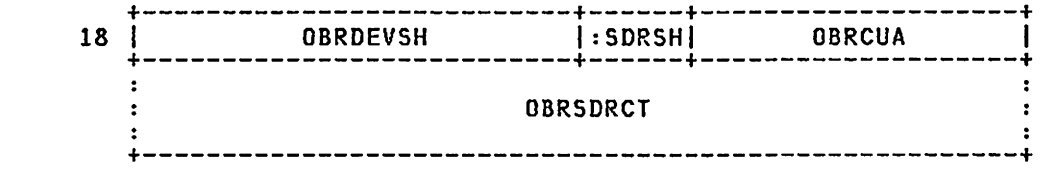
REDEFINITION - 3480 TAPE



REDEFINITION - 3211/3203 LINE PRINTERS



REDEFINITION - SHORT OBR RECORD FORMAT



REDEFINITION - OBRCUA - 2 BYTE DEFINITION

disp	name	length	description
000	OBRHTYPE	001	CLASS/SOURCE

CODES DEFINED IN OBRHTYPE (AT HEX DISPLACEMENT: 0)

3A	OBRTDPA	DYNAMIC PATHING AVAILABLE RECORD
36	OBRTVTAM	TP ACCESS METHOD (VTAM) RECORD
34	OBRTTPAM	TP ACCESS METHOD (TCAM(OS)/ BTAM(DOS)) RECORD
32	OBRTCVTR	CONVERTED OBR RECORD (NOT FOR VS)
30	OBRTOBRR	OBR (UNIT CHECK) RECORD

001	OBRSYS	001	SYSTEM/RELEASE LEVEL

BITS DEFINED FOR OBRSYS BY HDRREC HDRHSYS

002	OBRSWS1	001	SWITCH BYTE ONE

BITS DEFINED FOR OBRSWS1 BY HDRREC HDRHSW0

003	OBRSWS2	001	SWITCH BYTE TWO

BITS DEFINED IN OBRSWS2 (AT HEX DISPLACEMENT: 3)

80	OBREOD	SDR COUNTERS DUMPED AT END OF DAY
40	OBRTEMP	TEMPORARY ERROR
20	OBRSHOBR	SHORT OBR RECORD
10	OBRSWMP	MP SYSTEM
08	OBRCPUB	CPU B ISSUED LAST SIO (370 MP ONLY)
04	OBRDEMNT	VOLUME DEMOUNT
01	OBRSWPOL	SECUA CONTAINS POLLING CHARS. (NOT CUA). ONLY SET FOR TP RECORDS

004	OBRSWS3	001	SWITCH BYTE 3

BITS DEFINED IN OBRSWS3 (AT HEX DISPLACEMENT: 4)

80	OBRCHPVA	CHPID VALID

005	OBRCSID	001	CHANNEL SET ID FOR FAILING CHANNEL
006	OBRRDCNT	001	RECORD COUNT

BITS DEFINED FOR OBRRDCNT BY HDRREC HDRHCNT

007		XL1	RESERVED FOR FUTURE IBM USE
008	OBRSFTOD	008	TOD OF SYSTEM FAILURE
010	OBRCPUID	008	CPUID AND SERIAL NUMBER
018	OBRVRFMT	008	START OF VARIABLE LENGTH DATA

REDEFINITION - OBRSFTOD

```
008   OBRDTEN    004      DATE OF SYSTEM FAILURE
00C   OBRTMEN    004      TIME OF SYSTEM FAILURE

        REDEFINITION - OBRCPUID

010   OBRVERNO   001      MACHINE VERSION CODE
011   OBRCPSER   003      CPU SERIAL NUMBER
014   OBRCPMOD   002      CPU MACHINE MODEL NUMBER
016   OBRCPMEL   002      MAX LENGTH OF MACHINE-DEPENDENT
                          MACHINE CHECK EXTENDED LOGOUT AREA

        REDEFINITION - LONG OBR RECORD FORMAT

018   OBRPRGID   008      PROGRAM IDENTIFICATION/USERID
020   OBRFLCCW   008      FAILING CHANNEL COMMAND WORD
028   OBRFLCSW   008      CHANNEL STATUS WORD (370 ONLY)
030   OBRDCNT    001      DEV-DEP AREA SIZE IN DBL-WDS
031   OBRCUAD    003      FAILING DEVICE ADDRESS (370 ONLY)
034   OBRDVTYP   004      DEVICE TYPE CODE
038   OBRSDRSZ   001      SDR WORK AREA SIZE IN BYTES
039   OBRCUAP    003      DEVICE ADDRESS - PRIMARY PATH
03C   OBRIORTY   002      NUMBER OF RETRIES EXECUTED
03E   OBRSNSCT   002      COUNT OF SENSE BTYES PRESENT

                    EQUATES

        40    OBRLONG     LENGTH IN BYTES OF LONG OBR BASE
        08    OBRLSIZE    LONG OBRREC SIZE IN DBL WORDS

040   OBROVLAY   008      START OF VARIABLE LENGTH DATA
                          LENGTH OF LONG OBR RECORD:
                          OBRLONG*8 + OBRDCNT*8 + OBRSDRSZ + OBRSNSCT
                          IF 370/XA MODE, + OBRIRBSZ

        REDEFINITION - OBRCUAP - 2 BYTE DEFINITION

039               XL1      RESERVED FOR FUTURE IBM USE
03A   OBRDVNO     002      DEVICE ADDRESS - PRIMARY PATH

        REDEFINITION - OBRCUAD - 370/XA ONLY

031   OBRCHPID   001      CHANNEL PATH ID
032   OBRDEVNO   002      DEVICE ADDRESS

        REDEFINITION - 3375/3380/3350/3340/3330/2305 DASD

040   OBRVOLN    006      VOLUME SERIAL IDENTIFIER
046              XL2      RESERVED FOR FUTURE IBM USE
048   OBRLSKN    008      LAST SEEK ADDRESS
050   OBRHAN     004      HOME ADDRESS
054              XL4      RESERVED FOR FUTURE IBM USE
058              0D       ALIGNMENT

                    EQUATES

        03    OBR33DCT    DBL-WDS DEV. DEP. DATA
        00    OBR33SDR    NUMBER BYTES SDR WORK AREA

058   OBR33SNS   001      START OF VARIABLE LENGTH DATA

                    EQUATES

        20    OBR33SCT    MAXIMUM NUMBER BYTES SENSE DATA
        78    OBR33SZ3    370 MAX. SIZE
        10    OBRIRBSZ    NUMBER BYTES OF IRB DATA (370/XA)
                          THE FIRST OBRIRBSZ BYTES OF IRB DATA FOLLOWS THE
                          SENSE DATA AT OBR33SNS+VALUE-OF-OBRSNSCT (370/XA)
        88    OBR33SZX
                          MAX. SIZE 3375/3380/3330/3340/3350/2305 REC.


        REDEFINITION - OBRCUAP - PRIMARY UNIT ADDRESS
```

```
039              XL2       UNCHANGED PORTION OF OBRCUAP

                    EQUATES

        03    OBR44CTL     NUMBER OF BITS TO SHIFT RIGHT
                           THE BITS DEFINED BY SNSCNTLR FROM
                           OBR33SB4 FOR 3344 UNIT ADDRESS
                           MODIFICATION

03B   OBRPRIUA   001       BYTE THAT GETS MODIFIED

        BITS DEFINED IN OBRPRIUA (AT HEX DISPLACEMENT: 3B)

        F8    OBR30UAM     UNIT ADDRESS UNCHANGED BITS MASK
                           FOR 3330
        DF    OBR5030M     UNCHANGED BITS MASK FOR 3350 IN
                           3330-1 COMPATIBILITY MODE
        C0    OBR44NCM     UNCHANGED BITS MASK FOR 3344


         REDEFINITION - LAST SEEK ADDRESS

048   OBRLSKM    001       DEVICE MASK
049   OBRLSKB    002       BIN
04B   OBRLSKC    002       CYLINDER
04D   OBRLSKH    002       HEAD
04F   OBRLSKR    001       RECORD

         REDEFINITION - HOME ADDRESS

050   OBRHACYL   002       CYLINDER
052   OBRHAHD    002       HEAD

         REDEFINITION - SENSE DATA BYTES

058              2XL1      SENSE BYTES 0-1
05A   OBR33SB2   001       SENSE BYTE 2

        BITS DEFINED FOR OBR33SB2 BY HCPSNSEQ SNSB2DA

        03    OBRSB2ML
                           MINIMUM LENGTH OF SENSE DATA TO
                           INCLUDE SENSE BYTE 2 FOR HCPVER

05B              XL1       SENSE BYTE 3
05C   OBR33SB4   001       SENSE BYTE 4

        BITS DEFINED FOR OBR33SB4 BY HCPSNSEQ SNSB4DA

        05    OBRSB4ML
                           MINIMUM LENGTH OF SENSE DATA TO
                           INCLUDE SENSE BYTE 4 FOR HCPVER

05D   OBR33SB5   001       SENSE BYTE 5 - LOW-ORDER CYLINDER
                           ADDRESS
05E   OBR33SB6   001       SENSE BYTE 6

        BITS DEFINED FOR OBR33SB6 BY HCPSNSEQ SNSB6DA

        07    OBRSB6ML
                           MINIMUM LENGTH OF SENSE DATA TO
                           INCLUDE SENSE BYTE 6 FOR HCPVER

05F   OBR33SB7   001       SENSE BYTE 7

        BITS DEFINED FOR OBR33SB7 BY HCPSNSEQ SNSB7DA

060   OBR33SB8   002       SENSE BYTES 8 AND 9 - CYLINDER OF
                           LAST COUNT FIELD READ

                    EQUATES

        0A    OBRSB8ML
                           MINIMUM LENGTH OF SENSE DATA TO
```

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INCLUDE SENSE BYTE 8 FOR HCPVER

REDEFINITION - 34XX TAPE DEVICES

```
040              CL6       ORBVOLN - VOLUME SERIAL IDENTIFIER
046              XL2       RESERVED FOR FUTURE IBM USE
048   OBRDVDP    016       DEVICE DEPENDENT DATA
058              0D        ALIGNMENT
```

EQUATES

```
      03    OBR34DCT    DBL-WDS DEV. DEP. DATA

058   OBR342ST   020      SDR WORK AREA
```

EQUATES

```
      14    OBR34SDR    NUMBER BYTES SDR WORK ARDA

06C   OBR34SNS   001      START OF VARIABLE LENGTH DATA
```

EQUATES

```
      18    OBR34SCT    MAXIMUM NUMBER BYTES SENSE DATA
      84    OBR34SZ3    370 MAX. SIZE
                        THE FIRST OBRIRBSZ BYTES OF IRB DATA FOLLOWS THE
                        SENSE DATA AT OBR34SNS+VALUE-OF-OBRSNSCT (370/XA)
      94    OBR34SZX
                        MAX. SIZE 34XX TAPE RECORD
```

REDEFINITION - 25XX/14XX UNIT RECORD DEVICES

```
040   OBRURST    010      SDR WORK AREA
```

EQUATES

```
      0A    OBRURSDR    NUMBER BYTES SDR WORK AREA

04A   OBRURSNS   001      START OF VARIABLE LENGTH DATA
```

EQUATES

```
      01    OBRURSCT    MAXIMUM NUMBER BYTES SENSE DATA
      4B    OBRURSZ3    370 MAX. SIZE
                        THE FIRST OBRIRBSZ BYTES OF IRB DATA FOLLOWS THE
                        SENSE DATA AT OBRURSNS+VALUE-OF-OBRSNSCT (370/XA)
      5B    OBRURSZX
                        MAX. SIZE 25XX/14XX RECORD
```

REDEFINITION - 3505/3525 UNIT RECORD DEVICES

```
040   OBR35SNS   001      START OF VARIABLE LENGTH DATA
```

EQUATES

```
      01    OBR35SCT    MAXIMUM NUMBER BYTES SENSE DATA
      41    OBR35SZ3    370 MAX. SIZE
                        THE FIRST OBRIRBSZ BYTES OF IRB DATA FOLLOWS THE
                        SENSE DATA AT OBR35SNS+VALUE-OF-OBRSNSCT (370/XA)
      51    OBR35SZX
                        MAX. SIZE 3505/3525 RECORD
```

REDEFINITION - 3480 TAPE

```
040              CL6       VOLUME SERIAL IDENTIFICATION
046   OBRBLKL    002       BLOCK LENGTH
048   OBRHDSER   003       HEADER SERIAL
04B              XL5       RESERVED
050              0D        ALIGNMENT
```

```
                    EQUATES

        02     OBR19DCT    DBL-WDS DEV. DEP. DATA
        00     OBR19SDR    NUMBER OF BYTES IN SDR WORK AREA

050   OBR19SNS    001       FORMAT 19/20 SENSE BYTES

                    EQUATES

        20     OBR19SCT    MAXIMUM NUMBER BYTES SENSE DATA


         REDEFINITION - 3211/3203 LINE PRINTERS

040   OBRCORL     001       CORRELATION NUMBER
041               XL7       RESERVED FOR FUTURE IBM USE

                    EQUATES

        01     OBR32DCT    DBL-WDS DEV. DEP. DATA

048   OBRSDR32    010       SDR WORK AREA

                    EQUATES

        0A     OBR32SDR    NUMBER BYTES SDR WORK AREA

052   OBR32SNS    001       START OF VARIABLE LENGTH DATA

                    EQUATES

        18     OBR32SCT    MAXIMUM NUMBER BYTES SENSE DATA
        6A     OBR32SZ3    370 MAX. SIZE
                           THE FIRST OBRIRBSZ BYTES OF IRB DATA FOLLOWS THE
                           SENSE DATA AT OBR32SNS+VALUE-OF-OBRSNSCT (370/XA)
        7A     OBR32SZX
                           MAX. SIZE 3211/2303 RECORD


         REDEFINITION - SHORT OBR RECORD FORMAT

018   OBRDEVSH    004       DEVICE TYPE
01C   OBRSDRSH    001       NUMBER OF SDR WORK AREA BYTES
01D   OBRCUA      003       DEVICE ADDRESS

                    EQUATES

        20     OBRSHORT    LENGTH IN BYTES OF SHORT OBR BASE
        04     OBRSHSZ     SHORT REC. SIZE DBL-WDS

020   OBRSDRCT    001       START OF VARIABLE LENGTH DATA
                           SDR WORK AREA
                           LENGTH OF SHORT RECORD:
                           8*OBRSHORT + OBRSDRSH

         REDEFINITION - OBRCUA - 2 BYTE DEFINITION

01D               XL1       RESERVED FOR FUTURE IBM USE
01E   OBRDVNSH    002       DEVICE ADDRESS

                    MORE EQUATES

        00     OBRURDCT    DOUBLE-WORDS DEV. DEP. DATA
        00     OBR35DCT    DOUBLE-WORDS DEV. DEP. DATA
        00     OBR35SDR    NUMBER BYTES SDR WORK AREA
        94     OBRMAXSZ    LARGEST OBRREC DEFINED
                           ENSURE NONE OF THE RECORD TYPES ARE LARGER THAN MAX.
        F3     OBRa33SZ
        FF     OBRa34SZ
        C6     OBRaURSZ
        BC     OBRa35SZ
        E5     OBRa32SZ
```

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CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
OBRA0URSZ	001	FC6	OBRSHSZ	001	004	OBR44NCM	001	0C0
OBRA32SZ	001	FE5	OBRSHSCT	002	03E	OBR5030M	001	0DF
OBRA33SZ	001	FF3	OBRSHWP	001	010			
OBRA34SZ	001	FFF	OBRSHPOL	001	001			
OBRA35SZ	001	FBC	OBRSHS1	001	002			
OBRBLKL	002	046	OBRSHS2	001	003			
OBRCHPID	001	031	OBRSHS3	001	004			
OBRCHPVA	001	080	OBRSYS	001	001			
OBRCORL	001	040	OBRTCVTR	001	032			
OBRCPMEL	002	016	OBRTDPA	001	03A			
OBRCPMOD	002	014	OBRTEMP	001	040			
OBRCPSER	003	011	OBRTMEN	004	00C			
OBRCPUB	001	008	OBRTOBRR	001	030			
OBRCPUID	008	010	OBRTTPAM	001	034			
OBRCSID	001	005	OBRTVTAM	001	036			
OBRCUA	003	01D	OBRURDCT	001	000			
OBRCUAD	003	031	OBRURSCT	001	001			
OBRCUAP	003	039	OBRURSDR	001	00A			
OBRDCNT	001	030	OBRURSNS	001	04A			
OBRDEMNT	001	004	OBRURST	010	040			
OBRDEVNO	002	032	OBRURSZX	001	05B			
OBRDEVSH	004	018	OBRURSZ3	001	04B			
OBRDTEN	004	008	OBRVERNO	001	010			
OBRDVDP	016	048	OBRVOLN	006	040			
OBRDVNO	002	03A	OBRVRFMT	008	018			
OBRDVNSH	002	01E	OBR19DCT	001	002			
OBRDVTYP	004	034	OBR19SCT	001	020			
OBREOD	001	080	OBR19SDR	001	000			
OBRFLCCW	008	020	OBR19SNS	001	050			
OBRFLCSW	008	028	OBR30UAM	001	0F8			
OBRHACYL	002	050	OBR32DCT	001	001			
OBRHAHD	002	052	OBR32SCT	001	018			
OBRHAN	004	050	OBR32SDR	001	00A			
OBRHDSER	003	048	OBR32SNS	001	052			
OBRHTYPE	001	000	OBR32SZX	001	07A			
OBRIORTY	002	03C	OBR32SZ3	001	06A			
OBRIRBSZ	001	010	OBR33DCT	001	003			
OBRLONG	001	040	OBR33SB2	001	05A			
OBRLSIZE	001	008	OBR33SB4	001	05C			
OBRLSKB	002	049	OBR33SB5	001	05D			
OBRLSKC	002	04B	OBR33SB6	001	05E			
OBRLSKH	002	04D	OBR33SB7	001	05F			
OBRLSKM	001	048	OBR33SB8	002	060			
OBRLSKN	008	048	OBR33SCT	001	020			
OBRLSKR	001	04F	OBR33SDR	001	000			
OBRMAXSZ	001	094	OBR33SNS	001	058			
OBROVLAY	008	040	OBR33SZX	001	088			
OBRPRGID	008	018	OBR33SZ3	001	078			
OBRPRIUA	001	03B	OBR34DCT	001	003			
OBRRDCNT	001	006	OBR34SCT	001	018			
OBRREC	001	000	OBR34SDR	001	014			
OBRSB2ML	001	003	OBR34SNS	001	06C			
OBRSB4ML	001	005	OBR34SZX	001	094			
OBRSB6ML	001	007	OBR34SZ3	001	084			
OBRSB8ML	002	00A	OBR342ST	020	058			
OBRSDRCT	001	020	OBR35DCT	001	000			
OBRSDRSH	001	01C	OBR35SCT	001	001			
OBRSDRSZ	001	038	OBR35SDR	001	000			
OBRSDR32	010	048	OBR35SNS	001	040			
OBRSFTOD	008	008	OBR35SZX	001	051			
OBRSHOBR	001	020	OBR35SZ3	001	041			
OBRSHORT	001	020	OBR44CTL	001	003			

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HCPOPCTB— OPERATOR CONSOLE RDEV ADDRESS TABLE

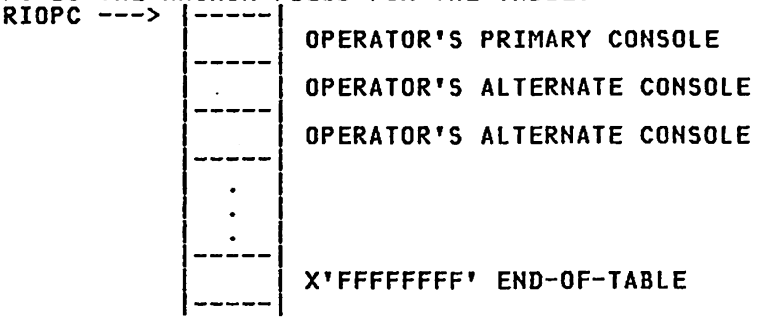
DSECT NAME: OPCTB

DESCRIPTIVE NAME: OPERATOR CONSOLE RDEV ADDRESS TABLE

FUNCTION: CONTAINS THE RDEV ADDRESS OF THE OPERATOR'S PRIMARY AND ALTERNATE CONSOLES.

LOCATED BY:

HCPRIOPC IS THE ANCHOR FIELD FOR THE TABLE.



CREATED BY:

JPCTB IS PART OF THE SYSTEM NUCLEUS AND IS CREATED BY SYSGEN PROCESS.

DELETED BY:

OPCTB IS PART OF THE SYSTEM NUCLEUS AND NEVER DELETED.

OPCTB - OPERATOR CONSOLE TABLE

disp	name	length	description
000	OPCRDEV	004	RDEV ADDRESS OF OPERATOR'S PRIMARY CONSOLE
		EQUATES	
	04 OPCLEN		LENGTH OF ONE ENTRY
004	OPCNEXT	004	RDEV ADDRESS OF OPERATOR'S ALTERNATE CONSOLE

CROSS REFERENCE

Name	Len	Value/Disp
OPCLEN	001	004
OPCNEXT	004	004
OPCRDEV	004	000
OPCTB	001	000

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HCPORBLK— OPERATION REQUEST BLOCK MAPPING

DSECT NAME: ORBLK

DESCRIPTIVE NAME: OPERATION REQUEST BLOCK MAPPING

FUNCTION: PROVIDE SYMOLIC REFERENCES FOR THE FIELDS OF THE OPERAND OF AN XA START SUBCHANNEL INSTRUCTION.

LOCATED BY:

N/A

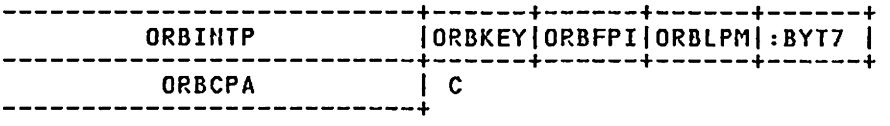
CREATED BY:

N/A

DELETED BY:

N/A

ORBLK - OPERATIONS REQUEST BLOCK



disp	name	length	description
000	ORBORB	012	OPERATION REQUEST BLOCK (ORB)
000	ORBINTP	004	INTERRUPT PARAMETER
004	ORBWORD1	004	ORB WORD-1
004	ORBKEY	001	KEY OF I/O TRANSFER
	BITS DEFINED FOR ORBKEY BY HCPEQUAT CSWSKEY		
005	ORBFPI	001	FORMAT , PREFETCH AND RESPONSE
	BITS DEFINED FOR ORBFPI BY HCPEQUAT CSWFPIZN		
006	ORBLPM	001	LOGICAL PATH MASK
007	ORBBYT7	001	ORB BYTE 7
008	ORBCCWA	004	ADDRESS OF FIRST CHANNEL COMMAND WORD
008	ORBCPA	004	CHANNEL PROGRAM ADDRESS

EQUATES

0C	ORBBLEN	SIZE IN BYTES
02	ORBSIZE	SIZE IN DOUBLE WORDS

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
ORBBLEN	001	00C	ORBINTP	004	000	ORBORB	012	000
ORBBYT7	001	007	ORBIOILF	001	080	ORBSIZE	001	002
ORBCCWA	004	008	ORBKEY	001	004	ORBWORD1	004	004
ORBCPA	004	008	ORBLK	001	000			
ORBFPI	001	005	ORBLPM	001	006			

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HCPPAGBK— PAGE I/O DSECT BLOCK

DSECT NAME: PAGBK

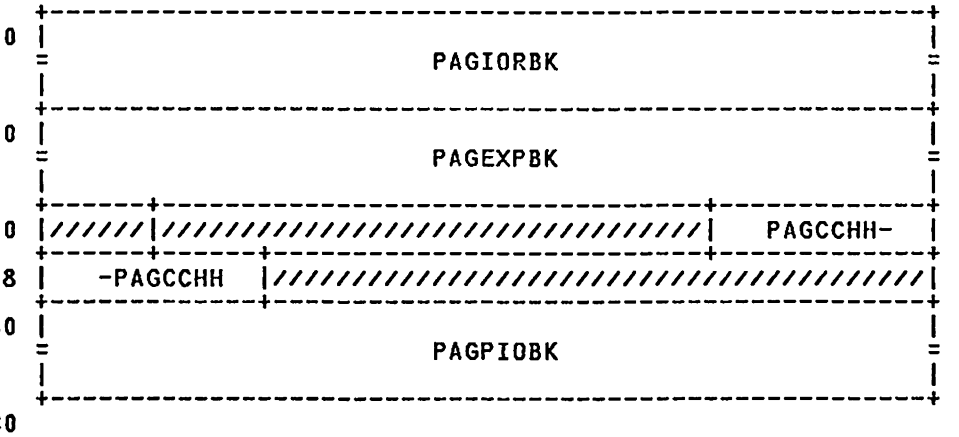
DESCRIPTIVE NAME: PAGE I/O DSECT BLOCK

FUNCTION: PAGBK MAPS A PAGE OF STORAGE THAT CONTAINS THE IORBK, EXPBK (FOR SINGLE EXPOSURES), PIOBKS, AND THE SET PAGING PARAMETER CCW AREA.

LOCATED BY:

EXPIORBK - FIELD IN THE EXPOSURE BLOCK THAT POINTS TO THE BEGINNING OF THE BLOCK.

PAGBK - PAGE I/O DSECT BLOCK



disp	name	length	description
000	PAGIORBK	256	THIS AREA RESERVED FOR THE IORBK.
100	PAGEXPBK	112	THIS AREA RESERVED FOR THE EXPBK.
170	PAGSPPAR	016	THIS AREA CONTAINS THE CACHE CCW DATA INFORMATION.
170	PAGDATA	010	THIS IS THE DATA AREA FOR THE SET PAGING PARAMETER CCW.
170		XL1	
171	PAGDATA1	009	DEFINED FOR THE CLEAR MOVE INSTRUCTION.
			.....
171		XL5	
176	PAGCCHH	004	THE CYLINDER/HEAD INFO.
17A		XL6	RESERVED FOR IBM USE
180	PAGPIOBK	064	THE BEGINNING OF THE FIRST PIOBK.

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
PAGBK	001	000	PAG2305	001	018
PAGCCHH	004	176	PAG3330	001	039
PAGDATA	010	170	PAG3340	001	018
PAGDATA1	009	171	PAG3350	001	078
PAGEXPBK	112	100	PAG3375	001	060
PAGIORBK	256	000	PAG3380	001	096
PAGPIOBK	064	180			
PAGSPPAR	016	170			

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HCPPAGTE— PAGE TABLE ENTRY

DSECT NAME: PAGTE

DESCRIPTIVE NAME: PAGE TABLE ENTRY

FUNCTION: A PAGE TABLE ENTRY IS A HARDWARE ARCHITECTURE FULLWORD THAT DESCRIBES ONE 4K BLOCK OF VIRTUAL STORAGE.

LOCATED BY:

PGMPAGTB IN A PGMBK + (PAGE OFFSET
FRMPTE FIELD OF HCPFRMTE.
A PAGE TABLE RESIDES IN A PAGE MANAGEMENT BLOCK
ASSOCIATED WITH A MEGABYTE OF VIRTUAL STORAGE
AND IS POINTED TO BY PGMPAGTB.
THERE ARE 256 CONTIGUOUS PAGE TABLE ENTRIES
IN A PAGE TABLE.
A PAGE TABLE ENTRY MAY BE POINTED TO BY THE
FRMPTE FIELD OF A FRAME TABLE ENTRY IF A
FRAME IS ASSOCIATED WITH THE PAGE.
ANY SPECIFIC PAGE TABLE ENTRY CAN BE OBTAINED BY
EXTRACTING THE PAGE NUMBER (BITS 12-19) FROM THE
VIRTUAL ADDRESS AND, USING THAT PAGE NUMBER
TIMES 4, ADDING THE OFFSET OBTAINED TO PGMPAGTB.

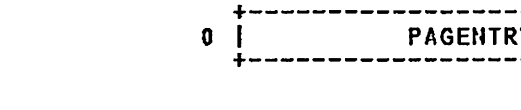
CREATED BY:

HCPBPBCU
HCPBPBIE
HCPBPBIM
HCPBPBSL
A PAGE TABLE IS IMBEDDED IN A PAGE MANAGEMENT
BLOCK AND CONSEQUENTLY SPACE FOR THE PAGTE IS
CREATED WHEN THE PGMBK IS CREATED.
AT INITIALIZATION TIME INFORMATION FOR
CP PAGABLE INITIALIZATION MODULES IS PUT IN
PAGTE'S BY HCPISTOR.
AFTER INITIALIZATION THE INFORMATION WITHIN
BLK HCPBLK (CP) VM/XA - SYSTEM PRODUCT 5664-308

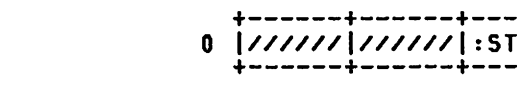
DELETED BY:

HCPRCIRL
HCPRPBPA
HCPRPBPS
HCPRPBRM
HCPRPBSL
A PAGE TABLE IS DELETED WHEN A PAGE MANAGEMENT
BLOCK IS RELEASED.

PAGTE - PAGE TABLE ENTRY



REDEFINITION - PAGE STATUS WITHIN PAGE ENTRY



disp	name	length	description
000	PAGENTRY	004	HARDWARE PAGE TABLE ENTRY

EQUATES

```
        04    PAGLENTH    LENGTH OF ONE PAGE TABLE ENTRY

004   PAGNEXT    004      NEXT PAGE TABLE ENTRY

                  EQUATES

        00    PAGMASK     MASK TO EXTRACT REAL PAGE ADDRESS


         REDEFINITION - PAGE STATUS WITHIN PAGE ENTRY

000               X       BITS 1-19 ARE ARCHITECTED AS THE
001               X       4K ALIGNED PAGE FRAME ADDRESS.
002   PAGSTAT     001     BITS 0, 20, AND 23 MUST BE ZERO,
                          BITS 21 AND 22 ARE DEFINED BELOW.

        BITS DEFINED IN PAGSTAT  (AT HEX DISPLACEMENT: 2)

        04    PAGINVAL    PAGE TABLE ENTRY IS INVALID
        02    PAGPROT     PAGE PROTECTED (READ ONLY)

003               X       THIS BYTE IS NOT ARCHITECTED AND
                          IS AVAILABLE FOR SOFTWARE USE.
                          IT IS RECOMMENDED THAT SOFTWARE
                          REFRAIN FROM USING THIS BYTE
                          UNLESS IT IS TO STORE THE GUEST
                          STORAGE KEY.
```

CROSS REFERENCE

Name	Len	Value/Disp
PAGENTRY	004	000
PAGINVAL	001	004
PAGLENTH	001	004
PAGMASK	001	000
PAGNEXT	004	004
PAGPROT	001	002
PAGSTAT	001	002
PAGTE	001	000
PAG2305	001	018
PAG3330	001	039
PAG3340	001	018
PAG3350	001	078
PAG3375	001	060
PAG3380	001	096

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HCPPALBK— PAGE ALLOCATION BLOCK

DSECT NAME: PALBK

DESCRIPTIVE NAME: PAGE ALLOCATION BLOCK

FUNCTION: A PALBK DESCRIBES THE ALLOCATION STATUS FOR ONE CYLINDER OF AUXILIARY STORAGE.

LOCATED BY:

PALPNT	FIELD OF HCPPALBK - FORWARD CHAIN PTR
ALORECP	FIELD OF HCPALOC - PAGE PALBK CHAIN
ALORECS	FIELD OF HCPALOC - SPOOL PALBK CHAIN
SALPALBK	FAST ALLOCATION PATH SALBK FORWARD PTR
SALBKPAL	FAST ALLOCATION PATH PALBK BACK PTR

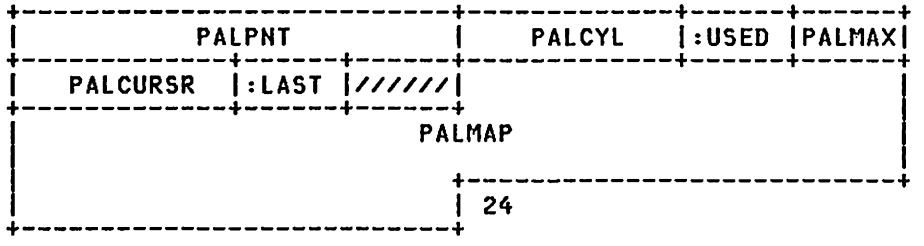
CREATED BY:

HCPPGTDG	SLOT ALLOCATED FROM A NEW CYLINDER
HCPPGTDR	SLOT DEALLOCATED ON EMPTY CYLINDER
HCPPGTRS	EMPTY CYLINDER SELECTED FOR ALLOCATION PATH

DELETED BY:

HCPPGTDR	CYLINDER IS EMPTY AFTER DEALLOCATION
HCPPGTDG	CYLINDER IS FULL AFTER ALLOCATION
HCPRDADT	WHEN DETACHING A DEVICE WHICH HAS PALBK'S FOR EMPTY CYLINDERS

PALBK - PAGE ALLOCATION BLOCK



disp	name	length	description
000	PALPNT	004	POINTER TO NEXT PALBLOK ON CHAIN
004	PALCYL	002	CYLINDER ADDR FOR PAGES IN THIS BLOCK
006	PALUSED	001	NUMBER OF PAGES CURRENTLY IN USE
007	PALMAX	001	MAXIMUM NUMBER OF PAGES AVAILABLE
008	PALCURSR	002	MOVING CURSOR POINTER TO NXT PG
00A	PALLAST	001	LAST RECORD ON CYLINDER
00B		X	RESERVED FOR IBM USE.
00C	PALMAP	024	PAGE ALLOCATION BIT MAP

EQUATES

18	PALMSIZE	PAGE ALLOCATION BIT MAP SIZE
05	PALSIZE	PALBK SIZE IN DOUBLE WORDS

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CROSS REFERENCE

Name	Len	Value/Disp
PALBK	001	000
PALCURSR	002	008
PALCYL	002	004
PALLAST	001	00A
PALMAP	024	00C
PALMAX	001	007
PALMSIZE	001	018
PALPNT	004	000
PALSIZE	001	005
PALUSED	001	006

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HCPPCCBK— PROCESSOR CONTROLLER SERVICE CALL DATA BLOCK

DSECT NAME: PCCBK

DESCRIPTIVE NAME: PROCESSOR CONTROLLER SERVICE CALL DATA BLOCK

FUNCTION: MAPS THE GUEST SUPPLIED SERVICE CALL CONTROL BLOCK (SCCB) FOR A REQUESTED PROCESSOR CONTROLLER FUNCTION. USED TO SIMULATE A SERVICE CALL INSTRUCTION FOR A GUEST AND FOR CP REQUESTS TO THE PROCESSOR CONTROLLER.

LOCATED BY:

R2	REGISTER OF A GUEST SERVICE CALL INSTRUCTION
GPR5	IN MODULE HCPPCV
PCRRDBKA	ADDRESS POINTER TO THE PROCESSOR CONTROLLER DATA BLOCK TO BE USED IN PROCESSING THE ASSOCIATED REAL REQUEST.
PCSACTIV	ADDRESS POINTER TO THE PROCESSOR CONTROLLER DATA BLOCK FOR THE CURRENT ACTIVE REQUEST.

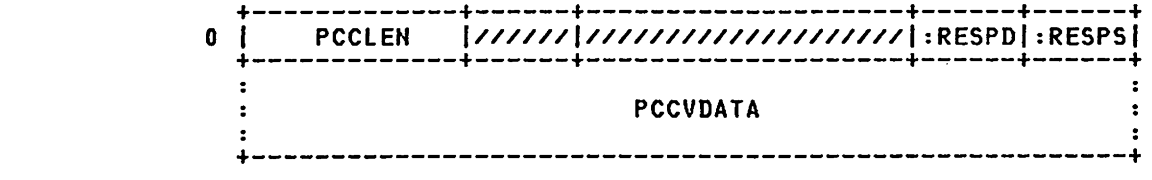
CREATED BY:

HCPPCV	WHEN BUILDING REAL PROCESSOR CONTROLLER REQUEST. NECESSARY FOR VIRTUAL REQUEST PROCESSING.
HCPRFG	WHEN BUILDING REAL PROCESSOR CONTROLLER REQUEST.
HCPSCP	WHEN BUILDING REAL PROCESSOR CONTROLLER REQUEST.
GUEST	WHEN ACTIVATING A VIRTUAL SERVICE CALL INSTRUCTION

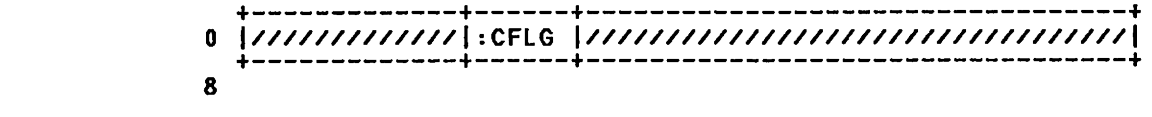
DELETED BY:

HCPPCV	WHEN REAL PROCESSOR CONTROLLER REQUEST COMPLETE.
HCPRFG	WHEN REAL PROCESSOR CONTROLLER REQUEST COMPLETE.
HCPSCP	WHEN REAL PROCESSOR CONTROLLER REQUEST COMPLETE.
GUEST	

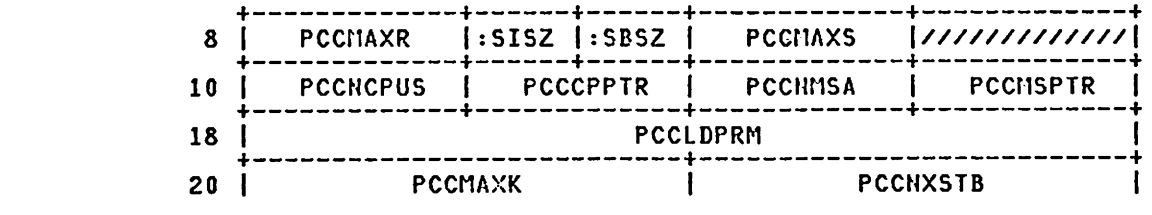
PCCBK - PROCESSOR CONTROLLER SERVICE CALL DATA BLOCK

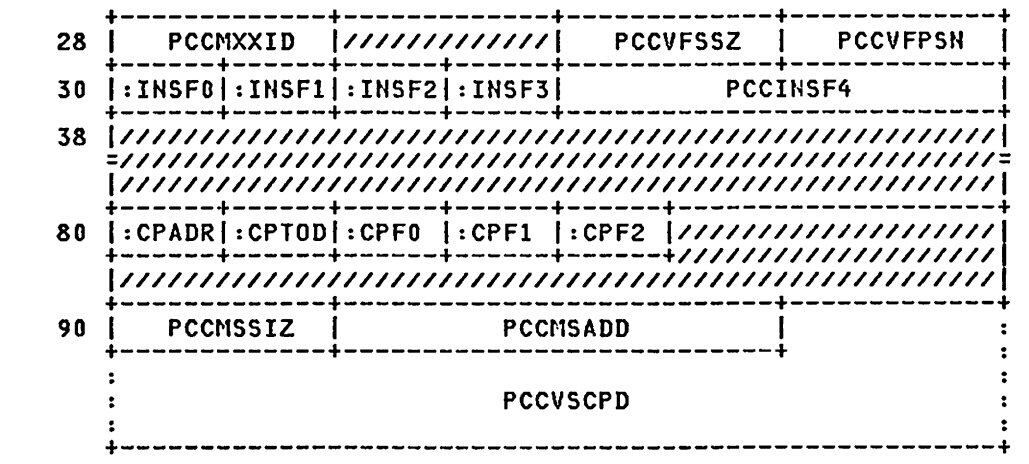


REDEFINITION -

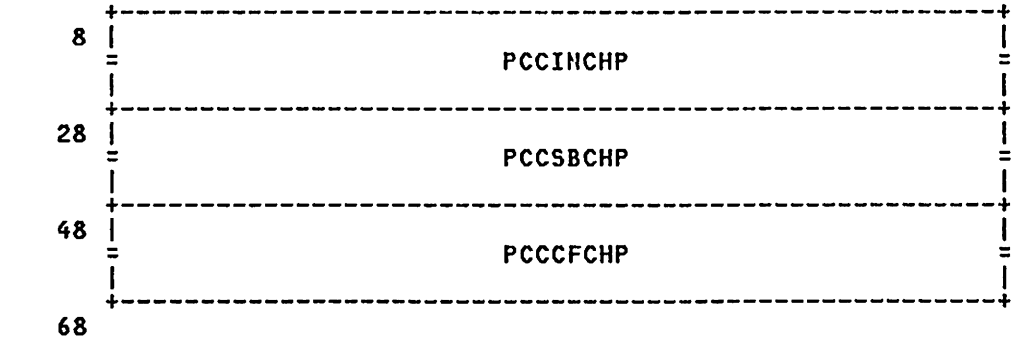


REDEFINITION - READ SCP INFO DATA FORMAT

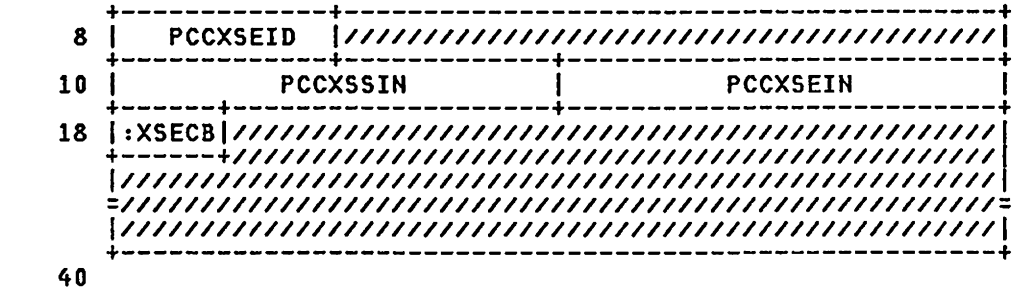




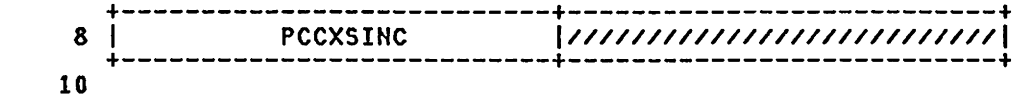
REDEFINITION - 370-XA READ CHANNEL PATH INFO



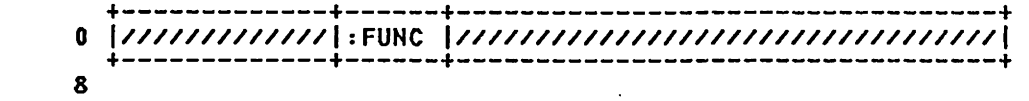
REDEFINITION - READ EXTENDED-STORAGE-ELEMENT



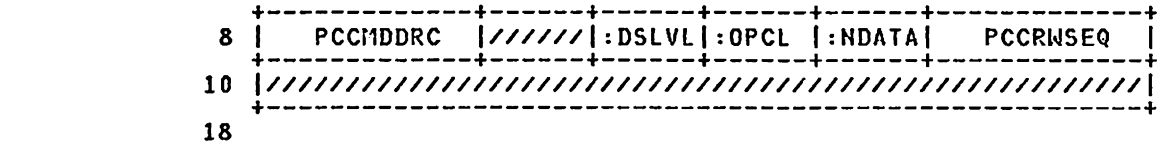
REDEFINITION - READ EXTENDED STORAGE USABILITY



REDEFINITION -



REDEFINITION - READ/WRITE DATA DATA FORMAT



disp	name	length	description
000	PCCHEAD	008	SERVICE CALL CONTROL BLOCK HEADER FOR ALL REQUESTS
000	PCCLEN	002	NO. OF BYTES IN THE SERVICE CALL CONTROL BLOCK
002		X	COMMAND DEPENDENT FIELD
003		XL3	RESERVED FOR FUTURE HARDWARE USE
006	PCCRESP	002	RESPONSE CODE
	CODES DEFINED IN PCCRESP (AT HEX DISPLACEMENT: 6)		
	10 PCCREADN		NORMAL READ COMPLETION
	10 PCCRESVD		NORMAL READ COMPLETION, RESOURCE IS IN RESERVED MODE
	10 PCCSTDBY		NORMAL READ COMPLETION, RESOURCE IS IN STANDBY MODE
	F0 PCCIVRID		INVALID RESOURCE ID IN SCCB
006	PCCRESPD	001	RESPONSE DEPENDENT CODES
	CODES DEFINED IN PCCRESPD (AT HEX DISPLACEMENT: 6)		
	00 PCCNORML		X'0020' NORMAL COMPLETION AND X'0010' NORMAL READ COMPLETION
	00 PCCMALF		X'0040' SCLP EQUIPMENT CHECK
	00 PCCCONFG		X'0010' RESOURCE IS CONFIGURED
	01 PCCNO4KB		X'0100' ADDRESS CROSSES A 4K BOUNDARY
	01 PCCNOACT		X'0120' NO ACTION REQUIRED
	10 PCCPOWOF		X'10F0' POWER-OFF STATUS
	01 PCCINVCI		X'01F0' INVALID SCLP COMMAND
	02 PCCCFLAG		X'02F0' INVALID SCCB PARAMETER
	03 PCCBADLN		X'0300' LENGTH WRONG FOR DATA
	03 PCCINVCP		X'03F0' INVALID RESOURCE ID IN ...COMMAND PARM
	03 PCCRSRVD		X'0310' RESOURCE IS IN RESERVED STATE.
	04 PCCSTNBY		X'0410' RESOURCE IS IN STANDBY STATE.
	05 PCCXNOCN		X'05F0' TARGET RESOURCE IN ..IMPROPER STATE
	09 PCCXINVN		X'09F0' INVALID RESOURCE ID IN ..SCCB
	40 PCCREJRC		X'40F0' INVALID FUNCTION CODE
	0A PCCRQRES		X'0AF0' REQUIRED RESOURCE
007	PCCRESPS	001	SPECIFIC RESPONSE CODES
	CODES DEFINED IN PCCRESPS (AT HEX DISPLACEMENT: 7)		
	00 PCCDBERR		SERVICE CALL CONTROL BLOCK ERROR
	10 PCCINFO		NORMAL READ COMPLETION
	20 PCCCMPLT		NORMAL COMPLETION
	30 PCCBUSY		FUNCTION BUSY
	40 PCCEQPCK		EQUIPMENT CHECK
	F0 PCCRJCT		REJECT
008	PCCVDATA	001	START OF VARIABLE LENGTH DATA

```
        REDEFINITION -

000                 XL2         DEFINED IN HEADER
002     PCCCFLG     001         SCCB PARAMETER
003                 XL5         DEFINED IN HEADER

        REDEFINITION - READ SCP INFO DATA FORMAT

008     PCCMAXR     002         ONE GREATER THAN THE MAXIMUM
                                STORAGE INCREMENT INDEX VALUE
                                (MUST BE A POWER OF 2)
00A     PCCSISZ     001         STORAGE INCREMENT SIZE (IN UNITS
                                OF 1M, MUST BE A POWER OF 2)
00B     PCCSBSZ     001         STORAGE BLOCK SIZE (IN UNITS OF
                                1K, MUST BE A POWER OF 2)
00C     PCCMAXS     002         ONE GREATER THAN THE MAXIMUM
                                STORAGE SUBDIVISION INDEX VALUE
                                (MUST BE A POWER OF 2)
00E                 XL2         RESERVED FOR FUTURE IBM USE
010     PCCNCPUS    002         NUMBER OF INSTALLED CPUS
012     PCCCPPTR    002         OFFSET IN PCCBK TO FIRST CPU
                                DESCRIPTION ENTRY
014     PCCNMSA     002         NUMBER OF MACHINE STORAGE AREAS
016     PCCMSPTR    002         OFFSET IN PCCBK TO FIRST MACHINE-
                                STORAGE-AREA DESCRIPTION ENTRY
018     PCCLDPRM    008         LOAD PARAMETER
020     PCCMAXK     004         MAXIMUM EXTENDED STORE INCREMENT
                                ..NUMBER.
024     PCCNXSTB    004         NUMBER OF EXTENDED STORAGE BLOCKS
                                ..IN EACH EXTENDED STORAGE
                                ..INCREMENT
028     PCCMXXID    002         MAX EXTENDED-STORAGE-ELEMENT ID
02A                 XL2         RESERVED FOR FUTURE IBM USE
02C     PCCVFPRM    004         VECTOR FACILITY PARAMETERS
02C     PCCVFSSZ    002         VECTOR FACILITY SECTION SIZE
02E     PCCVFPSN    002         VECTOR FACILITY PARTIAL SUM
                                NUMBER
030     PCCINSFC    008         INSTALLED FACILITIES BIT MAP
030     PCCINSF0    001         INSTALLED FACILITY BYTE 0

                        EQUATES

          80    PCCRCHPI        READ CHANNEL PATH INFO INSTALLED

031     PCCINSF1    001         INSTALLED FACILITY BYTE 1

                        EQUATES

          04    PCCLPRMI        LOAD PARAMETER FACILITY INSTALLED
          02    PCCRWDI         READ/WRITE DATA INSTALLED

032     PCCINSF2    001         INSTALLED FACILITY BYTE 2

                        EQUATES

          08    PCCXUMI         READ EXTENDED STORE USABILITY
                                MAP INSTALLED
          04    PCCXEINF        EXTENDED-STORAGE-ELEMENT
                                INFORMATION INSTALLED

033     PCCINSF3    001         INSTALLED FACILITY BYTE 3

                        EQUATES

          80    PCCVFRFG        VECTOR FACILITY RECONFIGURATION
                                INSTALLED

034     PCCINSF4    004         INSTALLED FACILITY BYTES 4 TO 7
038                 XL72        RESERVED FOR FUTURE IBM USE

                        EQUATES

          10    PCCVSCPS        :PCCBK SIZE IN DOUBLE WORDS
                                NOTE: SIZE FOR READ SCP INFO
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                                REQUESTS VARIES WITH THE NUMBER
                                OF CPUS AND MACHINE-STORAGE-AREAS
        80      PCCVSCPL        PCCBK LENGTH FOR READ SCP INFO
                                REQUESTS VARIES WITH THE NUMBER OF
                                CPUS AND MACHINE-STORAGE-AREAS

080     PCCCPADR    001         LOW EIGHT BITS OF CPU ADDRESS.
                                HIGH ORDER BITS OF THE CPU
                                ADDRESS ARE ZERO
081     PCCCPTOD    001         TOD CLOCK NUMBER WHICH IS USED BY
                                THIS CPU
082     PCCCPFAC    014         CPU FACILITY BIT MAP
082     PCCCPF0     001         CPU FACILITY BIT MAP BYTE 0

        BITS DEFINED IN PCCCPF0  (AT HEX DISPLACEMENT: 82)

        80      PCCSI370        SIE SYSTEM/370 MODE INSTALLED
        40      PCCSIXA         SIE 370-XA MODE INSTALLED
        20      PCCIOP37        SIE SET II 370 MODE INSTALLED
        10      PCCIOPXA        SIE SET II 370-XA MODE INSTALLED
        08      PCCSIF2         SIE NEW INTERCEPTION FORMAT
        04      PCCSKA          STORAGE KEY ASSIST INSTALLED
                                INSTALLED

083     PCCCPF1     001         RESERVED FOR FUTURE IBM USE
084     PCCCPF2     001         CPU FACILITY BIT MAP BYTE 2

        BITS DEFINED IN PCCCPF2  (AT HEX DISPLACEMENT: 84)

        80      PCCVFINS        VECTOR FACILITY INSTALLED
        40      PCCVFCON        VECTOR FACILITY CONNECTED
        20      PCCVFSBY        VECTOR FACILITY IN STANDBY

085             11X             NOT-YET-USED FACILITY BYTES

                    EQUATES

        10      PCCCPULN        LENGTH OF EACH CPU ENTRY

090     PCCMSSIZ    002         SIZE OF THE MACHINE-STORAGE-AREA
                                IN UNITS OF 4K BYTES
092     PCCMSADD    004         ABSOLUTE ADDRESS OF THE START OF
                                ..THE MACHINE-STORAGE-AREA
096     PCCVSCPD    001         START OF VARIABLE LENGTH DATA
                                FOR THE CPU AND MACHINE-STORAGE-
                                AREA LIST ENTRIES

        REDEFINITION - 370-XA READ CHANNEL PATH INFO

008     PCCINCHP    032         CHANNEL PATH ID VALID BIT MAP
028     PCCSBCHP    032         STAND-BY CHANNEL BIT MAP
048     PCCCFCHP    032         CONFIGURED CHANNEL-PATH BIT MAP

                    EQUATES

        68      PCCCPILN        LENGTH FOR READ CHANNEL PATH INFO


        REDEFINITION - READ EXTENDED-STORAGE-ELEMENT

008     PCCXSEID    002         EXTENED-STORAGE-ELEMENT ID
00A             XL6             RESERVED
010     PCCXSSIN    004         STARTING EXTENDED-STORAGE-INCREMENT
                                NUMBER
014     PCCXSEIN    004         ENDING EXTENDED-STORAGE-INCREMENT
                                NUMBER
018     PCCXSECB    001         EXTENDED-STORAGE-ELEMENT
                                CHARACTERISTICS BYTE

                    EQUATES

        80      PCCXSRE         REQUIRED EXTENDED-STORAGE-ELEMENT

019             XL39            RESERVED
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                    EQUATES

        40     PCCXSELN     LENGTH OF READ EXTENDED STORAGE ELEMENT
                            INFORMATION MAP


          REDEFINITION - READ EXTENDED STORAGE USABILITY

008    PCCXSINC    004      EXTENDED STORAGE INCREMENT NUMBER
00C                XL4      RESERVED FOR FUTURE IBM USE
010    PCCXSTUM    001      START OF VARIABLE LENGTH
                            ..USABILITY MAP.

          REDEFINITION -

000                XL2      DEFINED IN HEADER
002    PCCFUNC     001      FUNCTION CODE

                    EQUATES

        01     PCCIOCDS     READ/WRITE DATA FUNCTION CODE

003                XL5      DEFINED IN HEADER

          REDEFINITION - READ/WRITE DATA DATA FORMAT

008    PCCMDDRC    002      MODEL DEPENDENT RETURN CODE
00A                X        RESERVED FOR FUTURE IBM USE
00B    PCCDSLVL    001      IOCDS LEVEL
00C    PCCOPCL     001      MODEL DEPENDENT RETURN CODE

                    EQUATES

        80     PCCOPNRW     READ/WRITE DATA WITH OPEN
        40     PCCCLSRW     READ/WRITE CLOSE

00D    PCCNDATA    001      NUMBER OF RECORDS TO BE PROCESSED
00E    PCCRWSEQ    002      BEGINNING RECORD FOR READ/WRITE
                            SEQUENCE
010                XL8      RESERVED FOR FUTURE USE
018    PCCRWDAT    001      UNFORMATTED DATA

                    MORE EQUATES

        02     PCCSCPCM     READ SCP INFO
        03     PCCCPICM     STORE CHANNEL PATH INFO
        10     PCCDCPCM     DECONFIGURE CPU
        11     PCCVCPCM     CONFIGURE CPU
        1A     PCCDVFCM     DISCONNECT VECTOR FACILITY
        1B     PCCCVFCM     CONNECT VECTOR FACILITY
        24     PCCXEICM     READ EXTENDED STORE ELEMENT INFO
        25     PCCXUMCM     READ EXTENDED STORE USABILITY MAP
        40     PCCWRDCM     WRITE MODEL DEPENDENT DATA
        41     PCCRDDCM     READ MODEL DEPENDENT DATA
                            END OF DEFINITION

                            COMMAND PARAMETERS

                            PCCPCODE CODE DEFINITIONS
        00     PCCSCPPM     READ SCP INFO
        00     PCCCPIPM     STORE CHANNEL PATH INFO
                            END OF DEFINITION

                            COMMAND-CLASS CODES

                            PCCCLASS CODE DEFINITIONS
        01     PCCCNFIG     CONFIGURATION COMMAND CLASS
        02     PCCIOCP      IOCP COMMAND CLASS
                            END OF DEFINITION

        08     PCCHDLEN     :PCCBK HEADER LENGTH IN BYTES
        01     PCCHDSIZ     :PCCBK HEADER SIZE IN DOUBLE
                            WORDS
```

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CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
PCCBADLN	001	003	PCCNDATA	001	00D	PCCXUMCM	001	025
PCCBK	001	000	PCCNMSA	002	014	PCCXUMI	001	008
PCCBUSY	001	030	PCCNOACT	001	001			
PCCCFCHP	032	048	PCCNORML	001	000			
PCCCFLAG	001	002	PCCNO4KB	001	001			
PCCCFLG	001	002	PCCNXSTB	004	024			
PCCCLSRW	001	040	PCCOPCL	001	00C			
PCCCMPLT	001	020	PCCOPNRW	001	080			
PCCCNFIG	001	001	PCCPOWOF	001	010			
PCCCONFG	001	000	PCCRCHPI	001	080			
PCCCPADR	001	080	PCCRDDCM	001	041			
PCCCPFAC	014	082	PCCREADN	001	010			
PCCCPF0	001	082	PCCREJRC	001	040			
PCCCPF1	001	083	PCCRESP	002	006			
PCCCPF2	001	084	PCCRESPD	001	006			
PCCCPICM	001	003	PCCRESPS	001	007			
PCCCPILN	001	068	PCCRESVD	001	310			
PCCCPIPM	001	000	PCCRJCT	001	0F0			
PCCCPPTR	002	012	PCCRQRES	001	00A			
PCCCPTOD	001	081	PCCRSRVD	001	003			
PCCCPULN	001	010	PCCRWDAT	001	018			
PCCCVFCM	001	01B	PCCRWDI	001	002			
PCCDBERR	001	000	PCCRWSEQ	002	00E			
PCCDCPCM	001	010	PCCSBCHP	032	028			
PCCDSLVL	001	00B	PCCSBSZ	001	00B			
PCCDVFCM	001	01A	PCCSCPCM	001	002			
PCCEQPCK	001	040	PCCSCPPM	001	000			
PCCFUNC	001	002	PCCSIF2	001	008			
PCCHDLEN	001	008	PCCSISZ	001	00A			
PCCHDSIZ	001	001	PCCSIXA	001	040			
PCCHEAD	008	000	PCCSI370	001	080			
PCCINCHP	032	008	PCCSKA	001	004			
PCCINFO	001	010	PCCSTDBY	001	410			
PCCINSFC	008	030	PCCSTNBY	001	004			
PCCINSF0	001	030	PCCVCPCM	001	011			
PCCINSF1	001	031	PCCVDATA	001	008			
PCCINSF2	001	032	PCCVFCON	001	040			
PCCINSF3	001	033	PCCVFINS	001	080			
PCCINSF4	004	034	PCCVFPRM	004	02C			
PCCINVCI	001	001	PCCVFPSN	002	02E			
PCCINVCP	001	003	PCCVFRFG	001	080			
PCCIOCDS	001	001	PCCVFSBY	001	020			
PCCIOCP	001	002	PCCVFSSZ	002	02C			
PCCIOPXA	001	010	PCCVSCPD	001	096			
PCCIOP37	001	020	PCCVSCPL	001	080			
PCCIVRID	001	9F0	PCCVSCPS	001	010			
PCCLDPRM	008	018	PCCWRDCM	001	040			
PCCLEN	002	000	PCCXEICM	001	024			
PCCLPRMI	001	004	PCCXEINF	001	004			
PCCMALF	001	000	PCCXINVN	001	009			
PCCMAXK	004	020	PCCXNOCN	001	005			
PCCMAXR	002	008	PCCXSECB	001	018			
PCCMAXS	002	00C	PCCXSEID	002	008			
PCCMDDRC	002	008	PCCXSEIN	004	014			
PCCMSADD	004	092	PCCXSELN	001	040			
PCCMSPTR	002	016	PCCXSINC	004	008			
PCCMSSIZ	002	090	PCCXSRE	001	080			
PCCMXXID	002	028	PCCXSSIN	004	010			
PCCNCPUS	002	010	PCCXSTUM	001	010			

HCPPCDBK— PROCESSOR CONTROLLER DIAGNOSE DATA BLOCK

DSECT NAME: PCDBK

DESCRIPTIVE NAME: PROCESSOR CONTROLLER DIAGNOSE DATA BLOCK

FUNCTION: MAPS HARDWARE PROCESSOR CONTROLLER DATA BLOCK FOR A REQUESTED COMMAND. USED TO PASS INFORMATION BETWEEN CP AND THE PROCESSOR CONTROLLER WHEN USING THE DIAGNOSE X'80' INTERFACE.

LOCATED BY:

PCRRDBKA	ADDRESS POINTER TO THE PROCESSOR CONTROLLER DATA BLOCK TO BE USED IN PROCESSING THE ASSOCIATED REAL REQUEST.
PCSACTIV	ADDRESS POINTER TO THE PROCESSOR CONTROLLER DATA BLOCK FOR THE CURRENT ACTIVE REQUEST.

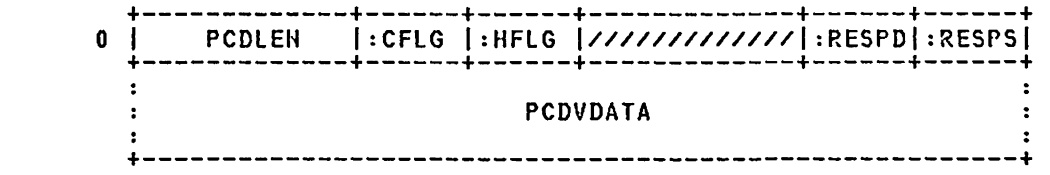
CREATED BY:

HCPPCV	WHEN BUILDING REAL PROCESSOR CONTROLLER REQUEST NECESSARY FOR VIRTUAL REQUEST PROCESSING
HCPRFG	WHEN BUILDING REAL PROCESSOR CONTROLLER REQUEST
HCPSCP	WHEN BUILDING REAL PROCESSOR CONTROLLER REQU

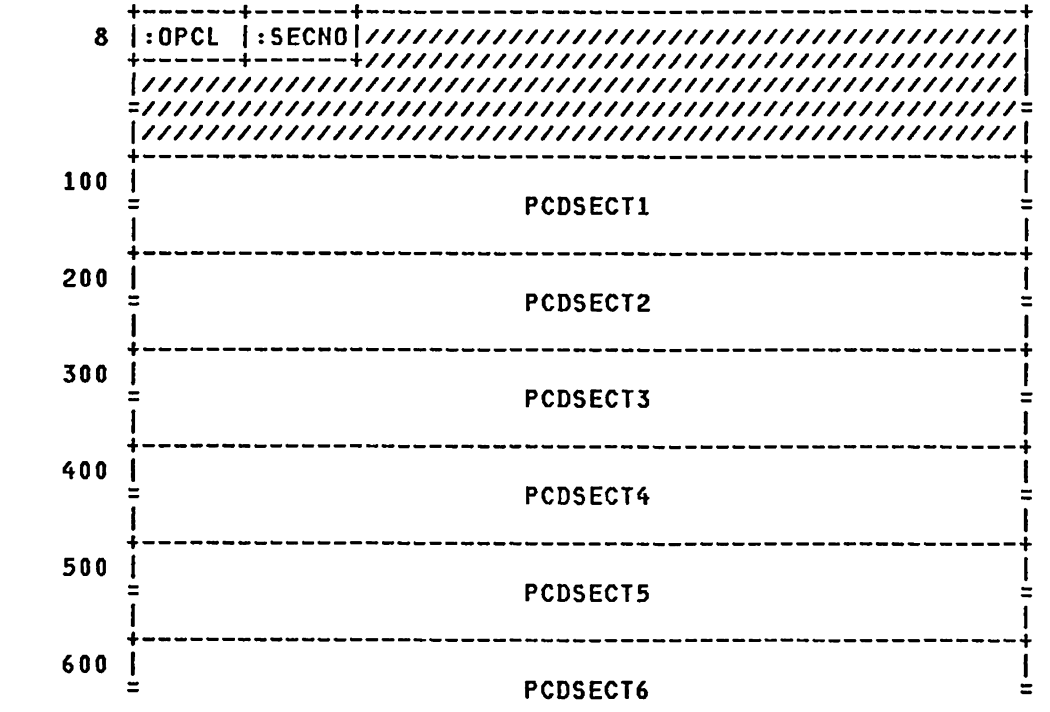
DELETED BY:

HCPPCV	WHEN REAL PROCESSOR CONTROLLER REQUEST COMPLETE
HCPRFG	WHEN REAL PROCESSOR CONTROLLER REQUEST COMPLETE
HCPSCP	WHEN REAL PROCESSOR CONTROLLER REQUEST COMPL

PCDBK - PROCESSOR CONTROLLER DIAGNOSE X'80' DATA BLOCK



REDEFINITION - I/O CONFIG. PROGRAM DATA FORMAT



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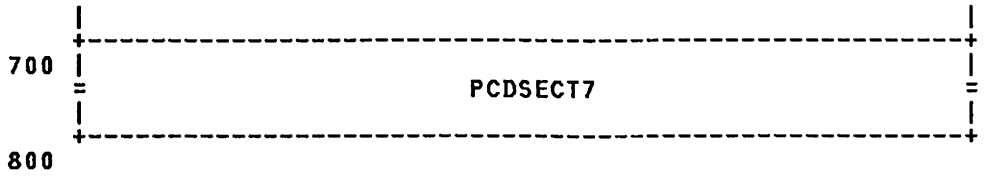
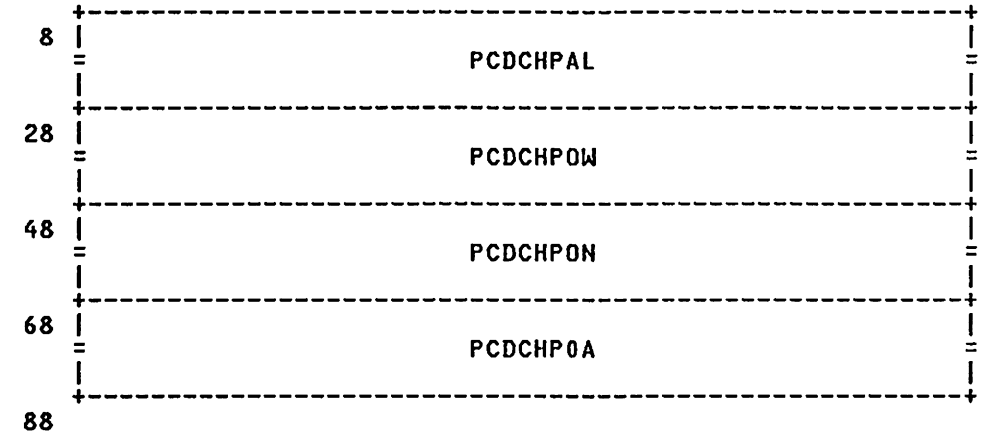
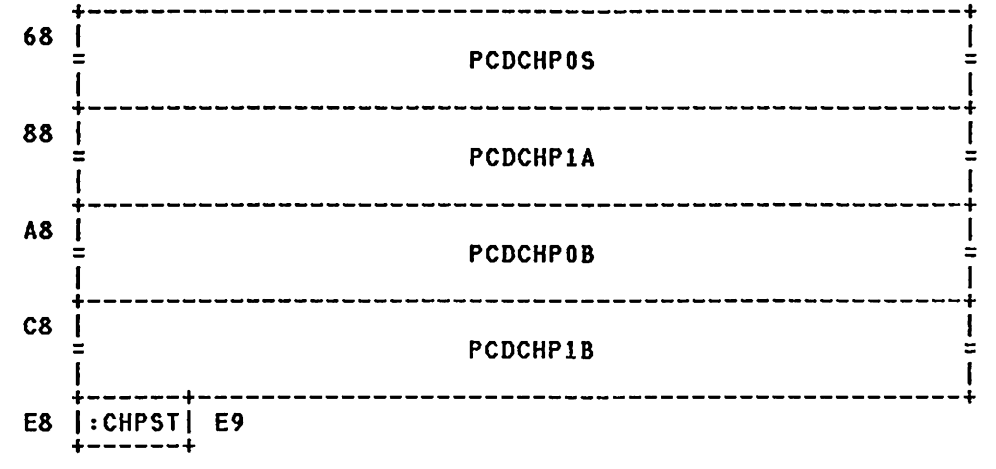


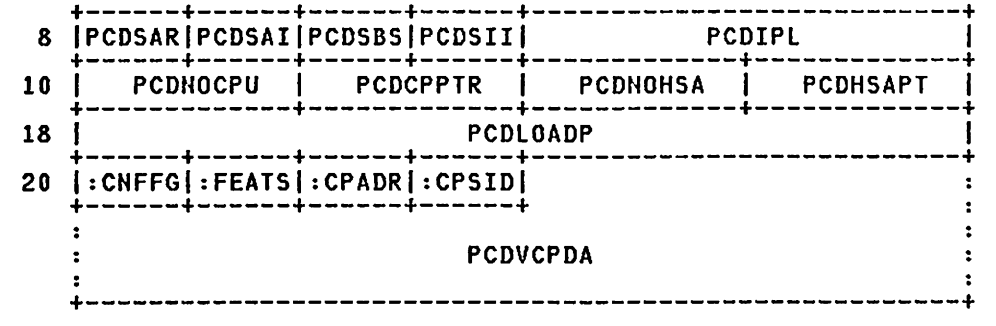
REDEFINITION - CHANNEL PATH INFO. DATA FORMAT



REDEFINITION -



REDEFINITION - SCP INFORMATION DATA FORMAT



disp	name	length	description
000	PCDHEAD	008	DATA BLOCK HEADER FOR ALL REQUESTS
000	PCDLEN	002	NO. OF BYTES IN THE DATA BLOCK
	CODES DEFINED IN PCDLEN (AT HEX DISPLACEMENT: 0)		
	08	PCDVCLEN	PCDBK LENGTH FOR VARY CP REQUESTS
	00	PCDMXLEN	MAXIMUM PCDBK LENGTH (2K)
002	PCDCFLG	001	CALLER FLAG (REQUESTOR)
003	PCDHFLG	001	HARDWARE FLAG (PROCESSOR CONTROLLER)
004		H	RESERVED FOR FUTURE HARDWARE USE
006	PCDRESP	002	RESPONSE CODE
006	PCDRESPD	001	RESPONSE DEPENDENT CODES
	CODES DEFINED IN PCDRESPD (AT HEX DISPLACEMENT: 6)		
	00	PCDINVAD	X'0000' INVALID ADDR. OF DATABLOCK
	01	PCDNO2KB	X'0100' ADDR. NOT ON 2K BOUNDARY
	02	PCDNO8BT	X'0200' LENGTH NOT IN 8 BYTE INCREMENTS
	03	PCDBADLN	X'0300' LENGTH WRONG FOR DATA
	00	PCDVALCM	X'0020' VALID COMMAND COMPLETE
	02	PCDNOFLG	X'02F0' INVALID FLAG BYTE
	03	PCDINVCP	X'03F0' INVALID CPU ADDRESS ..SPECIFIED.
	00	PCDLGCMS	X'0020' LOGICAL IOCP WRITE LOCK ACQUIRED OR RELEASED FOR CMS IOCP USER
	01	PCDNOCMS	X'01F0' LOGICAL IOCP WRITE LOCK WAS PREVIOUSLY LOCKED BY ANOTHER USER OR ALREADY RELEASED
	01	PCDINVCI	X'01F0' INVALID COMMAND OR IDENTIFICATION
	42	PCDICPRJ	X'42F0' INVALID IOCP COMMAND
007	PCDRESPS	001	SPECIFIC RESPONSE CODES
	CODES DEFINED IN PCDRESPS (AT HEX DISPLACEMENT: 7)		
	00	PCDDBERR	DATA BLOCK ERROR
	10	PCDINFO	INFORMATION
	20	PCDCMPLT	COMPLETE
	30	PCDICMPT	INCOMPLETE
	40	PCDBKOUT	BACKOUT
	50	PCDCMND	COMMAND
	60	PCDQUIES	QUIESCED
	F0	PCDRJCT	REJECT
008	PCDVDATA	001	START OF VARIABLE LENGTH DATA
	REDEFINITION - I/O CONFIG. PROGRAM DATA FORMAT		
008	PCDIOCPF	002	IOCP DATA FORMAT
008	PCDOPCL	001	OPEN-CLOSE STATUS ON THIS REQUEST
	BITS DEFINED IN PCDOPCL (AT HEX DISPLACEMENT: 8)		
	80	PCDOPNRW	FIRST READ OR WRITE WITH OPEN
	40	PCDCLSRW	READ OR WRITE CLOSE WITH NO DATA
009	PCDSECNO	001	NUMBER DATA SECTORS TRANSFERRED
	BITS DEFINED IN PCDSECNO (AT HEX DISPLACEMENT: 9)		
	00	PCDNODAT	NO DATA TRANSFERRED WITH THIS REQUEST

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```
00A                 246XL1
100    PCDSECT1     256        DATA SECTOR NUMBER 1
200    PCDSECT2     256        DATA SECTOR NUMBER 2
300    PCDSECT3     256        DATA SECTOR NUMBER 3
400    PCDSECT4     256        DATA SECTOR NUMBER 4
500    PCDSECT5     256        DATA SECTOR NUMBER 5
600    PCDSECT6     256        DATA SECTOR NUMBER 6
700    PCDSECT7     256        DATA SECTOR NUMBER 7

                      EQUATES

         00     PCDICSIZ      :PCDBK SIZE IN DOUBLE WORDS
                              NOTE: SIZE FOR IOCP REQUESTS
         00     PCDICLEN      :PCDBK LENGTH FOR IOCP REQUESTS


           REDEFINITION - CHANNEL PATH INFO. DATA FORMAT

008    PCDCHPAL     032        INSTALLED CHANNEL PATHS
028    PCDCHPOW     032        OWNED CHANNEL PATHS
048    PCDCHPON     032        ON/OFF-LINE CHANNEL PATHS
068    PCDCHP0A     032        370 CHANNEL SET 0A

           REDEFINITION -

068    PCDCHP0S     002        370 CHANNEL SET 0A
088    PCDCHP1A     032        370 CHANNEL SET 1A
0A8    PCDCHP0B     032        370 CHANNEL SET 0B
0C8    PCDCHP1B     032        370 CHANNEL SET 1B
0E8    PCDCHPST     001        CHANNEL SET CONFIGURATION BYTE

                      EQUATES

         1E     PCDCHSIZ      :PCDBK SIZE IN DOUBLE WORDS
                              NOTE: SIZE FOR CHANNEL PATH
                              INFORMATION REQUESTS
         E9     PCDCHLEN      :PCDBK LEN FOR CHANNEL PATH
                              INFORMATION REQUESTS


           REDEFINITION - SCP INFORMATION DATA FORMAT

008    PCDSAR       001        STORAGE ADDRESS RANGE
009    PCDSAI       001        STORAGE ADDRESS INCREMENT
00A    PCDSBS       001        STORAGE BLOCK SIZE
00B    PCDSII       001        STORAGE INTERLEAVE INTERVAL
00C    PCDIPL       004        IPL DUMP ID
010    PCDNOCPU     002        NUMBER OF CPUS
012    PCDCPPTR     002        OFFSET TO CPUDATA
014    PCDNOHSA     002        NUMBER OF HARDWARE SYSTEM AREAS
016    PCDHSAPT     002        OFFSET TO HARDWARE SYSTEM AREAS
018    PCDLOADP     008        LOAD PARAMETERS
020    PCDCNFFG     001        BYTE OF CONFIGURATION INDICATORS
021    PCDFEATS     001        BYTE OF INSTALLED FEATURES

         BITS DEFINED IN PCDFEATS (AT HEX DISPLACEMENT: 21)

         80     PCDIOPIN      I/O PASSTHROUGH INSTALLED
         05     PCDVSCPS      :PCDBK SIZE IN DOUBLE WORDS
                              NOTE: SIZE FOR SCPINFO REQUESTS
                              VARIES WITH THE NUMBER OF CPUS
         22     PCDVSCPL      PCDBK LENGTH FOR SCPINFO REQUEST S
                              VARIES WITH THE NUMBER OF CPUS

022    PCDCPADR     001        CPU ADDRESS
023    PCDCPSID     001        CPU SIDE

                      EQUATES

         02     PCDCPULN      LENGTH OF EACH CPU ENTRY
         24     PCDVHSAP      OFFSET TO HARDWARE SYSTEM AREA
```

```
024   PCDVCPDA   001      START OF VARIABLE LENGTH DATA

                    MORE EQUATES

        02     PCDSCPIN    SCP INFO
        03     PCDCHPIN    CHANNEL PATH INFO
        0F     PCDVYCHN    VARY CHANNEL PATH ON
        10     PCDVYCPF    VARY PROCESSOR (CPU) OFF
        11     PCDVYCPN    VARY PROCESSOR (CPU) ON
        40     PCDICPWT    IOCP WRITE
        41     PCDICPRD    IOCP READ
                           END OF DEFINITION

                           COMMAND DEPENDENT CODE BYTE

                           PCDDCODE CODE DEFINITIONS
        00     PCDCMDVR    VERIFY CHANNEL PATH INFO
                           AND SCPINFO COMMANDS
        03     PCDCPMAX    MAXIMUM CPU ADDRESS
                           END OF DEFINITION

                           IDENTIFICATION CODE BYTE

                           PCDIDBYT CODE DEFINITIONS
        02     PCDIOCP     IOCP COMMAND
        01     PCDCONFG    CONFIGURATION COMMAND
                           END OF DEFINITION

        01     PCDHDSIZ    :PCDBK HEADER SIZE IN DOUBLE
                           WORDS
        08     PCDHDLEN    :PCDBK HEADER LENGTH IN BYTES
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
PCDBADLN	001	003	PCDFEATS	001	021	PCDNOHSA	002	014
PCDBK	001	000	PCDHDLEN	001	008	PCDNO2KB	001	001
PCDBKOUT	001	040	PCDHDSIZ	001	001	PCDNO8BT	001	002
PCDCFLG	001	002	PCDHEAD	008	000	PCDOPCL	001	008
PCDCHLEN	001	0E9	PCDHFLG	001	003	PCDOPNRW	001	080
PCDCHPAL	032	008	PCDHSAPT	002	016	PCDQUIES	001	060
PCDCHPIN	001	003	PCDICLEN	001	800	PCDRESP	002	006
PCDCHPON	032	048	PCDICMPT	001	030	PCDRESPD	001	006
PCDCHPOW	032	028	PCDICPRD	001	041	PCDRESPS	001	007
PCDCHPST	001	0E8	PCDICPRJ	001	042	PCDRJCT	001	0F0
PCDCHP0A	032	068	PCDICPWT	001	040	PCDSAI	001	009
PCDCHP0B	032	0A8	PCDICSIZ	001	100	PCDSAR	001	008
PCDCHP0S	002	068	PCDINFO	001	010	PCDSBS	001	00A
PCDCHP1A	032	088	PCDINVAD	001	000	PCDSCPIN	001	002
PCDCHP1B	032	0C8	PCDINVCI	001	001	PCDSECNO	001	009
PCDCHSIZ	001	01E	PCDINVCP	001	003	PCDSECT1	256	100
PCDCLSRW	001	040	PCDIOCP	001	002	PCDSECT2	256	200
PCDCMDVR	001	000	PCDIOCPF	002	008	PCDSECT3	256	300
PCDCMND	001	050	PCDIOPIN	001	080	PCDSECT4	256	400
PCDCMPLT	001	020	PCDIPL	004	00C	PCDSECT5	256	500
PCDCNFFG	001	020	PCDLEN	002	000	PCDSECT6	256	600
PCDCONFG	001	001	PCDLGCMS	001	000	PCDSECT7	256	700
PCDCPADR	001	022	PCDLOADP	008	018	PCDSII	001	00B
PCDCPMAX	001	003	PCDMXLEN	001	800	PCDVALCM	001	000
PCDCPPTR	002	012	PCDNOCMS	001	001	PCDVCLEN	001	008
PCDCPSID	001	023	PCDNOCPU	002	010	PCDVCPDA	001	024
PCDCPULN	001	002	PCDNODAT	001	000	PCDVDATA	001	008
PCDDBERR	001	000	PCDNOFLG	001	002	PCDVHSAP	001	024

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Name	Len	Value/Disp
PCDVSCPL	001	022
PCDVSCPS	001	005
PCDVYCHN	001	00F
PCDVYCPF	001	010
PCDVYCPN	001	011

HCPPCRBK— PROCESSOR CONTROLLER REQUEST BLOCK

DSECT NAME: PCRBK

DESCRIPTIVE NAME: PROCESSOR CONTROLLER REQUEST BLOCK

FUNCTION: EACH PCRBK IDENTIFIES ONE OUTSTANDING PROCESSOR CONTROLLER REQUEST.

LOCATED BY:

PCSPCRQ	ANCHOR FOR PROCESSOR CONTROLLER REQUEST QUEUE
PCRFPTR	CHAINED VIA FORWARD POINTER OF PREVIOUS REQUEST IN THE REQUEST QUEUE

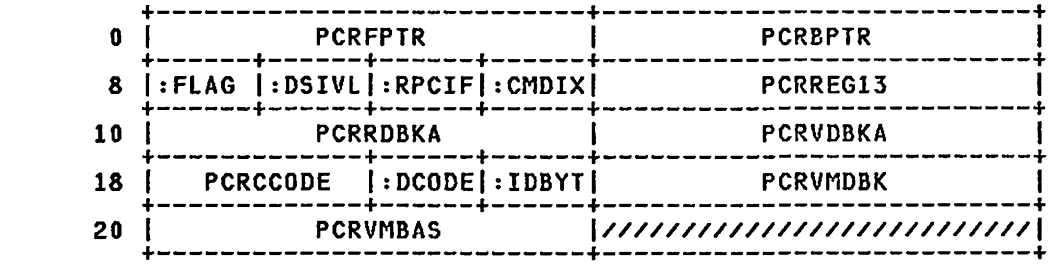
CREATED BY:

HCPPCV	WHEN BUILDING REAL PROCESSOR CONTROLLER REQUEST NECESSARY FOR VIRTUAL REQUEST PROCESSING
HCPRFG	WHEN BUILDING REAL PROCESSOR CONTROLLER REQUEST
HCPSCP	WHEN BUILDING REAL PROCESSOR CONTROLLER REQU

DELETED BY:

HCPPCV	WHEN REAL PROCESSOR CONTROLLER REQUEST COMPLETE
HCPRFG	WHEN REAL PROCESSOR CONTROLLER REQUEST COMPLETE
HCPSCP	WHEN REAL PROCESSOR CONTROLLER REQUEST COMPL

PCRBK - PROCESSOR CONTROLLER REQUEST BLOCK



disp	name	length	description
000	PCRFPTR	004	FORWARD POINTER TO NEXT PCRBK
004	PCRBPTR	004	BACKWARD PCRBK PREVIOUS POINTER
008	PCRFLAG	001	REQUEST STATUS FLAG
	BITS DEFINED FOR PCRFLAG BY HCPEQUAT PCRRQ		
009	PCRDSIVL	001	THIS REQUEST WILL CAUSE THE IOCDS DATA SET LEVEL TO BE MARKED INVALID
	CODES DEFINED IN PCRDSIVL (AT HEX DISPLACEMENT: 9)		
	10 PCRIOCPW		IOCP OPEN WRITE REQUEST STARTED; WHEN THIS REQUEST IS ACTIVATED SEND A MESSAGE THAT THAT THE IOCDS DATA SET WILL BE ALTERED (MARKED INVALID)
	00 PCRNODS		FLAG TO SHOW THAT NO IOCDS DATASET IS CURRENTLY BEING ALTERED NOTE: CODES DEFINED FOR PCRRPCIF BY HCPSYSCM SYSRPCIF
00A	PCRRPCIF	001	PROCESSOR CONTROLLER INTERFACE USED FOR REAL REQUEST PROCESSING
	NOTE: CODES DEFINED FOR PCRRPCIF BY HCPSYSCM SYSRPCIF		
00B	PCRCMDIX	001	SUPPORTED REAL PC COMMAND TABLE INDEX
	CODES DEFINED IN PCRCMDIX (AT HEX DISPLACEMENT: B)		

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```
        00     PCRCMDNO     NO PC COMMANDS IDENTIFIED
        04     PCRCMDIR     IOCP READ
        08     PCRCMDIW     IOCP WRITE
        0C     PCRCMDPN     VARY CENTRAL PROCESSOR ON
                            OR CONFIGURE CPU
        10     PCRCMDPF     VARY CENTRAL PROCESSOR OFF
                            OR DECONFIGURE CPU
        14     PCRCMDSC     READ SCPINFO
        18     PCRCMDXS     READ EXPANDED STORE USABILITY MAP
        1C     PCRCMDXI     READ EXPANDED STORAGE ELEMENT INFORMATION

        20     PCRCMDCV     CONNECT VECTOR FACILITY
        24     PCRCMDDV     DISCONNECT VECTOR FACILITY

00C   PCRREG13    004       SAVEAREA ADDRESS USED TO COMPLETE
                            A CP REQUEST
010   PCRRDBKA    004       REAL PROCESSOR CONTROLLER DATA
                            BLOCK ADDRESS POINTER
014   PCRVDBKA    004       VIRTUAL PROCESSOR CONTROLLER DATA
                            BLOCK ADDRESS POINTER FOR VIRTUAL
                            MACHINE REQUEST
018   PCRCMDWD    004       PROCESSOR CONTROLLER COMMAND WORD
018   PCRCCODE    002       COMMAND CODE

        CODES DEFINED FOR PCRCCODE BY HCPPCCBK PCCCCODE

01A   PCRDCODE    001       COMMAND DEPENDENT CODE

        CODES DEFINED FOR PCRDCODE BY HCPPCCBK PCCPCODE

01B   PCRIDBYT    001       IDENTIFICATION BYTE

        CODES DEFINED FOR PCRIDBYT BY HCPPCCBK PCCCLASS

01C   PCRVMDBK    004       REQUESTOR'S VMDBK ADDRESS
020   PCRVMBAS    004       REQUESTOR'S BASE VMDBK ADDRESS
024               F         RESERVED FOR FUTURE IBM USE

                    EQUATES

        05     PCRSIZE      :SIZE OF BLOCK IN DOUBLE WORDS
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
PCRBK	001	000	PCRDSIVL	001	009
PCRBPTR	004	004	PCRFLAG	001	008
PCRCCODE	002	018	PCRFPTR	004	000
PCRCMDCV	001	020	PCRIDBYT	001	01B
PCRCMDDV	001	024	PCRIOCPW	001	010
PCRCMDIR	001	004	PCRNODS	001	000
PCRCMDIW	001	008	PCRRDBKA	004	010
PCRCMDIX	001	00B	PCRREG13	004	00C
PCRCMDNO	001	000	PCRRPCIF	001	00A
PCRCMDPF	001	010	PCRSIZE	001	005
PCRCMDPN	001	00C	PCRVDBKA	004	014
PCRCMDSC	001	014	PCRVMBAS	004	020
PCRCMDWD	004	018	PCRVMDBK	004	01C
PCRCMDXI	001	01C	PCRVMREQ	001	080
PCRCMDXS	001	018			
PCRCPREQ	001	040			
PCRDCODE	001	01A			

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HCPPCSBK— PROCESSOR CONTROLLER STATUS BLOCK

DSECT NAME: PCSBK

DESCRIPTIVE NAME: PROCESSOR CONTROLLER STATUS BLOCK

FUNCTION: THIS CONTROL BLOCK RECORDS ALL COMMUNICATION STATUS BETWEEN CP AND THE PROCESSOR CONTROLLER. THE REAL PROCESSOR CONTROLLER REQUEST STATUS IS STRICTLY MAINTAINED BY THE PROCESSING SUPPORT MODULE HCPPCR.

LOCATED BY:

SYSPCSBK ANCHOR FIELD IN HCPSYSCM

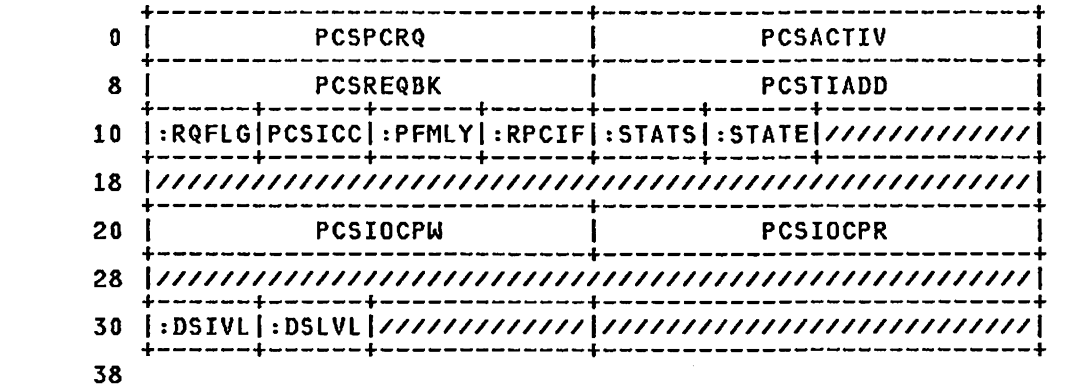
CREATED BY:

HCPPCR ALLOCATED AND INITIALIZED WHEN REAL PROCESSOR CONTROLLER REQUEST PROCESS IS FIRST INVOKED.

DELETED BY:

NEVER DELETED

PCSBK - PROCESSOR CONTROLLER STATUS BLOCK



disp	name	length	description
000	PCSPCRQ	004	POINTER TO FIRST PCRBK IN PC QUEUE
004	PCSACTIV	004	ADDRESS OF PROCESSOR CONTROLLER DATA BLOCK SENT IN DIAGNOSE INST.
008	PCSREQBK	004	ADDRESS OF ACTIVE PCRBK
00C	PCSTIADD	004	ADDRESS OF TRQBK USED FOR PC TIMER INTERVAL
010	PCSRQFLG	001	PROCESSOR CONTROLLER REQUEST FLAG
	CODES DEFINED IN PCSRQFLG (AT HEX DISPLACEMENT: 10)		
	00 PCSRQNON		NO VALID REQUESTS MADE YET
	01 PCSRQFST		FIRST VALID REQUEST
	FF PCSRQPST		PAST FIRST VALID REQUEST
011	PCSICC	001	CONDITION CODE RESULTING FROM PC INTERFACE INSTRUCTION
	BITS DEFINED FOR PCSICC BY HCPEQUAT PSW2		
012	PCSPFMLY	001	PROCESSOR FAMILY TYPE
	CODES DEFINED FOR PCSPFMLY BY HCPSYSCM SYSPFMLY		
013	PCSRPCIF	001	REAL PROCESSOR CONTROLLER INTERFACES USED BY VM/XA FOR REAL REQUEST PROCESSING

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BITS DEFINED FOR PCSRPCIF BY HCPSYSCM SYSRPCIF

014	PCSSTATS	001	PROCESSOR CONTROLLER STATUS BITS

BITS DEFINED IN PCSSTATS (AT HEX DISPLACEMENT: 14)

80	PCSSPDMC	SERVICE PROCESSOR DAMAGE MACHINE CHECK HAS BEEN RECEIVED
40	PCSLDISC	PROCESSOR CONTROLLER IS LOGICALLY DISCONNECTED FROM THE SYSTEM
02	PCSINOPW	PC INTERRUPT HANDLER HAS OPENED A WINDOW TO ALLOW THE PC TIMER INTERRUPT TO HAVE PRIORITY OVER THE TIMEOUT INTERRUPT IN THE SITUATION WHERE THEY ARE BOTH RECEIVED AT THE SAME TIME
01	PCSPRVRQ	ASSUMPTION IS MADE THAT THE PC IS BUSY FROM A PREVIOUS REQUEST ACTIVATED PRIOR TO THE IPL OF THIS SYSTEM

015	PCSSTATE	001	STATE(S) OF THE ACTIVE REQUEST

BITS DEFINED IN PCSSTATE (AT HEX DISPLACEMENT: 15)

80	PCSXPEND	EXTERNAL INTERRUPT PENDING (PROCESSOR CONTROLLER WILL SIGNAL COMPLETION)
40	PCSRSREQ	ACTIVE REQUEST IS FOR A VIRTUAL SYSTEM WHICH HAS BEEN RESET
20	PCSTOUT	TIMER INTERVAL HAS EXPIRED FOR ACTIVE REQUEST

016		XL2	RESERVED BY IBM FOR FUTURE USE
018		D	RESERVED FOR FUTURE IBM USE
020	PCSIOCPL	008	DOUBLE IOCP LOCKS
020	PCSIOCPW	004	IOCP WRITE LOCK (BASE ADDRESS OF VMDBK CONFIGURATION ISSUING AN IOCP WRITE REQUEST)
024	PCSIOCPR	004	IOCP READ LOCK (BASE ADDRESS OF VMDBK CONFIGURATION ISSUING AN IOCP READ REQUEST)
028		D	RESERVED FOR FUTURE IBM USE
030	PCSDSIVL	001	INDICATES WHEN A QUEUED REQUEST TO WRITE TO IOCDS DATASET HAS BEEN ACTIVATED AND THE DATA SET IS NOW OPEN (INVALID)

CODES DEFINED FOR PCSDSIVL BY HCPPCRBK PCRDSIVL

031	PCSDSLVL	001	DATASET LEVEL USED DURING AN IOCP READ OR WRITE SEQUENCE
032		XL2	RESERVED BY IBM FOR FUTURE USE
034		F	RESERVED BY IBM FOR FUTURE USE

EQUATES

07	PCSSIZE	:SIZE OF BLOCK IN DOUBLEWORDS

CROSS REFERENCE

Name	Len	Value/Disp
PCSACTIV	004	004
PCSBK	001	000
PCSDSIVL	001	030
PCSDSLVL	001	031
PCSICC	001	011
PCSINOPW	001	002
PCSIOCPL	008	020
PCSIOCPR	004	024
PCSIOCPW	004	020
PCSLDISC	001	040
PCSPCRQ	004	000
PCSPFMLY	001	012
PCSPRVRQ	001	001
PCSREQBK	004	008
PCSRPCIF	001	013
PCSRQFLG	001	010
PCSRQFST	001	001
PCSRQNON	001	000
PCSRQPST	001	0FF
PCSRSREQ	001	040
PCSSIZE	001	007
PCSSPDMC	001	080
PCSSTATE	001	015
PCSSTATS	001	014
PCSTIADD	004	00C
PCSTOUT	001	020
PCSXPEND	001	080

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HCPPDEBK— PATH DESCRIPTOR ENTRY

DSECT NAME: PDEBK

DESCRIPTIVE NAME: PATH DESCRIPTOR ENTRY

FUNCTION: TO HOLD INFORMATION ABOUT AN IUCV PATH.

LOCATED BY:

CCTPDSEG FIELD IN HCPCCTBK

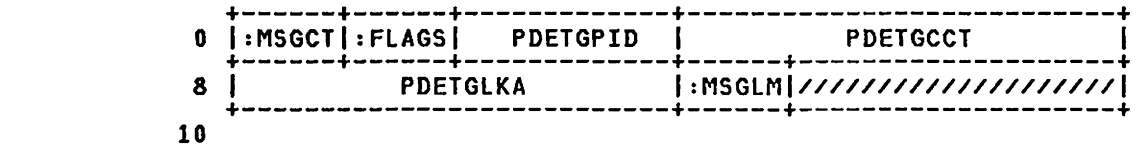
CREATED BY:

IUCV CONNECT FUNCTION (HCPIUBCO)

DELETED BY:

IUCV SEVER FUNCTION (HCPIUESV)

PDEBK - PATH DESCRIPTOR ENTRY



disp	name	length	description
000	PDEMSGCT	001	CNT OF OUTSTANDING MSGS ON PATH
001	PDEFLAGS	001	STATUS

BITS DEFINED IN PDEFLAGS (AT HEX DISPLACEMENT: 1)

80	PDEVALID	VALID PATH
40	PDESEND	SEND ALLOWED ON THIS PATH
20	PDEPRTY	MAY INITIATE PRIORITY MESSAGES
10	PDEPRMD	MAY PUT DATA IN PARMLIST
04	PDECNTRL	CONTROL PATH
02	PDEPEND1	INITIATED CONNECTION
01	PDEPEND2	INCOMING CONNECTION
00	PDEZERO	PDEBK INVALID AND AVAILABLE
03	PDESEVRD	ENTRY HAS BEEN SEVERED

002	PDETGPID	002	TARGET PATH ID
004	PDETGCCT	004	TARGET CCT ADDRESS
008	PDETGLKA	004	TARGET IUCV LOCKWORD POINTER
00C	PDEMSGLM	001	MESSAGE LIMIT
00D		3X	RESERVED

EQUATES

02	PDESIZE	PDEBK SIZE IN DOUBLEWORDS
08	PDENTMIN	MIN NUMBER OF PDEBKS TO BE BUILT
00	PDENTMAX	MAXIMUM PDEBKS IN A PDSEG

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CROSS REFERENCE

Name	Len	Value/Disp
PDEBK	001	000
PDECNTRL	001	004
PDEFLAGS	001	001
PDEMSGCT	001	000
PDEMSGLM	001	00C
PDENTMAX	001	100
PDENTMIN	001	008
PDEPEND1	001	002
PDEPEND2	001	001
PDEPRMD	001	010
PDEPRTY	001	020
PDESEND	001	040
PDESEVRD	001	003
PDESIZE	001	002
PDETGCCT	004	004
PDETGLKA	004	008
PDETGPID	002	002
PDEVALID	001	080
PDEZERO	001	000

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HCPPFMBK— PAGEABLE FREE MANAGMENT BLOCK

DSECT NAME: PFMBK

DESCRIPTIVE NAME: PAGEABLE FREE MANAGMENT BLOCK

FUNCTION: A PAGEABLE FREE MANAGMENT BLOCK DESCIBES UNALLOCATED PAGEABLE FREE STORAGE

LOCATED BY:

HCPRSMPF 8 QUEUES OF PAGEABLE FREE STORAGE

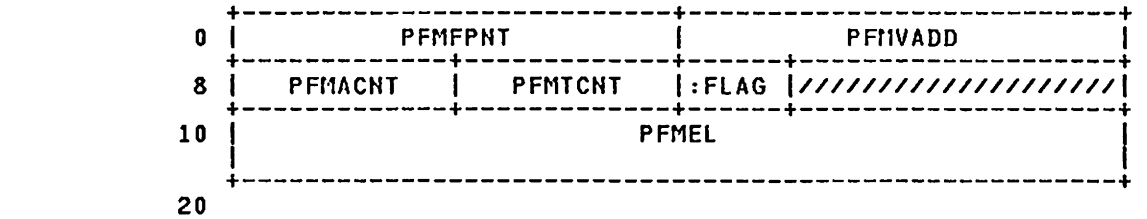
CREATED BY:

HCPPFMAL BLOCKS CREATED WHEN PAGEABLE FREE STORAGE IS CREATED
HCPPFMDE BLOCKS CREATED WHEN PAGEABLE FREE STORAGE IS RELEASED AND NO PFMBK EXISTS

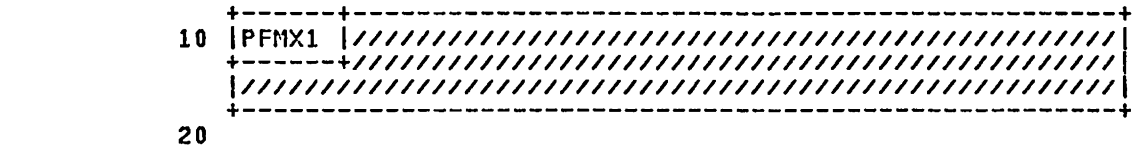
DELETED BY:

HCPPFM

PFMBK - PAGEABLE FREE MANAGEMENT BLOCK

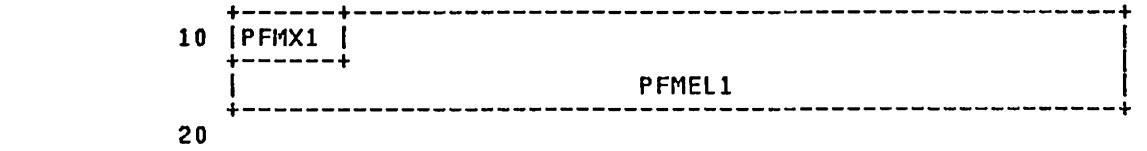


REDEFINITION -



REDEFINITION -

REDEFINITION -



disp	name	length	description
000	PFMFPNT	004	POITER TO NEXT PFMBK
004	PFMVADD	004	VIRTUAL ADDRESS OF THIS PAGE

```
008   PFMACNT    002       COUNT OF UNALLOCATED BLOCKS
00A   PFMTCNT    002       MAXIMUM AVAILABLE BLOCKS IN THIS PAGE
00C   PFMFLAG    001
00D              XL3       RESERVED FOR FUTURE IBM USE
010   PFMEL      016       1ST BLOCK NUMBER AVAILABLE

         REDEFINITION -

010   PFMX1      001
011              XL15

         REDEFINITION -

010   PFMEL0     015       1ST BLOCK NUMBER AVAILABLE

         REDEFINITION -

010              X
011   PFMEL1     015       REMAINING BLOCK NUMBERS AVAILABLE

                    EQUATES

        04    PFMSIZE      LENGTH OF PAGEABLE FREE STORAGE
                           BLOCK IN DOUBLEWORDS


                  MORE EQUATES

        80    PFMERROR     TRANSLATION ERROR ON PAGE
```

CROSS REFERENCE

Name	Len	Value/Disp
PFMACNT	002	008
PFMBK	001	000
PFMEL	016	010
PFMEL0	015	010
PFMEL1	015	011
PFMERROR	001	080
PFMFLAG	001	00C
PFMFPNT	004	000
PFMSIZE	001	004
PFMTCNT	002	00A
PFMVADD	004	004
PFMX1	001	010

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HCPPFXPG— PREFIX PAGE FOR ALL HOST CPU'S

DSECT NAME: PFXPG

DESCRIPTIVE NAME: PREFIX PAGE FOR ALL HOST CPU'S

FUNCTION: HCPPFXPG IS PAGE ZERO FOR EACH HOST PROCESSOR. IT CONTAINS PROCESSOR-RELATED INFORMATION DEFINED BY BOTH HARDWARE AND SOFTWARE.

LOCATED BY:

HOST REAL PREFIX REGISTER	
HCPPFX	MODULE CONTAINS THE PFXPG FOR IPL'D PROCESSOR
SYSPRFIX	FIELD OF HCPSYSCM (PFXPG FOR IPL'D PROCESSOR)
PFXPRFIX	FIELD OF HCPPFXPG (PREFIX VALUE FOR THIS CPU)
PFXNXTPF	FIELD OF HCPPFXPG (CYCLIC POINTER TO NEXT PFXPG)
DFIPFX	FIELD OF HCPDFIR (PFXPG OF DUMPED SYSTEM)

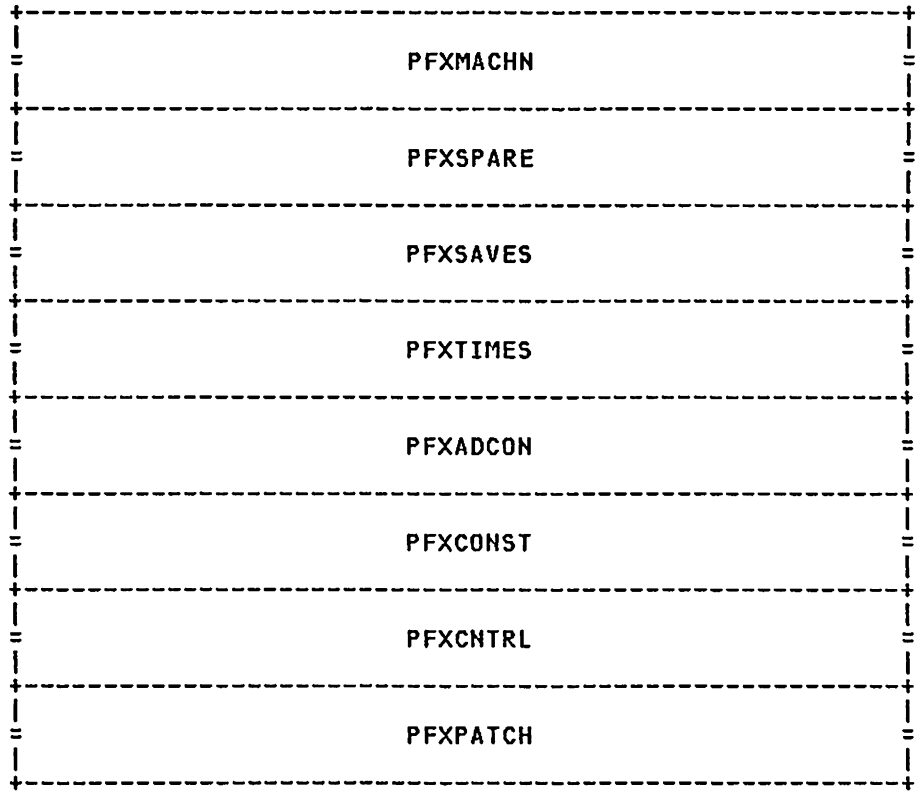
CREATED BY:

HCPLOD	DURING SYSTEM INITIALIZATION (IPL'D PROCESSOR) (LOADS HCPPFX MODULE AS IPL'D PROCESSOR PFXPG)
HCPMPS	DURING SYSTEM INITIALIZATION AND VARY ON PROCESSOR (ALTERNATE PROCESSOR)

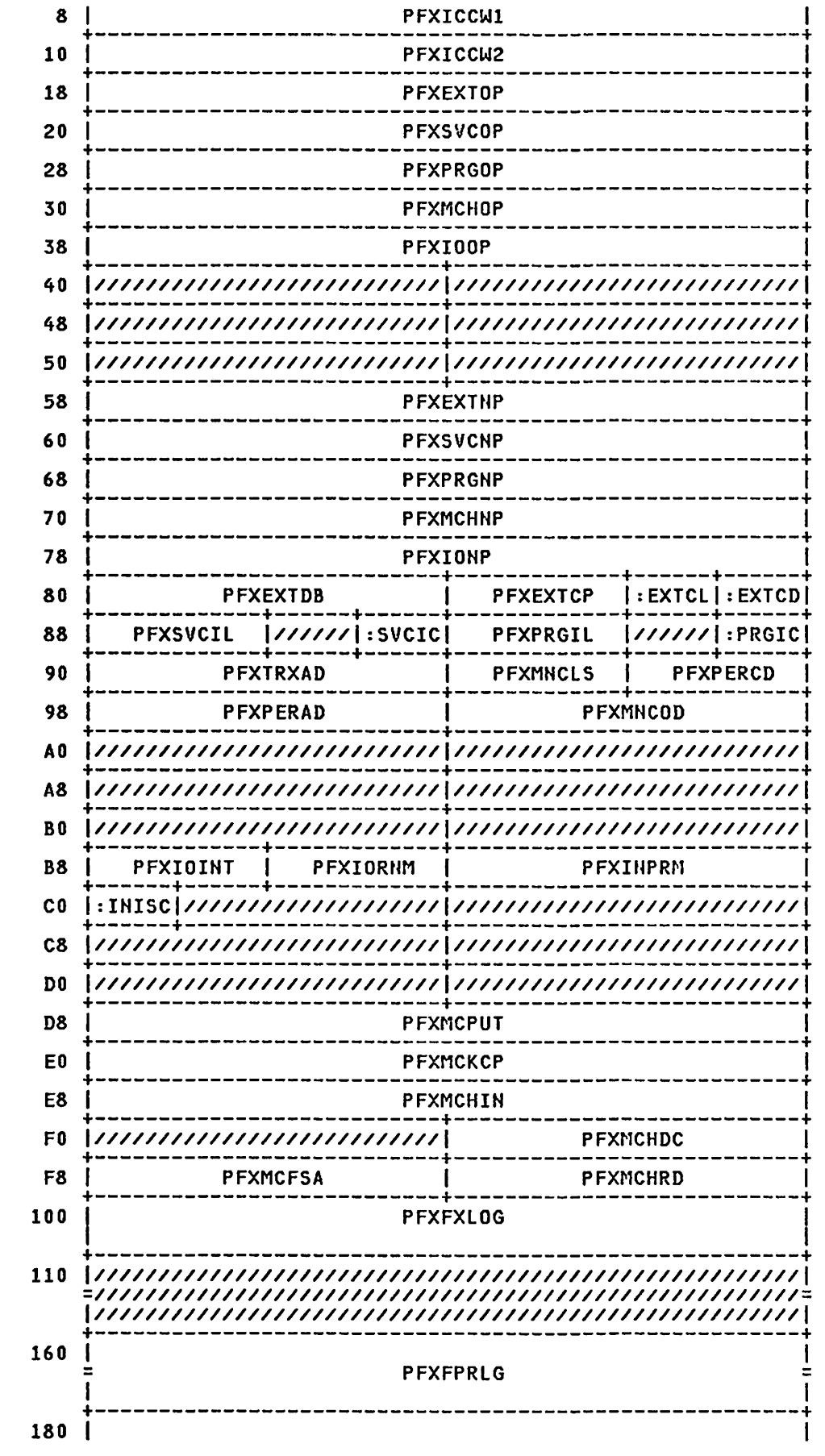
DELETED BY:

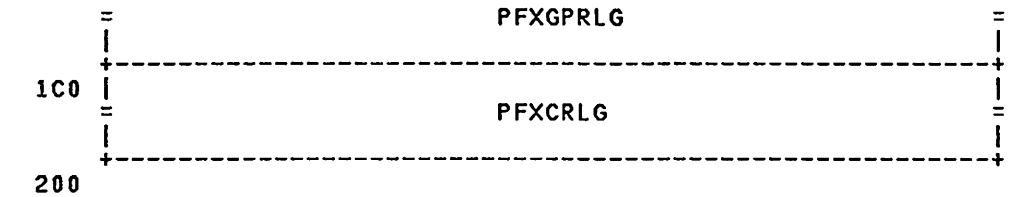
HCPMPS	DURING VARY OFF OF AN ALTERNATE PROCESSOR (IPL'D PROCESSOR'S PFXPG NEVER DELETED, BUT ZEROED OUT IF THE PROCESSOR IS VARIED OFF)

PFXPG - PREFIX PAGE FOR ALL HOST CPU'S

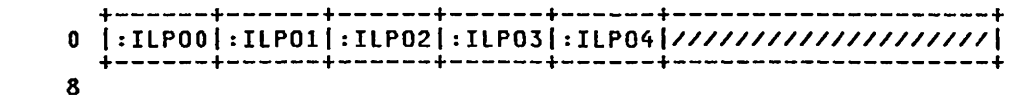


REDEFINITION - MACHINE USAGE REGION

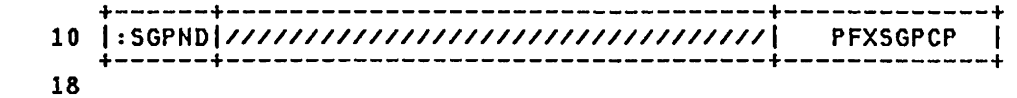

8
PFXICCW1
10
PFXICCW2
18
PFXEXTOP
20
PFXSVCOP
28
PFXPRGOP
30
PFXMCHOP
38
PFXIOOP
40
48
50
58
PFXEXTNP
60
PFXSVCNP
68
PFXPRGNP
70
PFXMCHNP
78
PFXIONP
80
PFXEXTDB
PFXEXTCP
:EXTCL
:EXTCD
88
PFXSVCIL
:SVCIC
PFXPRGIL
:PRGIC
90
PFXTRXAD
PFXMNCLS
PFXPERCD
98
PFXPERAD
PFXMNCOD
A0
A8
B0
B8
PFXIOINT
PFXIORNM
PFXINPRM
C0
:INISC
C8
D0
D8
PFXMCPUT
E0
PFXMCKCP
E8
PFXMCHIN
F0
PFXMCHDC
F8
PFXMCFSA
PFXMCHRD
100
PFXFXLOG
110
160
PFXFPRLG
180



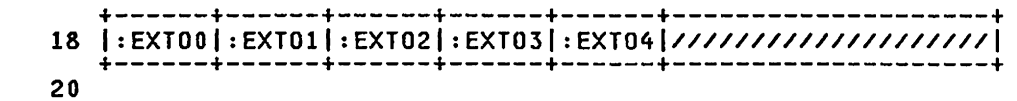
REDEFINITION - DEFINITION FOR INITIAL LOADING PSW



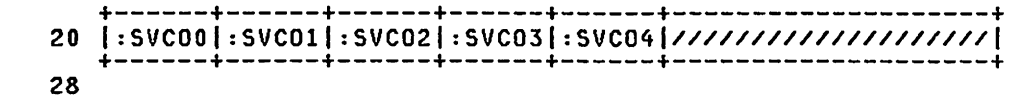
REDEFINITION - VARY PROCESSOR ONLINE WORK AREA



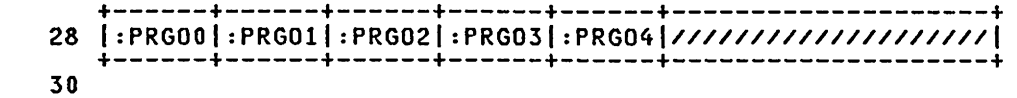
REDEFINITION - DEFINITION FOR OLD EXT PSW



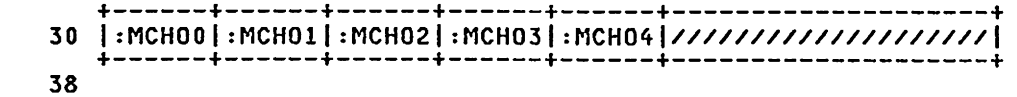
REDEFINITION - DEFINITION FOR OLD SVC PSW



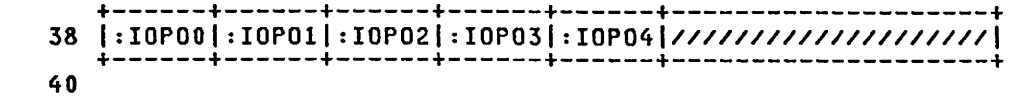
REDEFINITION - DEFINITION FOR PRG OLD PSW



REDEFINITION - DEFINITION FOR MCH OLD PSW



REDEFINITION - DEFINITION FOR I/O OLD PSW



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REDEFINITION - DEFINITION FOR NEW EXT PSW

```
   +------+------+------+------+------+--------------------+
58 |:EXTN0|:EXTN1|:EXTN2|:EXTN3|:EXTN4|////////////////////|
   +------+------+------+------+------+--------------------+
60
```

REDEFINITION - DEFINITION FOR NEW SVC PSW

```
   +------+------+------+------+------+--------------------+
60 |:SVCN0|:SVCN1|:SVCN2|:SVCN3|:SVCN4|////////////////////|
   +------+------+------+------+------+--------------------+
68
```

REDEFINITION - DEFINITION FOR PRG NEW PSW

```
   +------+------+------+------+------+--------------------+
68 |:PRGN0|:PRGN1|:PRGN2|:PRGN3|:PRGN4|////////////////////|
   +------+------+------+------+------+--------------------+
70
```

REDEFINITION - DEFINITION FOR MCH NEW PSW

```
   +------+------+------+------+------+--------------------+
70 |:MCHN0|:MCHN1|:MCHN2|:MCHN3|:MCHN4|////////////////////|
   +------+------+------+------+------+--------------------+
78
```

REDEFINITION - DEFINITION FOR I/O NEW PSW

```
   +------+------+------+------+------+--------------------+
78 |:IOPN0|:IOPN1|:IOPN2|:IOPN3|:IOPN4|////////////////////|
   +------+------+------+------+------+--------------------+
80
```

REDEFINITION - OVERLAY FOR MACHINE CHECK CODES

```
   +------+------+------+------+------+------+-------------+
E8 |:MCHI0|:MCHI1|:MCHI2|:MCHI3|:MCHI4|:MCHI5|   PFXMCHI6  |
   +------+------+------+------+------+------+-------------+
F0
```

REDEFINITION - MACHINE CHECK EXTERNAL DAMAGE CODE

```
                                 +------+------+-------------+
F0 ...                        F4 |//////|:DCBY1|/////////////|
                                 +------+------+-------------+
F8
```

REDEFINITION - STORE STATUS AREA DEFINITION

```
   +-----------------------------------------------------+
100 |                        PFXSTPSW                     |
   +--------------------------+--------------------------+
108 |         PFXSTPFX         |          PFXSTMDL        |
   +--------------------------+--------------------------+
110
```

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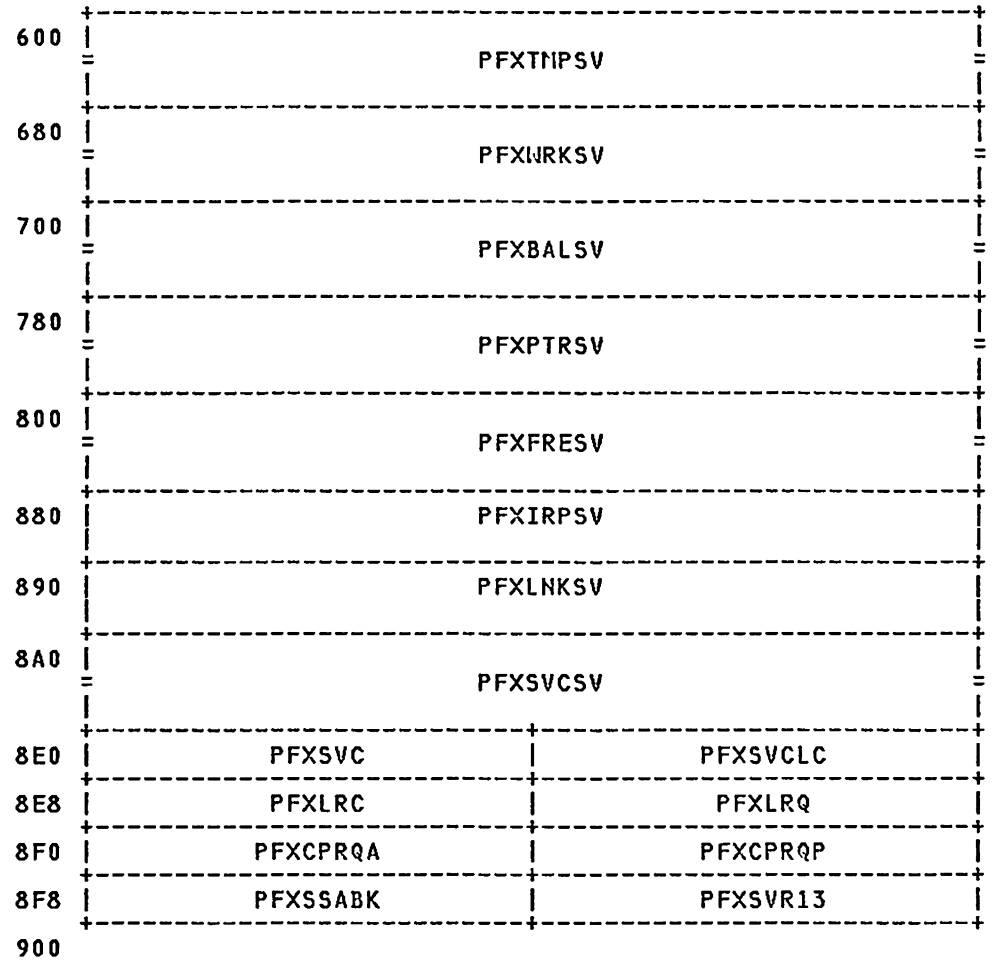
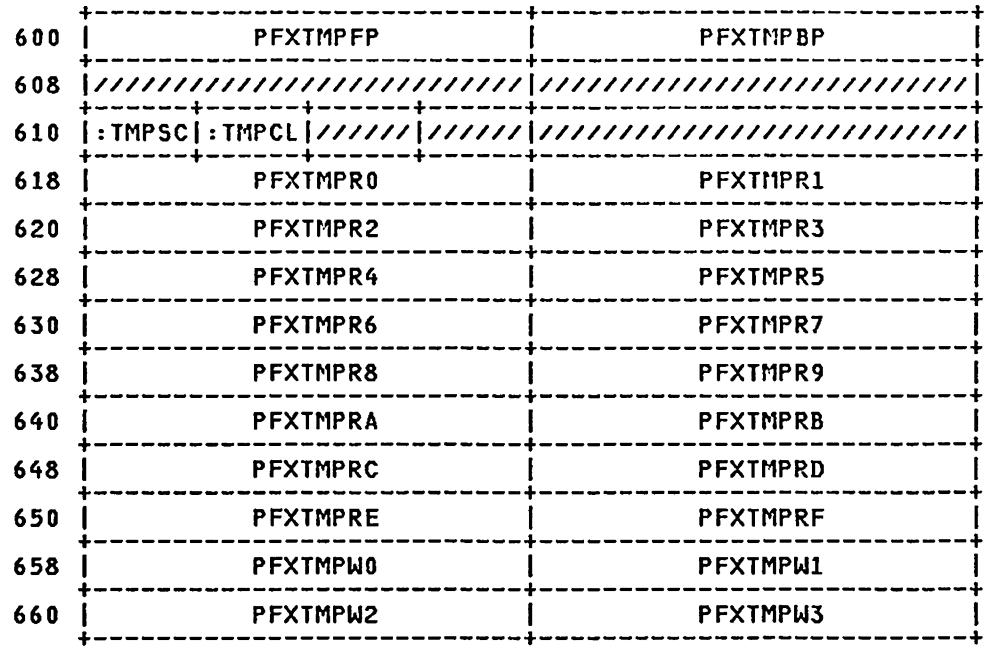
REDEFINITION - SAVE AREA REGION



REDEFINITION - TEMPORARY SAVE AREA



```
668 |          PFXTMPW4          |          PFXTMPW5          |
    +----------------------------+----------------------------+
670 |          PFXTMPW6          |          PFXTMPW7          |
    +----------------------------+----------------------------+
678 |          PFXTMPW8          |          PFXTMPW9          |
    +----------------------------+----------------------------+
680
```

REDEFINITION - WORK SAVE AREA

```
    +----------------------------+----------------------------+
680 |          PFXWRKFP          |          PFXWRKBP          |
    +----------------------------+----------------------------+
688 |////////////////////////////|////////////////////////////|
    +------+------+------+------+----------------------------+
690 |:WRKSC|:WRKCL|//////|//////|////////////////////////////|
    +------+------+------+------+----------------------------+
698 |          PFXWRKR0          |          PFXWRKR1          |
    +----------------------------+----------------------------+
6A0 |          PFXWRKR2          |          PFXWRKR3          |
    +----------------------------+----------------------------+
6A8 |          PFXWRKR4          |          PFXWRKR5          |
    +----------------------------+----------------------------+
6B0 |          PFXWRKR6          |          PFXWRKR7          |
    +----------------------------+----------------------------+
6B8 |          PFXWRKR8          |          PFXWRKR9          |
    +----------------------------+----------------------------+
6C0 |          PFXWRKRA          |          PFXWRKRB          |
    +----------------------------+----------------------------+
6C8 |          PFXWRKRC          |          PFXWRKRD          |
    +----------------------------+----------------------------+
6D0 |          PFXWRKRE          |          PFXWRKRF          |
    +----------------------------+----------------------------+
6D8 |          PFXWRKW0          |          PFXWRKW1          |
    +----------------------------+----------------------------+
6E0 |          PFXWRKW2          |          PFXWRKW3          |
    +----------------------------+----------------------------+
6E8 |          PFXWRKW4          |          PFXWRKW5          |
    +----------------------------+----------------------------+
6F0 |          PFXWRKW6          |          PFXWRKW7          |
    +----------------------------+----------------------------+
6F8 |          PFXWRKW8          |          PFXWRKW9          |
    +----------------------------+----------------------------+
700
```

REDEFINITION - BALR LINKAGE SAVE AREA

```
    +----------------------------+----------------------------+
700 |          PFXBALFP          |          PFXBALBP          |
    +----------------------------+----------------------------+
708 |////////////////////////////|////////////////////////////|
    +------+------+------+------+----------------------------+
710 |:BALSC|:BALCL|//////|//////|////////////////////////////|
    +------+------+------+------+----------------------------+
718 |          PFXBALR0          |          PFXBALR1          |
    +----------------------------+----------------------------+
720 |          PFXBALR2          |          PFXBALR3          |
    +----------------------------+----------------------------+
728 |          PFXBALR4          |          PFXBALR5          |
    +----------------------------+----------------------------+
730 |          PFXBALR6          |          PFXBALR7          |
    +----------------------------+----------------------------+
738 |          PFXBALR8          |          PFXBALR9          |
    +----------------------------+----------------------------+
740 |          PFXBALRA          |          PFXBALRB          |
    +----------------------------+----------------------------+
748 |          PFXBALRC          |          PFXBALRD          |
    +----------------------------+----------------------------+
750 |          PFXBALRE          |          PFXBALRF          |
    +----------------------------+----------------------------+
```

```
758 |          PFXBALW0          |          PFXBALW1          |
    +----------------------------+----------------------------+
760 |          PFXBALW2          |          PFXBALW3          |
    +----------------------------+----------------------------+
768 |          PFXBALW4          |          PFXBALW5          |
    +----------------------------+----------------------------+
770 |          PFXBALW6          |          PFXBALW7          |
    +----------------------------+----------------------------+
778 |          PFXBALW8          |          PFXBALW9          |
    +----------------------------+----------------------------+
780
```

REDEFINITION - HCPPTRAN LINKAGE SAVE AREA

```
    +----------------------------+----------------------------+
780 |          PFXPTRFP          |          PFXPTRBP          |
    +----------------------------+----------------------------+
788 |////////////////////////////|////////////////////////////|
    +------+------+------+------+----------------------------+
790 |:PTRSC|:PTRCL|//////|//////|////////////////////////////|
    +------+------+------+------+----------------------------+
798 |          PFXPTRR0          |          PFXPTRR1          |
    +----------------------------+----------------------------+
7A0 |          PFXPTRR2          |          PFXPTRR3          |
    +----------------------------+----------------------------+
7A8 |          PFXPTRR4          |          PFXPTRR5          |
    +----------------------------+----------------------------+
7B0 |          PFXPTRR6          |          PFXPTRR7          |
    +----------------------------+----------------------------+
7B8 |          PFXPTRR8          |          PFXPTRR9          |
    +----------------------------+----------------------------+
7C0 |          PFXPTRRA          |          PFXPTRRB          |
    +----------------------------+----------------------------+
7C8 |          PFXPTRRC          |          PFXPTRRD          |
    +----------------------------+----------------------------+
7D0 |          PFXPTRRE          |          PFXPTRRF          |
    +----------------------------+----------------------------+
7D8 |          PFXPTRW0          |          PFXPTRW1          |
    +----------------------------+----------------------------+
7E0 |          PFXPTRW2          |          PFXPTRW3          |
    +----------------------------+----------------------------+
7E8 |          PFXPTRW4          |          PFXPTRW5          |
    +----------------------------+----------------------------+
7F0 |          PFXPTRW6          |          PFXPTRW7          |
    +----------------------------+----------------------------+
7F8 |          PFXPTRW8          |          PFXPTRW9          |
    +----------------------------+----------------------------+
800
```

REDEFINITION - FREE STORAGE SAVE AREA

```
    +----------------------------+----------------------------+
800 |          PFXFREFP          |          PFXFREBP          |
    +----------------------------+----------------------------+
808 |////////////////////////////|////////////////////////////|
    +------+------+------+------+----------------------------+
810 |:FRESC|:FRECL|//////|//////|////////////////////////////|
    +------+------+------+------+----------------------------+
818 |          PFXFRER0          |          PFXFRER1          |
    +----------------------------+----------------------------+
820 |          PFXFRER2          |          PFXFRER3          |
    +----------------------------+----------------------------+
828 |          PFXFRER4          |          PFXFRER5          |
    +----------------------------+----------------------------+
830 |          PFXFRER6          |          PFXFRER7          |
    +----------------------------+----------------------------+
838 |          PFXFRER8          |          PFXFRER9          |
    +----------------------------+----------------------------+
840 |          PFXFRERA          |          PFXFRERB          |
    +----------------------------+----------------------------+
```

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```
848 |          PFXFRERC          |          PFXFRERD          |
    +----------------------------+----------------------------+
850 |          PFXFRERE          |          PFXFRERF          |
    +----------------------------+----------------------------+
858 |          PFXFREW0          |          PFXFREW1          |
    +----------------------------+----------------------------+
860 |          PFXFREW2          |          PFXFREW3          |
    +----------------------------+----------------------------+
868 |          PFXFREW4          |          PFXFREW5          |
    +----------------------------+----------------------------+
870 |          PFXFREW6          |          PFXFREW7          |
    +----------------------------+----------------------------+
878 |          PFXFREW8          |          PFXFREW9          |
    +----------------------------+----------------------------+
880
```

REDEFINITION - INTERRUPT FLIH R12-R15 SAVE AREA

```
    +----------------------------+----------------------------+
880 |          PFXIRP12          |          PFXIRP13          |
    +----------------------------+----------------------------+
888 |          PFXIRP14          |          PFXIRP15          |
    +----------------------------+----------------------------+
890
```

REDEFINITION - CALLING LINKAGE R12-R15 SAVE AREA

```
    +----------------------------+----------------------------+
890 |          PFXLNK12          |          PFXLNK13          |
    +----------------------------+----------------------------+
898 |          PFXLNK14          |          PFXLNK15          |
    +----------------------------+----------------------------+
8A0
```

REDEFINITION - TIMER WORK REGION

```
    +-------------------------------------------------------+
900 |                       PFXCVTDA                        |
    +-------------------------------------------------------+
908 |                       PFXPTLBT                        |
    +-------------------------------------------------------+
910 |                       PFXTMRUN                        |
    +-------------------------------------------------------+
918 |                       PFXTMURN                        |
    +-------------------------------------------------------+
920 |                       PFXTMDSP                        |
    +-------------------------------------------------------+
928 |                       PFXTMUDS                        |
    +-------------------------------------------------------+
930 |                       PFXVTDSP                        |
    +-------------------------------------------------------+
938 |///////////////////////////////////////////////////////|
    +------+------+------+------+------+------+------+------+
940 |:CR0B0|:CR0B1|:CR0B2|:CR0B3|:CR1B0|:CR1B1|:CR1B2|:CR1B3|
    +------+------+------+------+------+------+------+------+
948 |:CR2B0|:CR2B1|:CR2B2|:CR2B3|:CR3B0|:CR3B1|:CR3B2|:CR3B3|
    +------+------+------+------+------+------+------+------+
950 |:CR4B0|:CR4B1|:CR4B2|:CR4B3|:CR5B0|:CR5B1|:CR5B2|:CR5B3|
    +------+------+------+------+------+------+------+------+
958 |:CR6B0|:CR6B1|:CR6B2|:CR6B3|:CR7B0|:CR7B1|:CR7B2|:CR7B3|
    +------+------+------+------+------+------+------+------+
960 |:CR8B0|:CR8B1|:CR8B2|:CR8B3|:CR9B0|:CR9B1|:CR9B2|:CR9B3|
    +------+------+------+------+------+------+------+------+
968 |          PFXCPCRA          |          PFXCPCRB          |
    +------+------+------+------+------+------+------+------+
970 |:CRCB0|:CRCB1|:CRCB2|:CRCB3|:CRDB0|:CRDB1|:CRDB2|:CRDB3|
    +------+------+------+------+------+------+------+------+
978 |:CREB0|:CREB1|:CREB2|:CREB3|:CRFB0|:CRFB1|:CRFB2|:CRFB3|
    +------+------+------+------+------+------+------+------+
```

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980

REDEFINITION - SUPPLY INITIAL CONTROL REG VALUES

940	//////////////////////////	//////////////////////////
948	//////////////////////////	//////////////////////////
950	//////////////////////////	//////////////////////////
958	//////////////////////////	//////////////////////////
960	//////////////////////////	//////////////////////////
968	//////////////////////////	//////////////////////////
970	//////////////////////////	//////////////////////////
978	//////////////////////////	//////////////////////////

980

REDEFINITION - ADDRESS CONSTANTS FOR FAST LINKAGES

980	PFXFEIBM	
990	PFXCPYRT	
9B8	PFXCFMRD	PFXCVTBH
9C0	PFXCVTDT	PFXCVTOD
9C8	PFXDSPCH	PFXERMSG
9D0	PFXFREE	PFXFRET
9D8	PFXGSVC0	PFXGSVC1
9E0	PFXGSVC2	PFXGSVC3
9E8	PFXTTATB	PFXIOSRQ
9F0	PFXPTRAN	PFXPTFLK
9F8	PFXPTFUL	PFXPTRAB
A00	PFXQCHNT	PFXRUNXT
A08	PFXSTKCP	PFXSTKGT
A10	PFXSTKIO	PFXSCCFD
A18	PFXSYS	PFXFTBL
A20	PFXSYSVM	PFXRUNU
A28	PFXENDOP	PFXSVCSW
A30	PFXMM0	PFXMM5
A38	PFXSVCGS	PFXPAGCP
A40	PFXSVCRS	PFXLUSER
A48	PFXPRFIX	PFXNXTPF

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```
   +--------------------------+--------------------------+
A50|          PFXSPIEA        |          PFXSPIEM        |
   +--------------------------+--------------------------+
A58|          PFXSTDBK        |          PFXMCHA         |
   +--------------------------+--------------------------+
A60|          PFXMCVBK        |          PFXINST1        |
   +--------------------------+--------------------------+
A68|          PFXINST2        |          PFXINST3        |
   +--------------------------+--------------------------+
A70|          PFXINST4        | A74
   +--------------------------+
```

REDEFINITION - COMMONLY USED CONSTANTS

```
   +-----------------------------------------------------+
A80|                                                     |
=                          PFXZEROS                     =
   |                                                     |
   +-----------------------------------------------------+
AA8|                         PFXBLANK                    |
   +-----------------------------------------------------+
AB0|                          PFXFFS                     |
   +--------------------------+--------------------------+
AB8|            PFX1          |            PFX2          |
   +--------------------------+--------------------------+
AC0|            PFX3          |            PFX4          |
   +--------------------------+--------------------------+
AC8|            PFX5          |            PFX6          |
   +--------------------------+--------------------------+
AD0|            PFX7          |            PFX8          |
   +--------------------------+--------------------------+
AD8|            PFX9          |           PFX10          |
   +--------------------------+--------------------------+
AE0|           PFX15          |           PFX16          |
   +--------------------------+--------------------------+
AE8|           PFX20          |           PFX24          |
   +--------------------------+--------------------------+
AF0|           PFX60          |           PFX240         |
   +--------------------------+--------------------------+
AF8|           PFX255         |           PFX256         |
   +--------------------------+--------------------------+
B00|           PFX512         |          PFX2047         |
   +--------------------------+--------------------------+
B08|          PFX2048         |          PFX4095         |
   +--------------------------+--------------------------+
B10|          PFX4096         |          PFXHALF         |
   +--------------------------+--------------------------+
B18|          PFX00FFS        |          PFXPGNUM        |
   +--------------------------+--------------------------+
B20|          PFXHLFPG        |          PFXSTEMK        |
   +--------------------------+--------------------------+
B28|          PFX8000S        |          PFXNOADD        |
   +--------------------------+--------------------------+
B30|/////////////////////////////////////////////////////|
   |/////////////////////////////////////////////////////|
   +-----------------------------------------------------+
B40
```

REDEFINITION - COMMONLY USED HALF WORD CONSTANTS

```
   +-----------------------------------------------------+
A80|/////////////////////////////////////////////////////|
=/////////////////////////////////////////////////////=
   |/////////////////////////////////////////////////////|
   +-----------------------------------------------------+
AA8|/////////////////////////////////////////////////////|
   +-----------------------------------------------------+
AB0|/////////////////////////////////////////////////////|
   +-------------+-------------+-------------+-------------+
AB8|    PFXH0    |    PFXH1    |/////////////|    PFXH2    |
```

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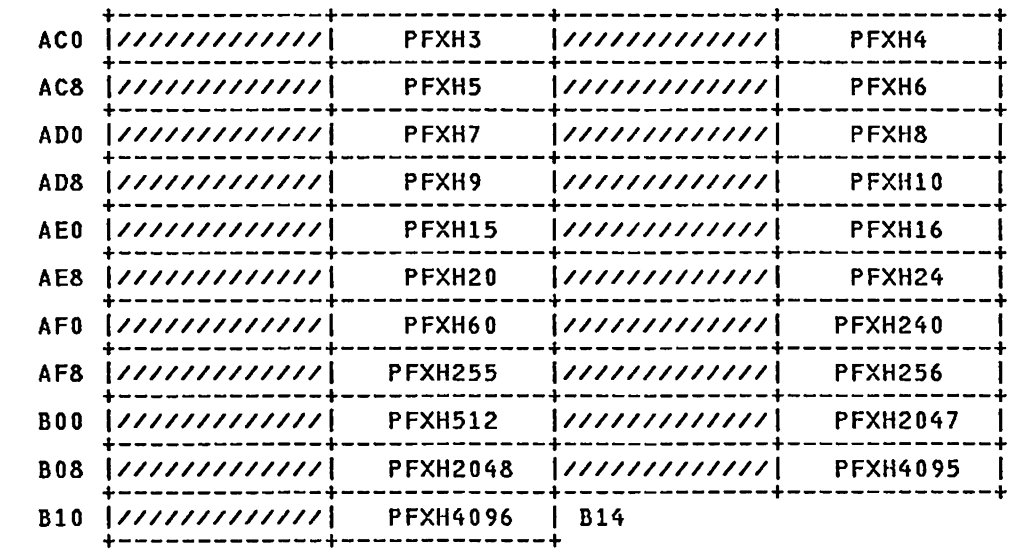
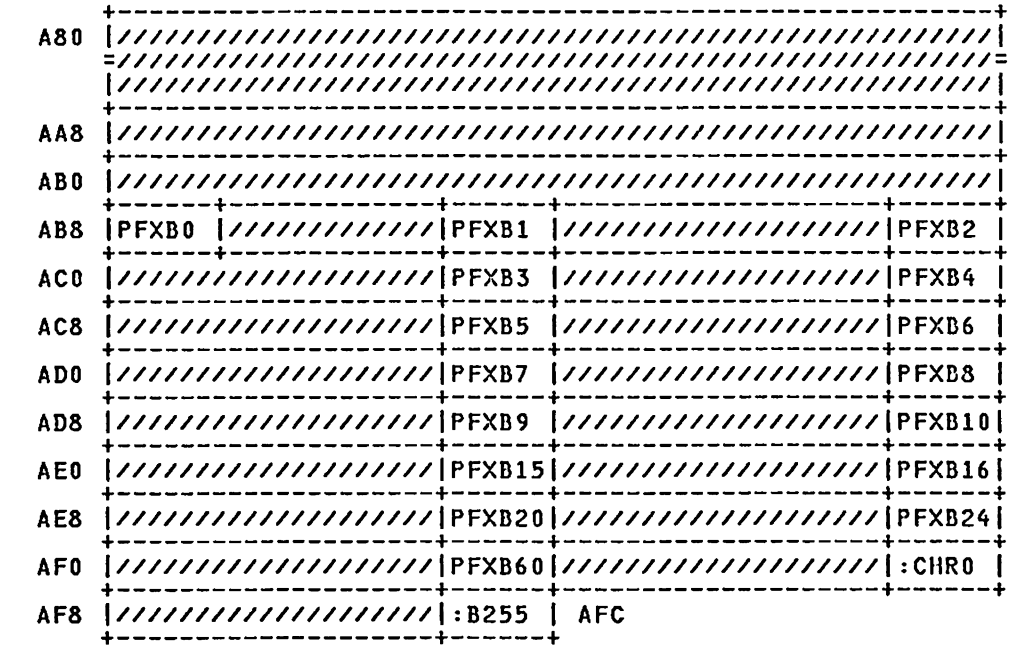
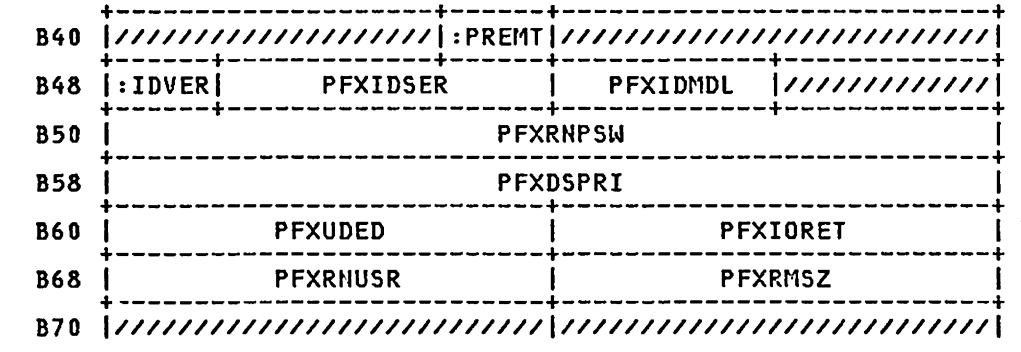


REDEFINITION - COMMONLY USED ONE BYTE CONSTANTS



REDEFINITION -



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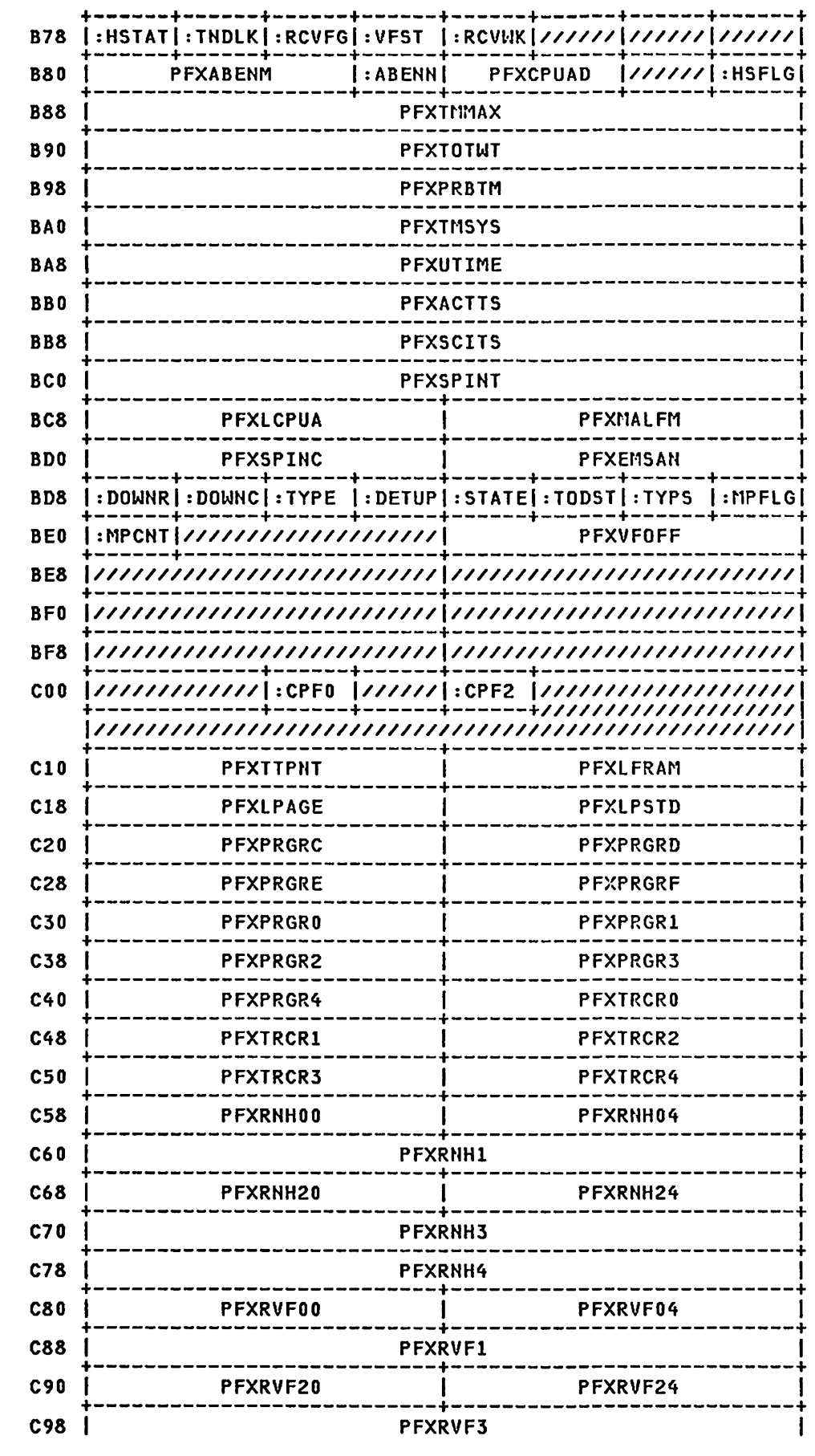

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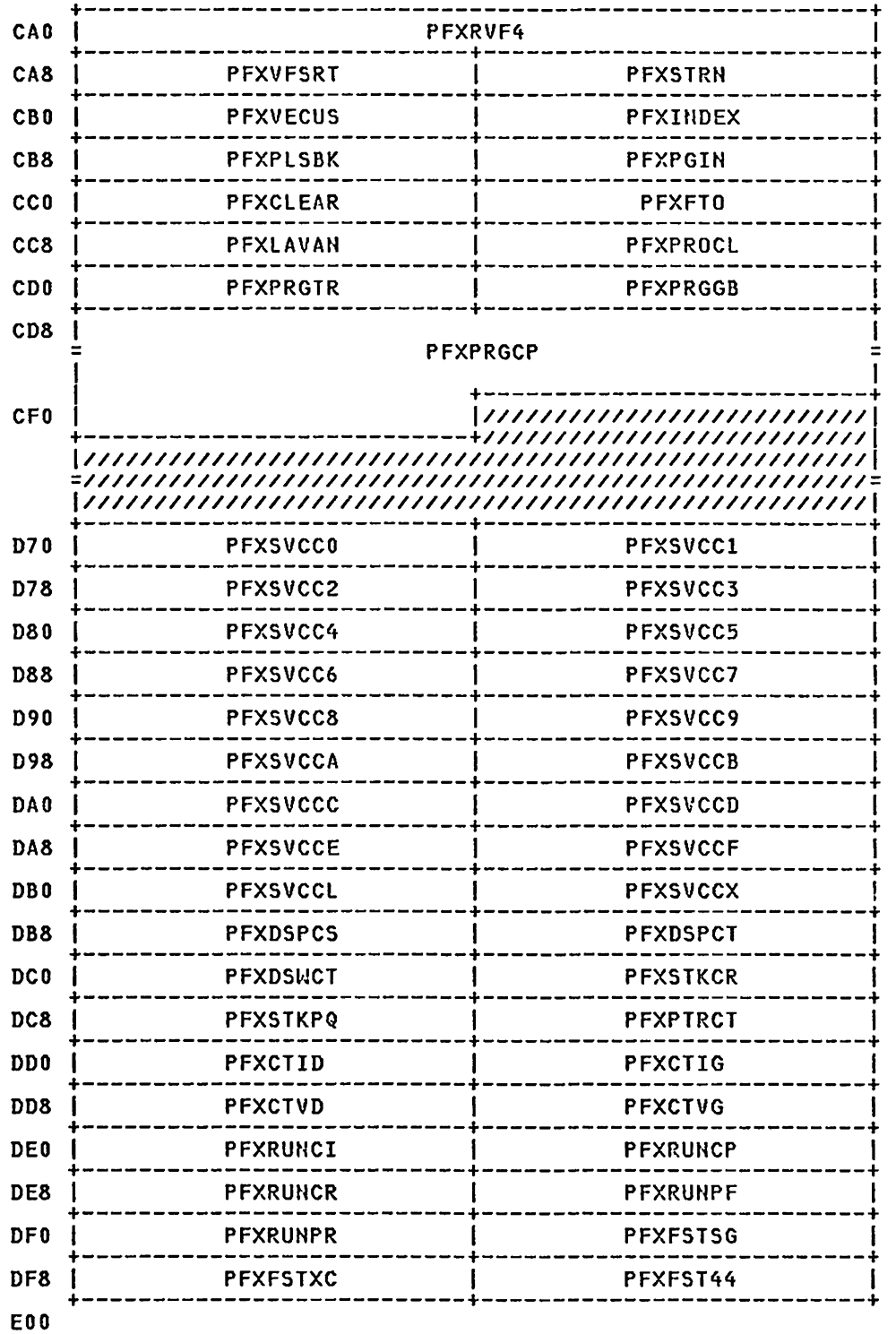
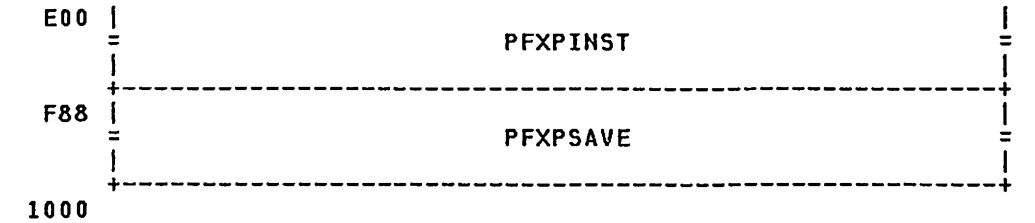


REDEFINITION -

CD8

REDEFINITION - PATCH AREA



REDEFINITION - DEFAULT INSTRUCTION

E00

disp	name	length	description
000	PFXMACHN	008	MACHINE USAGE
200	PFXSPARE	008	RESERVED FOR FUTURE IBM USE
600	PFXSAVES	008	SAVE AREAS
900	PFXTIMES	008	CPU TIMER REGION
980	PFXADCON	008	ADDRESS CONSTANT
A80	PFXCONST	008	COMMON CONSTANTS
B40	PFXCNTRL	008	CPU CONTROL REGION
E00	PFXPATCH	008	FE PATCH AREA

REDEFINITION - MACHINE USAGE REGION

000	PFXILPSW	008	IPL START PSW, RESTART NEW PSW
008	PFXICCW1	008	IPL CCW, RESTART OLD PSW
010	PFXICCW2	008	IPL CCW
018	PFXEXTOP	008	EXTERNAL OLD PSW
020	PFXSVCOP	008	SVC OLD PSW
028	PFXPRGOP	008	PROGRAM OLD PSW
030	PFXMCHOP	008	MACHINE CHECK OLD PSW
038	PFXIOOP	008	INPUT/OUTPUT OLD PSW
040		1F	RESERVED FOR FUTURE HARDWARE USE
044		1F	RESERVED FOR FUTURE HARDWARE USE
048		1F	RESERVED FOR FUTURE HARDWARE USE
04C		1F	RESERVED FOR FUTURE HARDWARE USE
050		1F	RESERVED FOR FUTURE HARDWARE USE
054		1F	RESERVED FOR FUTURE HARDWARE USE
058	PFXEXTNP	008	EXTERNAL NEW PSW
060	PFXSVCNP	008	SVC NEW PSW
068	PFXPRGNP	008	PROGRAM NEW PSW
070	PFXMCHNP	008	MACHINE CHECK NEW PSW
078	PFXIONP	008	INPUT/OUTPUT NEW PSW
080	PFXCPULG	008	CPU AND STORAGE LOGOUT AREA
080	PFXEXTDB	004	PROCESSOR CONTROLLER DATA BLOCK ADDRESS FOR SERVICE SIGNAL INTERRUPT
084	PFXEXTCF	004	EXTERNAL INTERRUPT CODE FIELDS
084	PFXEXTCP	002	EXTERNAL INTERRUPT CPU ADDR
086	PFXEXTIN	002	EXTERNAL INTERRUPT CODE
086	PFXEXTCL	001	EXTERNAL INTERRUPT CLASS CODE
	CODES DEFINED FOR PFXEXTCL BY HCPEQUAT EXTICLAS		
087	PFXEXTCD	001	EXTERNAL INTERRUPT TYPE CODE
	CODES DEFINED FOR PFXEXTCD BY HCPEQUAT EXTICODE		
088	PFXSVCIF	004	SVC INTERRUPT CODE FIELDS
088	PFXSVCIL	002	SVC INSTRUCTION LENGTH CODE
08A		X	RESERVED FOR FUTURE HARDWARE USE
08B	PFXSVCIC	001	SVC INTERRUPT CODE
	CODES DEFINED FOR PFXSVCIC BY HCPEQUAT SVC		
08C	PFXPRGCF	004	PROGRAM INTERRUPT CODE FIELDS
08C	PFXPRGIL	002	PROGRAM INTERRUPT INSTRUCTION

```
                          LENGTH CODE
08E   PFXPRGIN   002      PROGRAM INTERRUPT CODE, HALFWORD
08E               X       RESERVED FOR FUTURE HARDWARE USE
08F   PFXPRGIC   001      PROGRAM INTERRUPT CODE

        CODES DEFINED FOR PFXPRGIC BY HCPEQUAT PRGICODE

090   PFXTRXAD   004      TRANSLATION EXCEPTION ADDRESS
094   PFXMNCLS   002      MONITOR CLASS
096   PFXPERCD   002      PROGRAM EVENT RECORDER (PER) CODE
098   PFXPERAD   004      PER ADDRESS
09C   PFXMNCOD   004      MONITOR CODE
0A0              1F       RESERVED FOR FUTURE HARDWARE USE
0A4              1F       RESERVED FOR FUTURE HARDWARE USE
0A8              1F       RESERVED FOR FUTURE HARDWARE USE
0AC              1F       RESERVED FOR FUTURE HARDWARE USE
0B0              1F       RESERVED FOR FUTURE HARDWARE USE
0B4              1F       RESERVED FOR FUTURE HARDWARE USE
0B8   PFXIOSID   004      SUBCHANNEL IDENTIFICATION
0B8   PFXIOINT   002      I/O INTERRUPT CONSTANT 0001
0BA   PFXIORNM   002      I/O INTERRUPT SUBCHANNEL NUMBER
0BC   PFXINPRM   004      I/O INTERRUPT PARAMETER
0C0   PFXINTID   004      INTERRUPTION ID WORD:
0C0   PFXINISC   001      FIRST BYTE - THE ISC
0C1              3X       THE OTHER 3 BYTES
0C4              1F       RESERVED FOR FUTURE HARDWARE USE
0C8              1F       RESERVED FOR FUTURE HARDWARE USE
0CC              1F       RESERVED FOR FUTURE HARDWARE USE
0D0              1F       RESERVED FOR FUTURE HARDWARE USE
0D4              1F       RESERVED FOR FUTURE HARDWARE USE
0D8   PFXMCPUT   008      MACHINE CHECK CPU TIMER LOGOUT
0E0   PFXMCKCP   008      MACHINE CHECK TOD COMPARATOR LOGOUT
0E8   PFXMCHIN   008      MACHINE CHECK INTERRUPT CODE
0F0              1F       RESERVED FOR FUTURE HARDWARE USE
0F4   PFXMCHDC   004      MACHINE CHECK EXTERNAL-DAMAGE CODE
0F8   PFXMCFSA   004      MACHINE CHECK FAILING STORAGE ADDRESS
0FC   PFXMCHRD   004      MACHINE DEPENDENT REGION CODE
100   PFXFXLOG   016      MACHINE DEPENDENT FIXED LOGOUT AREA

                    EQUATES

        10    PFXFXLEN    LENGTH OF FIXED LOGOUT AREA.

110              XL80     RESERVED FOR FUTURE HARDWARE USE
160   PFXFPRLG   008      FLOATING POINT REGISTER LOGOUT AREA
180   PFXGPRLG   004      GENERAL REGISTER LOGOUT AREA
1C0   PFXCRLG    004      CONTROL REGISTER LOGOUT AREA

                    EQUATES

        40    PFXCRLGL    LENGTH OF CONTROL REGISTER
                          LOGOUT AREA
        00    PFXLAPND    END OF AREA COVERED BY LOW ADDRESS
                          PROTECTION


         REDEFINITION - DEFINITION FOR INITIAL LOADING PSW

000   PFXILP00   001      ILP PSW BYTE 0

        BITS DEFINED FOR PFXILP00 BY HCPEQUAT PSW0

001   PFXILP01   001      ILP PSW BYTE 1

        BITS DEFINED FOR PFXILP01 BY HCPEQUAT PSW1

002   PFXILP02   001      ILP PSW BYTE 2

        BITS DEFINED FOR PFXILP02 BY HCPEQUAT PSW2

003   PFXILP03   001      ILP PSW BYTE 3
004   PFXILPOI   004      ILP PSW INSTRUCTION COUNTER
004   PFXILP04   001      ILP PSW BYTE 4
```

```
        BITS DEFINED FOR PFXILP04 BY HCPEQUAT PSW4

005               3X        ILP PSW BYTES 5-7

         REDEFINITION - VARY PROCESSOR ONLINE WORK AREA

010   PFXSGPND    001       SIGP RESTART FUNCTION COMPLETION FLAG

        CODES DEFINED IN PFXSGPND (AT HEX DISPLACEMENT: 10)

        FF     PFXSGPGD     SUCCESSFUL COMPLETION
        EE     PFXSGPNG     NOT SUCCESSFUL COMPLETION

011   PFXCC2B1    007       BYTES 1-7 OF PFXICCW2
011               5X        RESERVED FOR FUTURE USE
016   PFXSGPCP    002       SIGP RESTART FUNCTION WORK AREA

         REDEFINITION - DEFINITION FOR OLD EXT PSW

018   PFXEXT00    001       EXT OLD PSW BYTE 0

        BITS DEFINED FOR PFXEXT00 BY HCPEQUAT PSW0

019   PFXEXT01    001       EXT OLD PSW BYTE 1

        BITS DEFINED FOR PFXEXT01 BY HCPEQUAT PSW1

01A   PFXEXT02    001       EXT OLD PSW BYTE 2

        BITS DEFINED FOR PFXEXT02 BY HCPEQUAT PSW2

01B   PFXEXT03    001       EXT OLD PSW BYTE 3
01C   PFXEXTOI    004       EXT OLD PSW INSTRUCTION COUNTER
01C   PFXEXT04    001       EXT OLD PSW BYTE 4

        BITS DEFINED FOR PFXEXT04 BY HCPEQUAT PSW4

01D               3X        EXT OLD PSW BYTES 5-7

         REDEFINITION - DEFINITION FOR OLD SVC PSW

020   PFXSVC00    001       SVC OLD PSW BYTE 0

        BITS DEFINED FOR PFXSVC00 BY HCPEQUAT PSW0

021   PFXSVC01    001       SVC OLD PSW BYTE 1

        BITS DEFINED FOR PFXSVC01 BY HCPEQUAT PSW1

022   PFXSVC02    001       SVC OLD PSW BYTE 2

        BITS DEFINED FOR PFXSVC02 BY HCPEQUAT PSW2

023   PFXSVC03    001       SVC OLD PSW BYTE 3
024   PFXSVCOI    004       SVC OLD PSW INSTRUCTION COUNTER
024   PFXSVC04    001       SVC OLD PSW BYTE 4

        BITS DEFINED FOR PFXSVC04 BY HCPEQUAT PSW4

025               3X        SVC OLD PSW BYTES 5-7

         REDEFINITION - DEFINITION FOR PRG OLD PSW

028   PFXPRG00    001       PRG OLD PSW BYTE 0

        BITS DEFINED FOR PFXPRG00 BY HCPEQUAT PSW0

029   PFXPRG01    001       PRG OLD PSW BYTE 1

        BITS DEFINED FOR PFXPRG01 BY HCPEQUAT PSW1

02A   PFXPRG02    001       PRG OLD PSW BYTE 2

        BITS DEFINED FOR PFXPRG02 BY HCPEQUAT PSW2
```

```
02B   PFXPRG03   001      PRG OLD PSW BYTE 3
02C   PFXPRGOI   004      PRG OLD PSW INSTRUCTION COUNTER
02C   PFXPRG04   001      PRG OLD PSW BYTE 4

        BITS DEFINED FOR PFXPRG04 BY HCPEQUAT PSW4

02D              3X       PRG OLD PSW BYTES 5-7

         REDEFINITION - DEFINITION FOR MCH OLD PSW

030   PFXMCH00   001      MCH OLD PSW BYTE 0

        BITS DEFINED FOR PFXMCH00 BY HCPEQUAT PSW0

031   PFXMCH01   001      MCH OLD PSW BYTE 1

        BITS DEFINED FOR PFXMCH01 BY HCPEQUAT PSW1

032   PFXMCH02   001      MCH OLD PSW BYTE 2

        BITS DEFINED FOR PFXMCH02 BY HCPEQUAT PSW2

033   PFXMCH03   001      MCH OLD PSW BYTE 3
034   PFXMCHOI   004      MCH OLD PSW INSTRUCTION COUNTER
034   PFXMCH04   001      MCH OLD PSW BYTE 4

        BITS DEFINED FOR PFXMCH04 BY HCPEQUAT PSW4

035              3X       MCH OLD PSW BYTES 5-7

         REDEFINITION - DEFINITION FOR I/O OLD PSW

038   PFXIOP00   001      I/O OLD PSW BYTE 0

        BITS DEFINED FOR PFXIOP00 BY HCPEQUAT PSW0

039   PFXIOP01   001      I/O OLD PSW BYTE 1

        BITS DEFINED FOR PFXIOP01 BY HCPEQUAT PSW1

03A   PFXIOP02   001      I/O OLD PSW BYTE 2

        BITS DEFINED FOR PFXIOP02 BY HCPEQUAT PSW2

03B   PFXIOP03   001      I/O OLD PSW BYTE 3
03C   PFXIOPOI   004      I/O OLD PSW INSTRUCTION COUNTER
03C   PFXIOP04   001      I/O OLD PSW BYTE 4

        BITS DEFINED FOR PFXIOP04 BY HCPEQUAT PSW4

03D              3X       I/O OLD PSW BYTES 5-7

         REDEFINITION - DEFINITION FOR NEW EXT PSW

058   PFXEXTN0   001      EXT NEW PSW BYTE 0

        BITS DEFINED FOR PFXEXTN0 BY HCPEQUAT PSW0

059   PFXEXTN1   001      EXT NEW PSW BYTE 1

        BITS DEFINED FOR PFXEXTN1 BY HCPEQUAT PSW1

05A   PFXEXTN2   001      EXT NEW PSW BYTE 2

        BITS DEFINED FOR PFXEXTN2 BY HCPEQUAT PSW2

05B   PFXEXTN3   001      EXT NEW PSW BYTE 3
05C   PFXEXTNI   004      EXT NEW PSW INSTRUCTION COUNTER
05C   PFXEXTN4   001      EXT NEW PSW BYTE 4

        BITS DEFINED FOR PFXEXTN4 BY HCPEQUAT PSW4

05D              3X       EXT NEW PSW BYTES 5-7
```

```
         REDEFINITION - DEFINITION FOR NEW SVC PSW

060   PFXSVCN0   001      SVC NEW PSW BYTE 0

        BITS DEFINED FOR PFXSVCN0 BY HCPEQUAT PSW0

061   PFXSVCN1   001      SVC NEW PSW BYTE 1

        BITS DEFINED FOR PFXSVCN1 BY HCPEQUAT PSW1

062   PFXSVCN2   001      SVC NEW PSW BYTE 2

        BITS DEFINED FOR PFXSVCN2 BY HCPEQUAT PSW2

063   PFXSVCN3   001      SVC NEW PSW BYTE 3
064   PFXSVCNI   004      SVC NEW PSW INSTRUCTION COUNTER
064   PFXSVCN4   001      SVC NEW PSW BYTE 4

        BITS DEFINED FOR PFXSVCN4 BY HCPEQUAT PSW4

065              3X       SVC NEW PSW BYTES 5-7

         REDEFINITION - DEFINITION FOR PRG NEW PSW

068   PFXPRGN0   001      PRG NEW PSW BYTE 0

        BITS DEFINED FOR PFXPRGN0 BY HCPEQUAT PSW0

069   PFXPRGN1   001      PRG NEW PSW BYTE 1

        BITS DEFINED FOR PFXPRGN1 BY HCPEQUAT PSW1

06A   PFXPRGN2   001      PRG NEW PSW BYTE 2

        BITS DEFINED FOR PFXPRGN2 BY HCPEQUAT PSW2

06B   PFXPRGN3   001      PRG NEW PSW BYTE 3
06C   PFXPRGNI   004      PRG NEW PSW INSTRUCTION COUNTER
06C   PFXPRGN4   001      PRG NEW PSW BYTE 4

        BITS DEFINED FOR PFXPRGN4 BY HCPEQUAT PSW4

06D              3X       PRG NEW PSW BYTES 5-7

         REDEFINITION - DEFINITION FOR MCH NEW PSW

070   PFXMCHN0   001      MCH NEW PSW BYTE 0

        BITS DEFINED FOR PFXMCHN0 BY HCPEQUAT PSW0

071   PFXMCHN1   001      MCH NEW PSW BYTE 1

        BITS DEFINED FOR PFXMCHN1 BY HCPEQUAT PSW1

072   PFXMCHN2   001      MCH NEW PSW BYTE 2

        BITS DEFINED FOR PFXMCHN2 BY HCPEQUAT PSW2

073   PFXMCHN3   001      MCH NEW PSW BYTE 3
074   PFXMCHNI   004      MCH NEW PSW INSTRUCTION COUNTER
074   PFXMCHN4   001      MCH NEW PSW BYTE 4

        BITS DEFINED FOR PFXMCHN4 BY HCPEQUAT PSW4

075              3X       MCH NEW PSW BYTES 5-7

         REDEFINITION - DEFINITION FOR I/O NEW PSW

078   PFXIOPN0   001      I/O NEW PSW BYTE 0

        BITS DEFINED FOR PFXIOPN0 BY HCPEQUAT PSW0

079   PFXIOPN1   001      I/O NEW PSW BYTE 1
```

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```
        BITS DEFINED FOR PFXIOPN1 BY HCPEQUAT PSW1

07A   PFXIOPN2   001       I/O NEW PSW BYTE 2

        BITS DEFINED FOR PFXIOPN2 BY HCPEQUAT PSW2

07B   PFXIOPN3   001       I/O NEW PSW BYTE 3
07C   PFXIOPNI   004       I/O NEW PSW INSTRUCTION COUNTER
07C   PFXIOPN4   001       I/O NEW PSW BYTE 4

        BITS DEFINED FOR PFXIOPN4 BY HCPEQUAT PSW4

07D              3X       I/O NEW PSW BYTES 5-7

         REDEFINITION - OVERLAY FOR MACHINE CHECK CODES

0E8   PFXMCHI0   001       MACHINE CHECK INTERRUPT CODE BYTE 0

        BITS DEFINED FOR PFXMCHI0 BY HCPEQUAT MCIC0

0E9   PFXMCHI1   001       MACHINE CHECK INTERRUPT CODE BYTE 1

        BITS DEFINED FOR PFXMCHI1 BY HCPEQUAT MCIC1

0EA   PFXMCHI2   001       MACHINE CHECK INTERRUPT CODE BYTE 2

        BITS DEFINED FOR PFXMCHI2 BY HCPEQUAT MCIC2

0EB   PFXMCHI3   001       MACHINE CHECK INTERRUPT CODE BYTE 3

        BITS DEFINED FOR PFXMCHI3 BY HCPEQUAT MCIC3

0EC   PFXMCHI4   001       MACHINE CHECK INTERRUPT CODE BYTE 4

        BITS DEFINED FOR PFXMCHI4 BY HCPEQUAT MCIC4

0ED   PFXMCHI5   001       MACHINE CHECK INTERRUPT CODE BYTE 5

        BITS DEFINED FOR PFXMCHI5 BY HCPEQUAT MCIC5

0EE   PFXMCHI6   002       MACHINE CHECK INTERRUPT CODE BYTE 6-7

         REDEFINITION - MACHINE CHECK EXTERNAL DAMAGE CODE

0F4              X        RESERVED FOR FUTURE IBM USE
0F5   PFXDCBY1   001       BYTE 1 OF THE EXTERNAL DAMAGE CODE

        BITS DEFINED FOR PFXDCBY1 BY HCPEQUAT MCEXTDMC

0F6              H        RESERVED FOR FUTURE IBM USE

         REDEFINITION - STORE STATUS AREA DEFINITION

100   PFXSTPSW   008       STORE STATUS PSW LOGOUT AREA
108   PFXSTPFX   004       STORE STATUS PREFIX LOGOUT AREA
10C   PFXSTMDL   004       STORE STATUS MODEL DEPENDENT DATA

         REDEFINITION - SAVE AREA REGION

600   PFXTMPSV   128       TEMPORARY SAVE AREA
680   PFXWRKSV   128       SPECIAL WORK SAVE AREA
700   PFXBALSV   128       BALR LINKAGE SAVE AREA
780   PFXPTRSV   128       PAGE TRANSLATION SAVE AREA
800   PFXFRESV   128       HCPFRE SAVE AREA
880   PFXIRPSV   016       R12-R15 SAVE AREA FOR FLIHS
890   PFXLNKSV   016       CP CALL/RETURN LINKAGE SAVEAREA
8A0   PFXSVCSV   064       SVC R0-R15 SAVEAREA
8E0   PFXSVC     004       HPCSVC ADDRESS

        BITS DEFINED FOR PFXSVCN4 BY HCPEQUAT PSW4

8E4   PFXSVCLC   004       COUNT OF CP CALL-WITH-SAVEAREA
8E8   PFXLRC     004       LOCAL SAVDK RETURN QUEUE COUNT
```

```
8EC   PFXLRQ     004      LOCAL SAVBK RETURN QUEUE
8F0   PFXCPRQA   004      CROSS PROCESSOR RETURN QUEUE ADDR
8F4   PFXCPRQP   004      CROSS PROCESSOR RETURN QUEUE ADDR
8F8   PFXSSABK   004      STATIC SAVEAREA BLOCK
8FC   PFXSVR13   004      TEMPORARY R13 SAVE FOR SSABK USAGE
```

REDEFINITION - TEMPORARY SAVE AREA

```
600   PFXTMPFP   004
604   PFXTMPBP   004
608              F
60C              F
610   PFXTMPSC   001
611   PFXTMPCL   001
612              X
613              X
614              F
618   PFXTMPRG   064
618   PFXTMPR0   004
61C   PFXTMPR1   004
620   PFXTMPR2   004
624   PFXTMPR3   004
628   PFXTMPR4   004
62C   PFXTMPR5   004
630   PFXTMPR6   004
634   PFXTMPR7   004
638   PFXTMPR8   004
63C   PFXTMPR9   004
640   PFXTMPRA   004
644   PFXTMPRB   004
648   PFXTMPRC   004
64C   PFXTMPRD   004
650   PFXTMPRE   004
654   PFXTMPRF   004
658   PFXTMPWK   040
658   PFXTMPW0   004
65C   PFXTMPW1   004
660   PFXTMPW2   004
664   PFXTMPW3   004
668   PFXTMPW4   004
66C   PFXTMPW5   004
670   PFXTMPW6   004
674   PFXTMPW7   004
678   PFXTMPW8   004
67C   PFXTMPW9   004
```

REDEFINITION - WORK SAVE AREA

```
680   PFXWRKFP   004
684   PFXWRKBP   004
688              F
68C              F
690   PFXWRKSC   001
691   PFXWRKCL   001
692              X
693              X
694              F
698   PFXWRKRG   064
698   PFXWRKR0   004
69C   PFXWRKR1   004
6A0   PFXWRKR2   004
6A4   PFXWRKR3   004
6A8   PFXWRKR4   004
6AC   PFXWRKR5   004
6B0   PFXWRKR6   004
6B4   PFXWRKR7   004
6B8   PFXWRKR8   004
6BC   PFXWRKR9   004
6C0   PFXWRKRA   004
6C4   PFXWRKRB   004
6C8   PFXWRKRC   004
6CC   PFXWRKRD   004
6D0   PFXWRKRE   004
6D4   PFXWRKRF   004
```

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```
6D8    PFXWRKWK    040
6D8    PFXWRKW0    004
6DC    PFXWRKW1    004
6E0    PFXWRKW2    004
6E4    PFXWRKW3    004
6E8    PFXWRKW4    004
6EC    PFXWRKW5    004
6F0    PFXWRKW6    004
6F4    PFXWRKW7    004
6F8    PFXWRKW8    004
6FC    PFXWRKW9    004
```

REDEFINITION - BALR LINKAGE SAVE AREA

```
700    PFXBALFP    004
704    PFXBALBP    004
708                F
70C                F
710    PFXBALSC    001
711    PFXBALCL    001
712                X
713                X
714                F
718    PFXBALRG    064
718    PFXBALR0    004
71C    PFXBALR1    004
720    PFXBALR2    004
724    PFXBALR3    004
728    PFXBALR4    004
72C    PFXBALR5    004
730    PFXBALR6    004
734    PFXBALR7    004
738    PFXBALR8    004
73C    PFXBALR9    004
740    PFXBALRA    004
744    PFXBALRB    004
748    PFXBALRC    004
74C    PFXBALRD    004
750    PFXBALRE    004
754    PFXBALRF    004
758    PFXBALWK    040
758    PFXBALW0    004
75C    PFXBALW1    004
760    PFXBALW2    004
764    PFXBALW3    004
768    PFXBALW4    004
76C    PFXBALW5    004
770    PFXBALW6    004
774    PFXBALW7    004
778    PFXBALW8    004
77C    PFXBALW9    004
```

REDEFINITION - HCPPTRAN LINKAGE SAVE AREA

```
780    PFXPTRFP    004
784    PFXPTRBP    004
788                F
78C                F
790    PFXPTRSC    001
791    PFXPTRCL    001
792                X
793                X
794                F
798    PFXPTRRG    064
798    PFXPTRR0    004
79C    PFXPTRR1    004
7A0    PFXPTRR2    004
7A4    PFXPTRR3    004
7A8    PFXPTRR4    004
7AC    PFXPTRR5    004
7B0    PFXPTRR6    004
7B4    PFXPTRR7    004
7B8    PFXPTRR8    004
7BC    PFXPTRR9    004
```

```
7C0   PFXPTRRA   004
7C4   PFXPTRRB   004
7C8   PFXPTRRC   004
7CC   PFXPTRRD   004
7D0   PFXPTRRE   004
7D4   PFXPTRRF   004
7D8   PFXPTRWK   040
7D8   PFXPTRW0   004
7DC   PFXPTRW1   004
7E0   PFXPTRW2   004
7E4   PFXPTRW3   004
7E8   PFXPTRW4   004
7EC   PFXPTRW5   004
7F0   PFXPTRW6   004
7F4   PFXPTRW7   004
7F8   PFXPTRW8   004
7FC   PFXPTRW9   004

        REDEFINITION - FREE STORAGE SAVE AREA

800   PFXFREFP   004
804   PFXFREBP   004
808              F
80C              F
810   PFXFRESC   001
811   PFXFRECL   001
812              X
813              X
814              F
818   PFXFRERG   064
818   PFXFRER0   004
81C   PFXFRER1   004
820   PFXFRER2   004
824   PFXFRER3   004
828   PFXFRER4   004
82C   PFXFRER5   004
830   PFXFRER6   004
834   PFXFRER7   004
838   PFXFRER8   004
83C   PFXFRER9   004
840   PFXFRERA   004
844   PFXFRERB   004
848   PFXFRERC   004
84C   PFXFRERD   004
850   PFXFRERE   004
854   PFXFRERF   004
858   PFXFREWK   040
858   PFXFREW0   004
85C   PFXFREW1   004
860   PFXFREW2   004
864   PFXFREW3   004
868   PFXFREW4   004
86C   PFXFREW5   004
870   PFXFREW6   004
874   PFXFREW7   004
878   PFXFREW8   004
87C   PFXFREW9   004

        REDEFINITION - INTERRUPT FLIH R12-R15 SAVE AREA

880   PFXIRP12   004      R12 SAVE AREA
884   PFXIRP13   004      R13 SAVE AREA
888   PFXIRP14   004      R14 SAVE AREA
88C   PFXIRP15   004      R15 SAVE AREA

        REDEFINITION - CALLING LINKAGE R12-R15 SAVE AREA

890   PFXLNK12   004      R12 SAVE AREA
894   PFXLNK13   004      R13 SAVE AREA
898   PFXLNK14   004      R14 SAVE AREA
89C   PFXLNK15   004      R15 SAVE AREA

        REDEFINITION - TIMER WORK REGION
```

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```
900   PFXTODHO   004       HIGH HALF OF TOD CLOCK
900   PFXCVTDA   008       WORK AREA FOR HCPCVTOD
908   PFXPTLBT   008       TOD CLOCK AT LAST PTLB ON THIS CPU
910   PFXTMRUN   008       CPU TIMER AT USER RUN
918   PFXTMURN   008       CPU TIMER AT USER UN-RUN
920   PFXTMDSP   008       CPU TIMER AT USER DISPATCH
928   PFXTMUDS   008       CPU TIMER AT USER UN-DISPATCH
930   PFXVTDSP   008       VALUE OF VMSVTIME AT USER DISPATCH
938              FL8S12'0'RESERVED FOR FUTURE IBM USE
940   PFXCPCR    064       HOST CONTROL REGISTERS
940   PFXCPCR0   004       CONTROL AND  EXTERNAL MASKS
940   PFXCR0B0   001

        BITS DEFINED FOR PFXCR0B0 BY HCPEQUAT CR0B0

941   PFXCR0B1   001

        BITS DEFINED FOR PFXCR0B1 BY HCPEQUAT CR0B1

942   PFXCR0B2   001

        BITS DEFINED FOR PFXCR0B2 BY HCPEQUAT CR0B2

943   PFXCR0B3   001

        BITS DEFINED FOR PFXCR0B3 BY HCPEQUAT CR0B3

944   PFXCPCR1   004       USER SEGMENT TABLE ADDRESS
944   PFXCR1B0   001

        BITS DEFINED FOR PFXCR1B0 BY HCPEQUAT CR1B0

945   PFXCR1B1   001
946   PFXCR1B2   001
947   PFXCR1B3   001
948   PFXCPCR2   004
948   PFXCR2B0   001
949   PFXCR2B1   001
94A   PFXCR2B2   001
94B   PFXCR2B3   001
94C   PFXCPCR3   004
94C   PFXCR3B0   001
94D   PFXCR3B1   001
94E   PFXCR3B2   001
94F   PFXCR3B3   001
950   PFXCPCR4   004
950   PFXCR4B0   001
951   PFXCR4B1   001
952   PFXCR4B2   001
953   PFXCR4B3   001
954   PFXCPCR5   004
954   PFXCR5B0   001
955   PFXCR5B1   001
956   PFXCR5B2   001
957   PFXCR5B3   001
958   PFXCPCR6   004       I/O INTERRUPTION SUBCLASS MASKS
958   PFXCR6B0   001

        BITS DEFINED IN PFXCR6B0 (AT HEX DISPLACEMENT: 958)

        80    PFXCPIOI    I/O INTERRUPT SUBCLASS 00 FOR
                          CP-INITIATED I/O
        40    PFXIOCL1    FLOATING CHANNEL INTERRUPT CLASS 1
        20    PFXVRIOI    I/O INTERRUPT SUBCLASS FOR V=R
                          GUEST INITIATED I/O
        10    PFXIOCL3    FLOATING CHANNEL INTERRUPT CLASS 3
        08    PFXFPIOI    I/O INTERRUPT SUBCLASS 04 FOR I/O
                          ISSUED TO A FULL PACK IN THE V=R
                          I/O CONFIGURATION.
        04    PFXIOCL5    FLOATING CHANNEL INTERRUPT CLASS 5
        02    PFXIOCL6    FLOATING CHANNEL INTERRUPT CLASS 6
        01    PFXIOCL7    FLOATING CHANNEL INTERRUPT CLASS 7
        15    PFXISCPT    INTERRUPTION SUBCLASSES DEDICATED FOR
                          I/O PASS THROUGH'S USE. (3, 5, 7)
```

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```
959   PFXCR6B1   001
95A   PFXCR6B2   001
95B   PFXCR6B3   001
95C   PFXCPCR7   004
95C   PFXCR7B0   001
95D   PFXCR7B1   001
95E   PFXCR7B2   001
95F   PFXCR7B3   001
960   PFXCPCR8   004       MONITOR CALL ENABLE MASKS
960   PFXCR8B0   001
961   PFXCR8B1   001
962   PFXCR8B2   001
963   PFXCR8B3   001
964   PFXCPCR9   004       PER CONTROL
964   PFXCR9B0   001

        BITS DEFINED FOR PFXCR9B0 BY HCPEQUAT CR9B0

965   PFXCR9B1   001
                           BITS-DEFINED FOR PFXCR9B2 BY HCPEQUAT CR9B2
966   PFXCR9B2   001
                           BITS-DEFINED FOR PFXCR9B3 BY HCPEQUAT CR9B3
967   PFXCR9B3   001
968   PFXCPCRA   004       PER ADDRESS RANGE
96C   PFXCPCRB   004       PER ADDRESS RANGE
970   PFXCPCRC   004
970   PFXCRCB0   001

        BITS DEFINED FOR PFXCRCB0 BY HCPEQUAT CRCB0

971   PFXCRCB1   001
972   PFXCRCB2   001
973   PFXCRCB3   001

        BITS DEFINED FOR PFXCRCB3 BY HCPEQUAT CRCB3

974   PFXCPCRD   004
974   PFXCRDB0   001
975   PFXCRDB1   001
976   PFXCRDB2   001
977   PFXCRDB3   001
978   PFXCPCRE   004       MACHINE CHECK CONTROL MASK
978   PFXCREB0   001

        BITS DEFINED FOR PFXCREB0 BY HCPEQUAT CREB0

979   PFXCREB1   001

        BITS DEFINED FOR PFXCREB1 BY HCPEQUAT CREB1

97A   PFXCREB2   001
97B   PFXCREB3   001
97C   PFXCPCRF   004
97C   PFXCRFB0   001
97D   PFXCRFB1   001
97E   PFXCRFB2   001
97F   PFXCRFB3   001

         REDEFINITION - SUPPLY INITIAL CONTROL REG VALUES

940              XL4'80B00CONTROL AND  EXTERNAL MASKS
944              XL4'FFFFFUSER SEGMENT TABLE ADDRESS
948              XL4'00000CROSS MEMORY
94C              XL4'00000
950              XL4'00000
954              XL4'00000
958              XL4'00000I/O INTERRUPTION SUBCLASS MASKS
95C              XL4'00000
960              XL4'00000MONITOR CALL ENABLE MASKS
964              XL4'00000PER CONTROL
968              XL4'00000PER ADDRESS RANGE
96C              XL4'00000PER ADDRESS RANGE
970              XL4'00000
```

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```
974                 XL4'00000
978                 XL4'FFFF0MACHINE CHECK CONTROL MASK
97C                 XL4'00000
```

REDEFINITION - ADDRESS CONSTANTS FOR FAST LINKAGES

```
9B8   PFXCFMRD   004      CONSOLE FUNCTION READ MODULE
9BC   PFXCVTBH   004      CONVERT BINARY TO HEXIDECIMAL
9C0   PFXCVTDT   004      OBTAIN TODAY'S DATE
9C4   PFXCVTOD   004      OBTAIN TIME OF DAY CLOCK VALUE
9C8   PFXDSPCH   004      SYSTEM DISPATCHER
9CC   PFXERMSG   004      ERROR MESSAGE FORMATTER
9D0   PFXFREE    004      ALLOCATE FREE STORAGE
9D4   PFXFRET    004      RELEASE FREE STORAGE
9D8   PFXGSVC0   004      SET USER'S CONDITION CODE 0
9DC   PFXGSVC1   004      SET USER'S CONDITION CODE 1
9E0   PFXGSVC2   004      SET USER'S CONDITION CODE 2
9E4   PFXGSVC3   004      SET USER'S CONDITION CODE 3
9E8   PFXTTATB   004      TABLE OF TRACE ENTRY CODES
9EC   PFXIOSRQ   004      INPUT/OUTPUT SCHEDULING REQUEST
9F0   PFXPTRAN   004      VIRTUAL ADDR TRANSLATE ROUTINE
9F4   PFXPTFLK   004      LOCK A PAGE IN STORAGE
9F8   PFXPTFUL   004      PAGE UNLOCKING ROUTINE
9FC   PFXPTRAB   004      ABSOLUTE ADDR TRANSLATE ROUTINE
A00   PFXQCNWT   004      WRITE A TERMINAL MESSAGE
A04   PFXRUNXT   004      EMULATION STATE EXIT ROUTINE
A08   PFXSTKCP   004      STACK A CPEBK
A0C   PFXSTKGT   004      STACK A DELAYED GOTO
A10   PFXSTKIO   004      STACK AN IORBK
A14   PFXSCCFD   004      SCAN FOR NEXT FIELD IN GSDBLOK
A18   PFXSYS     004      SYSTEM COMMON AREA
A1C   PFXFTBL    004      SYSTEM FRAME TABLE
A20   PFXSYSVM   004      SYSTEM VMDBLOCK
A24   PFXRUNU    004      ROUTINE TO RUN USER
A28   PFXENDOP   004      END OF INSTRUCTION SIMULATION
A2C   PFXSVCSW   004      SWITCH-TO-MASTER LINKAGE
A30   PFXMM0     004      START OF RESIDENT NUCLEUS
A34   PFXMM5     004      MP BOUNDARY FOR RESIDENT MODULES
A38   PFXSVCGS   004      GET A SAVBK
A3C   PFXPAGCP   004      ADDR OF FIRST PAGEABLE PROGRAM
A40   PFXSVCRS   004      RELEASE A SAVBK
A44   PFXLUSER   004      PRIOR RUNNING USER
A48   PFXPRFIX   004      PREFIX VALUE FOR THIS CPU
A4C   PFXNXTPF   004      CYCLIC POINTER TO NEXT PREFIX AREA
A50   PFXSPIEA   004      PROG INTERRUPT EXIT ADDR - SEE HCPSPIE
A54   PFXSPIEM   004      PROG INTERRUPT EXIT MASK - SEE HCPSPIE
A58   PFXSTDBK   004      SYSTEM TERMINATION DUMP BLOCK ADDRESS
A5C   PFXMCHA    004      MACHINE CHECK WORK AREA
A60   PFXMCVBK   004      THIS CPU'S PERMANENT MCVBK.  IF BLOCK
                          IS NON-0, A DAMAGE INCIDENT IS IN PROGRESS.
A64   PFXINST1   004      RESERVED FOR INSTALLATION USE
A68   PFXINST2   004      RESERVED FOR INSTALLATION USE
A6C   PFXINST3   004      RESERVED FOR INSTALLATION USE
A70   PFXINST4   004      RESERVED FOR INSTALLATION USE
```

REDEFINITION - COMMONLY USED CONSTANTS

```
A80   PFXZEROS   008      40 BYTES OF BINARY ZEROES
AA8   PFXBLANK   008
AB0   PFXFFS     008
```

EQUATES

```
      80    PFX0

AB8   PFX1       004
ABC   PFX2       004
AC0   PFX3       004
AC4   PFX4       004
AC8   PFX5       004
ACC   PFX6       004
AD0   PFX7       004
AD4   PFX8       004
AD8   PFX9       004
```

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```
ADC   PFX10       004
AE0   PFX15       004       ALSO = X'0000000F'
AE4   PFX16       004
AE8   PFX20       004
AEC   PFX24       004
AF0   PFX60       004       ALSO = X'0000003C'
AF4   PFX240      004       ALSO = X'000000F0' = C'0'
AF8   PFX255      004       ALSO = X'000000FF'
AFC   PFX256      004       ALSO = X'00000100'
B00   PFX512      004       ALSO = X'00000200'
B04   PFX2047     004       ALSO = X'000007FF'
B08   PFX2048     004       ALSO = X'00000800'
B0C   PFX4095     004       ALSO = X'00000FFF'
B10   PFX4096     004       ALSO = X'00001000'
B14   PFXHALF     004       ALSO = F'65535' (65K-1)
B18   PFX00FFS    004
B1C   PFXPGNUM    004
B20   PFXHLFPG    004
B24   PFXSTEMK    004       MASK TO ISOLATE SEGTABLE ENTRY

                    EQUATES

        1C     PFXSTOMK     MASK TO ISOLATE VMDPSTO ENTRY
        1C     PFXPTEMK     MASK TO ISOLATE PAGTABLE ENTRY

B28   PFX8000S    004
B2C   PFXNOADD    004

                    EQUATES

        88     PFX7FFFS     X'7FFFFFFF', 4 BYTES LENGTH

B30               4F        RESERVED FOR FUTURE IBM USE

         REDEFINITION - COMMONLY USED HALF WORD CONSTANTS

A80               5D'0'
AA8               XL8'40404
AB0               XL8'FFFFF
AB8   PFXH0       002
ABA   PFXH1       002
ABC               H'0'
ABE   PFXH2       002
AC0               H'0'
AC2   PFXH3       002
AC4               H'0'
AC6   PFXH4       002
AC8               H'0'
ACA   PFXH5       002
ACC               H'0'
ACE   PFXH6       002
AD0               H'0'
AD2   PFXH7       002
AD4               H'0'
AD6   PFXH8       002
AD8               H'0'
ADA   PFXH9       002
ADC               H'0'
ADE   PFXH10      002
AE0               H'0'
AE2   PFXH15      002
AE4               H'0'
AE6   PFXH16      002
AE8               H'0'
AEA   PFXH20      002
AEC               H'0'
AEE   PFXH24      002
AF0               H'0'
AF2   PFXH60      002
AF4               H'0'
AF6   PFXH240     002
AF8               H'0'
AFA   PFXH255     002
AFC               H'0'
```

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```
AFE   PFXH256     002
B00               H'0'
B02   PFXH512     002
B04               H'0'
B06   PFXH2047    002
B08               H'0'
B0A   PFXH2048    002
B0C               H'0'
B0E   PFXH4095    002
B10               H'0'
B12   PFXH4096    002
```

REDEFINITION - COMMONLY USED ONE BYTE CONSTANTS

```
A80               5D'0'
AA8               XL8'40404
AB0               XL8'FFFFF
AB8   PFXB0       001
AB9               XL2'00'
ABB   PFXB1       001
ABC               XL3'00'
ABF   PFXB2       001
AC0               XL3'00'
AC3   PFXB3       001
AC4               XL3'00'
AC7   PFXB4       001
AC8               XL3'00'
ACB   PFXB5       001
ACC               XL3'00'
ACF   PFXB6       001
AD0               XL3'00'
AD3   PFXB7       001
AD4               XL3'00'
AD7   PFXB8       001
AD8               XL3'00'
ADB   PFXB9       001
ADC               XL3'00'
ADF   PFXB10      001
AE0               XL3'00'
AE3   PFXB15      001
AE4               XL3'00'
AE7   PFXB16      001
AE8               XL3'00'
AEB   PFXB20      001
AEC               XL3'00'
AEF   PFXB24      001
AF0               XL3'00'
AF3   PFXB60      001
AF4               XL3'00'
AF7   PFXB240     001
AF7   PFXCHR0     001
AF8               XL3'00'
AFB   PFXB255     001
```

REDEFINITION -

```
B40               3X'00'    RESERVED FOR IBM USE
B43   PFXPREMT    001       CPU PREEMPTION FLAG
```

CODES DEFINED IN PFXPREMT (AT HEX DISPLACEMENT: B43)

```
FF    PFXPRERQ    CPU PREEMPTION IS REQUESTED
00    PFXPREMF    CPU PREEMPTION HAS BEEN SATISFIED

B44               1F'0'     RESERVED FOR FUTURE IBM USE.
B48   PFXCPUID    008       CPU IDENTIFICATION FIELD
B48   PFXIDVER    001       CPU MODEL VERSION CODE
```

CODES DEFINED FOR PFXIDVER BY HCPEQUAT CPUID

```
B49   PFXIDSER    003       CPU SERIAL NUMBER - PACKED DECIMAL
B4C   PFXIDMDL    002       CPU MODEL NUMBER - PACKED DECIMAL
B4E               1H'0'     RESERVED FOR FUTURE IBM USE.
B50   PFXRNPSW    008       PSW FOR LAST RUN USER
```

```
B58   PFXDSPRI   008       DISPATCH PRIORITY OF DISPATCHED VMDBK
B60   PFXUDED    004       VMDBK TO WHICH THIS CPU IS DEDICATED
                           (ZERO = NOT A DEDICATED FIELD)
B64   PFXIORET   004       RETURN LINKAGE FOR I/O
B68   PFXRNUSR   004       LAST RUN USER
B6C   PFXRMSZ    004       REAL MACHINE SIZE (=HCPSYSRM)
B70               1F'0'     RESERVED FOR FUTURE IBM USE
B74               1F'0'     RESERVED FOR FUTURE IBM USE
B78   PFXFLAGS   004       STATUS FLAGS
B78   PFXHSTAT   001       HOST CP RUNNING STATUS

        BITS DEFINED IN PFXHSTAT (AT HEX DISPLACEMENT: B78)

        80     PFXHWAIT    HOST CP IN WAIT STATE
        40     PFXHRUN     DISPATCHED USER HAS BEEN PUT IN THE
                           SIE, OR EXITED FROM SIE BUT NOT YET
                           'UN-RUN'.  THE HOST GPR'S AND FPR'S
                           CONTAIN GUEST DATA, AND THE CPU
                           TIMER IS TRACKING EMULATION-MODE TIME.
        20     PFXHSYS     HOST CP EXECUTING ON BEHALF OF SYSTEM
        10     PFXHUSER    HOST CP EXECUTING ON BEHALF OF USER
                           (PFXHRUN AND/OR PFXHSYS MAY ALSO
                           BE INDICATED WITH PFXHUSER)
        08     PFXHABEN    HOST CP ABEND MACRO HAS BEEN ISSUED
        04     PFXHSIE     SIE IS RUNNING ON THIS CPU.  (FLAG IS
                           SET JUST BEFORE START, UNSET JUST AFTER EXIT.)
        02     PFXHRUNX    DISPATCHED USER IS IN THE 'RUN'
                           STATE, WITH THE POSSIBLE EXCEPTION
                           OF HOST GPR'S, WHOSE STATE IS
                           INDICATED SOLELY BY PFXHRUN.

B79   PFXTNDLK   001       SYSTEM SPECIAL STATES FLAGS

        BITS DEFINED IN PFXTNDLK (AT HEX DISPLACEMENT: B79)

        40     PFXHINIT    CONTROL PROGRAM IS INITIALIZING
        20     PFXSFIPL    INITIALIZATION IS DUE TO SOFTWARE IPL
        04     PFXTINIT    TIMER HAS BEEN INITIALIZED
        02     PFXTRPON    FREE STORAGE TRAP IN EFFECT

B7A   PFXRCVFG   001       CPU RECOVERY CONTROL FLAGS

        BITS DEFINED IN PFXRCVFG (AT HEX DISPLACEMENT: B7A)

        80     PFXMALFW    SPIN LOCK MALFUNCTION ALERT WINDOW
                           IS IN PROGRESS
        40     PFXHDLAY    PREFIX PAGE IS AWAITING DE-ALLOCATION

B7B   PFXVFST    001       VECTOR FACILITY STATUS

        CODES DEFINED IN PFXVFST  (AT HEX DISPLACEMENT: B7B)

        80     PFXVFOFL    VECTOR FACILITY IS OFFLINE
        40     PFXVFSBY    VECTOR FACILITY IS IN STANDBY
        20     PFXVFOP     VECTOR FACILITY IS OPERATIONAL
        00     PFXVFNI     VECTOR FACILITY IS NOT INSTALLED

B7C   PFXDSPWK   004       DISPATCHER WORK CONTROLS
B7C   PFXRCVWK   001       CPU RECOVERY TYPE WORK CONTROLS

        BITS DEFINED IN PFXRCVWK (AT HEX DISPLACEMENT: B7C)

        40     PFXMALFP    MALFUNCTION ALERT WORK IS PENDING
        20     PFXEMSWK    EMERGENCY SIGNAL WORK IS PENDING
        10     PFXMCHWK    MACHINE CHECK RECOVERY WORK PENDING

B7D               X'00'     RESERVED FOR FUTURE WORK CONTROLS
B7E               X'00'     RESERVED FOR FUTURE WORK CONTROLS
B7F               X'00'     RESERVED FOR FUTURE WORK CONTROLS
B80   PFXABEND   004       CP ABNORMAL TERMINATION CODE
B80   PFXTRMCD   004       MACHINE CHECK TERMINATION CODE
B80   PFXABENM   003       CP ABEND MODULE ID
B83   PFXABENN   001       CP ABEND DETAIL CODE
B84   PFXCPUAD   002       'STAP' PROCESSOR ADDRESS
```

```
B86              1X       RESERVED FOR FUTURE IBM USE
B87   PFXHSFLG   001      SHARED NAMED SYSTEMS FLAG

        BITS DEFINED IN PFXHSFLG (AT HEX DISPLACEMENT: B87)

        80    PFXSHRLK    PROCESSING SHARED NAMED SYSTEM PAGE

B88   PFXTMMAX   008      MAXIMUM TIMER VALUE.
                          CONSTANT TO BE USED FOR
                          INITIALIZING OTHER FIELDS
                          AND FOR TIMER ARITHMETIC.
B90   PFXTOTWT   008      SYSTEM TOTAL WAIT TIME
                          ON THIS CPU
B98   PFXPRBTM   008      TOTAL EMULATION STATE
                          TIME FOR ALL USERS ON
                          THIS CPU
BA0   PFXTMSYS   008      SYSTEM TIMER VALUE
                          ON THIS CPU
BA8   PFXUTIME   008      TOTAL CPU TIME FOR ALL
                          USERS ON THIS CPU
BB0   PFXACTTS   008      SYSTEM ACCOUNTING TIME,
                          VALUE OF PFXTMSYS AT
                          LAST 'ACNT' COMMAND
BB8   PFXSCITS   008      A COPY OF PFXTMSYS THE
                          ..LAST TIME IT WAS INSPECTED BY
                          ..THE SCHEDULER RUNNING ON THIS
                          ..CPU.  THIS FIELD IS PROTECTED
                          ..BY THE SCHEDULER LOCK.
BC0   PFXSPINT   008      ELAPSED TIME IN SPIN LOCK
                          ON THIS CPU
                          STARTING AT ZERO AND
                          COUNTING UPWARDS
BC8   PFXLCPUA   004      LOGICAL CPU ADDRESS
BCC   PFXMALFM   004      MASK OF MALFUNCTION ALERTS
                          RECEIVED BUT NOT YET HANDLED.
                          BITS CORRESPOND TO LOGICAL CPU
                          IDENTIFIERS OF FAILING CPU'S.
                          (PFXMALFP BIT ON IF NON ZERO)
BD0   PFXSPINC   004      COUNT OF SPINS ON A SPIN LOCK
BD4   PFXEMSAN   004      EMERGENCY SIGNAL EMSBK ANCHOR
BD8   PFXDOWNR   001      TERMINATION REQUEST FIELD

        CODES DEFINED IN PFXDOWNR (AT HEX DISPLACEMENT: BD8)

        FF    PFXDOWN     REQUEST FOR TERMINATION
        00    PFXDNRZ     NO REQUEST FOR TERMINATION

BD9   PFXDOWNC   001      TERMINATION COMPLETE FIELD

        CODES DEFINED IN PFXDOWNC (AT HEX DISPLACEMENT: BD9)

        00    PFXDNCZ     TERMINATION NOT COMPLETE
        FF    PFXDNEMS    TERM COMPLETE DUE TO EMS
        EE    PFXDNRES    TERM COMPLETE DUE TO RESET
        DD    PFXDNU      CPU TERM STATUS UNKNOWN

BDA   PFXTYPE    001      HOST CPU USAGE TYPE IDENTIFIER

        CODES DEFINED IN PFXTYPE  (AT HEX DISPLACEMENT: BDA)

        00    PFXTYOFL    CPU IS NOT OPERATIONAL,
                          SEE PFXSTATE FIELD FOR DETAILS
        14    PFXMASTR    THIS IS A MASTER-TYPE CPU
        1E    PFXTYDED    THIS IS A DEDICATED CPU
        28    PFXTYSLV    THIS IS A SLAVE-TYPE CPU

BDB   PFXDETUP   001      FLAG USED DURING DETECTION FOR
                          UNRESPONSIVE PROCESSORS

        CODES DEFINED IN PFXDETUP (AT HEX DISPLACEMENT: BDB)

        00    PFXPRESP    PROCESSOR IS RESPONSIVE
        FF    PFXTESTP    TEST PROCESSOR RESPONSIVE
        CC    PFXPRUNR    PROCESSOR APPEARS UNRESPONSIVE
```

```
        11     PFXTMOUT    PROCESSOR IS UNRESPONSIVE
                           AND IS TIMED OUT

BDC   PFXSTATE   001       CPU OPERATING STATUS

        CODES DEFINED IN PFXSTATE (AT HEX DISPLACEMENT: BDC)

        00     PFXAVAIL    CPU IS ONLINE AND AVAILABLE
                           (SEE PFXTYPE FOR ALLOWED USAGE)
        16     PFXRQUIS    ATTEMPTING TO QUIESCE THIS CPU
                           SO IT CAN BE TAKEN OFFLINE
        2C     PFXVWAIT    CPU HAS BEEN QUIESCED AND IS
                           IN DISABLED WAIT STATE
                           SO IT CAN BE TAKEN OFFLINE
        37     PFXCSTOP    CPU IS CHECK-STOPPED AND
                           HCPMCHCS HAS DEALT WITH IT.
                           OR IT WAS RESET AND HCPMCWRS
                           HAS DEALT WITH IT.
        42     PFXLGOFF    CPU IS NOW LOGICALLY OFFLINE
        6E     PFXNOCPU    CPU IS PHYSICALLY OFFLINE
        EE     PFXUNKNO    CPU IS IN AN UNKNOWN STATE
                           (SIGP COMMUNICATION FAILURE)
        82     PFXNEWCP    CPU IS BEING BROUGHT ONLINE

BDD   PFXTODST   001       TOD CLOCK SYNC STATUS BYTE

        CODES DEFINED IN PFXTODST (AT HEX DISPLACEMENT: BDD)

        00     PFXNOVRY    TOD CLOCK SYNC STATUS OK
        FF     PFXVRYOF    TOD SYNC HAS INITIATED THE
                           VARY OFF OF THIS PROCESSOR

BDE   PFXTYPS    001       PFXTYPE SAVEAREA WHILE CPU
                           IS QUIESCED. USED BY TOD SYNC
BDF   PFXMPFLG   001       MP DEFER FLAGS

        BITS DEFINED IN PFXMPFLG (AT HEX DISPLACEMENT: BDF)

        80     PFXMPSET    PROCESS CHECKPOINT SET

BE0   PFXMPCNT   001       FLAG SET IF THIS PROCESSOR HAS
                           BEEN COUNTED IN SRMNCPUA.
BE1              3X'0'     RESERVED FOR MP SUPPORT USE
BE4   PFXVFOFF   004       ADDRESS OF CPEBK FOR VARY OFF
                           ...VECTOR DURING MACHINE CHECK
                           ...PROCESSING
BE8              F'0'      RESERVED FOR MP SUPPORT USE
BEC              F'0'      RESERVED FOR MP SUPPORT USE
BF0              F'0'      RESERVED FOR MP SUPPORT USE
BF4              F'0'      RESERVED FOR MP SUPPORT USE
BF8              F'0'      RESERVED FOR MP SUPPORT USE
BFC              F'0'      RESERVED FOR MP SUPPORT USE
C00   PFXCPDES   016       CPU DESCRIPTION ENTRY
C00              H         RESERVED
C02   PFXCPFAC   014       CPU FACILITY BIT MAP
C02   PFXCPF0    001       CPU FACILITY BIT MAP BYTE 0

        BITS DEFINED FOR PFXCPF0 BY HCPPCCBK PCCCPF0

C03              X         RESERVED FOR FUTURE IBM USE
C04   PFXCPF2    001       CPU FACILITY BIT MAP BYTE 2

        BITS DEFINED FOR PFXCPF2 BY HCPPCCBK PCCCPF2

C05              11X       RESERVED FOR FUTURE IBM USE
C10   PFXTTPNT   004       TRACE TABLE PAGES FOR THIS CPU
C14   PFXLFRAM   004       LAST TRANSLATED FRAME ADDRESS
                           THE NEXT TWO FIELDS MUST BE TOGETHER ON A DOUBLEWORD
                           BOUNDARY.
C18   PFXLPAGE   004       LAST TRANSLATED PAGE
C1C   PFXLPSTD   004       LAST TRANSLATED PRIMARY SEGMENT TABLE
                           DESIGNATION
C20   PFXPRGSV   036       FLIH SAVEARE FOR HCPPRG
C20   PFXPRGRC   004       REGISTER 12 ON ENTRY TO HCPPRG
```

```
C24   PFXPRGRD   004       REGISTER 13 ON ENTRY TO HCPPRG
C28   PFXPRGRE   004       REGISTER 14 ON ENTRY TO HCPPRG
C2C   PFXPRGRF   004       REGISTER 15 ON ENTRY TO HCPPRG
C30   PFXPRGR0   004       REGISTER  0 ON ENTRY TO HCPPRG
C34   PFXPRGR1   004       REGISTER  1 ON ENTRY TO HCPPRG
C38   PFXPRGR2   004       REGISTER  2 ON ENTRY TO HCPPRG
C3C   PFXPRGR3   004       REGISTER  3 ON ENTRY TO HCPPRG
C40   PFXPRGR4   004       REGISTER  4 ON ENTRY TO HCPPRG
C44   PFXTRCSV   020       TRACE INSTRUCTION SAVEAREA
C44   PFXTRCR0   004       SAVE REG 0 ACROSS TRACE INST
C48   PFXTRCR1   004       SAVE REG 1 ACROSS TRACE INST
C4C   PFXTRCR2   004       SAVE REG 2 ACROSS TRACE INST
C50   PFXTRCR3   004       SAVE REG 3 ACROSS TRACE INST
C54   PFXTRCR4   004       SAVE REG 4 ACROSS TRACE INST
C58   PFXRNHST   040       RUN HISTORY AREA FOR HCPSTP
C58   PFXRNH0    008
C58   PFXRNH00   004
C5C   PFXRNH04   004
C60   PFXRNH1    008       ....
C68   PFXRNH2    008       ....
C68   PFXRNH20   004
C6C   PFXRNH24   004
C70   PFXRNH3    008       ....
C78   PFXRNH4    008       ....
C80   PFXRVF0    008
C80   PFXRVF00   004
C84   PFXRVF04   004
C88   PFXRVF1    008       ....
C90   PFXRVF2    008       ....
C90   PFXRVF20   004
C94   PFXRVF24   004
C98   PFXRVF3    008       ....
CA0   PFXRVF4    008       ....
CA8   PFXVFSRT   004       SMOOTHED TOTAL VECTOR TIME (IN
                           QUARTER SECONDS)
CAC   PFXSTRN    004       SMOOTHED TOTAL RUN TIME (IN
                           QUARTER SECONDS)
CB0   PFXVECUS   004       VMDBK ADDRESS OF CURRENT VECTOR
                           USER
CB4   PFXINDEX   004       INDEX INTO FULLWORD ARRAY (I.E. MULTIPLE
                           OF 4) BASED ON LOGICAL CPU ADDRESS
CB8   PFXPLSBK   004       PLSBK ADDRESS FOR THIS PROCESSOR
CBC   PFXFMPB    004       FRAME MANAGEMENT PROCESSOR BLOCK
CBC   PFXPGIN    004       COUNT OF FASTPATH PGINS
CC0   PFXCLEAR   004       COUNT OF FASTPATH PAGE CLEARS
CC4   PFXFTO     004       SYSTEM FRAME TABLE ORIGIN
                           ..REPEATED HERE FOR PERFORMANCE
CC8   PFXLAVAN   004       LOCAL AVAILABLE LIST ANCHOR

                    EQUATES

        0A    PFXLAVMX     NUMBER OF FRAMES REQUIRED TO
                           ..REPLENISH LOCAL LIST

CCC   PFXPROCL   004       PROCESSED LIST ANCHOR

                    EQUATES

        14    PFXFMPBL     LENGTH OF BLOCK

CD0   PFXPRGTR   004       TRACE PAGE FULL ROUTINE
CD4   PFXPRGGB   004       RETURN ADDRESS FOR CP PRG INT
CD8   PFXPRGCP   004       REGISTER HANDLING FOR CP PRG INT
CF4              31F'0'    RESERVED FOR FUTURE IBM USE
D70   PFXSVCC0   004       DYNAMIC CALL ENTRY POINT
D74   PFXSVCC1   004       DYNAMIC CALL ENTRY POINT
D78   PFXSVCC2   004       DYNAMIC CALL ENTRY POINT
D7C   PFXSVCC3   004       DYNAMIC CALL ENTRY POINT
D80   PFXSVCC4   004       DYNAMIC CALL ENTRY POINT
D84   PFXSVCC5   004       DYNAMIC CALL ENTRY POINT
D88   PFXSVCC6   004       DYNAMIC CALL ENTRY POINT
D8C   PFXSVCC7   004       DYNAMIC CALL ENTRY POINT
D90   PFXSVCC8   004       DYNAMIC CALL ENTRY POINT
D94   PFXSVCC9   004       DYNAMIC CALL ENTRY POINT
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D98	PFXSVCCA	004	DYNAMIC CALL ENTRY POINT
D9C	PFXSVCCB	004	DYNAMIC CALL ENTRY POINT
DA0	PFXSVCCC	004	DYNAMIC CALL ENTRY POINT
DA4	PFXSVCCD	004	DYNAMIC CALL ENTRY POINT
DA8	PFXSVCCE	004	DYNAMIC CALL ENTRY POINT
DAC	PFXSVCCF	004	DYNAMIC CALL ENTRY POINT
DB0	PFXSVCCL	004	DYNAMIC CALL ENTRY POINT
DB4	PFXSVCCX	004	DYNAMIC CALL ENTRY POINT
DB8	PFXDSPCS	004	COUNT OF FULL SELECT PATHS THROUGH THE DISPATCHER
DBC	PFXDSPCT	004	COUNT OF ENTRIES TO DISPATCHER
DC0	PFXDSWCT	004	COUNT OF ENTRIES TO USER WORK SELECT
DC4	PFXSTKCR	004	COUNT OF TIME-SLICE END REORDERS
DC8	PFXSTKPQ	004	COUNT OF DISPATCH LIST ADDS
DCC	PFXPTRCT	004	COUNT OF FAST PATH PAGE TRANSLATIONS
DD0	PFXCTID	004	COUNT OF TIMES THE INTERRUPT QUEUE LOCK REQUEST IS DEFERRED
DD4	PFXCTIG	004	COUNT OF TIMES THE INTERRUPT QUEUE LOCK REQUEST IS GRANTED
DD8	PFXCTVD	004	COUNT OF TIMES THE V DEV LOCK REQUEST IS DEFERRED
DDC	PFXCTVG	004	COUNT OF TIEMS THE VDEV LOCK REQUEST IS GRANTED
DE0	PFXRUNCI	004	COUNT OF SIE INTERCEPTIONS
DE4	PFXRUNCP	004	COUNT OF SIE INSTRUCTION EXECUTIONS
DE8	PFXRUNCR	004	COUNT OF TIMES GUEST'S WORK IS DISPATCHED
DEC	PFXRUNPF	004	COUNT OF HOST PAGE FAULTS FOR GUEST PAGES
DF0	PFXRUNPR	004	COUNT OF HOST PAGE FAULTS ON RCP PAGES
DF4	PFXFSTSG	004	COUNT OF FAST PATH SIMULATIONS ..OF SIGP EXTERNAL CALL ..INSTRUCTIONS.
DF8	PFXFSTXC	004	COUNT OF FAST PATH REFLECTIONS ..OF GUEST EXTERNAL CALL ..INTERRUPTS.
DFC	PFXFST44	004	COUNT OF FAST PATH SIMULATIONS ..OF DIAGNOSE X'44' INSTRUCTIONS.

REDEFINITION - PATCH AREA

E00	PFXPINST	002	ROOM FOR FE PATCHED INSTRUCTIONS
F88	PFXPSAVE	004	PROVIDE NAME FOR FE REGISTER SAVE

REDEFINITION - DEFAULT INSTRUCTION

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
PFXABEND	004	B80	PFXBALRB	004	744	PFXBALR4	004	728
PFXABENM	003	B80	PFXBALRC	004	748	PFXBALR5	004	72C
PFXABENN	001	B83	PFXBALRD	004	74C	PFXBALR6	004	730
PFXACTTS	008	BB0	PFXBALRE	004	750	PFXBALR7	004	734
PFXADCON	008	980	PFXBALRF	004	754	PFXBALR8	004	738
PFXAVAIL	001	000	PFXBALRG	064	718	PFXBALR9	004	73C
PFXBALBP	004	704	PFXBALR0	004	718	PFXBALSC	001	710
PFXBALCL	001	711	PFXBALR1	004	71C	PFXBALSV	128	700
PFXBALFP	004	700	PFXBALR2	004	720	PFXBALWK	040	758
PFXBALRA	004	740	PFXBALR3	004	724	PFXBALW0	004	758

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Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
PFXBALW1	004	75C	PFXCREB0	001	978	PFXDSPCS	004	DB8
PFXBALW2	004	760	PFXCREB1	001	979	PFXDSPCT	004	DBC
PFXBALW3	004	764	PFXCREB2	001	97A	PFXDSPRI	008	B58
PFXBALW4	004	768	PFXCREB3	001	97B	PFXDSPWK	004	B7C
PFXBALW5	004	76C	PFXCRFB0	001	97C	PFXDSWCT	004	DC0
PFXBALW6	004	770	PFXCRFB1	001	97D	PFXENSAN	004	BD4
PFXBALW7	004	774	PFXCRFB2	001	97E	PFXENSWK	001	020
PFXBALW8	004	778	PFXCRFB3	001	97F	PFXENDOP	004	A28
PFXBALW9	004	77C	PFXCRLG	004	1C0	PFXERMSG	004	9CC
PFXBLANK	008	AA8	PFXCRLGL	001	040	PFXEXTCD	001	087
PFXB0	001	AB8	PFXCR0B0	001	940	PFXEXTCF	004	084
PFXB1	001	ABB	PFXCR0B1	001	941	PFXEXTCL	001	086
PFXB10	001	ADF	PFXCR0B2	001	942	PFXEXTCP	002	084
PFXB15	001	AE3	PFXCR0B3	001	943	PFXEXTDB	004	080
PFXB16	001	AE7	PFXCR1B0	001	944	PFXEXTIN	002	086
PFXB2	001	ABF	PFXCR1B1	001	945	PFXEXTNI	004	05C
PFXB20	001	AEB	PFXCR1B2	001	946	PFXEXTNP	008	058
PFXB24	001	AEF	PFXCR1B3	001	947	PFXEXTN0	001	058
PFXB240	001	AF7	PFXCR2B0	001	948	PFXEXTN1	001	059
PFXB255	001	AFB	PFXCR2B1	001	949	PFXEXTN2	001	05A
PFXB3	001	AC3	PFXCR2B2	001	94A	PFXEXTN3	001	05B
PFXB4	001	AC7	PFXCR2B3	001	94B	PFXEXTN4	001	05C
PFXB5	001	ACB	PFXCR3B0	001	94C	PFXEXTOI	004	01C
PFXB6	001	ACF	PFXCR3B1	001	94D	PFXEXTOP	008	018
PFXB60	001	AF3	PFXCR3B2	001	94E	PFXEXTO0	001	018
PFXB7	001	AD3	PFXCR3B3	001	94F	PFXEXTO1	001	019
PFXB8	001	AD7	PFXCR4B0	001	950	PFXEXTO2	001	01A
PFXB9	001	ADB	PFXCR4B1	001	951	PFXEXTO3	001	01B
PFXCC2B1	007	011	PFXCR4B2	001	952	PFXEXTO4	001	01C
PFXCFMRD	004	9B8	PFXCR4B3	001	953	PFXFEIBM	016	980
PFXCHR0	001	AF7	PFXCR5B0	001	954	PFXFFS	008	AB0
PFXCLEAR	004	CC0	PFXCR5B1	001	955	PFXFLAGS	004	B78
PFXCNTRL	008	B40	PFXCR5B2	001	956	PFXFMPB	004	CBC
PFXCONST	008	A80	PFXCR5B3	001	957	PFXFMPBL	001	014
PFXCPCR	064	940	PFXCR6B0	001	958	PFXFPIOI	001	008
PFXCPCRA	004	968	PFXCR6B1	001	959	PFXFPRLG	008	160
PFXCPCRB	004	96C	PFXCR6B2	001	95A	PFXFREBP	004	804
PFXCPCRC	004	970	PFXCR6B3	001	95B	PFXFRECL	001	811
PFXCPCRD	004	974	PFXCR7B0	001	95C	PFXFREE	004	9D0
PFXCPCRE	004	978	PFXCR7B1	001	95D	PFXFREFP	004	800
PFXCPCRF	004	97C	PFXCR7B2	001	95E	PFXFRERA	004	840
PFXCPCR0	004	940	PFXCR7B3	001	95F	PFXFRERB	004	844
PFXCPCR1	004	944	PFXCR8B0	001	960	PFXFRERC	004	848
PFXCPCR2	004	948	PFXCR8B1	001	961	PFXFRERD	004	84C
PFXCPCR3	004	94C	PFXCR8B2	001	962	PFXFRERE	004	850
PFXCPCR4	004	950	PFXCR8B3	001	963	PFXFRERF	004	854
PFXCPCR5	004	954	PFXCR9B0	001	964	PFXFRERG	064	818
PFXCPCR6	004	958	PFXCR9B1	001	965	PFXFRER0	004	818
PFXCPCR7	004	95C	PFXCR9B2	001	966	PFXFRER1	004	81C
PFXCPCR8	004	960	PFXCR9B3	001	967	PFXFRER2	004	820
PFXCPCR9	004	964	PFXCSTOP	001	037	PFXFRER3	004	824
PFXCPDES	016	C00	PFXCTID	004	DD0	PFXFRER4	004	828
PFXCPFAC	014	C02	PFXCTIG	004	DD4	PFXFRER5	004	82C
PFXCPF0	001	C02	PFXCTVD	004	DD8	PFXFRER6	004	830
PFXCPF2	001	C04	PFXCTVG	004	DDC	PFXFRER7	004	834
PFXCPIOI	001	080	PFXCVTBH	004	9BC	PFXFRER8	004	838
PFXCPRQA	004	8F0	PFXCVTDA	008	900	PFXFRER9	004	83C
PFXCPRQP	004	8F4	PFXCVTDT	004	9C0	PFXFRESC	001	810
PFXCPUAD	002	B84	PFXCVTOD	004	9C4	PFXFRESV	128	800
PFXCPUID	008	B48	PFXDCBY1	001	0F5	PFXFRET	004	9D4
PFXCPULG	008	080	PFXDETUP	001	BDB	PFXFREWK	040	858
PFXCPYRT	040	990	PFXDNCZ	001	000	PFXFREW0	004	858
PFXCRCB0	001	970	PFXDNEMS	001	0FF	PFXFREW1	004	85C
PFXCRCB1	001	971	PFXDNRES	001	0EE	PFXFREW2	004	860
PFXCRCB2	001	972	PFXDNRZ	001	000	PFXFREW3	004	864
PFXCRCB3	001	973	PFXDNU	001	0DD	PFXFREW4	004	868
PFXCRDB0	001	974	PFXDOWN	001	0FF	PFXFREW5	004	86C
PFXCRDB1	001	975	PFXDOWNC	001	BD9	PFXFREW6	004	870
PFXCRDB2	001	976	PFXDOWNR	001	BD8	PFXFREW7	004	874
PFXCRDB3	001	977	PFXDSPCH	004	9C8	PFXFREW8	004	878

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
PFXFREW9	004	87C	PFXIOCL1	001	040	PFXMCHOP	008	030
PFXFSTSG	004	DF4	PFXIOCL3	001	010	PFXMCHO0	001	030
PFXFSTXC	004	DF8	PFXIOCL5	001	004	PFXMCHO1	001	031
PFXFST44	004	DFC	PFXIOCL6	001	002	PFXMCHO2	001	032
PFXFTBL	004	A1C	PFXIOCL7	001	001	PFXMCHO3	001	033
PFXFTO	004	CC4	PFXIOINT	002	0B8	PFXMCHO4	001	034
PFXFXLEN	001	010	PFXIONP	008	078	PFXMCHRD	004	0FC
PFXFXLOG	016	100	PFXIOOP	008	038	PFXMCHWK	001	010
PFXGPRLG	004	180	PFXIOPNI	004	07C	PFXMCKCP	008	0E0
PFXGSVC0	004	9D8	PFXIOPN0	001	078	PFXMCPUT	008	0D8
PFXGSVC1	004	9DC	PFXIOPN1	001	079	PFXMCVBK	004	A60
PFXGSVC2	004	9E0	PFXIOPN2	001	07A	PFXMM0	004	A30
PFXGSVC3	004	9E4	PFXIOPN3	001	07B	PFXMM5	004	A34
PFXHABEN	001	008	PFXIOPN4	001	07C	PFXMNCLS	002	094
PFXHALF	004	B14	PFXIOPOI	004	03C	PFXMNCOD	004	09C
PFXHDLAY	001	040	PFXIOPO0	001	038	PFXMPCNT	001	BE0
PFXHINIT	001	040	PFXIOPO1	001	039	PFXMPFLG	001	BDF
PFXHLFPG	004	B20	PFXIOPO2	001	03A	PFXMPSET	001	080
PFXHRUN	001	040	PFXIOPO3	001	03B	PFXNEWCP	001	082
PFXHRUNX	001	002	PFXIOPO4	001	03C	PFXNOADD	004	B2C
PFXHSFLG	001	B87	PFXIORET	004	B64	PFXNOCPU	001	06E
PFXHSIE	001	004	PFXIORNM	002	0BA	PFXNOVRY	001	000
PFXHSTAT	001	B78	PFXIOSID	004	0B8	PFXNXTPF	004	A4C
PFXHSYS	001	020	PFXIOSRQ	004	9EC	PFXPAGCP	004	A3C
PFXHUSER	001	010	PFXIRPSV	016	880	PFXPATCH	008	E00
PFXHWAIT	001	080	PFXIRP12	004	880	PFXPERAD	004	098
PFXH0	002	AB8	PFXIRP13	004	884	PFXPERCD	002	096
PFXH1	002	ABA	PFXIRP14	004	888	PFXPG	001	000
PFXH10	002	ADE	PFXIRP15	004	88C	PFXPGIN	004	CBC
PFXH15	002	AE2	PFXISCPT	001	015	PFXPGNUM	004	B1C
PFXH16	002	AE6	PFXLAPND	001	200	PFXPINST	002	E00
PFXH2	002	ABE	PFXLAVAN	004	CC8	PFXPLSBK	004	CB8
PFXH20	002	AEA	PFXLAVMX	001	00A	PFXPRBTM	008	B98
PFXH2047	002	B06	PFXLCPUA	004	BC8	PFXPREMF	001	000
PFXH2048	002	B0A	PFXLFRAM	004	C14	PFXPREMT	001	B43
PFXH24	002	AEE	PFXLGOFF	001	042	PFXPRERQ	001	0FF
PFXH240	002	AF6	PFXLNKSV	016	890	PFXPRESP	001	000
PFXH255	002	AFA	PFXLNK12	004	890	PFXPRFIX	004	A48
PFXH256	002	AFE	PFXLNK13	004	894	PFXPRGCF	004	08C
PFXH3	002	AC2	PFXLNK14	004	898	PFXPRGCP	004	CD8
PFXH4	002	AC6	PFXLNK15	004	89C	PFXPRGGB	004	CD4
PFXH4095	002	B0E	PFXLPAGE	004	C18	PFXPRGIC	001	08F
PFXH4096	002	B12	PFXLPSTD	004	C1C	PFXPRGIL	002	08C
PFXH5	002	ACA	PFXLRC	004	8E8	PFXPRGIN	002	08E
PFXH512	002	B02	PFXLRQ	004	8EC	PFXPRGNI	004	06C
PFXH6	002	ACE	PFXLUSER	004	A44	PFXPRGNP	008	068
PFXH60	002	AF2	PFXMACHN	008	000	PFXPRGN0	001	068
PFXH7	002	AD2	PFXMALFM	004	BCC	PFXPRGN1	001	069
PFXH8	002	AD6	PFXMALFP	001	040	PFXPRGN2	001	06A
PFXH9	002	ADA	PFXMALFW	001	080	PFXPRGN3	001	06B
PFXICCW1	008	008	PFXMASTR	001	014	PFXPRGN4	001	06C
PFXICCW2	008	010	PFXMCFSA	004	0F8	PFXPRGOI	004	02C
PFXIDMDL	002	B4C	PFXMCHA	004	A5C	PFXPRGOP	008	028
PFXIDSER	003	B49	PFXMCHDC	004	0F4	PFXPRGO0	001	028
PFXIDVER	001	B48	PFXMCHIN	008	0E8	PFXPRGO1	001	029
PFXILPOI	004	004	PFXMCHI0	001	0E8	PFXPRGO2	001	02A
PFXILPO0	001	000	PFXMCHI1	001	0E9	PFXPRGO3	001	02B
PFXILPO1	001	001	PFXMCHI2	001	0EA	PFXPRGO4	001	02C
PFXILPO2	001	002	PFXMCHI3	001	0EB	PFXPRGRC	004	C20
PFXILPO3	001	003	PFXMCHI4	001	0EC	PFXPRGRD	004	C24
PFXILPO4	001	004	PFXMCHI5	001	0ED	PFXPRGRE	004	C28
PFXILPSW	008	000	PFXMCHI6	002	0EE	PFXPRGRF	004	C2C
PFXINDEX	004	CB4	PFXMCHNI	004	074	PFXPRGR0	004	C30
PFXINISC	001	0C0	PFXMCHNP	008	070	PFXPRGR1	004	C34
PFXINPRM	004	0BC	PFXMCHN0	001	070	PFXPRGR2	004	C38
PFXINST1	004	A64	PFXMCHN1	001	071	PFXPRGR3	004	C3C
PFXINST2	004	A68	PFXMCHN2	001	072	PFXPRGR4	004	C40
PFXINST3	004	A6C	PFXMCHN3	001	073	PFXPRGSV	036	C20
PFXINST4	004	A70	PFXMCHN4	001	074	PFXPRGTR	004	CD0
PFXINTID	004	0C0	PFXMCHOI	004	034	PFXPROCL	004	CCC

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Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
PFXPRUNR	001	0CC	PFXRVF2	008	C90	PFXSVC04	001	024
PFXPSAVE	004	F88	PFXRVF20	004	C90	PFXSVCRS	004	A40
PFXPTEMK	004	B1C	PFXRVF24	004	C94	PFXSVCSV	064	8A0
PFXPTFLK	004	9F4	PFXRVF3	008	C98	PFXSVCSW	004	A2C
PFXPTFUL	004	9F8	PFXRVF4	008	CA0	PFXSVR13	004	8FC
PFXPTLBT	008	908	PFXSAVES	008	600	PFXSYS	004	A18
PFXPTRAB	004	9FC	PFXSCCFD	004	A14	PFXSYSVM	004	A20
PFXPTRAN	004	9F0	PFXSCITS	008	BB8	PFXTESTP	001	0FF
PFXPTRBP	004	784	PFXSFIPL	001	020	PFXTIMES	008	900
PFXPTRCL	001	791	PFXSGPCP	002	016	PFXTINIT	001	004
PFXPTRCT	004	DCC	PFXSGPGD	001	0FF	PFXTMDSP	008	920
PFXPTRFP	004	780	PFXSGPND	001	010	PFXTMMAX	008	B88
PFXPTRRA	004	7C0	PFXSGPNG	001	0EE	PFXTMOUT	001	011
PFXPTRRB	004	7C4	PFXSHRLK	001	080	PFXTMPBP	004	604
PFXPTRRC	004	7C8	PFXSPARE	008	200	PFXTMPCL	001	611
PFXPTRRD	004	7CC	PFXSPIEA	004	A50	PFXTMPFP	004	600
PFXPTRRE	004	7D0	PFXSPIEM	004	A54	PFXTMPRA	004	640
PFXPTRRF	004	7D4	PFXSPINC	004	BD0	PFXTMPRB	004	644
PFXPTRRG	064	798	PFXSPINT	008	BC0	PFXTMPRC	004	648
PFXPTRR0	004	798	PFXSSABK	004	8F8	PFXTMPRD	004	64C
PFXPTRR1	004	79C	PFXSTATE	001	BDC	PFXTMPRE	004	650
PFXPTRR2	004	7A0	PFXSTDBK	004	A58	PFXTMPRF	004	654
PFXPTRR3	004	7A4	PFXSTEMK	004	B24	PFXTMPRG	064	618
PFXPTRR4	004	7A8	PFXSTKCP	004	A08	PFXTMPR0	004	618
PFXPTRR5	004	7AC	PFXSTKCR	004	DC4	PFXTMPR1	004	61C
PFXPTRR6	004	7B0	PFXSTKGT	004	A0C	PFXTMPR2	004	620
PFXPTRR7	004	7B4	PFXSTKIO	004	A10	PFXTMPR3	004	624
PFXPTRR8	004	7B8	PFXSTKPQ	004	DC8	PFXTMPR4	004	628
PFXPTRR9	004	7BC	PFXSTNDL	004	10C	PFXTMPR5	004	62C
PFXPTRSC	001	790	PFXSTOMK	004	B1C	PFXTMPR6	004	630
PFXPTRSV	128	780	PFXSTPFX	004	108	PFXTMPR7	004	634
PFXPTRWK	040	7D8	PFXSTPSW	008	100	PFXTMPR8	004	638
PFXPTRW0	004	7D8	PFXSTRN	004	CAC	PFXTMPR9	004	63C
PFXPTRW1	004	7DC	PFXSVC	004	8E0	PFXTMPSC	001	610
PFXPTRW2	004	7E0	PFXSVCCA	004	D98	PFXTMPSV	128	600
PFXPTRW3	004	7E4	PFXSVCCB	004	D9C	PFXTMPWK	040	658
PFXPTRW4	004	7E8	PFXSVCCC	004	DA0	PFXTMPW0	004	658
PFXPTRW5	004	7EC	PFXSVCCD	004	DA4	PFXTMPW1	004	65C
PFXPTRW6	004	7F0	PFXSVCCE	004	DA8	PFXTMPW2	004	660
PFXPTRW7	004	7F4	PFXSVCCF	004	DAC	PFXTMPW3	004	664
PFXPTRW8	004	7F8	PFXSVCCL	004	DB0	PFXTMPW4	004	668
PFXPTRW9	004	7FC	PFXSVCCX	004	DB4	PFXTMPW5	004	66C
PFXQCNWT	004	A00	PFXSVCC0	004	D70	PFXTMPW6	004	670
PFXRCVFG	001	B7A	PFXSVCC1	004	D74	PFXTMPW7	004	674
PFXRCVWK	001	B7C	PFXSVCC2	004	D78	PFXTMPW8	004	678
PFXRMSZ	004	B6C	PFXSVCC3	004	D7C	PFXTMPW9	004	67C
PFXRNHST	040	C58	PFXSVCC4	004	D80	PFXTMRUN	008	910
PFXRNH0	008	C58	PFXSVCC5	004	D84	PFXTMSYS	008	BA0
PFXRNH00	004	C58	PFXSVCC6	004	D88	PFXTMUDS	008	928
PFXRNH04	004	C5C	PFXSVCC7	004	D8C	PFXTMUPN	008	918
PFXRNH1	008	C60	PFXSVCC8	004	D90	PFXTNDLK	001	B79
PFXRNH2	008	C68	PFXSVCC9	004	D94	PFXTODHO	004	900
PFXRNH20	004	C68	PFXSVCGS	004	A38	PFXTODST	001	BDD
PFXRNH24	004	C6C	PFXSVCIC	001	08B	PFXTOTMT	008	B90
PFXRNH3	008	C70	PFXSVCIF	004	088	PFXTRCR0	004	C44
PFXRNH4	008	C78	PFXSVCIL	002	088	PFXTRCR1	004	C48
PFXRNPSW	008	B50	PFXSVCLC	004	8E4	PFXTRCR2	004	C4C
PFXRNUSR	004	B68	PFXSVCNI	004	064	PFXTRCR3	004	C50
PFXRQUIS	001	016	PFXSVCNP	008	060	PFXTRCR4	004	C54
PFXRUNCI	004	DE0	PFXSVCN0	001	060	PFXTRCSV	020	C44
PFXRUNCP	004	DE4	PFXSVCN1	001	061	PFXTRMCD	004	B80
PFXRUNCR	004	DE8	PFXSVCN2	001	062	PFXTRPON	001	002
PFXRUNPF	004	DEC	PFXSVCN3	001	063	PFXTRXAD	004	090
PFXRUNPR	004	DF0	PFXSVCN4	001	064	PFXTTATB	004	9E8
PFXRUNU	004	A24	PFXSVCOI	004	024	PFXTTPNT	004	C10
PFXRUNXT	004	A04	PFXSVCOP	008	020	PFXTYDED	001	01E
PFXRVF0	008	C80	PFXSVC00	001	020	PFXTYOFL	001	000
PFXRVF00	004	C80	PFXSVC01	001	021	PFXTYPE	001	BDA
PFXRVF04	004	C84	PFXSVC02	001	022	PFXTYPS	001	BDE
PFXRVF1	008	C88	PFXSVC03	001	023	PFXTYSLV	001	028

Name	Len	Value/Disp	Name	Len	Value/Disp
PFXUDED	004	B60	PFX60	004	AF0
PFXUNKNO	001	0EE	PFX7	004	AD0
PFXUTIME	008	BA8	PFX7FFFS	004	B88
PFXVECUS	004	CB0	PFX8	004	AD4
PFXVFNI	001	000	PFX8000S	004	B28
PFXVFOFF	004	BE4	PFX9	004	AD8
PFXVFOFL	001	080			
PFXVFOP	001	020			
PFXVFSBY	001	040			
PFXVFSRT	004	CA8			
PFXVFST	001	B7B			
PFXVRIOI	001	020			
PFXVRYOF	001	0FF			
PFXVTDSP	008	930			
PFXVWAIT	001	02C			
PFXWRKBP	004	684			
PFXWRKCL	001	691			
PFXWRKFP	004	680			
PFXWRKRA	004	6C0			
PFXWRKRB	004	6C4			
PFXWRKRC	004	6C8			
PFXWRKRD	004	6CC			
PFXWRKRE	004	6D0			
PFXWRKRF	004	6D4			
PFXWRKRG	064	698			
PFXWRKR0	004	698			
PFXWRKR1	004	69C			
PFXWRKR2	004	6A0			
PFXWRKR3	004	6A4			
PFXWRKR4	004	6A8			
PFXWRKR5	004	6AC			
PFXWRKR6	004	6B0			
PFXWRKR7	004	6B4			
PFXWRKR8	004	6B8			
PFXWRKR9	004	6BC			
PFXWRKSC	001	690			
PFXWRKSV	128	680			
PFXWRKWK	040	6D8			
PFXWRKW0	004	6D8			
PFXWRKW1	004	6DC			
PFXWRKW2	004	6E0			
PFXWRKW3	004	6E4			
PFXWRKW4	004	6E8			
PFXWRKW5	004	6EC			
PFXWRKW6	004	6F0			
PFXWRKW7	004	6F4			
PFXWRKW8	004	6F8			
PFXWRKW9	004	6FC			
PFXZEROS	008	A80			
PFX0	004	A80			
PFX00FFS	004	B18			
PFX1	004	AB8			
PFX10	004	ADC			
PFX15	004	AE0			
PFX16	004	AE4			
PFX2	004	ABC			
PFX20	004	AE8			
PFX2047	004	B04			
PFX2048	004	B08			
PFX24	004	AEC			
PFX240	004	AF4			
PFX255	004	AF8			
PFX256	004	AFC			
PFX3	004	AC0			
PFX4	004	AC4			
PFX4095	004	B0C			
PFX4096	004	B10			
PFX5	004	AC8			
PFX512	004	B00			
PFX6	004	ACC			

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HCPPGMBK— PAGE MANAGEMENT BLOCK

DSECT NAME: PGMBK

DESCRIPTIVE NAME: PAGE MANAGEMENT BLOCK

FUNCTION: THE PAGE MANAGEMENT BLOCK DESCRIBES 1 MEGABYTE OF VIRTUAL STORAGE. IT CONTAINS THE PAGE TABLE, THE PAGE STATUS TABLE, THE AUXILIARY STORAGE ADDRESS TABLE, AND THE RCP BACKUP INFORMATION, FOR THE MEGABYTE. THE PGMBK IS A 4K ALIGNED 4K BLOCK.

LOCATED BY:

SEGENTRY	FIELD OF HCPSEGTB (BITS 1 THROUGH 19) THE PAGE TABLE POINTER IN SEGENTRY IS ARCHITECTED TO BE BITS 1 THROUGH 25 BUT VM/XA MIGRATION AID USES 4K ALIGNED 4K BLOCKS. SEE HCPSEGTE.
FRMPTE	THE FRAME TABLE ENTRY POINTS TO A PAGE TABLE ENTRY WITHIN THE PAGE TABLE. THE PGMBK ADDRESS CAN BE FOUND BY ZEROING THE DISPLACEMENT OF THE PAGE TABLE ENTRY'S ADDRESS SINCE THE PAGE TABLE IS LOCATED AT THE BEGINNING OF THE PGMBK.

CREATED BY:

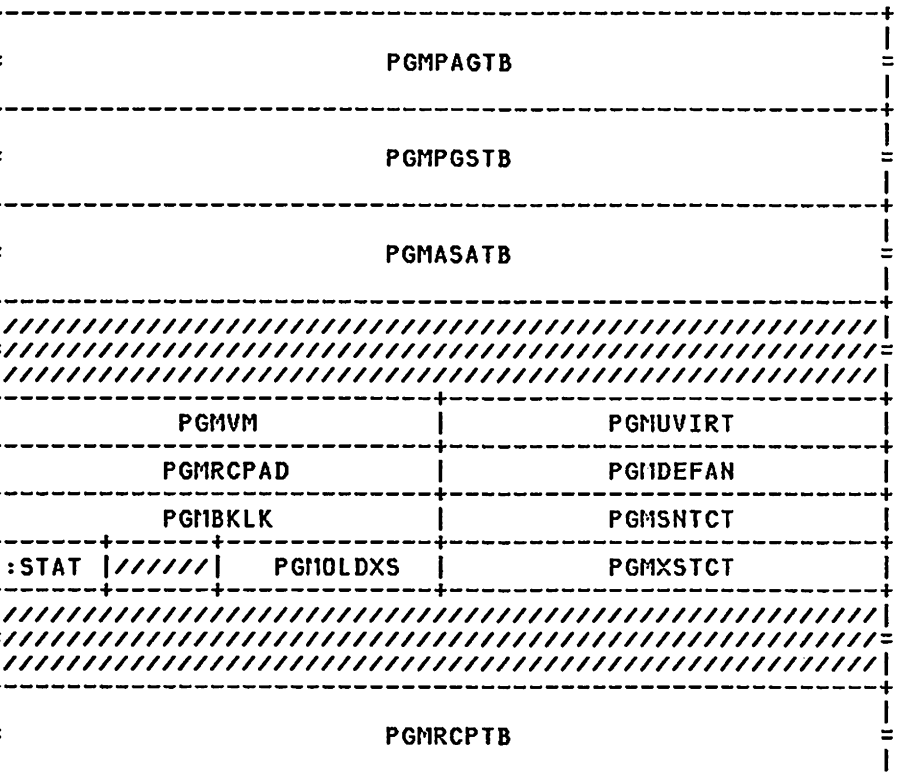
HCPBPBCU
HCPBPBIE
HCPBPBIM
HCPBPBSL

DELETED BY:

HCPRCIRL
HCPRPBPA
HCPRPBPS
HCPRPBRM
HCPRPBSL

BLK HCPBLK (CP) VM/XA - SYSTEM PRODUCT 5664-308

PGMBK - PAGE MANAGEMENT BLOCK



disp	name	length	description
000	PGMPAGTB	004	PAGE TABLE-CONTAINS 256 4 BYTE ENTRIES. EACH ENTRY IS USED TO DESCRIBE 4K OF VIRTUAL STORAGE. THE COMPLETE 256-ENTRY TABLE WILL DESCRIBE 1 MEGABYTE OF GUEST ABSOLUTE STORAGE, OR 1 MEGABYTE OF SYSTEM STORAGE AREA. THE ARCHITECTED DEFINITION OF ONE ENTRY IS CONTAINED IN THE HCPPAGTE COPY FILE.
		EQUATES	
	04 PGMPTELN		LENGTH OF A PAGE TABLE ENTRY IN THE PGMPAGTB (IN BYTES)
	04 PGMPTBP1		OFFSET OF THE 2ND ENTRY IN THE PAGTB, USED FOR AN MVC TO COPY THE FIRST ENTRY THRU THE REST OF THE FIRST QUARTER OF THE PAGTB
	00 PGMPTBP2		THE SECOND QUARTER OF THE PAGTB STARTS AT THIS OFFSET INTO THE PGMBK
	00 PGMPTBP3		THE THIRD QUARTER OF THE PAGTB STARTS AT THIS OFFSET INTO THE PGMBK
	00 PGMPTBP4		THE FOURTH QUARTER OF THE PAGTB STARTS AT THIS OFFSET INTO THE PGMBK
	00 PGMOFPAG		OFFSET OF PAGTB IN PGMBK
400	PGMPGSTB	004	PAGE STATUS TABLE. 256 ENTRIES, 4 BYTES IN EACH ENTRY. EACH ENTRY DESCRIBES THE STATUS OF THE VIRTUAL STORAGE. THE DEFINITION OF ONE ENTRY IS CONTAINED IN THE HCPPGSTE COPY FILE.
		EQUATES	
	04 PGMPGSLN		LENGTH OF A PAGE STATUS TABLE ENTRY IN THE PGMPAGTB (IN BYTES)
	04 PGMPSTP1		OFFSET OF THE 2ND ENTRY IN THE PGSTB, USED FOR AN MVC TO COPY THE FIRST ENTRY THRU THE REST OF THE FIRST QUARTER OF THE PGSTB
	00 PGMPSTP2		THE SECOND QUARTER OF THE PGSTB STARTS AT THIS OFFSET INTO THE PGMBK
	00 PGMPSTP3		THE THIRD QUARTER OF THE PAGTB STARTS AT THIS OFFSET INTO THE PGMBK
	00 PGMPSTP4		THE FOURTH QUARTER OF THE PGSTB STARTS AT THIS OFFSET INTO THE PGMBK
	00 PGMOFPGS		OFFSET OF PGSTB IN PGMBK
800	PGMASATB	004	AUXILIARY STORAGE ADDRESS TABLE. 256 ENTRIES, 4 BYTES IN EACH ENTRY. EACH ENTRY IS THE LOCATION

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ON AUXILIARY STORAGE WHERE THE VIRTUAL STORAGE IS BACKED UP. THE DEFINITION OF ONE ENTRY IS CONTAINED IN THE HCPASATE COPY FILE.

EQUATES

	00	PGMOFASA	OFFSET OF ASATB IN PGMBK
C00		4D	RESERVED FOR FUTURE IBM USE
C20	PGMVM	004	VMDBK ADDRESS OF PGMBK OWNER (OR SNTBK ADDRESS FOR A SHARED SEGMENT OR SYSTEM)
C24	PGMUVIRT	004	VIRTUAL ADDRESS OF STORAGE DESCRIBED BY THIS BLOCK
C28	PGMRCPAD	004	ADDRESS OF THE RCP AREA. THIS FIELD WILL CONTAIN ZEROS IF THE RCP DATA RESIDES IN THE PGSTE. IF NOT, THIS FIELD WILL CONTAIN THE ADDRESS OF THE RCP DATA WITHIN THE RCP PAGE IF THE PAGE IS RESIDENT, OR THE ADDRESS OF PGMRCPTB IF THE DATA HAS BEEN BACKED UP
C2C	PGMDEFAN	004	DEFERRED PAGE TRANSLATIONS QUEUE ANCHOR (POINTS TO CPEBK OR 0)
C30	PGMBKLK	004	PGMBK LOCK. THIS LOCK IS HELD WHEN PAGE SERIALIZATION IS OBTAINED AND RELEASED. IT ALSO GOVERNS THE PGMBK PAGE DEFER QUEUE BASED AT PGMDEFAN. IT CONTAINS 0 WHEN THE LOCK IS AVAILABLE, OR THE ADDRESS OF THE CS LOOP THAT OBTAINED AND CURRENTLY HOLDS THE LOCK.
C34	PGMSNTCT	004	COUNT OF USERS SHARING THIS MEGABYTE
C38	PGMSTAT	001	STATUS INDICATORS

BITS DEFINED IN PGMSTAT (AT HEX DISPLACEMENT: C38)

	80	PGMSVSEG	PGMBK REPRESENTS STORAGE FOR A SAVED SEGMENT
C39		X	RESERVED FOR FUTURE IBM USE
C3A	PGMOLDXS	002	AGE OF OLDEST XSTORE BLK
C3C	PGMXSTCT	004	COUNT OF XSTORE PTE'S
C40		48F	RESERVED FOR FUTURE IBM USE
D00	PGMRCPTB	001	RCP BACK-UP AREA, ONE BYTE FOR EACH 4K PAGE. THIS AREA IS USED TO CONTAIN RCP DATA WHEN THE ACTUAL RCP PAGE IS NOT RESIDENT. AN ENTRY IS DESCRIBED BY THE HCPRCPTE COPY FILE. THE DATA IN THIS AREA IS FOR BACKUP PURPOSES ONLY. IT IS SERIALIZED VIA THE VMDRCPLK SPIN LOCK.

EQUATES

00	PGMLNRCP	LENGTH OF RCP BACKUP TABLE
00	PGMOFRCP	OFFSET OF RCPTB IN PGMBK

E00	PGMAUXTB	002	AUXILIARY TABLE. CONTAINS 256 HW TIME STAMP ENTRIES THAT CORRESPOND TO THE TIME THE PAGE WAS MOVED TO XSTORE.

EQUATES

00	PGMBKLEN	SIZE OF PGM BLOCK IN BYTES
00	PGMBKSIZ	SIZE OF PGM BLOCK IN DOUBLEWORDS

```
                        THE FOLLOWING EQUATES ENSURE THAT THE LENGTH OF A
                        PGMBK IS EXACTLY 4096 BYTES (ONE 4K PAGE).
        FF      PGMLCHK1        LENGTH CHECK 1
        FF      PGMLCHK2        LENGTH CHECK 2
                                (GIVES ASSEMBLY ERROR IF NOT A FULL-PAGE LENGTH)
```

CROSS REFERENCE

Name	Len	Value/Disp
PGMASATB	004	800
PGMAUXTB	002	E00
PGMBK	001	000
PGMBKLEN	001	000
PGMBKLK	004	C30
PGMBKSIZ	001	200
PGMDEFAN	004	C2C
PGMLCHK1	001	FFF
PGMLCHK2	001	FFF
PGMLNRCP	001	100
PGMOFASA	004	800
PGMOFPAG	004	000
PGMOFPGS	004	400
PGMOFRCP	001	D00
PGMOLDXS	002	C3A
PGMPAGTB	004	000
PGMPGSLN	001	004
PGMPGSTB	004	400
PGMPSTP1	004	404
PGMPSTP2	004	500
PGMPSTP3	004	600
PGMPSTP4	004	700
PGMPTBP1	004	004
PGMPTBP2	004	100
PGMPTBP3	004	200
PGMPTBP4	004	300
PGMPTELN	001	004
PGMRCPAD	004	C28
PGMRCPTB	001	D00
PGMSNTCT	004	C34
PGMSTAT	001	C38
PGMSVSEG	001	080
PGMUVIRT	004	C24
PGMVM	004	C20
PGMXSTCT	004	C3C

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HCPPGSTE— PAGE STATUS TABLE ENTRY

DSECT NAME: PGSTE

DESCRIPTIVE NAME: PAGE STATUS TABLE ENTRY

FUNCTION: THE PGSTE DESCRIBES VARIOUS TYPES OF STATUS OF ONE PAGE OF VIRTUAL STORAGE.

LOCATED BY:

PGMPGSTB FIELD OF HCPPGMBK + (PAGE OFFSET
VPGPGSTE IN A VPGBK USING A PAGTE ADDRESS
A PAGE STATUS TABLE RESIDES IN A
PAGE MANAGEMENT BLOCK ASSOCIATED WITH A MEGABYTE
OF VIRTUAL STORAGE AND IS POINTED TO BY PGMPGSTB.
THERE ARE 256 CONTIGUOUS PAGE STATUS TABLE
ENTRIES (PGSTE'S) CONTAINED IN THE PGMPGSTB.
ANY SPECIFIC PGS TABLE ENTRY CAN BE OBTAINED BY
EXTRACTING THE PAGE NUMBER (BITS 12-19) FROM A
VIRTUAL ADDRESS MULTIPLYING THE PAGE NUMBER TIMES 4
AND ADDING THE OFFSET OBTAINED TO PGMPGSTB.
ALSO, USING THE ADDRESS OF A PAGTE AS THE ADDRESS
OF A VPGBK THE CORRESPONDING PGSTE CAN BE FOUND
BY ADDRESSING FIELD VPGPGSTE IN THE VPGBK.

CREATED BY:

HCPBPBCU
HCPBPBIE
HCPBPBIM
HCPBPBSL
A PAGE STATUS TABLE IS IMBEDDED IN A PAGE
MANAGEMENT BLOCK AND CONSEQUENTLY SPACE
IS CREATED FOR IT WHEN THE PGMBK IS CREATED.

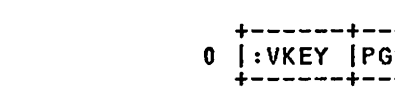
DELETED BY:

HCPRCIRL
HCPRPBPA
HCPRPBPS

BLK HCPBLK (CP) VM/XA - SYSTEM PRODUCT 5664-308

PGSTE - PAGE STATUS TABLE

REDEFINITION - VIRTUAL PAGE STATUS



disp	name	length	description
000	PGSENTRY	004	VIRTUAL PAGE STATUS ENTRY

EQUATES

04	PGSLENTH	LENGTH OF ONE STATUS TABLE ENTRY

004	PGSNEXT	004	NEXT PAGE STATUS TABLE ENTRY

REDEFINITION - VIRTUAL PAGE STATUS

000	PGSVKEY	001	GUEST STORAGE KEY BITS 0-4
001	PGSRCP	001	ARCHITECTED AREA FOR RCP BYTE

IF THE STORAGE KEY ASSIST IS
BEING UTILIZED, OR THE PAGE
BELONGS TO THE SYSTEM

BITS DEFINED IN PGSRCP (AT HEX DISPLACEMENT: 1)

002 PGSFLAG 001 VIRTUAL PAGE FLAGS

BITS DEFINED IN PGSFLAG (AT HEX DISPLACEMENT: 2)

80	PGSINVAL	NO AUXILIARY STORAGE ASSIGNED
40	PGSSHARE	PAGE IS A SHARED PAGE
20	PGS1READ	ASA MAY BE READ ONLY ONCE. USED FOR SHARED PAGES. AFTER THE FIRST READ, THIS SDF (SYSTEM DATA FILE) ASA IS TO BE IGNORED AND THE PAGE LEFT AS CHANGED. WHEN THE PAGE IS FIRST WRITTEN, IT WILL GO TO A PAGING SPACE ASA AND THIS FLAG WILL BE TURNED OFF. PGS1READ ON IMPLIES THAT PAGE IS READ ONLY FOR THE USER.
10	PGSSYSTM	SYSTEM VIRTUAL PAGE ADDRESS
08	PGSFIXED	STORAGE SLOT PERMANENTLY ASSIGNED
06	PGSXSREP	MASK FOR THE TWO BITS OF THE XSTORE BLOCK NUMBER THAT ARE KEPT IN THE PGSTE INSTEAD OF THE PAGTE. (THE PAGTE ALWAYS CONTAINS THE TRUE INVALID AND PAGE PROTECT BITS.)
01	PGSREADO	STORAGE SLOT (DASD) IS READ ONLY

003 PGSSTAT 001 VIRTUAL PAGE STATUS BITS

BITS DEFINED IN PGSSTAT (AT HEX DISPLACEMENT: 3)

40	PGSTRANS	PAGE IS SERIALIZED IN LONG TERM MODE
08	PGSXSTOR	PAGE IS IN XSTORE - THE BLOCK NUMBER IS IN THE PAGTE WITH BITS 21 & 22 REPLACED WITH THOSE BITS FROM THE PGSTE (PGSXSREP)
04	PGSBLOCK	THIS PAGE IS ONE PAGE IN A BLOCK OF PAGES
02	PGSRABI	THIS PAGE WAS READ IN AS PART OF A BLOCK OF PAGES.
01	PGSERROR	PAGE IS IN ERROR. A STORAGE ERROR WAS DETECTED IN THIS PAGE AND THE PAGE COULD NOT BE RECOVERED

MORE EQUATES

80	PGSPCL	PAGE CONTROL LOCK
40	PGSRCPHR	HOST BACKUP REFERENCE BIT USED FOR SYSTEM PAGES
20	PGSRCPHC	HOST BACKUP CHANGE BIT USED FOR SYSTEM PAGES

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
PGSBLOCK	001	004	PGSERROR	001	001	PGSFLAG	001	002
PGSENTRY	004	000	PGSFIXED	001	008	PGSINVAL	001	080

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Name	Len	Value/Disp
PGSLENTH	001	004
PGSNEXT	004	004
PGSPCL	001	080
PGSRABI	001	002
PGSRCP	001	001
PGSRCPHC	001	020
PGSRCPHR	001	040
PGSREADO	001	001
PGSSHARE	001	040
PGSSTAT	001	003
PGSSYSTM	001	010
PGSTE	001	000
PGSTRANS	001	040
PGSVKEY	001	000
PGSXSREP	001	006
PGSXSTOR	001	008
PGS1READ	001	020

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HCPPIOBK— PAGING I/O CCW PACKAGES.

DSECT NAME: PIOBK

DESCRIPTIVE NAME: PAGING I/O CCW PACKAGES.

FUNCTION: A PIOBK CONTAINS THE NECESSARY CCW STRINGS TO DO PAGING I/O OPERATIONS TO DRUMS AND DASD.

LOCATED BY:

IORCPA - CONTAINS THE POINTER TO THE FIRST ACTIVE PIOBK.
EXPSCCWP - CONTAINS THE POINTER TO THE LAST PIOBK THAT CONTAINS THE SUSPENDED CCW STRING.

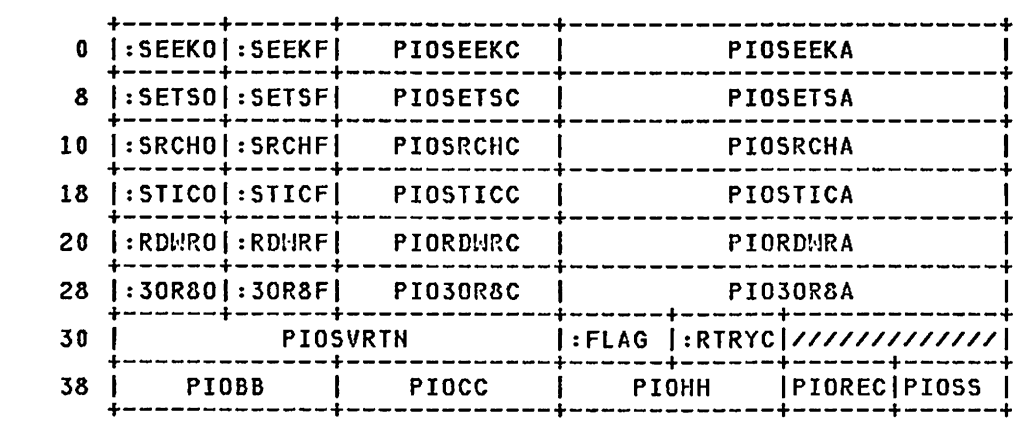
CREATED BY:

HCPRDAAT AS PART OF INITIALIZATION OR DURING ATTACH TIME FOR CP-OWNED VOLUMES

DELETED BY:

HCPRDADT RELEASED IF THE CP OWNED VOLUME IS DETACHED

PIOBK - PAGING I/O MANAGMENT BLOCK



disp	name	length	description
000	PIOSEEK	008	- SEEK CCW -
000	PIOSEEKW	004	- 1ST WORD OF CCW.
000	PIOSEEKO	001	'07' - SEEK CCW OP CODE
001	PIOSEEKF	001	CCWCC - SEEK CCW FLAG FIELD
002	PIOSEEKC	002	'0006' - SEEK CCW BYTE COUNT
004	PIOSEEKA	004	PIOSKDAT - SEEK CCW DATA ADDRESS
008	PIOSETS	008	- SET SECTOR CCW -
008	PIOSETSO	001	'23' - SET SECTOR CCW OP CODE
009	PIOSETSF	001	CCWCC - SET SECTOR CCW FLAG FIELD
00A	PIOSETSC	002	'0001' - SET SECTOR CCW BYTE COUNT
00C	PIOSETSA	004	PIOSS - SET SECTOR CCW DATA ADDRESS
010	PIOSRCH	008	- SEARCH ID EQUAL CCW -
010	PIOSRCHO	001	'31' - SEARCH ID CCW OP CODE
011	PIOSRCHF	001	CCWCC - SEARCH ID CCW FLAG FIELD
012	PIOSRCHC	002	'0005' - SEARCH ID CCW BYTE COUNT
014	PIOSRCHA	004	PIOCC - SEARCH ID CCW DATA ADDRESS
018	PIOSTIC	008	- TIC CCW TO SEARCH -
018	PIOSTICO	001	'08' - TIC CCW OP CODE
019	PIOSTICF	001	ZEROES - TIC CCW MUST BE ZEROES
01A	PIOSTICC	002	ZEROES - TIC CCW MUST BE ZEROES
01C	PIOSTICA	004	PIOSRCH - TIC CCW TIC TO SEARCH ADDRESS
020	PIORDWR	008	- READ OR WRITE CCW -
020	PIORDWRO	001	'06'/'05' - READ OR WRITE CCW OP CODE
021	PIORDWRF	001	CCWCC - READ OR WRITE CCW FLAG FIELD

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```
022   PIORDWRC   002      '1000'     - READ OR WRITE CCW COUNT
024   PIORDWRA   004      - READ OR WRITE CCW DATA ADDRESS
028   PIO3OR8    008      - NOP OR TIC CCW -
028   PIO3OR8W   004      - 1ST WORD OF CCW THAT WILL BE CHANGED
                          WITH A TIC CCW.
028   PIO3OR8O   001      '03/08'      - NOP OR TIC OP CODE
029   PIO3OR8F   001      CCWUSPN / 0  - NOP OR TIC FLAGS
02A   PIO3OR8C   002      '0000'       - NOP OR TIC COUNT
02C   PIO3OR8A   004      - NOP OR TIC ADDRESS FIELD
                          CONTAINS POINTER TO NEXT CCW
030   PIOWORKA   008      - WORK AREA FOR HCPPAG -
030   PIOSVRTN   004      ADDRESS OF SAVEARA OR RETURN ADDRESS (MW)
034   PIOFLAG    001      - FLAGS

        BITS DEFINED IN PIOFLAG  (AT HEX DISPLACEMENT: 34)

        04    PIOIOERR    INDICATES AN I/O ERROR HAS OCCURRED FOR
                          THIS CCW PACKAGE FOR AN INCORRECT LENGTH
                          PROBLEM AND A NO RECORD FOUND ON A MISS
                          FOR N+1.
        02    PIOMRPCI    INDICATES THE FIRST RECORD OF MULTI READ
                          REQUIRES A PCI.
        01    PIOMULTI    INDICATES A MULTIPLE WRITE OR READ CCW
                          PACKAGE.
        07    PIOALLFG    ALL FLAGS FOR RESET

035   PIORTRYC   001      ZEROES     - RETRY COUNT FOR ERROR RECOVERY
036              H        RESERVED FOR IBM USE.
038   PIOSKDAT   008      - SEEK ARGUMENT -
038   PIOBB      002      - BB BIN NUMBER
03A   PIOCCHH    004      - PICKS UP BOTH FIELDS BELOW
03A   PIOCC      002      - CC CYLINDER NUMBER
03C   PIOHH      002      - HH HEAD NUMBER
03E   PIOREC     001      - R  RECORD NUMBER
03F   PIOSS      001      - SS SET SECTOR NUMBER

                    MORE EQUATES

        E0    PIOFINIS    INDICATES THAT THE PIOBK HAS BEEN
                          PROCESSED  IF PIORDWRO = READS X'E6'
                          WRITE X'E5'
        F0    PIOINERR    INDICATES THAT THE PIOBK HAS AN ERRO
                          PROCESSED  IF PIORDWRO = READS X'F6'
                          WRITE X'F5'
                          NOTE: THESE EQUATES ARE NEITHER BITS NOR CODES.  THEY ARE
                          TURNED ON IN THE TOP HALF BYTE OF THE OPCODE (WHICH NEVER
                          USES THOSE BITS).  THE 'E' AND 'F' VALUES ARE USED TO MAKE
                          THE READ/WRITE OPCODE OF THE PIOBK STAND OUT IN A DUMP OR
                          DISPLAY OF STORAGE, AS THEY RESULT IN PRINTABLE EBCDIC
                          CHARACTERS.
        40    PIOBSIZE    SIZE OF ONE CCW PACKAGE IN BYTES
        08    PIOSIZE     SIZE OF ONE CCW PACKAGE IN
                          DOUBLE-WORDS
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
PIOALLFG	001	007	PIOFINIS	001	0E0	PIOMULTI	001	001
PIOBB	002	038	PIOFLAG	001	034	PIORDWR	008	020
PIOBK	001	000	PIOHH	002	03C	PIORDWRA	004	024
PIOBSIZE	001	040	PIOINERR	001	0F0	PIORDWRC	002	022
PIOCC	002	03A	PIOIOERR	001	004	PIORDWRF	001	021
PIOCCHH	004	03A	PIOMRPCI	001	002	PIORDWRO	001	020

Name	Len	Value/Disp
PIOREC	001	03E
PIORTRYC	001	035
PIOSEEK	008	000
PIOSEEKA	004	004
PIOSEEKC	002	002
PIOSEEKF	001	001
PIOSEEKO	001	000
PIOSEEKW	004	000
PIOSETS	008	008
PIOSETSA	004	00C
PIOSETSC	002	00A
PIOSETSF	001	009
PIOSETSO	001	008
PIOSIZE	001	008
PIOSKDAT	008	038
PIOSRCH	008	010
PIOSRCHA	004	014
PIOSRCHC	002	012
PIOSRCHF	001	011
PIOSRCHO	001	010
PIOSS	001	03F
PIOSTIC	008	018
PIOSTICA	004	01C
PIOSTICC	002	01A
PIOSTICF	001	019
PIOSTICO	001	018
PIOSVRTN	004	030
PIOWORKA	008	030
PIO3OR8	008	028
PIO3OR8A	004	02C
PIO3OR8C	002	02A
PIO3OR8F	001	029
PIO3OR8O	001	028
PIO3OR8W	004	028

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HCPPLSBK— PROCESSOR LOCAL STORAGE BLOCK

DSECT NAME: PLSBK

DESCRIPTIVE NAME: PROCESSOR LOCAL STORAGE BLOCK

FUNCTION: THE PLSBK IS A COMMON AREA TO HOLD DATA ITEMS. IT IS DIVIDED INTO 16 SECTIONS WITH 256 BYTES PER SECTION. EACH SUBSYSTEM WILL OWN A SECTION OF THE PLSBK.

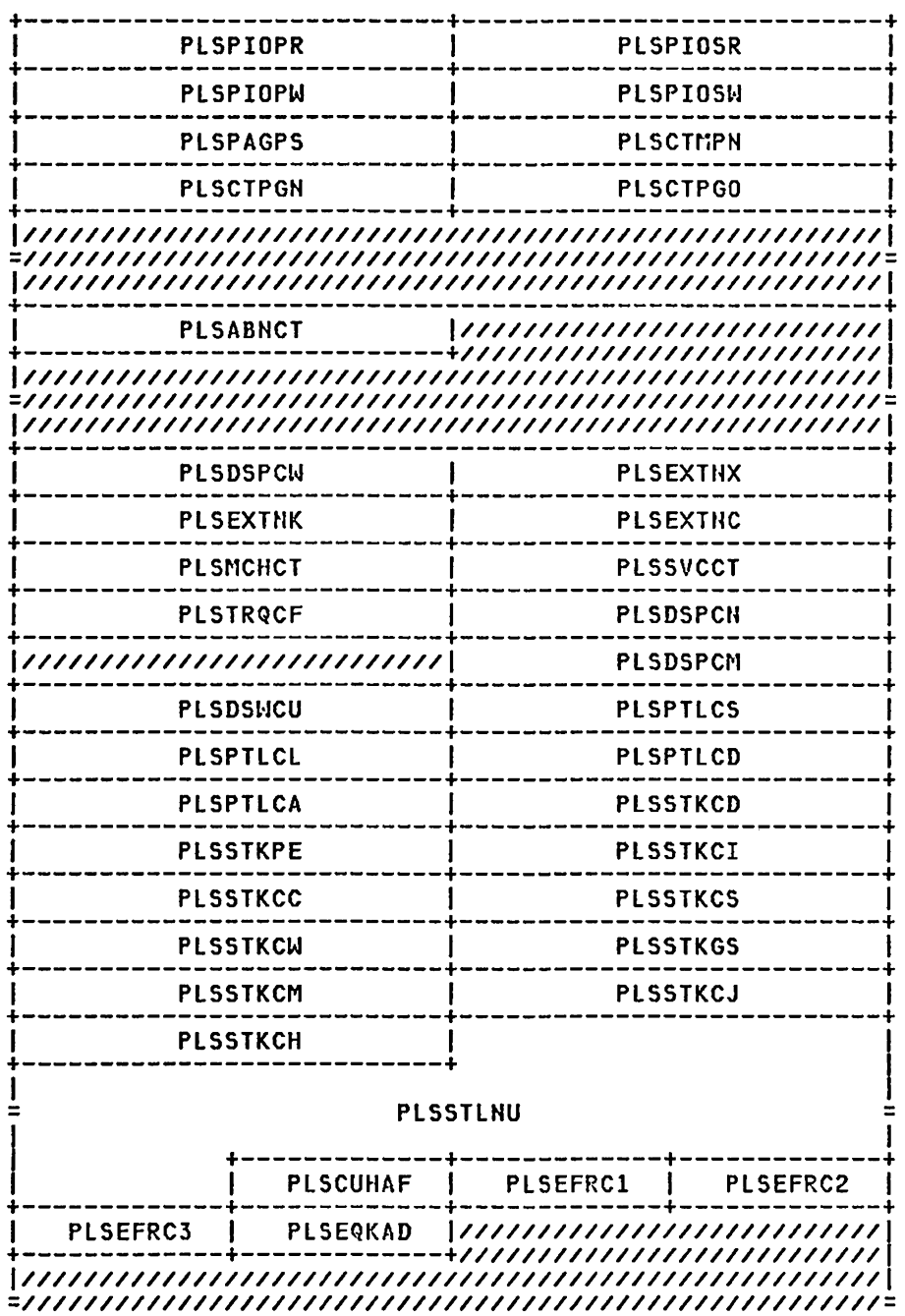
LOCATED BY:

PFXPLSBK

CREATED BY:

HCPMPS

PLSBK - PROCESSOR LOCAL STORAGE BLOCK



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	//	
300	//	
308	PLSSTLWT	//////////////////////////
310	PLSALNCT	PLSALEMP
318	PLSRETFR	PLSLTD1
320	PLSLTD2	PLSREORD
328	PLSTRMNT	PLSTDFCT
330	PLSTEFCT	PLSTRDCT
338	PLSTRECT	PLSDORM1
340	PLSSYS1	PLSSHAR1
348	PLSELIG1	PLSDISP1
350	PLSDORM2	PLSELIG2
358	PLSDISP2	PLSSHARE
360	PLSDORME	PLSELIGE
368	PLSSYSE	PLSDISPE
370	PLSNOCMP	PLSLTDP1
378	PLSDRMP1	PLSELGP1
380	PLSDSPP1	PLSSHRP1
388	PLSSYSP1	PLSLTDP2
390	PLSDRMP2	PLSELGP2
398	PLSDSPP2	PLSSHRP2
3A0	PLSSYSP2	PLSLTDPE
3A8	PLSDRMPE	PLSELGPE
3B0	PLSDSPPE	PLSSHRPE
3B8	PLSSYSPE	PLSSTLFR
3C0	PLSPGXTD	PLSFRECT
3C8	PLSFSPCT	//////////////////////////
3D0	PLSFVRCT	PLSDXFRE
3D8	PLSFRET	PLSFVRRQ
3E0	PLSFVRLS	PLSPRQDF
3E8	PLSPNEW	PLSPREAD
3F0	PLSSHRRD	PLSRELES
3F8	PLSRELFR	PLSURFTF
400	PLSASARL	PLSPGIN
408	PLSPGOUT	//////////////////////////
	//////////////////////////	//////////////////////////
	//	
	=//=	
	//	

480	PLSIUCVT	PLSISEMA
488	PLSISEM	PLSISEBL
490	PLSISERA	PLSISEMO
498	PLSISEVM	PLSISTMA
4A0	PLSISTM	PLSISTBL
4A8	PLSISTRA	PLSISTMO
4B0	PLSISTVM	PLSISUMA
4B8	PLSISUM	PLSISUBL
4C0	PLSISURA	PLSISUMO
4C8	PLSISUVM	PLSVSEVM
4D0	PLSVSTVM	PLSVSUVM
4D8		
580	PLSCTSS	PLSCTRS
588	PLSCTCS	PLSCTHS
590	PLSCTSI	PLSCTUI
598	PLSCPSUS	
680		
780	PLSPCVSC	
880		
980	PLSSSCHC	PLSRSCHC
988	PLSSIOCT	PLSSIOFC
990	PLSTCCC	
998	PLSIORCT	
A80	PLSDGX00	PLSDGX04
A88	PLSDGX08	PLSDGX0C
A90	PLSDGX10	PLSDGX14
A98	PLSDGX18	PLSDGX1C
AA0	PLSDGX20	PLSDGX24

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AA8	PLSDGX28	PLSDGX2C
AB0	PLSDGX30	PLSDGX34
AB8	PLSDGX38	PLSDGX3C
AC0	PLSDGX40	PLSDGX44
AC8	PLSDGX48	PLSDGX4C
AD0	PLSDGX50	PLSDGX54
AD8	PLSDGX58	PLSDGX5C
AE0	PLSDGX60	PLSDGX64
AE8	PLSDGX68	PLSDGX6C
AF0	PLSDGX70	PLSDGX74
AF8	PLSDGX78	PLSDGX7C
B00	PLSDGX80	PLSDGX84
B08	PLSDGX88	PLSDGX8C
B10	PLSDGX90	PLSDGX94
B18	PLSDGX98	PLSDGX9C
B20	PLSDGXA0	PLSDGXA4
B28	PLSDGXA8	PLSDGXAC
B30	PLSDGXB0	PLSDGXB4
B38	PLSDGXB8	PLSDGXBC
B40	PLSDGXC0	PLSDGXC4
B48	PLSDGXC8	PLSDGXCC
B50	PLSDGXD0	PLSDGXD4
B58	PLSDGXD8	PLSDGXDC
B60	PLSDGXE0	PLSDGXE4
B68	PLSDGXE8	PLSDGXEC
B70	PLSDGXF0	PLSDGXF4
B78	PLSDGXF8	PLSDGXFC
B80	PLSVIXLD	PLSVIXIU
B88	PLSVIXVM	PLSCFMCK
B90	//////////////////////////	//////////////////////////
B98	PLSWRUCI	PLSWRUCP
BA0	PLSVATCL	PLSVATCA
BA8	PLSTMRCE	PLSVOPFT
BB0	PLSVOPST	PLSVOPIF
BB8	PLSVIXEX	PLSMCVMC
BC0	PLSGIRPG	PLSPRVSC
BC8	PLSTMRCO	PLSVIPRC

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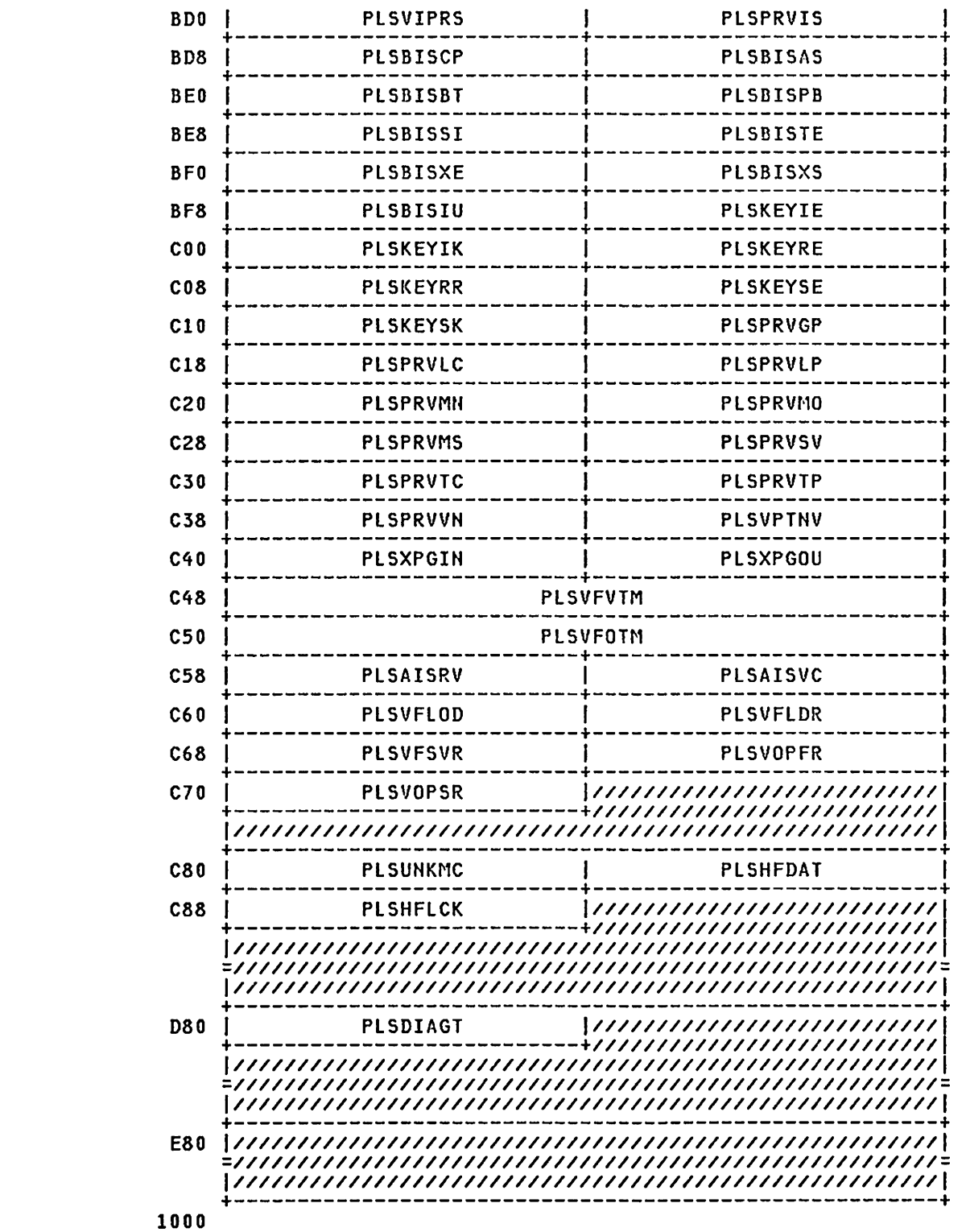

disp	name	length	description
000	PLSPIOPR	004	COUNT OF PAGING READ REQUESTS
004	PLSPIOSR	004	COUNT OF SPOOLING READ REQUESTS
008	PLSPIOPW	004	COUNT OF PAGING WRITE REQUESTS
00C	PLSPIOSW	004	COUNT OF SPOOLING WRITE REQUESTS
010	PLSPAGPS	004	COUNT OF SSCH REQUESTS FOR PAGING

```
                                AND SPOOLING REQUESTS
014   PLSCTMPN    004           COUNT OF PAGINS EXECUTED WHEN MIG-
                                RATING PAGES FROM XSTORE TO DASD
018   PLSCTPGN    004           PAGEIN RATE BETWEEN REAL STORAGE
                                AND EXPANDED STORAGE.
01C   PLSCTPGO    004           PAGEOUT RATE BETWEEN REAL STORAGE
                                AND EXPANDED STORAGE.
020               56F           RESERVED FOR IBM USE
100   PLSABNCT    004           COUNT OF SOFT ABENDS
104               63F           RESERVED FOR IBM USE
200   PLSDSPCW    004           ENTRIES TO WAIT STATE ON CPU
204   PLSEXTNX    004           EXTERNAL INTERRUPTS ON CPU
208   PLSEXTNK    004           CLOCK COMPARATOR INTERRUPTS
                                WITH REQUIRED CPU SWITCH
20C   PLSEXTNC    004           SIGP EXTERNAL CALL INTERRUPTS
                                ON CPU
210   PLSMCHCT    004           PRIMARY MACHINE-CHECKS ON CPU
214   PLSSVCCT    004           CP SVCS ON CPU
218   PLSTRQCF    004           FALSE CLOCK COMPARATOR INTERRUPTS
                                DUE CKC SET TO TRQBK ALREADY
                                DEQUEUED ON ANOTHER CPU
21C   PLSDSPCN    004           WINDOWS TO WAIT FOR LOCK ON CPU
220               F             RESERVED FOR FUTURE USE
224   PLSDSPCM    004           MASTER-ONLY FORCED SELECTS
228   PLSDSWCU    004           USER WORK SELECT SLOW PATHS
22C   PLSPTLCS    004           COUNT OF CALLS ON A PROCESSOR TO
                                PURGE THE TLB ON ALL PROCESSORS
230   PLSPTLCL    004           COUT OF CALLS TO PURGE THE TLB
                                ON LOCAL PROCESSOR
234   PLSPTLCD    004           COUNT OF CALLS TO SET A PENDING
                                HOST TLB FOR A USER
238   PLSPTLCA    004           COUNT OF CALLS TO SET A PENDING
                                HOST TLB FOR A USER (NOT THE
                                CURRENT USER)
23C   PLSSTKCD    004           COUNT OF CALLS TO UPDATE USER
                                SCHEDULING STATUS
240   PLSSTKPE    004           ELAPSED TIME SLICE DROPS
244   PLSSTKCI    004           IORBKS STACKED
248   PLSSTKCC    004           CPEBKS STACKED
24C   PLSSTKCS    004           SPECIAL CPEBK CALLS
250   PLSSTKCW    004           WORK BIT STACK CALLS
254   PLSSTKGS    004           SIGPS TO DROP MP ADJUNCT
258   PLSSTKCM    004           WAKEUP BY PROXY ON MASTER CPU
25C   PLSSTKCJ    004           COUNT OF DORMAN ADDS AFTER
                                HOT SHOT
260   PLSSTKCH    004           COUNT OF ADDS FOR HOT SHOT
264   PLSSTLNU    002           COUNT OF USERS 'STOLEN' FROM
                                ANOTHER PLDV
2A2   PLSCUHAF    002           COUNT OF USERS DISPATCHED WITH
                                ..HARD AFFINITY (DEDICATED)

                                FOLLOWING ARE VARIOUS EVENT COUNTERS FOR MONITOR


                    EQUATES

        02    PLSETBEL          SIZE OF EVENT TABLE ENTRIES -
                                THESE ARE HALFWORDS
        00    PLSEVNT1          INDEX TO THE E-1 CLASS ENTRIES
        02    PLSEVNT2          INDEX TO THE E-2 CLASS ENTRIES
        04    PLSEVNT3          INDEX TO THE E-3 CLASS ENTRIES

                                NUMBER OF TIMES A USER WAS
                                'FORCED' INTO THE DISPATCH
                                LIST BECAUSE IT WAS BEHIND
                                SCHEDULE, EVEN THOUGH IT WOULD
                                NOT FIT.

2A4   PLSEFRC1    002           - E1
2A6   PLSEFRC2    002           - E2
2A8   PLSEFRC3    002           - E3
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2AA	PLSEQKAD	002	QUICKDSP USER ADDED COUNT
2AC		21F	RESERVED FOR IBM USE
300		2F	
308	PLSSTLWT	004	COUNT OF FRAME REPLACEMENT PAGE I/O WRITE REQUESTS
30C		F	
310	PLSALNCT	004	COUNT OF TIMES A NEW FRAME WAS NEEDED FROM AVAILABLE LIST
314	PLSALEMP	004	COUNT OF TIMES AVAILABLE LIST WAS EMPTY
318	PLSRETFR	004	COUNT OF FRAMES RETURNED TO THE AVAILABLE LIST
31C	PLSLTD1	004	NUMBER OF TIMES DEMAND SCAN ..COMPLETED AFTER PASS 1 WHILE ..SCANNING LONG TERM DORMANT USERS
320	PLSLTD2	004	NUMBER OF TIMES DEMAND SCAN ..COMPLETED AFTER PASS 2 WHILE ..SCANNING LONG TERM DORMANT USERS
324	PLSREORD	004	NUMBER OF VIRTUAL SYSTEM OR SHARED ..FRAME LIST REORDERS.
328	PLSTRMWT	004	COUNT OF FRAME REPLACEMENT WRITES ..PENDING THAT ARE REQUESTED BY ..THE TRIM FROM DORMANT AND ..ELIGIBLE LIST USER SCANS
32C	PLSTDFCT	004	TRIM DORMANT FRAME COUNT
330	PLSTEFCT	004	TRIM ELIGIBLE FRAME COUNT
334	PLSTRDCT	004	TRIM DORMANT USER INVOCATION COUNT
338	PLSTRECT	004	TRIM ELIGIBLE USER INVOCATION COUNT
33C	PLSDORM1	004	COUNT OF TIMES THE DEMAND SCAN COMPLETED AFTER THE FIRST PASS OF THE DORMANT LIST
340	PLSSYS1	004	COUNT OF TIMES THE DEMAND SCAN COMPLETED AFTER THE FIRST SCAN OF THE SYSTEM VMDBK
344	PLSSHAR1	004	COUNT OF TIMES THE DEMAND SCAN COMPLETED AFTER THE FIRST SCAN OF SHARED STORAGE
348	PLSELIG1	004	COUNT OF TIMES THE DEMAND SCAN COMPLETED AFTER THE FIRST SCAN OF THE ELIGIBLE LIST
34C	PLSDISP1	004	COUNT OF TIMES THE DEMAND SCAN COMPLETED AFTER THE FIRST SCAN OF THE DISPATCH LIST
350	PLSDORM2	004	COUNT OF TIMES THE DEMAND SCAN COMPLETED AFTER THE SECOND PASS OF THE DORMANT LIST
354	PLSELIG2	004	COUNT OF TIMES THE DEMAND SCAN COMPLETED AFTER THE SECOND SCAN OF THE ELIGIBLE LIST
358	PLSDISP2	004	COUNT OF TIMES THE DEMAND SCAN COMPLETED AFTER THE SECOND SCAN OF THE DISPATCH LIST
35C	PLSSHARE	004	COUNT OF TIMES THE DEMAND SCAN COMPLETED AFTER EMERGENCY SCAN OF SHARED STORAGE
360	PLSDORME	004	COUNT OF TIMES THE DEMAND SCAN COMPLETED AFTER EMERGENCY PASS OF THE DORMANT LIST
364	PLSELIGE	004	COUNT OF TIMES THE DEMAND SCAN COMPLETED AFTER EMERGENCY SCAN OF THE ELIGIBLE LIST
368	PLSSYSE	004	COUNT OF TIMES THE DEMAND SCAN COMPLETED AFTER EMERGENCY SCAN OF THE SYSTEM VMDBK
36C	PLSDISPE	004	COUNT OF TIMES THE DEMAND SCAN COMPLETED AFTER EMERGENCY SCAN OF THE DISPATCH LIST
370	PLSNOCMP	004	COUNT OF TIMES THE DEMAND SCAN COMPLETED WITHOUT SATISFYING THE DEMAND FOR FRAMES
374	PLSDSTST	004	START OF TABLE
374	PLSPASS1	004	

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374   PLSLTDP1   004      LONG TERM DORMANT PASS 1
378   PLSDRMP1   004      DORMANT PASS 1
37C   PLSELGP1   004      ELIGIBLE LIST PASS 1
380   PLSDSPP1   004      DISPATCH LIST PASS 1
384   PLSSHRP1   004      SHARED STORAGE PASS 1
388   PLSSYSP1   004      SYSTEM STORAGE PASS 1

                  EQUATES

       18    PLSP1END    END OF PASS 1 ACCUMULATORS

38C   PLSPASS2   004
38C   PLSLTDP2   004      LONG TERM DORMANT PASS 2
390   PLSDRMP2   004      DORMANT PASS 2
394   PLSELGP2   004      ELIGIBLE LIST PASS 2
398   PLSDSPP2   004      DISPATCH LIST PASS 2
39C   PLSSHRP2   004      SHARED STORAGE PASS 2
3A0   PLSSYSP2   004      SYSTEM STORAGE PASS 2

                  EQUATES

       18    PLSP2END    END OF PASS 2 ACCUMULATORS

3A4   PLSPASSE   004
3A4   PLSLTDPE   004      LONG TERM DORMANT  EMERGENCY PASS
3A8   PLSDRMPE   004      DORMANT  EMERGENCY PASS
3AC   PLSELGPE   004      ELIGIBLE LIST  EMERGENCY PASS
3B0   PLSDSPPE   004      DISPATCH LIST  EMERGENCY PASS
3B4   PLSSHRPE   004      SHARED STORAGE EMERGENCY PASS
3B8   PLSSYSPE   004      SYSTEM STORAGE EMERGENCY PASS

                  EQUATES

       18    PLSPEEND    END OF EMERGENCY PASS ACCUMULATORS

3BC   PLSSTLFR   004      COUNT OF FRAMES TAKEN FOR FREE
                          STORAGE BY THE FRAME TABLE SCAN
3C0   PLSPGXTD   004      COUNT OF FREE STORAGE FRAME
                          REQUESTS
3C4   PLSFRECT   004      COUNT OF CALLS FOR FREE STORAGE
3C8   PLSFSPCT   004      COUNT OF REQUESTS SATISFIED BY
                          REGULAR FREE STORAGE SUBPOOLS
3CC               F      RESERVED FOR FUTURE IBM USE
3D0   PLSFVRCT   004      COUNT OF REQUESTS SATISFIED BY
                          V=R SUBPOOLS
3D4   PLSDXFRE   004      TOTAL NUMBER OF DISEXTEND FRAMES
                          ..RETURNED
3D8   PLSFRET    004      NUMBER OF FREE STORAGE RETURNS BY
                          ..THE SYSTEM
3DC   PLSFVRRQ   004      TOTAL NUMBER OF V=R FREE STORAGE
                          ..REQUESTS
3E0   PLSFVRLS   004      NUMBER OF V=R REQUESTS SATISFIED
                          ..FROM V=R FREE STORAGE, BUT NOT
                          ..FROM V=R SUBPOOLS
3E4   PLSPRQDF   004      TOTAL COUNT OF PAGE REQUESTS
                          DEFERRED
3E8   PLSPNEW    004      NUMBER OF PAGE TRANSLATIONS FOR A
                          ..FIRST TIME REFERENCED PAGE.
3EC   PLSPREAD   004      NUMBER OF PAGE TRANSLATIONS THAT
                          ..RESULTED IN A PAGE READ
3F0   PLSSHRRD   004      TOTAL NUMBER OF PAGE READS AND
                          ..PAGINS FOR SHARED PAGES
3F4   PLSRELES   004      NUMBER OF TIMES ANY RELEASE
                          ..FUNCTION WAS PERFORMED.  THIS
                          ..INCLUDES RELEASING ANY RANGE OF
                          ..VIRTUAL SYSTEM PAGES AS WELL AS
                          ..SHARED PAGES.
3F8   PLSRELFR   004      NUMBER OF FRAMES THAT ARE RETURNED
                          ..BY ANY RELEASE FUNCTION.

                  EQUATES

       88    PLSDSTLN
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3FC	PLSURFTF	004	COUNT OF TIMES GUEST FAULTED ON A ..FRAME FOR 1ST TIME BUT DID NOT ..MODIFY IT.
400	PLSASARL	004	COUNT OF ASA'S RELEASED BECAUSE ..THAT PAGE IS CURRENTLY IN MAIN ..STORAGE AND HAS BEEN CHANGED
404	PLSPGIN	004	COUNT OF LONGPATH PGINS
408	PLSPGOUT	004	COUNT OF LONGPATH PGOUTS
40C		29F	RESERVED FOR IBM USE
480	PLSIUCVT	004	TOTAL COUNT OF IUCV FUNCTIONS
484	PLSSRCSS	004	SOURCE CP SYSTEM SERVICE COUNTS THE FOLLOWING FIELDS INDICATE THE TOTAL NUMBER OF SUCCESSFUL IUCV DATA TRANSFERS BY:
484	PLSISEMA	004	CP SYSTEM SERVICE *MSGALL
488	PLSISEM	004	CP SYSTEM SERVICE *MSG
48C	PLSISEBL	004	CP SYSTEM SERVICE *BLOCKIO
490	PLSISERA	004	CP SYSTEM SERVICE *RPI
494	PLSISEMO	004	CP SYSTEM SERVICE *MONITOR
498	PLSISEVM	004	A VIRTUAL MACHINE
49C	PLSTRCSS	004	TARGET CP SYSTEM SERVICE COUNTS THE FOLLOWING FIELDS INDICATE THE TOTAL NUMBER OF SUCCESSFUL IUCV DATA TRANSFERS TO:
49C	PLSISTMA	004	CP SYSTEM SERVICE *MSGALL
4A0	PLSISTM	004	CP SYSTEM SERVICE *MSG
4A4	PLSISTBL	004	CP SYSTEM SERVICE *BLOCKIO
4A8	PLSISTRA	004	CP SYSTEM SERVICE *RPI
4AC	PLSISTMO	004	CP SYSTEM SERVICE *MONITOR
4B0	PLSISTVM	004	A VIRTUAL MACHINE
4B4	PLSUNCSS	004	THE FOLLOWING FIELDS INDICATE THE TOTAL NUMBER OF UNSUCCESSFUL IUCV DATA TRANSFERS BY:
4B4	PLSISUMA	004	CP SYSTEM SERVICE *MSGALL
4B8	PLSISUM	004	CP SYSTEM SERVICE *MSG
4BC	PLSISUBL	004	CP SYSTEM SERVICE *BLOCKIO
4C0	PLSISURA	004	CP SYSTEM SERVICE *RPI
4C4	PLSISUMO	004	CP SYSTEM SERVICE *MONITOR
4C8	PLSISUVM	004	A VIRTUAL MACHINE THE FOLLOWING FIELDS INDICATE THE TOTAL NUMBER OF SUCCESSFUL VMCF DATA TRANSFERS :
4CC	PLSVSEVM	004	BY VIRTUAL MACHINE (VM IS SOURCE)
4D0	PLSVSTVM	004	TO VIRTUAL MACHINE (VM IS TARGET)
4D4	PLSVSUVM	004	TOTAL NUMBER OF UNSUCCESSFUL VMCF DATA TRANSFERS TO A VIRT MACH
4D8		42F	RESERVED FOR IBM USE
580	PLSCTSS	004	COUNT OF REAL SSCHS EXECUTED
584	PLSCTRS	004	COUNT OF REAL RSCHS EXECUTED
588	PLSCTCS	004	COUNT OF REAL CSCHS EXECUTED
58C	PLSCTHS	004	COUNT OF REAL HSCHS EXECUTED
590	PLSCTSI	004	I/O SOLICITED INTERRUPTS
594	PLSCTUI	004	I/O UNSOLICITED INTERRUPTS
598	PLSCPSUS	004	INVOCATIONS OF IORSUSNS EXIT
59C		57F	RESERVED FOR IBM USE
680		64F	RESERVED FOR IBM USE
780	PLSPCVSC	004	COUNT OF SERVC (B220) INSTR
784		63F	RESERVED FOR IBM USE
880		64F	RESERVED FOR IBM USE
980	PLSSSCHC	004	COUNT OF VIRTUAL SSCHS EXECUTED
984	PLSRSCHC	004	COUNT OF VIRTUAL RSCHS EXECUTED
988	PLSSIOCT	004	COUNT OF VIRTUAL SIOS EXECUTED
98C	PLSSIOFC	004	COUNT OF VIRTUAL SIOFS EXECUTED
990	PLSTCCC	004	COUNT OF VIRTUAL TEST CHANNELS AND CLEAR CHANNELS (TCCCS) EXECUTED
994		F	RESERVED FOR IBM USE TO VIRTUAL MACHINES
998	PLSIORCT	004	COUNT OF IORBKS PROCESSED
99C		57F	RESERVED FOR IBM USE
A80	PLSDIAG	004	TABLE OF DIAGNOSE COUNTERS
A80	PLSDGX00	004	COUNT OF DIAGNOSE X'00'

A84	PLSDGX04	004	COUNT OF DIAGNOSE X'04'
A88	PLSDGX08	004	COUNT OF DIAGNOSE X'08'
A8C	PLSDGX0C	004	COUNT OF DIAGNOSE X'0C'
A90	PLSDGX10	004	COUNT OF DIAGNOSE X'10'
A94	PLSDGX14	004	COUNT OF DIAGNOSE X'14'
A98	PLSDGX18	004	COUNT OF DIAGNOSE X'18'
A9C	PLSDGX1C	004	COUNT OF DIAGNOSE X'1C'
AA0	PLSDGX20	004	COUNT OF DIAGNOSE X'20'
AA4	PLSDGX24	004	COUNT OF DIAGNOSE X'24'
AA8	PLSDGX28	004	COUNT OF DIAGNOSE X'28'
AAC	PLSDGX2C	004	COUNT OF DIAGNOSE X'2C'
AB0	PLSDGX30	004	COUNT OF DIAGNOSE X'30'
AB4	PLSDGX34	004	COUNT OF DIAGNOSE X'34'
AB8	PLSDGX38	004	COUNT OF DIAGNOSE X'38'
ABC	PLSDGX3C	004	COUNT OF DIAGNOSE X'3C'
AC0	PLSDGX40	004	COUNT OF DIAGNOSE X'40'
AC4	PLSDGX44	004	COUNT OF DIAGNOSE X'44'
AC8	PLSDGX48	004	COUNT OF DIAGNOSE X'48'
ACC	PLSDGX4C	004	COUNT OF DIAGNOSE X'4C'
AD0	PLSDGX50	004	COUNT OF DIAGNOSE X'50'
AD4	PLSDGX54	004	COUNT OF DIAGNOSE X'54'
AD8	PLSDGX58	004	COUNT OF DIAGNOSE X'58'
ADC	PLSDGX5C	004	COUNT OF DIAGNOSE X'5C'
AE0	PLSDGX60	004	COUNT OF DIAGNOSE X'60'
AE4	PLSDGX64	004	COUNT OF DIAGNOSE X'64'
AE8	PLSDGX68	004	COUNT OF DIAGNOSE X'68'
AEC	PLSDGX6C	004	COUNT OF DIAGNOSE X'6C'
AF0	PLSDGX70	004	COUNT OF DIAGNOSE X'70'
AF4	PLSDGX74	004	COUNT OF DIAGNOSE X'74'
AF8	PLSDGX78	004	COUNT OF DIAGNOSE X'78'
AFC	PLSDGX7C	004	COUNT OF DIAGNOSE X'7C'
B00	PLSDGX80	004	COUNT OF DIAGNOSE X'80'
B04	PLSDGX84	004	COUNT OF DIAGNOSE X'84'
B08	PLSDGX88	004	COUNT OF DIAGNOSE X'88'
B0C	PLSDGX8C	004	COUNT OF DIAGNOSE X'8C'
B10	PLSDGX90	004	COUNT OF DIAGNOSE X'90'
B14	PLSDGX94	004	COUNT OF DIAGNOSE X'94'
B18	PLSDGX98	004	COUNT OF DIAGNOSE X'98'
B1C	PLSDGX9C	004	COUNT OF DIAGNOSE X'9C'
B20	PLSDGXA0	004	COUNT OF DIAGNOSE X'A0'
B24	PLSDGXA4	004	COUNT OF DIAGNOSE X'A4'
B28	PLSDGXA8	004	COUNT OF DIAGNOSE X'A8'
B2C	PLSDGXAC	004	COUNT OF DIAGNOSE X'AC'
B30	PLSDGXB0	004	COUNT OF DIAGNOSE X'B0'
B34	PLSDGXB4	004	COUNT OF DIAGNOSE X'B4'
B38	PLSDGXB8	004	COUNT OF DIAGNOSE X'B8'
B3C	PLSDGXBC	004	COUNT OF DIAGNOSE X'BC'
B40	PLSDGXC0	004	COUNT OF DIAGNOSE X'C0'
B44	PLSDGXC4	004	COUNT OF DIAGNOSE X'C4'
B48	PLSDGXC8	004	COUNT OF DIAGNOSE X'C8'
B4C	PLSDGXCC	004	COUNT OF DIAGNOSE X'CC'
B50	PLSDGXD0	004	COUNT OF DIAGNOSE X'D0'
B54	PLSDGXD4	004	COUNT OF DIAGNOSE X'D4'
B58	PLSDGXD8	004	COUNT OF DIAGNOSE X'D8'
B5C	PLSDGXDC	004	COUNT OF DIAGNOSE X'DC'
B60	PLSDGXE0	004	COUNT OF DIAGNOSE X'E0'
B64	PLSDGXE4	004	COUNT OF DIAGNOSE X'E4'
B68	PLSDGXE8	004	COUNT OF DIAGNOSE X'E8'
B6C	PLSDGXEC	004	COUNT OF DIAGNOSE X'EC'
B70	PLSDGXF0	004	COUNT OF DIAGNOSE X'F0'
B74	PLSDGXF4	004	COUNT OF DIAGNOSE X'F4'
B78	PLSDGXF8	004	COUNT OF DIAGNOSE X'F8'
B7C	PLSDGXFC	004	COUNT OF DIAGNOSE X'FC'

EQUATES

80	PLSDIAGE	END OF DIAGNOSE COUNTERS

B80	PLSVIXLD	004	TOTAL COUNT OF GUEST EXTERNAL INTERRUPT X'2402'
B84	PLSVIXIU	004	TOTAL COUNT OF GUEST EXTERNAL INTERRUPT X'4000'
B88	PLSVIXVM	004	TOTAL COUNT OF GUEST EXTERNAL

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                                ERROR RECOVERY AREA
020    RDCERPA      004         ERROR RECOVERY PROCEDURE ADDRESS
024    RDCERSA      004         ERROR RECOVERY SPECIFIC. ADDRESS
028    RDCCRSA      004         CHANNEL ERROR RECOVERY SPEC. ADDR
02C                 AL4         RESERVED FOR FUTURE IBM USE
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EQUATES

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         30     RDCLEN       LENGTH OF THE RDCBK IN BYTES
         06     RDCSIZE      LENGTH OF THE RDCBK IN DOUBLEWORDS
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REDEFINITION - DASD SPECIFIC AREA

```
014    RDCMCYL      002         DASD - NUMBER OF PRIMARY CYL.
016    RDCTCYL      002         DASD - TOTAL NUMBER OF CYLINDERS
018    RDCPCYL      002         DASD - NUMBER OF PAGES/CYLINDER
01A                 XL6         RESERVED FOR FUTURE IBM USE
```

CROSS REFERENCE

Name	Len	Value/Disp
RDCBK	001	000
RDCCRSA	004	028
RDCCUID	002	000
RDCCUMN	001	002
RDCCUTYP	001	00E
RDCDVCLS	001	00F
RDCDVFTR	001	011
RDCDVID	002	003
RDCDVMN	001	005
RDCDVTYP	001	010
RDCERPA	004	020
RDCERSA	004	024
RDCFEAT	004	006
RDCLEN	001	030
RDCMCYL	002	014
RDCMDRID	001	00D
RDCOBRID	001	00C
RDCOSCLS	001	00A
RDCOSCOD	002	00A
RDCOSTYP	001	00B
RDCPCYL	002	018
RDCSIZE	001	006
RDCSPEC	012	014
RDCTCYL	002	016

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HCPRDEV— REAL DEVICE CONTROL BLOCK

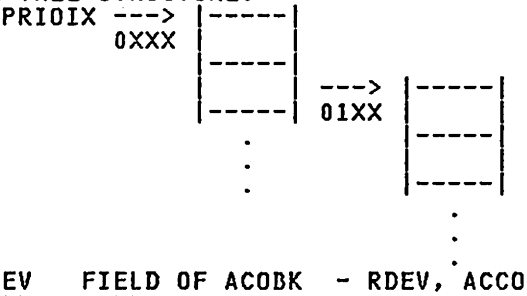
DSECT NAME: RDEV

DESCRIPTIVE NAME: REAL DEVICE CONTROL BLOCK

FUNCTION: THE REAL DEVICE BLOCK IS USED TO MANAGE THE REAL DEVICE.

LOCATED BY:

HCPRIOIX IS THE ANCHOR FIELD FOR THE RDEV
RADIX TREE STRUCTURE.



ACORDEV FIELD OF ACOBK - RDEV, ACCOUNTING
CPVRDEV FIELD OF CPVOL - RDEV, CP VOLUME
EXPRDEV FIELD OF EXPBK - RDEV, EXPOSURE BLOCK
GSRRDEV FIELD OF GSRBK - RDEV, RECOVERY
IORRDEV FIELD OF IORBK - RDEV, INTERRUPTION PARM
OPCRDEV FIELD OF OPCTB - RDEV, OPERATOR CONSOLE
PFXRDEV0 FIELD OF PFXPG - RDEV, FIRST SYSTEM DEV
PFXRDEVN FIELD OF PFXPG - RDEV, FINAL SYSTEM DEV
PIORSCH FIELD OF PIOBK - RDEV, PAGING DEVICE
RSPRDEV FIELD OF RSPBK - RDEV, SPOOLING DEVICE
SYSRDEV FIELD OF SYSCM - RDEV, FIRST
SYSRESDV FIELD OF SYSCM - RDEV, SYSTEM RESIDENCE
VDEVRDEV FIELD OF VDEVBK - RDEV, REAL DEVICE
VMDRTERM FIELD OF VMDBK - RDEV, USER TERMINAL
BLK HCPBLK (CP) VM/XA - SYSTEM PRODUCT 5664-308

CREATED BY:

RDEV'S ARE STATIC AND CREATED BY THE SYSGEN
PROCESS.

DELETED BY:

RDEV'S ARE PART OF THE SYSTEM NUCLEUS AND NEVER
DELETED.

RDEV - REAL DEVICE CONTROL BLOCK

0	:CLAS	:TYPE	:FEAT	:MODL	RDEVUSER		
8	RDEVVDEV			:MIHF	:LPM	RDEVBASE	
10	:STAT	:AFLG	:RFLG	:DFLG	RDEVLSOP		
18	= RDEVSPEC =						
48	RDEVLOWN				RDEVTSKQ		
50	RDEVCTRG				RDEVCTRD		
58	RDEVNXTL				RDEVNXTH		
60	RDEVNXTI				RDEVNXTW		
68	RDEVAIOR			:SID0	:SID1	RDEVSUB	
70	RDEVDEV	RDEVMBI			RDEVMBLK		

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```
   78 |   RDEVCUID  |:CUMN |:IDFL |   RDEVDVID  |:DVMN |//////|
      +-------------+------+------+-------------+------+------+
   80 |          RDEVERPA          |          RDEVMIH          |
      +----------------------------+---------------------------+
   88 |          RDEVSDR           |          RDEVWTDV         |
      +----------------------------+---------------------------+
   90 |          RDEVCTIO          |          RDEVCTRS         |
      +----------------------------+---------------------------+
   98 |          RDEVCTRU          |          RDEVCTSN         |
      +----------------------------+---------------------------+
   A0 |          RDEVCTSS          |          RDEVCTSR         |
      +----------------------------+---------------------------+
   A8 |          RDEVCTSI          |          RDEVCTUI         |
      +----------------------------+---------------------------+
   B0 |          RDEVRCWH          |          RDEVRCHP         |
      +----------------------------+---------------------------+
   B8 |                         RDEVRTPD                       |
      +----------------------------+---------------------------+
   C0 |          RDEVMICT          |          RDEVSKCT         |
      +----------------------------+---------------------------+
   C8 |          RDEVSKSM          |          RDEVHFSD         |
      +----------------------------+------+--------------------+
   D0 |          RDEVHFLK          |:MONS |////////////////////|
      +----------------------------+------+------+------+------+
   D8 |          RDEVRDCA          |:CHP0 |:CHP1 |:CHP2 |:CHP3 |
      +------+------+------+------+------+------+------+------+
   E0 |:CHP4 |:CHP5 |:CHP6 |:CHP7 |RDEVDP| :PAM |:RVPT | :LPO |
      +------+------+------+------+------+------+------+------+
   E8 | :PIM |////////////////////////////////////////////////|
      +------+------------------------------------------------+
   F0
```

REDEFINITION - DIRECT ACCESS STORAGE DEVICES

```
      +----------------------------+---------------------------+
   18 |          RDEVMDSK          |          RDEVVOL          |
      +----------------------------+-------------+-------------+
   20 |                RDEVSER                   |   RDEVCYL   |
      +-------------+--------------+-------------+-------------+
   28 |  RDEVHRCT   |//////////////|   RDEVFCYL  |   RDEVMCYL  |
      +-------------+--------------+-------------+-------------+
   30 |  RDEVPCYL   |   RDEVLCNT   |          RDEVLINK         |
      +-------------+--------------+---------------------------+
   38 |          RDEVPIOL          |          RDEVRSVQ         |
      +----------------------------+-------------+-------------+
   40 |          RDEVRTRQ          |   RDEVTCYL  |//////////////|
      +----------------------------+-------------+-------------+
   48
```

REDEFINITION - TAPE DRIVES

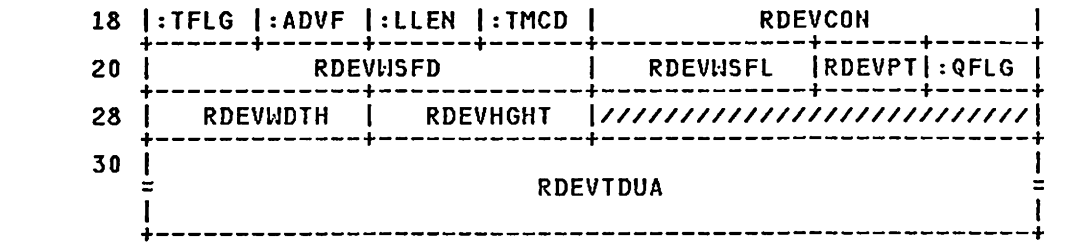
```
      +----------------------------+------+------+-------------+
   18 |          RDEVSPT           |:TPFG |//////|//////////////|
      +----------------------------+------+------+-------------+
   20 |                RDEVSERT                  |//////////////|
      +------------------------------------------+-------------+
   28
```

REDEFINITION - REAL SPOOLING POINTERS

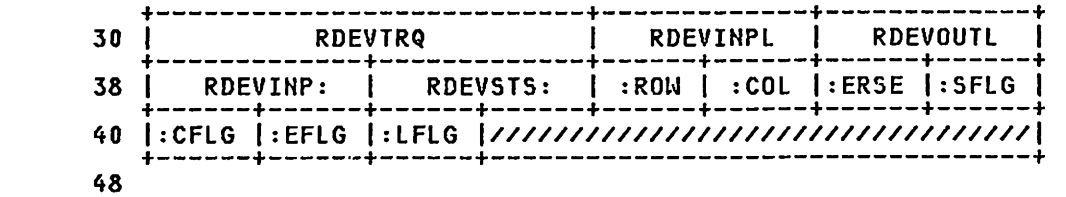
```
      +----------------------------+
   18 |          RDEVRSP           | 1C
      +----------------------------+
```

REDEFINITION - COMMON TERMINAL SPECIFIC AREA

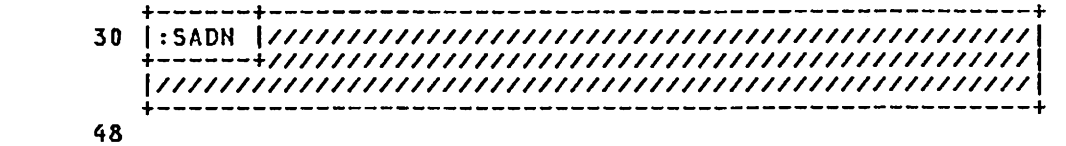
```
      +------+------+------+------+----------------------------+
```



REDEFINITION - 3270 LOGICAL/LOCAL UNIQUE AREA



REDEFINITION - START/STOP TERMINAL UNIQUE AREA



disp	name	length	description
000	RDEVDEFN	004	DEVICE DEFINITION FIELDS
000	RDEVCODE	002	DEVICE IDENTIFICATION CODE
000	RDEVCLAS	001	DEVICE CLASS
	BITS DEFINED FOR RDEVCLAS BY HCPDVTYP DEVCLAS		
001	RDEVTYPE	001	DEVICE TYPE
	BITS DEFINED FOR RDEVTYPE BY HCPDVTYP DEVTYPE		
002	RDEVFEAT	001	DEVICE FEATURES
	BITS DEFINED FOR RDEVFEAT BY HCPDVTYP DEVFEAT		
003	RDEVMODL	001	DEVICE MODEL NUMBER
004	RDEVUSER	004	POINTER TO CONTROLLING VMDBLOCK
008	RDEVVSCH	004	OLD AND HISTORICAL NAME
008	RDEVVDEV	004	POINTER TO DEDICATED DEVICE VDEV
00C	RDEVMIHF	001	USED BY HCPMIH FOR DETECTION OF MISSING INTERRUPTION CONDITIONS.
00D	RDEVLPM	001	LOGICAL PATH MASK
00E	RDEVBASE	002	370X-EP NATIVE DEVICE ADDRESS
010	RDEVFLGS	004	DEVICE STATUS FLAGS
010	RDEVSTAT	001	DEVICE OPERATION STATUS FLAG
	BITS DEFINED IN RDEVSTAT (AT HEX DISPLACEMENT: 10)		
	80 RDEVALID		VALID DEVICE ASSOCIATED WITH SUBCH
	20 RDEVHOT		HOT I/O DEVICE
	10 RDEVINRQ		DEVICE IS INTERVENTION REQUIRED
	08 RDEVLOFF		OWNER IS IN LOGOFF PROCESSING
	04 RDEVEXOF		OPERATOR VARIED DEVICE OFFLINE
	02 RDEVVPOF		VARY PATH VARIED THE DEVICE OFFLINE

011	RDEVAFLG	001	DEVICE ALLOCATION CONTROL FLAG

BITS DEFINED IN RDEVAFLG (AT HEX DISPLACEMENT: 11)

80	RDEVOFFL	DEVICE IS OFFLINE
40	RDEVSYS	DEVICE ATTACHED TO SYSTEM
20	RDEVFREE	DEVICE IS NOT IN USE
10	RDEVCPVL	CP VOLUME IS ATTACHED (RDEVVOL)
08	RDEVDED	DEVICE ATTACHED TO USER (RDEVUSER)
04	RDEVSPL	DEVICE FOR SPOOLING (RDEVRSP)
02	RDEVMNT	VOLUME IS MOUNTED BUT NOT ATTACHED
01	RDEVXVOL	XVOLID SPECIFIED FOR DASD OR TAPE

012	RDEVRFLG	001	DEVICE ERROR RECOVERY CTL FLAG

BITS DEFINED IN RDEVRFLG (AT HEX DISPLACEMENT: 12)

80	RDEVWTDE	MESSAGE HANDLER WAIT FOR DEVICE END
40	RDEVIRM	INTENSIVE RECORDING MODE ACTIVE
20	RDEVINTR	DEVICE INTERVENTION REQUIRED WAIT
10	RDEVRSET	DEVICE IS BEING RESET
08	RDEVCONC	CONTINGENT CONNECTION FOR SENSE
04	RDEVRSVD	DEVICE HAS BEEN RESERVED
02	RDEVUDEI	UNSOLICITED DEVICE END IN ERP
01	RDEVMIHM	MISSING INTERRUPT MESSAGE SENT

013	RDEVDFLG	001	DEVICE DEVICE DEPENDENT STATUS

BITS DEFINED IN RDEVDFLG (AT HEX DISPLACEMENT: 13)

80	RDEVAUTO	370X - AUTO LOAD/DUMP ACTIVE
80	RDEVSKUP	DASD - SEEK DIRECTION FOR DASD
20	RDEVHELD	DASD - RESERVE IS HELD
10	RDEVPEND	DASD - RESERVE IS PENDING
40	RDEVRLPN	DASD - RELEASE IS PENDING
08	RDEVSHAR	DASD IS SHAREABLE
04	RDEVSOFF	DASD SHARING IS TO BE SET OFF
80	RDEVPSUP	TERM - PRINT SUPPRESS AVAILABLE
40	RDEVPREP	TERM - PREPARE CCW ACTIVE
20	RDEVHALT	TERM - HALT ISSUED TO DEVICE
10	RDEVIPND	TERM - IORBK ACTIVE & PENDING
08	RDEVATOF	TERM - SUPPRESS ATTENION CHAR.
40	RDEVSSCT	USED FOR SUSPENDING COUNTING

014	RDEVLSOP	004	LOGICAL SUBCHANNEL OBJECT POINTER
018	RDEVSPEC	048	DEVICE REDEFINITION AREA
048	RDEVSHRT	008	END OF SHORT (CASCADED) RDEV
048	RDEVLCKW	016	ENTIRE REAL DEVICE LOCKWORD
048	RDEVLOCK	008	OWNER & ANCHOR OF REAL DEVICE LOCKWORD
048	RDEVLOWN	004	ADDRESS OF LOCK OWNER'S VMDBK
04C	RDEVTSKQ	004	ANCHOR FOR QUEUE OF WAITING TASKS
050	RDEVCTRG	004	COUNT OF GRANTED RDEV LOCK REQUESTS
054	RDEVCTRD	004	COUNT OF DEFERRED RDEV LOCK REQUESTS
058	RDEVNXTL	004	NEXT LOWER SEEK QUEUED IORBK
05C	RDEVNXTH	004	NEXT HIGHER SEEK QUEUED IORBK
060	RDEVNXTI	004	NEXT IMMEDIATE QUEUED IORBK
064	RDEVNXTW	004	IORBK MOST-RECENTLY-QUEUED FOR INTERVENTION REQUIRED CONDITION
068	RDEVAIOR	004	CURRENTLY ACTIVE I/O REQUEST
06C	RDEVSID	004	HOST SUBCHANNEL ID
06C	RDEVSID0	001	MUST BE X'00'
06D	RDEVSID1	001	MUST BE X'01'
06E	RDEVSUB	002	HOST SUBCHANNEL NUMBER
070	RDEVDEV	002	DEVICE NUMBER
072	RDEVMBI	002	HOST MEASUREMENT BLOCK INDEX
074	RDEVMBLK	004	HOST MEASUREMENT BLOCK
078	RDEVCUID	002	CONTROL UNIT ID IN PACKED DECIMAL
07A	RDEVCUMN	001	CONTROL UNIT MODEL NUMBER
07B	RDEVIDFL	001	IDENTIFICATION VALIDITY FLAGS

BITS DEFINED IN RDEVIDFL (AT HEX DISPLACEMENT: 7B)

80	RDEVCUIV	CONTROL UNIT ID IS VALID

	40	RDEVDVIV	DEVICE ID IS VALID
07C	RDEVDVID	002	DEVICE ID IN PACKED DECIMAL
07E	RDEVDVMN	001	DEVICE MODEL NUMBER
07F		X	RESERVED FOR FUTURE IBM USE
080	RDEVERPA	004	ERROR RECOVER PROCEDURE ADDRESS
084	RDEVMIH	004	MISSING INTERRUPT HANDLER BLOCK
088	RDEVSDR	004	ADDRESS OF STATISTICAL DATA BLOCK
08C	RDEVWTDV	004	ADDRESS OF CPEBK FOR WAIT-DEVICE
090	RDEVCTIO	004	COUNT OF I/O REQUESTS QUEUED
094	RDEVCTRS	004	COUNT OF SUCCESSFUL ERP ATTEMPTS
098	RDEVCTRU	004	COUNT OF UNSUCCESSFUL ERP ATTEMPTS
09C	RDEVCTSN	004	COUNT OF SSCH EXECUTED FOR NORMAL OPERATIONS (CP INITIATED SSCH)
0A0	RDEVCTSS	004	COUNT OF SSCH EXECUTED FOR SENSE OPERATIONS
0A4	RDEVCTSR	004	COUNT OF SSCH EXECUTED FOR RECOVERY OPERATIONS
0A8	RDEVCTSI	004	COUNT OF I/O SOLICITED INTERRUPTS
0AC	RDEVCTUI	004	COUNT OF I/O UNSOLICITED INTERRUPTS
0B0	RDEVRCWH	004	CUMULATIVE COUNT OF NUMBER OF REAL RESERVE CCWS SENT TO A DEVICE THAT ARE HELD IMMEDIATELY
0B4	RDEVRCWP	004	CUMULATIVE COUNT OF NUMBER OF REAL RESERVE CCWS SENT TO A DEVICE THAT ARE HELD PENDING
0B8	RDEVRTPD	008	CUMULATIVE COUNT OF THE AMOUNT OF REAL TIME A REAL RESERVE CCW IS "PENDING" OR NOT GRANTED IMMEDIATELY.
0C0	RDEVMICT	004	CUMULATIVE COUNT OF THE NUMBER OF MISSING INTERRUPTS DETECTED FOR THIS DEVICE
0C4	RDEVSKCT	004	CUMULATIVE COUNT OF THE NUMBER OF SEEK CCWS EXECUTED ON THIS DEVICE
0C8	RDEVSKSM	004	CUMULATIVE SUMMATION OF CYLINDER NUMBERS ASSOCIATED WITH SEEK CCWS EXECUTED ON THIS DEVICE
0CC	RDEVHFSD	004	POINTER TO THE HIGH-FREQUENCY FREE STORAGE DATA AREA FOR THIS DEVICE
0D0	RDEVHFLK	004	LOCK FOR RDEVHFSD
0D4	RDEVMON	004	MONITOR INFORMATION
0D4	RDEVMONS	001	INDICATES THE MONITORING STATUS FOR THIS DEVICE

BITS DEFINED IN RDEVMONS (AT HEX DISPLACEMENT: D4)

80	RDEVMNSD	DEVICE IS NOT BEING MONITORED FOR SAMPLE DATA
40	RDEVMNSK	DEVICE IS BEING MONITORED FOR EVENT SEEKS
20	RDEVMNIO	DEVICE IS BEING MONITORED FOR EVENT I/O

0D5		3X	RESERVED FOR FUTURE IBM USE
0D8	RDEVRDCA	004	REAL DEVICE CHARACTERISTICS TBL ADDR
0DC	RDEVCHPS	008	ARRAY OF CHANNEL PATH ID'S
0DC	RDEVCHP0	001	CHANNEL PATH IDENTIFIER 0
0DD	RDEVCHP1	001	CHANNEL PATH IDENTIFIER 1
0DE	RDEVCHP2	001	CHANNEL PATH IDENTIFIER 2
0DF	RDEVCHP3	001	CHANNEL PATH IDENTIFIER 3
0E0	RDEVCHP4	001	CHANNEL PATH IDENTIFIER 4
0E1	RDEVCHP5	001	CHANNEL PATH IDENTIFIER 5
0E2	RDEVCHP6	001	CHANNEL PATH IDENTIFIER 6
0E3	RDEVCHP7	001	CHANNEL PATH IDENTIFIER 7
0E4	RDEVDP	001	DYNAMIC PATHING FLAG

BITS DEFINED IN RDEVDP (AT HEX DISPLACEMENT: E4)

80	RDEVGRPD	PATHS ARE CURRENTLY GROUPED
40	RDEVPMNV	PATH MASK IS (OR MAY BE) NOT VALID
20	RDEVPMIP	PATH MASK RECONSTRUCTION IN PROCESS
10	RDEVAPGI	USE ALTERNATE PATH GROUP ID
02	RDEVMPM	MULTIPATH MODE DP WAS ESTABLISHED AT DEVICE INITIALIZATION TIME
01	RDEVSPM	SINGLE PATH MODE DP WAS ESTABLISHED

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AT DEVICE INITIALIZATION TIME

0E5	RDEVPAM	001	PATH AVAILABLE MASK
0E6	RDEVRVPT	001	MASK OF PATH RESERVE WAS ISSUED DOWN
0E7	RDEVLPO	001	MASK OF LOGICAL PATHS VARIED OFFLINE
0E8	RDEVPIM	001	PATH INSTALLED MASK
0E9		7X	RESERVED FOR FUTURE IBM USE
0F0	RDEVEND	008	END OF A FULL RDEV

EQUATES

1E	RDEVSIZE	SIZE OF A NORMAL RDEVBK
09	RDEVSSIZ	SIZE OF CASCADE RDEVBK

REDEFINITION - DIRECT ACCESS STORAGE DEVICES

018	RDEVMDSK	004	CHAIN OF MDISK BLOCKS FOR RES/RELEASE
01C	RDEVVOL	004	POINTER TO SYSTEM CPVOL ENTRY
020	RDEVSER	006	DASD VOLUME SERIAL IDENTIFIER
026	RDEVCYL	002	CURRENT SEEK CYLINDER FOR DASD
028	RDEVHRCT	002	COUNTER FOR DETECTING DASD DEVICE POTENTIAL HEAD CRASH. INCREMENTED BY DASD ERP WHEN EQUIPMENT CHECK OR SERIOUS DATA CHECK REPETITIVELY OCCURS. THE OPERATOR IS WARNED TO TAKE ACTION WHEN THIS COUNT REACHES THE THRESHOLD VALUE.

EQUATES

20	RDEVXHCT	THRESHOLD VALUE OF HEAD CRASH

02A		H	RESERVED FOR FUTURE IBM USE
02C	RDEVFCYL	002	NUMBER OF FIXED-HEAD CYLINDERS
02E	RDEVMCYL	002	MAXIMUM NUMBER OF CYLINDERS
030	RDEVPCYL	002	MAXIMUM PAGES/CYLINDER
032	RDEVLCNT	002	LINK COUNT FOR SYSTEM DASD DEV
034	RDEVLINK	004	ANCHOR OF LINK CHAIN FOR DEVICE
038	RDEVPIOL	004	ANCHOR OF PIOBK'S ON THIS RDEV
03C	RDEVRSVQ	004	POINTER TO RESERVE REQUEST TOKEN
040	RDEVRTRQ	004	RESERVE REQUEST TIMER ANCHOR
044	RDEVTCYL	002	TOTAL NUMBER OF CYLINDERS
046		H	RESERVED FOR FUTURE IBM USE

REDEFINITION - TAPE DRIVES

018	RDEVSPT	004	POINTER TO THE SPTBK FOR THE SPTAPE COMMAND
01C	RDEVTPFG	001	TAPE OPERATION CONTROL FLAG

BITS DEFINED IN RDEVTPFG (AT HEX DISPLACEMENT: 1C)

80	RDEVNOAS	TAPE - NOASSIGN OPTION DEFINED

01D		X	RESERVED FOR FUTURE IBM USE
01E		H	RESERVED FOR FUTURE IBM USE
020	RDEVSERT	006	TAPE VOLUME SERIAL IDENTIFIER RDEVSERT LOCATION MUST BE SAME DISPLACEMENT AS RDEVSER IN DASD RE-DEFINE AREA
026		H	RESERVED FOR FUTURE IBM USE

REDEFINITION - REAL SPOOLING POINTERS

018	RDEVRSP	004	POINTER TO THE RSPBK

REDEFINITION - COMMON TERMINAL SPECIFIC AREA

018	RDEVTCTL	004	TERMINAL CONTROL FLAGS
018	RDEVTFLG	001	TERMINAL OPERATION CONTROL FLAGS

BITS DEFINED IN RDEVTFLG (AT HEX DISPLACEMENT: 18)

80	RDEVLOG	TERM - LOGGED ON USER AT RDEVUSER

```
        20     RDEVENAB     TERM - ENABLED FOR SYSTEM ACCESS
        10     RDEVDROP     TERM - IN DROP PROCESSING
        08     RDEVDISA     TERM - DISABLE SEQUENCE IN PROGRESS
        04     RDEVCTL      TERM - CONTROL FUNCTION
                            BEING PERFORMED
        02     RDEVDOEN     ENABLE/DISABLE PROCESS FLAG

019   RDEVADVF   001        327X ADVANCED FEATURE FLAGS

        BITS DEFINED IN RDEVADVF (AT HEX DISPLACEMENT: 19)

        80     RDEVECOL     DEVICE HAS EXTENDED COLOR
        40     RDEVEHLT     DEVICE HAS EXTENDED HIGHLIGHTING
        20     RDEVPSS      DEVICE HAS PROGRAMMABLE SYMBOL SETS
        10     RDEVQRY      ENABLE GENERAL QUERY IN PROGRESS
        04     RDEVAINH     READ NODISPLAY HAS BEEN ISSUED
        02     RDEVWSF      WSF HAS BEEN ISSUED
        01     RDEV14BT     14 BIT ADDRESSING IS SUPPORTED
        E1     RDEV8CBT     ALL THE
                            BITS USED FOR DIAGNOSE X'8C'

01A   RDEVLLEN   001        TERMINAL OUTPUT LINE LENGTH
01B   RDEVTMCD   001        TERMINAL CHARACTER-SET CODE

        BITS DEFINED IN RDEVTMCD (AT HEX DISPLACEMENT: 1B)

        80     RDEVUNDF     TERMINAL CODE NOT YET ESTABLISHED
        20     RDEVTXTC     TEXT CHARACTER SET
        10     RDEVAPLC     APL CHARACTER SET
        08     RDEVEDIC     EBCDIC TERMINAL CODE
        04     RDEVASCI     USASCII-8 TERMINAL CODE
        02     RDEVCORS     CORRESPONDENCE TERMINAL CODE
        01     RDEVPTTC     PTTC/EBCD TERMINAL CODE

01C   RDEVCON    004        POINTER TO COMBK CHAIN
020   RDEVWSFD   004        VIRTUAL ADDRESS OF THE WSF QUERY DATA
024   RDEVWSFL   002        LENGTH OF WSF QUERY DATA
026   RDEVPT     001        THE NUMBER OF PARTITIONS ON THE SCREEN
027   RDEVQFLG   001        QUERY DATA INITIALIZATION CONTROL

        BITS DEFINED IN RDEVQFLG (AT HEX DISPLACEMENT: 27)

        80     RDEVQDO      PERFORM QUERY DATA INITIALIZATION
        40     RDEVQLK      LOCK QUERY INITIALIZATION DATA
        20     RDEVQIGE     IGNORE I/O INIT.  ERROR RECORDING
        10     RDEVQATN     WAITING FOR THE WSF QUERY ATTENTION

028   RDEVWDTH   002        THE WIDTH OF THE SCREEN (
02A   RDEVHGHT   002        THE HEIGHT OF THE SCREEN (
02C              F          RESERVED FOR IBM USE
030   RDEVTDUA   024        TERMINAL DEVICE UNIQUE AREA
                            THIS AREA IS DEFINED FOR EACH DEVICE

          REDEFINITION - 3270 LOGICAL/LOCAL UNIQUE AREA

030   RDEVTRQ    004        POINTER TO CONTROL TRQBK
034   RDEVINPL   002        LENGTH OF THE INPUT AREA IN BYTES
036   RDEVOUTL   002        LENGTH OF THE OUTPUT AREA IN BYTES
038   RDEVINP    0SS
                            ATTRIBUTE BYTE.  (12 OR 14 BIT MODE)
03A   RDEVSTS    0SS
                            ATTRIBUTE BYTE.  (12 OR 14 BIT MODE)
03C   RDEVCORD   002        SCREEN COORDINATE FOR NEXT WRITE
03C   RDEVROW    001        THE ROW OF THE NEXT WRITE
03D   RDEVCOL    001        THE COLUMN OF THE NEXT WRITE
03E   RDEVERSE   001        EW/EWA OPCODE TO USE ON THIS DISPLAY
03F   RDEVSFLG   001        SCREEN CONTROL FLAGS

        BITS DEFINED IN RDEVSFLG (AT HEX DISPLACEMENT: 3F)

        80     RDEVMORE     3270 - SCREEN FULL, MORE DATA
                            TO COME
        40     RDEVHOLD     3270 - SCREEN FULL, HOLD FOR
                            MORE DATA
```

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```
         20     RDEVREAD    3270 - READ PENDING FOR DATA INPUT
         10     RDEVRUN     3270 - SCREEN IN RUNNING STATUS
         08     RDEVCPNA    3270 - DATA INPUT NOT ACCEPTED
         04     RDEVTPND    3270 - TIMER REQUEST PENDING
         02     RDEVFSSA    3270 - SCREEN IN VIRT SYS AVAIL
         01     RDEVFSII    3270 - SCREEN IN VIRT INP INHIB
         F0     RDEVSTTS    3270 - BITS FOR MORE+HOLD+READ+RUN

040    RDEVCFLG    001       SCREEN CONTROL FLAGS

         BITS DEFINED IN RDEVCFLG (AT HEX DISPLACEMENT: 40)

         80     RDEVLOGO    3270 - LOGO WRITTEN TO SCREEN
         40     RDEVDIAG    3270 - SCREEN WRITTEN WITH DIAGNOSE
         20     RDEVALRM    3270 - SCREEN HAS ALARM MESSAGE
         10     RDEVWNG     3270 - 10 SECOND WARNING GIVEN
         08     RDEVGSUS    3270 - GUEST MODE SUSPENDED
         04     RDEVDGIN    3270 - DIAGNOSE TO INPUT AREA
         02     RDEVCARD    3270 - DATA FROM CARD READER
         01     RDEVAIO     3270 - I/O ACTIVE AT TIMER EXP

041    RDEVEFLG    001       EXTRA SCREEN CONTROL FLAGS

         BITS DEFINED IN RDEVEFLG (AT HEX DISPLACEMENT: 41)

         80     RDEVVMRD    VIRTUAL MACHINE READ PENDING
         40     RDEVESEL    CONTROL UNIT SUPPORTS EXT. SELECT CCWS

042    RDEVLFLG    001       LOGICAL DEVICE FLAGS

         BITS DEFINED IN RDEVLFLG (AT HEX DISPLACEMENT: 42)

         80     RDEVGONE    DEVICE IS BEING TERMINATED

043               XL5       RESERVED FOR IBM USE

          REDEFINITION - START/STOP TERMINAL UNIQUE AREA

030    RDEVSADN    001       270X/370X-EP SETADDR VALUE
031                XL23      RESERVED FOR IBM USE
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
RDEV	001	000	RDEVCHP3	001	0DF	RDEVCTSI	004	0A8
RDEVADVF	001	019	RDEVCHP4	001	0E0	RDEVCTSN	004	09C
RDEVAFLG	001	011	RDEVCHP5	001	0E1	RDEVCTSR	004	0A4
RDEVAINH	001	004	RDEVCHP6	001	0E2	RDEVCTSS	004	0A0
RDEVAIO	001	001	RDEVCHP7	001	0E3	RDEVCTUI	004	0AC
RDEVAIOR	004	068	RDEVCLAS	001	000	RDEVCUID	002	078
RDEVALID	001	080	RDEVCODE	002	000	RDEVCUIV	001	080
RDEVALRM	001	020	RDEVCOL	001	03D	RDEVCUNN	001	07A
RDEVAPGI	001	010	RDEVCON	004	01C	RDEVCYL	002	026
RDEVAPLC	001	010	RDEVCONC	001	008	RDEVDED	001	008
RDEVASCI	001	004	RDEVCORD	002	03C	RDEVDEFN	004	000
RDEVATOF	001	008	RDEVCORS	001	002	RDEVDEV	002	070
RDEVAUTO	001	080	RDEVCPNA	001	008	RDEVDFLG	001	013
RDEVBASE	002	00E	RDEVCPVL	001	010	RDEVDGIN	001	004
RDEVCARD	001	002	RDEVCTIO	004	090	RDEVDIAG	001	040
RDEVCFLG	001	040	RDEVCTL	001	004	RDEVDISA	001	008
RDEVCHPS	008	0DC	RDEVCTRD	004	054	RDEVDOEN	001	002
RDEVCHP0	001	0DC	RDEVCTRG	004	050	RDEVDP	001	0E4
RDEVCHP1	001	0DD	RDEVCTRS	004	094	RDEVDROP	001	010
RDEVCHP2	001	0DE	RDEVCTRU	004	098	RDEVDVID	002	07C

Name	Len	Value/Disp
RDEVDVIV	001	040
RDEVDVMN	001	07E
RDEVECOL	001	080
RDEVEDIC	001	008
RDEVEFLG	001	041
RDEVEHLT	001	040
RDEVENAB	001	020
RDEVEND	008	0F0
RDEVERPA	004	080
RDEVERSE	001	03E
RDEVESEL	001	040
RDEVEXOF	001	004
RDEVFCYL	002	02C
RDEVFEAT	001	002
RDEVFLGS	004	010
RDEVFREE	001	020
RDEVFSII	001	001
RDEVFSSA	001	002
RDEVGONE	001	080
RDEVGRPD	001	080
RDEVGSUS	001	008
RDEVHALT	001	020
RDEVHELD	001	020
RDEVHFLK	004	0D0
RDEVHFSD	004	0CC
RDEVHGHT	002	02A
RDEVHOLD	001	040
RDEVHOT	001	020
RDEVHRCT	002	028
RDEVIDFL	001	07B
RDEVINPa	002	038
RDEVINPL	002	034
RDEVINRQ	001	010
RDEVINTR	001	020
RDEVIPND	001	010
RDEVIRM	001	040
RDEVLCKW	016	048
RDEVLCNT	002	032
RDEVLFLG	001	042
RDEVLINK	004	034
RDEVLLEN	001	01A
RDEVLOCK	008	048
RDEVLOFF	001	008
RDEVLOG	001	080
RDEVLOGO	001	080
RDEVLOWN	004	048
RDEVLPM	001	00D
RDEVLPO	001	0E7
RDEVLSOP	004	014
RDEVMBI	002	072
RDEVMBLK	004	074
RDEVMCYL	002	02E
RDEVMDSK	004	018
RDEVMICT	004	0C0
RDEVMIH	004	084
RDEVMIHF	001	00C
RDEVMIHM	001	001
RDEVMNIO	001	020
RDEVMNSD	001	080
RDEVMNSK	001	040
RDEVMNT	001	002
RDEVMODL	001	003
RDEVMON	004	0D4
RDEVMONS	001	0D4
RDEVMORE	001	080
RDEVMPM	001	002
RDEVNOAS	001	080
RDEVNXTH	004	05C
RDEVNXTI	004	060
RDEVNXTL	004	058
RDEVNXTW	004	064
RDEVOFFL	001	080
RDEVOUTL	002	036
RDEVPAM	001	0E5
RDEVPCYL	002	030
RDEVPEND	001	010
RDEVPIM	001	0E8
RDEVPIOL	004	038
RDEVPMIP	001	020
RDEVPMRV	001	040
RDEVPREP	001	040
RDEVPSS	001	020
RDEVPSUP	001	080
RDEVPT	001	026
RDEVPTTC	001	001
RDEVQATN	001	010
RDEVQDO	001	080
RDEVQFLG	001	027
RDEVQIGE	001	020
RDEVQLK	001	040
RDEVQRY	001	010
RDEVRCWH	004	0B0
RDEVRCWP	004	0B4
RDEVRDCA	004	0D8
RDEVREAD	001	020
RDEVRFLG	001	012
RDEVRLPN	001	040
RDEVROW	001	03C
RDEVRSET	001	010
RDEVRSP	004	018
RDEVRSVD	001	004
RDEVRSVQ	004	03C
RDEVRTPD	008	0B8
RDEVRTRQ	004	040
RDEVRUN	001	010
RDEVRVPT	001	0E6
RDEVSADN	001	030
RDEVSDR	004	088
RDEVSER	006	020
RDEVSERT	006	020
RDEVSFLG	001	03F
RDEVSHAR	001	008
RDEVSHRT	008	048
RDEVSID	004	06C
RDEVSID0	001	06C
RDEVSID1	001	06D
RDEVSIZE	001	01E
RDEVSKCT	004	0C4
RDEVSKSM	004	0C8
RDEVSKUP	001	080
RDEVSOFF	001	004
RDEVSPEC	048	018
RDEVSPL	001	004
RDEVSPM	001	001
RDEVSPT	004	018
RDEVSSCT	001	040
RDEVSSIZ	008	009
RDEVSTAT	001	010
RDEVSTSa	002	03A
RDEVSTTS	001	0F0
RDEVSUB	002	06E
RDEVSYS	001	040
RDEVTCTL	004	018
RDEVTCYL	002	044
RDEVTDUA	024	030
RDEVTFLG	001	018
RDEVTMCD	001	01B
RDEVTPFG	001	01C
RDEVTPND	001	004
RDEVTRQ	004	030
RDEVTSKQ	004	04C
RDEVTXTC	001	020
RDEVTYPE	001	001
RDEVUDEI	001	002
RDEVUNDF	001	080
RDEVUSER	004	004
RDEVVDEV	004	008
RDEVVMRD	001	080
RDEVVOL	004	01C
RDEVVPOF	001	002
RDEVVSCH	004	008
RDEVWDTH	002	028
RDEVWNG	001	010
RDEVWSF	001	002
RDEVWSFD	004	020
RDEVWSFL	002	024
RDEVWTDE	001	080
RDEVWTDV	004	08C
RDEVXHCT	001	020
RDEVXVOL	001	001
RDEV14BT	001	001
RDEV8CBT	001	0E1

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HCPRECBK— RECORDING RECORD FORMAT BLOCK

DSECT NAME: RECBK

DESCRIPTIVE NAME: RECORDING RECORD FORMAT BLOCK

FUNCTION: CONTAINS THE DATA TO CONTROL THE VMCF INTERFACE FOR ERROR RECORDING AND ACCOUNTING

LOCATED BY:

EXTERNS-
HCPRECTS - START OF RECBK TABLE
HCPRECAC - RECBK ENTRY FOR ACCOUNTING
HCPRECER - RECBK ENTRY FOR ERROR RECORDING
HCPRECTE - 1ST BYTE AFTER RECBK TABLE RESIDENT IN REC

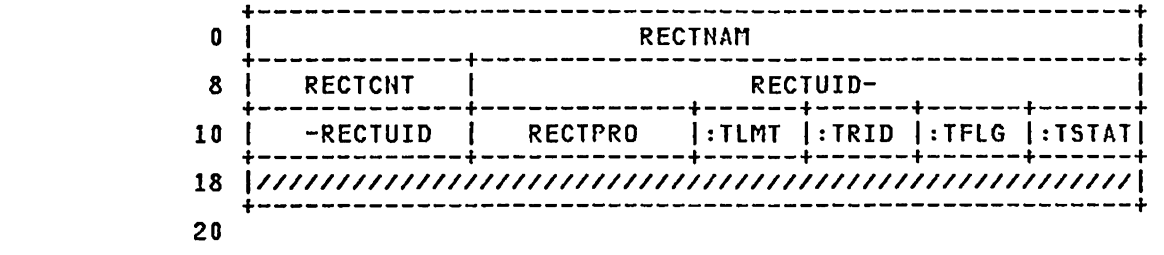
CREATED BY:

HCPREC ASSEMBLY

DELETED BY:

NONE

RECBK - RECORDING RECORD FORMAT BLOCK



disp	name	length	description
000	RECTNAM	008	RECORDING NAME
008	RECTCNT	002	COUNT OF RECORD IN THE QUEUE
00A	RECTUID	008	USERID AUTHORIZED TO RETRIEVE RECORDS
012	RECTPRO	002	PROTOCOL TO TALK TO VM USER
014	RECTLMT	001	THRESHOLD VALUE
015	RECTRID	001	RECORDING ID = GSDFLAG SETTING
016	RECTFLG	001	RECORDING STATUS

BITS DEFINED IN RECTFLG (AT HEX DISPLACEMENT: 16)

80	RECTOFF	RECORDING IS TURNED OFF
40	RECTAUT	USER VMCF AUTHORIZED TO RECEIVE DATA
20	RECTINT	EXTERNAL INTERRUPT PENDING
10	RECTCKP	RECORDS TO BE CHECKPOINTED
01	RECTNOT	UNAVAILABLE RECORDING TABLE ENTRY
02	RECTWRN	WARNING MESSAGE SENT ONCE
04	RECTINIT	RECORDING NEEDS TO BE INITIALIZED

017	RECTSTAT	001	STATUS FOR VMCPARM
018		D	RESERVED FOR FUTURE IBM USE

EQUATES

20	RECBLEN	RECBK ENTRY IN BYTES
04	RECSIZE	RECBK ENTRY IN DOUBLEWORDS

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CROSS REFERENCE

Name	Len	Value/Disp
RECBK	001	000
RECBLEN	001	020
RECSIZE	001	004
RECTAUT	001	040
RECTCKP	001	010
RECTCNT	002	008
RECTFLG	001	016
RECTINIT	001	004
RECTINT	001	020
RECTLMT	001	014
RECTNAM	008	000
RECTNOT	001	001
RECTOFF	001	080
RECTPRO	002	012
RECTRID	001	015
RECTSTAT	001	017
RECTUID	008	00A
RECTWRN	001	002

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HCPRQHDR— SAVBK RETURN QUEUE HEADER BLOCK

DSECT NAME: RQHDR

DESCRIPTIVE NAME: SAVBK RETURN QUEUE HEADER BLOCK

FUNCTION: PROVIDE QUEUE ANCHOR FOR SAVBK'S RETURNED BY SAVBK MANAGEMENT FUNCTIONS

LOCATED BY:

SAVECPRQ IN SAVBK
PFXCPRQA IN PFXPG
SSACPRQ IN SSABK
RCCSRCQ IN RCCBK

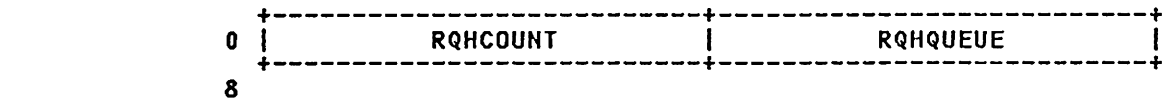
CREATED BY:

NOT CREATED, PART OF SSABK AND HCPRCC

DELETED BY:

NOT DELETED

RQHDR - SAVBK RETURN QUEUE HEADER BLOCK



disp	name	length	description
000	RQHCOUNT	004	COUNT OF SAVBK'S ON QUEUE
004	RQHQUEUE	004	QUEUE OF SAVBK'S

EQUATES

01	RQHSIZE	SIZE OF RQHDR IN DWORDS
08	RQHLEN	LENGTH OF RQHDR

CROSS REFERENCE

Name	Len	Value/Disp
RQHCOUNT	004	000
RQHDR	001	000
RQHLEN	001	008
RQHQUEUE	004	004
RQHSIZE	001	001

HCPRSAMP— REAL STORAGE MANAGEMENT DATA AREA MAPS

DSECT NAME: RSAMP

DESCRIPTIVE NAME: REAL STORAGE MANAGEMENT DATA AREA MAPS

FUNCTION: MAP THE REAL STORAGE MANAGEMENT DATA AREAS LOCATED IN THE DATA MODULE HCPRSM THAT CONTAIN ANCHORS, LOCKS AND COUNTS FOR REAL STORAGE DATA.

LOCATED BY:

	HCPRSMAC	COUNT OF AVAILABLE FRAMES
	HCPRSMAQ	AVAILABLE LIST ANCHOR AND LOCK AREA
	HCPRSMCL	COUNT OF FRAMES LOCKED BY CP LOCK COMMAND
	HCPRSMCM	RSM COMMON DATA AREA
	HCPRSMDQ	DEFERRED SEGMENT TRANSLATION QUEUE ANCHOR AND LOCK AREA
	HCPRSMDU	COUNT OF DOUBLE WORDS OF FREE STORAGE IN USE
	HCPRSMFD	COUNT OF DOUBLE WORDS OF SYSTEM FREE STORAGE
	HCPRSMFQ	FRAME REQUEST DEFER QUEUE ANCHOR AND LOCK AREA
	HCPRSMFR	FREE STORAGE VMDBK CHAIN ANCHOR AND COUNT
	HCPRSMFW	COUNT OF DEFERRED TASKS WAITING FOR A FRAME
	HCPRSMHT	AVAILABLE LIST HIGH THRESHOLD
	HCPRSMLD	LONG TERM DORMANT VMDBK POINTER
	HCPRSMLT	AVAILABLE LIST LOW THRESHOLD
	HCPRSMNP	NON-PAGEABLE PAGE COUNT
	HCPRSMOP	OFF-LINE FRAME COUNT
	HCPRSMPG	PAGEABLE PAGE COUNT
	HCPRSMRA	RESET INTERVAL DATA AREA
	HCPRSMRL	DEMAND SCAN REPLENISHMENT LOCK AREA
	HCPRSMSP	RESIDENT SHARED FRAME COUNT
	HCPRSMSU	FREE STORAGE SYSTEM FREE DWDS IN USE
	HCPRSMSV	FREE STORAGE SYSTEM CHAIN ANCHOR AND COUNT
	HCPRSMSW	FRAME REPLACEMENT PAGE I/O WRITES PENDING
	HCPRSMSZ	ACTUAL REAL STORAGE SIZE
BLK	HCPBLK	(CP) VM/XA - SYSTEM PRODUCT 5664-308

CREATED BY:

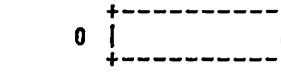
SYSTEM LOAD (HCPLOD)

DELETED BY:

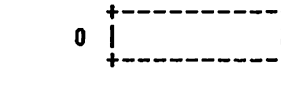
NEVER DELETED, REINITIALIZED WITH NEXT SYSTEM LOAD

RSAMP - REAL STORAGE MANAGEMENT DATA AREA MAPS

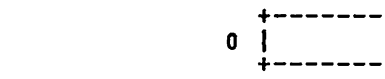
REDEFINITION - RSM COMMON DATA AREA



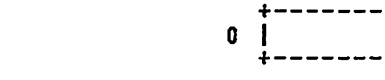
REDEFINITION - ACTUAL STORAGE SIZE



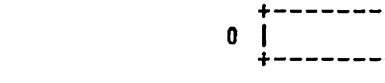
REDEFINITION - COUNT OF CP LOCKED FRAMES



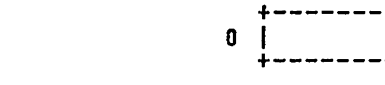
REDEFINITION - COUNT OF OFF-LINE FRAMES



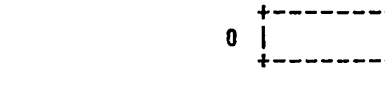
REDEFINITION - COUNT OF RESIDENT SHARED FRAMES



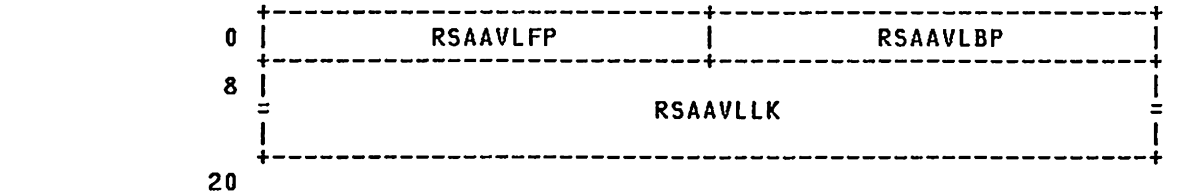
REDEFINITION - COUNT OF NON-PAGEABLE PAGES



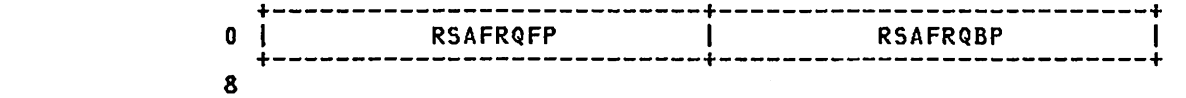
REDEFINITION - COUNT OF PAGEABLE FRAMES



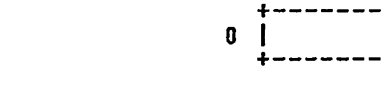
REDEFINITION - AVAILABLE LIST ANCHORS AND LOCK



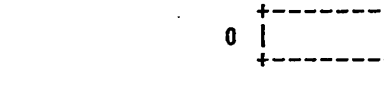
REDEFINITION - FRAME REQUEST DEFER QUEUE ANCHOR



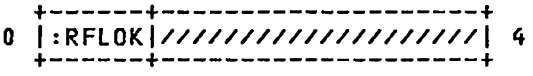
REDEFINITION - COUNT OF AVAILABLE FRAMES



REDEFINITION - COUNT OF DEFERRED FRAME REQUESTS

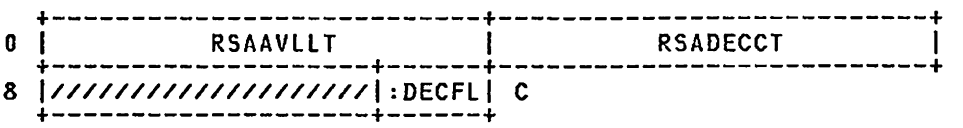


REDEFINITION - REPLENISHMENT DEMAND SCAN LOCK

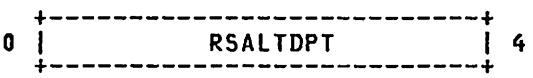


REDEFINITION - AVAILABLE LIST HIGH THRESHOLD

REDEFINITION - AVAILABLE LIST LOW THRESHOLD



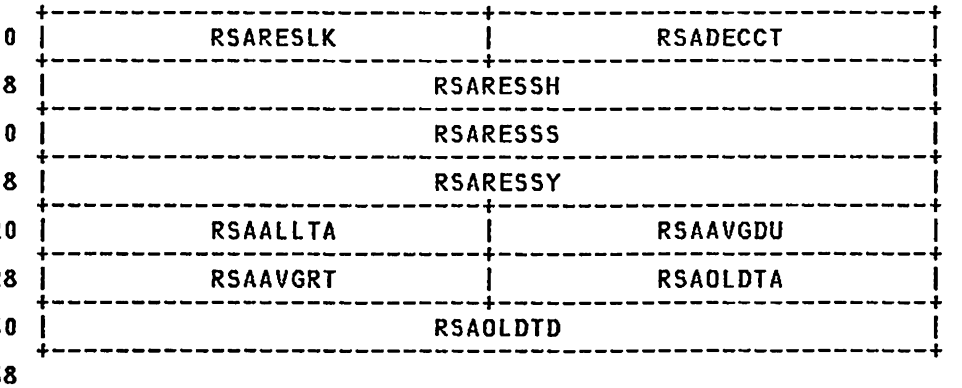
REDEFINITION - LONG TERM DORMANT VMDBK POINTER



REDEFINITION - COUNT OF REPLENISHMENT PAGE

REDEFINITION - RESET INTERVAL DATA AREA

REDEFINITION -



REDEFINITION - COUNT OF DOUBLE WORDS OF FREE STORAGE

```
  +---------------------------+
0 |          RSAFSTOR         | 4
  +---------------------------+
```

REDEFINITION - COUNT OF FREE STORAGE IN USE

```
  +---------------------------+
0 |          RSAFSYUD         | 4
  +---------------------------+
```

REDEFINITION - COUNT OF V=R FREE STORAGE IN USE

```
  +---------------------------+
0 |          RSAFVRUD         | 4
  +---------------------------+
```

REDEFINITION - COUNT OF EXTENDED FREE FRAMES

```
  +---------------------------+
0 |          RSAXFREE         | 4
  +---------------------------+
```

REDEFINITION - COUNT OF DWDS OF V=V IN USE

```
  +---------------------------+
0 |          RSAFVMUD         | 4
  +---------------------------+
```

REDEFINITION - COUNT OF USER FREE FRAMES

```
  +---------------------------+
0 |          RSAVMXFR         | 4
  +---------------------------+
```

REDEFINITION - COUNT OF USER FREE IN USE

```
  +---------------------------+
0 |          RSAVMXUD         | 4
  +---------------------------+
```

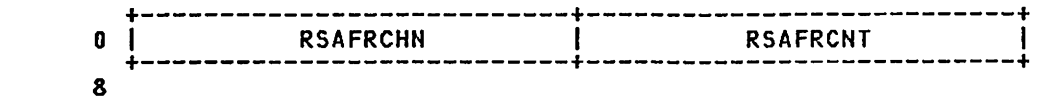
REDEFINITION - COUNT OF SYSTEM FREE FRAMES

```
  +---------------------------+
0 |          RSASYSFR         | 4
  +---------------------------+
```

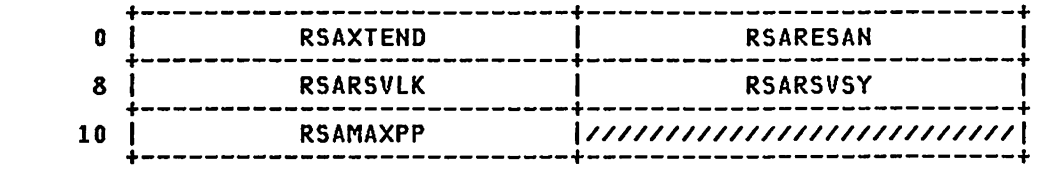
REDEFINITION - COUNT OF SYSTEM FREE IN USE

```
  +---------------------------+
0 |          RSASYSUD         | 4
  +---------------------------+
```

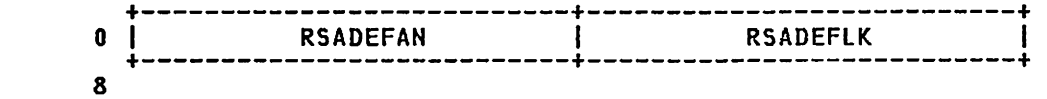
REDEFINITION - ADDRESS/COUNT OF FREE FRAMES



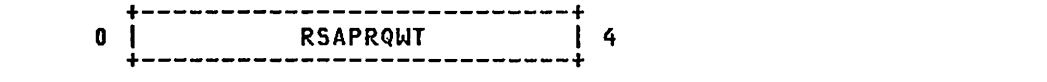
REDEFINITION - FREE STORAGE RESERVED FRAMES DATA



REDEFINITION - DEFERRED SEGMENT TRANSLATION



REDEFINITION - COUNT OF DEFERRED PAGE REQUESTS



disp	name	length	description
000	RSADATA	001	START OF VARIABLE LENGTH DATA
	REDEFINITION - RSM COMMON DATA AREA		
000	RSASAVFR	004	COUNT OF FRAMES IN USE BY THE SAVE AREA MANAGER
	REDEFINITION - ACTUAL STORAGE SIZE		
000	RSASTORE	004	REAL STORAGE SIZE CALCULATED DURING SYSTEM INITIALIZATION
	REDEFINITION - COUNT OF CP LOCKED FRAMES		
000	RSACPLOK	004	COUNT OF LOCKED FRAMES BY THE CP LOCK COMMAND
	REDEFINITION - COUNT OF OFF-LINE FRAMES		
000	RSAOFFLN	004	COUNT OF FRAMES MARKED OFF-LINE
	REDEFINITION - COUNT OF RESIDENT SHARED FRAMES		
000	RSASHARE	004	COUNT OF FRAMES IN THE SYSTEM THAT CURRENTLY HAVE A SHARED PAGE IN THEM
	REDEFINITION - COUNT OF NON-PAGEABLE PAGES		
000	RSANONPG	004	COUNT OF PAGEABLE FRAMES CURRENTLY NON-PAGEABLE

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REDEFINITION - COUNT OF PAGEABLE FRAMES

000	RSAPGABL	004	COUNT OF FRAMES IN THE DYNAMIC PAGING AREA

REDEFINITION - AVAILABLE LIST ANCHORS AND LOCK

000	RSAAVLAN	008	AVAILABLE LIST ANCHOR
000	RSAAVLFP	004	FORWARD POINTER
004	RSAAVLBP	004	BACKWARD POINTER
008	RSAAVLLK	008	SPIN LOCK

REDEFINITION - FRAME REQUEST DEFER QUEUE ANCHOR

000	RSAFRQAN	008	FRAME REQUEST DEFER ANCHOR
000	RSAFRQFP	004	FORWARD POINTER
004	RSAFRQBP	004	BACKWARD POINTER

REDEFINITION - COUNT OF AVAILABLE FRAMES

000	RSAAVAIL	004	COUNT OF FRAMES CURRENTLY AVAILABLE IN SYSTEM

REDEFINITION - COUNT OF DEFERRED FRAME REQUESTS

000	RSAFRQWT	004	COUNT OF REQUESTS FOR REAL FRAMES NOT YET SATISFIED BECAUSE THERE ARE NO FRAMES AVAILABLE

REDEFINITION - REPLENISHMENT DEMAND SCAN LOCK

000		0D	
000	RSARFLOK	001	TEST AND SET LOCK
001		XL3	RESERVED FOR FUTURE IBM USE

REDEFINITION - AVAILABLE LIST HIGH THRESHOLD

000	RSAAVLHT	004	AVAILABLE LIST HIGH THRESHOLD

REDEFINITION - AVAILABLE LIST LOW THRESHOLD

000	RSAAVLLT	004	AVAILABLE LIST LOW THRESHOLD
004	RSADECCT	004	DECREMENT LOW THRESHOLD COUNT
008	RSADECCS	004	DECREMENT FLAG COMP. & SWAP WORD
008		XL3	RESERVED FOR FUTURE IBM USED
00B	RSADECFL	001	DECREMENT LOW THRESHOLD FLAG

CODES DEFINED IN RSADECFL (AT HEX DISPLACEMENT: B)

00	RSADECNO	FLAG IS OFF, DON'T DECREMENT THE LOW THRESHOLD UNTIL FLAG GOES ON (LOW THRESHOLD WAS RECENTLY INCREMENTED)
01	RSADECYS	FLAG IS ON, THE LOW THRESHOLD MAY NOW BE DECREMENTED

REDEFINITION - LONG TERM DORMANT VMDBK POINTER

000	RSALTDPT	004	ADDRESS OF THE LAST LONG TERM DORMANT VMDBK

REDEFINITION - COUNT OF REPLENISHMENT PAGE

000	RSASTLWT	004	COUNT OF AVAILABLE LIST REPLENISHMENT PAGE WRITES (STEAL WRITES)

REDEFINITION - RESET INTERVAL DATA AREA

000	RSARINTA	008	BEGINNING OF RESET INTERVAL DATA LOCATED BY HCPRSMRA

REDEFINITION -

000	RSARESLK	004	RESET INTERVAL DATA AREA LOCK
004		F	RESERVED FOR FUTURE IBM USE
008		0D	ALIGN TO DOUBLEWORD BOUNDARY
008	RSARESSH	008	RESET INTERVAL FOR SHARED SYSTEM
010		0D	ALIGN TO DOUBLEWORD BOUNDARY
010	RSARESSS	008	RESET INTERVAL FOR SHARED SEGMENT
018		0D	ALIGN TO DOUBLEWORD BOUNDARY
018	RSARESSY	008	RESET INTERVAL FOR SYSTEM VMDBK
020	RSAALLTA	004	TOTAL NUMBER OF FRAMES TAKEN BY THE AVAILABLE LIST REPLENISHMENT FUNCTIONS
024	RSAAVGDU	004	AVERAGE NUMBER OF DISPATCH USERS
028	RSAAVGRT	004	AVERAGE NUMBER OF FRAMES TAKEN IN THE AVAILABLE LIST REPLENISHMENT FUNCTIONS PER SECOND
02C	RSAOLDTA	004	TOTAL NUMBER OF FRAMES TAKEN BY THE AVAILABLE LIST REPLENISHMENT FUNCTIONS AT THE TIME OF THE LAST RESET INTERVAL CALCULATION
030		0D	ALIGN TO DOUBLEWORD BOUNDARY
030	RSAOLDTD	008	TOD AT THE TIME OF THE LAST RESET INTERVAL CALCULATION

REDEFINITION - COUNT OF DOUBLE WORDS OF FREE STORAGE

000	RSAFSTOR	004	COUNT OF DOUBLE WORDS OF SYSTEM FREE STORAGE

REDEFINITION - COUNT OF FREE STORAGE IN USE

000	RSAFSYUD	004	COUNT OF DOUBLE WORDS OF SYSTEM FREE STORAGE IN USE

REDEFINITION - COUNT OF V=R FREE STORAGE IN USE

000	RSAFVRUD	004	COUNT OF DOUBLE WORDS OF V=R FREE STORAGE IN USE

REDEFINITION - COUNT OF EXTENDED FREE FRAMES

000	RSAXFREE	004	COUNT OF FRAMES IN USE FOR FREE STORAGE

REDEFINITION - COUNT OF DWDS OF V=V IN USE

000	RSAFVMUD	004	COUNT OF DWDS OF V=V STORAGE IN USE.

REDEFINITION - COUNT OF USER FREE FRAMES

000	RSAVMXFR	004	COUNT OF USER FREE FRAMES ALLOCATED.

REDEFINITION - COUNT OF USER FREE IN USE

000	RSAVMXUD	004	COUNT OF USER FREE STORAGE DWDS IN USE.

REDEFINITION - COUNT OF SYSTEM FREE FRAMES

000	RSASYSFR	004	COUNT OF SYSTEM FREE FRAMES ALLOCATED.

REDEFINITION - COUNT OF SYSTEM FREE IN USE

000	RSASYSUD	004	COUNT OF SYSTEM FREE STORAGE DWDS IN USE.

REDEFINITION - ADDRESS/COUNT OF FREE FRAMES

000	RSAFRCHN	004	ANCHOR FOR FRMTE CHAIN OF AVAILABLE FRAMES
004	RSAFRCNT	004	COUNT OF FRMTES CHAINED ON

HCPRSMSV OR HCPRSMFR

REDEFINITION - FREE STORAGE RESERVED FRAMES DATA

000		0D	
000	RSAXTEND	004	COUNT OF FRAMES MISSING FROM THE FREE STORAGE RESERVED FRAMES LIST
004	RSARESAN	004	RESERVED FRAME QUEUE AREA
008	RSARSVLK	004	FREE STORAGE RESERVED FRAMES DATA AREA COMPARE AND SWAP LOCK WORD
00C	RSARSVSY	004	TOTAL NUMBER OF FREE STORAGE RESERVED FRAMES REQUIRED TO BE ON THE RESERVED FRAMES LIST
010	RSAMAXPP	004	NUMBER OF FREE STORAGE RESERVED FRAMES REQUIRED PER PROCESSOR NOTE: RSAMAXPP MUST BE POSITIVE
014		F	RESERVED FOR FUTURE IBM USE

REDEFINITION - DEFERRED SEGMENT TRANSLATION

000		0D	
000	RSADEFAN	004	DEFERRED SEGMENT TRANSLATION QUEUE ANCHOR
004	RSADEFLK	004	COMPARE AND SWAP LOCK

REDEFINITION - COUNT OF DEFERRED PAGE REQUESTS

000	RSAPRQWT	004	COUNT OF TASKS WAITING FOR A PAGE REQUEST

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
RSAALLTA	004	020	RSAMP	001	000
RSAAVAIL	004	000	RSANONPG	004	000
RSAAVGDU	004	024	RSAOFFLN	004	000
RSAAVGRT	004	028	RSAOLDTA	004	02C
RSAAVLAN	008	000	RSAOLDTD	008	030
RSAAVLBP	004	004	RSAPGABL	004	000
RSAAVLFP	004	000	RSAPRQWT	004	000
RSAAVLHT	004	000	RSARESAN	004	004
RSAAVLLK	008	008	RSARESLK	004	000
RSAAVLLT	004	000	RSARESSH	008	008
RSACPLOK	004	000	RSARESSS	008	010
RSADATA	001	000	RSARESSY	008	018
RSADECCS	004	008	RSARFLOK	001	000
RSADECCT	004	004	RSARINTA	008	000
RSADECFL	001	00B	RSARSVLK	004	008
RSADECNO	001	000	RSARSVSY	004	00C
RSADECYS	001	001	RSASAVFR	004	000
RSADEFAN	004	000	RSASHARE	004	000
RSADEFLK	004	004	RSASTLWT	004	000
RSAFRCHN	004	000	RSASTORE	004	000
RSAFRCNT	004	004	RSASYSFR	004	000
RSAFRQAN	008	000	RSASYSUD	004	000
RSAFRQBP	004	004	RSAVMXFR	004	000
RSAFRQFP	004	000	RSAVMXUD	004	000
RSAFRQWT	004	000	RSAXFREE	004	000
RSAFSTOR	004	000	RSAXTEND	004	000
RSAFSYUD	004	000			
RSAFVMUD	004	000			
RSAFVRUD	004	000			
RSALTDPT	004	000			
RSAMAXPP	004	010			

HCPRSPBK— REAL SPOOL DEVICE BLOCK

DSECT NAME: RSPBK

DESCRIPTIVE NAME: REAL SPOOL DEVICE BLOCK

FUNCTION: CONTAINS CONTROL INFORMATION FOR A REAL SPOOLING DEVICE.

LOCATED BY:

RDEVRSP FIELD OF HCPRDEV
CKPRSPB FIELD OF HCPCKPBK

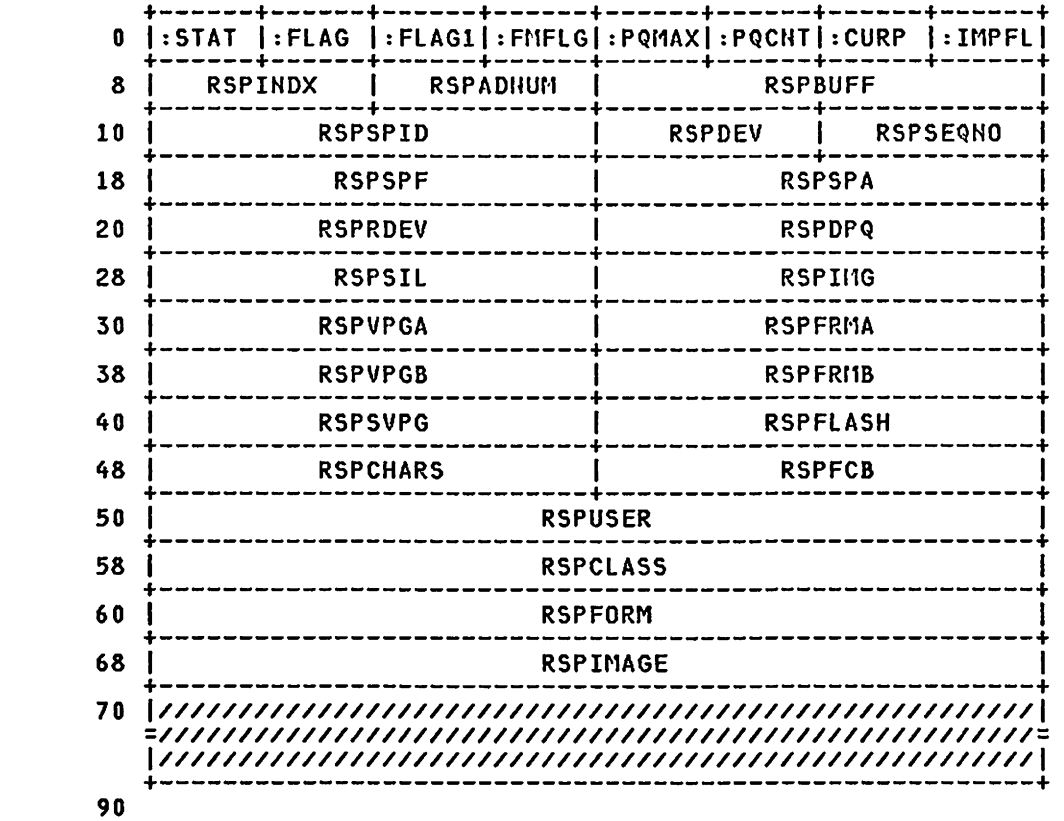
CREATED BY:

HCPRIO

DELETED BY:

N/A (RSPBKS ARE NEVER DELETED.)

RSPBK - REAL SPOOL FILE BLOCK



disp	name	length	description
000	RSPSTAT	001	SPOOLING DEVICE STATUS FLAGS

BITS DEFINED IN RSPSTAT (AT HEX DISPLACEMENT: 0)

80	RSPPDED	DEVICE 'PSEUDO DEDICATED' TO 'RSPUSER'
40	RSPOSEP	SEPARATOR ROUTINE ACTIVE
20	RSPRSTRT	IPL TIME RESTART OF FILE
10	RSPDLOCK	SPDBK FRAME IS 'LOCKED'
08	RSPOPEN	RDR IS OPEN; NOTHING READ YET

001	RSPFLAG	001	SPOOLING DEVICE CONTROL FLAGS

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BITS DEFINED IN RSPFLAG (AT HEX DISPLACEMENT: 1)

80	RSPDRAN	DEVICE (TO BE) DRAINED
40	RSPFLUSH	DEVICE TO BE FLUSHED
20	RSPSPAC	FORCE SINGLE SPACING ON PRINTER
10	RSPREPO	REPOSITION FILE (FWD OR BKWD)
08	RSPSEP	FILE SEPARATORS WANTED
04	RSPULD	UCS VERIFIED

002	RSPFLAG1	001	SPOOLING DEVICE FLAGS

BITS DEFINED IN RSPFLAG1 (AT HEX DISPLACEMENT: 2)

80	RSPWAIT	PUNCH WAITING FOR INTERRUPT TO PUNCH ID CARD.
40	RSPSEPPR	SEPARATOR HEADER PRINTED
20	RSPIOACT	HCPRSPIO IS PROCESSING A FILE
10	RSPBEG	SELECT FILES WITH 3800 LOAD CCW'S IF ALL APPEAR AT THE BEGINNING
08	RSPANY	ALLOW 3800 LOAD CCWS ANYWHERE
04	RSPURGE	PURGE FILES W/ 3800 LOAD CHECKS
02	RSPINPRT	INITIALIZE THE PRINTER
01	RSPDVACT	ACTIVE (MAY BE AWAITING PROMPT)

003	RSPFMFLG	001	FORMS PROCESSING FLAGS

BITS DEFINED IN RSPFMFLG (AT HEX DISPLACEMENT: 3)

80	RSPAUTO	OUTPUT DEVICE IN AUTO MODE
40	RSPMAN	OUTPUT DEVICE IN MANUAL MODE
20	RSPSETUP	PRINTER IN SETUP MODE
10	RSPFMNT	OUTPUT DEVICE IS WAITING FOR A FORM TO BE MOUNTED
08	RSPSETRQ	PRINTER REQUIRES FORMS ALIGNMENT
04	RSPFMCHG	FORM NEEDS TO BE CHANGED

004	RSPPQMAX	001	MAX SIZE OF 3800 DELAYED PURGE Q
005	RSPPQCNT	001	CURRENT SIZE OF DELAYED PURGE Q
006	RSPCURP	001	CURRENT 3800 PAPER SIZE
007	RSPIMPFL	001	FLAG FOR IMPACT PRINTER INFO

BITS DEFINED IN RSPIMPFL (AT HEX DISPLACEMENT: 7)

80	RSPFOLD	FOLD CHARACTERS INTO UPPERCASE
20	RSPINDEX	INDEX SET ON START COMMAND
10	RSPFCBCH	FCB NEEDS TO BE CHANGED
08	RSPUCSCH	UCS NEEDS TO BE CHANGED
04	RSPFLDCH	FOLD OPTION HAS CHANGED

008	RSPINDX	002	VALUE OF THE FIRST PRINT POSITION AS SPECIFIED WITH INDEX OPTION
00A	RSPADNUM	002	RELATIVE SPDBK NUMBER
00C	RSPBUFF	004	ADDRESS OF BUFFER TO CONTAIN FCB OR UCS FOR AN IMPACT PRINTER
010	RSPCKPT	004	INFORMATION TO BE CHECKPOINTED IF THE FILE IS TO BE RESTARTED
010	RSPSPID	004	SYSTEM SPID OF ACTIVE FILE
014	RSPDEV	002	SPOOLING DEVICE DEVICE NUMBER
016	RSPSEQNO	002	FILE SEQUENCE NUMBER
018	RSPSPF	004	ADDRESS OF THE ACTIVE SPFBK
01C	RSPSPA	004	ADDRESS OF THE CURRENT SPABK
020	RSPRDEV	004	SPOOLING DEVICE RDEV BLK ADDRESS
024	RSPDPQ	004	3800 DELAYED PURGE QUEUE ADDRESS
028	RSPSIL	004	ADDRESS OF A SILBK
02C	RSPIMG	004	ADDRESS OF AN IMGBK
030	RSPPAGEA	008	3800 IO BUFFER A ADDRESSES
030	RSPVPGA	004	VPAGE ADDR OF 3800 IO BUFFER - A
034	RSPFRMA	004	FRAME ADDR OF 3800 IO BUFFER - A
038	RSPPAGEB	008	3800 IO BUFFER B ADDRESSES
038	RSPVPGB	004	VPAGE ADDR OF 3800 IO BUFFER - B
03C	RSPFRMB	004	FRAME ADDR OF 3800 IO BUFFER - B
040	RSPSVPG	004	SAVE VPAGE ADDR FOR LATER RELEASE
044	RSPFLASH	004	FORMS OVERLAY ACTIVE ON A 3800

048	RSPCHARS	004	PRINTER CHARACTER SET NAME
04C	RSPFCB	004	PRINTER FCB NAME
050	RSPUSER	008	USERID OF 'DEDICATED' DEVICE
058	RSPCLASS	008	SPOOL CLASSES
060	RSPFORM	008	PRINT OR PUNCH FORM NUMBER
068	RSPIMAGE	008	IMAGELIB ACTIVE ON A PRINTER
070		CL32	RESERVED FOR IBM USE

EQUATES

12	RSPSIZE	RSPBK SIZE IN DOUBLE-WORDS

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
RSPADNUM	002	00A	RSPSEPPR	001	040
RSPANY	001	008	RSPSEQNO	002	016
RSPAUTO	001	080	RSPSETRQ	001	008
RSPBEG	001	010	RSPSETUP	001	020
RSPBK	001	000	RSPSIL	004	028
RSPBUFF	004	00C	RSPSIZE	001	012
RSPCHARS	004	048	RSPSPA	004	01C
RSPCKPT	004	010	RSPSPAC	001	020
RSPCLASS	008	058	RSPSPF	004	018
RSPCURP	001	006	RSPSPID	004	010
RSPDEV	002	014	RSPSTAT	001	000
RSPDLOCK	001	010	RSPSVPG	004	040
RSPDPQ	004	024	RSPUCSCH	001	008
RSPDRAN	001	080	RSPULD	001	004
RSPDVACT	001	001	RSPURGE	001	004
RSPFCB	004	04C	RSPUSER	008	050
RSPFCBCH	001	010	RSPVPGA	004	030
RSPFLAG	001	001	RSPVPGB	004	038
RSPFLAG1	001	002	RSPWAIT	001	080
RSPFLASH	004	044			
RSPFLDCH	001	004			
RSPFLUSH	001	040			
RSPFMCHG	001	004			
RSPFMFLG	001	003			
RSPFMNT	001	010			
RSPFOLD	001	080			
RSPFORM	008	060			
RSPFRMA	004	034			
RSPFRMB	004	03C			
RSPIMAGE	008	068			
RSPIMG	004	02C			
RSPIMPFL	001	007			
RSPINDEX	001	020			
RSPINDX	002	008			
RSPINPRT	001	002			
RSPIOACT	001	020			
RSPMAN	001	040			
RSPOPEN	001	008			
RSPOSEP	001	040			
RSPPAGEA	008	030			
RSPPAGEB	008	038			
RSPPDED	001	080			
RSPPQCNT	001	005			
RSPPQMAX	001	004			
RSPRDEV	004	020			
RSPREPO	001	010			
RSPRSTRT	001	020			
RSPSEP	001	008			

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HCPSALBK— SLOT ALLOCATION DATA BLOCK

DSECT NAME: SALBK

DESCRIPTIVE NAME: SLOT ALLOCATION DATA BLOCK

FUNCTION: MAPS THE DATA IN THE SLOT ALLOCATION DATA AREAS IN HCPPGD FOR PAGING (HCPPGDPG) AND SPOOLING (HCPPGDSP).

LOCATED BY:

THE DATA AREAS MAPPED BY THIS BLOCK, HCPPGDPG (PAGING DATA) AND HCPPGDSP (SPOOLING DATA), ARE IN NUCLEUS-RESIDENT AREAS.

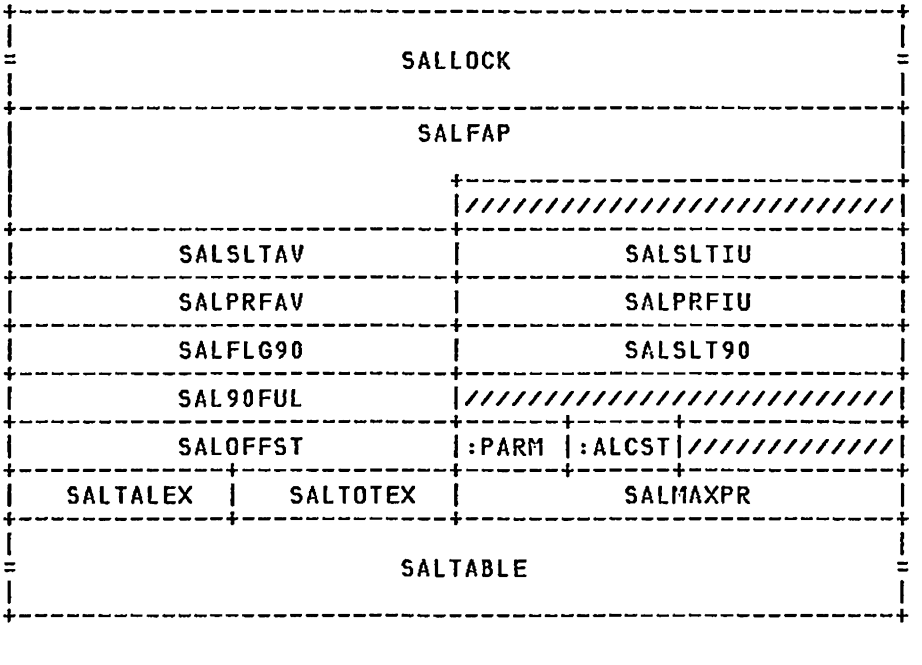
CREATED BY:

THE DATA AREAS MAPPED BY THIS BLOCK ARE CREATED AT SYSTEM GENERATION.

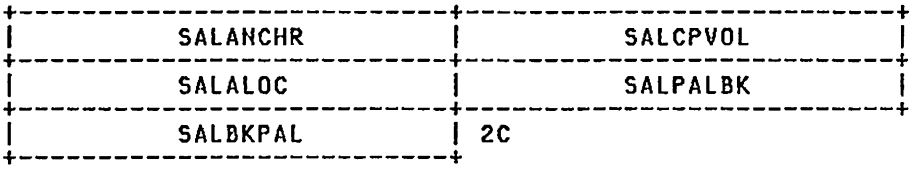
DELETED BY:

THE DATA AREAS MAPPED BY THIS BLOCK ARE NEVER DELETED.

SALBK - SLOT ALLOCATION DATA BLOCK



REDEFINITION - FAST ALLOCATION POINTERS



disp	name	length	description
000	SALLOCK	008	ALLOCATION LOCKWORD
018	SALFAP	020	FAST ALLOCATION POINTERS FOR HCPPGT
02C		F	RESERVED FOR IBM USE

030	SALSLTAV	004	TOTAL SLOTS AVAILABLE
034	SALSLTIU	004	NUMBER OF SLOTS IN USE
038	SALPRFAV	004	TOTAL PREFERRED SLOTS AVAILABLE (USED FOR PAGE SLOTS ONLY)
03C	SALPRFIU	004	NUMBER OF PREFERRED SLOTS IN USE (USED FOR PAGE SLOTS ONLY)
040	SALFLG90	004	90% FULL RESET FLAG
044	SALSLT90	004	90% OF SLOTS AVAILABLE
048	SAL90FUL	004	NUMBER OF TIMES PAGING OR SPOOLING SLOTS WERE 90% FULL.
04C		F	RESERVED FOR IBM USE.
050	SALOFFST	004	OFFSET TO PALBK CHAIN IN ALOCLIST
054	SALPARM	001	HCPPGT PARAMETER: PGTPAGE, FOR PAGING PGTSPOOL, FOR SPOOLING
055	SALALCST	001	WORK AREA: NUMBER OF PAGING SLOTS ALLOCATED ON THE CURRENT VOLUME DURING ONE INVOCATION OF HCPPGT.
056		2X	RESERVED FOR IBM USE
058	SALTALEX	002	NUMBER OF CURRENTLY ATTACHED PAGING READ EXPOSURES THAT HAVE HAD PAGING SLOTS ALLOCATED ON THEM (USED FOR PAGING SLOTS ONLY)
05A	SALTOTEX	002	TOTAL NUMBER OF PAGING READ EXPOSURES CURRENTLY ATTACHED TO THE SYSTEM (USED FOR PAGING SLOTS ONLY)
05C	SALMAXPR	004	THEORETICAL MAXIMUM PAGING RATE FOR THE SYSTEM, INCLUDING ALL VOLUMES CURRENTLY ATTACHED (USED FOR PAGING SLOTS ONLY)
060	SALTABLE	001	TRANSLATE TABLE FOR LOCATING AN AVAILABLE CYLINDER

REDEFINITION - FAST ALLOCATION POINTERS

018	SALANCHR	004	CURRENT CPVOL ANCHOR ADDRESS
01C	SALCPAL	008	CURRENT CPVOL/ALOC ADDRESSES
01C	SALCPVOL	004	CURRENT CPVOL ADDRESS
020	SALALOC	004	CURRENT ALOC ADDRESS
024	SALPALS	008	CURRENT PALBK CHAIN POINTERS
024	SALPALBK	004	CURRENT PALBK ADDRESS
028	SALBKPAL	004	CURRENT PALBK BACKWARD POINTER

EQUATES

14	SALFPLEN	LENGTH OF FAST PATH POINTERS

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
SALALCST	001	055	SALOFFST	004	050	SAL90FUL	004	048
SALALOC	004	020	SALPALBK	004	024			
SALANCHR	004	018	SALPALS	008	024			
SALBK	001	000	SALPARM	001	054			
SALBKPAL	004	028	SALPRFAV	004	038			
SALCPAL	008	01C	SALPRFIU	004	03C			
SALCPVOL	004	01C	SALSLTAV	004	030			
SALFAP	020	018	SALSLTIU	004	034			
SALFLG90	004	040	SALSLT90	004	044			
SALFPLEN	001	014	SALTABLE	001	060			
SALLOCK	008	000	SALTALEX	002	058			
SALMAXPR	004	05C	SALTOTEX	002	05A			

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HCPSAVBK— CALL WITH SAVEAREA BLOCK

DSECT NAME: SAVBK

DESCRIPTIVE NAME: CALL WITH SAVEAREA BLOCK

FUNCTION: THE SAVBK IS USED IN THE CALL-WITH-DYNAMIC-SAVEAREA CALLING LINKAGE. THE CALLER DOES NOT SUPPLY THE SAVEAREA. INSTEAD, THE LINKAGE ASSISTANCE ROUTINE (HCPSVCCL) ALLOCATES THE SAVDK AND THE CALLED ROUTINE THEN SAVES THE CALLER'S REGISTERS IN THE SAVBK. THE SAVBK DSECT IS ALSO USED AS A MAP OF THE SEVERAL FIXED SAVEAREAS SUCH AS PFXBALSV AND PFXTMPSV. NOTE: THE SAVBK AND THE CPEBK HAVE THE SAME FORMAT AND OCCASIONALLY A SAVBK IS CONVERTED INTO A CPEBK OR VICE VERSA. THE FORMATS ARE IDENTICAL INTENTIONALLY SO THAT THESE CONVERSIONS CAN BE MADE.

LOCATED BY:

R13	WHEN RUNNING IN ANY ROUTINE WHICH IS CALLED USING A CALL-WITH-DYNAMIC-SAVEAREA LINKAGE. POINTS TO CURRENT (ALREADY FILLED UP) SAVEAREA.
SAVER13	THIS FIELD IN CALLEE'S SAVEAREA POINTS BACK TO THE CALLER'S SAVEAREA. (THIS ASSUMES THAT THE CALLER HAD A SAVEAREA OF HIS OWN AND THAT HE HAD ITS ADDRESS IN R13 AT THE TIME OF THE CALL. SEE ALSO SAVECSAV FOR ANOTHER BACKWARD POINTER.)
SAVEFPNT	FORWARD CHAINING POINTER. THE CHAIN OF AVAILABLE SAVBK'S USES THIS POINTER. WHEN THE SAVBK IS IN USE AS A SAVEAREA, SAVEFPNT IS NORMALLY NOT USED FOR ANYTHING (SAVER13 POINTS BACK TO PRECEDING SAVBK IF THE CALLER HAD ONE).
SAVEBPNT	THIS POINTER IS AVAILABLE FOR BACKWARD CHAINING, BUT IS NOT NORMALLY USED.
VMDVOSAV	SIMULATION SAVBK STACK ANCHOR.

CREATED BY:

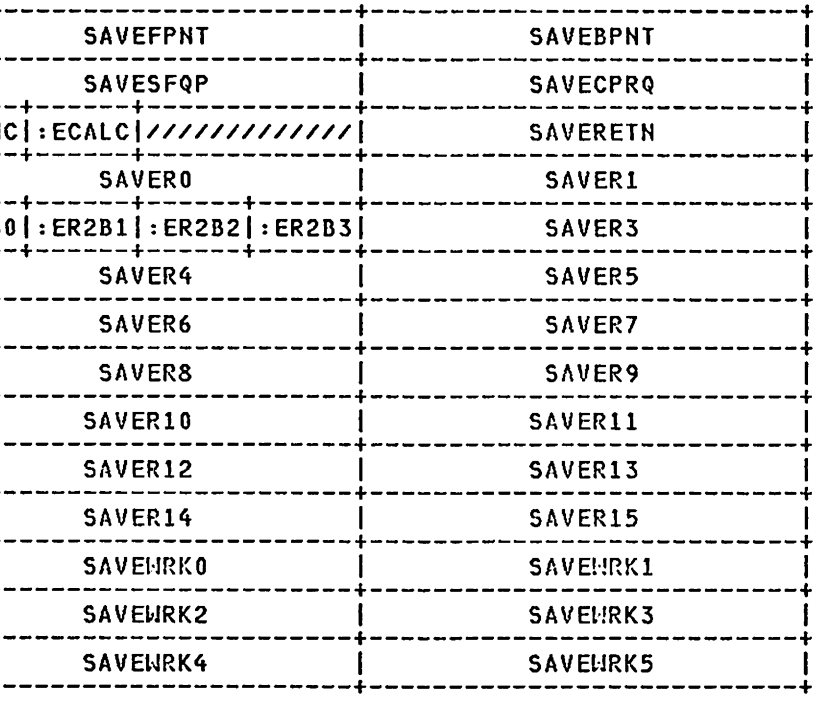
HCPSVC	WHEN NO FREE SAVBKS ARE AVAILABLE

BLK HCPBLK (CP) VM/XA - SYSTEM PRODUCT 5664-308

DELETED BY:

HCPSVC	DURING SAVBK RECLAIM PROCESSING
HCPSAM	DURING PROCESSOR OFFLINE STORAGE DEALLOCATIO

SAVBK - CALL WITH SAVEAREA BLOCK



```
   70 |          SAVEWRK6          |          SAVEWRK7          |
      +----------------------------+----------------------------+
   78 |          SAVEWRK8          |          SAVEWRK9          |
      +----------------------------+----------------------------+
   80
```

disp	name	length	description
000	SAVEFPNT	004	GENERAL FORWARD POINTER
004	SAVEBPNT	004	GENERAL BACKWARD POINTER (BACKWARD POINTER NOT USED FOR SINGLE-THREAD LISTS)
008	SAVESFQP	004	SAVBK FRAME QUEUE POINTER
00C	SAVECPRQ	004	CROSS PROCESSOR RETURN QUEUE ADDR
010	SAVESCHD	008	SAVBK STACKING CONTROL FIELDS
010	SAVESCHC	001	SAVBK DISPATCHING CONTROLS
	BITS DEFINED IN SAVESCHC (AT HEX DISPLACEMENT: 10)		
	80 SAVENOFR		DO NOT FRET SAVBK ON DISPATCH
	40 SAVESKCR		THIS IS A STACKED RETURN
	20 SAVESKCL		THIS IS A STACKED CALL
	10 SAVERTNF		"RETURN" WITH NO FRET
	08 SAVEUCFM		STACK AS CONSOLE FUNCTION CPEBK
	04 SAVEURGT		STACK AS AN URGENT CPEBK
	01 SAVEDMCO		DISPATCH ON THE MASTER CPU ONLY
011	SAVECALC	001	SAVBK USAGE STATUS
	BITS DEFINED IN SAVECALC (AT HEX DISPLACEMENT: 11)		
	80 SAVEOPEN		SAVBK IN USE FOR A CALL
	40 SAVEGET		SAVBK OBTAINED VIA 'GET SAVBK'
	20 SAVEPGLK		CALLEE MODULE IS PAGEABLE, AND WAS LOCKED
	10 SAVEPGWT		CALL WAITING ON PAGEABLE MODULE TO BE PAGED IN
	08 SAVESPAR		SAVBK IS NOT ACTIVE
012		H	RESERVED
014	SAVERETN	004	RETURN LINKAGE ROUTINE ADDRESS
018	SAVEREGS	064	CALLERS REGISTERS - R0 TO R15
018	SAVER0	004	CALLERS SAVED REGISTER 0
01C	SAVER1	004	CALLERS SAVED REGISTER 1
020	SAVER2	004	CALLERS SAVED REGISTER 2 THE FOLLOWING BYTE DEFINITIONS OF SAVER2 ARE FOR TESTING PARAMETERS PASSED BETWEEN MODULES.
020	SAVER2B0	001	CALLERS SAVED REGISTER 2 BYTE 0
021	SAVER2B1	001	CALLERS SAVED REGISTER 2 BYTE 1
022	SAVER2B2	001	CALLERS SAVED REGISTER 2 BYTE 2
023	SAVER2B3	001	CALLERS SAVED REGISTER 2 BYTE 3
024	SAVER3	004	CALLERS SAVED REGISTER 3
028	SAVER4	004	CALLERS SAVED REGISTER 4
02C	SAVER5	004	CALLERS SAVED REGISTER 5
030	SAVER6	004	CALLERS SAVED REGISTER 6
034	SAVER7	004	CALLERS SAVED REGISTER 7
038	SAVER8	004	CALLERS SAVED REGISTER 8
03C	SAVER9	004	CALLERS SAVED REGISTER 9
040	SAVER10	004	CALLERS SAVED REGISTER 10
044	SAVER11	004	CALLERS SAVED REGISTER 11; ALSO VMDBK ADDRESS OF USER ON WHICH SAVBK IS SCHEDULED
048	SAVER12	004	CALLERS SAVED REGISTER 12
04C	SAVER13	004	CALLERS SAVED REGISTER 13; ALSO PREVIOUS SAVBK ADDRESS ON CALL
050	SAVER14	004	CALLERS SAVED REGISTER 14; ALSO RETURN ADDRESS ON CALL OR STACKED SAVBK RETURN
054	SAVER15	004	CALLERS SAVED REGISTER 15; ALSO GOTO ADDRESS ON SCHEDULED SAVBK EXECUTION; ALSO REGISTER 15 RETURN CODE ON HCPEXIT

			OR STACKED SAVBK RETURN
058	SAVEWRK	040	WORKAREA FOR CALLEE
058	SAVEWRK0	004	WORKAREA FOR CALLEE
05C	SAVEWRK1	004	WORKAREA FOR CALLEE
060	SAVEWRK2	004	WORKAREA FOR CALLEE
064	SAVEWRK3	004	WORKAREA FOR CALLEE
068	SAVEWRK4	004	WORKAREA FOR CALLEE
06C	SAVEWRK5	004	WORKAREA FOR CALLEE
070	SAVEWRK6	004	WORKAREA FOR CALLEE
074	SAVEWRK7	004	WORKAREA FOR CALLEE
078	SAVEWRK8	004	WORKAREA FOR CALLEE
07C	SAVEWRK9	004	WORKAREA FOR CALLEE

EQUATES

10	SAVESIZE	SIZE IN DOUBLE WORDS

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
SAVBK	001	000	SAVEWRK	040	058
SAVEBPNT	004	004	SAVEWRK0	004	058
SAVECALC	001	011	SAVEWRK1	004	05C
SAVECPRQ	004	00C	SAVEWRK2	004	060
SAVEDMCO	001	001	SAVEWRK3	004	064
SAVEFPNT	004	000	SAVEWRK4	004	068
SAVEGET	001	040	SAVEWRK5	004	06C
SAVENOFR	001	080	SAVEWRK6	004	070
SAVEOPEN	001	080	SAVEWRK7	004	074
SAVEPGLK	001	020	SAVEWRK8	004	078
SAVEPGWT	001	010	SAVEWRK9	004	07C
SAVEREGS	064	018			
SAVERETN	004	014			
SAVERTNF	001	010			
SAVER0	004	018			
SAVER1	004	01C			
SAVER10	004	040			
SAVER11	004	044			
SAVER12	004	048			
SAVER13	004	04C			
SAVER14	004	050			
SAVER15	004	054			
SAVER2	004	020			
SAVER2B0	001	020			
SAVER2B1	001	021			
SAVER2B2	001	022			
SAVER2B3	001	023			
SAVER3	004	024			
SAVER4	004	028			
SAVER5	004	02C			
SAVER6	004	030			
SAVER7	004	034			
SAVER8	004	038			
SAVER9	004	03C			
SAVESCHC	001	010			
SAVESCHD	008	010			
SAVESFQP	004	008			
SAVESIZE	001	010			
SAVESKCL	001	020			
SAVESKCR	001	040			
SAVESPAR	001	008			
SAVEUCFM	001	008			
SAVEURGT	001	004			

HCPSBIOP— SYNCHRONOUS BLOCK I/O PARAMETER

DSECT NAME: SBIOP

DESCRIPTIVE NAME: SYNCHRONOUS BLOCK I/O PARAMETER

FUNCTION: DESCRIBE THE PARAMETERS OF A DIAGNOSE 'A4' REQUEST

LOCATED BY:

THE "X" REGISTER CONTAINS THE LOGICAL ADDRESS OF THE SBIOP IN GUEST STORAGE AT THE TIME DIAGNOSE 'A4' IS ISSUED.

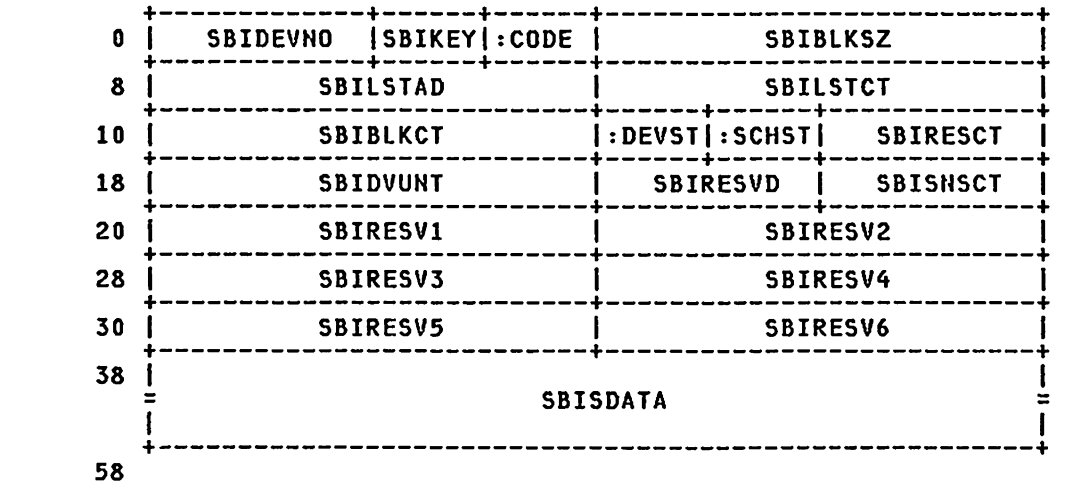
CREATED BY:

THE PROGRAM ISSUING DIAGNOSE 'A4'.

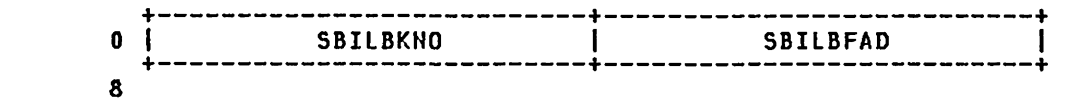
DELETED BY:

N/A

SBIOP - SYNCHRONOUS BLOCK I/O PARAMETER



REDEFINITION - DESCRIBE A DISK/BUFFER LIST ENTRY



disp	name	length	description
000	SBIDEVNO	002	THE VIRTUAL DEVICE NUMBER OF THE DASD TO BE USED.
002	SBIKEY	001	THE STORAGE PROTECTION KEY TO USE FOR I/O OPERATIONS WITH THIS REQUEST.
003	SBICODE	001	TYPE OF REQUEST. CODES DEFINED FOR SBICODE
			EQUATES
	01 SBIWRITE		WRITE DATA FROM STORAGE TO DASD.
	02 SBIREAD		READ DATA FROM DASD TO STORAGE.
004	SBIBLKSZ	004	SIZE OF PHYSICAL RECORDS ON DASD FOR THIS REQUEST.
008	SBILSTAD	004	ADDRESS OF LIST OF BLOCK NUMBER / DATA ADDRESS PAIRS FOR THIS REQUEST. SEE

			SBILIST, BELOW.
00C	SBILSTCT	004	THE NUMBER OF PAIRS IN LIST AT SBILSTAD. PROVIDED BY THE ISSUER OF THE DIAGNOSE.

EQUATES

F4	SBILSTMX	MAXIMUM NUMBER OF BLOCKS THAT MAY BE PROCESSED IN ONE READ OR WRITE OPERATION.

010	SBIBLKCT	004	THE NUMBER OF BLOCKS PROCESSED BY CP.
014	SBIDEVST	001	DEVICE STATUS BYTE, RETURNED BY CP.
015	SBISCHST	001	THE SUBCHANNEL STATUS BYTE, RETURNED BY CP
016	SBIRESCT	002	THE RESIDUAL COUNT, RETURNED BY CP.
018	SBIDVUNT	004	DEVICE UNITS FIELD
01C	SBIRESVD	002	RESERVED FOR FUTURE IBM USE.
01E	SBISNSCT	002	THE AMOUNT OF SENSE DATA PRESENT.
020	SBIRESV1	004	RESERVED FOR FUTURE IBM USE.
024	SBIRESV2	004	RESERVED FOR FUTURE IBM USE.
028	SBIRESV3	004	RESERVED FOR FUTURE IBM USE.
02C	SBIRESV4	004	RESERVED FOR FUTURE IBM USE.
030	SBIRESV5	004	RESERVED FOR FUTURE IBM USE.
034	SBIRESV6	004	RESERVED FOR FUTURE IBM USE.
038	SBISDATA	032	THE SENSE DATA (ONLY IF UNIT CHECK IS ON IN SBIDEVST)

EQUATES

58	SBIBYLEN	LENGTH (IN BYTES) OF SBIOP
0B	SBIDWSIZ	SIZE OF SBIOP IN DOUBLEWORDS.

REDEFINITION - DESCRIBE A DISK/BUFFER LIST ENTRY

000	SBILNTRY	008	A LIST ENTRY IS TWO WORDS LONG
000	SBILBKNO	004	THE BLOCK NUMBER OF DATA ON DASD (ZERO - ORIGIN)
004	SBILBFAD	004	THE ABSOLUTE ADDRESS OF DATA IN GUEST MACHINE STORAGE.
008	SBILNEXT	008	THE NEXT LIST ENTRY STARTS HERE...

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
SBIBLKCT	004	010	SBIRESV1	004	020
SBIBLKSZ	004	004	SBIRESV2	004	024
SBIBYLEN	001	058	SBIRESV3	004	028
SBICODE	001	003	SBIRESV4	004	02C
SBIDEVNO	002	000	SBIRESV5	004	030
SBIDEVST	001	014	SBIRESV6	004	034
SBIDVUNT	004	018	SBISCHST	001	015
SBIDWSIZ	001	00B	SBISDATA	032	038
SBIKEY	001	002	SBISNSCT	002	01E
SBILBFAD	004	004	SBIWRITE	001	001
SBILBKNO	004	000			
SBILIST	001	000			
SBILNEXT	008	008			
SBILNTRY	008	000			
SBILSTAD	004	008			
SBILSTCT	004	00C			
SBILSTMX	001	1F4			
SBIOP	001	000			
SBIREAD	001	002			
SBIRESCT	002	016			
SBIRESVD	002	01C			

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HCPSCHIB— SUBCHANNEL INFORMATION BLOCK MAPPING

DSECT NAME: SCHIB

DESCRIPTIVE NAME: SUBCHANNEL INFORMATION BLOCK MAPPING

FUNCTION: PROVIDE SYMOLIC REFERENCES FOR THE FIELDS OF AN XA SUBCHANNEL INFORMATION BLOCK (THE EXPLICIT OPERAND OF THE STORE SUBCHANNEL AND MODIFY SUBCHANNEL INSTRUCTIONS.)

LOCATED BY:

N/A

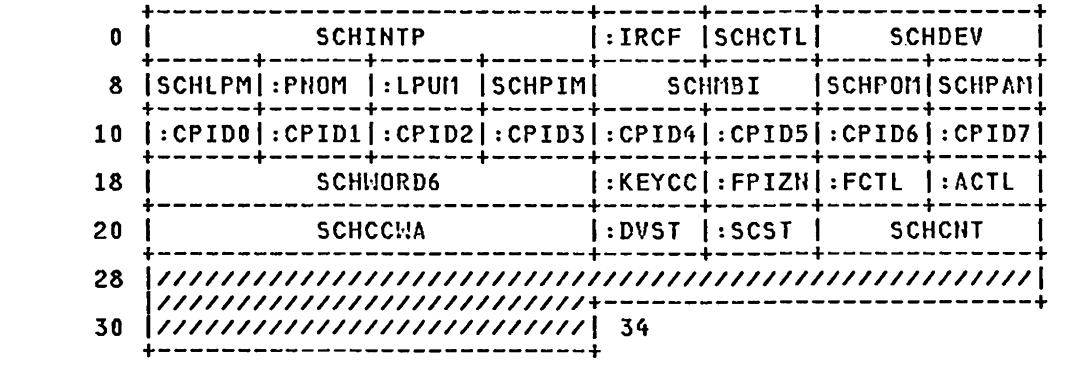
CREATED BY:

N/A

DELETED BY:

N/A

SCHIB - SUBCHANNEL INFORMATION BLOCK



disp	name	length	description
000	SCHPMCW	028	PATH MANAGEMENT CONTROL WORD
000	SCHINTP	004	INTERRUPTION PARAMETER
004	SCHPMW1	004	PMCW WORD-1
004	SCHIRCF	001	INTERRUPTION REQUEST CODE
	BITS DEFINED FOR SCHIRCF BY HCPEQUAT CSWIRCF		
005	SCHCTL	001	CONTROL FLAGS
	BITS DEFINED FOR SCHCTL BY HCPEQUAT CSWCTL		
006	SCHDEV	002	DEVICE NUMBER
008	SCHLPM	001	LOGICAL PATH MASK
009	SCHPNOM	001	PATH NOT OPERATIONAL MASK
00A	SCHLPUM	001	LAST PATH USED MASK
00B	SCHPIM	001	PATH INSTALLED MASK
00C	SCHMBI	002	MEASUREMENT BLOCK INDEX
00E	SCHPOM	001	PATH OPERATIONAL MASK
00F	SCHPAM	001	PATH AVAILABLE MASK
010	SCHCPIDS	008	ARRAY OF CHANNEL PATH IDS
010	SCHCPID0	001	CHANNEL PATH IDENTIFIER 0
011	SCHCPID1	001	CHANNEL PATH IDENTIFIER 1
012	SCHCPID2	001	CHANNEL PATH IDENTIFIER 2
013	SCHCPID3	001	CHANNEL PATH IDENTIFIER 3
014	SCHCPID4	001	CHANNEL PATH IDENTIFIER 4
015	SCHCPID5	001	CHANNEL PATH IDENTIFIER 5
016	SCHCPID6	001	CHANNEL PATH IDENTIFIER 6
017	SCHCPID7	001	CHANNEL PATH IDENTIFIER 7
018	SCHWORD6	004	PMCW WORD 6 (MUST BE ZERO)

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01C   SCHSCSW    012       SCSW CONTAINED IN SCHIB
01C   SCHKEYCC   001       KEY AND CONDITION CODE

        BITS DEFINED FOR SCHKEYCC BY HCPEQUAT CSWSKEY

01D   SCHFPIZN   001       FORMAT AND INITIAL STATUS

        BITS DEFINED FOR SCHFPIZN BY HCPEQUAT CSWFPIZN

01E   SCHFCTL    001       FUNCTION CONTROL

        BITS DEFINED FOR SCHFCTL BY HCPEQUAT CSWFCTL

01F   SCHACTL    001       ACTIVITY CONTROL

        BITS DEFINED FOR SCHACTL BY HCPEQUAT CSWACTL

020   SCHCCWA    004       ADDRESS OF LAST CCW EXECUTED
024   SCHDVST    001       DEVICE STATUS

        BITS DEFINED FOR SCHDVST BY HCPEQUAT CSWDVST

025   SCHSCST    001       SUBCHANNEL STATUS

        BITS DEFINED FOR SCHSCST BY HCPEQUAT CSWSCST

026   SCHCNT     002       RESIDUAL COUNT
028              3F        MACHINE DEPENDENT AREA

                    EQUATES

        34    SCHBLEN     SIZE OF A SCHIB IN BYTES
        07    SCHSIZE     SIZE OF A SCHIB IN DOUBLEWORDS
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
SCHACTL	001	01F	SCHPIM	001	00B
SCHBLEN	001	034	SCHPMCW	028	000
SCHCCWA	004	020	SCHPMW1	004	004
SCHCNT	002	026	SCHPNOM	001	009
SCHCPIDS	008	010	SCHPOM	001	00E
SCHCPID0	001	010	SCHSCST	001	025
SCHCPID1	001	011	SCHSCSW	012	01C
SCHCPID2	001	012	SCHSIZE	001	007
SCHCPID3	001	013	SCHWORD6	004	018
SCHCPID4	001	014			
SCHCPID5	001	015			
SCHCPID6	001	016			
SCHCPID7	001	017			
SCHCTL	001	005			
SCHDEV	002	006			
SCHDVST	001	024			
SCHFCTL	001	01E			
SCHFPIZN	001	01D			
SCHIB	001	000			
SCHINTP	004	000			
SCHIRCF	001	004			
SCHKEYCC	001	01C			
SCHLPM	001	008			
SCHLPUM	001	00A			
SCHMBI	002	00C			
SCHPAM	001	00F			

HCPSCMBK— SUBCHANNEL MEASUREMENT BLOCK

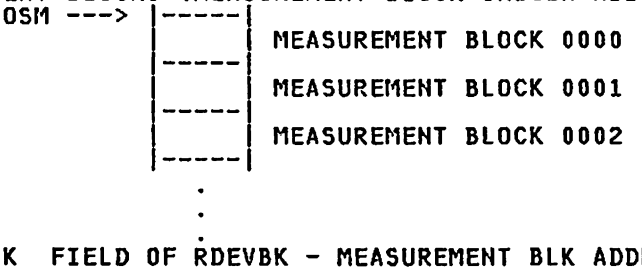
DSECT NAME: SCMBK

DESCRIPTIVE NAME: SUBCHANNEL MEASUREMENT BLOCK

FUNCTION: THE MEASUREMENT BLOCK ARCHITECTURE DEFINES A 32 BYTE AREA THAT CONTAINS THE ACCUMULATED VALUES OF THE MEASURED PARAMETERS FOR EACH SUBCHANNEL.

LOCATED BY:

HCPRIOSM IS THE ANCHOR FIELD FOR THE SUBCHANNEL MEASUREMENT BLOCKS (MEASUREMENT BLOCK ORIGIN ADDRESS)



RDEVMBLK FIELD OF RDEVBK - MEASUREMENT BLK ADDRESS

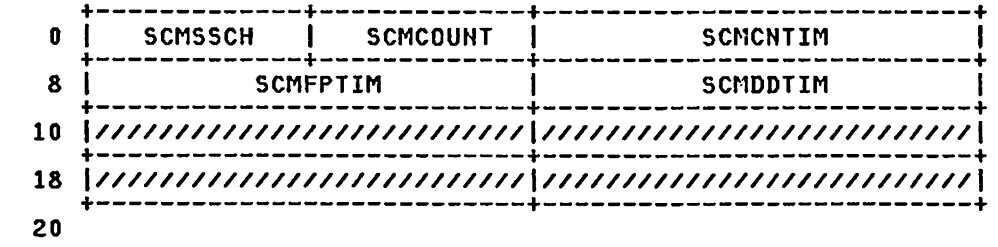
CREATED BY:

SCMBK'S ARE STATIC AND CREATED BY THE SYSGEN PROCESS.

DELETED BY:

SCMBK'S ARE PART OF THE SYSTEM NUCLEUS AND NEVER DELETED.

SCMBK - SUBCHANNEL MEASUREMENT BLOCK



disp	name	length	description
000	SCMSSCH	002	CYCLIC COUNT OF SSCH AND RSCH
002	SCMCOUNT	002	SAMPLE COUNT
004	SCMCNTIM	004	DEVICE-CONNECT TIME
008	SCMFPTIM	004	FUNCTION-PENDING TIME
00C	SCMDDTIM	004	DEVICE-DISCONNECT TIME
010		1F	RESERVED FOR FUTURE HARDWARE USE
014		1F	RESERVED FOR FUTURE HARDWARE USE
018		1F	RESERVED FOR FUTURE HARDWARE USE
01C		1F	RESERVED FOR FUTURE HARDWARE USE

EQUATES

20	SCMSIZEB	LENGTH OF SCMBK IN BYTES
04	SCMSIZE	LENGTH OF SCMBK IN DOUBLE-WORDS

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CROSS REFERENCE

Name	Len	Value/Disp
SCMBK	001	000
SCMCNTIM	004	004
SCMCOUNT	002	002
SCMDDTIM	004	00C
SCMFPTIM	004	008
SCMSIZE	001	004
SCMSIZEB	001	020
SCMSSCH	002	000

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HCPSCTBK— SPOOL FILE CLASS TITLE BLOCK

DSECT NAME: SCTBK

DESCRIPTIVE NAME: SPOOL FILE CLASS TITLE BLOCK

FUNCTION: CONTAINS THE CLASSIFICATION TITLE FOR EACH SPOOL FILE CLASS SPECIFIED IN SYSPCLAS MACRO. THE CLASSIFICATION TITLE APPEARS ON SEPARATOR PAGES AND ON THE TOP OR BOTTOM OF EACH PAGE OF PRINTED OUTPUT IF SO SPECIFIED IN SYSPCLAS MACRO.

LOCATED BY:

SYSSCTT FIELD OF HCPSYSCM

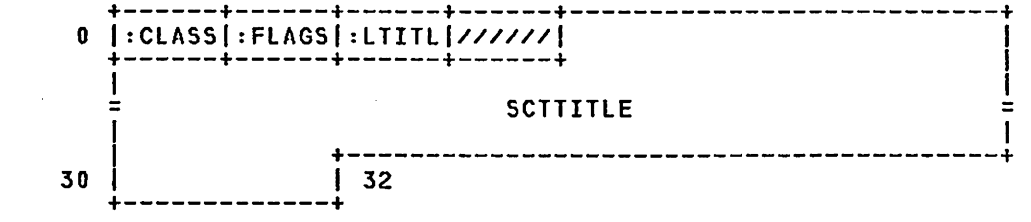
CREATED BY:

HCPSYS ASSEMBLY (SYSGEN) IF THERE IS A SYSPCLAS MACRO

DELETED BY:

NONE

SCTBK - SPOOL FILE CLASS TITLE BLOCK



disp	name	length	description
000	SCTCLASS	001	SPOOL FILE CLASS
		EQUATES	
	FF SCTEND		END OF QUEUE MARKER IN SCTCLASS
001	SCTFLAGS	001	OPTIONS TOP/BOTTOM
002	SCTLTITL	001	LENGTH OF CLASS TITLE
003		XL1	RESERVED FOR IBM FUTURE USE
		EQUATES	
	04 SCTHDRSZ		NUMBER OF BYTES IN BLOCK HEADER SCTHDRSZ + SCTLTITL = LENGTH OF CLASS. TITLE ENTRY
004	SCTTITLE	046	TITLE FOR PRINT TITLES
		MORE EQUATES	
	80 SCTTOP		PUT TITLE AT TOP OF EACH PAGE
	40 SCTBOT		PUT TITLE AT BOTTOM OF EACH PAGE

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CROSS REFERENCE

Name	Len	Value/Disp
SCTBK	001	000
SCTBOT	001	040
SCTCLASS	001	000
SCTEND	001	0FF
SCTFLAGS	001	001
SCTHDRSZ	001	004
SCTLTITL	001	002
SCTTITLE	046	004
SCTTOP	001	080

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HCPSDFBK— SYSTEM DATA FILE BLOCK

DSECT NAME: SDFBK

DESCRIPTIVE NAME: SYSTEM DATA FILE BLOCK

FUNCTION: THIS IS THE CONTROL BLOCK THROUGH WHICH USERS OF SYSTEM DATA FILES COMMUNICATE WITH THE SPOOLING SUBSYSTEM.

LOCATED BY:

THE ADDRESS OF THE BLOCK IS MAINTAINED BY THE ROUTINES WHICH UTILIZE SYSTEM DATA FILES, AND IS PASSED TO ALL SYSTEM DATA FILE ROUTINES.

CREATED BY:

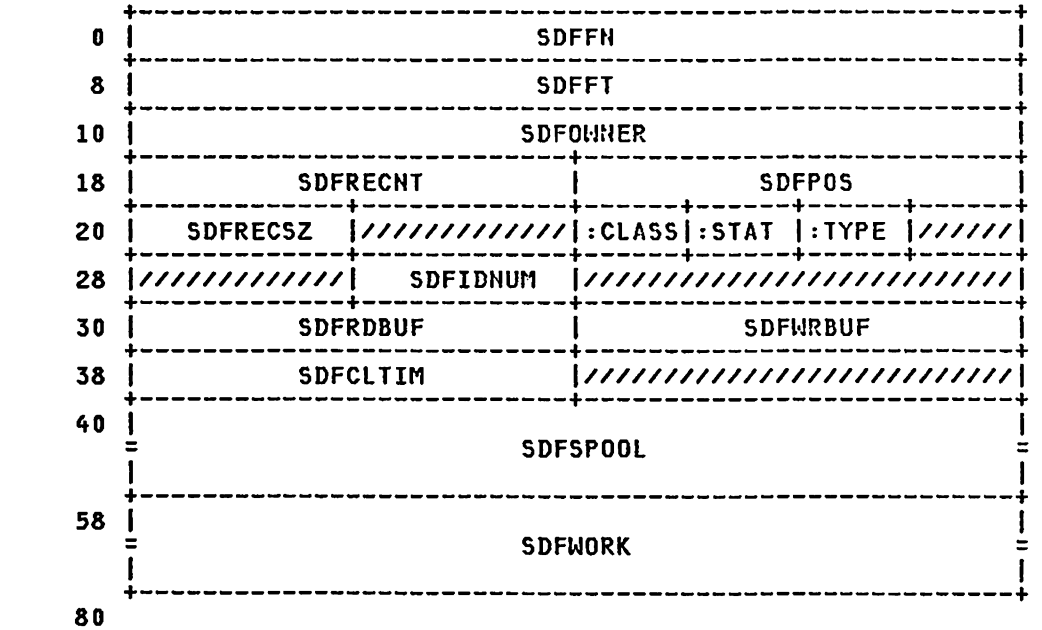
HCPNSD - WHEN DEFINING A SYSTEM OR SEGMENT
HCPNSL - WHEN LOADING A SYSTEM OR SEGMENT
HCPNSN - TO PURGE SYSTEM DATA FILES
HCPNSQ - TO QUERY NSS/DCSS FILES
HCPNSS - WHEN SAVING A SYSTEM OR SEGMENT
HCPNSI - WHEN SAVING OR LOADING AN IMAGE LIBRARY
HCPNSR - WHEN OPENING AN IMAGE LIBRARY
HCPUCR - WHEN OPENING A UCR FILE

DELETED BY:

HCPNSD - AFTER DEFINING A SYSTEM OR SEGMENT
HCPNSN - AFTER PURGE SYSTEM DATA FILES
HCPNSP - WHEN PURGING A NSS OR DCSS
HCPNSQ - AFTER QUERYING NSS/DCSS FILES
HCPNSS - AFTER SAVING A SYSTEM OR SEGMENT

BLK HCPBLK (CP) VM/XA - SYSTEM PRODUCT 5664-308

SDFBK - SYSTEM DATA FILE BLOCK



disp	name	length	description
000	SDFFN	008	FILE NAME
008	SDFFT	008	FILE TYPE
010	SDFOWNER	008	USERID OF FILE OWNER
018	SDFRECNT	004	NUMBER OF RECORDS
01C	SDFPOS	004	CURRENT RECORD POSITION IN THE

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```
                              FILE
020    SDFRECSZ    002        RECORD SIZE
022                1H         RESERVED FOR FUTURE IBM USE
024    SDFCLASS    001        FILE CLASS
025    SDFSTAT     001        FILE STATUS FLAG

         BITS DEFINED IN SDFSTAT  (AT HEX DISPLACEMENT: 25)

         80     SDFOPENR     FILE IS OPEN FOR READING
         40     SDFOPENW     FILE IS OPEN FOR WRITING
         08     SDFPURGE     FILE IS MARKED FOR PENDING PURGE
         04     SDFEOF       FILE IS POSITIONED AT END

026    SDFTYPE     001        TYPE OF SYSTEM DATA FILE FLAG

         CODES DEFINED IN SDFTYPE  (AT HEX DISPLACEMENT: 26)

         80     SDFNSS       NAMED SAVED SYSTEM FILE
         40     SDFIMG       IMAGE LIBRARY FILE
         08     SDFUCR       UCR FILE

027                XL1        RESERVED FOR FUTURE IBM USE
028                1H         RESERVED FOR FUTURE IBM USE
02A    SDFIDNUM    002        FILE IDENTIFICATION NUMBER
02C                1F         RESERVED FOR FUTURE IBM USE
030    SDFRDBUF    004        READ BUFFER ADDRESS
034    SDFWRBUF    004        WRITE BUFFER ADDRESS
038    SDFCLTIM    004        FIRST HALF OF TOD CLOCK WHEN THE
                              FILE WAS CLOSED
03C                1F         RESERVED FOR FUTURE IBM USE
040    SDFSPOOL    004        RESERVED AREA FOR SPOOL SUBSYSTEM
058    SDFWORK     004        USER WORK AREA

                     EQUATES

         10     SDFSIZE      SIZE OF SDFBK IN DOUBLE WORDS
         80     SDFBSIZE     SIZE OF SDFBK IN BYTES
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
SDFBK	001	000	SDFSPOOL	004	040
SDFBSIZE	001	080	SDFSTAT	001	025
SDFCLAS	001	004	SDFTYPE	001	026
SDFCLASS	001	024	SDFUCR	001	008
SDFCLTIM	004	038	SDFUSER	001	010
SDFEOF	001	004	SDFVOL	001	008
SDFFN	008	000	SDFWORK	004	058
SDFFT	008	008	SDFWRBUF	004	034
SDFIDNUM	002	02A			
SDFIMG	001	040			
SDFNSS	001	080			
SDFOPENR	001	080			
SDFOPENW	001	040			
SDFOWNER	008	010			
SDFPNAME	001	040			
SDFPOS	004	01C			
SDFPURGE	001	008			
SDFRDBUF	004	030			
SDFRECNT	004	018			
SDFRECSZ	002	020			
SDFSIZE	001	010			
SDFSPID	001	020			

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HCPSDLBK— SPOOLING DATA LOCATOR BLOCK

DSECT NAME: SDLBK

DESCRIPTIVE NAME: SPOOLING DATA LOCATOR BLOCK

FUNCTION: SPECIFIES THE CCW AND THE LOCATION OF ASSOCIATED DATA TO BE ADDED TO OR READ FROM A SPOOL FILE.

LOCATED BY:

VDSSDL - ANCHOR IN HCPVDSBK
GENERAL REGISTER 1 IN HCPVSP, HCPSPS, & HCPSXS

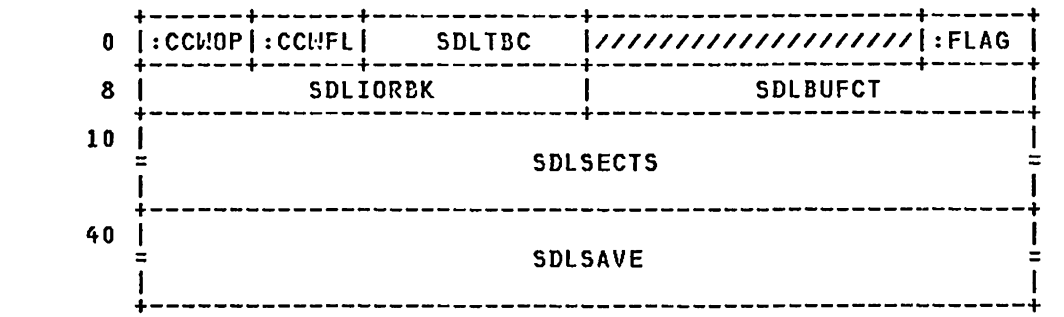
CREATED BY:

HCPVDS, HCPSPS

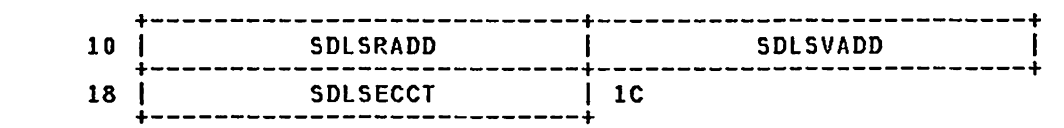
DELETED BY:

HCPDTD, HCPSPS

SDLBK - SPOOLING DATA LOCATOR BLOCK



REDEFINITION - DEFINE ONE DATA BUFFER ENTRY.



disp	name	length	description
000	SDLCCWOP	001	CCW COMMAND CODE
001	SDLCCWFL	001	CCW FLAG BITS
	BITS DEFINED FOR SDLCCWFL BY HCPEQUAT CCWFLAG		
002	SDLTBC	002	TOTAL BYTE COUNT (CCW DATA COUNT)
004		3X	RESERVED
007	SDLFLAG	001	DATA LOCATOR FLAG
	BITS DEFINED IN SDLFLAG (AT HEX DISPLACEMENT: 7)		
	80 SDLCHSIM		USE CHANNEL SIMULATOR TO MOVE DATA. IF OFF, DATA BUFFER LIST FOLLOWS.
	40 SDLNOTTL		DO NOT PRINT PAGE TITLES
008	SDLIORBK	004	IORBK ADDR FOR CHANNEL SIMULATOR
00C	SDLBUFCT	004	NUMBER OF DATA BUFFERS (0-4) WHICH FOLLOW
010	SDLSECTS	008	0-4 DATA BUFFERS (ADDR / LENGTH)
040	SDLSAVE	004	ADD A SAVEAREA FOR USE BY VSQRW

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CROSS REFERENCE

Name	Len	Value/Disp
SDRBLEN	001	00C
SDRCTRS	001	00C
SDRCTRS1	001	016
SDRCUAD	003	009
SDRFLAGS	001	004
SDRFLCT	001	006
SDRLNGTH	001	008
SDRMAX	001	020
SDROVFWK	001	007
SDRPRMCT	001	005
SDRRDEV	004	000
SDRREC	001	000
SDRRECD	001	040
SDRSHRT	001	080
SDRSIZE	001	004

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HCPSEGTE— SEGMENT TABLE ENTRY

DSECT NAME: SEGTE

DESCRIPTIVE NAME: SEGMENT TABLE ENTRY

FUNCTION: THERE IS ONE SEGMENT TABLE ENTRY FOR EACH MEGABYTE OF ADDRESS SPACE. A SEGMENT TABLE IS MADE UP OF CONTIGUOUS SEGMENT TABLE ENTRIES. THE SEGMENT TABLE DESCRIBES THE ADDRESS SPACE WHICH CONTAINS GUEST STORAGE AND THE RCP AREA. THE SEGMENT TABLE IS IMBEDDED IN THE VMDBK WHEN GUEST STORAGE IS DEFINED AS 31 MEGABYTES OR LESS. FOR GUEST STORAGE OVER 31 MEGABYTES, A SEPARATE PAGE OF STORAGE IS ALLOCATED. THERE IS ALSO A SEGMENT TABLE IDENTIFIED BY THE SYSTEM VMDBK WHICH DESCRIBES SYSTEM VIRTUAL ADDRESS SPACE. IT IS ALWAYS ALLOCATED AS TWO CONTIGUOUS FRAMES OF STORAGE AT SYSGEN TIME. THE FORMAT OF THE SEGMENT TABLE ENTRY IS ARCHITECTED.

LOCATED BY:

VMDPSTO FIELD OF HCPVMDBK
VMDWSHC1 FIELD OF HCPVMDBK FOR SHADOW TABLES
CONTROL REGISTER 1

CREATED BY:

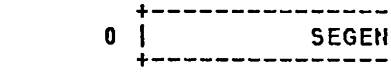
HCPBVMBK WHEN A VMDBK IS BUILT
HCPBPBRN
HCPPTRAN
HCPPTRCP
HCPWSHPX
FOR GUEST STORAGE LESS THAN OR EQUAL TO 31 MEGABYTES, HCPBVMBK CREATES THE SEGMENT TABLE WHICH IS IMBEDDED IN THE VMDBK. FOR GUEST STORAGE OVER 31 MEGABYTES, A SEPARATE PAGE TO CONTAIN THE TABLE IS CREATED BY HCPBPBRN. EACH SEGMENT TABLE

BLK HCPBLK (CP) VM/XA - SYSTEM PRODUCT 5664-308

DELETED BY:

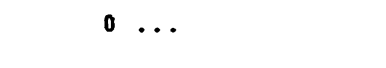
HCPSTKFG WHEN A VMDBK IS RELEASED
HCPRPBSN
HCPWSHFR
FOR GUEST STORAGE LESS THEN OR EQUAL TO 31 MEGABYTES, THE SEGMENT TABLE IS RELEASED WHEN THE VMDBK IS DELETED. THE SAME IS TRUE FOR SHADOW SEGMENT TABLES. FOR STORAGE OVER 31 MEGABYTES, HCPRPBSN RELEASES THE SEGMENT TABLE, AND HCPWSHFR RELEASES THE SHADOW SEGMENT TABLE.

SEGTE - SEGMENT TABLE ENTRY



REDEFINITION - SEGMENT TABLE ENTRY STATUS

REDEFINITION -



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disp	name	length	description
000	SEGENTRY	004	POINTER TO PAGE TABLE, PAGTB WITHIN THE PGMBK NOTE THAT ARCHITECTURE ALIGNS PAGE TABLES ON 64 BYTE BOUNDARIES BUT SOFTWARE RESTRICTS THE ALIGNMENT TO 256 BYTE BOUNDARIES BECAUSE OF THE USE OF THE LEFT-MOST 2 BITS IN THE RIGHTMOST BYTE. PAGE TABLES ARE IMBEDDED WITHIN PGMBK'S, THEREBY FORCING 4K ALIGNMENT.
		EQUATES	
	04 SEGLENTH		LENGTH OF ONE SEGMENT TABLE ENTRY
004	SEGNEXT	004	NEXT SEGMENT TABLE ENTRY
	REDEFINITION - SEGMENT TABLE ENTRY STATUS		
000	SEGFLAG	001	SEGMENT ALLOCATION STATUS SEGINVAL MUST BE = 1. LEFTMOST BIT ARCHITECTED AS ZERO. RIGHTMOST 7 BITS COMPRISE BITS 1-7 OF THE 31 BIT REAL ADDRESS OF THE PAGE TABLE FOR THIS SEGMENT.
	BITS DEFINED IN SEGFLAG (AT HEX DISPLACEMENT: 0)		
	80 SEGNULL		SEGMENT CANNOT BE ALLOCATED FOR GUEST STORAGE, IT IS NOT ADDRESSABLE BY THE USER. SEGINVAL MUST BE = 1.
001		X	BITS 8-15 OF THE PAGE TABLE ADDRESS.
002		X	BITS 16-23 OF THE PAGE TABLE ADDRESS.
003	SEGSTAT	001	SEGMENT TABLE ENTRY STATUS LEFTMOST 2 BITS COMPRISE BITS 24-25 OF THE PAGE TABLE ADDRESS (6 BITS ARE APPENDED ON THE RIGHT TO FORM THE PAGE TABLE ADDRESS). LEFTMOST 2 BITS USED BY SOFTWARE WHEN SEGMENT ENTRY IS INVALID. RIGHTMOST 6 BITS ARE ARCHITECTED AND USED AS DEFINED BELOW.
	BITS DEFINED IN SEGSTAT (AT HEX DISPLACEMENT: 3)		
	80 SEGWAIT		SEGMENT HAS TRANSLATION REQUESTS WAITING. SEGINVAL MUST BE = 1.
	40 SEGTRANS		SEGMENT IS BEING TRANSLATED THIS BIT IS USED BY SOFTWARE TO SERIALIZE SEGMENT TRANSLATION. SEGINVAL MUST BE = 1.
	20 SEGINVAL		SEGMENT TABLE ENTRY IS INVALID
	10 SEGCOMMN		COMMON SEGMENT BIT. THIS BIT IS ARCHITECTED BUT NOT USED BY CP.
	0F SEGPTLNG		PAGE TABLE LENGTH (IN UNITS OF 64 BYTE BLOCKS, MINUS 1).
	REDEFINITION -		
003	SEGST370	001	SEGMENT TABLE ENTRY STATUS FOR 370 NON-EXTENDED ARCHITECTURE LEFTMOST 4 BITS COMPRISE BITS

16-19 OF THE PAGE TABLE ADDRESS

RIGHTMOST 4 BITS DESCRIBE THE
STATUS OF THE SEGMENT TABLE ENTRY

BITS DEFINED IN SEGST370 (AT HEX DISPLACEMENT: 3)

04	SEG370PR	SEGMENT IS WRITE PROTECTED
01	SEG370IV	SEGMENT IS INVALID END OF DEFINITION

MORE EQUATES

14	SEGSHIFT	BITS TO SHIFT RIGHT TO GET SEGMENT NUMBER FROM AN ADDRESS OR SHIFT LEFT TO GET STARTING SEGMENT ADDRESS FROM A SEGMENT NUMBER

CROSS REFERENCE

Name	Len	Value/Disp
SEGCOMMN	001	010
SEGENTRY	004	000
SEGFLAG	001	000
SEGINVAL	001	020
SEGLENTH	001	004
SEGNEXT	004	004
SEGNULL	001	080
SEGPTLNG	001	00F
SEGSHIFT	001	014
SEGSTAT	001	003
SEGST370	001	003
SEGTE	001	000
SEGTRANS	001	040
SEGWAIT	001	080
SEG370IV	001	001
SEG370PR	001	004

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SFBLOK— VM/SP 370 SPOOL FILE CONTROL BLOCK

DSECT NAME: SFBLOK

DESCRIPTIVE NAME: VM/SP 370 SPOOL FILE CONTROL BLOCK

FUNCTION: THIS DSECT IS USED WHEN SPOOL FILES ARE TO BE TRANSLATED TO VM/SP FORMAT. (IT IS ANALOGOUS TO THE VM/XA SPFBK.)

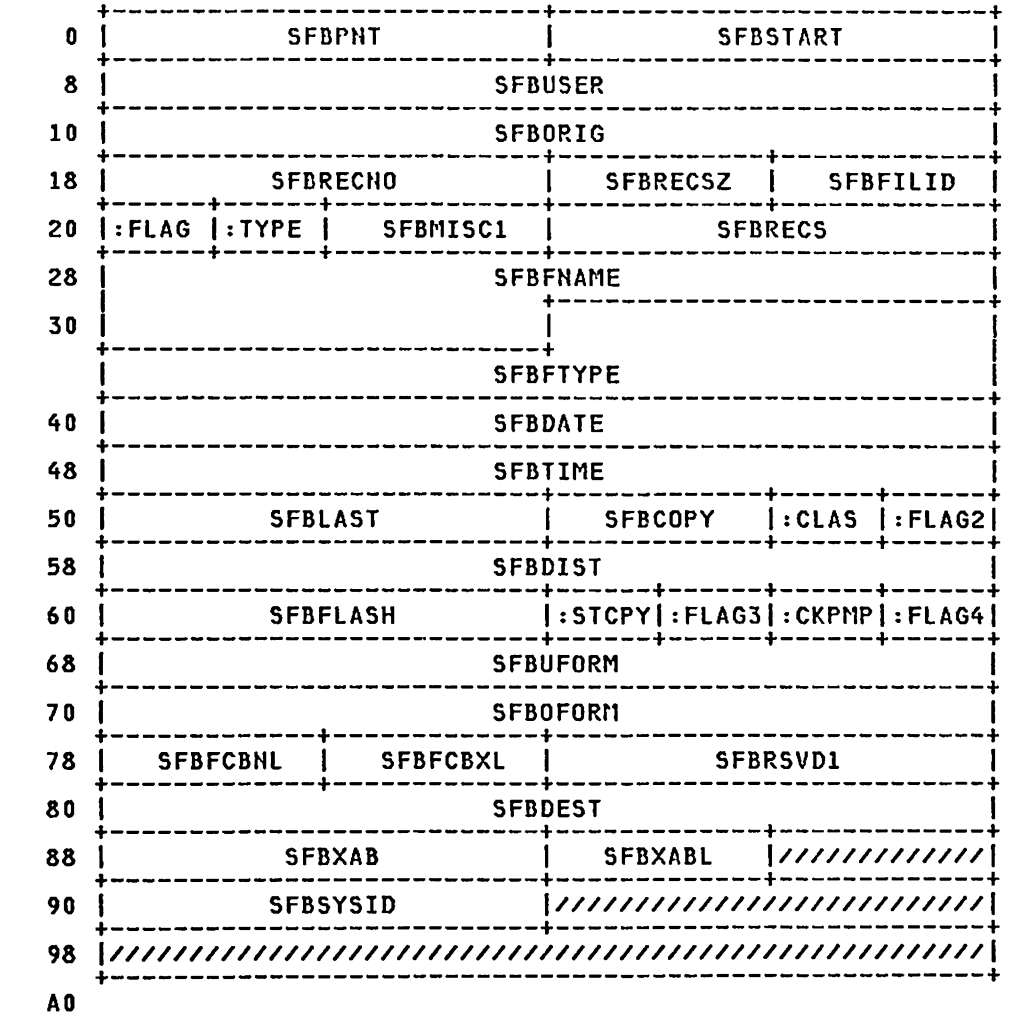
CREATED BY:

HCPSXSFB FOR SPFBK TO SFBLOK TRANSLATIONS. THIS IS DONE FOR DIAGNOSE X'14' AND SPTAPE COMMANDS.

DELETED BY:

NOT APPLICABLE

SFBLOK - VM/SP 370 SPOOL FILE CONTROL BLOCK



disp	name	length	description
000	SFBPNT	004	POINTER TO NEXT SFBLOK
004	SFBSTART	004	DASD LOC. (DCHR) OF FIRST PAGE BUFFER
008	SFBUSER	008	VMUSER IDENTIFICATION OF FILE OWNER
010	SFBORIG	008	VMUSER IDENTIFICATION OF FILE ORIGIN
018	SFBRECNO	004	NUMBER OF DATA RECORDS IN FILE
01C	SFBRECSZ	002	LOGICAL RECORD SIZE - EXCLD. CCWS

```
01E   SFBFILID   002      BINARY SYSTEM FILE NUMBER
020   SFBFLAG    001      S*1 SFBLOK CONTROL FLAGS

        BITS DEFINED IN SFBFLAG  (AT HEX DISPLACEMENT: 20)

        80    SFBINUSE    FILE BEING PROCESSED
        40    SFBRECOK    ALLOCATION RECORDS COMPLETE
        20    SFBUHOLD    FILE IN USER HOLD STATUS
        10    SFBDUMP     FILE IS A CP SYSTEM DUMP
        08    SFBOPEN     INPUT FILE HAS BEEN OPENED
        04    SFBSHOLD    FILE IN SYSTEM HOLD STATUS
        02    SFBEOF      INPUT FILE HAS REACHED EOF
        01    SFBRECER    SFBREC CHAIN INCOMPLETE

021   SFBTYPE    001      DEVICE TYPE FOR SPOOL OUTPUT
022   SFBMISC1   002      USE VARIES ACCORDING TO CALLER
024   SFBRECS    004      POINTER TO RECBLOKS FOR ACTIVE FILE
028   SFBFNAME   012      FILE NAME
034   SFBFTYPE   012      FILE TYPE
040   SFBDATE    008      CREATION DATE OF SPOOL FILE
048   SFBTIME    008      CREATION TIME OF SPOOL FILE
050   SFBLAST    004      DASD LOC. (DCHR) OF LAST PAGE BUFFER
054   SFBCOPY    002      NUMBER OF COPIES REQUESTED
056   SFBCLAS    001      SPOOL FILE CLASS CHARACTER
057   SFBFLAG2   001      SFBLOK CONTROL FLAGS - BYTE 2

        BITS DEFINED IN SFBFLAG2 (AT HEX DISPLACEMENT: 57)

        80    SFBHOLD     SAVE INPUT FILE; HOLD OUTPUT FILE
        40    SFBNOHLD    DELETE INPUT FILE; NOHOLD OUTPUT
        20    SFBFLNMT    FILE NOT EMPTY IF ON
        10    SFBRSTRT    RESTART IN PROGRESS
        08    SFBTICER    BUFFER TIC ERROR
        04    SFBPURGE    PURGE OPEN SPOOL FILE
        02    SFBFIRST    INDICATE FIRST PAGE WRITTEN
        01    SFBMON      MONITOR CLASS FILE

058   SFBDIST    008      DISTRIBUTION CODE
060   SFBFLASH   004      OVERLAY NAME FOR 3800 FLASHING
064   SFBSTCPY   001      CURRENT STARTING COPY NUMBER
065   SFBFLAG3   001      SFBLOK CONTROL FLAGS - BYTE 3

        BITS DEFINED IN SFBFLAG3 (AT HEX DISPLACEMENT: 65)

        80    SFBLDBEG    3800 LOAD CCWS AT BEGINNING
        40    SFBLDMID    3800 LOAD CCWS ALL THRU FILE
        20    SFBFCB      INDICATE FCB CCWS NOW IN FILE
        04    SFBACNT     ACCOUNTING TYPE FILE
        02    SFBSEEN     'FILE PREVIOUSLY SEEN' FLAG
        01    SFBXFER     'FILE TRANSFERRED' FLAG

066   SFBCKPMP   001      CHECKPOINT MAP NUMBER FOR SLOT
067   SFBFLAG4   001      MORE STATUS FLAGS - BYTE 4

        BITS DEFINED IN SFBFLAG4 (AT HEX DISPLACEMENT: 67)

        80    SFBINVS     SFBLOK IS IN SYSSPOOL'S VIRTUAL STORAGE
        40    SFBTUSE     FILE IN TEMPORARY USE BY SYSTEM
        20    SFBNORET    NORETURN FLAG
        0D    SFBDSIZE    DEFAULT SIZE, NON EXTENDED

068   SFBUFORM   008      USER SPECIFIED FORM NUMBER
070   SFBOFORM   008      OPERATOR SPECIFIED FORM NUMBER

                  EQUATES

        0F    SFBR2SIZ    VM/SP RELEASE 2 SIZE IN DBL WDS

078   SFBFCBNL   002      LONGEST IMBEDDED FCB (3211-TYPE)
07A   SFBFCBXL   002      LONGEST IMBEDDED FCB (EXTENDED)
07C   SFBRSVD1   001      RESERVED FOR VM/XA SPTAPE USE
080   SFBDEST    008      USER SPECIFIED DESTINATION
088   SFBXAB     004      DASD ADDRESS OF XAB (CCPD/PPPD)
```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			EXTENDED ATTRIBUTE BUFFER
08C	SFBXABL	002	LENGTH OF XAB
			EXTENDED ATTRIBUTE BUFFER
08E		2X	RESERVED FOR FUTURE USE
090	SFBSYSID	004	SYSTEM UNIQUE FILE-ID
094		F	RESERVED FOR FUTURE USE
098		D	RESERVED FOR FUTURE USE

EQUATES

14	SFBSIZE	SIZE IN DOUBLE WORDS
18	SFBFNFT	

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
SFBACNT	001	004	SFBR2SIZ	001	00F
SFBCKPMP	001	066	SFBSEEN	001	002
SFBCLAS	001	056	SFBSHOLD	001	004
SFBCOPY	002	054	SFBSIZE	001	014
SFBDATE	008	040	SFBSTART	004	004
SFBDEST	008	080	SFBSTCPY	001	064
SFBDIST	008	058	SFBSYSID	004	090
SFBDSIZE	001	00D	SFBTICER	001	008
SFBDUMP	001	010	SFBTIME	008	048
SFBEOF	001	002	SFBTUSE	001	040
SFBFCB	001	020	SFBTYPE	001	021
SFBFCBNL	002	078	SFBUFORM	008	068
SFBFCBXL	002	07A	SFBUHOLD	001	020
SFBFILID	002	01E	SFBUSER	008	008
SFBFIRST	001	002	SFBXAB	004	088
SFBFLAG	001	020	SFBXABL	002	08C
SFBFLAG2	001	057	SFBXFER	001	001
SFBFLAG3	001	065			
SFBFLAG4	001	067			
SFBFLASH	004	060			
SFBFLNMT	001	020			
SFBFNAME	012	028			
SFBFNFT	001	018			
SFBFTYPE	012	034			
SFBHOLD	001	080			
SFBINUSE	001	080			
SFBINVS	001	080			
SFBLAST	004	050			
SFBLDBEG	001	080			
SFBLDMID	001	040			
SFBLOK	001	000			
SFBMISC1	002	022			
SFBMON	001	001			
SFBNOHLD	001	040			
SFBNORET	001	020			
SFBOFORM	008	070			
SFBOPEN	001	008			
SFBORIG	008	010			
SFBPNT	004	000			
SFBPURGE	001	004			
SFBRECER	001	001			
SFBRECNO	004	018			
SFBRECOK	001	040			
SFBRECS	004	024			
SFBRECSZ	002	01C			
SFBRSTRT	001	010			
SFBRSVD1	001	07C			

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HCPSFNDX— CHECKPOINT SPOOL FILE POINTERS

DSECT NAME: SFNDX

DESCRIPTIVE NAME: CHECKPOINT SPOOL FILE POINTERS

FUNCTION: TO POINT TO THE FIRST MAP PAGE (SPMBK) FOR EACH SPOOL FILE IN THE SYSTEM. THE NUMBER OF ENTRIES IN THIS TABLE IS DETERMINED BY THE SIZE OF THE WARMSTART AREA. EACH 4K PAGE ON THE WARMSTART CYLINDER ALLOWS FOR 1022 ENTRIES, ONE FOR EACH POSSIBLE SPOOLID. IF AN ENTRY CONTAINS A ZERO, IT INDICATES THAT THE CORRESPONDING SPOOLID IS AVAILABLE FOR A NEW SPOOL FILE.

LOCATED BY:

THE SFNDX ENTRIES OCCUPY THE FIRST 10 PAGES IMMEDIATELY FOLLOWING THE PAGEABLE MODULES IN THE NUCLUES.
SFNDX ENTRY.

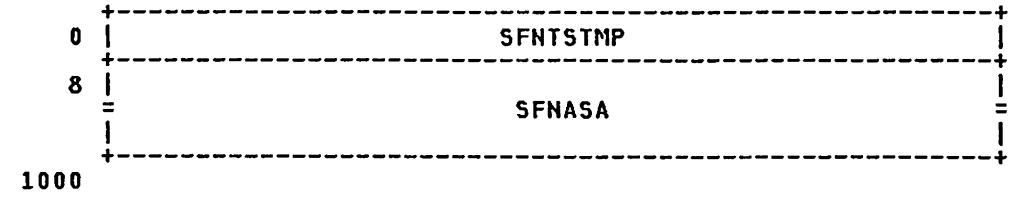
CREATED BY:

THE TEN PAGES OF STORAGE RESERVED FOR THE SFNDX ENTRIES ARE CLEARED TO ZERO WHEN THE SYSTEM IS COLD STARTED, OR REINITIALIZED BY HCPWRMST WHEN THE SYSTEM IS WARM OR FORCE STARTED.
DURING NORMAL SYSTEM PROCESSING, THE SFNDX ENTRIES ARE INITIALIZED BY HCPSFPON WHEN OPENING A NEW SPOOL FILE.

DELETED BY:

WHEN A SPOOL FILE IS DELETED, HCPSFRDR ZEROES OUT THE CORRESPONDING SFNDX ENTRY. THE STORAGE ALLOCATED FOR THE SFNDX ENTRIES IS NEVER DELETED.

SFNDX - CHECK-POINT PAGE FOR PAGE MAP POINTERS



disp	name	length	description
000	SFNTSTMP	008	TIMESTAMP INFORMATION
008	SFNASA	004	SPMBK POINTERS
000	SFNCCEND	004	

EQUATES

FE	SFNSCNT	NUMBER OF SLOTS
00	SFNSIZE	BLOCK SIZE IN DBLWDS

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CROSS REFERENCE

Name	Len	Value/Disp
SFNASA	004	008
SFNCCEND	004	000
SFNDX	001	000
SFNSCNT	001	3FE
SFNSIZE	001	200
SFNTSTMP	008	000

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HCPSFXBK— SOFTWARE EXTERNAL INTERRUPT CONTROL BLOCK

DSECT NAME: SFXBK

DESCRIPTIVE NAME: SOFTWARE EXTERNAL INTERRUPT CONTROL BLOCK

FUNCTION: HCPSFXBK MAINTAINS THE DATA REQUIRED FOR A GUEST EXTERNAL INTERRUPT WHEN THE INTERRUPT IS PENDING. THERE ARE THREE WAYS AN EXTERNAL INTERRUPT MAY REQUIRE THE USE OF AN SFXBK. 1. WHEN AN EXTERNAL INTERRUPT IS GENERATED AS A RESULT OF THE GUEST 'EXTERNAL' COMMAND. 2. WHEN CP GENERATES A SERVICE PROCESSOR EXTERNAL INTERRUPT TO BE REFLECTED TO THE GUEST. 3. WHEN CP GENERATES A SOFTWARE EXTERNAL INTERRUPT TO BE REFLECTED TO THE GUEST. A SOFTWARE INTERRUPT IS ONE DEFINED BY THE ARCHITECTURE THAT IS ONLY GENERATED BY THE SOFTWARE. IT IS NEVER HARDWARE GENERATED.

LOCATED BY:

SFXINEXT	FORWARD CHAIN	
VMDXTSFI	FIELD OF HCPVMDBK	(SOFTWARE EXTERNAL INTERRUPTS AND INTERRUPTS FROM THE EXTERNAL COMMAND)
FINSFXQ	FIELD OF HCPFINBK	(SERVICE PROCESSOR INTERRUPTS)

CREATED BY:

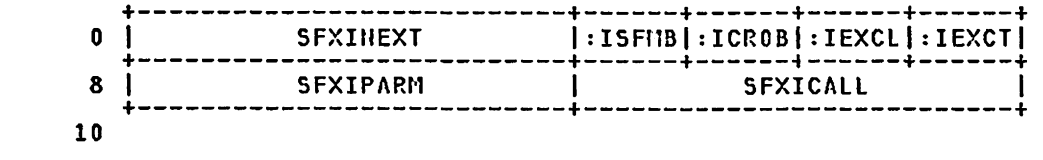
HCPPCV	FOR SERVICE PROCESSOR EXTERNAL INTERRUPTS
HCPSFI	FOR SOFTWARE EXTERNAL INTERRUPTS
HCPVEX	FOR EXTERNAL INTERRUPTS FROM THE EXTERNAL COMMAND

DELETED BY:

HCPRST	DELETES SFXBKS ANCHORED FROM VMDXTSFI FOR SYSTEM RESET AND SIGP RESET FUNCTIONS
HCPPCV	CALLED BY HCPRST TO DELETE SFXBKS ANCHORED FROM FINSFXQ FOR THE SYSTEM RESET FUNCTION
HCPUSO	DELETES ALL SFXBKS ANCHORED FROM FINSFXQ AS PART

BLK HCPBLK (CP) VM/XA - SYSTEM PRODUCT 5664-308

SFXBK - SOFTWARE EXTERNAL INTERRUPT CONTROL BLOCK



disp	name	length	description
000	SFXINEXT	004	POINTER TO NEXT SFXBK
004	SFXICMSK	004	INTERRUPT CODES AND MASK VALUES
004	SFXISFMB	001	SOFTWARE MASK BIT NUMBER (1-31)
	CODES DEFINED IN SFXISFMB (AT HEX DISPLACEMENT: 4)		
	FF SFXIBNON		NO SOFTWARE ENABLE BIT
	01 SFXIBACT		ACCOUNTING RECORDING BIT NO
	02 SFXIBERP		EREP RECORDING BIT NO
	08 SFXIBVMC		VMCF INTERRUPTION BIT NO
			SFXIMSK0 BIT DEFINITIONS - BYTE 0 SOFTWARE MASK BITS
	40 SFXIMACT		ACCOUNTING RECORDING IRPT MASK
	20 SFXIMERP		EREP RECORDING INTERRUPT MASK
			SFXIMSK1 BIT DEFINITIONS - BYTE 1 SOFTWARE MASK BITS
	80 SFXIMVMC		VMCF INTERRUPTION MASK
005	SFXICR0B	001	CR0 MASK BIT NUMBER (1-31)

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```
        CODES DEFINED IN SFXICR0B (AT HEX DISPLACEMENT: 5)

        FF     SFXI0NON     NO CR0 ENABLEMENT BIT
        13     SFXI0SYN     TOD SYNCH CHECK CR0 MASK BIT
        16     SFXI0MSF     SERVICE PROCESSOR CR0 MASK BIT
        1E     SFXI0IUC     IUCV CR0 MASK BIT
        1F     SFXI0VMC     VMCF CR0 MASK BIT

                            VALUES DEFINED IN SFXICODE

        00     SFXICIUC     IUCV EXTERNAL INTERRUPT CODE
        01     SFXICVMC     VM -> VM VMCF INTERRUPT CODE
        02     SFXICACT     CP -> VM ACNT RECORD CODE
        03     SFXICERP     CP -> VM EREP RECORD CODE

006   SFXICODE    002       SOFTWARE EXTERNAL INTERRUPT CODE
006   SFXIEXCL    001       EXTERNAL INTERRUPTION CLASS

        CODES DEFINED FOR SFXIEXCL BY HCPEQUAT EXTICLAS

007   SFXIEXCT    001       EXTERNAL INTERRUPTION CLASS

        CODES DEFINED FOR SFXIEXCT BY HCPEQUAT EXTICODE

008   SFXIPARM    004       PARAMETER TO PASS CALLED ROUTINE
00C   SFXICALL    004       ADDRESS OF ROUTINE TO BE CALLED

                     EQUATES

        02     SFXISIZE     SIZE OF BLOCK IN DOUBLEWORDS
```

CROSS REFERENCE

Name	Len	Value/Disp
SFXBK	001	000
SFXIBACT	001	001
SFXIBERP	001	002
SFXIBNON	001	0FF
SFXIBVMC	001	008
SFXICACT	001	002
SFXICALL	004	00C
SFXICERP	001	003
SFXICIUC	001	000
SFXICMSK	004	004
SFXICODE	002	006
SFXICR0B	001	005
SFXICVMC	001	001
SFXIEXCL	001	006
SFXIEXCT	001	007
SFXIMACT	001	040
SFXIMERP	001	020
SFXIMVMC	001	080
SFXINEXT	004	000
SFXIPARM	004	008
SFXISFMB	001	004
SFXISIZE	001	002
SFXI0IUC	001	01E
SFXI0MSF	001	016
SFXI0NON	001	0FF
SFXI0SYN	001	013
SFXI0VMC	001	01F

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HCPSGIOP— SYNCHRONOUS GENERAL I/O PARAMETERS

DSECT NAME: SGIOP

DESCRIPTIVE NAME: SYNCHRONOUS GENERAL I/O PARAMETERS

FUNCTION: DESCRIBE THE PARAMETERS OF A DIAGNOSE 'A8' REQUEST

LOCATED BY:

THE "X" REGISTER CONTAINS THE LOGICAL ADDRESS OF THE SGIOP IN GUEST STORAGE AT THE TIME DIAGNOSE 'A8' IS ISSUED.

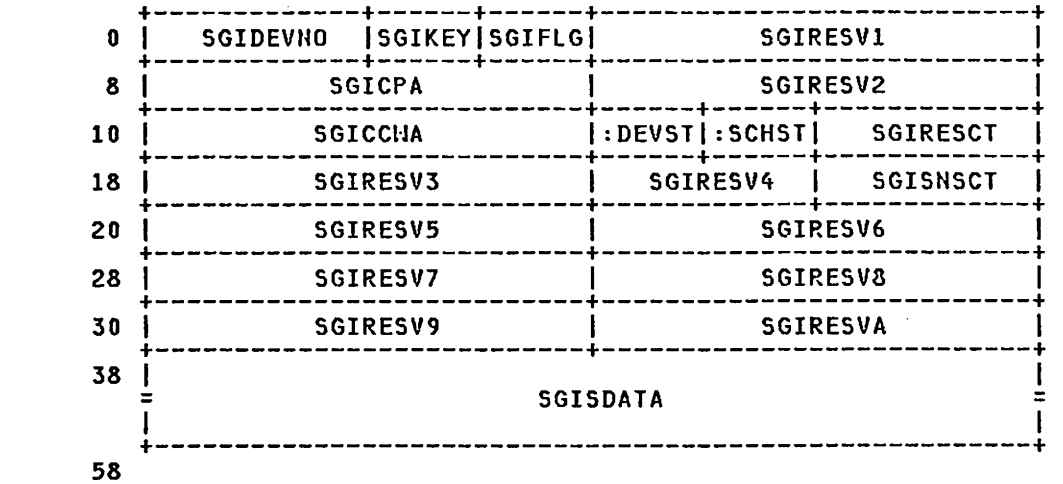
CREATED BY:

THE PROGRAM ISSUING DIAGNOSE 'A8'.

DELETED BY:

N/A

SGIOP - SYNCHRONOUS GENERAL I/O PARAMETERS



disp	name	length	description
000	SGIDEVNO	002	THE VIRTUAL DEVICE NUMBER OF THE DEVICE TO BE USED.
002	SGIOKF	002	KEY AND FLAG BYTES.
002	SGIKEY	001	THE STORAGE PROTECTION KEY TO USE FOR I/O OPERATIONS WITH THIS REQUEST.
003	SGIFLG	001	GENERAL I/O REQUEST FLAG. CODES DEFINED FOR SGIFLG
			EQUATES
80	SGIFMT		CCW FORMAT.
004	SGIRESV1	004	RESERVED FOR FUTURE IBM USE.
008	SGICPA	004	CHANNEL PROGRAM ADDRESS FOR THIS REQUEST.
00C	SGIRESV2	004	RESERVED FOR FUTURE IBM USE.
010	SGICASC	008	COMBINED CCW ADDRESS, DEVICE & SUBCHANNEL STATUS AND RESIDUAL COUNT FIELDS.
010	SGICCWA	004	ADDRESS OF CCW AT INTERRUPT (+8).
014	SGIDEVST	001	THE DEVICE STATUS BYTE, RETURNED BY CP.
015	SGISCHST	001	THE SUBCHANNEL STATUS BYTE, RETURNED BY CP
016	SGIRESCT	002	THE RESIDUAL COUNT, RETURNED BY CP.
018	SGIRESV3	004	RESERVED FOR FUTURE IBM USE.
01C	SGIRESV4	002	RESERVED FOR FUTURE IBM USE.
01E	SGISNSCT	002	THE AMOUNT OF SENSE DATA PRESENT.
020	SGIRESV5	004	RESERVED FOR FUTURE IBM USE.

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024	SGIRESV6	004	RESERVED FOR FUTURE IBM USE.
028	SGIRESV7	004	RESERVED FOR FUTURE IBM USE.
02C	SGIRESV8	004	RESERVED FOR FUTURE IBM USE.
030	SGIRESV9	004	RESERVED FOR FUTURE IBM USE.
034	SGIRESVA	004	RESERVED FOR FUTURE IBM USE.
038	SGISDATA	032	THE SENSE DATA (ONLY IF UNIT CHECK IS ON IN SGIDEVST).

EQUATES

58	SGIBYLEN	LENGTH (IN BYTES) OF SGIOP.
0B	SGIDWSIZ	SIZE OF SGIOP IN DOUBLEWORDS.

CROSS REFERENCE

Name	Len	Value/Disp
SGIBYLEN	001	058
SGICASC	008	010
SGICCWA	004	010
SGICPA	004	008
SGIDEVNO	002	000
SGIDEVST	001	014
SGIDWSIZ	001	00B
SGIFLG	001	003
SGIFMT	001	080
SGIKEY	001	002
SGIOKF	002	002
SGIOP	001	000
SGIRESCT	002	016
SGIRESVA	004	034
SGIRESV1	004	004
SGIRESV2	004	00C
SGIRESV3	004	018
SGIRESV4	002	01C
SGIRESV5	004	020
SGIRESV6	004	024
SGIRESV7	004	028
SGIRESV8	004	02C
SGIRESV9	004	030
SGISCHST	001	015
SGISDATA	032	038
SGISNSCT	002	01E

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HCPSGTBK— SAVED GUEST TIMERS BLOCK

DSECT NAME: SGTBK

DESCRIPTIVE NAME: SAVED GUEST TIMERS BLOCK

FUNCTION: THE SAVED GUEST TIMER CONTROL BLOCK IS CREATED TO SAVE THE GUEST TIMERS AT THE TIME A NAMED SAVED SYSTEM IS CREATED AND USED TO RESTORE A GUEST'S TIMERS WHENEVER THAT SAVED SYSTEM IS INVOKED.

LOCATED BY:

POINTED TO BY REGISTER TWO IN HCPVTM. PASSED BY REGISTER ONLY

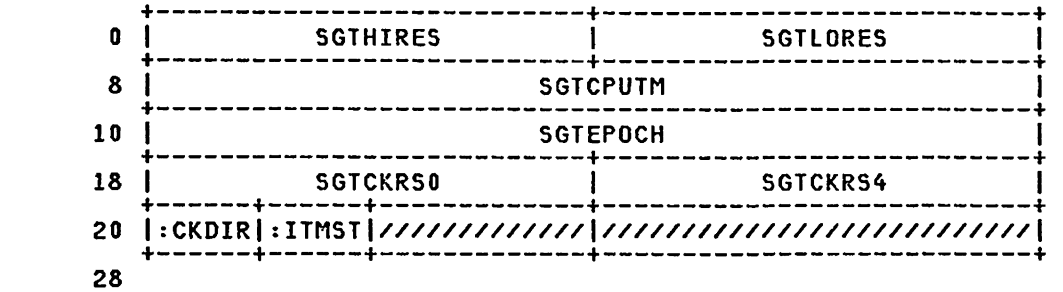
CREATED BY:

HCPVTM

DELETED BY:

HCPNSE

SGTBK - SAVED GUEST TIMERS BLOCK



disp	name	length	description
000		0D	DOUBLE WORD ALIGNMENT
000	SGTHIRES	004	SAVED GUEST HIGH ORDER INTERVAL TIMER RESIDUE COUNTER
004	SGTLORES	004	SAVED GUEST LOW ORDER INTERVAL TIMER RESIDUE COUNTER
008	SGTCPUTM	008	SAVED GUEST CPU TIMER
010	SGTEPOCH	008	SAVED GUEST EPOCH SAVED GUEST TIME-OF-DAY EPOCH TO DEFINE DELTA BETWEEN HOST TOD CLOCK AND GUEST TOD CLOCK
018	SGTCKRES	008	CLOCK COMPARATOR RESIDUE SAVED CLOCK COMPARATOR RESIDUE. THE DIFFERENCE BEWTEEN THE GUEST CLOCK COMPARATOR VALUE AND THE HOST TOD CLOCK
018	SGTCKRS0	004	HIGH-ORDER WORD OF RESIDUE
01C	SGTCKRS4	004	LOW-ORDER WORD OF RESIDUE
020	SGTCKDIR	001	DIRECTION FOR CLOCK COMPARATOR CALCULATIONS. ZEROS MEAN THE CLOCK COMPARATOR RESIDUE SHOULD BE ADDED TO THE TIME OF DAY CLOCK WHEN RESTORING GUEST CLOCK COMPARATOR VALUE. FF'S MEAN SGTCKRES SHOULD BE SUBTRACTED FROM THE TIME OF DAY CLOCK FOR RESTORING THE CLOCK COMPARATOR
	CODES DEFINED IN SGTCKDIR (AT HEX DISPLACEMENT: 20)		
	00	SGTCKPOS	ADD TO TOD CLOCK FOR RESTORE
	FF	SGTCKNEG	SUBTRACT FROM TOD CLOCK
021	SGTITMST	001	INTERVAL TIMER STATUS
	CODES DEFINED IN SGTITMST (AT HEX DISPLACEMENT: 21)		
	00	SGTITMNI	NO INTERVAL TIMER INTERRUPT
	FF	SGTITMIP	INTERVAL TIMER INTERRUPT PENDING

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022              H        RESERVED FOR FUTURE IBM USE
024              F        RESERVED FOR FUTURE IBM USE
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EQUATES

```
        05    SGTBSIZE    BLOCK SIZE IN DOUBLE WORDS
```

CROSS REFERENCE

Name	Len	Value/Disp
SGTBK	001	000
SGTBSIZE	001	005
SGTCKDIR	001	020
SGTCKNEG	001	0FF
SGTCKPOS	001	000
SGTCKRES	008	018
SGTCKRS0	004	018
SGTCKRS4	004	01C
SGTCPUTM	008	008
SGTEPOCH	008	010
SGTHIRES	004	000
SGTITMIP	001	0FF
SGTITMNI	001	000
SGTITMST	001	021
SGTLORES	004	004

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HCPSHQBK— SPOOL HOLD QUEUE

DSECT NAME: SHQBK

DESCRIPTIVE NAME: SPOOL HOLD QUEUE

FUNCTION: EACH SHQBK IDENTIFIES ONE USER WHOSE PRINT AND/OR PUNCH OUTPUT IS TO BE HELD, OR IS NOT ALLOWED TO TO LOGON.

LOCATED BY:

THE FIRST SHQBK IS ADDRESSED BY 'SYSHOLQ' IN THE SYSTEM COMMON AREA. THERE ARE THIRTY-TWO CONTIGUOUS ENTRIES IN THE ARRAY.

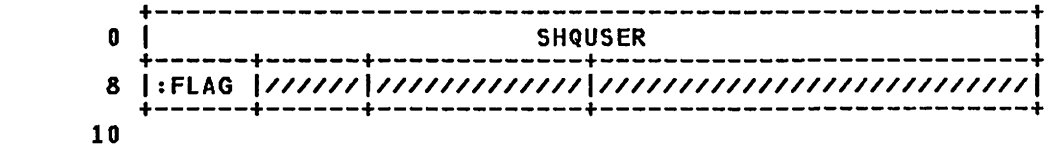
CREATED BY:

THE EXPANSION OF HCPSYS

DELETED BY:

NOT DELETED

SHQBK - SPOOL HOLD QUEUE



disp	name	length	description
000	SHQUSER	008	USER WHOSE FILES ARE TO BE HELD
008	SHQFLAG	001	STATUS FLAGS

BITS DEFINED IN SHQFLAG (AT HEX DISPLACEMENT: 8)

80	SHQHLOG	USERID CAN'T LOGON
40	SHQHPUN	HOLD ALL PUNCH OUTPUT
20	SHQHPRT	HOLD ALL PRINTER OUTPUT
009	X	RESERVED FOR FUTURE IBM USE
00A	H	RESERVED FOR FUTURE IBM USE
00C	F	RESERVED FOR FUTURE IBM USE

EQUATES

02	SHQSIZE	BLOCK LENGTH IN DBL-WORDS
10	SHQBSIZE	BLOCK LENGTH IN BYTES
20	SHQCNT	NUMBER OF ENTRIES IN HOLD QUEUE
40	SHQTOTSZ	SIZE OF ENTIRE HOLD QUEUE

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
SHQBK	001	000	SHQHLOG	001	080	SHQTOTSZ	032	040
SHQBSIZE	001	010	SHQHPRT	001	020	SHQUSER	008	000
SHQCNT	032	020	SHQHPUN	001	040			
SHQFLAG	001	008	SHQSIZE	001	002			

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HCPSHRBK— SHARE BLOCK

DSECT NAME: SHRBK

DESCRIPTIVE NAME: SHARE BLOCK

FUNCTION: THIS BLOCK IS USED TO KEEP TRACK OF EACH NSS OR DCSS THAT A USER IS ATTACHED TO.

LOCATED BY:

ALL SHRBKS FOR THE NSS AND/OR DCSSS THAT THE VIRTUAL MACHINE USER IS ACCESSING ARE CHAINED TOGETHER IN A LIST ANCHORED OFF THE VMDBK.
VMDSHRPT IS THE POINTER TO THE FIRST SHRBK FOR THIS USER. A ZERO POINTER INDICATES THAT THE USER'S CHAIN IS EMPTY.
SHRFWDPT IS THE POINTER TO THE NEXT SHRBK IN THE USER'S CHAIN. THE CHAIN END IS INDICATED WHEN SHRFWDPT IS ZERO.

- ALL SHRBKS FOR USERS USING A SPECIFIC SNTBK ARE CHAINED TOGETHER IN A DOUBLY LINKED LIST ANCHORED OFF THE SNTBK. THIS LIST REPRESENTS ALL USERS WHO HAVE LOADED THE NSS OR DCSS.
SNTSHRPT IS THE POINTER TO THE FIRST SHRBK IN THE CHAIN FOR THIS SNTBK. A ZERO POINTER INDICATES THAT THE CHAIN IS EMPTY.
SHRQUEFW IS THE POINTER TO THE NEXT SHRBK IN THE CHAIN FOR THIS SNTBK. THE CHAIN END IS INDICATED WHEN SHRQUEFW IS ZERO.
SHRQUEBK IS THE POINTER TO THE PREVIOUS SHRBK IN THE CHAIN FOR THIS SNTBK.

CREATED BY:

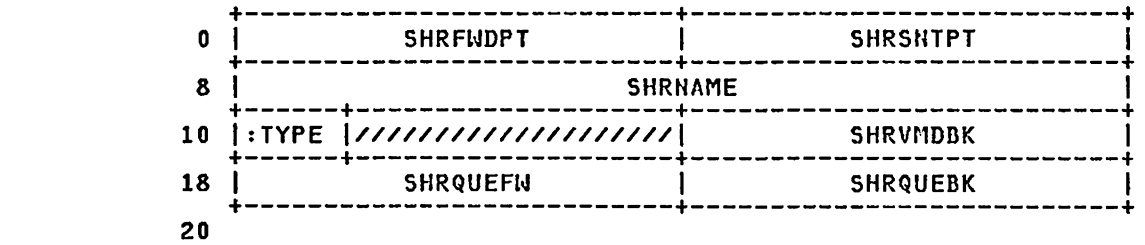
HCPNSL WHEN LOADING AN NSS OR DCSS.

DELETED BY:

HCPNSP - WHEN THE USER PURGES THE DCSS.
HCPNSP - WHEN THE USER IPLS A SYSTEM, ALL

BLK HCPBLK (CP) VM/XA - SYSTEM PRODUCT 5664-308

SHRBK - SHARE BLOCK



disp	name	length	description
000	SHRFWDPT	004	FORWARD POINTER TO THIS USER'S NEXT SHRBK.
004	SHRSNTPT	004	POINTER TO THE SNTBK FOR THIS NSS OR DCSS.
008	SHRNAME	008	THE NAME FOR THIS NSS OR DCSS.
010	SHRFLAGS	004	FLAGS FOR SHRBK.
010	SHRTYPE	001	TYPE INFORMATION BYTE.

BITS DEFINED IN SHRTYPE (AT HEX DISPLACEMENT: 10)

01	SHREXCL	THIS BIT INDICATES THAT THE NSS OR DCSS IS AN EXCLUSIVE COPY.

011		3X	RESERVED FOR IBM USE.
014	SHRVMDBK	004	
018	SHRQUEFW	004	NEXT SHRBK ON A CHAIN OF SHRBKS ASSOCIATED WITH A SPECIFIC SNTBK.
01C	SHRQUEBK	004	PREV.SHRBK ON A CHAIN OF SHRBKS ASSOCIATED WITH A SPECIFIC SNTBK.

EQUATES

04	SHRSIZE	BLOCK IN DOUBLE WORDS.

CROSS REFERENCE

Name	Len	Value/Disp
SHRBK	001	000
SHREXCL	001	001
SHRFLAGS	004	010
SHRFWDPT	004	000
SHRNAME	008	008
SHRQUEBK	004	01C
SHRQUEFW	004	018
SHRSCALE	001	010
SHRSIZE	001	004
SHRSNTPT	004	004
SHRTYPE	001	010
SHRVMDBK	004	014

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HCPSIABK— SPOOL ID ALLOCATION MAP

DSECT NAME: SIABK

DESCRIPTIVE NAME: SPOOL ID ALLOCATION MAP

FUNCTION: TO DETERMINE WHICH SPOOL FILE IDS HAVE BEEN ALLOCATED

LOCATED BY:

N/A

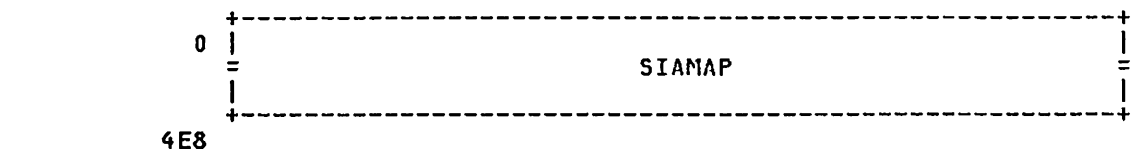
CREATED BY:

HCPFIT BITMAP SUBROUTINE

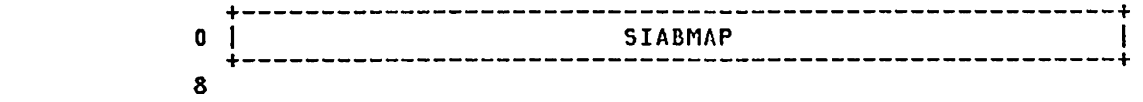
DELETED BY:

HCPFIT BITMAP SUBROUTINE

SIABK - SPOOL ID ALLOCATION MAP



REDEFINITION - REDEFINITION OF ONE BIT MAP



disp	name	length	description
000	SIAMAP	008	ENTIRE ALLOCATION MAP

EQUATES

9D	SIASIZE	SIZE IN DOUBLE WORDS

REDEFINITION - REDEFINITION OF ONE BIT MAP

000	SIABMAP	008	ONE 64 BIT MAP
008	SIANEXT	008	NEXT 64 BIT MAP

CROSS REFERENCE

Name	Len	Value/Disp
SIABK	001	000
SIABMAP	008	000
SIAMAP	008	000
SIANEXT	008	008
SIASIZE	001	09D

HCPSIDBK— SYSTEM ID LIST

DSECT NAME: SIDBK

DESCRIPTIVE NAME: SYSTEM ID LIST

FUNCTION: CONTAINS THE SYSTEM ID FOR EACH PROCESSOR UPON WHICH THE SYSTEM IS EXPECTED TO BE IPL'D. THIS ID WILL APPEAR ON THE LOGO PRIOR TO LOGGING ON A USER AND ON SEPARATOR PAGES OF SPOOLED PRINTER OUTPUT.

LOCATED BY:

SYSIDL FIELD OF HCPSYSCM

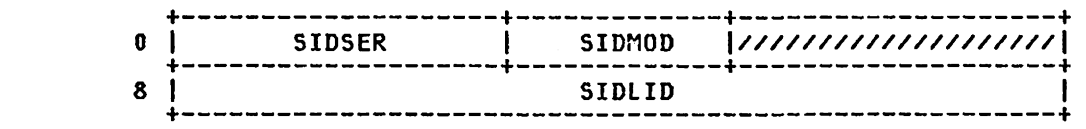
CREATED BY:

HCPSYS ASSEMBLY (SYSGEN) IF THERE IS A SYSID MACRO

DELETED BY:

NONE

SIDBK - SYSTEM ID LIST



disp	name	length	description
000	SIDCPU	008	CPUID - ALL F'S INDICATE DEFAULT ENTRY WHICH IS LAST
000	SIDSER	003	SERIAL NUMBER
003	SIDMOD	002	MODEL
005		XL3	RESERVED FOR HARDWARE USE
008	SIDLID	008	LOCAL ID

EQUATES

02	SIDSIZE	NUMBER OF DOUBLE WORDS PER ENTRY

CROSS REFERENCE

Name	Len	Value/Disp
SIDBK	001	000
SIDCPU	008	000
SIDLID	008	008
SIDMOD	002	003
SIDSER	003	000
SIDSIZE	001	002

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HCPSIEBK— SIE STATE DESCRIPTOR BLOCK

DSECT NAME: SIEBK

DESCRIPTIVE NAME: SIE STATE DESCRIPTOR BLOCK

FUNCTION: THIS AREA DESCRIBES THE GUEST MACHINE TO THE EMULATION HARDWARE. THIS CONTROL BLOCK IS USED TO REFER TO A STATE DESCRIPTOR WHICH IS THE OPERAND OF A GUEST SIE INSTRUCTION. THE STATE DESCRIPTOR USED BY THE HOST CONTROL PROGRAM TO RUN A GUEST IS IMBEDDED AND DESCRIBED IN VMDBK COPY. THIS CONTROL BLOCK IS DEFINED BY PROCESSOR ARCHITECTURE.

LOCATED BY:

OFFSET 100 INTO THE V/SIE VMDBK (WHICH IS IDENTIFIED BY VMDTYPE = VMDTYPSI)

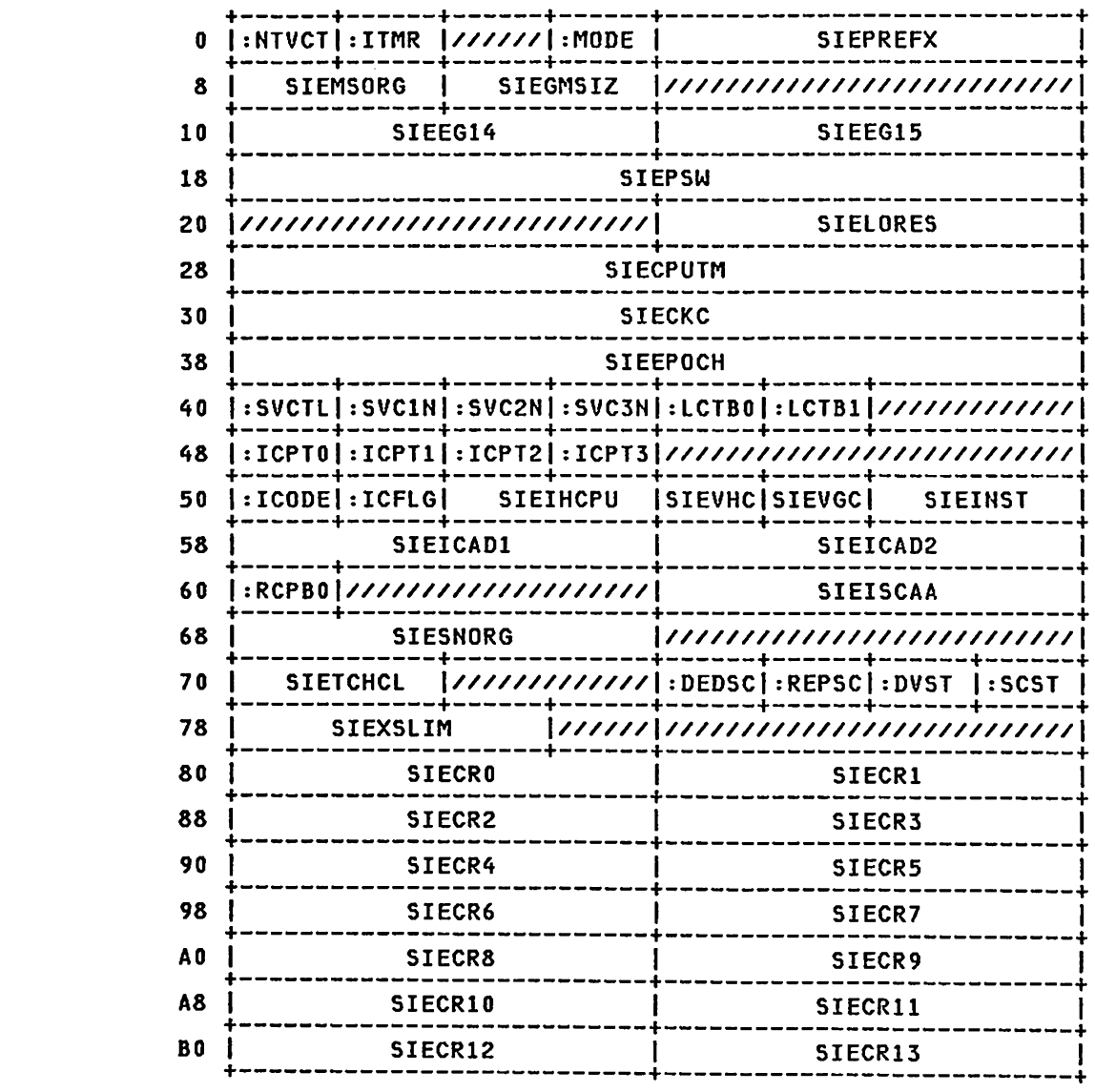
CREATED BY:

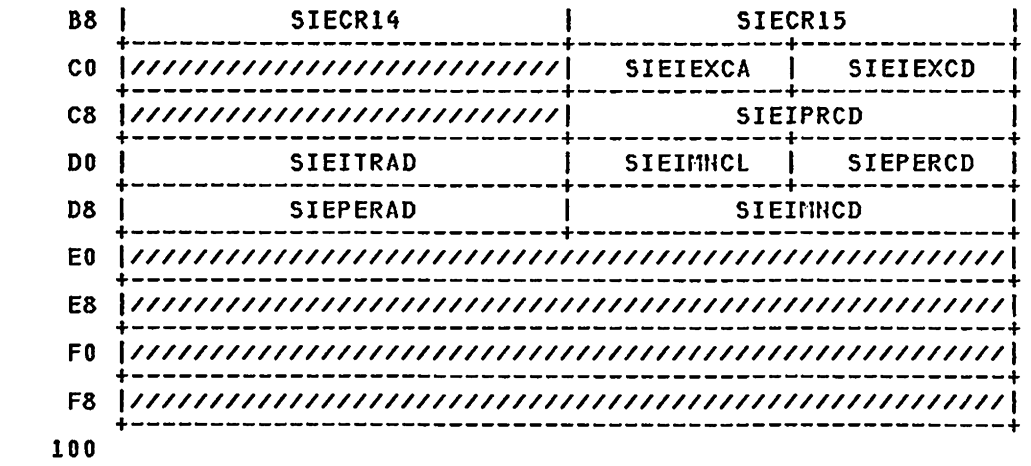
HCPWSIE

DELETED BY:

HCPWSIFR

SIEBK - SIE STATE DESCRIPTOR BLOCK





disp	name	length	description
000	SIESDSC	256	GUEST MACHINE STATE DESCRIPTOR
000	SIENTVCT	001	EMULATION INTERVENTION CONTROL
			BITS DEFINED IN SIENTVCT (AT HEX DISPLACEMENT: 0)
	04	SIEIPSTP	SIE STOPPING CONTROL
	02	SIEIPVIO	I/O INTERRUPTION PENDING
	01	SIEIPEXT	EXTERNAL INTERRUPTION PENDING
001	SIEITMR	001	INTERVAL TIMER INTERRUPT STATUS
			BITS DEFINED IN SIEITMR (AT HEX DISPLACEMENT: 1)
	80	SIEITMRI	INTERVAL TIMER IRPT PENDING
002		X	RESERVED FOR IBM HARDWARE USE
003	SIEMODE	001	GUEST MACHINE MODE CONTROLS
			BITS DEFINED IN SIEMODE (AT HEX DISPLACEMENT: 3)
	40	SIEVCCIN	VECTOR CHANGE CONTROL : INTERCEPTION MODE
	20	SIEXA	SYS 370/XA MODE GUEST MACHINE
	10	SIE370	SYSTEM/370 MODE GUEST MACHINE
	08	SIEVR	V=R GUEST (PREFERRED STORAGE) STORAGE FOR THE V=R GUEST IS MAPPED SO THAT GUEST ABSOLUTE ADDRESSES ARE EQUAL TO HOST ABSOLUTE ADDRESSES.
	04	SIEITMOF	GUEST INTERVAL TIMER DISABLED (APPLIES ONLY TO SYSTEM/370 MODE GUEST MACHINES)
004	SIEPREFX	004	GUEST PREFIX REGISTER VALUE
008	SIEMSORG	002	GUEST REAL MAIN STORAGE ORIGIN
00A	SIEGMSIZ	002	GUEST REAL MAIN STORAGE EXTENT THIS FIELD DEFINES THE GUEST STORAGE SIZE TO THE EMULATION HARDWARE. THE FIELD CONTAINS BITS 1-15 OF THE HIGHEST ADDRESS WHICH MAY BE USED BY THE GUEST. EMULATION CONSIDERS STORAGE TO BE IN 64K INCREMENTS. THIS IS THE NUMBER OF 64K BLOCKS LESS ONE OF GUEST STORAGE.
00C		F	RESERVED FOR IBM HARDWARE USE
010	SIEEG14	004	GUEST GPR 14 FOR SIE USE ONLY
014	SIEEG15	004	GUEST GPR 15 FOR SIE USE ONLY
018	SIEPSW	008	GUEST PSW
020		F	RESERVED FOR IBM SOFTWARE USE
024	SIELORES	004	INTERVAL TIMER RESIDUE COUNTER THE INTERVAL TIMER RESIDUE COUNTER IS IN THE FORMAT OF THE TOD CLOCK, AND CONTAINS GUEST CPU TIME WHICH HAS NOT YET BEEN APPLIED TO THE GUEST INTERVAL TIMER. IT IS USED TO COLLECT SHORT INCREMENTS OF

```
                          CPU TIME UNTIL 3.333 MILLISECONDS HAS BEEN
                          ACCUMULATED, AT WHICH POINT THE GUEST INTERVAL TIMER
                          IS DECREMENTED AND THE RESIDUE COUNTER IS REDUCED
                          BY 3.333 MILLISECONDS.
028   SIECPUTM   008      GUEST CPU TIMER VALUE
030   SIECKC     008      GUEST CLOCK COMPARATOR VALUE
038   SIEEPOCH   008      GUEST TIME-OF-DAY CLOCK EPOCH
                          TO DEFINE DELTA BETWEEN HOST
                          TOD CLOCK AND GUEST TOD CLOCK.
                          EPOCH IS ADDED TO HOST TOD CLOCK
                          VALUE TO OBTAIN GUEST TOD CLOCK
                          VALUE.
040   SIESVCTL   001      SVC INTERCEPTION CONTROLS

        BITS DEFINED IN SIESVCTL (AT HEX DISPLACEMENT: 40)

        80    SIESVCNN    INTERCEPT ALL SVC INSTRUCTIONS
        40    SIESVC1C    INTERCEPT ON SVC NUMBER IN SVC1N
        20    SIESVC2C    INTERCEPT ON SVC NUMBER IN SVC2N
        10    SIESVC3C    INTERCEPT ON SVC NUMBER IN SVC3N

041   SIESVC1N   001      INTERCEPT SVC NUMBER FIRST ID
042   SIESVC2N   001      INTERCEPT SVC NUMBER SECOND ID
043   SIESVC3N   001      INTERCEPT SVC NUMBER THIRD ID
044   SIELCTLS   002      LCTL INTERCEPTION CONTROLS
044   SIELCTB0   001      LCTL INTERCEPTION, CR0-CR7

        BITS DEFINED IN SIELCTB0 (AT HEX DISPLACEMENT: 44)

        80    SIELCTL0    INTERCEPT LCTL CR0
        40    SIELCTL1    INTERCEPT LCTL CR1
        20    SIELCTL2    INTERCEPT LCTL CR2
        10    SIELCTL3    INTERCEPT LCTL CR3
        08    SIELCTL4    INTERCEPT LCTL CR4
        04    SIELCTL5    INTERCEPT LCTL CR5
        02    SIELCTL6    INTERCEPT LCTL CR6
        01    SIELCTL7    INTERCEPT LCTL CR7

045   SIELCTB1   001      LCTL INTERCEPTION, CR8-CR15

        BITS DEFINED IN SIELCTB1 (AT HEX DISPLACEMENT: 45)

        80    SIELCTL8    INTERCEPT LCTL CR8
        40    SIELCTL9    INTERCEPT LCTL CR9
        20    SIELCTLA    INTERCEPT LCTL CR10
        10    SIELCTLB    INTERCEPT LCTL CR11
        08    SIELCTLC    INTERCEPT LCTL CR12
        04    SIELCTLD    INTERCEPT LCTL CR13
        02    SIELCTLE    INTERCEPT LCTL CR14
        01    SIELCTLF    INTERCEPT LCTL CR15

046             H         RESERVED FOR IBM HARDWARE USE
048   SIEICTLS   008      INTERCEPTION CONTROLS
048   SIEICPT0   001      INTERCEPTION CONTROLS, BYTE 0

        BITS DEFINED IN SIEICPT0 (AT HEX DISPLACEMENT: 48)

        80    SIEICPOP    INTERCEPT OPERATION EXCEPTION
                          PROGRAM INTERRUPTIONS
        40    SIEICPRO    INTERCEPT PRIVILEGED OPERATION
                          PROGRAM INTERRUPTIONS
        20    SIEICPRG    INTERCEPT PROGRAM INTERRUPTIONS
        08    SIEICTS     INTERCEPT TEST AND SET (TS)
                          INSTRUCTIONS WHEN CC=1
        04    SIEICCS     INTERCEPT COMPARE AND SWAP (CS)
                          INSTRUCTIONS WHEN CC=1
        02    SIEICCDS    INTERCEPT COMPARE DOUBLE AND
                          SWAP (CDS) INSTRUCTIONS WHEN
                          CC=1
        01    SIEICIPT    INTERCEPT INVALIDATE PAGE TABLE
                          ENTRY INSTRUCTIONS (IPTE)

049   SIEICPT1   001      INTERCEPTION CONTROLS, BYTE 1
                          X'80'          RESERVED FOR FUTURE IBM USE
```

BITS DEFINED IN SIEICPT1 (AT HEX DISPLACEMENT: 49)

40	SIEICLPS	INTERCEPT LOAD PSW (LPSW) INSTRUCTIONS
20	SIEICPTL	INTERCEPT PURGE TLB (PTLB) INSTRUCTIONS
10	SIEICSSM	INTERCEPT SET SYSTEM MASK (SSM) INSTRUCTIONS
04	SIEICSTC	INTERCEPT STORE CONTROL (STCTL) INSTRUCTIONS
02	SIEICSTN	INTERCEPT STORE-THEN-AND SYSTEM MASK (STNSM) INSTRUCTIONS
01	SIEICSTO	INTERCEPT STORE-THEN-OR SYSTEM MASK (STOSM) INSTRUCTIONS

04A SIEICPT2 001 INTERCEPTION CONTROLS, BYTE 2

BITS DEFINED IN SIEICPT2 (AT HEX DISPLACEMENT: 4A)

80	SIEICSTK	INTERCEPT STORE CLOCK (STCK) INSTRUCTIONS
40	SIEICISK	INTERCEPT INSERT STORAGE KEY (ISK) AND INSERT STORAGE KEY EXTENDED (ISKE) INSTRUCTIONS
20	SIEICSSK	INTERCEPT SET STORAGE KEY (SSK) AND SET STORAGE KEY EXTENDED (SSKE) INSTRUCTIONS
10	SIEICRRB	INTERCEPT RESET REFERENCE BIT (RRB) AND RESET REFERENCE BIT EXTENDED (RRBE) INSTRUCTIONS
08	SIEICPC	INTERCEPT PROGRAM CALL (PC) INSTRUCTIONS
04	SIEICPT	INTERCEPT PROGRAM TRANSFER (PT) INSTRUCTIONS
02	SIEICTPT	INTERCEPT TEST PROTECTION (TPROT) INSTRUCTIONS
01	SIEICLSP	INTERCEPT LOAD ADDRESS SPACE PARAMETERS (LASP) INSTRUCTIONS

04B SIEICPT3 001 INTERCEPTION CONTROLS, BYTE 3

BITS DEFINED IN SIEICPT3 (AT HEX DISPLACEMENT: 4B)

80	SIEICVAS	INTERCEPT SAVE VECTOR ACTIVITY COUNT (VACSV) INSTRUCTION
40	SIEICSPT	INTERCEPT SET CPU TIMER (SPT) AND STORE CPU TIMER (STPT) INSTRUCTIONS
20	SIEICSCK	INTERCEPT SET CLOCK COMPARATOR (SCKC) AND STORE CLOCK COMPARATOR (STCKC) INSTRUCTIONS
10	SIEICVAR	INTERCEPT RESTORE VECTOR ACTIVITY COUNT (VACRS) INSTRUCTION
02	SIEICPG	INTERCEPT PAGE-IN (PGIN) AND PAGE-OUT (PGOUT) INSTRUCTIONS.

04C 4X RESERVED FOR IBM HARDWARE USE

050 SIEICODE 001 INTERCEPTION EVENT CODE.
THIS FIELD DESCRIBES A GUEST CONDITION DETECTED BY THE EMULATION HARDWARE (USUALLY) WHICH REQUIRES SOFTWARE INTERVENTION OR SIMULATION.
SIEICODE CODE DEFINITIONS EMULATION INTERCEPT EVENT CODE

CODES DEFINED IN SIEICODE (AT HEX DISPLACEMENT: 50)

00	SIEENDOP	RESERVED FOR IBM SOFTWARE USE
04	SIEICNTC	INSTRUCTION INTERCEPTION. A GUEST INSTRUCTION WAS FOUND BY EMULATION HARDWARE WHICH IS NOT EMULATED, OR WHICH WAS REQUESTED

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                                FOR INTERCEPTION IN THE
                                INTERCEPTION CONTROLS.
          08      SIEICPNT      PROGRAM INTERRUPT INTERCEPTION
          0C      SIEICBOT      BOTH INSTRUCTION AND PROGRAM
                                INTERRUPT INTERCEPTIONS
                                (OCCURRS WITH LCTL, TS, CS, CDS
                                INSTRUCTIONS WITH A PER EVENT.)
          10      SIEICPEX      PENDING EXTERNAL INTERRUPT
          14      SIEICXNT      EXTERNAL INTERRUPT INTERCEPTION
          18      SIEICPIO      PENDING I/O INTERRUPT INTERCEPT
          1C      SIEICWT       WAIT STATE INTERCEPTION
          20      SIEICVAL      VALIDITY INTERCEPTION
          24      SIEIMISC      SOFTWARE USE ONLY
          28      SIEICSTP      STOP INTERCEPTION
          2C      SIEICOUO      OPERATION EXCEPTION INTERCEPTION

051   SIEICFLG    001           INSTRUCTION INTERCEPT MODIFIER

          BITS DEFINED IN SIEICFLG (AT HEX DISPLACEMENT: 51)

          80      SIEICIN       INTERCEPT FORMAT 2 (INSTR TEXT);
                                0 FOR FORMAT 1 (EFFECTIVE ADDRS)
          02      SIEICIF       INSTRUCTION FETCH EVENT (P.E.R)
          01      SIEICEX       THE INTERCEPTED INSTRUCTION WAS
                                THE SUBJECT OF AN EXECUTE INST.

052   SIEIHCPU    002           HOST CPU ADDRESS THAT LAST
                                ENTERED EMULATION MODE FOR THIS
                                STATE DESCRIPTION
054   SIEVCP      002           VECTOR CHANGE PRESERVATION AREA
054   SIEVHC      001           VECTOR HOST CHANGE BIT
                                PRESERVATION
055   SIEVGC      001           VECTOR GUEST CHANGE BIT
                                PRESERVATION
                                FOR INSTR INTERCEPT FORMAT 2:
056   SIEINSTR    006           ENTIRE INSTRUCTION TEXT
                                FOR INSTR INTERCEPT FORMAT 1:
056   SIEINST     002           INTERCEPTED INSTRUCTION BIT 0-15
058   SIEICAD1    004           INTERCEPTED INSTRUCTION OPERAND
                                EFFECTIVE ADDRESS (RS, RX)
                                OR 000000R1R2 (RRE)
05C   SIEICAD2    004           INTERCEPTED INSTR OPERAND ADDR.
                                (SS FORMAT INSTRUCTIONS)
060   SIERCP      004           RCP-AREA HOST VIRTUAL ADDRESS

          BITS DEFINED IN SIERCPB0 (AT HEX DISPLACEMENT: 60)

060   SIERCPB0    001           BYTE ZERO, FLAGS FOR STORAGE KEY
                                ASSIST

          BITS DEFINED IN SIERCPB0 (AT HEX DISPLACEMENT: 60)

          80      SIESKAEN      STORAGE KEY ASSIST ENABLED
          40      SIESKAIP      STORAGE KEY ASSIST IN PROGRESS

061               3X            RESERVED WITH SKA ACTIVE
064   SIEISCAA    004           SYSTEM CONTROL AREA ADDRESS
068   SIESNORG    004           SUBCHANNEL NUMBER TABLE ORIGIN
06C               F             RESERVED FOR IBM HARDWARE USE
070   SIETCHCL    002           TCH INTERCEPTION CONTROLS
072               H             RESERVED FOR IBM HARDWARE USE
074   SIEIOPCT    004           I/O PASSTHROUGH CONTROL
074   SIEDEDSC    001           DEDICATED SUBCLASS CONTROL

          BITS DEFINED FOR SIEDEDSC BY HCPEQUAT CR6B0

075   SIEREPSC    001           REPLACEMENT ISC NUMBER

          CODES DEFINED FOR SIEREPSC BY HCPEQUAT CSWIRCF

076   SIEDVSCS    002           IRB DS MASK
076   SIEDVST     001           DEVICE STATUS BYTE OF THE IRB DS
                                MASK. THE CONTENTS OF THIS FIELD
                                ARE ANDED WITH THE DEVICE STATUS
```

BYTE OF THE IRB BY TSCH TO SEE
IF TYPE B INFORMATION IS PRESENT.

BITS DEFINED FOR SIEDVST BY HCPEQUAT CSWDVST

077	SIESCST	001	SUBCHANNEL STATUS BYTE OF THE IRB DS MASK. THE CONTENTS OF THIS FIELD ARE ANDED WITH THE SUBCHANNEL STATUS BYTE OF THE IRB BY TSCH TO SEE IF TYPE B INFORMATION IS PRESENT.

BITS DEFINED FOR SIESCST BY HCPEQUAT CSWSCST

078	SIEXSLIM	003	EXTENDED STORAGE UPPER LIMIT BLOCK ADDRESS.
07B		X	RESERVED FOR IBM HARDWARE USE
07C		F	RESERVED FOR IBM HARDWARE USE
080	SIECRS	064	GUEST CONTROL REGISTERS 0-16
080	SIECR0	004	GUEST CONTROL REGISTER 0
084	SIECR1	004	GUEST CONTROL REGISTER 1
088	SIECR2	004	GUEST CONTROL REGISTER 2
08C	SIECR3	004	GUEST CONTROL REGISTER 3
090	SIECR4	004	GUEST CONTROL REGISTER 4
094	SIECR5	004	GUEST CONTROL REGISTER 5
098	SIECR6	004	GUEST CONTROL REGISTER 6
09C	SIECR7	004	GUEST CONTROL REGISTER 7
0A0	SIECR8	004	GUEST CONTROL REGISTER 8
0A4	SIECR9	004	GUEST CONTROL REGISTER 9
0A8	SIECR10	004	GUEST CONTROL REGISTER 10
0AC	SIECR11	004	GUEST CONTROL REGISTER 11
0B0	SIECR12	004	GUEST CONTROL REGISTER 12
0B4	SIECR13	004	GUEST CONTROL REGISTER 13
0B8	SIECR14	004	GUEST CONTROL REGISTER 14
0BC	SIECR15	004	GUEST CONTROL REGISTER 15
			INTERRUPTION INTERCEPTION AREA (APPROXIMATELY MAPS GUEST STORAGE X'80' TO X'9F')
0C0		F	RESERVED FOR IBM HARDWARE USE
0C4	SIEIEXCA	002	EXTERNAL INTERRUPTION CPU ADDR
0C6	SIEIEXCD	002	EXTERNAL INTERRUPTION CODE
0C8		F	RESERVED FOR IBM HARDWARE USE
0CC	SIEIPRCD	004	PROGRAM INTERRUPT ILC AND CODE
0D0	SIEITRAD	004	TRANSLATION EXCEPTION ADDRESS
0D4	SIEIMNCL	002	MONITOR CLASS CODE
0D6	SIEPERCD	002	PER CLASS CODE
0D8	SIEPERAD	004	PER EVENT INSTRUCTION ADDRESS
0DC	SIEIMNCD	004	MONITOR CODE
0E0		D	RESERVED FOR IBM HARDWARE USE
0E8		D	RESERVED FOR IBM HARDWARE USE
0F0		D	RESERVED FOR IBM HARDWARE USE
0F8		D	RESERVED FOR IBM HARDWARE USE

EQUATES

00	SIEBLEN	BLOCK SIZE IN BYTES

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
SIEBK	001	000	SIECRS	064	080	SIECR11	004	0AC
SIEBLEN	001	100	SIECR0	004	080	SIECR12	004	0B0
SIECKC	008	030	SIECR1	004	084	SIECR13	004	0B4
SIECPUTM	008	028	SIECR10	004	0A8	SIECR14	004	0B8

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Name	Len	Value/Disp	Name	Len	Value/Disp
SIECR15	004	0BC	SIEIMNCL	002	0D4
SIECR2	004	088	SIEINST	002	056
SIECR3	004	08C	SIEINSTR	006	056
SIECR4	004	090	SIEIOPCT	004	074
SIECR5	004	094	SIEIPEXT	001	001
SIECR6	004	098	SIEIPRCD	004	0CC
SIECR7	004	09C	SIEIPSTP	001	004
SIECR8	004	0A0	SIEIPVIO	001	002
SIECR9	004	0A4	SIEISCAA	004	064
SIEDEDSC	001	074	SIEITMOF	001	004
SIEDVSCS	002	076	SIEITMR	001	001
SIEDVST	001	076	SIEITMRI	001	080
SIEEG14	004	010	SIEITRAD	004	0D0
SIEEG15	004	014	SIELCTB0	001	044
SIEENDOP	001	000	SIELCTB1	001	045
SIEEPOCH	008	038	SIELCTLA	001	020
SIEGMSIZ	002	00A	SIELCTLB	001	010
SIEICAD1	004	058	SIELCTLC	001	008
SIEICAD2	004	05C	SIELCTLD	001	004
SIEICBOT	001	00C	SIELCTLE	001	002
SIEICCDS	001	002	SIELCTLF	001	001
SIEICCS	001	004	SIELCTLS	002	044
SIEICEX	001	001	SIELCTL0	001	080
SIEICFLG	001	051	SIELCTL1	001	040
SIEICIF	001	002	SIELCTL2	001	020
SIEICIN	001	080	SIELCTL3	001	010
SIEICIPT	001	001	SIELCTL4	001	008
SIEICISK	001	040	SIELCTL5	001	004
SIEICLPS	001	040	SIELCTL6	001	002
SIEICLSP	001	001	SIELCTL7	001	001
SIEICNTC	001	004	SIELCTL8	001	080
SIEICODE	001	050	SIELCTL9	001	040
SIEICOUO	001	02C	SIELORES	004	024
SIEICPC	001	008	SIEMODE	001	003
SIEICPEX	001	010	SIEMSORG	002	008
SIEICPG	001	002	SIENTVCT	001	000
SIEICPIO	001	018	SIEPERAD	004	0D8
SIEICPNT	001	008	SIEPERCD	002	0D6
SIEICPOP	001	080	SIEPREFX	004	004
SIEICPRG	001	020	SIEPSW	008	018
SIEICPRO	001	040	SIERCP	004	060
SIEICPT	001	004	SIERCPB0	001	060
SIEICPTL	001	020	SIEREPSC	001	075
SIEICPT0	001	048	SIESCST	001	077
SIEICPT1	001	049	SIESDSC	256	000
SIEICPT2	001	04A	SIESKAEN	001	080
SIEICPT3	001	04B	SIESKAIP	001	040
SIEICRRB	001	010	SIESNORG	004	068
SIEICSCK	001	020	SIESVCHN	001	080
SIEICSPT	001	040	SIESVCTL	001	040
SIEICSSK	001	020	SIESVC1C	001	040
SIEICSSM	001	010	SIESVC1N	001	041
SIEICSTC	001	004	SIESVC2C	001	020
SIEICSTK	001	080	SIESVC2N	001	042
SIEICSTN	001	002	SIESVC3C	001	010
SIEICSTO	001	001	SIESVC3N	001	043
SIEICSTP	001	028	SIETCHCL	002	070
SIEICTLS	008	048	SIEVCCIN	001	040
SIEICTPT	001	002	SIEVCP	002	054
SIEICTS	001	008	SIEVGC	001	055
SIEICVAL	001	020	SIEVHC	001	054
SIEICVAR	001	010	SIEVR	001	008
SIEICVAS	001	080	SIEXA	001	020
SIEICWT	001	01C	SIEXSLIM	003	078
SIEICXNT	001	014	SIE370	001	010
SIEIEXCA	002	0C4			
SIEIEXCD	002	0C6			
SIEIHCPU	002	052			
SIEIMISC	001	024			
SIEIMNCD	004	0DC			

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HCPSILBK— SPOOL 3800 IMAGE LOAD BLOCK

DSECT NAME: SILBK

DESCRIPTIVE NAME: SPOOL 3800 IMAGE LOAD BLOCK

FUNCTION: TO CONTAIN INFORMATION INDICATING WHAT IMAGES OR CONTROL DATA ARE CURRENTLY LOADED IN THE 3800 PRINTER.

LOCATED BY:

RSPSIL FIELD IN THE RSPBK

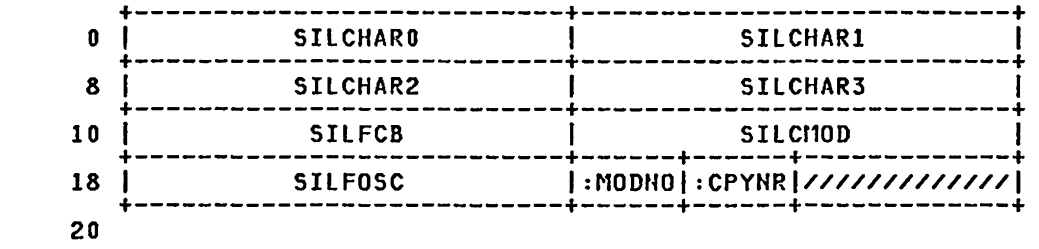
CREATED BY:

HCPSILOP - OPEN IMAGE LIBRARY ROUTINE

DELETED BY:

HCPSLDCP - SPOOL CLOSE 3800 PRINTER ROUTINE

SILBK - SPOOL 3800 IMAGE LOAD BLOCK



disp	name	length	description
000	SILCHARS	016	LENGTH OF CHAR. ARR. TBL. NAMES
000	SILCHAR0	004	1ST CHAR. ARR. TBL. NOW IN 3800
004	SILCHAR1	004	2NT CHAR. ARR. TBL. NOW IN 3800
008	SILCHAR2	004	3RT CHAR. ARR. TBL. NOW IN 3800
00C	SILCHAR3	004	4TH CHAR. ARR. TBL. NOW IN 3800
010	SILFCB	004	FCB NOW LOADED IN THE 3800
014	SILCMOD	004	COPY MODIF. NOW LOADED IN 3800

EQUATES

18	SILLSIZE	SILBK LIBRARY IMAGES SIZE

018	SILFOSC	004	FORMS OVERLAY SEQ. CTL. BYTES
01C	SILMODNO	001	COPY MODIF. INDEX NOW LOADED
01D	SILCPYNR	001	COPY NUMBER NOW LOADED
01E		XL2	RESERVED FOR FUTURE IBM USE

EQUATES

20	SILBSIZE	SILBK SIZE IN BYTES
04	SILSIZE	SILBK SIZE IN DOUBLEWORDS

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CROSS REFERENCE

Name	Len	Value/Disp
SILBK	001	000
SILBSIZE	001	020
SILCHARS	016	000
SILCHAR0	004	000
SILCHAR1	004	004
SILCHAR2	004	008
SILCHAR3	004	00C
SILCMOD	004	014
SILCPYNR	001	01D
SILFCB	004	010
SILFOSC	004	018
SILLSIZE	001	018
SILMODNO	001	01C
SILSIZE	001	004

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SLHREC— SUBCHANNEL LOGOUT ERROR RECORD

DSECT NAME: SLHREC

DESCRIPTIVE NAME: SUBCHANNEL LOGOUT ERROR RECORD

FUNCTION: CONTAINS SUBCHANNEL LOGOUT DATA FOR ERROR RECORDING.

LOCATED BY:

GPR6 IN HCPIOE. THE ADDRESS IS PASSED TO HCPREC IN GPR1, AND HCPVER USES GPR9 TO ADDRESS THIS BLOCK.

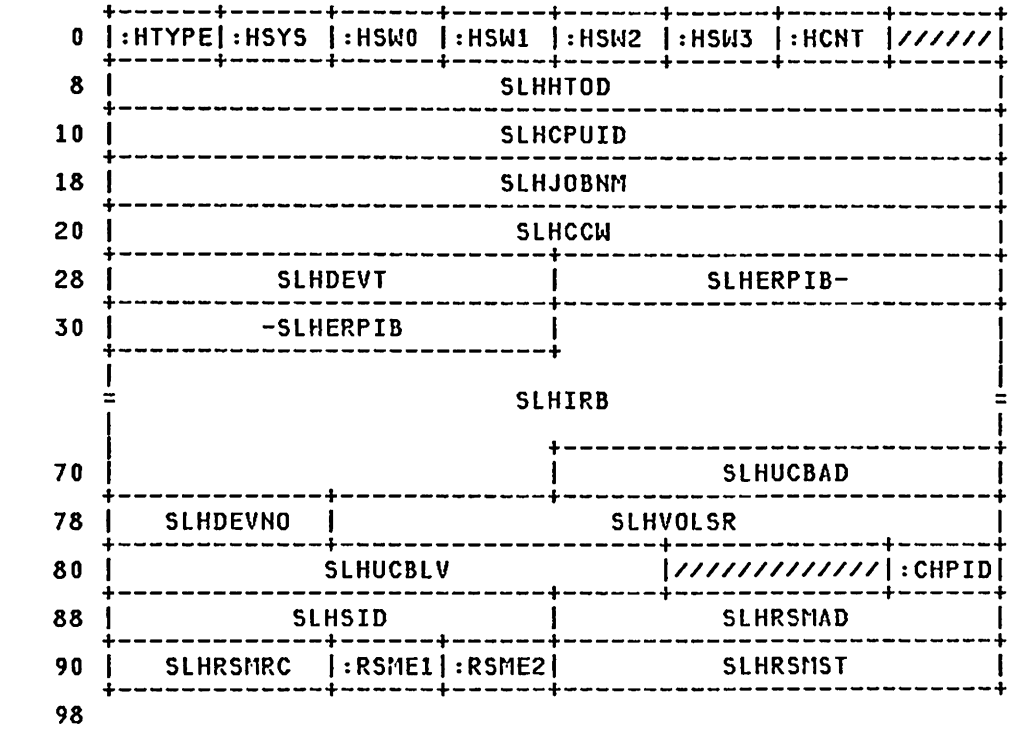
CREATED BY:

HCPRFC

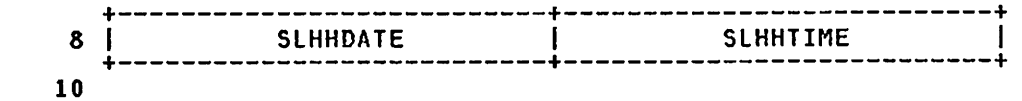
DELETED BY:

HCPIOE AFTER HCPREC HAS COPIED IT INTO A GSDBK.

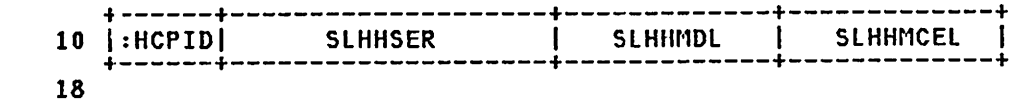
SLHREC - SUBCHANNEL LOGOUT ERROR RECORD



REDEFINITION - SLHHTOD



REDEFINITION - SLHCPUID



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disp	name	length	description
000	SLHHTYPE	001	CLASS/SOURCE
	CODES DEFINED IN SLHHTYPE (AT HEX DISPLACEMENT: 0)		
	23 SLHHTYSR		SLH RECORD
001	SLHHSYS	001	SYSTEM/RELEASE LEVEL
	BITS DEFINED FOR SLHHSYS BY HDRREC HDRHSYS		
002	SLHHSW0	001	RECORD INDEPENDENT SWITCHES
	BITS DEFINED FOR SLHHSW0 BY HDRREC HDRHSW0		
003	SLHHSW1	001	RESERVED REC DEPENDENT SWITCH 1
004	SLHHSW2	001	RESERVED REC DEPENDENT SWITCH 2
005	SLHHSW3	001	RESERVED REC DEPENDENT SWITCH 3
	EQUATES		
	01 SLHHARDF		HARD FAILURE - NOT RECOVERED - OPERATING SYSTEM MAY HAVE BEEN IMPACTED - A HARDWARE RESOURCE MAY HAVE BEEN LOST
	02 SLHDGRAD		DEGRADATION - FAILURE RECOVERED - NO FUNCTIONAL IMPACT - PERFORMANCE MAY BE DEGRADED - HARDWARE RESOURCE MAY HAVE BEEN LOST
	03 SLHSOFTF		SOFT FAILURE - FAILURE RECOVERED - NO FUNCTIONAL IMPACT - PERFORMANCE NOT DEGRADED - HARDWARE RESOURCE(S) NOT LOST
006	SLHHCNT	001	RECORD COUNT
	BITS DEFINED FOR SLHHCNT BY HDRREC HDRHCNT		
007		XL1	RESERVED FOR FUTURE IBM USE
008	SLHHTOD	008	TOD OF SYSTEM FAILURE
010	SLHCPUID	008	CPU ID
018	SLHJOBNM	008	JOBNAME OR USERID
020	SLHCCW	008	LAST EXECUTED CCW IF AVAILABLE
028	SLHDEVT	004	DEVICE TYPE
02C	SLHERPIB	008	ERP INFORMATION BLOCK (MVS ONLY)
034	SLHIRB	064	IRB - INCLUDES SCSW & ESW
074	SLHUCBAD	004	UCB ADDRESS / RDEV ADDRESS
078	SLHDEVNO	002	DEVICE NUMBER
07A	SLHVOLSR	006	VOLUME SERIAL NUMBER
080	SLHUCBLV	005	UCB LEVEL BYTE AND MASK (MVS ONLY)
085		XL2	RESERVED FOR FUTURE IBM USE
087	SLHCHPID	001	CHANNEL PATH ID
088	SLHSID	004	SUBCHANNEL ID NUMBER
08C	SLHRSMAD	004	ABSOLUTE ADDR OF STORAGE OR KEY ERRORS, IF AVAILABLE
090	SLHRSMRC	002	RSM RTN CODE FOR STORAGE OR KEY ERROR (MVS ONLY)
092	SLHRSME1	001	ERROR TYPE
093	SLHRSME2	001	ERROR TYPE
	BITS DEFINED IN SLHRSME2 (AT HEX DISPLACEMENT: 93)		
	02 SLHRSMKE		KEY ERROR
	01 SLHRSMSE		STORAGE ERROR
094	SLHRSMST	004	RSM STATUS INFORMATION (MVS ONLY)
	EQUATES		
	98 SLHLEN		LENGTH OF SLRREC
	13 SLHSIZE		SLHREC SIZE IN DOUBLE WORDS

REDEFINITION - SLHHTOD

008	SLHHDATE	004	SYSTEM DATE OF FAILURE
00C	SLHHTIME	004	SYSTEM TIME OF FAILURE

REDEFINITION - SLHCPUID

010	SLHHCPID	001	MACHINE VERSION CODE
011	SLHHSER	003	CPU SERIAL NUMBER
014	SLHHMDL	002	CPU MACHINE MODEL NUMBER
016	SLHHMCEL	002	MAX LENGTH OF MACHINE-DEPENDENT MACHINE CHECK EXTENDED LOGOUT

CROSS REFERENCE

Name	Len	Value/Disp
SLHCCW	008	020
SLHCHPID	001	087
SLHCPUID	008	010
SLHDEVNO	002	078
SLHDEVT	004	028
SLHDGRAD	001	002
SLHERPIB	008	02C
SLHHARDF	001	001
SLHHCNT	001	006
SLHHCPID	001	010
SLHHDATE	004	008
SLHHMCEL	002	016
SLHHMDL	002	014
SLHHSER	003	011
SLHHSW0	001	002
SLHHSW1	001	003
SLHHSW2	001	004
SLHHSW3	001	005
SLHHSYS	001	001
SLHHTIME	004	00C
SLHHTOD	008	008
SLHHTYPE	001	000
SLHHTYSR	001	023
SLHIRB	064	034
SLHJOBNM	008	018
SLHLEN	001	098
SLHREC	001	000
SLHRSMAD	004	08C
SLHRSME1	001	092
SLHRSME2	001	093
SLHRSMKE	001	002
SLHRSMRC	002	090
SLHRSMSE	001	001
SLHRSMST	004	094
SLHSID	004	088
SLHSIZE	001	013
SLHSOFTF	001	003
SLHUCBAD	004	074
SLHUCBLV	005	080
SLHVOLSR	006	07A

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HCPSNSBK— SENSE DATA BLOCK

DSECT NAME: SNSBK

DESCRIPTIVE NAME: SENSE DATA BLOCK

FUNCTION: THE SENSE DATA DEFINITION BLOCK.

LOCATED BY:

N/A

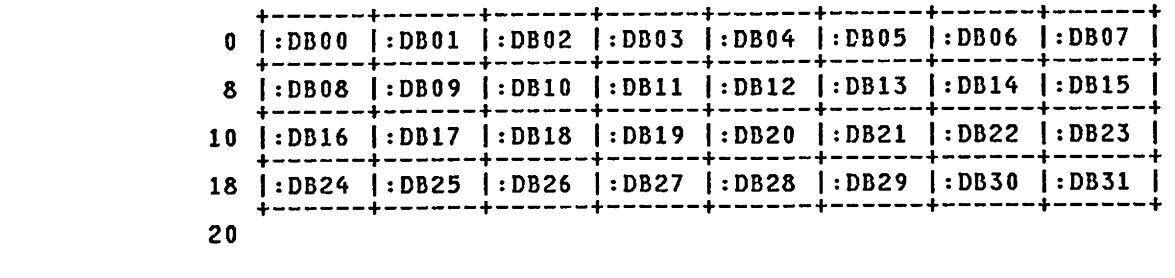
CREATED BY:

N/A

DELETED BY:

N/A

SNSBK - SENSE DATA BLOCK



disp	name	length	description
000	SNSDATA	001	
000	SNSDB00	001	SENSE DATA BYTE 0
001	SNSDB01	001	SENSE DATA BYTE 1
002	SNSDB02	001	SENSE DATA BYTE 2
003	SNSRCNT	001	SENSE RESIDUAL COUNT (DASD)
003	SNSDB03	001	SENSE DATA BYTE 3
004	SNSDB04	001	SENSE DATA BYTE 4
005	SNSBKID	002	SENSE BLOCK LOCATION ID (TAPE)
005	SNSSEEK	002	SENSE SEEK ADDRESS (DASD)
005	SNSDB05	001	SENSE DATA BYTE 5
006	SNSDB06	001	SENSE DATA BYTE 6
007	SNSDB07	001	SENSE DATA BYTE 7
008	SNSEARCH	005	SENSE SEARCH ARGUMENT (DASD)
008	SNSDB08	001	SENSE DATA BYTE 8
009	SNSDB09	001	SENSE DATA BYTE 9
00A	SNSDB10	001	SENSE DATA BYTE 10
00B	SNSDB11	001	SENSE DATA BYTE 11
00C	SNSDB12	001	SENSE DATA BYTE 12
00D	SNSDB13	001	SENSE DATA BYTE 13
00E	SNSDB14	001	SENSE DATA BYTE 14
00F	SNSDB15	001	SENSE DATA BYTE 15
010	SNSDB16	001	SENSE DATA BYTE 16
011	SNSDB17	001	SENSE DATA BYTE 17
012	SNSDB18	001	SENSE DATA BYTE 18
013	SNSDB19	001	SENSE DATA BYTE 19
014	SNSDB20	001	SENSE DATA BYTE 20
015	SNSDB21	001	SENSE DATA BYTE 21
016	SNSDB22	001	SENSE DATA BYTE 22
017	SNSDB23	001	SENSE DATA BYTE 23
018	SNSDB24	001	SENSE DATA BYTE 24
019	SNSDB25	001	SENSE DATA BYTE 25
01A	SNSDB26	001	SENSE DATA BYTE 26
01B	SNSDB27	001	SENSE DATA BYTE 27
01C	SNSDB28	001	SENSE DATA BYTE 28
01D	SNSDB29	001	SENSE DATA BYTE 29
01E	SNSDB30	001	SENSE DATA BYTE 30
01F	SNSDB31	001	SENSE DATA BYTE 31

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CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
SNSABORT	001	001	SNSDRPS	001	080	SNSPFCB	001	020
SNSBCKA4	001	004	SNSDSHFT	001	003	SNSPFCBB	001	0E6
SNSBK	001	000	SNSDSKCK	001	001	SNSPFCBC	001	0E7
SNSBKID	002	005	SNSDTCK	001	008	SNSPFCBL	001	008
SNSBSCK	001	020	SNSDTRKC	001	002	SNSPFCBM	001	0E4
SNSCED40	001	800	SNSDTRKO	001	040	SNSPFCBS	001	0E8
SNSCED50	001	230	SNSDWRIN	001	002	SNSPFCBT	001	0E5
SNSCH9AA	001	00A	SNSD35MB	001	001	SNSPFHIE	001	020
SNSCMPAT	001	008	SNSD40CE	001	010	SNSPFLCK	001	023
SNSCMREJ	001	080	SNSD50CE	001	080	SNSPFOIL	001	0E0
SNSCNTLR	001	0C0	SNSD70MB	001	002	SNSPFOSI	001	0F0
SNSCUTOF	001	001	SNSEARCH	005	008	SNSPGCSF	001	0F2
SNSDAHED	001	01F	SNSECCC	001	050	SNSPHMRF	001	008
SNSDATA	001	000	SNSECCU	001	040	SNSPHYSA	001	007
SNSDA256	001	020	SNSEOT	001	020	SNSPIFCC	001	010
SNSDA512	001	040	SNSEQCAB	001	00B	SNSPIFOS	001	010
SNSDBLF	001	080	SNSEQCA5	001	005	SNSPILPI	001	040
SNSDB00	001	000	SNSEQCA6	001	006	SNSPIMCH	001	0F6
SNSDB01	001	001	SNSEQCA7	001	007	SNSPINCM	001	020
SNSDB02	001	002	SNSEQCK	001	010	SNSPINVC	001	080
SNSDB03	001	003	SNSFORMT	001	0F0	SNSPINVL	001	080
SNSDB04	001	004	SNSHCYLD	001	060	SNSPINVW	001	080
SNSDB05	001	005	SNSHCYL3	001	040	SNSPINV3	001	001
SNSDB06	001	006	SNSHCYL7	001	0C0	SNSPIHWG	001	0EB
SNSDB07	001	007	SNSHCYL8	001	030	SNSPIRBC	001	012
SNSDB08	001	008	SNSHCY8E	001	070	SNSPIRBT	001	014
SNSDB09	001	009	SNSHCY8X	001	0F0	SNSPIRFW	001	011
SNSDB10	001	00A	SNSICMDS	001	002	SNSPIRNB	001	013
SNSDB11	001	00B	SNSINCOM	001	001	SNSPIRPB	001	008
SNSDB12	001	00C	SNSINTNR	001	006	SNSPLDCK	001	002
SNSDB13	001	00D	SNSINTRQ	001	040	SNSPLOVR	001	001
SNSDB14	001	00E	SNSIPLRQ	001	002	SNSPLPER	001	010
SNSDB15	001	00F	SNSIRA2	001	002	SNSPMCHR	001	008
SNSDB16	001	010	SNSIRA3	001	003	SNSPMLCH	001	084
SNSDB17	001	011	SNSLAPUA	001	007	SNSPMOTN	001	002
SNSDB18	001	012	SNSOVRUN	001	004	SNSPNCCM	001	083
SNSDB19	001	013	SNSPARCK	001	00F	SNSPNCHM	001	022
SNSDB20	001	014	SNSPBDCK	001	020	SNSPNFCM	001	010
SNSDB21	001	015	SNSPBLKD	001	040	SNSPNOTR	001	081
SNSDB22	001	016	SNSPBTS	001	010	SNSPNOTT	001	020
SNSDB23	001	017	SNSPBTTP	001	0FA	SNSPNRDY	001	080
SNSDB24	001	018	SNSPCHK1	001	001	SNSPNTRT	001	082
SNSDB25	001	019	SNSPCHN9	001	001	SNSPNWCG	001	004
SNSDB26	001	01A	SNSPCH9	001	00A	SNSPNWC0	001	040
SNSDB27	001	01B	SNSPCMRT	001	080	SNSPNWG0	001	0EC
SNSDB28	001	01C	SNSPCMSP	001	004	SNSPOIOB	001	002
SNSDB29	001	01D	SNSPCNCL	001	010	SNSPOPIN	001	003
SNSDB30	001	01E	SNSPCOIL	001	010	SNSPPGM	001	001
SNSDB31	001	01F	SNSPCPML	001	0E3	SNSPPLB	001	040
SNSDCKA1	001	001	SNSPCTLC	001	002	SNSPPPER	001	00B
SNSDENVD	001	010	SNSPDATE	001	0DE	SNSPPRPI	001	0ED
SNSDEOC	001	020	SNSPDREC	001	009	SNSPPRTL	001	0EE
SNSDFLOG	001	020	SNSPDXCT	001	0FB	SNSPRBNZ	001	0F1
SNSDFPE	001	004	SNSPEFM2	001	001	SNSPREDY	001	080
SNSDFXER	001	040	SNSPEFRM	001	004	SNSPRELF	001	007
SNSDIMPE	001	004	SNSPEIML	001	00D	SNSPRPA	001	020
SNSDINTV	001	008	SNSPELFL	001	020	SNSPRTCK	001	040
SNSDMOP	001	010	SNSPENDF	001	001	SNSPRTQL	001	020
SNSDNRF	001	008	SNSPEQHW	001	080	SNSPSYNC	001	002
SNSDPERM	001	080	SNSPEQPM	001	040	SNSPSYSR	001	008

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Name	Len	Value/Disp	Name	Len	Value/Disp
SNSPTRNL	001	0E2	SNSTPEO	001	038
SNSPTXTL	001	0EF	SNSTPEQ	001	02C
SNSPUCDE	001	006	SNSTRCHK	001	04C
SNSPUCNO	001	005	SNSTRDC	001	023
SNSPUCSB	001	080	SNSTSECE	001	008
SNSPUCSP	001	004	SNSTTAU	001	020
SNSPUNGC	001	002	SNSTTLE	001	037
SNSPUNPC	001	080	SNSTVOID	001	031
SNSPUNP3	001	0FC	SNSTVRBO	001	03B
SNSPWCGL	001	0E1	SNSTWDC	001	025
SNSPWGNL	001	0E9	SNSTWIM	001	028
SNSPWNSP	001	001	SNST7TRK	001	010
SNSP3203	001	084	SNSUSOE	001	060
SNSP3262	001	022	SNSXCOMR	001	020
SNSP4245	001	023	SNSXCTLC	001	002
SNSRCNT	001	003	SNSXDATC	001	004
SNSRGCOL	001	086	SNSXDEVB	001	008
SNSRGCS	001	085	SNSXDEVE	001	002
SNSRGEXH	001	087	SNSXEQCH	001	008
SNSRGIRM	001	088	SNSXFUDG	001	080
SNSRGNUL	001	000	SNSXINTR	001	010
SNSRGPSS	001	030	SNSXLDTA	001	002
SNSRGPT	001	084	SNSXONE	001	040
SNSRGUA	001	081	SNSXOPCH	001	001
SNSRGVAL	001	08A	SNSXTIME	001	001
SNSRPRMK	001	001	SNSXTRCH	001	001
SNSRPRMS	001	080	SNSXUNSP	001	004
SNSRRTAI	001	010	SNS3SHFT	001	002
SNSRSNT	001	008	SNS30256	001	040
SNSRUNUS	001	002	SNS3344	001	008
SNSSDCC	001	030	SNS40HED	001	00F
SNSSEEK	002	005	SNS7SHFT	001	002
SNSTAAEW	001	001	SNS75HED	001	00F
SNSTBISE	001	041	SNS75256	001	040
SNSTBLDA	001	02A	SNS75512	001	080
SNSTBLDB	001	02B	SNS8SHFT	001	004
SNSTBUSO	001	049	SNS80HED	001	00F
SNSTBWAB	001	039	SNS801K	001	040
SNSTCCRR	001	048	SNS802K	001	080
SNSTCMDR	001	027	SNS80256	001	010
SNSTCUA	001	04B	SNS80512	001	020
SNSTCUE	001	047			
SNSTCUF	001	04A			
SNSTDAE	001	045			
SNSTDCRO	001	026			
SNSTDDA	001	040			
SNSTDEC	001	035			
SNSTDEGR	001	042			
SNSTDNO	001	046			
SNSTDPL	001	036			
SNSTDRBO	001	03A			
SNSTDSE	001	02D			
SNSTDSNO	001	021			
SNSTDTCV	001	001			
SNSTFPRO	001	002			
SNSTFPRT	001	030			
SNSTF21	001	021			
SNSTIREQ	001	043			
SNSTLAST	001	032			
SNSTLBUS	001	044			
SNSTLDPT	001	008			
SNSTLDSP	001	024			
SNSTLOAD	001	033			
SNSTMUNL	001	034			
SNSTNCBE	001	02E			
SNSTNES	001	000			
SNSTNOCP	001	001			
SNSTNOIS	001	080			
SNSTPEBM	001	010			
SNSTPEC	001	022			

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HCPSNSID— SENSE ID DATA MAPPING

DSECT NAME: SNSID

DESCRIPTIVE NAME: SENSE ID DATA MAPPING

FUNCTION: MAP THE DATA RETURNED BY A SENSE ID CCW

LOCATED BY:

NONE

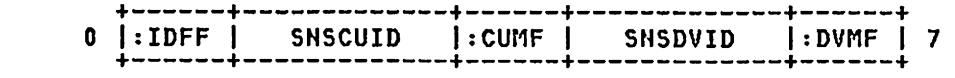
CREATED BY:

NONE

DELETED BY:

NONE

SNSID - SENSE ID DATA MAPPING



disp	name	length	description
000	SNSIDFF	001	X'FF' FILLER
001	SNSIDATA	006	DATA PORTION OF SENSE ID DATA
001	SNSCUID	002	CONTROL UNIT ID
003	SNSCUMF	001	CONTROL UNIT MODEL/FEATURE CODES
004	SNSDVID	002	DEVICE ID
006	SNSDVMF	001	DEVICE MODEL/FEATURE CODES

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
SNSABORT	001	001	SNSDINTV	001	008	SNSEQCA7	001	007
SNSBCKA4	001	004	SNSDMOP	001	010	SNSEQCK	001	010
SNSBSCK	001	020	SNSDNRF	001	008	SNSFORMT	001	0F0
SNSCED40	001	800	SNSDPERM	001	080	SNSHCYLD	001	060
SNSCED50	001	230	SNSDRPS	001	080	SNSHCYL3	001	040
SNSCH9AA	001	00A	SNSDSHFT	001	003	SNSHCYL7	001	0C0
SNSCMPAT	001	008	SNSDSKCK	001	001	SNSHCYL8	001	030
SNSCMREJ	001	080	SNSDTCK	001	008	SNSHCY8E	001	070
SNSCNTLR	001	0C0	SNSDTRKC	001	002	SNSHCY8X	001	0F0
SNSCUID	002	001	SNSDTRKO	001	040	SNSICMDS	001	002
SNSCUMF	001	003	SNSDVID	002	004	SNSID	001	000
SNSCUTOF	001	001	SNSDVMF	001	006	SNSIDATA	006	001
SNSDAHED	001	01F	SNSDWRIN	001	002	SNSIDFF	001	000
SNSDA256	001	020	SNSD35MB	001	001	SNSINCOM	001	001
SNSDA512	001	040	SNSD40CE	001	010	SNSINTNR	001	006
SNSDBLF	001	080	SNSD50CE	001	080	SNSINTRQ	001	040
SNSDCKA1	001	001	SNSD70MB	001	002	SNSIPLRQ	001	002
SNSDENVD	001	010	SNSECCC	001	050	SNSIRA2	001	002
SNSDEOC	001	020	SNSECCU	001	040	SNSIRA3	001	003
SNSDFLOG	001	020	SNSEOT	001	020	SNSLAPUA	001	007
SNSDFPE	001	004	SNSEQCAB	001	00B	SNSOVRUN	001	004
SNSDFXER	001	040	SNSEQCA5	001	005	SNSPARCK	001	00F
SNSDIMPE	001	004	SNSEQCA6	001	006	SNSPBDCK	001	020

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Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
SNSPBLKD	001	040	SNSPPLB	001	040	SNSTLDPT	001	008
SNSPBTS	001	010	SNSPPPER	001	00B	SNSTLDSP	001	024
SNSPBTTP	001	0FA	SNSPPRPI	001	0ED	SNSTLOAD	001	033
SNSPCHK1	001	001	SNSPPRTL	001	0EE	SNSTMUNL	001	034
SNSPCHN9	001	001	SNSPRBNZ	001	0F1	SNSTNCBE	001	02E
SNSPCH9	001	00A	SNSPREDY	001	080	SNSTNES	001	000
SNSPCMRT	001	080	SNSPRELF	001	007	SNSTNOCP	001	001
SNSPCMSP	001	004	SNSPRPA	001	020	SNSTNOIS	001	080
SNSPCNCL	001	010	SNSPRTCK	001	040	SNSTPEBM	001	010
SNSPCOIL	001	010	SNSPRTQL	001	020	SNSTPEC	001	022
SNSPCPML	001	0E3	SNSPSYNC	001	002	SNSTPEO	001	038
SNSPCTLC	001	002	SNSPSYSR	001	008	SNSTPEQ	001	02C
SNSPDATE	001	0DE	SNSPTRNL	001	0E2	SNSTRCHK	001	04C
SNSPDREC	001	009	SNSPTXTL	001	0EF	SNSTRDC	001	023
SNSPDXCT	001	0FB	SNSPUCDE	001	006	SNSTSECE	001	008
SNSPEFM2	001	001	SNSPUCNO	001	005	SNSTTAU	001	020
SNSPEFRM	001	004	SNSPUCSB	001	080	SNSTTLE	001	037
SNSPEIML	001	00D	SNSPUCSP	001	004	SNSTVOID	001	031
SNSPELFL	001	020	SNSPUNGC	001	002	SNSTVRBO	001	03B
SNSPENDF	001	001	SNSPUNPC	001	080	SNSTWDC	001	025
SNSPEQHW	001	080	SNSPUNP3	001	0FC	SNSTWIM	001	028
SNSPEQPM	001	040	SNSPWCGL	001	0E1	SNST7TRK	001	010
SNSPFCB	001	020	SNSPWGNL	001	0E9	SNSUSOE	001	060
SNSPFCBB	001	0E6	SNSPWNSP	001	001	SNSXCOMR	001	020
SNSPFCBC	001	0E7	SNSP3203	001	084	SNSXCTLC	001	002
SNSPFCBL	001	008	SNSP3262	001	022	SNSXDATC	001	004
SNSPFCBM	001	0E4	SNSP4245	001	023	SNSXDEVB	001	008
SNSPFCBS	001	0E8	SNSRGCOL	001	086	SNSXDEVE	001	002
SNSPFCBT	001	0E5	SNSRGCS	001	085	SNSXEQCH	001	008
SNSPFHIE	001	020	SNSRGEXH	001	087	SNSXFUDG	001	080
SNSPFLCK	001	023	SNSRGIRM	001	088	SNSXINTR	001	010
SNSPFOIL	001	0E0	SNSRGNUL	001	000	SNSXLDTA	001	002
SNSPFOSI	001	0F0	SNSRGPSS	001	030	SNSXONE	001	040
SNSPGCSF	001	0F2	SNSRGPT	001	084	SNSXOPCH	001	001
SNSPHMRF	001	008	SNSRGUA	001	081	SNSXTIME	001	001
SNSPHYSA	001	007	SNSRGVAL	001	08A	SNSXTRCH	001	001
SNSPIFCC	001	010	SNSRPRMK	001	001	SNSXUNSP	001	004
SNSPIFOS	001	010	SNSRPRMS	001	080	SNS3SHFT	001	002
SNSPILPI	001	040	SNSRRTAI	001	010	SNS30256	001	040
SNSPINCH	001	0F6	SNSRSNT	001	008	SNS3344	001	008
SNSPINCM	001	020	SNSRUNUS	001	002	SNS40HED	001	00F
SNSPINVC	001	080	SNSSDCC	001	030	SNS7SHFT	001	002
SNSPINVL	001	080	SNSTAAEW	001	001	SNS75HED	001	00F
SNSPINVW	001	080	SNSTBISE	001	041	SNS75256	001	040
SNSPINV3	001	001	SNSTBLDA	001	02A	SNS75512	001	080
SNSPINWG	001	0EB	SNSTBLDB	001	02B	SNS8SHFT	001	004
SNSPIRBC	001	012	SNSTBUSO	001	049	SNS80HED	001	00F
SNSPIRBT	001	014	SNSTBWAB	001	039	SNS801K	001	040
SNSPIRFW	001	011	SNSTCCRR	001	048	SNS802K	001	080
SNSPIRNB	001	013	SNSTCMDR	001	027	SNS80256	001	010
SNSPIRPB	001	008	SNSTCUA	001	04B	SNS80512	001	020
SNSPLDCK	001	002	SNSTCUE	001	047			
SNSPLOVR	001	001	SNSTCUF	001	04A			
SNSPLPER	001	010	SNSTDAE	001	045			
SNSPMCHR	001	008	SNSTDCRO	001	026			
SNSPMLCH	001	084	SNSTDDA	001	040			
SNSPNOTN	001	002	SNSTDEC	001	035			
SNSPNCCM	001	083	SNSTDEGR	001	042			
SNSPNCHM	001	022	SNSTDNO	001	046			
SNSPNFCM	001	010	SNSTDPL	001	036			
SNSPNOTR	001	081	SNSTDRBO	001	03A			
SNSPNOTT	001	020	SNSTDSE	001	02D			
SNSPNRDY	001	080	SNSTDSNO	001	021			
SNSPNTRT	001	082	SNSTDTCV	001	001			
SNSPNWCG	001	004	SNSTFPRO	001	002			
SNSPNWCO	001	040	SNSTFPRT	001	030			
SNSPNWGO	001	0EC	SNSTF21	001	021			
SNSPOIOB	001	002	SNSTIREQ	001	043			
SNSPOPIN	001	003	SNSTLAST	001	032			
SNSPPGM	001	001	SNSTLBUS	001	044			

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HCPSNTBK— SYSTEM NAME TABLE BLOCK

DSECT NAME: SNTBK

DESCRIPTIVE NAME: SYSTEM NAME TABLE BLOCK

FUNCTION: THIS BLOCK IS USED TO KEEP TRACK OF A SYSTEM DATA FILE THAT IS BROUGHT INTO THE SYSTEM.

LOCATED BY:

THE POINTER TO THIS CHAIN OF BLOCKS IS LOCATED IN HCPNSU, USING NSUNSYAN FOR NSSS, NSUNSGAN FOR DCSSS, AND NSUIMGAN FOR IMAGES.
- IN HCPSHRBK, POINTER SHRSNTPT WILL POINT TO THE ASSOCIATED HCPSNTBK.
- IN HCPPGMBK, USING THE PGMVM POINTER WILL POINT TO THE ASSOCIATED HCPSNTBK.
- SNTFWDPT WILL POINT TO THE NEXT HCPSNTBK IN THE CHAIN.
- THE END OF CHAIN IS LOCATED WHEN THE SNTFWDPT EQUALS THE ADDRESS OF NSUNSYAN, NSUNSGAN OR NSUIMGAN.
- IN HCPIMGBK, IMGSNTBK WILL POINT TO THE ASSOCIATED HCPSNTBK.

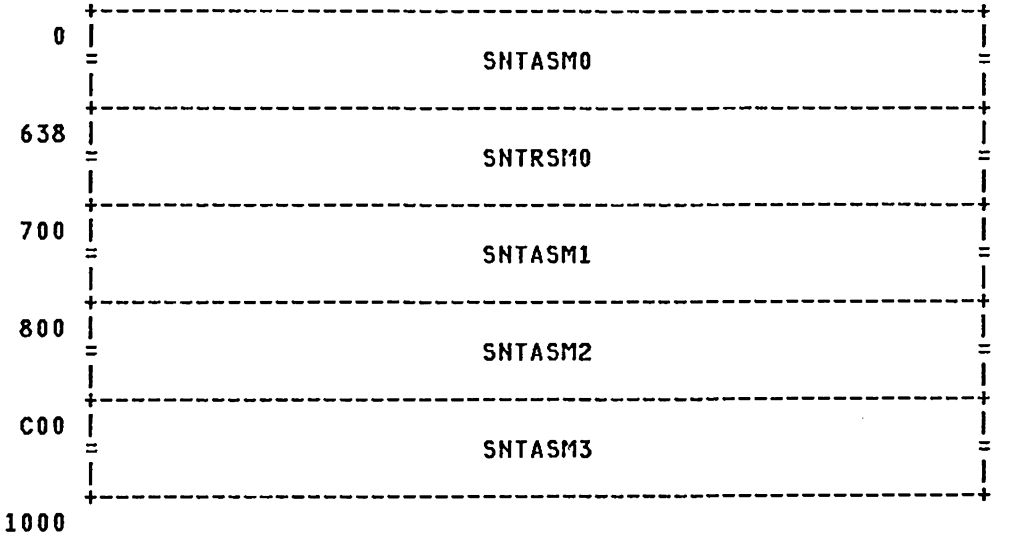
CREATED BY:

HCPNSL WHEN LOADING THE NSS OR DCSS FOR THE FIRST TIME.
- HCPNSD WILL BUILD THIS BLOCK FOR THE DURATION OF THE PROCESSING OF THE DEFSEG AND DEFSYS COMMANDS.
- HCPNSS WILL BUILD THIS BLOCK FOR THE DURATION OF THE PROCESSING OF THE SAVESEG AND SAVESYS COMMANDS.
- HCPNSI WILL BUILD THIS BLOCK FOR THE DURATION OF PROCESSING OF THE DIAGNOSE X'74' INSTRUCTION TO SAVE OR LOAD AN IMAGE.
- HCPNSR WILL BUILD THIS BLOCK WHEN OPENING AN IMAGE LIBRARY.

DELETED BY:

HCPNSP WILL DELETE THIS BLOCK WHEN THE COUNT FIELDS OF AN NSS OR DCSS GO TO ZERO. THE FIELDS ARE SNTUSRSH AND SNTUSREX.
- HCPNSD WILL DELETE THIS BLOCK AFTER PROCESSING THE DEFSEG OR DEFSYS COMMAND.
- HCPNSS WILL DELETE THIS BLOCK AFTER PROCESSING THE

SNTBK - SYSTEM NAME TABLE BLOCK



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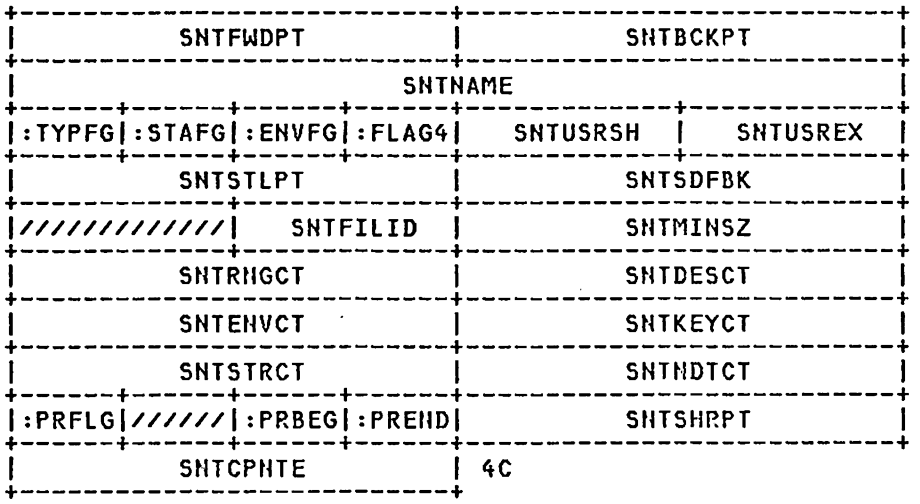
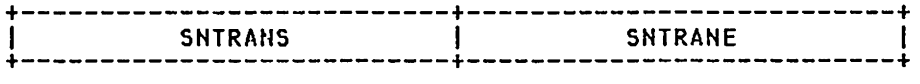
REDEFINITION - GENERAL INFORMATION

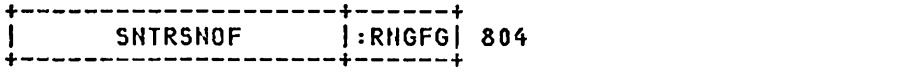


REDEFINITION - PAGE RANGE INFORMATION.

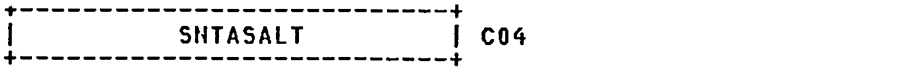
REDEFINITION - PAGE RANGE PAIR.



REDEFINITION - START PAGE OF RANGE PAIR.



REDEFINITION - VARIABLE LIST OF ASAS



disp	name	length	description
000	SNTASM0	008	GENERAL INFORMATION
638	SNTRSM0	008	REAL STORAGE MANAGEMENT (RSM) AREA
700	SNTASM1	008	RESERVED FOR IBM USE
800	SNTASM2	008	PAGE RANGE INFORMATION
C00	SNTASM3	008	IMAGE LIBRARY SPECIFIC INFORMATION

REDEFINITION - GENERAL INFORMATION

000	SNTFWDPT	004	FORWARD POINTER TO THE NEXT SNTBK.
004	SNTBCKPT	004	BACKWARD POINTER TO THE NEXT SNTBK.
008	SNTNAME	008	NAME OF THE NSS, DCSS OR IMAGE.

010	SNTFLAGS	004	FLAGS FOR THE SNTBK.
010	SNTTYPFG	001	TYPE INFORMATION FLAG.

BITS DEFINED IN SNTTYPFG (AT HEX DISPLACEMENT: 10)

011	SNTSTAFG	001	STATUS INFORMATION FLAG.

BITS DEFINED IN SNTSTAFG (AT HEX DISPLACEMENT: 11)

012	SNTENVFG	001	FLAG INFORMATION BYTE.

CODES DEFINED IN SNTENVFG (AT HEX DISPLACEMENT: 12)

013	SNTFLAG4	001	FLAG BYTE RESERVED FOR FUTURE USE.
014	SNTUSRSH	002	COUNT OF NSS OR DCSS USERS IN SHARED MODE OR COUNT OF ALL USERS OF AN IMAGE LIBRARY.
016	SNTUSREX	002	COUNT OF NSS OR DCSS USERS IN EXCLUSIVE MODE.
018	SNTSTLPT	004	POINTER TO THE STLBK. IT CONTAINS PGMBK INFO
01C	SNTSDFBK	004	POINTER TO THE SDFBK. USED TO COMMUNICATE WITH THE SDF SYSTEM.
020		H	RESERVED FOR IBM USE.
022	SNTFILID	002	FILE IDENTIFICATION NUMBER.
024	SNTMINSZ	004	INDICATES THE MINIMUM SIZE IN WHICH THE NSS CAN BE IPLED.
028	SNTRNGCT	004	COUNT OF VALID PAGE RANGE ENTRIES FOR AN NSS OR DCSS.
02C	SNTDESCT	004	COUNT OF DESCRIPTOR PAGES DEFINED FOR AN NSS, DCSS OR IMAGE.
030	SNTENVCT	004	COUNT OF ENVIRONMENT PAGES FOR AN NSS.
034	SNTKEYCT	004	COUNT OF KEY PAGES FOR AN NSS OR DCSS.
038	SNTSTRCT	004	COUNT OF STORAGE PAGES SAVED FOR AN NSS, DCSS OR IMAGE FILE.
03C	SNTNDTCT	004	COUNT OF STORAGE PAGES DEFINED WITH THE NO-DATA-SAVED ATTRIBUTE. THIS COUNT IS NOT CALCULATED UNTIL THE NSS OR DCSS IS SAVED. THE TOTAL NUMBER OF PAGES DEFINED IS SNTSTRCT+SNTNDTCT
040	SNTPRFLG	001	PARMREGS FLAGS

BITS DEFINED FOR SNTPRFLG BY HCPEQUAT SNTPRFLG

041		X	RESERVED FOR IBM USE
042	SNTPREGS	002	PARMREGS REGISTERS
042	SNTPRBEG	001	PARMREGS BEGINNING REGISTER
043	SNTPREND	001	PARMREGS ENDING REGISTER
044	SNTSHRPT	004	FORWARD ANCHOR FOR SHRBK CHAIN.
048	SNTCPNTE	004	CP NOTIFICATION ADDRESS - THIS ADDRESS WILL BE CALLED EACH TIME A VIRTUAL MACHINE RELEASES THE SYSTEM DATA FILE.

REDEFINITION - PAGE RANGE INFORMATION.

800	SNTRANGE	008	A PAIR OF START/END PAGE RANGES.

EQUATES

80	SNTPRMAX	THE MAXIMUM NUMBER OF PAGE RANGE ENTRIES PLUS ONE ENTRY FOR THE FENCE FOR NSSS AND DCSSS. IMAGES HAVE ONLY ONE PAGE RANGE.

REDEFINITION - PAGE RANGE PAIR.

800	SNTRANS	004	FIRST PAGE OF RANGE. THIS FIELD FOR NSSS AND DCSSS WILL CONTAIN A FLAG IN THE RIGHTMOST BYTE.
804	SNTRANE	004	LAST PAGE OF RANGE.

REDEFINITION - START PAGE OF RANGE PAIR.

800	SNTRSNOF	003	THE START PAGE RANGE MINUS THE FLAG BYTE. THE PAGE RANGE WILL BE IN THE FORM SSSPPOFF, WHERE SSS = SEGMENT NUMBER

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PP = PAGE NUMBER
0 = ALWAYS 0
FF = FLAG BYTE

803 SNTRNGFG 001 PAGE RANGE STORAGE TYPE FLAG FOR NSSS AND DCSSS.

BITS DEFINED IN SNTRNGFG (AT HEX DISPLACEMENT: 803)

01	SNTEXCL	THIS BIT INDICATES SEGMENTS THAT MAY NOT BE SHARED AMONG SEVERAL USERS. EACH USER GETS A SEPARATE COPY OF THIS SEGMENT.
02	SNTPROT	THIS BIT INDICATES PAGE RANGES THAT ARE PAGE PROTECTED. USERS MAY ACCESS THESE PAGES ONLY IN READ-ONLY MODE.
04	SNTNDAT	THIS BIT INDICATES PAGE RANGES WHOSE DATA IS NOT SAVED INTO THE SDF (NO DATA).

HOW PAGE DESCRIPTOR CODES CORRESPOND TO SETTINGS OF SNTRNGFG:

CODE	SNTRNGFG	SNTNDAT	SNTPROT	SNTEXCL
SW	000	0=DATA	0=UNPROTECTED (READ/WRITE)	0=SHARED
EW	001	0=DATA	0=UNPROTECTED (READ/WRITE)	1=EXCLUSIVE
SR	010	0=DATA	1=PROTECTED (READ-ONLY)	0=SHARED
ER	011	0=DATA	1=PROTECTED (READ-ONLY)	1=EXCLUSIVE
SN	100	1=NODATA	0=UNPROTECTED (READ/WRITE)	0=SHARED
EN	101	1=NODATA	0=UNPROTECTED (READ/WRITE)	1=EXCLUSIVE
SC	110	1=NODATA	1=PROTECTED (READ-ONLY)	0-SHARED
111	(RESERVED)			

00	SNTRNGSW	RANGE FLAG VALUE FOR 'SW'
01	SNTRNGEW	RANGE FLAG VALUE FOR 'EW'
02	SNTRNGSR	RANGE FLAG VALUE FOR 'SR'
03	SNTRNGER	RANGE FLAG VALUE FOR 'ER'
04	SNTRNGSN	RANGE FLAG VALUE FOR 'SN'
05	SNTRNGEN	RANGE FLAG VALUE FOR 'EN'
06	SNTRNGSC	RANGE FLAG VALUE FOR 'SC'
07	SNTRNGR2	RESERVED

REDEFINITION - VARIABLE LIST OF ASAS

C00 SNTASALT 004 ADDRESS OF THE NEXT PAGE IN THE ASA/VIRTUAL ADDRESS TABLE. THIS FIELD APPLIES ONLY TO IMAGES.

EQUATES

04	SNTNASA	NEXT ASA IN THE TABLE.

MORE EQUATES

80	SNTRSTD	THIS BIT INDICATES THAT THIS NSS OR DCSS HAS RESTRICTED USE AND MUST HAVE A NAMESAVE ENTRY IN THE USER'S DIRECTORY.
08	SNTCPUSE	THIS BIT INDICATES THIS IS A CP NSS/DCSS MEANING CP WILL WRITE TO THE PARTS OF THIS NSS/DCSS WITH RANGES DEFINED 'SC'.
04	SNTIMG	THIS BIT INDICATES THAT THIS IS AN IMAGE.
02	SNTSYS	THIS BIT INDICATES THAT THIS IS AN NSS.
01	SNTSEG	THIS BIT INDICATES THAT THIS IS A DCSS.
04	SNTABEND	THIS BIT INDICATES THAT AN ABEND SHOULD BE ISSUED WHEN THE AUXILIARY STORAGE MANAGER OR REAL STORAGE MANAGER IN USE COUNTS ARE NOT THE SAME.
01	SNTPENDP	THIS BIT INDICATES THAT THE NSS, DCSS OR IMAGE SHOULD BE PURGED WHEN THE TOTAL USER COUNT GOES TO ZERO.
01	SNT370MD	THIS BIT INDICATES 370 MODE MACHINE.
02	SNTXAMD	THIS BIT INDICATES XA MODE MACHINE.
0A	SNTAPMAX	THE MAXIMUM NUMBER OF ADDRESS ENTRIES IN THIS ASA/VIRTUAL ADDRESS TABLE FOR AN IMAGE.

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
SNTABEND	001	004	SNTUSRSH	002	014
SNTAPMAX	001	00A	SNTXAMD	001	002
SNTASALT	004	C00	SNT370MD	001	001
SNTASM0	008	000			
SNTASM1	008	700			
SNTASM2	008	800			
SNTASM3	008	C00			
SNTBCKPT	004	004			
SNTBK	001	000			
SNTCPNTE	004	048			
SNTCPUSE	001	008			
SNTDESCT	004	02C			
SNTENVCT	004	030			
SNTENVFG	001	012			
SNTEXCL	001	001			
SNTFILID	002	022			
SNTFLAGS	004	010			
SNTFLAG4	001	013			
SNTFWDPT	004	000			
SNTIMG	001	004			
SNTKEYCT	004	034			
SNTMINSZ	004	024			
SNTNAME	008	008			
SNTNASA	001	C04			
SNTNDAT	001	004			
SNTNDTCT	004	03C			
SNTPENDP	001	001			
SNTPRBEG	001	042			
SNTPRDEF	001	080			
SNTPREGS	002	042			
SNTPREND	001	043			
SNTPRFLG	001	040			
SNTPRMAX	001	080			
SNTPRNO	001	040			
SNTPROT	001	002			
SNTRANE	004	804			
SNTRANGE	008	800			
SNTRANS	004	800			
SNTRNGCT	004	028			
SNTRNGEN	001	005			
SNTRNGER	001	003			
SNTRNGEW	001	001			
SNTRNGFG	001	803			
SNTRNGR2	001	007			
SNTRNGSC	001	006			
SNTRNGSN	001	004			
SNTRNGSR	001	002			
SNTRNGSW	001	000			
SNTRSM0	008	638			
SNTRSNOF	003	800			
SNTRSTD	001	080			
SNTSDFBK	004	01C			
SNTSEG	001	001			
SNTSHRPT	004	044			
SNTSTAFG	001	011			
SNTSTLPT	004	018			
SNTSTRCT	004	038			
SNTSYS	001	002			
SNTTYPFG	001	010			
SNTUSREX	002	016			

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HCPSOTBK— SPOOL OPTIONS TABLE ENTRY BLOCK

DSECT NAME: SOTBK

DESCRIPTIVE NAME: SPOOL OPTIONS TABLE ENTRY BLOCK

FUNCTION: COMMUNICATION BLOCK BETWEEN SPOOLING COMMAND PARSER / PROCESSOR ROUTINES AND PARSE TABLE SCANNER ROUTINES. THIS BLOCK MAPS ONE PARSE TABLE ENTRY FOR THE SELECTED SPOOLING COMMAND OPTION.

LOCATED BY:

GENERAL REGISTER 2 IN THE FOLLOWING
ENTRY POINTS:
HCPCSPSP
HCPCSLOS
HCPSCSDT
HCPCSCOT

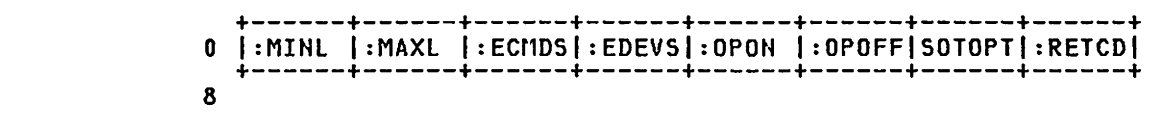
CREATED BY:

HCPCSPSP - SPOOL COMMAND PARSER / PROCESSOR
HCPCSLOS - CLOSE COMMAND PARSER / PROCESSOR

DELETED BY:

HCPCSPSP - SPOOL COMMAND PARSER / PROCESSOR
HCPCSLOS - CLOSE COMMAND PARSER / PROCESSOR

SOTBK - SPOOL OPTIONS TABLE ENTRY BLOCK



REDEFINITION - DEVICE TABLE ENTRY

disp	name	length	description
000	SOTMINL	001	MINIMUM LENGTH OF ARGUMENT
001	SOTMAXL	001	MAXIMUM LENGTH OF ARGUMENT
002	SOTECMDS	001	ELIGIBLE COMMANDS FOR ARG

BITS DEFINED IN SOTECMDS (AT HEX DISPLACEMENT: 2)

80	SOTSPOOL	SPOOL COMMAND ELIGIBLE
40	SOTCLCMD	CLOSE COMMAND ELIGIBLE
20	SOTSPTAP	SPTAPE COMMAND ELIGIBLE
10	SOTTRAN	TRANSFER COMMAND ELIGIBLE
08	SOTCHAN	CHANGE COMMAND ELIGIBLE

003	SOTEDEVS	001	ELIGIBLE DEVICES FOR ARGUMENT (TYPRDR, TYPPUN, TYPPRT)
004	SOTOPON	001	SET OPTION ON

BITS DEFINED IN SOTOPON (AT HEX DISPLACEMENT: 4)

80	SOTHOLD	HOLD OR NOHOLD OPTION
40	SOTKEEP	KEEP OR NOKEEP OPTION
20	SOTMSG	MSG OR NOMSG OPTION
10	SOTCONT	CONT OR NOCONT OPTION
08	SOTEOF	EOF OR NOEOF OPTION NOTE: IT ALSO USED FOR SYS OR NOSYS OPTION
04	SOTNAME	NAME OR NONAME OPTION

```
        02    SOTTERM     TERM OR NOTERM OPTION
        01    SOTSTART    START OR STOP OPTION

005   SOTOPOFF   001       SET OPTION ON

        BITS DEFINED FOR SOTOPOFF BY HCPSOTBK SOTOPON

006   SOTOPT     001       OPTIONS TO SET ON

        BITS DEFINED IN SOTOPT   (AT HEX DISPLACEMENT: 6)

        80    SOTCLOSE    CLOSE OPTION
        40    SOTPURGE    PURGE OPTION
        20    SOTLEAVE    LEAVE OPTION
        10    SOTREWND    REWIND OPTION
        08    SOTRUN      RUN OPTION
        04    SOTUSERH    USERHOLD OPTION
        02    SOTSYSH     SYSHOLD OPTION
        01    SOTALL      ALL OPTION

007   SOTRETCD   001       RETURN CODE FOR THIS ARGUMNT
008   SOTARG     001       ARGUMENT STARTS HERE

                    EQUATES

        08    SOTBSIZE    SIZE OF SOTBK IN BYTES
        01    SOTSIZE     SIZE OF SOTBK IN DBLWORDS


         REDEFINITION - DEVICE TABLE ENTRY

004   SOTDCLAS   001       DEVICE CLASS
005   SOTDTYP    001       DEVICE TYPE
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
SOTALL	001	001	SOTSIZE	001	001
SOTARG	001	008	SOTSPOOL	001	080
SOTBK	001	000	SOTSPTAP	001	020
SOTBSIZE	001	008	SOTSTART	001	001
SOTCHAN	001	008	SOTSYSH	001	002
SOTCLCMD	001	040	SOTTERM	001	002
SOTCLOSE	001	080	SOTTRAN	001	010
SOTCONT	001	010	SOTUSERH	001	004
SOTDCLAS	001	004			
SOTDTYP	001	005			
SOTECMDS	001	002			
SOTEDEVS	001	003			
SOTEOF	001	008			
SOTHOLD	001	080			
SOTKEEP	001	040			
SOTLEAVE	001	020			
SOTMAXL	001	001			
SOTMINL	001	000			
SOTMSG	001	020			
SOTNAME	001	004			
SOTOPOFF	001	005			
SOTOPON	001	004			
SOTOPT	001	006			
SOTPURGE	001	040			
SOTRETCD	001	007			
SOTREWND	001	010			
SOTRUN	001	008			

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HCPSPABK— SPOOL FILE ALLOCATION BLOCK

DSECT NAME: SPABK

DESCRIPTIVE NAME: SPOOL FILE ALLOCATION BLOCK

FUNCTION: TO CONTAIN A RECORD OF SYSTEM RESOURCES ALLOCATED TO A SPOOL FILE WHILE IT IS ACTIVE; EITHER BEING CREATED OR PROCESSED ON THE DESTINATION DEVICE. THESE RESOUCES INCLUDE ASA ALLOCATION AND RESERVED CP VIRTUAL PAGES.

LOCATED BY:

RSPSPA - FOR A SPOOL FILE ACTIVE ON A REAL SPOOLING DEVICE
VSPSPA - FOR A SPOOL FILE ACTIVE ON A VIRTUAL SPOOLING DEVICE

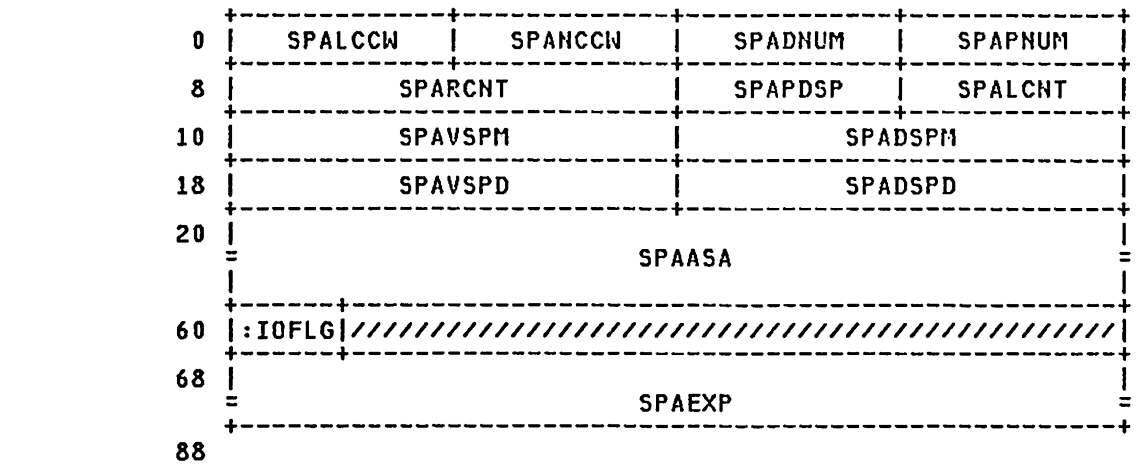
CREATED BY:

HCPSFPON - WHEN OPENING A NEW SPOOL FILE FOR CREATION
HCPSFPOR - WHEN OPENING A NEW SPOOL FILE FOR READING
HCPSFPOW - WHEN OPENING A NEW SPOOL FILE FOR WRITING

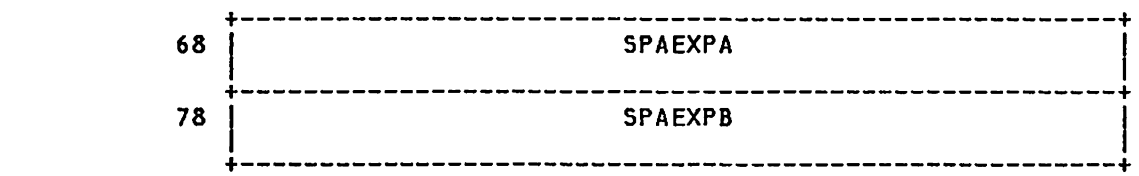
DELETED BY:

HCPSFRCL - WHEN PROCESSING IS COMPLETE FOR A SPOOL FILE ACTIVE ON A REAL SPOOL DEVICE, AND THE FILE IS TO BE PURGED
HCPSFPCN - WHEN A NEW OR UPDATED SPOOL FILE IS CLOSED
HCPSFPCR - WHEN A SPOOL FILE OPEN FOR READING IS CLOSED
HCPSFPON - WHEN AN ERROR OPENING A NEW SPOOL FILE IS ENCOUNTERED
HCPSFPOR - WHEN AN ERROR OPENING A SPOOL FILE FOR READING IS ENCOUNTERED
HCPSFPOW - WHEN AN ERROR OPENING A SPOOL FILE FOR WRITING IS ENCOUNTERED

SPABK - SPOOL FILE ALLOCATION BLOCK



REDEFINITION - REDEFINITION OF EXP BUFFER ASSIGNMENT



```
   88

        REDEFINITION - REDEFINITION OF EXP BUFFER SLOT

      +--------------------------+--------------------------+
   68 |          SPAEXPV         |          SPAEXPF         |
      +--------------------------+--------------------------+
   70
```

disp	name	length	description
000	SPALCCW	002	DISPLACEMENT TO WHERE LAST CCW WAS PUT
002	SPANCCW	002	DISPLACEMENT OF WHERE TO PUT NEXT CCW
004	SPADNUM	002	RELATIVE SPDBK NUMBER BEING PROCESSED
006	SPAPNUM	002	RELATIVE PAGE NUMBER OF CURRENT SPMBK
008	SPARCNT	004	NUMBER OF LOGICAL RECS PROCESSED SO FAR
00C	SPAPDSP	002	WHERE TO GET(PUT) NEXT 16 ASA'S
00E	SPALCNT	002	NO. LOGICAL RECS. LEFT THIS PAGE
010	SPAVSPM	004	VIRTUAL ADDRESS OF THE SPMBK
014	SPADSPM	004	DASD ADDRESS OF THE SPMBK
018	SPAVSPD	004	VIRTUAL ADDRESS OF THE SPDBK
01C	SPADSPD	004	DASD ADDRESS OF THE SPDBK
020	SPAASA	004	16 ASA'S OF SPDBK'S (SPOOL FILE DATA)
			EQUATES
	40 SPAMAPSZ		SIZE OF ASA MAP AREA
060	SPAIOFLG	001	IO PENDING FLAG
	BITS DEFINED IN SPAIOFLG (AT HEX DISPLACEMENT: 60)		
	80 SPAIOACT		IO ACTIVE - CANNOT START ANOTHER BUF
	40 SPAREADY		NEXT BUFFER READY TO GO
061	7X		RESERVED FOR FUTURE IBM USE
068	SPAEXP	008	3800 EXPANSION BUFFERS FOR LONG DATA
			EQUATES
	11 SPASIZE		BLOCK SIZE IN DOUBLEWORDS
	REDEFINITION - REDEFINITION OF EXP BUFFER ASSIGNMENT		
	5230 ORG SPAEXP REDEFINITION OF EXP BUFFER ASSIGNMENT		
	REDEFINITION - REDEFINITION OF EXP BUFFER SLOT		
068	SPAEXPVF	008	VIRTUAL PAGE / REAL FRAME PAIR
068	SPAEXPV	004	VIRTUAL PAGE ADDRESS, MUST BE FIRST
06C	SPAEXPF	004	REAL FRAME ADDRESS, MUST FOLLOW VPAGE
			EQUATES
	08 SPALSLOT		LENGTH OF A SLOT FOR CLEAR
			MORE EQUATES
	10 SPAXBOFF		OFFSET TO B SECTION OF SPAEXP

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CROSS REFERENCE

Name	Len	Value/Disp
SPAASA	004	020
SPABK	001	000
SPADNUM	002	004
SPADSPD	004	01C
SPADSPM	004	014
SPAEXP	008	068
SPAEXPA	008	068
SPAEXPB	008	078
SPAEXPF	004	06C
SPAEXPV	004	068
SPAEXPVF	008	068
SPAIOACT	001	080
SPAIOFLG	001	060
SPALCCW	002	000
SPALCNT	002	00E
SPALSLOT	001	008
SPAMAPSZ	001	040
SPANCCW	002	002
SPAPDSP	002	00C
SPAPNUM	002	006
SPARCNT	004	008
SPAREADY	001	040
SPASIZE	001	011
SPAVSPD	004	018
SPAVSPM	004	010
SPAXBOFF	008	010

HCPSPDBK— SPOOL FILE DATA PAGE BLOCK

DSECT NAME: SPDBK

DESCRIPTIVE NAME: SPOOL FILE DATA PAGE BLOCK

FUNCTION: CONTAINS THE ACTUAL SPOOL FILE DATA, AND THE ASSOCIATED CCW'S TO PROCESS THAT INFORMATION.

LOCATED BY:

(1) LOCATED IN SYSTEM VIRTUAL STORAGE BY:
SPAVSPD - ANCHOR FOR THE CURRENT SPDBK
(2) LOCATED ON DASD BY:
SPADSPD - THE ASA (DASD ADDRESS) OF THE SPDBK CURRENTLY IN VIRTUAL STORAGE.
SPAASA - 1 TO 16 ASA'S SPECIFYING THE DASD ADDRESSES OF THE CURRENT SET OF SPDBK'S. THIS LIST IS COPIED FROM THE SPMBK.
SPMASA - MASTER LIST OF ALL THE SPDBK'S NEEDED TO COMPRISE A SPOOL FILE.

CREATED BY:

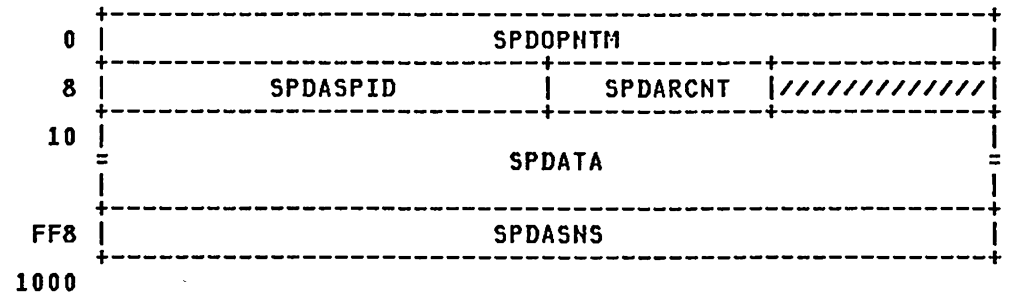
(1) CREATED IN SYSTEM VIRTUAL STORAGE BY:
HCPSFROP - WHEN A SPOOL FILE IS OPENED AND SENT TO A REAL OUTPUT DEVICE.
HCPSFPON - WHEN A SPOOL FILE IS OPENED FOR CREATION.
HCPSFVOP - WHEN A SPOOL FILE IS OPENED FOR READING BY A VIRTUAL READER.
(2) CREATED ON DASD BY:
HCPVSPPW - WRITES THE SPDBKS TO DASD (FOR ALL TYPES OF SPOOL FILES).

BLK HCPBLK (CP) VM/XA - SYSTEM PRODUCT 5664-308

DELETED BY:

(1) DELETED IN SYSTEM VIRTUAL STORAGE BY:
HCPSFRCL - WHEN A SPOOL FILE CREATED ON A REAL CARD READER IS CLOSED.
HCPSFVCL - WHEN A SPOOL FILE CREATED ON A VIRTUAL PRINTER OR PUNCH IS CLOSED.
HCPSFPON - WHEN AN ERROR OCCURS OPENING A SPOOL FILE FOR CREATION.
(2) DELETED ON DASD BY:
HCPRSPIO - WHEN AN SPDBK CREATED ON A REAL CARD READER NEVER GETS DATA.
HCPSDFCL - WHEN THE LAST SPDBK ALLOCATED FOR A SYSTEM DATA FILE NEVER GETS DATA.
HCPSFRDL - WHENEVER A SPOOL FILE IS DELETED.

SPDBK - SPOOL FILE DATA PAGE BLOCK



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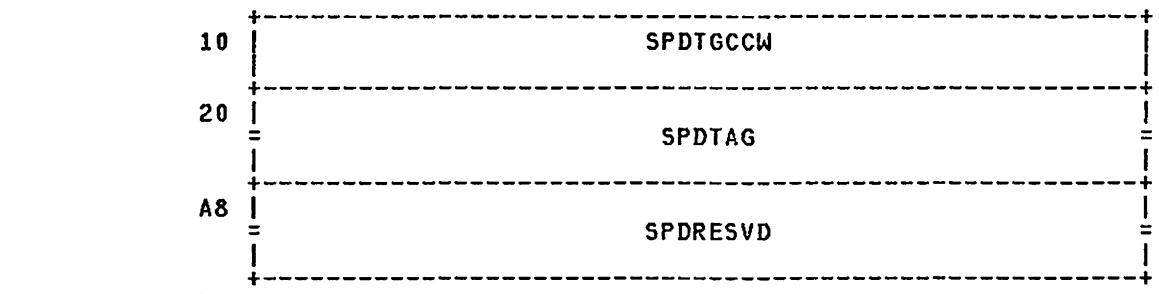
REDEFINITION - TAG DATA FOR THE 1ST SPDBK



disp	name	length	description
000	SPDOPNTM	008	TOD (FULL) WHEN FILE WAS OPENED
008	SPDASPID	004	SYSTEM SPOOLID FOR THIS FILE
00C	SPDARCNT	002	NUMBER OF LOGICAL RECORDS IN THIS PAGE
00E		1H	RESERVED FOR FUTURE IBM USE

EQUATES

10	SPDHDRSZ	SIZE OF SPDBK HEADER

010	SPDATA	008	CCW'S AND ASSOCIATED DATA
FF8	SPDASNS	008	ENDING SENSE CCW FOR THE PAGE

EQUATES

00	SPDASIZE	BLOCK SIZE IN DOUBLEWORDS

THE FOLLOWING REDEFINITION IS FOR THE TAG RECORD *

010	SPDTGCCW	008	TAG CCWS
020	SPDTAG	001	TAG TEXT

EQUATES

11	SPDTGSIZ	TAG RECORD SIZE IN DW'S

0A8	SPDRESVD	008	RESERVED FIELD TO INSURE THE DATA IN THE 1ST SPDBK DOES NOT EXCEED WHAT WILL FIT IN THE FIRST VM/SP SPLINK, IN CASE THE TRANSLATION IS MADE

EQUATES

C0	SPDSKIP	OFFSET TO 1ST DATA CCW IN 1ST DATA PG

0D0	SPDP1D	008	ADDRESS OF 1ST DATA CCW IN 1ST DATA PG

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
SPDARCNT	002	00C	SPDASIZE	001	200	SPDASNS	008	FF8

Name	Len	Value/Disp
SPDASPID	004	008
SPDATA	008	010
SPDBK	001	000
SPDHDRSZ	001	010
SPDOPNTM	008	000
SPDP1D	008	0D0
SPDRESVD	008	0A8
SPDSKIP	001	0C0
SPDTAG	001	020
SPDTGCCW	008	010
SPDTGSIZ	001	011

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HCPSPFBK— SPOOL FILE DESCRIPTOR (OR CONTROL) BLOCK

DSECT NAME: SPFBK

DESCRIPTIVE NAME: SPOOL FILE DESCRIPTOR (OR CONTROL) BLOCK

FUNCTION: TO CONTAIN SPOOL FILE CHARACTERISTICS, SUCH AS CLASS, DISTRIBUTION CODE, SPOOLID, ETC.

LOCATED BY:

(1) ROUTINES:
- HCPSCSGN - WILL RETURN THE ADDRESS OF THE NEXT SPFBK ON THE QUEUE(S) SPECIFIED IN THE CALLERS R1.
- HCPSCSNM - WILL RETURN THE ADDRESS OF THE NEXT SPFBK WITH THE SPECIFIED FILENAME/FILETYPE ON THE QUEUE(S) SPECIFIED BY THE CALLERS R1.
- HCPSCSPF - WILL RETURN THE ADDRESS OF THE SPFBK FOR THE SPOOLID SPECIFIED IN THE CALLERS R1.

(2) FIELDS:
- SPFPNT - POINTS TO THE NEXT SPFBK ON THE QUEUE. IF SPFPNT IS ZERO, IT IS THE LAST FILE.
- SYSOUTQ - POINTS TO THE FIRST SPFBK ON THE OUTPUT QUEUE. THE FIRST WORD IN THE SPFBK POINTS TO THE NEXT SPFBK. IF THAT FIELD IS ZERO, IT IS THE LAST FILE ON THE OUTPUT QUEUE. THE OUTPUT QUEUE CONSISTS OF PRINTER AND PUNCH FILES.
- SYSINQ - POINTS TO THE FIRST SPFBK ON THE INPUT QUEUE. THE FIRST WORD IN THE SPFBK POINTS TO THE NEXT SPFBK. IF THAT FIELD IS ZERO, IT IS THE LAST FILE ON THE INPUT QUEUE. THE INPUT QUEUE CONSISTS OF READER FILES.

BLK HCPBLK (CP) VM/XA - SYSTEM PRODUCT 5664-308

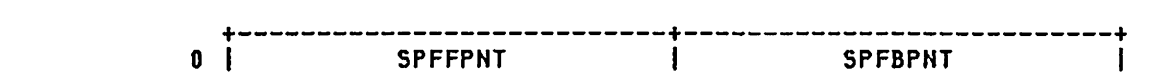
CREATED BY:

- HCPDMQSD - WHEN A CP ABEND DUMP READER FILE IS OPENED
- HCPSDFON - WHEN A NEW SYSTEM DATA FILE IS CREATED
- HCPSFROP - WHEN A SPOOL FILE IS CREATED BY A REAL READER
- HCPSFVOP - WHEN A SPOOL FILE IS CREATED ON A VIRTUAL PRINTER OR CARD PUNCH OR A CP ABEND DUMP FILE IS OPEN
- HCPWRMST - WHEN A THE SYSTEM IS WARM STARTED, HCPWRM RECREATES THE SPFBK'S FOR ALL SPOOL FILES THAT EXISTED WHEN THE SYSTEM WAS BROUGHT DOWN
- HCPVDUMP - WHEN A VMDUMP READER SPOOL FILE IS OPENED
- HCPSPSLD - WHEN CREATING A SPOOL FILE FROM A TAPE VIA THE SPTAPE COMMAND

DELETED BY:

- HCPSFPON - IF THERE IS NO DASD OR SYSTEM VIRTU SPACE WHEN A SPOOL FILE IS BEING CREATED
- HCPSFRDL - WHEN A SPOOL FILE IS TO BE DELETED FROM THE SYSTEM
- HCPWRMST - WHEN THE SYSTEM IS WARM STARTED, HCPWRM CHECKS TO SEE IF A SPOOL FILE CONTAINED ANY DATA. IF IT DIDN'T, IT DELETES THE SPFBK
- HCPSPDMP - WHEN A SPOOL FILE IS DUMPED TO TAPE VIA THE SPTAPE COMMAND AND THE PURGE OPTION WAS SPECIFIED

SPFBK - SPOOL FILE CONTROL BLOCK



```
     +-------------------------+-------------------------+
   8 |          SPFPNT         |         SPFSYSID        |
     +------+------+------+----+------+------+------+----+
  10 |:STAT |:FLAG |:TYPE |:QUEUE|:OVER |:SYSTY|:PRTFL|:SPCL |
     +------+------+------+------+------+------+------+------+
  18 |:COPY |:STCPY|:PGCPY|:MODNO|:FLSHC|:DVTYP|:PGLEN|//////|
     +------+------+------+------+------+------+------+------+
  20 |   SPFSPID   |    SPFDEV   |   SPFPCNT   |   SPFLRECL  |
     +-------------+-------------+-------------+-------------+
  28 |          SPFRCNT          |         SPFSTART          |
     +-------------------------+-------------------------+
  30 |                         SPFCLKOP                    |
     +-------------------------+-------------------------+
  38 |          SPFCLKCL         |         SPFFLASH          |
     +-------------------------+-------------------------+
  40 |                         SPFUSER                     |
     +-------------------------------------------------+
  48 |                         SPFDIST                     |
     +-------------------------------------------------+
  50 |                         SPFORIG                     |
     +-------------------------------------------------+
  58 |                         SPFFINAM                    |
     +-------------------------------------------------+
  60 |                         SPFFITYP                    |
     +-------------------------------------------------+
  68 |                         SPFUFORM                    |
     +-------------------------------------------------+
  70 |                         SPFOFORM                    |
     +-------------------------+-------------------------+
  78 |          SPFCHAR0         |         SPFCHAR1          |
     +-------------------------+-------------------------+
  80 |          SPFCHAR2         |         SPFCHAR3          |
     +-------------------------+-------------------------+
  88 |           SPFFCB          |         SPFCMOD           |
     +-------------------------+-------------------------+
  90 |/////////////////////////////////////////////////////|
     +-------------------------+-------------------------+
  98 |/////////////////////////|         SPFAUDIT          |
     +-------------------------+-------------------------+
  A0 |/////////////////////////////////////////////////////|
     +-------------------------------------------------+
  A8

       REDEFINITION - REDEFINITION OF SPFSTART

                                 +-------------+------+------+
  28 ...                      2C |    SPFCYL   |//////|//////|
                                 +-------------+------+------+
  30
```

disp	name	length	description
000	SPFFPNT	004	POINTER TO THE NEXT SPFBK ON SYSTEM QUEUE
004	SPFBPNT	004	POINTER TO PREVIOUS SPFBK ON SYSTEM QUEUE
008	SPFPNT	004	POINTER TO NEXT SPFBK ON USER QUEUE
00C	SPFSYSID	004	SYSTEM SPOOL FILE ID NUMBER (UNIQUE)
010	SPFSTAT	001	SPOOL FILE STATUS FLAGS

BITS DEFINED IN SPFSTAT (AT HEX DISPLACEMENT: 10)

80	SPFINUSE	CLOSED FILE IS IN USE.
40	SPFOPEN	FILE IS OPEN (BEING CREATED)
20	SPFUHOLD	FILE HAS USER HOLD
10	SPFSHOLD	FILE HAS SYSTEM HOLD
08	SPFKEEP	FILE HAS 'KEEP' OPTION SET
04	SPFMSG	FILE HAS 'MSG' OPTION SET
02	SPFERRPU	PURGE FILE BLOCKS BUT NOT DASD
01	SPFNOREL	DON'T RELEASE SPFBK IF NO USER SPIDS

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SPTAPE WILL RE-USE THIS SPFBK

011 SPFFLAG 001 SPOOL FILE ACTION FLAGS

BITS DEFINED IN SPFFLAG (AT HEX DISPLACEMENT: 11)

80	SPFPURGE	FILE IS TO BE PURGED
40	SPFEOF	LAST RECORD PROCESSED (USUALLY RDR FILES)
20	SPFBKWD	BACKSPACE BASED UPON 'PCNT'
10	SPFFWD	FWD SPACE BASED UPON 'PCNT'
08	SPFSEEN	FILE HAS PREVIOUSLY BEEN SEEN BY DIAGNOSE X'14'
04	SPFTAGM	'TAG' MODIFIED WHILE FILE 'OPEN'
02	SPFBKEOF	BACKSPACE REQUEST FROM END-OF-FILE
01	SPFDPOS	FILE IS POSITIONED AT A LINE WITH DATA ON IT - LAST CCW WAS 'WRITE NO SPACE'. USED TO PREVENT TRACE OUTPUT OVERLAY

012 SPFTYPE 001 SPOOL FILE ORIGINATING DEVICE TYPE

BITS DEFINED IN SPFTYPE (AT HEX DISPLACEMENT: 12)

80	SPFORDR	CAME FROM REAL READER
40	SPFOPUN	CAME FROM VIRTUAL PUNCH
22	SPFOPRT	CAME FROM VIRTUAL PRINTER
23	SPFO383	CAME FROM VIRTUAL 3800 MODEL 3 PRINTER
20	SPFOCON	CAME FROM VIRTUAL CONSOLE
10	SPFOSYS	SYSTEM CREATED SPOOL FILE

013 SPFQUEUE 001 SPOOL FILE QUEUE LOCATION

BITS DEFINED IN SPFQUEUE (AT HEX DISPLACEMENT: 13)

80	SPFRDRQ	FILE IS ON THE RDR QUEUE
40	SPFPUNQ	FILE IS ON THE PUNCH QUEUE
20	SPFPRTQ	FILE IS ON THE PRINTER QUEUE
10	SPFNSSQ	FILE IS ON THE NSS/DCSS QUEUE
08	SPFIMGQ	FILE IS ON THE IMAGE LIBRARY QUEUE
02	SPFUCRQ	FILE IS ON THE UCR QUEUE

014 SPFOVER 001 OVERRIDE FLAGS USED AT 'CLOSE'

BITS DEFINED IN SPFOVER (AT HEX DISPLACEMENT: 14)

80	SPFORDQ	CLOSE FILE 'TO RDR' QUEUE
40	SPFOPUQ	CLOSE FILE 'TO PUN' QUEUE
20	SPFOPRQ	CLOSE FILE 'TO PRT' QUEUE
08	SPFSETHO	KEEP RDR FILE IN USERHOLD
04	SPFNOPUR	DO NOT PURGE RDR FILE WHEN CLOSED
02	SPFIGNRK	IGNORE KEEP ON RDR WHEN CLOSED
01	SPFIGNRH	IGNORE HOLD ON RDR WHEN CLOSED

015 SPFSYSTY 001 SYSTEM DATA FILE FLAG

BITS DEFINED IN SPFSYSTY (AT HEX DISPLACEMENT: 15)

80	SPFCPDMP	FILE IS A CP ABEND DUMP FILE
40	SPFVMDMP	FILE IS A VIRTUAL MACHINE DUMP (VMDUMP)
20	SPFPPEND	FILE IS MARKED FOR PENDING PURGE
10	SPFVOLAF	VOLUME AFFINITY - FILE SHOULD BE WRITTEN ON ONE VOLUME IF POSSIBLE
04	SPFNORTN	DUMP FILE CREATED WITH NORETURN OPTION
02	SPFSFTDP	FILE IS A SOFT ABEND DUMP FILE

016 SPFPRTFL 001 FLAGS FOR ADVANCED FUNCTION PRINTERS

BITS DEFINED IN SPFPRTFL (AT HEX DISPLACEMENT: 16)

80	SPFBEG	3800 LOAD CCWS APPEAR AT BEGINNING
40	SPFANY	3800 LOAD CCWS APPEAR THROUGHOUT FILE
20	SPFLDCHR	LOAD MCGM OR GRAPHMOD CCWS APPEAR
08	SPFFLALL	FLASH ALL COPIES OF THE FILE

```
017   SPFSPCL    001      SPOOL FILE CLASS
018   SPFCOPY    001      FILE COPY COUNT
019   SPFSTCPY   001      NUMBER OF COPIES AT PRINT START
01A   SPFPGCPY   001      PAGE COPY COUNT (USED ONLY FOR 3800)
01B   SPFMODNO   001      COPY MOD CHARACTER SET NUMBER (0-3)
01C   SPFFLSHC   001      FLASH COUNT
01D   SPFDVTYP   001      DEVICE TYPE OF ORIGINATING DEVICE

        BITS DEFINED FOR SPFDVTYP BY HCPDVTYP DEVTYPE

01E   SPFPGLEN   001      PAPER LENGTH
01F              1X       RESERVED FOR FUTURE IBM USE
020   SPFSPID    002      USER SPOOL FILE ID NUMBER (NOT UNIQUE)
022   SPFDEV     002      REAL OR VIRTUAL NUMBER
                          OF DEVICE PROCESSING FILE
024   SPFPCNT    002      PAGE CNT FOR FWD OR BKWD SPACE
026   SPFLRECL   002      LENGTH OF SPOOL FILE RECORDS
028   SPFRCNT    004      TOTAL NUMBER OF LOGICAL RECORDS
02C   SPFSTART   004      ASA OF FIRST SPMBK FOR THE FILE
030   SPFCLKOP   008      TOD (FULL) AT 'OPEN' TIME
038   SPFCLKCL   004      TOD HIGH ORDER WORD AT 'CLOSE' TIME

                    EQUATES

        3C    SPFCFLDS    START OF CHARACTER FIELDS

03C   SPFFLASH   004      FORMS OVERLAY (FLASH) NAME
040   SPFUSER    008      USER IDENTIFICATION OF FILE OWNER
048   SPFDIST    008      DISTRIBUTION CODE
050   SPFORIG    008      USER IDENTIFICATION
                          OF FILE ORIGINATOR
058   SPFFINAM   008      FILE NAME
060   SPFFITYP   008      FILE TYPE
068   SPFUFORM   008      USER FORM NAME
070   SPFOFORM   008      OPERATOR FORM NUMBER
078   SPFCHARS   016      LENGTH ATTRIBUTE TO CLEAR CHAR SETS
078   SPFCHAR0   004      CHARACTER SET NAME - FIRST
07C   SPFCHAR1   004      CHARACTER SET NAME - SECOND
080   SPFCHAR2   004      CHARACTER SET NAME - THIRD
084   SPFCHAR3   004      CHARACTER SET NAME - FOURTH
088   SPFFCB     004      FCB NAME OR LINES/INCH
08C   SPFCMOD    004      COPY MODIFICATION MODULE NAME
090              1D       RESERVED FOR IBM USE

                    EQUATES

        6C    SPFBLANK    LENGTH OF FIELDS TO BLANK

098              1F       RESERVED FOR IBM USE
09C   SPFAUDIT   004      RESERVED FOR IBM USE
0A0              1D       RESERVED FOR IBM USE

                    EQUATES

        A8    SPFEND      END OF SPFBK - SIZE IN BYTES


         REDEFINITION - REDEFINITION OF SPFSTART

02C   SPFCYL     002      CYLINDER OF 1ST SFPAGMAP FOR DUMP
02E              XL1      PAGE OF 1ST SFPAGMAP FOR DUMP
02F              XL1      VOLUME OF 1ST SFPAGMAP FOR DUMP

                    MORE EQUATES

        FF    SPFSIZCK
        15    SPFSIZE     SIZE IN DOUBLE WORDS
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EQUATES

C8 SRMTATM

0C8	SRMTATM1	008	TOTAL ACTIVE (NON-DORMANT) TIME, ..CLASS 1
0D0	SRMTATM2	008	TOTAL ACTIVE (NON-DORMANT) TIME, ..CLASS 2
0D8	SRMTATM3	008	TOTAL ACTIVE (NON-DORMANT) TIME, ..CLASS 3
0E0	SRMTIDLE	008	THE MAXIMUM AMOUNT OF TIME ..GRANTED TO A USER WHO GOES ..IDLE IN THE DISPATCH LIST ..BEFORE DROPPING IT TO THE ..DORMANT LIST
			SCHEDULING CONTROL FIELDS
0E8	SRMXSIZE	004	BLOCKS OF XSTORE AVAILABLE TO CP
0EC	SRMSTORQ	004	STORAGE REQUIRED FROM PREEMPTION
0F0	SRMLDGFW	004	FULLWORD TO HOLD NUMBER OF PAGE READS PER MINOR TIME SLICE WHICH CONSTITUTE A 'LOADING USER'
0F0	SRMLDGUS	002	INTEGER PORTION OF LOADING @USER DESIGNATION
0F2	SRMLDGFC	002	FRACTIONAL PORTION OF LOADING USER DESIGNATION. THIS PART IS NOT USED. IT IS HERE SO THAT NOTHING IS LOST TO ROUNDING OFF AS THE FULLWORD IS ADJUSTED.
0F4	SRMSPGRT	004	SYSTEM CPU-PAGE READ RATIO
0F8	SRMAPGDE	004	AVERAGE PAGING RATE OF A USER IN DISPATCH OR ELIGIBLE LIST
0FC	SRMAWSDE	004	AVERAGE WORKING SET SIZE OF A USER IN DISPATCH OR ELIGIBLE LIST
100	SRMXSRTE	004	CURRENT SYSTEM XSTORE PAGE IN AND PAGE OUT RATE (SMOOTHED BY HCPSTPGS)
104	SRMMNPGR	004	MINIMUM SYSTEM PAGING RATE USED BY THE SCHEDULER
108	SRMMXPAG	004	TOTAL PAGING CAPACITY, IN PAGES PER SECOND WHICH CAN BE DELIV-ERED BY THE PAGING HARDWARE
10C	SRMPGSRW	004	SYSTEM RESOURCE WEIGHT FOR PAGING. THIS IS COMPUTED BY HCPSTPGS WHENEVER THE SYSTEM PAGING RATE CHANGES. IT IS USED IN ELIGIBLE LIST PRIORITY CALCULATION.
110	SRMSTRD	008	SMOOTHED 'TIME IT TAKES TO READ A PAGE'. COMPUTED BY HCPSTP USING THE NEXT TWO FIELDS
118	SRMPGRLD	004	COUNT OF PAGE READS BY ALL E1 LOADING USERS
11C		F	RESERVED FOR FUTURE IBM USE
120	SRMDLTLD	008	TOTAL D-LIST TIME FOR ALL E1 LOADING USERS
			THE NEXT THREE FIELDS ARE USED TO CALCULATE AN 'AVERAGE E1 USER' WSS AND PAGING RATE :
128	SRMT1WSS	004	TOTAL WSS OF ALL E1 USERS
12C	SRMT1PGR	004	TOTAL PAGE RATE OF ALL E1 USERS
130	SRMT1USR	004	COUNT OF E1 USERS INCLUDED
134	SRMSTSRW	004	SYSTEM RESOURCE WEIGHT FOR STORAGE. THIS IS COMPUTED BY HCPSTPGS WHENEVER THE SMOOTHED STORAGE DEMAND (TOTAL WSS) CHANGES. IT IS USED IN THE ELIGIBLE LIST PRIORITY CALCULATION.
138	SRMTMSYS	008	THE AMOUNT OF TIME AN "AVERAGE" ..REAL CPU HAS SPENT DOING ..."OVERHEAD" WORK (WORK BILLED

```
                        ..TO THE SYSTEM).  THIS FIELD
                        ..IS PROTECTED BY THE SCHEDULER
                        ..LOCK.
140   SRMTOTLS  004     AN EQUATE USED AS AN INDEX BASE
                        ..TO REFERENCE ONE OF THE NEXT
                        ..TWO FIELDS, SRMRELDL AND
                        ..SRMABSDL.  CODE DEPENDS ON
                        ..THESE TWO FIELDS BEING
                        ..FULLWORDS AND FOLLOWING IN
                        ..THE GIVEN ORDER.
140   SRMRELDL  004     THE SUM OF THE RELATIVE SHARES
                        ..OF ALL RELATIVE SHARE HOLDERS
                        ..(EXCLUDING DEDICATED VMDBKS)
                        ..CURRENTLY IN THE DISPATCH
                        ..LIST. THIS FIELD IS PROTECTED
                        ..BY THE SCHEDULER LOCK.
144   SRMABSDL  004     THE SUM OF THE ABSOLUTE SHARES
                        ..OF ALL VMDBKS (EXCLUDING
                        ..DEDICATED VMDBKS) CURRENTLY
                        ..IN THE DISPATCH LIST. THIS
                        ..FIELD IS PROTECTED BY THE
                        ..SCHEDULER LOCK.
148   SRMRTHRU  004     THE SUM OF THE THROUGHPUT VALUES
                        ..FOR ALL RELATIVE SHARE AND
                        ..ABSOLUTE SHARE DISPATCH
                        ..LIST USERS. 'THROUGHPUT' IS THE
                        ..THROUGHPUT VALUE WHICH A GIVEN
                        ..USER IS TO RECEIVE IN THE
                        ..DISPATCH LIST.
                        ..A USER'S THRUPUT IS TRANSLATED
                        ..INTO A DISPATCH LIST SHARE VIA
                        ..COMPARISON WITH THIS FIELD.

14C   SRMTOTDE  004     AN EQUATE USED AS AN INDEX BASE
                        ..TO REFERENCE ONE OF THE NEXT
                        ..TWO FIELDS, SRMRELDE AND
                        ..SRMABSDE.  CODE DEPENDS ON
                        ..THESE TWO FIELDS BEING
                        ..FULLWORDS AND FOLLOWING IN
                        ..THE GIVEN ORDER.
14C   SRMRELDE  004     THE SUM OF THE RELATIVE SHARES
                        ..OF ALL RELATIVE SHARE HOLDERS
                        ..CURRENTLY IN THE ELIGIBLE AND
                        ..DISPATCH LIST.  THIS FIELD IS
                        ..PROTECTED BY THE SCHEDULER
                        ..LOCK.
150   SRMABSDE  004     THE SUM OF THE ABSOLUTE SHARES
                        ..OF ALL VMDBKS CURRENTLY IN
                        ..THE ELIGIBLE AND DISPATCH LIST.
                        ..THIS FIELD IS PROTECTED BY THE
                        ..SCHEDULER LOCK.
154   SRMLOTHR  004     LOW THROUGHPUT VALUE TO USE
                        ..WHEN SRMRTBSZ OR MORE
                        ..USERS IN DISPATCH LIST

                  EQUATES

        0A    SRMRTBSZ  NUMBER OF ENTRIES IN SRMRTBL
        04    SRMRTBEL  SIZE OF EACH ENTRY IN SRMRTBL

158   SRMRTBL   004     R PRIME TABLE FOR 10 OR LESS
                        ..DISPATCH LIST USERS.  THIS
                        ..TABLE CONTAINS OUR ESTIMATE OF
                        ..HOW MUCH RESOURCE ACCESS
                        ..(SERVICE) WE CAN GIVE TO A
                        ..USER, GIVEN VERY FEW DISPATCH
                        ..LIST USERS.  IT IS USED TO
                        ..CALCULATE MAXIMUM ALLOWABLE
                        ..ELIGIBLE LIST DELAY.

                  EQUATES

        80    SRMRTBEN
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180   SRMRSRVP   004      THE "RESERVED PERCENT".
                          ..THE PERCENT, IN UNITS OF CPUS
                          ..TO BE HELD IN RESERVE FOR THE
                          ..RELATIVE SHARE USERS.  THIS
                          ..FIELD IS PROTECTED BY THE
                          ..SCHEDULER LOCK.
184   SRMBIASI   004      THE "INTENSITY" THAT THE
                          ..IABIAS PARAMETER OF THE SET
                          ..SRM COMMAND IS CURRENTLY SET
                          ..TO.  THE RANGE IS 0.00-1.00.
                          ..THIS FIELD PROTECTED BY THE
                          ..SCHEDULER LOCK.
188   SRMBIASD   002      THE "DURATION" THAT THE IABIAS
                          ..PARAMETER OF THE SET SRM
                          ..COMMAND IS CURRENTLY SET TO.
                          ..THE RANGE IS 1-100.  THIS
                          ..FIELD IS PROTECTED BY THE
                          ..SCHEDULER LOCK.
18A   SRMNCPUA   002      THE NUMBER OF CPUS AVAILABLE TO
                          ..SCHEDULE TIME ON FOR
                          ..NON-DEDICATED USERS.  THIS
                          ..FIELD IS PROTECTED BY THE
                          ..SCHEDULER LOCK.
18C   SRMVFACT   004      NUMBER OF ACTIVE VECTOR USERS

                          ELAPSED TIME SLICE VARIABLES

190   SRME1ETS   008      E1 ELAPSED TIME SLICE
198   SRMETSMN   008      MINIMUM ELAPSED TIME SLICE
                          ..(.05 SECOND OR 50,000
                          ..MICROSECONDS)
1A0   SRMETSMX   008      MAXIMUM ELAPSED TIME SLICE
                          ..(16 SECONDS OR 16,000,000
                          ..MICROSECONDS)
1A8   SRMETSIN   004      ELAPSED TIME SLICE INCREMENT.
                          THIS IS THE AMOUNT THE E1 TIME
                          SLICE IS INCREMENTED WHENEVER
                          A USER DOES NOT COMPLETE AFTER
                          AN E1 STAY.
1AC   SRMETSDC   004      ELAPSED TIME SLICE DECREMENT.
                          THIS IS THE AMOUNT THE E1 TIME
                          SLICE IS DECREMENTED WHEN A USER
                          COMPLETES AFTER AN E1 STAY.
1B0   SRMCTPRM   004      COUNT DROPS FOR PREEMPTION.
134   SRMCTGRW   004      COUNT DROPS FOR GROWTH LIMIT.

                    EQUATES

        03    SRMLSTEL    LAST E-LIST CLASS

1B8   SRMETSLC   002      ELAPSED TIME SLICE TABLE
                          NOTE: E1 SLICE TIME * ANY SRMEXETF SHOULD ALWAYS BE LESS
                          THAN SRMMVESL.
1B8   SRME0ETF   002      E0 ELAPSED TIME SLICE FACTOR
                          AN E0 SLICE IS AN E1 SLICE TIMES
                          THIS NUMBER
1BA   SRME1ETF   002      DUMMY HOLDER FOR INDEXING
1BC   SRME2ETF   002      E2 ELAPSED TIME SLICE FACTOR
                          AN E2 SLICE IS AN E1 SLICE TIMES
                          THIS NUMBER
1BE   SRME3ETF   002      E3 ELAPSED TIME SLICE FACTOR
                          AN E3 SLICE IS AN E1 SLICE TIMES
                          THIS NUMBER

                          RESOURCE LIMITS

                          NOTE: E-0 USERS ARE NOT SUBJECT TO ANY OF THESE QUOTAS


                    EQUATES

        04    SRMCTBLN    NUMBER OF ELIGIBLE LIST CLASSES,
                          THUS NUMBER OF ENTRIES IN EACH
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                                ELIGIBLE LIST TABLE
        02      SRMCTBEL        SIZE OF ELEMENT IN THE ELIGIBLE
                                LIST TABLES - EACH ARE HALFWORDS
        01      SRMCTSHF        SHIFT BY ONE TO INDEX INTO HALF-
                                WORD COUNT ENTRIES
        00      SRMEZERO        E-0 LIST EQUATE
        01      SRMEONE         E-1 LIST EQUATE
        02      SRMETWO         E-2 LIST EQUATE
        03      SRMETHRE        E-3 LIST EQUATE
        00      SRMCLS0         INDEX TO THE E-0 CLASS ENTRIES
        02      SRMCLS1         INDEX TO THE E-1 CLASS ENTRIES
        04      SRMCLS2         INDEX TO THE E-2 CLASS ENTRIES
        06      SRMCLS3         INDEX TO THE E-3 CLASS ENTRIES

1C0   SRMLMDSP    002           START OF DISPATCH USER LIMIT
                                TABLE.  DUMMY ENTRY FOR INDXING.
1C2   SRML1DSP    002           LIMIT ON NUMBER OF USERS ALLOWED
                                IN DISPATCH LIST (Q1, Q2, Q3)
1C4   SRML2DSP    002           LIMIT ON NUMBER OF USERS ALLOWED
                                IN Q2 AND Q3
1C6   SRML3DSP    002           LIMIT ON NUMBER OF USERS ALLOWED
                                IN Q3

                        EQUATES

        C8      SRMLEDSP        END OF DISPATCH USER LIMIT TABLE
        02      SRMDSPEL        SIZE OF DISPATCH TABLE ENTRY

1C8                 H           RESERVED FOR IBM USE
1CA   SRMD1DSP    002           DEFAULT NUMBER OF USERS ALLOWED
                                IN DISPATCH LIST (Q1, Q2, Q3)
1CC   SRMD2DSP    002           DEFAULT NUMBER OF USERS ALLOWED
                                IN Q2 AND Q3
1CE   SRMD3DSP    002           DEFAULT NUMBER OF USERS ALLOWED
                                IN Q3
1D0   SRMLMLDG    002           START OF LOADING  USER LIMIT
                                TABLE.  DUMMY ENTRY FOR INDXING.
1D2   SRML1LDG    002           LIMIT ON NUMBER OF LOADING
                                USERS ALLOWED IN (Q1, Q2, Q3)
1D4   SRML2LDG    002           LIMIT ON NUMBER OF LOADING
                                USERS ALLOWED IN (Q2, Q3)
1D6   SRML3LDG    002           LIMIT ON NUMBER OF LOADING
                                USERS ALLOWED IN (Q3)
                                LOAD PERCENTAGES:
                                THESE VALUES ARE SET BY SET SRM
                                LDUBUF  COMMAND AND USED TO
                                DETERMINE THE LOADLIMITS, ABOVE

                        EQUATES

        04      SRMLMTEL        SIZE OF EACH LIMIT FIELD:
                                ..SRMDFLDG TABLE ELEMENTS,
                                ..SRMPCLDG TABLE ELEMENTS,
                                ..SRMDFWSS TABLE ELEMENTS,
                                ..SRMPCWSS TABLE ELEMENTS

1D8                 F           RESERVED FOR FUTURE IBM USE
1DC   SRMDFLDG    004           DEFAULTS TO USE FOR LOADING
                                USER LIMITS
1DC   SRMD1LDG    004           DEFAULT FOR E1
1E0   SRMD2LDG    004           DEFAULT FOR E2
1E4   SRMD3LDG    004           DEFAULT FOR E3
1E8   SRMPCLDG    004           START OF LDG LIMIT TABLE. DUMMY
                                ENTRY FOR INDEXING.
1EC   SRMP1LDG    004           PERCENTAGE OF 'LOAD CAPACITY'
                                WHICH CAN BE TAKEN BY Q1, Q2, Q3
1F0   SRMP2LDG    004           PERCENTAGE OF LOAD CAPACITY FOR
                                Q2 AND Q3
1F4   SRMP3LDG    004           PERCENTAGE OF LOAD CAPACTIY FOR
                                Q3

                        EQUATES

        F8      SRMPELDG
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			WSS PERCENTAGES: THESE VALUES ARE SET BY SET SRM STORBUF COMMAND AND USED TO DETERMINE THE AMOUNT OF MEMORY WHICH CAN BE COMMITTED TO EACH E-LIST CLASS. THE ACTUAL AMOUNT OF MEMORY EACH PERCENTAGE REPRE- SENTS IS RECOMPUTED AT USER ADD TIME IN ORDER TO EXCLUDE LOCKED PAGES
1F8	SRMMSSMN	004	MINIMUM USER WORKING SET SIZE
1FC	SRMMSSMP	004	PERCENTAGE OF AVIALBLE MEMORY WHICH CONSTITUTES A MAXIMUM WSS
200	SRMXPCTG	004	PERCENTAGE OF XSTORE TO USE IN WSS AND AVAILABLE MEMORY CALCU- LATIONS
204	SRMDFWSS	004	DEFAULTS TO USE FOR WSS LIMITS
204	SRMD1WSS	004	DEFAULT FOR E1
208	SRMD2WSS	004	DEFAULT FOR E2
20C	SRMD3WSS	004	DEFAULT FOR E3
210	SRMPCWSS	004	START OF WSS LIMIT TABLE. PERCENTAGE OF AVAILABLE MEMORY WHICH CAN BE TAKEN BY Q0 THIS VALUE IS ALWAYS 100% TO ELIMINATE THE TEST FOR Q0.
214	SRMP1WSS	004	PERCENTAGE OF AVAILABLE MEMORY WHICH CAN BE TAKEN BY Q1, Q2, Q3
218	SRMP2WSS	004	PERCENTAGE OF AVAILABLE MEMORY WHICH CAN BE TAKEN BY Q2 AND Q3
21C	SRMP3WSS	004	PERCENTAGE OF AVAILABLE MEMORY WHICH CAN BE TAKEN BY Q3

EQUATES

20	SRMPEWSS	

			THE FOLLOWING TWO FIELDS ARE THE LOW THRESHOLD VALUES USED BY THE E1 ELAPSED TIME SLICE ADJUSTMENT LOGIC IN HCPSTP:
220	SRMC1LOW	002	Q1 + E1 THRESHOLD VALUE
222	SRMC3LOW	002	Q3 + E3 THRESHOLD VALUE
224		F	RESERVED FOR FUTURE IBM USE
228	SRMMNLDC	004	MINIMUM LOADING CAPACITY FOR ..THE SYSTEM.
22C	SRMLDGCP	004	TOTAL 'LOAD CAPACITY'. THIS IS THE NUMBER OF USERS, PAGING CONTINUOUSLY, REQUIRED TO DRIVE THE PAGING HARDWARE AT ITS MAXIMUM RATE. IT IS BASED ON NUMBER OF READ EXPOSURES.
			RESOURCE USAGE MEASURES
230	SRM1AVPG	004	E1 USERS' AVERAGE PAGING RATE, -IN PAGES PER MICROSECOND

EQUATES

01	SRM1MNPG	MINIMUM RATE TO USE FOR E1 -USERS' AVERAGE

234	SRM1AVWS	004	E1 USERS' AVERAGE WORKING SET -SIZE

EQUATES

01	SRM1MNWS	MINIMUM WSS TO USE FOR E1 -USERS' AVERAGE

238		F	RESERVED FOR FUTURE IBM USE
23C	SRMWSSDE	004	TOTAL OF WORKING SET SIZES FOR ALL USERS CURRENTLY IN THE

```
                                ELIGIBLE AND DISPATCH LISTS
240   SRMPGRDE    004           TOTAL LAST-RECORDED PAGING RATES
                                OF ALL USERS CURRENTLY IN THE
                                ELIGIBLE AND DISPATCH LISTS
                                (IN PAGES / SECOND)
244   SRMPGRDL    004           TOTAL LAST-RECORDED PAGING RATES
                                OF ALL USERS CURRENTLY IN THE
                                DISPATCH LIST (IN PAGES / SECOND)
248   SRMTOTST    004           TOTAL STORAGE TO CONSIDER WHEN
                                ..SELECTING VMDBKS FOR THE D-LIST
24C   SRMBLOCK    001           BLOCKED CLASS - USED WHEN
                                ..SELECTING VMDBKS FOR THE D-LIST
24D               X             RESERVED FOR FUTURE IBM USE
24E   SRMSTDSP    002           SMOOTHED TOTAL USERS IN THE
                                ..DISPATCH LIST (Q0, Q1, Q2, Q3)

                        EQUATES

        05      SRMSSCAN        NUMBER OF VMDBKS TO CHECK IN A
                                .."SHORT SCAN" OF THE E-LIST.
        32      SRMLSCAN        NUMBER OF VMDBKS TO CHECK IN A
                                .."LONG SCAN" OF THE E-LIST.

250   SRMHOTIN    004           THE "HOTSHOT INTENSITY".
                                ..THE INTENSITY OF THE HOTSHOT
                                ..BOOST FOR UNSOLICITED TERMINAL
                                ..INTERRUPTS FOR A VMDBK.
254   SRMNEWVM    004           THE VMDBK IN THE DORMANT OR
                                ..ELIGIBLE LIST WHICH LAST (OR
                                ..JUST) RECEIVED NEW WORK. INPUT
                                ..TO E-LIST SCAN FUNCTION WHEN
                                ..THERE ARE NO NEW RESOURCES
                                ..AVAILABLE IN THE D-LIST.

                                THE FOLLOWING VALUES ARE USED IN THE E-LIST PRIORITY CALC:

258   SRMEDFF     004           ELIG LIST DELAY FACTOR FEEDBACK
                                THE NEXT 3 FULLWORDS ARE FEEDBACK
                                VALUES FOR THE E-LIST PRIORITY
                                CALCULATION.  THEY ADJUST THE
                                PRIORITY VALUES BY CLASS ACCORD-
                                ING TO SYSTEMS ABILITY TO SELECT
                                E-LIST USERS AHEAD OR BEHIND
                                SCHEDULE.
258   SRMEDFF1    004           CLASS 1 E-LIST DELAY FACTOR FDBCK
25C   SRMEDFF2    004           CLASS 2 E-LIST DELAY FACTOR FDBCK
260   SRMEDFF3    004           CLASS 3 E-LIST DELAY FACTOR FDBCK
264   SRMEDFFC    004           CONSTANT USED TO ADJUST EACH EDFF
268   SRMRSCTM    008           CONFIG. CPU TIME RESET INTERVAL
270   SRMHFRST    008           HALF A RESET INTERVAL
278   SRMPGWTF    004           PAGING WEIGHTING FACTOR
27C   SRMCKVAL    004           RELATIVE E1 ETS ADJUSTMENT
                                FACTOR USED BY THE E1 ETS
                                ADJUSTMENT LOGIC IN HCPSTP
                                HOST MULTI-CPU CONTROLS
280   SRMWTCPU    004           MASK OF CPU'S IN WAIT STATE
284   SRMCRCPU    004           COUNT OF CPU'S NOT IN WAIT STATE
288   SRMMSCPU    002           CPU ADDRESS OF MASTER-SIDE CPU
28A   SRMFLAGS    001           FLAG BYTE OF SYSTEM STATUS
                                ..IMPORTANT TO THE SCHEDULER/
                                ..DISPATCHER.

    BITS DEFINED IN SRMFLAGS (AT HEX DISPLACEMENT: 28A)

        80      SRMAWAIT        SET WHEN "ACTIVE WAIT" IS BEING
                                ..USED.  FOR A DESCRIPTION OF
                                .."ACTIVE WAIT", SEE THE PROLOG
                                ..OF THE HCPWAI MODULE.
        40      SRMPRMPT        PRE-EMPTION REQUIRED
        20      SRMFRSTP        FIRST PASS THROUGH HCPSCHSE FOR
                                ..THIS SEARCH FOR USERS.
        10      SRMCKELI        CHECK THE ELIGIBLE LIST FOR
                                ..USERS TO ADD TO THE D-LIST
        08      SRMNWRSC        SET WHEN E-LIST IS SEARCHED FOR
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                              ..USERS FOR PROMOTION FOLLOWING
                              ..NEW RESOURCES IN THE D-LIST.
        00     SRMCLEAR       FLAG CLEARING EQUATE

28B     SRMTIDCT    001       TOLERANCE OF TEST-IDLE LACK OF
                              ..USE BEFORE TEST-IDLE IS NO
                              ..LONGER USED FOR A VMDBK.

28C     SRMMSPFX    004       MASTER'S PREFIX PAGE ADDRESS
290     SRMDCPUM    004       DEDICATED PROCESSOR BIT MAP
294     SRMSTPTB    004       POINTER TO STP'S SMOOTHING TABLE
298     SRMMVESL    008       MAXIMUM ELAPSED TIMESLICE.
                              REQUIRED ONLY FOR USERS WHOSE
                              ETS IS CALCULATED PROPORTIONAL
                              TO THEIR WORKING SET SIZE.

2A0     SRMWSSDL    004       START OF TOTAL WORKING SET SIZE
                              TABLE.  SUM OF WSS'S FOR ALL
                              USERS (Q0...Q3) CURRENTLY IN THE
                              DISPATCH LIST.
2A4     SRMWSSD1    004       SUM OF WSS'S FOR ALL Q1, Q2, AND
                              Q3 USERS CURRENTLY IN THE
                              DISPATCH LIST.
2A8     SRMWSSD2    004       SUM OF WSS'S FOR ALL Q2 AND Q3
                              USERS CURRENTLY IN THE DISPATCH
                              LIST.
2AC     SRMWSSD3    004       SUM OF WSS'S FOR ALL Q3 USERS
                              CURRENTLY IN THE DISPATCH LIST.

2B0     SRMWSSLG    004       START OF LARGEST USER THAT CAN
                              FIT INTO STORAGE BY CLASS TABLE.
                              EQUIVALENT TO TOTAL UNUSED
                              STORAGE AVAILABLE PER CLASS.
                              USED TO DETERMINE IF A USER
                              SHOULD BE ALLOWED INTO THE
                              DISPATCH LIST.  FIRST ENTRY IS
                              FOR INDEXING ONLY SINCE CLASS 0
                              USERS ARE ALWAYS ALLOWED IN THE
                              DISPATCH LIST.

2B4     SRMWSSL1    004       LARGEST E1 USER THAT CAN FIT
                              INTO STORAGE = TOTAL UNUSED
                              Q1 STORAGE
2B8     SRMWSSL2    004       LARGEST E2 USER THAT CAN FIT
                              INTO STORAGE = TOTAL UNUSED
                              Q2 STORAGE
2BC     SRMWSSL3    004       LARGEST E3 USER THAT CAN FIT
                              INTO STORAGE = TOTAL UNUSED
                              Q3 STORAGE

                    EQUATES

        04     SRMWSSEL       SIZE OF AN ENTRY FOR THE
                              SRMWSSDL AND SRMWSSLG (ALSO
                              SRMPCWSS) TABLES


2C0             F             RESERVED FOR FUTURE IBM USE
2C4             F             RESERVED FOR FUTURE IBM USE
2C8             F             RESERVED FOR FUTURE IBM USE
2CC             F             RESERVED FOR FUTURE IBM USE
2D0             F             RESERVED FOR FUTURE IBM USE
2D4             F             RESERVED FOR FUTURE IBM USE
                              ADJUNCT LIST LOCK
2D8     SRMALOCK    008       ADJUNCT LIST LOCK
                              * * * WARNING: THIS AREA IS MAPPED BY THE SYNBK COPY FILE.
                              * * * THE AREA MUST BE 3 DOUBLE WORDS.
                              SCHEDULER LOCK
2F0     SRMSLOCK    008       SCHEDULER LOCK
                              * * * WARNING: THIS AREA IS MAPPED BY THE SYNBK COPY FILE.
                              * * * THE AREA MUST BE 3 DOUBLE WORDS.

                    EQUATES
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61 SRMSIZE SRMBK SIZE IN DOUBLE WORDS

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
SRMABSDE	004	150	SRMD2WSS	004	208	SRMMVESL	008	298
SRMABSDL	004	144	SRMD3DSP	002	1CE	SRMMXPAG	004	108
SRMADJL	004	0A0	SRMD3LDG	004	1E4	SRMNCPUA	002	18A
SRMALOCK	008	2D8	SRMD3WSS	004	20C	SRMNEWVM	004	254
SRMAPGDE	004	0F8	SRMEDFF	004	258	SRMNWRSC	001	008
SRMAWAIT	001	080	SRMEDFFC	004	264	SRMPCLDG	004	1E8
SRMAWSDE	004	0FC	SRMEDFF1	004	258	SRMPCWSS	004	210
SRMBIASD	002	188	SRMEDFF2	004	25C	SRMPELDG	001	1F8
SRMBIASI	004	184	SRMEDFF3	004	260	SRMPEWSS	001	220
SRMBK	001	000	SRMELIST	004	000	SRMPGRDE	004	240
SRMBLOCK	001	24C	SRMEONE	001	001	SRMPGRDL	004	244
SRMCDISP	002	048	SRMEPNFC	001	070	SRMPGRLD	004	118
SRMCDLDG	002	050	SRMEPNF0	002	070	SRMPGSRW	004	10C
SRMCDORM	004	068	SRMEPNF1	002	072	SRMPGWTF	004	278
SRMCELDG	002	060	SRMEPNF2	002	074	SRMPRMPT	001	040
SRMCELIG	002	058	SRMEPNF3	002	076	SRMP1LDG	004	1EC
SRMCKELI	001	010	SRMETHRE	001	003	SRMP1WSS	004	214
SRMCKVAL	004	27C	SRMETSDC	004	1AC	SRMP2LDG	004	1F0
SRMCLEAR	001	000	SRMETSIN	004	1A8	SRMP2WSS	004	218
SRMCLS0	001	000	SRMETSLC	002	1B8	SRMP3LDG	004	1F4
SRMCLS1	001	002	SRMETSMN	008	198	SRMP3WSS	004	21C
SRMCLS2	001	004	SRMETSMX	008	1A0	SRMRELDE	004	14C
SRMCLS3	001	006	SRMETWO	001	002	SRMRELDL	004	140
SRMCRCPU	004	284	SRMEZERO	001	000	SRMRSCTM	008	268
SRMCTBEL	001	002	SRME0ETF	002	1B8	SRMRSRVP	004	180
SRMCTBLN	001	004	SRME1ADD	004	014	SRMRTBEL	001	004
SRMCTGRW	004	1B4	SRME1ETF	002	1BA	SRMRTBEN	001	180
SRMCTPRM	004	1B0	SRME1ETS	008	190	SRMRTBL	004	158
SRMCTSHF	001	001	SRME2ADD	004	018	SRMRTBSZ	001	00A
SRMCUSRE	001	068	SRME2ETF	002	1BC	SRMRTHRU	004	148
SRMCUSRL	001	020	SRME3ADD	004	01C	SRMRVLTM	008	040
SRMC1DLD	002	052	SRME3ETF	002	1BE	SRMSDORL	004	098
SRMC1DSP	002	04A	SRMFLAGS	001	28A	SRMSDSPE	001	080
SRMC1ELD	002	062	SRMFRSTP	001	020	SRMSDSPL	002	078
SRMC1ELG	002	05A	SRMHFRST	008	270	SRMSDSP1	002	07A
SRMC1LOW	002	220	SRMHOTIN	004	250	SRMSDSP2	002	07C
SRMC2DLD	002	054	SRMLDGCP	004	22C	SRMSDSP3	002	07E
SRMC2DSP	002	04C	SRMLDGFC	002	0F2	SRMSELGE	001	090
SRMC2ELD	002	064	SRMLDGFW	004	0F0	SRMSELGL	002	088
SRMC2ELG	002	05C	SRMLDGUS	002	0F0	SRMSELG1	002	08A
SRMC3DLD	002	056	SRMLEDSP	001	1C8	SRMSELG2	002	08C
SRMC3DSP	002	04E	SRMLMDSP	002	1C0	SRMSELG3	002	08E
SRMC3ELD	002	066	SRMLMLDG	002	1D0	SRMSIZE	001	061
SRMC3ELG	002	05E	SRMLMTEL	001	004	SRMSLDDE	001	088
SRMC3LOW	002	222	SRMLOTHR	004	154	SRMSLDDL	002	080
SRMDCPUM	004	290	SRMLSCAN	001	032	SRMSLDD1	002	082
SRMDFLDG	004	1DC	SRMLSTEL	001	003	SRMSLDD2	002	084
SRMDFWSS	004	204	SRMLL1DSP	002	1C2	SRMSLDD3	002	086
SRMDLADD	004	00C	SRMLL1LDG	002	1D2	SRMSLDEL	002	090
SRMDLSCN	004	008	SRML2DSP	002	1C4	SRMSLDE1	002	092
SRMDLTLD	008	120	SRML2LDG	002	1D4	SRMSLDE2	002	094
SRMDSPEL	001	002	SRML3DSP	002	1C6	SRMSLDE3	002	096
SRMDSVMW	004	0A4	SRML3LDG	002	1D6	SRMSLOCK	008	2F0
SRMD1DSP	002	1CA	SRMMLIST	004	004	SRMSPGRT	004	0F4
SRMD1LDG	004	1DC	SRMMNLDC	004	228	SRMSPLIN	004	06C
SRMD1WSS	004	204	SRMMNPGR	004	104	SRMSSCAN	001	005
SRMD2DSP	002	1CC	SRMMSCPU	002	288	SRMSSTEL	004	0AC
SRMD2LDG	004	1E0	SRMMSPFX	004	28C	SRMSTDSP	002	24E

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Name	Len	Value/Disp
SRMSTEAL	004	0A8
SRMSTORP	004	09C
SRMSTORQ	004	0EC
SRMSTPTB	004	294
SRMSTRD	008	110
SRMSTSRW	004	134
SRMSUSRC	001	070
SRMSUSRE	001	098
SRMTATM	001	0C8
SRMTATM1	008	0C8
SRMTATM2	008	0D0
SRMTATM3	008	0D8
SRMTDTM	001	0B0
SRMTDTM1	008	0B0
SRMTDTM2	008	0B8
SRMTDTM3	008	0C0
SRMTIDCT	001	28B
SRMTIDLE	008	0E0
SRMTIMIN	008	030
SRMTIMN	004	030
SRMTMSYS	008	138
SRMTODSV	008	038
SRMTOTDE	004	14C
SRMTOTLS	004	140
SRMTOTST	004	248
SRMTSHOT	008	028
SRMTSLIC	008	020
SRMT1PGR	004	12C
SRMT1USR	004	130
SRMT1WSS	004	128
SRMUSERC	001	048
SRMVFACT	004	18C
SRMVMTID	004	010
SRMWSSDE	004	23C
SRMWSSDL	004	2A0
SRMWSSD1	004	2A4
SRMWSSD2	004	2A8
SRMWSSD3	004	2AC
SRMWSSEL	001	004
SRMWSSLG	004	2B0
SRMWSSL1	004	2B4
SRMWSSL2	004	2B8
SRMWSSL3	004	2BC
SRMWSSMN	004	1F8
SRMWSSMP	004	1FC
SRMWTCPU	004	280
SRMXPCTG	004	200
SRMXSIZE	004	0E8
SRMXSRTE	004	100
SRM1AVPG	004	230
SRM1AVWS	004	234
SRM1MNPG	001	001
SRM1MNWS	001	001

HCPSSABK— STATIC SAVE AREA BLOCK

DSECT NAME: SSABK

DESCRIPTIVE NAME: STATIC SAVE AREA BLOCK

FUNCTION: MAP PROCESSOR LOCAL SAVE AREAS

LOCATED BY:

PFXSSA, HCPSSASA

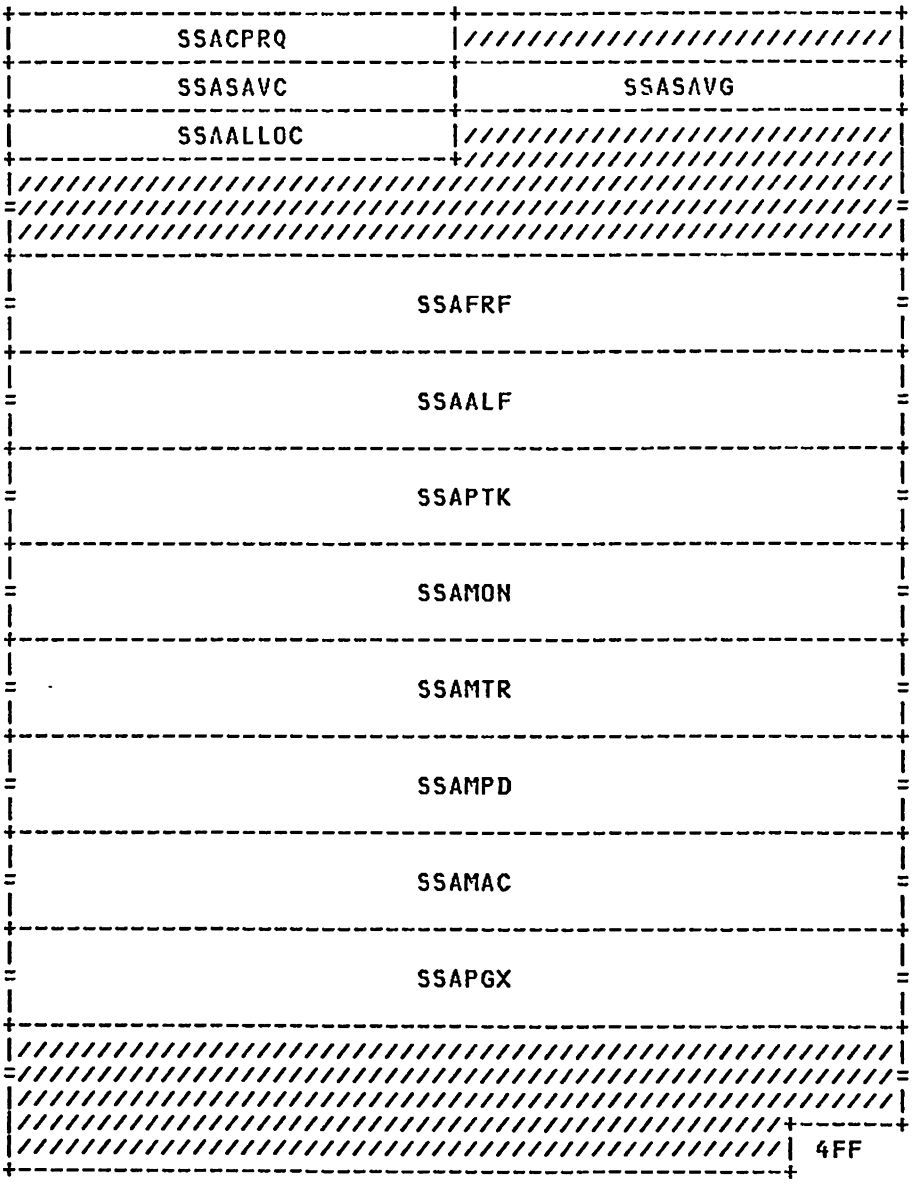
CREATED BY:

HCPSVCON, HCPSSA

DELETED BY:

HCPSVCOF

SSABK - STATIC SAVEAREA BLOCK



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disp	name	length	description
000	SSACPRQ	004	CPRQ COUNT
004		A(0)	CPRQ ANCHOR
008	SSASAVC	004	ACTUAL NUMBER OF SAVEAREAS
00C	SSASAVG	004	AVERAGE NUMBER OF SAVEAREAS
010	SSAALLOC	004	ALLOCATED ADDRESS OF SSABK
014		27F	RESERVED
080	SSAFRF	128	RSM
100	SSAALF	128	RSM
180	SSAPTK	128	RSM
200	SSAMON	128	MONITOR
280	SSAMTR	128	MONITOR
300	SSAMPD	128	RCPU MP DEFER SAVEAREA
380	SSAMAC	128	RSM MACRO REGISTER SAVEAREA
400	SSAPGX	128	RSM PGX SAVEAREA
480		XL127	

EQUATES

A0	SSASIZE	SIZE OF SSABK IN DOUBLEWORDS

CROSS REFERENCE

Name	Len	Value/Disp
SSAALF	128	100
SSAALLOC	004	010
SSABK	001	000
SSACPRQ	004	000
SSAFRF	128	080
SSAMAC	128	380
SSAMON	128	200
SSAMPD	128	300
SSAMTR	128	280
SSAPGX	128	400
SSAPTK	128	180
SSASAVC	004	008
SSASAVG	004	00C
SSASIZE	001	0A0

HCPSTDBK— SYSTEM TERMINATION DATA BLOCK

DSECT NAME: STDBK

DESCRIPTIVE NAME: SYSTEM TERMINATION DATA BLOCK

FUNCTION: CONTAINS ALL CRITICAL SYSTEM DATA WHICH IS LIKELY TO CHANGE DURING SYSTEM ABEND PROCESSING

LOCATED BY:

PFXSTDBK FIELD OF THE PFXPG
IF THE STDBK FOR A PROCESSOR HAS NOT BEEN ALLOCATED,
A BACKUP STDBK AT HCPDMPBK IS USED.

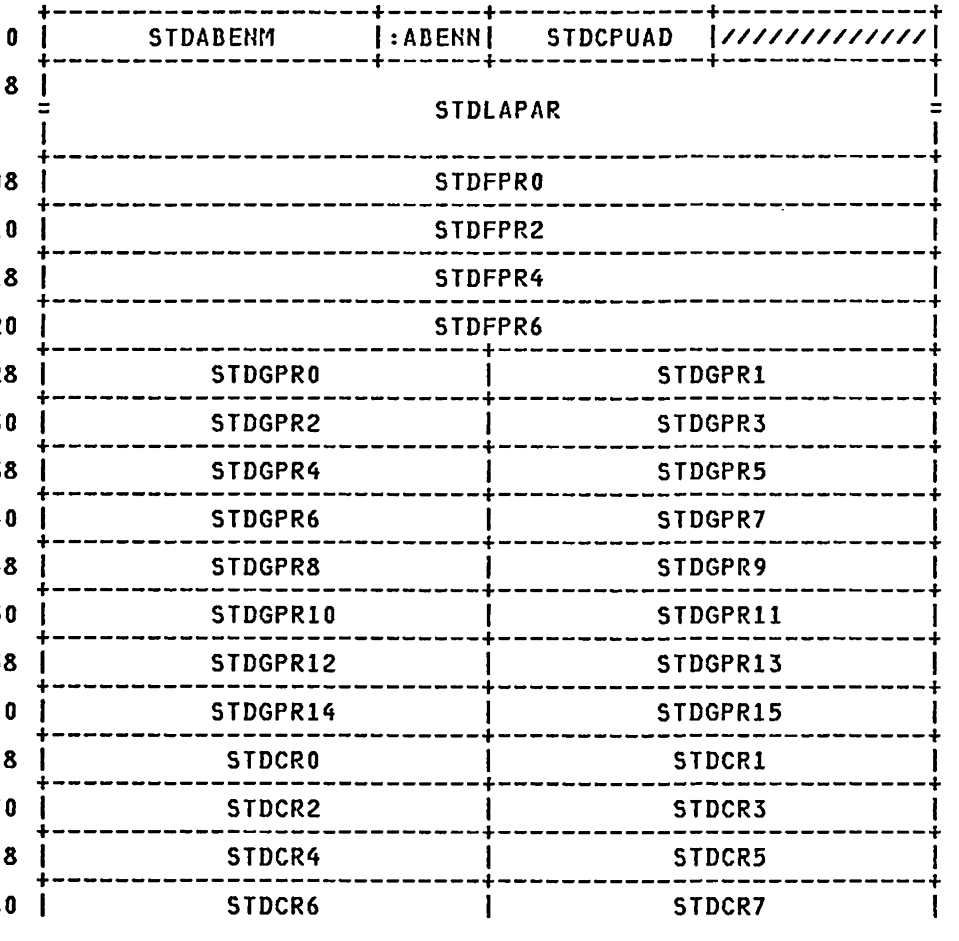
CREATED BY:

ALLOCATED BY -
HCPMPS (MULTI-PROCESSOR STORAGE ALLOCATOR)
DURING PROCESSOR INITIALIZATION
INITIALIZED BY -
HCPDMP (SYSTEM ABEND DUMP PROCESSOR) DURING
SYSTEM ABEND DUMP PROCESSING
HCPSVC (SVC ABEND INTERRUPT HANDLER) WHEN
SETTING UP FOR SYSTEM ABEND DUMP
HCPWRP (SYSTEM TERMINATOR) WHEN TERMINATING
THE SYSTEM DUE TO AN ABEND

DELETED BY:

HCPMPS (MULTI-PROCESSOR STORAGE DE-ALLOCATOR) WHEN A
PROCESSOR IS VARIED OFFLINE
(THE BACKUP STDBK AT HCPDMPBK IS NOT DELETED.)

STDBK - SYSTEM TERMINATION DATA BLOCK



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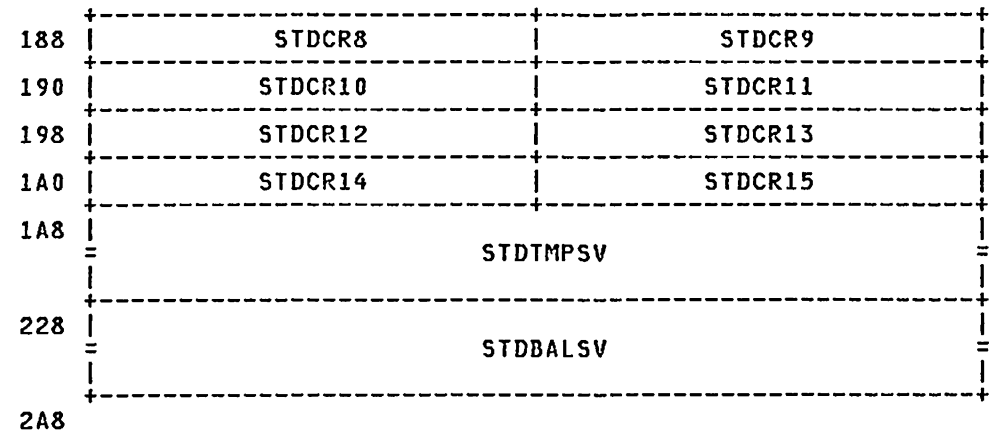

disp	name	length	description
000	STDABEND	004	CP ABNORMAL TERMINATION CODE
000	STDABENM	003	CP ABEND MODULE ID
003	STDABENN	001	CP ABEND DETAIL CODE
004	STDCPUAD	002	'STAP' PROCESSOR ADDRESS
006		XL2	RESERVED FOR FUTURE IBM USE
008	STDLAPAR	256	AREA PROTECTED BY L.A.P. FEATURE
108	STDFPRLG	032	FLOATING POINT REGISTER LOGOUT AREA
108	STDFPR0	008	FLOATING POINT REGISTER 0
110	STDFPR2	008	FLOATING POINT REGISTER 2
118	STDFPR4	008	FLOATING POINT REGISTER 4
120	STDFPR6	008	FLOATING POINT REGISTER 6
128	STDGPRLG	064	GENERAL REGISTER LOGOUT AREA
128	STDGPR0	004	GENERAL REGISTER 0
12C	STDGPR1	004	GENERAL REGISTER 1
130	STDGPR2	004	GENERAL REGISTER 2
134	STDGPR3	004	GENERAL REGISTER 3
138	STDGPR4	004	GENERAL REGISTER 4
13C	STDGPR5	004	GENERAL REGISTER 5
140	STDGPR6	004	GENERAL REGISTER 6
144	STDGPR7	004	GENERAL REGISTER 7
148	STDGPR8	004	GENERAL REGISTER 8
14C	STDGPR9	004	GENERAL REGISTER 9
150	STDGPR10	004	GENERAL REGISTER 10
154	STDGPR11	004	GENERAL REGISTER 11
158	STDGPR12	004	GENERAL REGISTER 12
15C	STDGPR13	004	GENERAL REGISTER 13
160	STDGPR14	004	GENERAL REGISTER 14
164	STDGPR15	004	GENERAL REGISTER 15
168	STDCRLG	064	CONTROL REGISTER LOGOUT AREA
168	STDCR0	004	CONTROL REGISTER 0
16C	STDCR1	004	CONTROL REGISTER 1
170	STDCR2	004	CONTROL REGISTER 2
174	STDCR3	004	CONTROL REGISTER 3
178	STDCR4	004	CONTROL REGISTER 4
17C	STDCR5	004	CONTROL REGISTER 5
180	STDCR6	004	CONTROL REGISTER 6
184	STDCR7	004	CONTROL REGISTER 7
188	STDCR8	004	CONTROL REGISTER 8
18C	STDCR9	004	CONTROL REGISTER 9
190	STDCR10	004	CONTROL REGISTER 10
194	STDCR11	004	CONTROL REGISTER 11
198	STDCR12	004	CONTROL REGISTER 12
19C	STDCR13	004	CONTROL REGISTER 13
1A0	STDCR14	004	CONTROL REGISTER 14
1A4	STDCR15	004	CONTROL REGISTER 15
1A8	STDTMPSV	128	TEMPORARY SAVE AREA
228	STDBALSV	128	BALR LINKAGE SAVE AREA

EQUATES

55	STDSIZE	SIZE OF SYSTEM TERM. DUMP BLOCK

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CROSS REFERENCE

Name	Len	Value/Disp
STDABEND	004	000
STDABENM	003	000
STDABENN	001	003
STDBALSV	128	228
STDBK	001	000
STDCPUAD	002	004
STDCRLG	064	168
STDCR0	004	168
STDCR1	004	16C
STDCR10	004	190
STDCR11	004	194
STDCR12	004	198
STDCR13	004	19C
STDCR14	004	1A0
STDCR15	004	1A4
STDCR2	004	170
STDCR3	004	174
STDCR4	004	178
STDCR5	004	17C
STDCR6	004	180
STDCR7	004	184
STDCR8	004	188
STDCR9	004	18C
STDFPRLG	032	108
STDFPR0	008	108
STDFPR2	008	110
STDFPR4	008	118
STDFPR6	008	120
STDGPRLG	064	128
STDGPR0	004	128
STDGPR1	004	12C
STDGPR10	004	150
STDGPR11	004	154
STDGPR12	004	158
STDGPR13	004	15C
STDGPR14	004	160
STDGPR15	004	164
STDGPR2	004	130
STDGPR3	004	134
STDGPR4	004	138
STDGPR5	004	13C
STDGPR6	004	140
STDGPR7	004	144
STDGPR8	004	148
STDGPR9	004	14C
STDLAPAR	256	008
STDSIZE	001	055
STDTMPSV	128	1A8

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HCPSTLBK— SEGMENT TABLE ENTRY LIST BLOCK

DSECT NAME: STLBK

DESCRIPTIVE NAME: SEGMENT TABLE ENTRY LIST BLOCK

FUNCTION: THERE IS A SEGMENT TABLE ENTRY LIST BLOCK FOR EACH ACTIVE NAMED SAVED SYSTEM (NSS) OR DISCONTIGUOUS SAVED SEGMENT (DCSS). WITHIN THE BLOCK THERE IS ONE SEGMENT TABLE ENTRY FOR EACH MEGABYTE OF ADDRESS SPACE IN THE NSS OR DCSS. THE SEGMENTS CAN BE SHARED OR EXCLUSIVE. THE NUMBER OF SEGMENTS DETERMINES THE SIZE OF THE BLOCK.

LOCATED BY:

SNTSTLPT FIELD OF HCPSNTBK

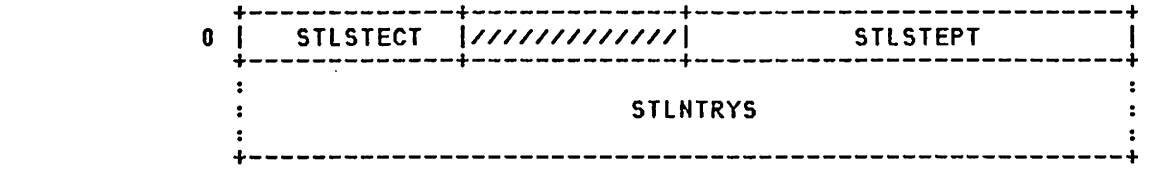
CREATED BY:

HCPBPBSL WHEN AT NSS OR DCSS IS FIRST REFERENCED
AN STLBK IS ATTACHED TO THE USER VIA AN IMBED OPERATION.
ENTRY POINT HCPBPBIM PERFORMS IMBED OPERATIONS.

DELETED BY:

HCPRPBSL WHEN A NSS OR DCSS IS NO LONGER ACTIVE.
AN STLBK IS DETACHED FROM THE USER VIA A REMOVE OPERATION.
MODULE HCPRPBRM PERFORMS REMOVE OPERATIONS.

STLBK - SEGMENT TABLE ENTRY LIST BLOCK



disp	name	length	description
000	STLSTECT	002	NUMBER OF SEGMENT TABLE ENTRIES WITHIN THE STLBK. THE SIZE OF THE CONTROL BLOCK CAN BE DETERMINED BY: ((STLSTECT*4)+STLHDRLN+7)/8. ROUND THE QUOTIENT DOWN.
002		H	RESERVED FOR FUTURE IBM USE

EQUATES

04	STLHDRLN	LENGTH OF CONTROL BLOCK HEADER

004	STLSTEPT	004	FIRST STLBK SEGMENT TABLE ENTRY (SEGTE) WHICH POINTS TO A PAGE MANAGEMENT BLOCK (PGMBK). THIS FIELD CAN BE MAPPED BY COPY FILE HCPSEGTE. THE SEGMENT INVALID BIT (SEGINVAL=1) IS USED WITHIN AN STLBK SEGTE TO INDICATE THAT THE SEGMENT IS EXCLUSIVE AND THAT THE USER MUST BE GIVEN ACCESS TO A COPY OF THE ASSOCIATED PGMBK.
008	STLNTRYS	004	START OF VARIABLE LENGTH DATA THE STLBK CAN HAVE A VARIABLE NUMBER OF SEGMENT TABLE ENTRIES.

THERE IS ONE STLBK SEGMENT
TABLE ENTRY FOR EACH MEGABYTE
OF ADDRESS SPACE REPRESENTED
BY THE STLBK.
IF THERE IS MORE THAN ONE
SEGMENT TABLE ENTRY, THE REST
OF THE SEGMENT TABLE ENTRIES
WITHIN THE STLBK START AT THIS
FIELD.
SINCE THE SEGMENT TABLE ENTRIES
IN THE STLBK ARE MAPPED
BY COPY FILE HCPSEGTE, THE
ADDRESS OF THE NEXT SEGMENT
TABLE ENTRY WITHIN THE STLBK
CAN BE FOUND USING SEGNEXT.
STLNTRYS CANNOT BE USED TO
ADDRESS THE NEXT SEGMENT TABLE
ENTRY WITHIN THE STLBK

CROSS REFERENCE

Name	Len	Value/Disp
STLBK	001	000
STLHDRLN	001	004
STLNTRYS	004	008
STLSTECT	002	000
STLSTEPT	004	004

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HCPSUBBK— SUBPOOL DATA AREA BLOCK

DSECT NAME: SUBBK

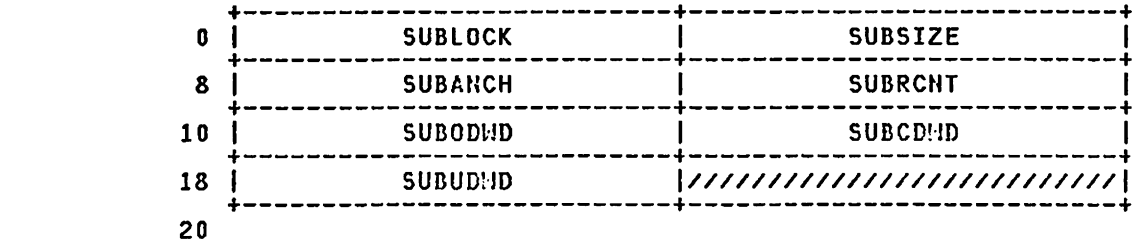
DESCRIPTIVE NAME: SUBPOOL DATA AREA BLOCK

FUNCTION: MAPS EACH OF THE FREE STORAGE SUBPOOL DATA AREA ELEMENTS.

LOCATED BY:

NEVER ALLOCATED

SUBBK - SUBPOOL DATA AREA BLOCK



disp	name	length	description
000	SUBLOCK	004	SUBPOOL LOCK WORD
004	SUBSIZE	004	INTEGRAL SIZE (IN DWDS) OF SUBPOOL BLOCK INCLUDING FRERECL
008	SUBANCH	004	POINTER TO FIRST FRMTE FOR REGULAR FREE STORAGE/FIRST AVAILABLE BLOCK FOR V=R
00C	SUBRCNT	004	COUNT OF REQUESTS THIS SIZE
010	SUBODWD	004	COUNT OF DWD CURRENTLY IN USE (MULTIPLE OF SUBSIZE)
014	SUBCDWD	004	COUNT OF DWDS NOW ON CHAIN
018	SUBUDWD	004	COUNT OF ACTUAL DWD USAGE (DOES NOT INCLUDE INTERNAL FRAGMENTATION)
01C		F	RESERVED FOR FUTURE IBM USE

EQUATES

20	SUBESZ	SIZE OF ONE SUBPOOL ENTRY

CROSS REFERENCE

Name	Len	Value/Disp
SUBANCH	004	008
SUBBK	001	000
SUBCDWD	004	014
SUBESZ	001	020
SUBLOCK	004	000
SUBODWD	004	010
SUBRCNT	004	00C
SUBSIZE	004	004
SUBUDWD	004	018

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HCPSYNBK— SYNCHRONIZING LOCK CONTROL BLOCK

DSECT NAME: SYNBK

DESCRIPTIVE NAME: SYNCHRONIZING LOCK CONTROL BLOCK

FUNCTION: THIS DSECT DESCRIBES THE CONTROL AREA WHICH IS USED TO REPRESENT A SPIN LOCK. IN GENERAL, THE SPIN LOCKS IN THE SYSTEM ARE PERMANENTLY IMBEDDED WITHIN OTHER CONTROL BLOCKS OR MODULES. THIS DSECT DESCRIBES COMMON FORMAT OF ALL SPIN LOCKS. THE LOCK IS ALWAYS 3 DOUBLE-WORDS. ALL SPIN LOCKS ARE OBTAINED THROUGH A STANDARD SYSTEM MACRO, WITH A CALL TO MODULE HCPSYN IF THE LOCK IS NOT OBTAINED IN-LINE TO THE REQUESTING CODE.

LOCATED BY:

THE SYNBK DESCRIBES ANY OF THE SEVERAL SPECIFIC SPIN LOCKS, THEREFORE LOCATING IT DEPENDS UPON LOCATING THE PARTICULAR SPIN LOCK OF INTEREST. FOR EXAMPLE, THE SCHEDULER SPIN LOCK IS CODED IN THE SRMBK AS:

```
SRMSLOCK DS    3D              SCHEDULER LOCK
```

CREATED BY:

GENERALLY THE SYNBK OF A SPIN LOCK IS:

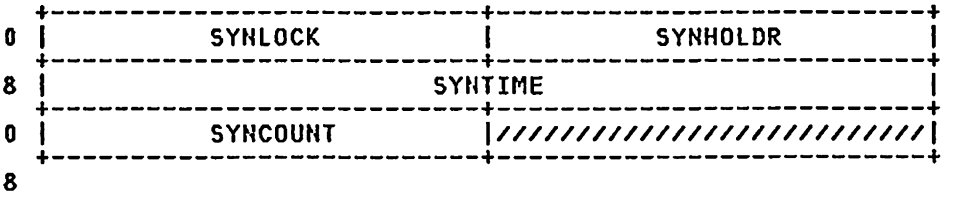
(1) HARD-CODED IN A MODULE AND THEREFORE GENERATED BY THE ASSEMBLER. E.G., THE SWITCH-MASTER LOCK IN HCPMPF.

(2) IMBEDDED IN A PERMANENTLY ALLOCATED CONTROL BLOCK. E.G., THE SCHEDULER LOCK IN THE SRMBK.

DELETED BY:

GENERALLY SYNBK'S ARE NOT DELETED SINCE THEY ARE GENERALLY IMBEDDED IN MODULES OR IN PERMANENTLY ALLOCATED CONTROL BLOCKS.

SYNBK - SYNCHRONIZING LOCK CONTROL BLOCK



disp	name	length	description
000	SYNLOCK	004	SPIN LOCK WORD. CONTENTS ZERO MEANS LOCK IS NOT HELD. NON-ZERO CONTENTS IS THE LOGICAL CPU IDENTIFIER (FROM PFXLCPUA) OF THE CPU WHICH HOLDS THE LOCK.
004	SYNHOLDR	004	MACRO ADDRESS LAST OBTAINING THIS LOCK
008	SYNTIME	008	ELAPSED SPIN TIME ON THIS LOCK STARTING AT ZERO AND COUNTING UP
010	SYNCOUNT	004	NUMBER OF SPINS ON THIS LOCK
014		F	RESERVED FOR FUTURE IBM USE

EQUATES

03	SYNSIZE	SYNBK SIZE IN DOUBLE-WORDS WHICH MUST BE 3 DOUBLE-WORDS SINCE IT IS IMBEDDED IN OTHER CONTROL BLOCKS AND CODE.

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CROSS REFERENCE

Name	Len	Value/Disp
SYNBK	001	000
SYNCOUNT	004	010
SYNHOLDR	004	004
SYNLOCK	004	000
SYNSIZE	001	003
SYNTIME	008	008

HCPSYSCM— SYSTEM COMMON AREA

DSECT NAME: SYSCM

DESCRIPTIVE NAME: SYSTEM COMMON AREA

FUNCTION: CONTAINS SYSTEM-WIDE POINTERS, VARIABLES, COUNTERS, AND CONSTANTS OF WHICH THERE IS ONE COPY (AS COMPARED TO PFXPG WHICH IS ONE COPY PER PROCESSOR).

LOCATED BY:

PFXSYS FIELD OF HCPPFXPG

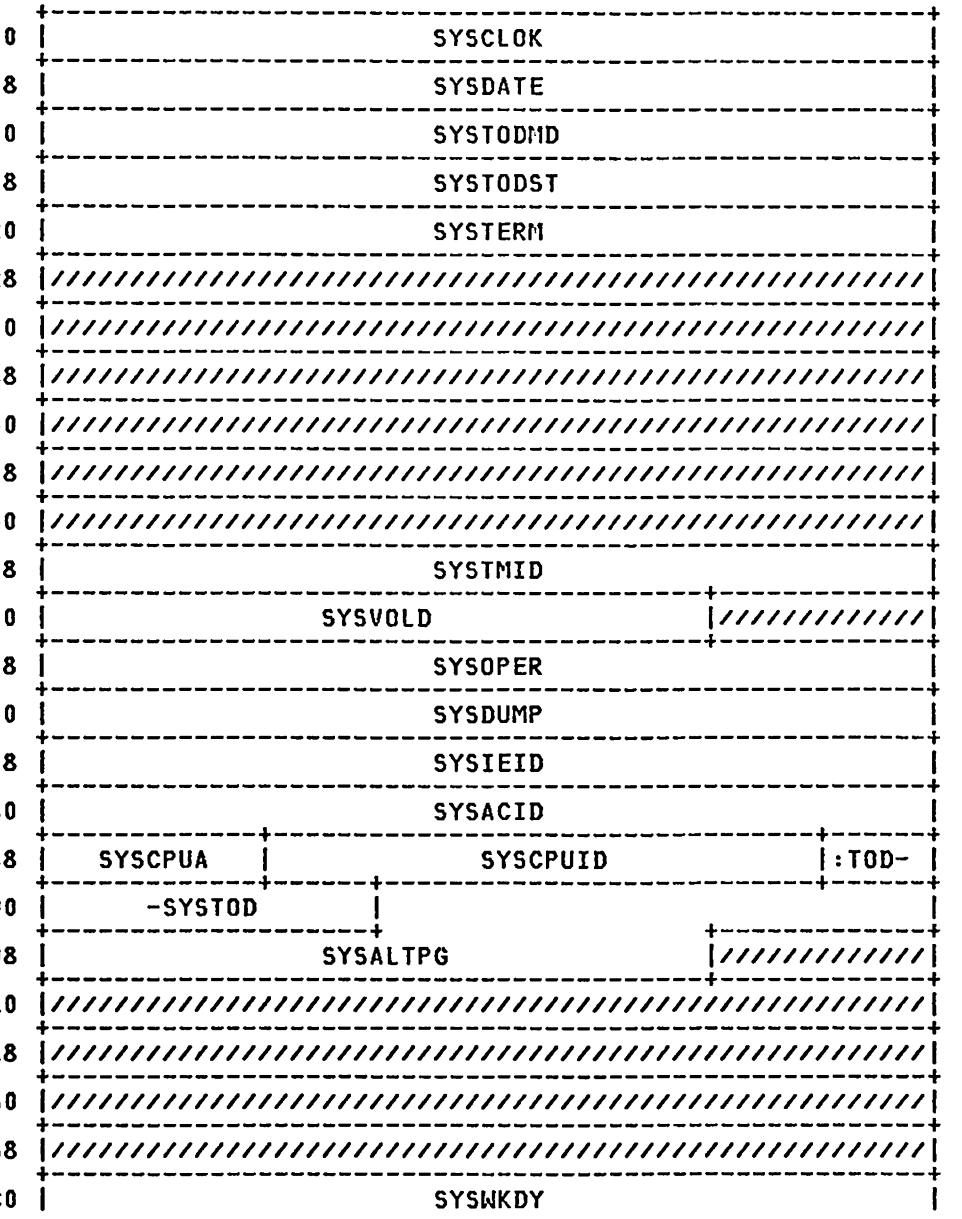
CREATED BY:

HCPSYS ASSEMBLY (SYSGEN)
BLK HCPBLK (CP) VM/XA - SYSTEM PRODUCT 5664-308

DELETED BY:

NONE

SYSCM - SYSTEM COMMON AREA



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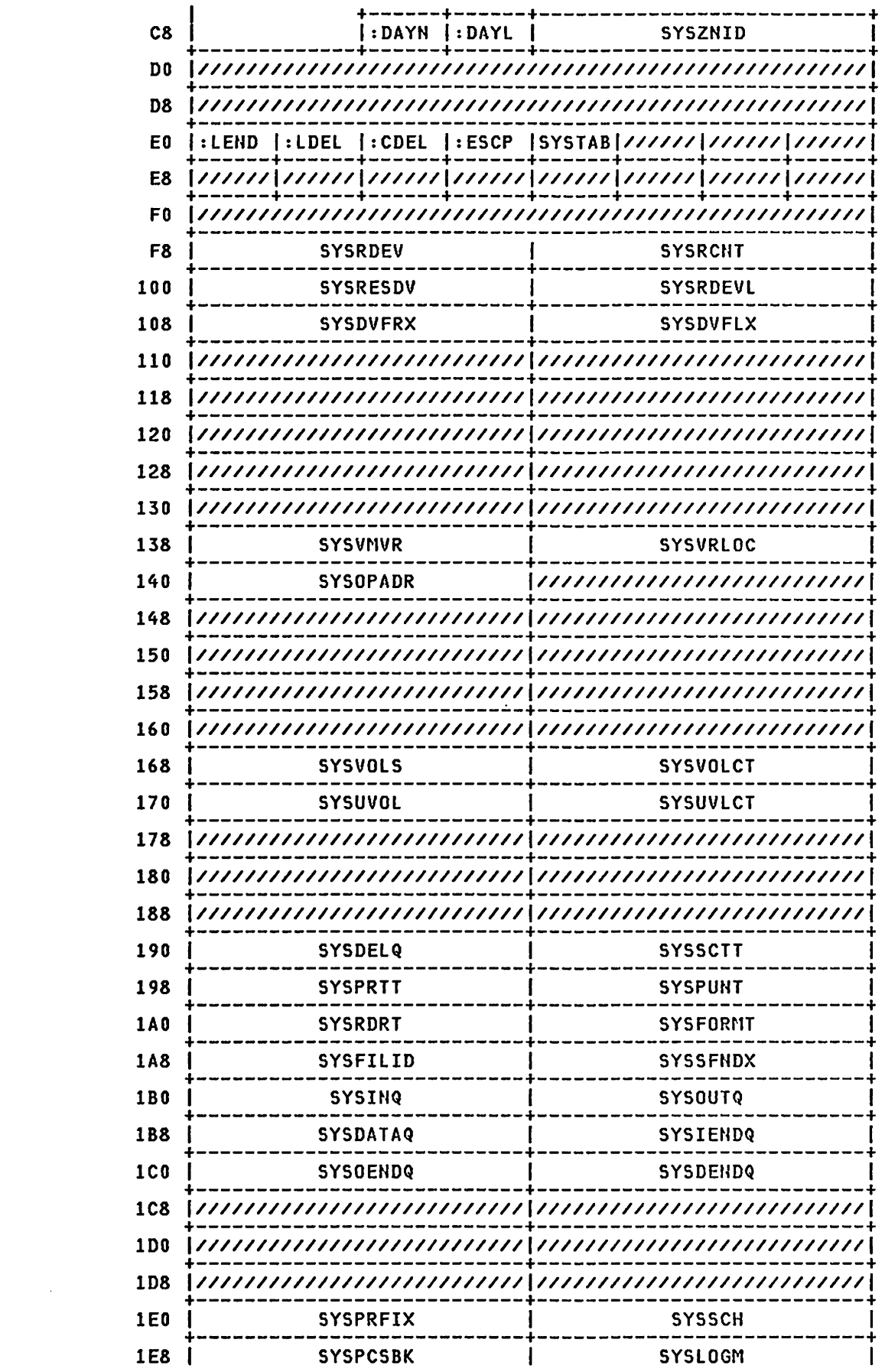
C8 :DAYN :DAYL SYSZNID
D0
D8
E0 :LEND :LDEL :CDEL :ESCP SYSTAB
E8
F0
F8 SYSRDEV SYSRCNT
100 SYSRESDV SYSRDEVL
108 SYSDVFRX SYSDVFLX
110
118
120
128
130
138 SYSVMVR SYSVRLOC
140 SYSOPADR
148
150
158
160
168 SYSVOLS SYSVOLCT
170 SYSUVOL SYSUVLCT
178
180
188
190 SYSDELQ SYSSCTT
198 SYSPRTT SYSPUNT
1A0 SYSRDRT SYSFORMT
1A8 SYSFILID SYSSFNDX
1B0 SYSINQ SYSOUTQ
1B8 SYSDATAQ SYSIENDQ
1C0 SYSOENDQ SYSDENDQ
1C8
1D0
1D8
1E0 SYSPRFIX SYSSCH
1E8 SYSPCSBK SYSLOGM

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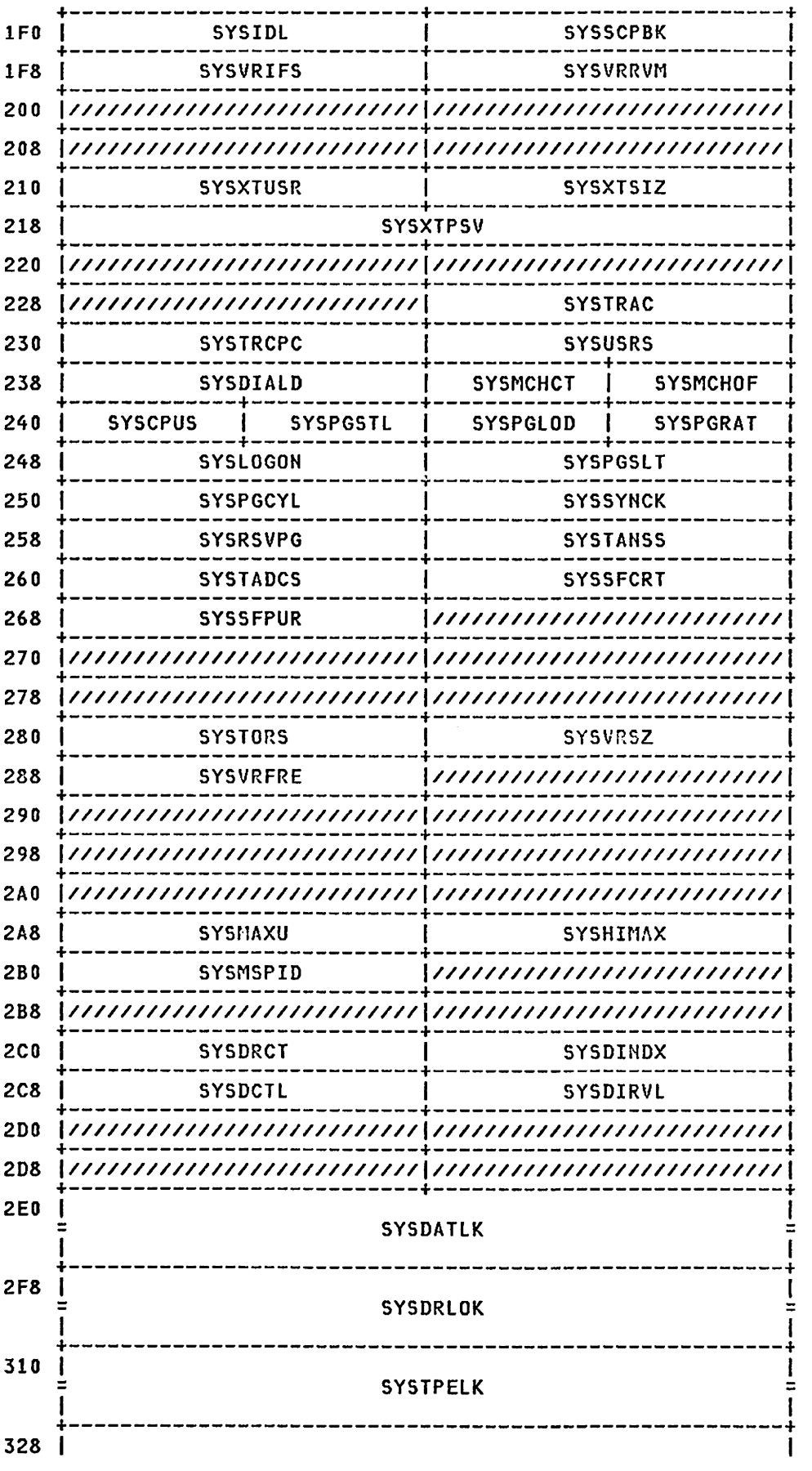

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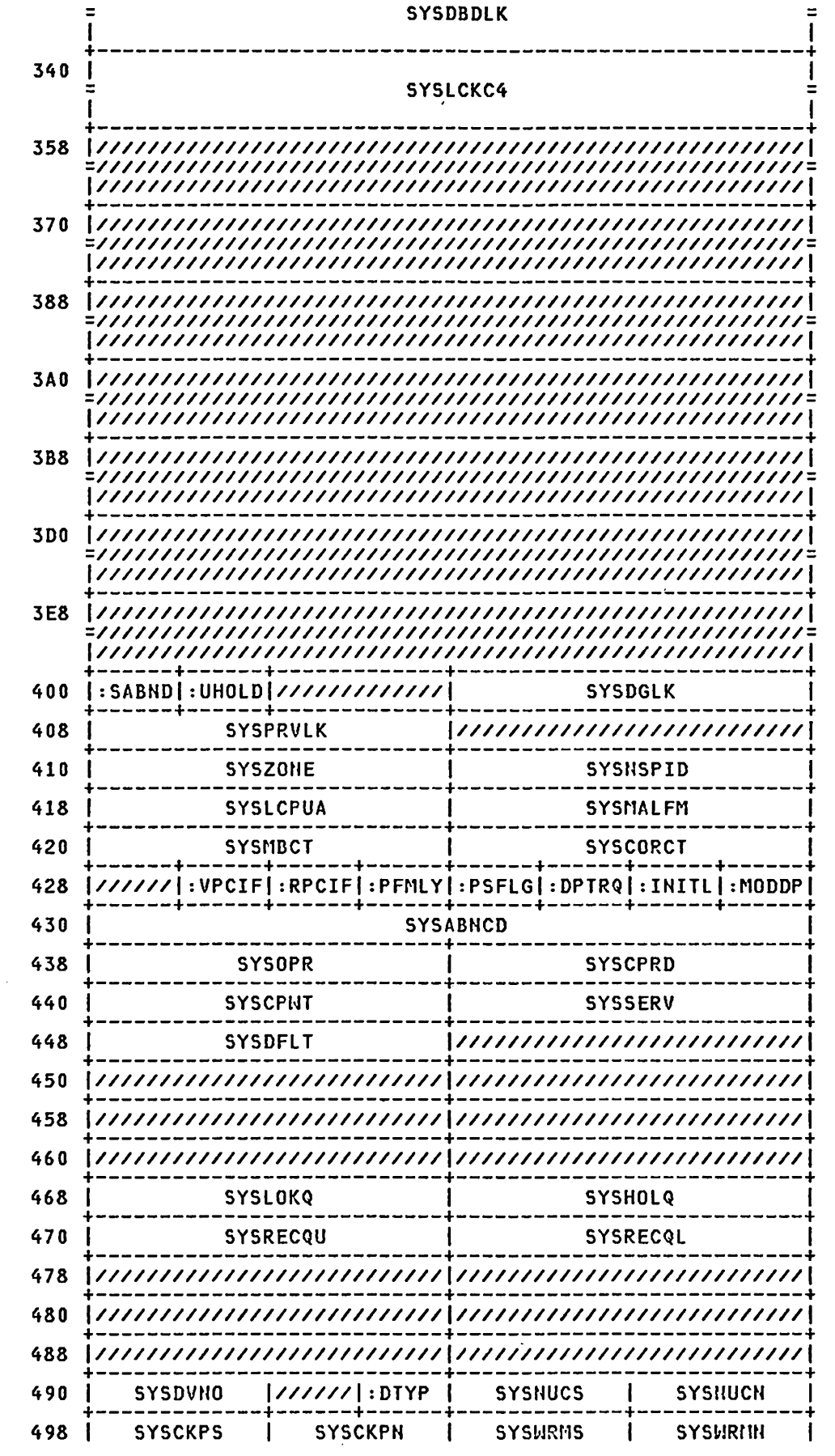
SYSDBDLK
340
SYSLCKC4
358
370
388
3A0
3B8
3D0
3E8
400
:SABND
:UHOLD
SYSDGLK
408
SYSPRVLK
410
SYSZONE
SYSNSPID
418
SYSLCPUA
SYSMALFM
420
SYSMBCT
SYSCORCT
428
:VPCIF
:RPCIF
:PFMLY
:PSFLG
:DPTRQ
:INITL
:MODDP
430
SYSABNCD
438
SYSOPR
SYSCPRD
440
SYSCPNT
SYSSERV
448
SYSDFLT
450
458
460
468
SYSLOKQ
SYSHOLQ
470
SYSRECQU
SYSRECQL
478
480
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SYSDVNO
:DTYP
SYSNUCS
SYSNUCN
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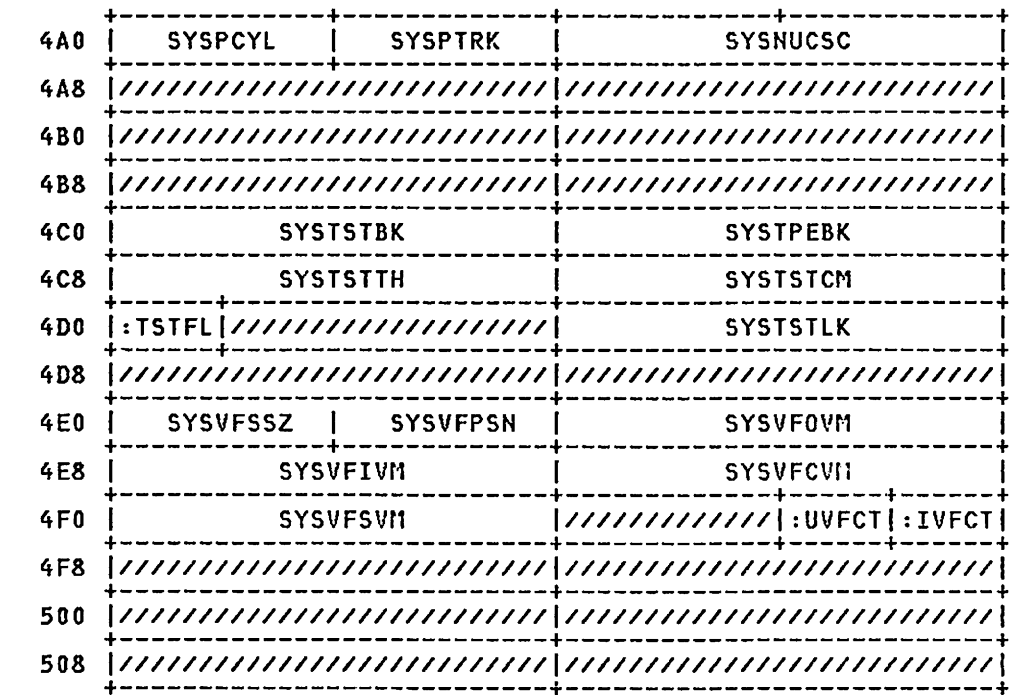
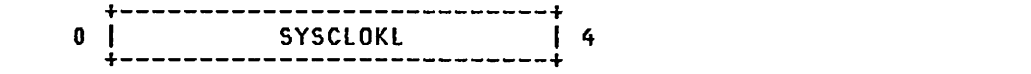
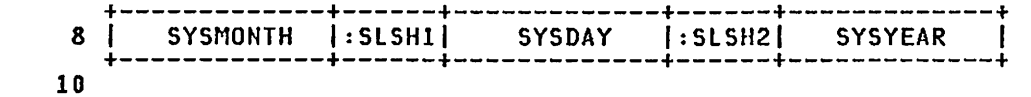
SYSCKPS
SYSCKPN
SYSWRMS
SYSWRMN



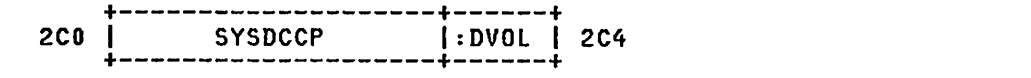
REDEFINITION - REDEFINITION OF SYSCLOK



REDEFINITION - REDEFINITION OF SYSDATE



REDEFINITION -



disp	name	length	description
000	SYSSTRT	008	START OF SYSLOCS
000	SYSCLOK	008	LATEST TOD CLOCK VALUE STORED
008	SYSDATE	008	CURRENT DATE
010	SYSTODMD	008	TIME OF DAY CLOCK VALUE AT MIDNIGHT
018	SYSTODST	008	TIME OF DAY CLOCK AT IPL
020	SYSTERM	008	TIME OF DAY CLOCK AT TERMINATION
028		D'0'	RESERVED FOR FUTURE IBM USE
030		D'0'	RESERVED FOR FUTURE IBM USE
038		D'0'	RESERVED FOR FUTURE IBM USE
040		D'0'	RESERVED FOR FUTURE IBM USE
048		D'0'	RESERVED FOR FUTURE IBM USE
050		D'0'	RESERVED FOR FUTURE IBM USE
058	SYSTMID	008	VM/370 SYSTEM IDENTIFIER
060	SYSVOLD	006	SYSTEM RESIDENCE VOLUME SERIAL ID

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066                 CL2'      (ALIGNMENT)
068    SYSOPER      008       USERID OF PRIMARY SYSTEM OPERATOR
070    SYSDUMP      008       USERID FOR SYSTEM DUMP RECEIVER
078    SYSIEID      008       USERID TO RECIEVE I/O ERROR RECORDS
080    SYSACID      008       USERID TO RECEIVE ACCOUNTING RECORDS
088    SYSDPID      011       DYNAMIC PATHING GROUP IDENTIFIER
088    SYSCPUA      002       CPU ADDRESS
08A    SYSCPUID     005       CPU IDENTIFICATION
08F    SYSTOD       004       FIRST HALF OF TOD CLOCK VALUE
093    SYSALTPG     011       SYSTEM ALTERNATE PATH GROUP
                              00009B 404040
                          ID - FOR DYNAMIC PATHING DEVICES
09E                 CL2'      (ALIGNMENT)
0A0                 CL8'      RESERVED FOR FUTURE IBM USE
0A8                 CL8'      RESERVED FOR FUTURE IBM USE
0B0                 CL8'      RESERVED FOR FUTURE IBM USE
0B8                 CL8'      RESERVED FOR FUTURE IBM USE
0C0    SYSWKDY      010       CURRENT DAY OF THE WEEK NAME
0CA    SYSDAYN      001       DAY OF WEEK NUMBER (1-7) IN BINARY
0CB    SYSDAYL      001       DAY OF WEEK LENGTH IN BYTES
0CC    SYSZNID      004       TOD CLOCK TIME ZONE IDENTIFIER
0D0                 CL8'      RESERVED FOR FUTURE IBM USE
0D8                 CL8'      RESERVED FOR FUTURE IBM USE
0E0    SYSLEND      001       DEFAULT LOGICAL LINE-END CHAR
0E1    SYSLDEL      001       DEFAULT LOGICAL LINE-DELETE CHAR
0E2    SYSCDEL      001
0E3    SYSESCP      001       DEFAULT LOGICAL ESCAPE CHARACTER
0E4    SYSTAB       001       DEFAULT TAB CHARACTER
0E5                 CL1       RESERVED FOR FUTURE IBM USE
0E6                 CL1       RESERVED FOR FUTURE IBM USE
0E7                 CL1       RESERVED FOR FUTURE IBM USE
0E8                 AL1       RESERVED FOR FUTURE IBM USE
0E9                 AL1       RESERVED FOR FUTURE IBM USE
0EA                 AL1       RESERVED FOR FUTURE IBM USE
0EB                 AL1       RESERVED FOR FUTURE IBM USE
0EC                 AL1       RESERVED FOR FUTURE IBM USE
0ED                 AL1       RESERVED FOR FUTURE IBM USE
0EE                 AL1       RESERVED FOR FUTURE IBM USE
0EF                 AL1       RESERVED FOR FUTURE IBM USE
0F0                 CL8'      RESERVED FOR FUTURE IBM USE
0F8    SYSRDEV      004       FIRST REGULAR RDEV BLOCK
0FC    SYSRCNT      004       COUNT OF RDEV BLOCKS
100    SYSRESDV     004       SYSTEM RESIDENCE RDEV BLOCK
104    SYSRDEVL     004       ADDRESS FOLLOWING LAST RDEV BLOCK
108    SYSDVFRX     004       LOCATOR FOR DVF REFERENCE TO RIOBKS
10C    SYSDVFLX     004       LOCATOR FOR DVF REFERENCE TO LIOBKS
110                 A(0)      RESERVED FOR FUTURE IBM USE
114                 A(0)      RESERVED FOR FUTURE IBM USE
118                 A(0)      RESERVED FOR FUTURE IBM USE
11C                 A(0)      RESERVED FOR FUTURE IBM USE
120                 A(0)      RESERVED FOR FUTURE IBM USE
124                 A(0)      RESERVED FOR FUTURE IBM USE
128                 A(0)      RESERVED FOR FUTURE IBM USE
12C                 A(0)      RESERVED FOR FUTURE IBM USE
130                 A(0)      RESERVED FOR FUTURE IBM USE
134                 A(0)      RESERVED FOR FUTURE IBM USE
138    SYSVMVR      004       V=R USER VMDBLOCK WHEN LOGGED ON
13C    SYSVRLOC     004       ADDRESS WHERE V=R USER VMDBK WILL BE
140    SYSOPADR     004       SYSTEM OPERATOR VMDBLOCK ADDRESS
144                 A(0)      RESERVED FOR FUTURE IBM USE
148                 A(0)      RESERVED FOR FUTURE IBM USE
14C                 A(0)      RESERVED FOR FUTURE IBM USE
150                 A(0)      RESERVED FOR FUTURE IBM USE
154                 A(0)      RESERVED FOR FUTURE IBM USE
158                 A(0)      RESERVED FOR FUTURE IBM USE
15C                 A(0)      RESERVED FOR FUTURE IBM USE
160                 A(0)      RESERVED FOR FUTURE IBM USE
164                 A(0)      RESERVED FOR FUTURE IBM USE
168    SYSVOLS      004       CP OWNED VOLUME ENTRY
16C    SYSVOLCT     004       CP OWNED VOLUME COUNT
170    SYSUVOL      004       USER     VOLUME LIST
174    SYSUVLCT     004       USER     VOLUME COUNT
178                 A(0)      RESERVED FOR FUTURE IBM USE
17C                 A(0)      RESERVED FOR FUTURE IBM USE
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180		A(0)	RESERVED FOR FUTURE IBM USE
184		A(0)	RESERVED FOR FUTURE IBM USE
188		A(0)	RESERVED FOR FUTURE IBM USE
18C		A(0)	RESERVED FOR FUTURE IBM USE
190	SYSDELQ	004	SPOOL FILE DELETE QUEUE
194	SYSSCTT	004	SPOOL CLASSIFICATION TITLE TABLE PTR
198	SYSPRTT	004	PRINTER TABLE
19C	SYSPUNT	004	PUNCH TABLE
1A0	SYSRDRT	004	READER TABLE
1A4	SYSFORMT	004	POINTER TO SYSTEM FORM TABLE
1A8	SYSFILID	004	POINTER TO FILEID TABLE
1AC	SYSSFNDX	004	NUMBER OF SFNDX PAGES IN WRMST AREA
1B0	SYSINQ	004	SYSTEM INPUT QUEUE POINTER
1B4	SYSOUTQ	004	SYSTEM OUTPUT QUEUE POINTER
1B8	SYSDATAQ	004	SYSTEM DATA FILE QUEUE POINTER
1BC	SYSIENDQ	004	POINTER TO END OF SYSTEM INPUT QUEUE
1C0	SYSOENDQ	004	POINTER TO END OF SYSTEM OUTPUT QUEUE
1C4	SYSDENDQ	004	POINTER TO END OF SYSTEM DATA FILE Q
1C8		A(0)	RESERVED FOR FUTURE IBM USE
1CC		A(0)	RESERVED FOR FUTURE IBM USE
1D0		A(0)	RESERVED FOR FUTURE IBM USE
1D4		A(0)	RESERVED FOR FUTURE IBM USE
1D8		A(0)	RESERVED FOR FUTURE IBM USE
1DC		A(0)	RESERVED FOR FUTURE IBM USE
1E0	SYSPRFIX	004	PREFIX AREA FOR IPL'D PROCESSOR
1E4	SYSSCH	004	SCHEDULER CONTROL BLOCK
1E8	SYSPCSBK	004	POINTER TO PROCESSOR CONTROLLER STATUS BLOCK
1EC	SYSLOGM	004	LOGMSG CONTROL AREA
1F0	SYSIDL	004	ADDRESS OF SYSTEM ID LIST (SIDBK)
1F4	SYSSCPBK	004	SCPINFO DATA BLOCK ADDRESS
1F8	SYSVRIFS	004	ADDRESS OF IFSNT
1FC	SYSVRRVM	004	ANCHOR FOR AVAILABLE V=R MP VMDBKS
200		A(0)	RESERVED FOR FUTURE IBM USE
204		A(0)	RESERVED FOR FUTURE IBM USE
208		A(0)	RESERVED FOR FUTURE IBM USE
20C		A(0)	RESERVED FOR FUTURE IBM USE
210	SYSXTUSR	004	VMDBK ADDRESS OWNING EXTENDED STORAGE FACILITY
214	SYSXTSIZ	004	THE NUMBER OF PAGES IN THE EXTENDED STORAGE FACILITY.
218	SYSXTPSV	008	USERID OF PREVIOUS OWNER OF THE EXTENDED STORAGE FACILITY - THIS IS ONLY SET WHEN THE OWNER IS FORCED OFF AND THAT OWNER IS A V=R GUEST
220		F'0'	RESERVED FOR FUTURE IBM USE
224		F'0'	RESERVED FOR FUTURE IBM USE
228		F'0'	RESERVED FOR FUTURE IBM USE
22C	SYSTRAC	004	NBR TRACE TABLE PAGES COUNT EACH CPU
230	SYSTRCPC	004	ACTUAL TRACE PAGE COUNT PER PROCESSOR
234	SYSUSRS	004	CURRENT LOGGED ON USERS COUNT
238	SYSDIALD	004	CURRENT DIALED USERS COUNT
23C	SYSMCHRC	004	SYSTEM RECOVERY MACHINE CHK RECORDING
23C	SYSMCHCT	002	COUNT OF SYSTEM RECOVERY MACHINE CHKS
23E	SYSMCHOF	002	COUNT AT WHICH TO TURN MACHINE CHECK RECORDING OFF, 0 IF NO RECORDING
240	SYSCPUS	002	ACTIVE PROCESSORS COUNT
242	SYSPGSTL	002	PAGE STEALS COUNT
244	SYSPGLOD	002	PAGING LOAD
246	SYSPGRAT	002	PAGING RATIO
248	SYSLOGON	004	COUNT OF LOGONS
24C	SYSPGSLT	004	COUNT OF PAGING SLOTS AVAILABLE
250	SYSPGCYL	004	COUNT OF PAGING CYLINDERS IN USE
254	SYSSYNCK	004	COUNT OF TOD CLOCK SYNCHRONIZATION CHECKS
258	SYSRSVPG	004	COUNT OF RESERVED PAGES
25C	SYSTANSS	004	NUMBER OF CURRENTLY ACTIVE NSS
260	SYSTADCS	004	NUMBER OF CURRENTLY ACTIVE DCSS
264	SYSSFCRT	004	
268	SYSSFPUR	004	
26C		F'0'	RESERVED FOR FUTURE IBM USE
270		F'0'	RESERVED FOR FUTURE IBM USE
274		F'0'	RESERVED FOR FUTURE IBM USE
278		F'0'	RESERVED FOR FUTURE IBM USE

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27C               F'0'      RESERVED FOR FUTURE IBM USE
280   SYSTORS     004       REAL MACHINE SPECIFIED STORAGE SIZE
284   SYSVRSZ     004       SIZE OF V=R AREA IN BYTES
288   SYSVRFRE    004       SIZE OF V=R RESERVED FREE STORAGE
                            (INCLUDING THE VMDBK) IN BYTES
28C               F'0'      RESERVED FOR FUTURE IBM USE
290               F'0'      RESERVED FOR FUTURE IBM USE
294               F'0'      RESERVED FOR FUTURE IBM USE
298               F'0'      RESERVED FOR FUTURE IBM USE
29C               F'0'      RESERVED FOR FUTURE IBM USE
2A0               F'0'      RESERVED FOR FUTURE IBM USE
2A4               F'0'      RESERVED FOR FUTURE IBM USE
2A8   SYSMAXU     004       MAXIMUM NUMBER OF USERS ALLOWED ON
2AC   SYSHIMAX    004       HIGH-WATER-MARK OF LOGGED-ON USERS
2B0   SYSMSPID    004       MAXIMUM SYSTEM SPOOL FILE ID
2B4               F'0'      RESERVED FOR FUTURE IBM USE
2B8               F'0'      RESERVED FOR FUTURE IBM USE
2BC               F'0'      RESERVED FOR FUTURE IBM USE
2C0   SYSDRCT     004       SYSTEM DIRECTORY DASD START
2C4   SYSDINDX    004       SYSTEM DIRECTORY INDEX PAGE POINTER
2C8   SYSDCTL     004       SYSTEM DIRECTORY CURRENT CONTROL AREA
2CC   SYSDIRVL    004       ADDRESS OF CPVOL CONTAINING SYSTEM
                            DIRECTORY
2D0               F'0'      RESERVED FOR IBM USE
2D4               F'0'      RESERVED FOR IBM USE
2D8               F'0'      RESERVED FOR IBM USE
2DC               F'0'      RESERVED FOR IBM USE
2E0   SYSDATLK    008       LOCK FOR TOD AND DATE
2F8   SYSDRLOK    008       LOCK FOR DIRECTORY
310   SYSTPELK    008       LOCK FOR TPEBK
328   SYSDBDLK    008       DIRECTORY BUILD LOCK
340   SYSLCKC4    008       SERIALIZE DIAGNOSE X'C4'
358               3D'0'     RESERVED FOR FUTURE IBM USE
370               3D'0'     RESERVED FOR FUTURE IBM USE
388               3D'0'     RESERVED FOR FUTURE IBM USE
3A0               3D'0'     RESERVED FOR FUTURE IBM USE
3B8               3D'0'     RESERVED FOR FUTURE IBM USE
3D0               3D'0'     RESERVED FOR FUTURE IBM USE
3E8               3D'0'     RESERVED FOR FUTURE IBM USE
400   SYSHUDSP    004       HOLD USERS DISPATCH WORD
                            USERS CAN ONLY BE DISPATCHED WHEN THIS WORD IS ZERO
400   SYSSABND    001       SOFT ABEND USER DISPATCH HOLD BYTE
                            THIS BYTE IS LOCKED BY SOFT ABEND LOCK

        BITS DEFINED IN SYSSABND (AT HEX DISPLACEMENT: 400)

        08     SYSSABNF     SOFT ABEND IN PROGRESS

401   SYSUHOLD    001       USER DISPATCH HOLD BYTE
                            THIS BYTE IS LOCKED BY RUNNING ON THE SYSTEM VMDBK

        BITS DEFINED IN SYSUHOLD (AT HEX DISPLACEMENT: 401)

        80     SYSSHTDN     SYSTEM SHUTDOWN IN PROGRESS

402               2XL1'0'   RESERVED FOR FUTURE IBM USE
404   SYSDGLK     004       DIAGNOSE CODE TABLE LOCKWORD
408   SYSPRVLK    004       SYSTEM PRIVILEGE CLASSES LOCKWORD
40C               F'0'      RESERVED FOR FUTURE IBM USE
410   SYSZONE     004       TOD CLOCK TIME ZONE DIFFERENTIAL
414   SYSNSPID    004       NEXT SPID TO BE ASSIGNED
418   SYSLCPUA    004       OR'D MASKS FOR ALL ACTIVE CPUS
41C   SYSMALFM    004       SYSTEM MALFUNCTION ALERT MASK
420   SYSMBCT     004       NUMBER OF BCTS IN 50MILISEC
424   SYSCORCT    004       ERROR RECORDING CORRELATION COUNT
428               XL1'0'    RESERVED FOR FUTURE IBM USE
429   SYSVPCIF    001       PROCESSOR CONTROLLER INTERFACE:
                            IDENTIFICATION USED TO ACCEPT VIRTUAL
                            SYSTEM DIAGNOSE X'80' OR SERVICE CALL
                            INSTRUCTIONS FOR SIMULATION

        BITS DEFINED IN SYSVPCIF (AT HEX DISPLACEMENT: 429)

        80     SYSVSC3      SERVICE CALL 370 MODE
```

	40	SYSVSCX	SERVICE CALL XA MODE
	20	SYSVDG3	DIAGNOSE X'80' 370 MODE
	10	SYSVDGX	DIAGNOSE X'80' XA MODE
42A	SYSRPCIF	001	REAL PROCESSOR CONTROLLER INTERFACES USED BY VM/XA REAL REQUEST PROCESSING

BITS DEFINED IN SYSRPCIF (AT HEX DISPLACEMENT: 42A)

80	SYSRSCIF	SERVICE CALL TYPE INTERFACE
40	SYSRDGIF	DIAGNOSE X'80' TYPE INTERFACE

42B	SYSPFMLY	001	PROCESSOR FAMILY TYPE

CODES DEFINED IN SYSPFMLY (AT HEX DISPLACEMENT: 42B)

04	SYSGFMLY	FAMILY OF 3090 PROCESSORS
02	SYSLFMLY	FAMILY OF 4381 PROCESSORS
01	SYSAFMLY	FAMILY OF 308X AND 908X PROCESSORS
00	SYSUFMLY	UNKNOWN PROCESSOR FAMILY

42C	SYSPSFLG	001	PASSWORD SUPPRESSION FLAG

BITS DEFINED IN SYSPSFLG (AT HEX DISPLACEMENT: 42C)

80	SYSPSOFF	PASSWORD SUPPRESSION OFF

42D	SYSDPTRQ	001	UNRESPONSIVE PROCESSOR DETECTION FLAGS

BITS DEFINED IN SYSDPTRQ (AT HEX DISPLACEMENT: 42D)

80	SYSDPDET	DETECTION ACTIVE, TRQBK REMAINS ACTIVE
08	SYSTRQST	TRQBK CURRENTLY ACTIVE

42E	SYSINITL	001	SYSTEM INITIALIZATION FLAG

BITS DEFINED IN SYSINITL (AT HEX DISPLACEMENT: 42E)

80	SYSCINIT	OPERATORS CONSOLE NOT YET INITIALIZED
40	SYSTINIT	TOD CLOCK NOT YET INITIALIZED
01	SYSSINIT	SYSTEM IS NOT COMPLETELY INITIALIZED

42F	SYSMODDP	001	BYTE CONTAINING MODEL DEPENDENT FLAGS

BITS DEFINED IN SYSMODDP (AT HEX DISPLACEMENT: 42F)

80	SYSPASIF	INDICATES INSTRUCTION FETCHING FROM THE GUEST'S PRIMARY ADDRESS SPACE
40	SYSIOP37	INDICATES I/O PASS THROUGH FOR 370 IS INSTALLED
20	SYSIOPXA	INDICATES I/O PASS THROUGH FOR XA IS INSTALLED

430	SYSABNCD	008	CODE OF LAST TERMINATION
			THE FOLLOWING FIELDS ARE DEFINED PRIVILEGE CLASSES FOR SYSTEM FUNCTIONS
438	SYSOPR	004	CLASS(ES) FOR SYSTEM OPERATOR
43C	SYSCPRD	004	CLASS(ES) AUTHORIZED FOR IOCP READ
440	SYSCPWT	004	CLASS(ES) AUTHORIZED FOR IOCP WRITE
444	SYSSERV	004	CLASS(ES) AUTHORIZED FOR DIAGNOSTIC LOAD/WRITE
448	SYSDFLT	004	DEFAULT CLASS(ES) FOR A USER
44C		F'0'	RESERVED FOR FUTURE IBM USE
450		F'0'	RESERVED FOR FUTURE IBM USE
454		F'0'	RESERVED FOR FUTURE IBM USE
458		F'0'	RESERVED FOR FUTURE IBM USE
45C		F'0'	RESERVED FOR FUTURE IBM USE
460		F'0'	RESERVED FOR FUTURE IBM USE
464		F'0'	RESERVED FOR FUTURE IBM USE
468	SYSLOKQ	004	SYSTEM LOCK REQUEST QUEUE
46C	SYSHOLQ	004	SYSTEM HOLD QUEUE QUEUE
470	SYSRECQU	004	CHKPT SYSTEM RECORDS QUEUE

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474   SYSRECQL   004       NON-CHKPT SYSTEM RECORDS QUEUE
478              F'0'      RESERVED FOR FUTURE IBM USE
47C              F'0'      RESERVED FOR FUTURE IBM USE
480              F'0'      RESERVED FOR FUTURE IBM USE
484              F'0'      RESERVED FOR FUTURE IBM USE
488              F'0'      RESERVED FOR FUTURE IBM USE
48C              F'0'      RESERVED FOR FUTURE IBM USE
490   SYSDVNO    002       SYSTEM RESIDENCE DEVICE NUMBER
492              XL1'00'   RESERVED FOR FUTURE IBM USE
493   SYSDTYP    001       SYSTEM RESIDENCE DEVICE TYPE
494   SYSNUCS    002       START CYLINDER FOR SYSTEM NUCLEUS
496   SYSNUCN    002       NUMBER OF CYLINDERS FOR NUCLEUS
498   SYSCKPS    002       START CYLINDER FOR DYNAMIC CHECKPOINT
49A   SYSCKPN    002       NUMBER OF CYLINDERS FOR CHECKPOINT
49C   SYSWRMS    002       START CYLINDER FOR WARM START
49E   SYSWRMN    002       NUMBER OF CYLINDERS FOR WARM START
4A0   SYSPCYL    002       PAGES PER CYLINDER ON SYSRES
4A2   SYSPTRK    002       PAGES PER TRACK ON SYSRES
4A4   SYSNUCSC   004       SUBCHANNEL NUMBER OF SYSRES
4A8              F'0'      RESERVED FOR FUTURE IBM USE
4AC              F'0'      RESERVED FOR FUTURE IBM USE
4B0              F'0'      RESERVED FOR FUTURE IBM USE
4B4              F'0'      RESERVED FOR FUTURE IBM USE
4B8              F'0'      RESERVED FOR FUTURE IBM USE
4BC              F'0'      RESERVED FOR FUTURE IBM USE
4C0   SYSTSTBK   004       POINTER TO TRACE SERVICE TOOL
                           BLOCK (TSTBK)
4C4   SYSTPEBK   004       POINTER TO TAPE I/O BLOCK (TPEBK)
4C8   SYSTSTTH   004       TRACE SERVICE TOOL PRG16 WORK COUNTER
4CC   SYSTSTCM   004       TRACE SERVICE TOOL PRG16 COMPARATOR
4D0   SYSTSTFL   001       TRACE SERVICE TOOL STATUS FLAG
4D1              XL3'0'    RESERVED FOR IBM USE
4D4   SYSTSTLK   004       TRACE SERVICE TOOL COMMAND LOCK
4D8              F'0'      RESERVED FOR IBM USE
4DC              F'0'      RESERVED FOR IBM USE
4E0   SYSVFPRM   004
4E0   SYSVFSSZ   002       VECTOR FACILITY SECTION SIZE
4E2   SYSVFPSN   002       VECTOR FACILITY PARTIAL SUM NUMBER
4E4   SYSVFOVM   004       OPERATIONAL VECTOR MAP
                           *** PRESERVE OVER BOUNCE ***
4E8   SYSVFIVM   004       INSTALLED VECTOR MAP
4EC   SYSVFCVM   004       CONNECTED VECTOR MAP
4F0   SYSVFSVM   004       STANDBY VECTOR MAP
4F4              H'0'      RESERVED FOR IBM USE
4F6   SYSUVFCT   001       USABLE VECTOR FACILITY COUNT
4F7   SYSIVFCT   001       INSTALLED VECTOR FACILITY COUNT
4F8              F'0'      RESERVED FOR IBM USE
4FC              F'0'      RESERVED FOR IBM USE
500              F'0'      RESERVED FOR IBM USE
504              F'0'      RESERVED FOR IBM USE
508              F'0'      RESERVED FOR IBM USE
50C              F'0'      RESERVED FOR IBM USE
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EQUATES

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A2    SYSSIZE     SIZE OF COMMON AREA
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REDEFINITION - REDEFINITION OF SYSCLOK

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6205          ORG   SYSCLOK   REDEFINITION OF SYSCLOK
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REDEFINITION - REDEFINITION OF SYSDATE

```
008   SYSMONTH   002       CURRENT MONTH
00A   SYSSLSH1   001       FIRST SLASH
00B   SYSDAY     002       CURRENT DAY
00D   SYSSLSH2   001       SECOND SLASH
00E   SYSYEAR    002       CURRENT YEAR
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         REDEFINITION -

2C0    SYSDCCP     003       CCP PORTION OF DIRECTORY DASD ADDRESS
2C3    SYSDVOL     001       CP VOLUME CODE

                     MORE EQUATES

         80     SYSTSTAV     TRACE SERVICE TOOL CURRENTLY ACTIVE
         40     SYSTSTRS     TRACE SERVICE TOOL RESET IN PROGRESS
         20     SYSTSTTM     TRACE SERVICE TOOL IN TERMINATION
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
SYSABNCD	008	430	SYSFORMT	004	1A4	SYSPGSLT	004	24C
SYSACID	008	080	SYSGFMLY	001	004	SYSPGSTL	002	242
SYSAFMLY	001	001	SYSHIMAX	004	2AC	SYSPRFIX	004	1E0
SYSALTPG	011	093	SYSHOLQ	004	46C	SYSPRTT	004	198
SYSCDEL	001	0E2	SYSHUDSP	004	400	SYSPRVLK	004	408
SYSCINIT	001	080	SYSIDL	004	1F0	SYSPSFLG	001	42C
SYSCKPN	002	49A	SYSIEID	008	078	SYSPSOFF	001	080
SYSCKPS	002	498	SYSIENDQ	004	1BC	SYSPTRK	002	4A2
SYSCLOK	008	000	SYSINITL	001	42E	SYSPUNT	004	19C
SYSCLOKL	004	000	SYSINQ	004	1D0	SYSRCNT	004	0FC
SYSCM	001	000	SYSIOPXA	001	020	SYSRDEV	004	0F8
SYSCORCT	004	424	SYSIOP37	001	040	SYSRDEVL	004	104
SYSCPRD	004	43C	SYSIVFCT	001	4F7	SYSRDGIF	001	040
SYSCPUA	002	088	SYSLCKC4	008	340	SYSRDRT	004	1A0
SYSCPUID	005	08A	SYSLCPUA	004	418	SYSRECQL	004	474
SYSCPUS	002	240	SYSLDEL	001	0E1	SYSRECQU	004	470
SYSCPWT	004	440	SYSLEND	001	0E0	SYSRESDV	004	100
SYSDATAQ	004	1B8	SYSLFMLY	001	002	SYSRPCIF	001	42A
SYSDATE	008	008	SYSLOGM	004	1EC	SYSRSCIF	001	080
SYSDATLK	008	2E0	SYSLOGON	004	248	SYSRSVPG	004	258
SYSDAY	002	00B	SYSLOKQ	004	468	SYSSABND	001	400
SYSDAYL	001	0CB	SYSMALFM	004	41C	SYSSABNF	001	008
SYSDAYN	001	0CA	SYSMAXU	004	2A8	SYSSCH	004	1E4
SYSDBDLK	008	328	SYSMBCT	004	420	SYSSCPBK	004	1F4
SYSDCCP	003	2C0	SYSMCHCT	002	23C	SYSSCTT	004	194
SYSDCTL	004	2C8	SYSMCHOF	002	23E	SYSSERV	004	444
SYSDELQ	004	190	SYSMCHRC	004	23C	SYSSFCRT	004	264
SYSDENDQ	004	1C4	SYSMODDP	001	42F	SYSSFNDX	004	1AC
SYSDFLT	004	448	SYSMONTH	002	008	SYSSFPUR	004	268
SYSDGLK	004	404	SYSMSPID	004	2B0	SYSSHTDN	001	080
SYSDIALD	004	238	SYSNSPID	004	414	SYSSINIT	001	001
SYSDINDX	004	2C4	SYSNUCN	002	496	SYSSIZE	001	0A2
SYSDIRVL	004	2CC	SYSNUCS	002	494	SYSSLSH1	001	00A
SYSDPDET	001	080	SYSNUCSC	004	4A4	SYSSLSH2	001	00D
SYSDPID	011	088	SYSOENDQ	004	1C0	SYSSTRT	008	000
SYSDPTRQ	001	42D	SYSOPADR	004	140	SYSSYNCK	004	254
SYSDRCT	004	2C0	SYSOPER	008	068	SYSTAB	001	0E4
SYSDRLOK	008	2F8	SYSOPR	004	438	SYSTADCS	004	260
SYSDTYP	001	493	SYSOUTQ	004	1B4	SYSTANSS	004	25C
SYSDUMP	008	070	SYSPASIF	001	080	SYSTERM	008	020
SYSDVFLX	004	10C	SYSPCSBK	004	1E8	SYSTINIT	001	040
SYSDVFRX	004	108	SYSPCYL	002	4A0	SYSTMID	008	058
SYSDVNO	002	490	SYSPFMLY	001	42B	SYSTOD	004	08F
SYSDVOL	001	2C3	SYSPGCYL	004	250	SYSTODMD	008	010
SYSESCP	001	0E3	SYSPGLOD	002	244	SYSTODST	008	018
SYSFILID	004	1A8	SYSPGRAT	002	246	SYSTORS	004	280

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Name	Len	Value/Disp
SYSTPEBK	004	4C4
SYSTPELK	008	310
SYSTRAC	004	22C
SYSTRCPC	004	230
SYSTRQST	001	008
SYSTSTAV	001	080
SYSTSTBK	004	4C0
SYSTSTCM	004	4CC
SYSTSTFL	001	4D0
SYSTSTLK	004	4D4
SYSTSTRS	001	040
SYSTSTTH	004	4C8
SYSTSTTM	001	020
SYSUFMLY	001	000
SYSUHOLD	001	401
SYSUSRS	004	234
SYSUVFCT	001	4F6
SYSUVLCT	004	174
SYSUVOL	004	170
SYSVDGX	001	010
SYSVDG3	001	020
SYSVFCVM	004	4EC
SYSVFIVM	004	4E8
SYSVFOVM	004	4E4
SYSVFPRM	004	4E0
SYSVFPSN	002	4E2
SYSVFSSZ	002	4E0
SYSVFSVM	004	4F0
SYSVMVR	004	138
SYSVOLCT	004	16C
SYSVOLD	006	060
SYSVOLS	004	168
SYSVPCIF	001	429
SYSVRFRE	004	288
SYSVRIFS	004	1F8
SYSVRLOC	004	13C
SYSVRRVM	004	1FC
SYSVRSZ	004	284
SYSVSCX	001	040
SYSVSC3	001	080
SYSWKDY	010	0C0
SYSWRMN	002	49E
SYSWRMS	002	49C
SYSXTPSV	008	218
SYSXTSIZ	004	214
SYSXTUSR	004	210
SYSYEAR	002	00E
SYSZNID	004	0CC
SYSZONE	004	410

HCPSOCCW— SPOOLING FORMAT 0 CHANNEL CONTROL

DSECT NAME: SOCCW

DESCRIPTIVE NAME: SPOOLING FORMAT 0 CHANNEL CONTROL WORD PAIRS

FUNCTION: PROVIDE SYMBOLIC REFERENCES FOR THE FIELDS OF THE FORMAT 0 (370) CCW PAIRS USED BY SPOOLING IN THE SPOOL FILES. THE FORMAT 0 CCW IS USED WHEN WORKING WITH VM/SP SPOOL FILES. THIS DEFINITION CORRESPONDS TO THE VM/SP CCW PAIR USAGE.

LOCATED BY:

N/A

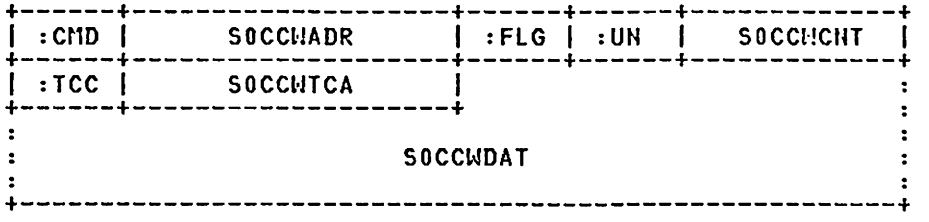
CREATED BY:

N/A

DELETED BY:

N/A

SOCCW - SPOOLING FORMAT 0 CHANNEL CONTROL WORD PAIRS



disp	name	length	description
000	SOCCWPAR	012	FORMAT 0 (SYSTEM 370 CCW PAIR)
000	SOCCWWD0	004	FIRST WORD OF CCW PAIR
000	SOCCWCMD	001	CCW COMMAND CODE
001	SOCCWADR	003	CCW ADDRESS (24-BIT)
004	SOCCWWD1	004	SECOND WORD OF CCW PAIR
004	SOCCWFLG	001	CONTROL OF CCW FLAGS
	BITS DEFINED FOR SOCCWFLG BY HCPEQUAT CCWFLAG		
005	SOCCWUN	001	FORMAT 0 "UNUSED" BYTE.
006	SOCCWCNT	002	COUNT FOR I/O
	EQUATES		
	08 SOCCWSLN		LENGTH OF A FORMAT 0 CCW IF THE SKIP BIT IS SET. (NO TIC)
008	SOCCWWD2	004	THIRD WORD OF CCW PAIR
008	SOCCWTCC	001	TIC CCW COMMAND CODE
009	SOCCWTCA	003	TIC CCW ADDRESS (24-BIT)
00C	SOCCWDAT	002	START OF VARIABLE LENGTH DATA
	EQUATES		
	0C SOCCWLEN		LENGTH OF A FORMAT 0 CCW PAIR IN BYTES
	10 SOCCWTAG		LENGTH TO ADD TO THE TAG FOR THE CCW AND DBL WD ALIGNMENT
	07 SOCCWIS		INSERT MASK FOR 24-BIT ADDRESSES

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CROSS REFERENCE

Name	Len	Value/Disp
S0CCW	001	000
S0CCWADR	003	001
S0CCWCMD	001	000
S0CCWCNT	002	006
S0CCWDAT	002	00C
S0CCWFLG	001	004
S0CCWIS	001	007
S0CCWLEN	001	00C
S0CCWPAR	012	000
S0CCWSLN	001	008
S0CCWTAG	001	010
S0CCWTCA	003	009
S0CCWTCC	001	008
S0CCWUN	001	005
S0CCWWD0	004	000
S0CCWWD1	004	004
S0CCWWD2	004	008

HCPS1CCW— SPOOLING FORMAT 1 CHANNEL CONTROL

DSECT NAME: S1CCW

DESCRIPTIVE NAME: SPOOLING FORMAT 1 CHANNEL CONTROL WORD PAIRS

FUNCTION: PROVIDE SYMBOLIC REFERENCES FOR THE FIELDS OF THE FORMAT 1 (XA) CCW PAIRS USED BY SPOOLING IN THE SPOOL FILES.

LOCATED BY:

N/A

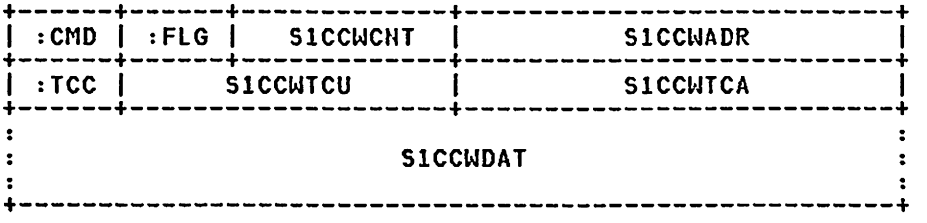
CREATED BY:

N/A

DELETED BY:

N/A

S1CCW - SPOOLING FORMAT 1 CHANNEL CONTROL WORD PAIRS



disp	name	length	description
000	S1CCWPAR	016	FORMAT 1 (SYSTEM 370/XA CCW PAIR)
000	S1CCWWD0	004	FIRST WORD OF THE CCW PAIR
000	S1CCWCMD	001	CCW COMMAND CODE
001	S1CCWFLG	001	CONTROL OF CCW FLAGS
	BITS DEFINED FOR S1CCWFLG BY HCPEQUAT CCWFLAG		
002	S1CCWCNT	002	COUNT FOR I/O
004	S1CCWADR	004	CCW ADDRESS (31-BIT)
008	S1CCWWD2	004	THIRD WORD OF CCW PAIR
008	S1CCWTCC	001	CCW COMMAND CODE
009	S1CCWTCU	001	NO TIC FLAGS OR COUNT FOR A FORMAT 1 CCW, THIS UNUSED FIELD OF THE TIC MUST BE ZERO.
00C	S1CCWTCA	004	CCW ADDRESS (31-BIT)
010	S1CCWDAT	008	START OF VARIABLE LENGTH DATA

EQUATES

10	S1CCWLEN	LENGTH OF A FORMAT 1 CCW PAIR IN BYTES

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CROSS REFERENCE

Name	Len	Value/Disp
S1CCW	001	000
S1CCWADR	004	004
S1CCWCMD	001	000
S1CCWCNT	002	002
S1CCWDAT	008	010
S1CCWFLG	001	001
S1CCWLEN	001	010
S1CCWPAR	016	000
S1CCWTCA	004	00C
S1CCWTCC	001	008
S1CCWTCU	001	009
S1CCWWD0	004	000
S1CCWWD2	004	008

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HCPTBFBK— TRACE SERVICE TOOL BUFFER FORMAT BLOCK

DSECT NAME: TBFBK

DESCRIPTIVE NAME: TRACE SERVICE TOOL BUFFER FORMAT BLOCK

FUNCTION: CONTAINS THE FORMAT OF THE BUFFERS USED TO SAVE MERGED ENTRIES FROM THE TRACE TABLE ONTO TAPE

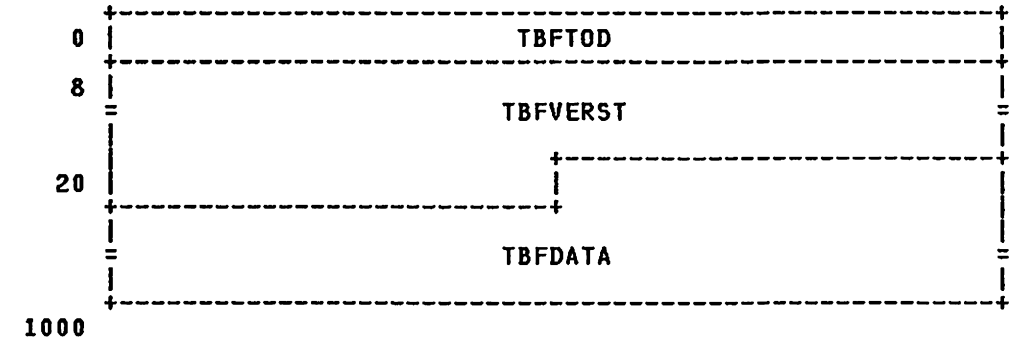
CREATED BY:

NOT APPLICABLE

DELETED BY:

NOT APPLICABLE

TBFBK - TAPE BUFFER FORMAT BLOCK



disp	name	length	description
000	TBFTOD	008	TIME OF DAY CLOCK
008	TBFVERST	028	TRACE SERVICE TOOLS*' VERIFICATION STRING
024	TBFDATA	028	145 28-BYTE TRACE ENTRIES

EQUATES

00	TBFSIZE	TBFBK SIZE IN DOUBLEWORDS

CROSS REFERENCE

Name	Len	Value/Disp
TBFBK	001	000
TBFDATA	028	024
TBFSIZE	001	200
TBFTOD	008	000
TBFVERST	028	008

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HCPTPCBK— 3480 TAPE PATHING CONTROL BLOCK

DSECT NAME: TPCBK

DESCRIPTIVE NAME: 3480 TAPE PATHING CONTROL BLOCK

FUNCTION: CONTAINS 3480 TAPE PATHING INFORMATION

LOCATED BY:

VDEVDYPT IN VIRTUAL DEVICE BLOCK

TPCBK - 3480 TAPE PATHING CONTROL BLOCK

REDEFINITION - DEFINE EACH ENTRY OF CONTROL BLOCK

disp	name	length	description
000	TPCBLOCK	012	EIGHT ENTRIES OF PATHING INFORMATION

EQUATES

0C	TPCSIZE	TPCBK SIZE IN DOUBLE WORDS

REDEFINITION - DEFINE EACH ENTRY OF CONTROL BLOCK

000	TPCENTRY	012	ONE ENTRY OF TAPE PATHING BLOCK
000	TPCGROUP	011	TAPE PATH GROUP ID
00B	TPCFLAGS	001	TAPE PATHING FLAGS

MORE EQUATES

80	TPCFGRP	PATH IS GROUPED

CROSS REFERENCE

Name	Len	Value/Disp
TPCBK	001	000
TPCBLOCK	012	000
TPCENTRY	012	000
TPCFGRP	001	080
TPCFLAGS	001	00B
TPCGROUP	011	000
TPCSIZE	001	00C

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HCPTPEBK— TAPE CONTROL BLOCK

DSECT NAME: TPEBK

DESCRIPTIVE NAME: TAPE CONTROL BLOCK

FUNCTION: THE TAPE CONTROL BLOCK IS USED TO SAVE INFORMATION USED FOR WRITING TO TAPE.

LOCATED BY:

SYSTPEBK IN HCPSYSCM

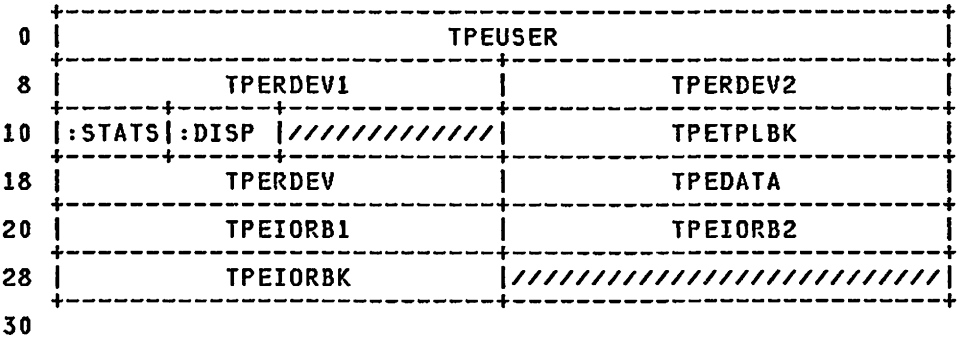
CREATED BY:

HCPTPEIN - DURING INITIALIZATION OF I/O PROCESSING.

DELETED BY:

HCPTPEND - DURING TERMINATION OF I/O PROCESSING.

TPEBK - TAPE CONTROL BLOCK



disp	name	length	description
000	TPEUSER	008	USERID TO SEND INFORMATIONAL MESSAGES TO
008	TPERDEV1	004	ADDRESS OF RDEVBK
00C	TPERDEV2	004	ADDRESS OF RDEVBK
010	TPESTATS	001	TAPE STATUS
	BITS DEFINED IN TPESTATS (AT HEX DISPLACEMENT: 10)		
	80 TPELABEL		WRITE TAPE LABEL
	40 TPECANCL		CANCEL PROCESSING
011	TPEDISP	001	TAPE DISPOSTION
	CODES DEFINED FOR TPEDISP BY HCPEQUAT TPEDISP		
012		1H	RESERVED FOR IBM USE
014	TPETPLBK	004	ADDRESS OF TAPE LABEL BLOCK HCPTPLBK
018	TPERDEV	004	ADDRESS OF RDEV CURRENTLY DOING I/O TO
01C	TPEDATA	004	ADDRESS OF PARAMETER LIST CONTAINING
020	TPEIORB1	004	ADDRESS OF IORBK
024	TPEIORB2	004	ADDRESS OF IORBK
028	TPEIORBK	004	ADDRESS OF CURRENT IORBK IN USE
02C		1F	RESERVED FOR IBM USE
	EQUATES		
	06 TPESIZE		SIZE OF TPEBK IN DOUBLEWORDS

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CROSS REFERENCE

Name	Len	Value/Disp
TPEBK	001	000
TPECANCL	001	040
TPEDATA	004	01C
TPEDISP	001	011
TPEIORBK	004	028
TPEIORB1	004	020
TPEIORB2	004	024
TPELABEL	001	080
TPERDEV	004	018
TPERDEV1	004	008
TPERDEV2	004	00C
TPEREW	001	002
TPERUN	001	001
TPESIZE	001	006
TPESTATS	001	010
TPETPLBK	004	014
TPEUSER	008	000
TPE1600	001	002
TPE38K	001	004
TPE6250	001	003
TPE800	001	001

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HCPTPLBK— TAPE LABEL CONTROL BLOCK

DSECT NAME: TPLBK

DESCRIPTIVE NAME: TAPE LABEL CONTROL BLOCK

FUNCTION: THE TAPE LABEL CONTROL BLOCK IS USED TO DESCRIBE THE TAPE LABEL PUT ON TAPE. ONLY ONE TPLBK IS CREATED AND USED DURING I/O PROCESSING TO TAPE.

LOCATED BY:

TPETPLBK IN HCPTPEBK

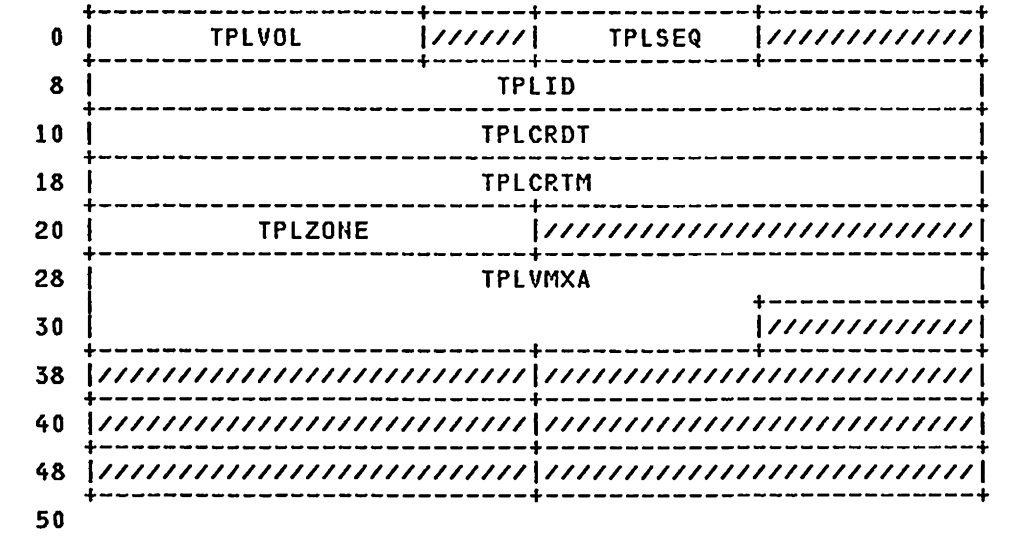
CREATED BY:

HCPTPEIN - DURING INITIALIZATION OF I/O PROCESSING.

DELETED BY:

HCPTPEND - DURING TERMINATION OF I/O PROCESSING.

TPLBK - TAPE LABEL CONTROL BLOCK



disp	name	length	description
000	TPLVOL	003	LABEL IDENTIFIER
003		1X	RESERVED FOR IBM USE
004	TPLSEQ	002	VOLUME SEQUENCE NUMBER
006		H	RESERVED FOR IBM USE
008	TPLID	008	TAPE CREATOR IDENTIFICATION
010	TPLCRDT	008	CREATION DATE
018	TPLCRTM	008	CREATION TIME
020	TPLZONE	004	TIME ZONE DIFFERENTIAL
024		F	RESERVED FOR IBM USE
038		F	RESERVED FOR IBM USE
03C		F	RESERVED FOR IBM USE
040		F	RESERVED FOR IBM USE
044		F	RESERVED FOR IBM USE
048		F	RESERVED FOR IBM USE
04C		F	RESERVED FOR IBM USE

EQUATES

0A	TPLSIZE	SIZE OF TPLBK IN DOUBLEWORDS

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CROSS REFERENCE

Name	Len	Value/Disp
TPLBK	001	000
TPLCRDT	008	010
TPLCRTM	008	018
TPLID	008	008
TPLSEQ	002	004
TPLSIZE	001	00A
TPLVMXA	014	028
TPLVOL	003	000
TPLZONE	004	020

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HCPTRPBK— TRACE TRAP BLOCK

DSECT NAME: TRPBK

DESCRIPTIVE NAME: TRACE TRAP BLOCK

FUNCTION: HCPTRPBK CONTAINS ALL DESCRIPTIVE INFORMATION ABOUT A PARTICULAR TRACE TRAP CURRENTLY DEFINED BY THE TRACE COMMAND.

LOCATED BY:

TRPNEXT CHAINED
TRSANCHR FIELD OF HCPTRSBK

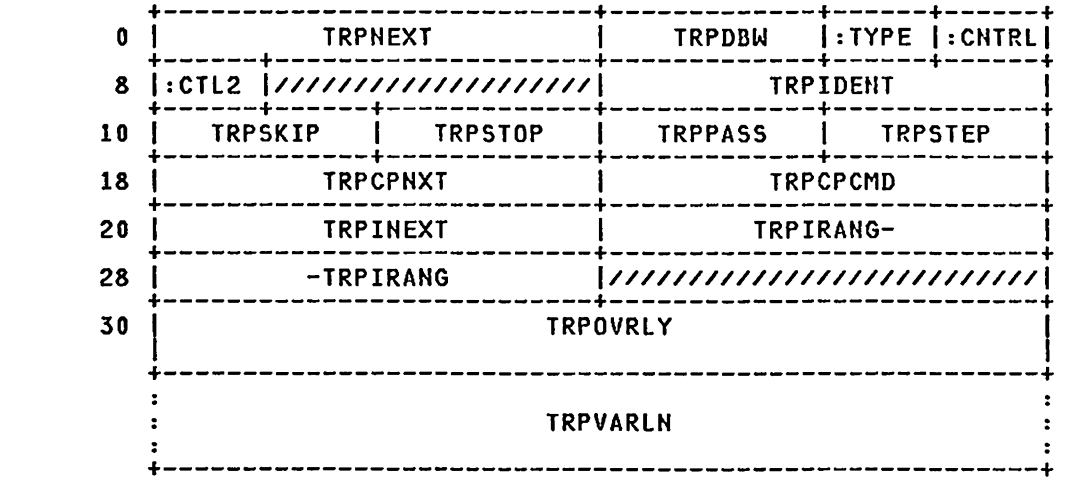
CREATED BY:

HCPTRIP

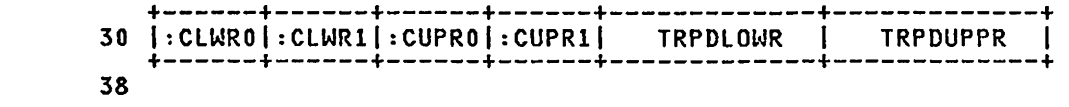
DELETED BY:

HCPTRICL, HCPTRITD, HCPTRIX

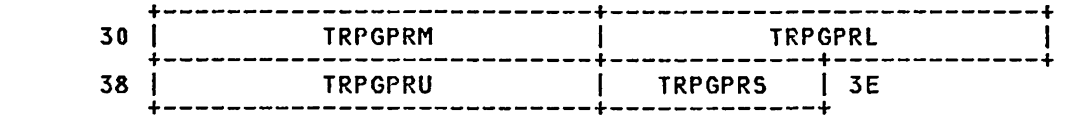
TRPBK - TRACE TRAP BLOCK



REDEFINITION -



REDEFINITION -



REDEFINITION -

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```
      REDEFINITION -

   +--------------------------+--------------------------+
30 |          TRPSNEXT        |         TRPSRANG-        |
   +--------------------------+------+-------------------+
38 |         -TRPSRANG        |:SFLAG| 3D
   +--------------------------+------+
```

```
      REDEFINITION -

   +-------------+-------------+------+--------------------+
40 |   TRPDATAL  |/////////////|:IFLAG|////////////////////|
   +-------------+-------------+------+--------------------+
48
```

disp	name	length	description
000	TRPNEXT	004	POINTER TO NEXT TRAP BLOCK IN LIST
004	TRPDBW	002	NUMBER OF DOUBLEWORDS IN THIS BLOCK
006	TRPTYPE	001	TRACE TRAP TYPE DEFINITION
	BITS DEFINED IN TRPTYPE (AT HEX DISPLACEMENT: 6)		
007	TRPCNTRL	001	TRACING SCREENING/OUTPUT CONTROL
	BITS DEFINED IN TRPCNTRL (AT HEX DISPLACEMENT: 7)		
	80 TRPPROB		RESTRICT TO PROBLEM MODE ONLY
	40 TRPSUPV		RESTRICT TO SUPERVISOR MODE ONLY
	20 TRPDAT		RESTRICT TO D.A.T. MODE ONLY
	10 TRPNODAT		RESTRICT TO NON-D.A.T. MODE ONLY
	08 TRPPRINT		SEND DISPLAY (IF ANY) TO PRINTER
	04 TRPTERM		SEND DISPLAY (IF ANY) TO TERMINAL
	02 TRPNOSIM		DELETE INSTRUCTION SIMULATION
	01 TRPHIT		TRAP HAS DEFERRED PROCESSING
008	TRPCTL2	001	
009		3X	RESERVED FOR FUTURE IBM USE
00C	TRPIDENT	004	FOUR CHARACTER TRAP IDENTIFIER
010	TRPSKIP	002	COUNT REMAINING IN CURRENT SKIP COUNT
012	TRPSTOP	002	DISPLAYS REMAINING UNTIL CONSOLE STOP
014	TRPPASS	002	PASS COUNT (REFRESHES TRPPASS IF PRESENT)
016	TRPSTEP	002	STEP COUNT (REFRESHES TRPSTOP IF PRESENT)
018	TRPCPNXT	004	POINTER TO NEXT CP COMMAND IN CHAIN
01C	TRPCPCMD	004	POINTER TO THIS CP COMMAND (ZERO IF NONE)
020	TRPINEXT	004	POINTER TO NEXT RANGE AFTER THIS IRANGE.
024	TRPIRANG	004	LOWER AND UPPER IFETCH ADDRESS BOUNDS
02C		F	RESERVED FOR FUTURE USE
030	TRPOVRLY	008	OVERLAY REGION
040	TRPVARLN	001	START OF VARIABLE LENGTH DATA
	REDEFINITION -		
030	TRPCLOWR	002	OPCODE LOWER BOUND
030	TRPCLWR0	001	OPCODE BYTE 0
031	TRPCLWR1	001	OPCODE BYTE 1
032	TRPCUPPR	002	OPCODE UPPER BOUND
032	TRPCUPR0	001	OPCODE BYTE 0
033	TRPCUPR1	001	OPCODE BYTE 1
034	TRPDLOWR	002	DEVICE LOWER BOUND
036	TRPDUPPR	002	DEVICE UPPER BOUND

EQUATES

```
        07    TRPCDDBW    NUMBER OF DOUBLEWORDS

         REDEFINITION -

030   TRPGPRM     004       MASK FOR GENERAL REGISTER DATA COMPARE
034   TRPGPRL     004       LOWER DATA BOUND FOR GPR ALTERATION
038   TRPGPRU     004       UPPER BOUND FOR GPR ALTERATION
03C   TRPGPRS     002       MASK FOR GENERAL REGISTER ALTERATION

                    EQUATES

        08    TRPGRDBW    NUMBER OF DOUBLEWORDS

         REDEFINITION -

030   TRPBRANG    004       BRANCH TRAP TARGET RANGE

                    EQUATES

        07    TRPBRDBW    NUMBER OF DOUBLEWORDS

         REDEFINITION -

030   TRPSNEXT    004       LINK PTR FOR STORAGE RANGE
034   TRPSRANG    004       LOWER AND UPPER STORE ADDRESS BOUNDS
03C   TRPSFLAG    001       STORAGE ALTERATION TRAP FLAG

        BITS DEFINED IN TRPSFLAG (AT HEX DISPLACEMENT: 3C)

        80    TRPSPDAT    STORAGE ALTERATION DATA PRESENT
        40    TRPS1ST     FIRST DATA SECTION EQUAL LAST INT.
        20    TRPS2ND     SECOND DATA SECTION EQUAL LAST INT
        10    TRPSLAST    BOTH SECTIONS EQUAL LAST INTERRUPT
        08    TRPSDISP    DISPLAY THIS DATA TRAP
        04    TRPSPMAS    STORAGE ALTERATION MASK PRESENT

03D   TRPSDATA    256       STORAGE ALTERATION DATA

                    EQUATES

        3D    TRPSTLEN    BASE LENGTH FOR STORE TRAPS

         REDEFINITION -

040   TRPDATAL    002       LENGTH OF 'TRACE INSTRUCTION' DATA
042               H         RESERVED
044   TRPIFLAG    001       INSTRUCTION TRAP FLAG

                    EQUATES

        80    TRPIDATP    INSTRUCTION DATA PRESENT

045               3X        RESERVED

                    EQUATES

        48    TRPINLEN    FIXED PORTION OF INSTRUCTION TRAP

048   TRPIDATA    256       'TRACE INSTRUCTION' DATA

                    MORE EQUATES

        08    TRPIOACT    I/O ACTIVITY TRAP (SIO IMPLICIT)
        04    TRPIOINT    I/O INTERRUPTIONS (PSW FLIPS)
        02    TRPIOINS    I/O INSTRUCTIONS
        01    TRPIOCCW    CCW CHAINS FOR GIVEN DEVICE(S)
        01    TRPINTCP    TRACE OF INSTRUCTION BY MNEMONIC
        02    TRPSVC      SVC INSTRUCTION EVENT TRAP
        03    TRPDIAG     DIAG INSTRUCTION EVENT TRAP
        04    TRPMCALL    SUCCESSFUL MONITOR CALL TRAP
```


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05	TRPPGM	PROGRAM INTERRUPTION EVENT TRAP
06	TRPEXT	EXTERNAL INTERRUPTION EVENT TRAP
07	TRPMCH	MACHINE CHECK INTERRUPTION EVENT TRAP
80	TRPIDSET	TRAP ID WAS SET VIA 'ID' OPTION

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
TRPBK	001	000	TRPSPDAT	001	080
TRPBRANG	004	030	TRPSPMAS	001	004
TRPBRDBW	001	007	TRPSRANG	004	034
TRPCDDBW	001	007	TRPSTEP	002	016
TRPCLOWR	002	030	TRPSTLEN	001	03D
TRPCLWR0	001	030	TRPSTOP	002	012
TRPCLWR1	001	031	TRPSUPV	001	040
TRPCNTRL	001	007	TRPSVC	001	002
TRPCPCMD	004	01C	TRPS1ST	001	040
TRPCPNXT	004	018	TRPS2ND	001	020
TRPCTL2	001	008	TRPTERM	001	004
TRPCUPPR	002	032	TRPTYPE	001	006
TRPCUPR0	001	032	TRPVARLN	001	040
TRPCUPR1	001	033			
TRPDAT	001	020			
TRPDATAL	002	040			
TRPDBW	002	004			
TRPDIAG	001	003			
TRPDLOWR	002	034			
TRPDUPPR	002	036			
TRPEXT	001	006			
TRPGPRL	004	034			
TRPGPRM	004	030			
TRPGPRS	002	03C			
TRPGPRU	004	038			
TRPGRDBW	001	008			
TRPHIT	001	001			
TRPIDATA	256	048			
TRPIDATP	001	080			
TRPIDENT	004	00C			
TRPIDSET	001	080			
TRPIFLAG	001	044			
TRPINEXT	004	020			
TRPINLEN	001	048			
TRPINTCP	001	001			
TRPIOACT	001	008			
TRPIOCCW	001	001			
TRPIOINS	001	002			
TRPIOINT	001	004			
TRPIRANG	004	024			
TRPMCALL	001	004			
TRPMCH	001	007			
TRPNEXT	004	000			
TRPNODAT	001	010			
TRPNOSIM	001	002			
TRPOVRLY	008	030			
TRPPASS	002	014			
TRPPGM	001	005			
TRPPRINT	001	008			
TRPPROB	001	080			
TRPSDATA	256	03D			
TRPSDISP	001	008			
TRPSFLAG	001	03C			
TRPSKIP	002	010			
TRPSLAST	001	010			
TRPSNEXT	004	030			

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HCPTRQBK— TIMER REQUEST BLOCK

DSECT NAME: TRQBK

DESCRIPTIVE NAME: TIMER REQUEST BLOCK

FUNCTION: HCPTRQBK REPRESENTS A REQUEST FOR NOTIFICATION OF A ROUTINE WHEN A PARTICULAR TOD CLOCK VALUE IS REACHED. THE UNEXPIRED TRQBKS ARE MAINTAINED BY MODULE HCPTRQ ENQUEUED IN CHAINS WHOSE ANCHORS RESIDE IN A "HASH" TABLE.

LOCATED BY:

TRQFPNT	DOUBLY CHAINED (FORWARD)
TRQBPNT	DOUBLY CHAINED (BACKWARD)
HCPTRQQ	START OF "INDEX" TABLE, POINTING TO PAGES OF HASH TABLE CONTAINING POINTERS TO TRQBKS.
BASETRQS	ANCHOR IN MODULE HCPMIH (MIH TRQBKS ONLY)
GSRTRQBK	FIELD OF HCPGSRBK (GUEST RECOVERY TIMER REQUEST)
PCSTIADD	FIELD OF HCPPCSBK (PROCESSOR CONTROLLER INTERVAL)
RDEVTRQ	FIELD OF HCPRDEV (CONTROL)
VMDTRQPT	FIELD OF HCPVMDBK (GUEST TIMERS)
VMDTRQDL	FIELD OF HCPVMDBK (DELAYED SLEEP OR LOGOFF)
VMDTRQQS	FIELD OF HCPVMDBK (SCHEDULING)
VMDQIORF	FIELD OF HCPVMDBK (PUSH-THRU STACK)

NOTE: THE ABOVE LIST IS PROBABLY NOT EXHAUSTIVE.

CREATED BY:

HCPBVM	GUEST TIMER MANAGEMENT TRQBK DURING LOGON
HCPCFM	TIMEOUT TO FORCE OFF DISCONNECTED USER
HCPCHM	WAIT FOR CHANNEL TIMER TO SYNCHRONIZE WITH TOD CLOCK
HCPCMX	START SLEEP INTERVAL FOR SLEEP COMMAND
HCPGFS	REDRIVE FULLSCREEN GRAPHICS TIMER
HCPGRF	RESET ANY ACTIVE GRAPHICS TIMER
HCPGRF	REDISPLAY LOGO AFTER LOGOFF
HCPIIO	DEVICE INITIALIZATION TIMEOUT
HCPIOP	MONITOR SYSTEM PERFORMANCE AT INTERVALS (RESET IN HCPSTP)

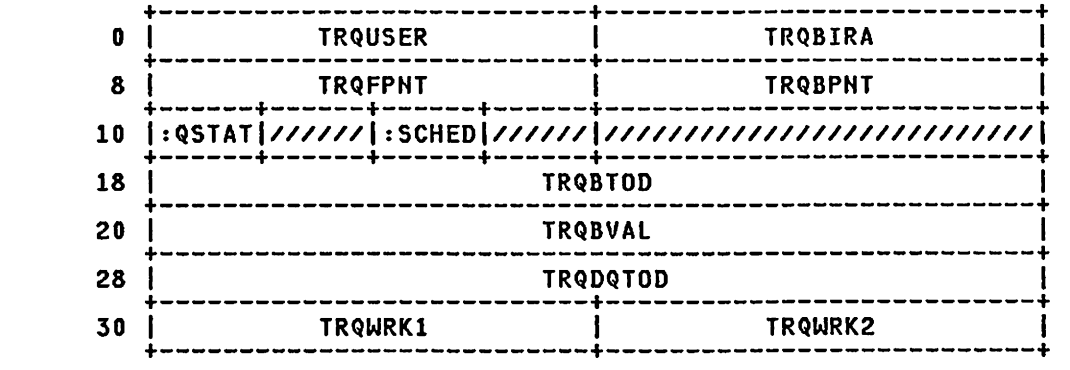
BLK HCPBLK (CP) VM/XA - SYSTEM PRODUCT 5664-308

DELETED BY:

HCPCFM	TIMEOUT TO FORCE OFF DISCONNECTED USER
HCPCHM	WAIT FOR CHANNEL TIMER TO SYNCHRONIZE WITH TOD CLOCK
HCPCMX	END SLEEP INTERVAL FOR SLEEP COMMAND
HCPGRF	DELETE ANY ACTIVE GRAPHICS TIMER
HCPIIO	DEVICE INITIALIZATION TIMEOUT
HCPMPS	PURGE STORAGE FOR PROCESSOR VARIED OFF
HCPMPC	UNRESPONSIVE PROCESSOR DETECTION
HCPPCR	UNRESPONSIVE PROCESSOR CONTROLLER DETECTION
HCPSTK	SCHEDULING TRQBK DURING LOGOFF
HCPUSO	GUEST TIMER MANAGEMENT TRQBK DURING LOGOFF

NOTE: THE ABOVE LIST IS PROBABLY NOT EXHAUSTIVE.

TRQBK - TIMER REQUEST BLOCK



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        REDEFINITION - REDEFINE FOR USE WHILE QUEUED.

      +--------------------------+--------------------------+
   28 |          TRQQANCH        |//////////////////////////|
      +--------------------------+--------------------------+
   30
```

disp	name	length	description
000	TRQUSER	004	ADDRESS OF VMD BLOCK FOR USER
004	TRQBIRA	004	INTERRUPT RETURN ADDRESS
008	TRQFBPNT	008	FOR REFERENCING BOTH POINTERS
008	TRQFPNT	004	POINTER TO NEXT TRQBK
00C	TRQBPNT	004	POINTER TO PREVIOUS TRQBK
010	TRQQSTAT	001	TRQBK QUEUEING STATUS
	BITS DEFINED IN TRQQSTAT (AT HEX DISPLACEMENT: 10)		
	80 TRQQUED		TRQBK IS QUEUED FOR CLOCK COMPARATOR
	40 TRQACTIV		TRQBK IS ACTIVE IN CLOCK COMPARATOR
	20 TRQQDSP		TRQBK IS STACKED FOR DISPATCHING
	01 TRQANCH		THIS IS A TRQBK ANCHOR
011		X	RESERVED FOR FUTURE IBM USE
012	TRQSCHED	001	TRQBK SCHEDULING, UNSTACK FLAGS
	BITS DEFINED IN TRQSCHED (AT HEX DISPLACEMENT: 12)		
	80 TRQHIPRI		REQUEST TO GRANT A VERY HIGH DISPATCHER/SCHEDULER PRIORITY FOR THE VMDBK IDENTIFIED BY TRQUSER (THIS BIT IS NOT CURRENTLY USED)
	40 TRQUCALL		UNSTACK TRQBK WITH CALL-LINKAGE WHEN UNSTACKED BY THE DISPATCHER
	01 TRQIDTRQ		TRQBK IDENTIFIER (1=TRQBK, 0=IORBK)
013		X	RESERVED FOR FUTURE IBM USE
014		F	RESERVED FOR FUTURE IBM USE (END OF IORBK/TRQBK COMMON FIELDS)
018	TRQBTOD	008	TOD CLOCK VALUE WHEN QUEUED (SET BY THE CALLER IF DESIRED)
020	TRQBVAL	008	TOD CLOCK COMPARATOR VALUE FOR TIME OF INTERRUPTION (REQUEST VALUE SET BY CALLER).
028	TRQDQTOD	008	TOD CLOCK VALUE WHEN DEQUEUED (NOT STORED UNTIL HCPTRQ DEQUEUES THE TRQBK.)
030	TRQWRK1	004	WORK AREA FOR REQUESTOR
034	TRQWRK2	004	WORK AREA FOR REQUESTOR
	EQUATES		
	07 TRQSIZE		TRQBK SIZE IN DOUBLE-WORDS
	REDEFINITION - REDEFINE FOR USE WHILE QUEUED.		
028	TRQQANCH	004	POINTER TO ANCHOR OF QUEUE THIS TRQBK IS PRESENTLY QUEUED IN.
02C		F	RESERVED FOR FUTURE IBM USE

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CROSS REFERENCE

Name	Len	Value/Disp
TRQACTIV	001	040
TRQANCH	001	001
TRQBIRA	004	004
TRQBK	001	000
TRQBPNT	004	00C
TRQBTOD	008	018
TRQBVAL	008	020
TRQDQTOD	008	028
TRQFBPNT	008	008
TRQFPNT	004	008
TRQHIPRI	001	080
TRQIDTRQ	001	001
TRQQANCH	004	028
TRQQDSP	001	020
TRQQSTAT	001	010
TRQQUED	001	080
TRQSCHED	001	012
TRQSIZE	001	007
TRQUCALL	001	040
TRQUSER	004	000
TRQWRK1	004	030
TRQWRK2	004	034

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HCPTRSBK— TRACE SET BLOCK

DSECT NAME: TRSBK

DESCRIPTIVE NAME: TRACE SET BLOCK

FUNCTION: HCPTRSBK CONTAINS ALL DESCRIPTIVE INFORMATION ABOUT A PARTICULAR TRACE SET CURRENTLY DEFINED BY THE TRACE COMMAND.

LOCATED BY:

TRSCYCLE CHAINED
TRXTRSET FIELD IN HCPTRXBK

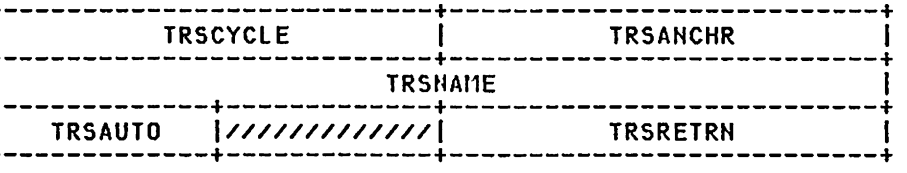
CREATED BY:

HCPTRINT, HCPTRIGO

DELETED BY:

HCPTRICL, HCPTRIX

TRSBK - TRACE SET BLOCK



disp	name	length	description
000	TRSCYCLE	004	CYCLIC POINTER (NEXT TRACE SET IN CHAIN)
004	TRSANCHR	004	ANCHOR FOR TRACE TRAPS IN TRACE SET
008	TRSNAME	008	NAME OF THIS TRACE SET (MUST BE UNIQUE)
010	TRSAUTO	002	TRAP COUNT FOR AUTO-NAME PURPOSES
012		H	RESERVED FOR FUTURE IBM USE
014	TRSRETRN	004	ADDR OF NEXT PREVIOUS SET FOR RETURN

EQUATES

03	TRSSIZE	NUMBER OF DOUBLEWORDS

CROSS REFERENCE

Name	Len	Value/Disp
TRSANCHR	004	004
TRSAUTO	002	010
TRSBK	001	000
TRSCYCLE	004	000
TRSNAME	008	008
TRSRETRN	004	014
TRSSIZE	001	003

HCPTRXBK— TRACE EXTENSION BLOCK

DSECT NAME: TRXBK

DESCRIPTIVE NAME: TRACE EXTENSION BLOCK

FUNCTION: HCPTRXBK CONTAINS DESCRIPTIVE INFORMATION ABOUT THE TRACE ENVIRONMENT THAT IS CURRENTLY IN EFFECT. IT IS ALSO USED AS A WORK AREA DURING TRACE TRAP PROCESSING.

LOCATED BY:

VMDTREXT FIELD OF HCPVMDBK

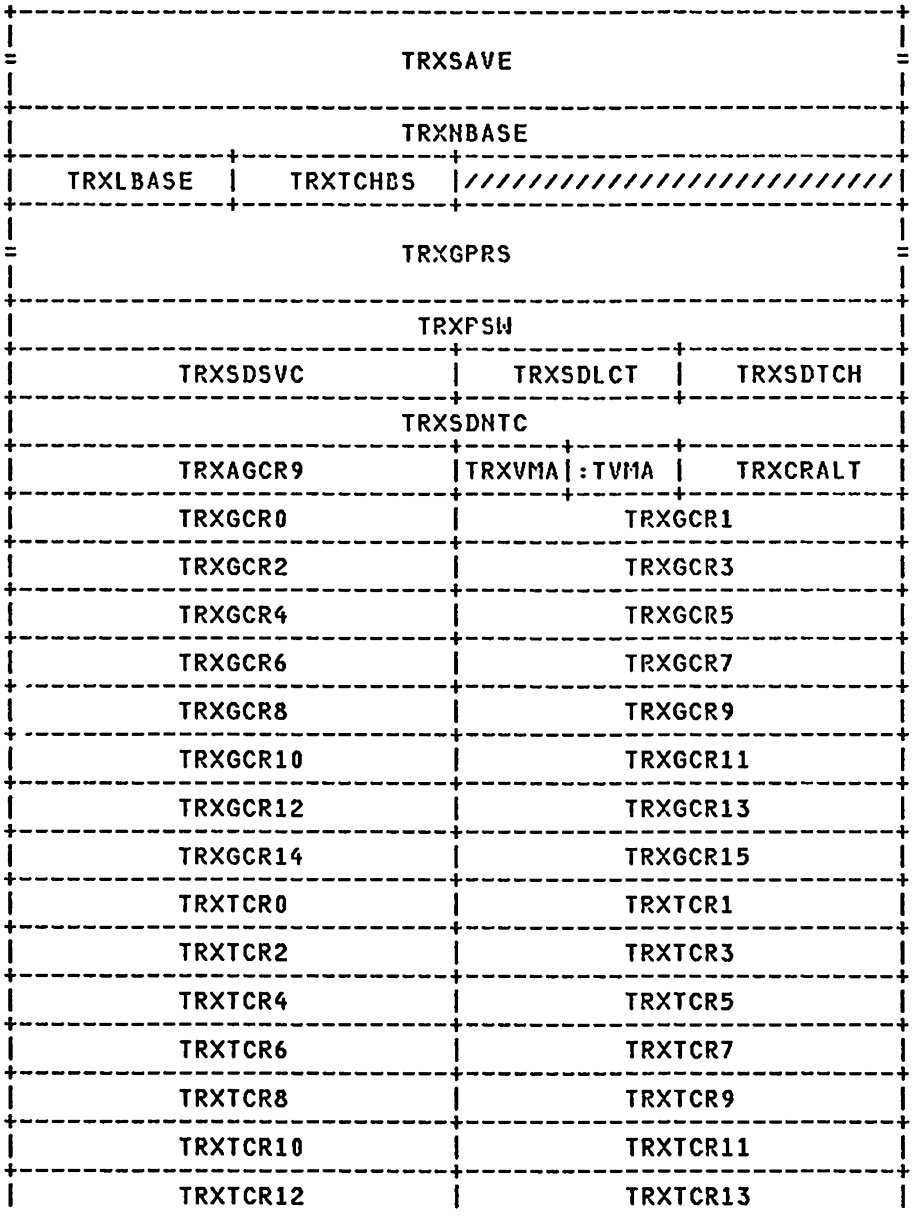
CREATED BY:

HCPTRINT

DELETED BY:

HCPTRIX

TRXBK - TRACE EXTENSION BLOCK



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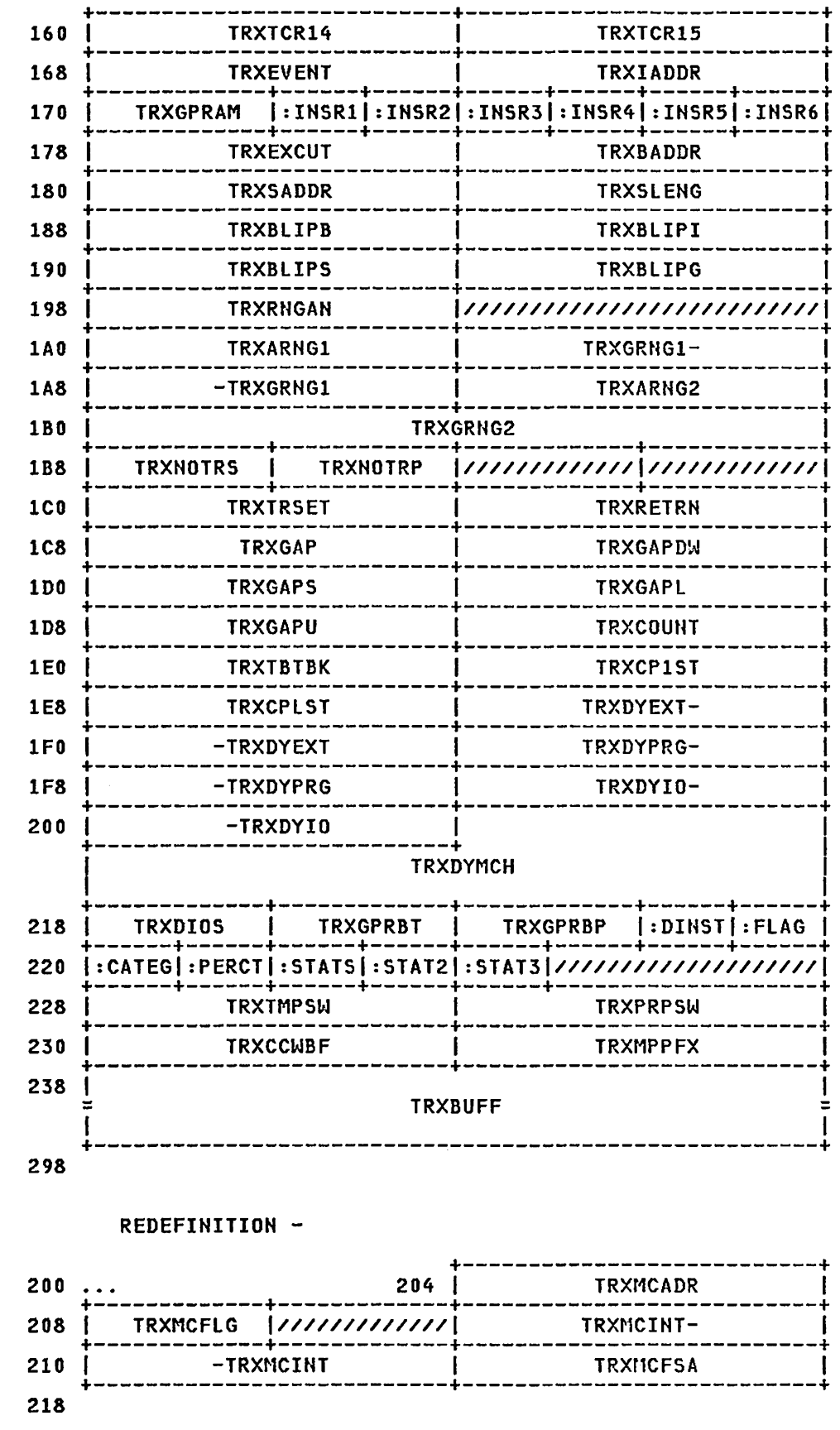

REDEFINITION -

disp	name	length	description
000	TRXSAVE	120	STANDARD SAVE AREA ***NOTE: THIS FIELD MUST REMAIN FIRST IN THE TRXBK. THE HCPTRXNT ENTRY STATEMENT REFERENCES THE FIELD WITH 'SAVE=(VMDTREXT)'.***
078	TRXNBASE	008	BASE INTERCEPTION BITS (WITHOUT PER)
080	TRXLBASE	002	BASE LCTL INTERCEPTION CONTROLS
082	TRXTCHBS	002	BASE TCH INTERCEPTION CONTROLS
084		F	RESERVED FOR FUTURE IBM USE
088	TRXGPRS	004	COPY OF GPRS FOR BASE AND DISPLACEMENT CALCULATIONS
0C8	TRXPSW	008	GUEST PSW AT LAST CALL FROM RUNU
0D0	TRXSDSVC	004	SAVED SVC INTERCEPTION CONTROLS
0D4	TRXSDLCT	002	SAVED LCTL INTERCEPTION CONTROLS
0D6	TRXSDTCH	002	SAVED TCH INTERCEPTION CONTROLS
0D8	TRXSDNTC	008	SD INSTR INTERCEPTION CONTROL
0E0	TRXAGCR9	004	ADJUSTED GUEST CONTROL REGISTER 9.
0E4	TRXVMA	001	SAVE HOST CR6 BYTE 0
0E5	TRXTVMA	001	TRACE-ALTERED VMA RUN-MASK
0E6	TRXCRALT	002	LIST OF ALTERED CONTROL REGS
0E8	TRXGCRS	004	GUEST CONTROL REGISTER VALUES
0E8	TRXGCR0	004	GUEST CONTROL REGISTER 0
0EC	TRXGCR1	004	GUEST CONTROL REGISTER 1
0F0	TRXGCR2	004	GUEST CONTROL REGISTER 2
0F4	TRXGCR3	004	GUEST CONTROL REGISTER 3
0F8	TRXGCR4	004	GUEST CONTROL REGISTER 4
0FC	TRXGCR5	004	GUEST CONTROL REGISTER 5
100	TRXGCR6	004	GUEST CONTROL REGISTER 6
104	TRXGCR7	004	GUEST CONTROL REGISTER 7
108	TRXGCR8	004	GUEST CONTROL REGISTER 8
10C	TRXGCR9	004	GUEST CONTROL REGISTER 9
110	TRXGCR10	004	GUEST CONTROL REGISTER 10
114	TRXGCR11	004	GUEST CONTROL REGISTER 11
118	TRXGCR12	004	GUEST CONTROL REGISTER 12
11C	TRXGCR13	004	GUEST CONTROL REGISTER 13
120	TRXGCR14	004	GUEST CONTROL REGISTER 14
124	TRXGCR15	004	GUEST CONTROL REGISTER 15
128	TRXTCRS	004	TRACE CONTROL REGISTER VALUES
128	TRXTCR0	004	TRACE CONTROL REGISTER 0
12C	TRXTCR1	004	TRACE CONTROL REGISTER 1
130	TRXTCR2	004	TRACE CONTROL REGISTER 2
134	TRXTCR3	004	TRACE CONTROL REGISTER 3
138	TRXTCR4	004	TRACE CONTROL REGISTER 4
13C	TRXTCR5	004	TRACE CONTROL REGISTER 5
140	TRXTCR6	004	TRACE CONTROL REGISTER 6
144	TRXTCR7	004	TRACE CONTROL REGISTER 7
148	TRXTCR8	004	TRACE CONTROL REGISTER 8
14C	TRXTCR9	004	TRACE CONTROL REGISTER 9
150	TRXTCR10	004	TRACE CONTROL REGISTER 10
154	TRXTCR11	004	TRACE CONTROL REGISTER 11
158	TRXTCR12	004	TRACE CONTROL REGISTER 12
15C	TRXTCR13	004	TRACE CONTROL REGISTER 13
160	TRXTCR14	004	TRACE CONTROL REGISTER 14
164	TRXTCR15	004	TRACE CONTROL REGISTER 15
168	TRXTRPHF	008	START OF HCPTRP-SUPPLIED PER INFO
168	TRXEVENT	004	EVENT ADDRESS FOR INTERRUPT PROCESSOR
16C	TRXIADDR	004	INSTRUCTION ADDRESS (TARGET IF EXECUTE INSTRUCTION)
170	TRXGPRAM	002	GEN. PURPOSE REGISTER ALTERATION MAP
172	TRXINSTR	006	INSTRUCTION (TARGET INSTR IF EXECUTE)
172	TRXINSR1	001	BYTE 1 OF TARGET INSTRUCTION
173	TRXINSR2	001	BYTE 2 OF TARGET INSTRUCTION
174	TRXINSR3	001	BYTE 3 OF TARGET INSTRUCTION
175	TRXINSR4	001	BYTE 4 OF TARGET INSTRUCTION
176	TRXINS56	002	LAST TWO BYTES OF TARGET INSTRUCTION
176	TRXINSR5	001	BYTE 5 OF TARGET INSTRUCTION
177	TRXINSR6	001	BYTE 6 OF TARGET INSTRUCTION
178	TRXEXCUT	004	EXECUTE INSTRUCTION

			(ZERO IF NOT PRESENT)
17C	TRXBADDR	004	SUCCESSFUL BRANCH ADDRESS (IF TOP BIT ONE)
180	TRXSADDR	004	STORAGE ALTERATION ADDRESS (IF TOP BIT ONE)
184	TRXSLENG	004	STORAGE ALTERATION LENGTH

EQUATES

20	TRXTRPNL	LENGTH OF HCPTRP-SUPPLIED PER INFORMATION IN BYTES

188	TRXBLIPB	004	BLIP COUNTER FOR BRANCH EVENTS
18C	TRXBLIPI	004	BLIP COUNTER FOR IFETCH EVENTS
190	TRXBLIPS	004	BLIP COUNTER FOR STORE EVENTS
194	TRXBLIPG	004	BLIP COUNTER FOR GREG EVENTS
198	TRXRNGAN	004	ANCHOR FOR OUR LIST OF RANGES.
19C		F	RESERVED
1A0	TRXARNG1	004	POINTER FOR THE FIRST SECTION OF RANGE
1A4	TRXGRNG1	004	FIRST RANGE OF SPLIT GUEST PER RANGE
1AC	TRXARNG2	004	POINTER FOR THE SECOND SECTION OF RANGE
1B0	TRXGRNG2	004	SECOND RANGE OF SPLIT GUEST PER RANGE
1B8	TRXNOTRS	002	NUMBER OF TRACE SETS DEFINED
1BA	TRXNOTRP	002	NUMBER OF TRAPS DEFINED
1BC		H	RESERVED FOR FUTURE USE
1BE		H	RESERVED FOR FUTURE USE
1C0	TRXTRSET	004	POINTER TO CURRENT TRACE SET DESCRIPTOR
1C4	TRXRETRN	004	CURRENT CALL/RETURN SET ADDRESS
1C8	TRXGAP	004	POINTER TO CURRENT GAP MEMBER
1CC	TRXGAPDW	004	NUMBER OF DOUBLEWORDS IN GAP LIST.
1D0	TRXGAPS	004	POINTER TO CURRENT GAP LIST
1D4	TRXGAPL	004	LOWER BOUND GAP LIST ADDRESS
1D8	TRXGAPU	004	UPPER BOUND GAP LIST ADDRESS
1DC	TRXCOUNT	004	CURRENT VALUE OF TRACE COUNT
1E0	TRXTBTBK	004	POINTER TO TRACEBACK TABLE
1E4	TRXCP1ST	004	POINTER TO FIRST CP COMMAND
1E8	TRXCPLST	004	POINTER TO LAST CP COMMAND
1EC	TRXDYEXT	004	EXT ADDR, CODES
1F4	TRXDYPRG	004	PROG ADDR, CODES
1FC	TRXDYIO	004	I/O ADDR, CODES
204	TRXDYMCH	004	MACH. CHECK ADDR.,FLAGS,CODES,FSA
218	TRXDIOS	002	I/O TRACING INFORMATION
21A	TRXGPRBT	002	GPR BIT MASK FOR TERMINAL
21C	TRXGPRBP	002	GPR BIT MASK FOR PRINTER
21E	TRXDINST	001	INSTRUCTION INFO
21F	TRXFLAG	001	TRACE FLAG BYTE

BITS DEFINED IN TRXFLAG (AT HEX DISPLACEMENT: 21F)

80	TRXDOPER	PERFORM PER ON CURRENT EVENT
40	TRXEVSET	EVENT ADDRESS IS SET
20	TRXHVPER	PER INFORMATION PRESENT
10	TRXTPSW	TRXPSW IS SET
08	TRXDATA	STORAGE DATA TRAPS PENDING
04	TRXCFMOD	PLACE USER INTO CONSOLE FUNC MODE
02	TRXCNCLT	TERMINAL OUTPUT CANCELLED
01	TRXCNCLP	PRINTER OUTPUT CANCELLED

220	TRXCATEG	001	TRACING CONTROL CATEGORY SUMMARY
221	TRXPERCT	001	PER TRACING SCREENING SUMMARY
222	TRXSTATS	001	TRACE STATUS CONTROL FLAG

BITS DEFINED IN TRXSTATS (AT HEX DISPLACEMENT: 222)

80	TRXRLINK	RE-LINK TRAP RANGES AND RE-ALLOCATE GAP LIST
40	TRXRSORT	RE-SORT RANGES BEFORE RE-COMPUTING GAPS.
20	TRXRCOMP	RE-COMPUTE THE GAP LIST.
10	TRXRSRCH	RESEARCH GAP LIST FOR IFETCH/STORE
08	TRXSUSP	CURRENT SET IS IN SUSPENSION
04	TRXPERTR	HYPERVISOR P.E.R. TRACING IS ACTIVE
02	TRXSVCTR	SOME FORM OF SVC TRACING IS IN EFFECT

```
        01    TRXINULL    INSTRUCTION EXECUTION NULLIFIED

223   TRXSTAT2   001      TRACE STATUS CONTROL FLAG

        BITS DEFINED IN TRXSTAT2 (AT HEX DISPLACEMENT: 223)

        80    TRXMCALT    GUEST ALTERED FOR MONITOR-CALL TRACING
        40    TRXPPNEM    MNEMONIC POST-SCAN REQUIRED
        20    TRXICNCL    INSTRUCTION EXECUTION CANCELLED
        10    TRXIPOST    ANALYZE INSTRUCTION POST SIM.
        08    TRXIPROG    PROGRAM EXCEP DURING INSTR SIM.
        04    TRXIBSET    BRANCH ADDRESS SET FOR INSTR
        02    TRXIUNKN    UNKNOWN STORAGE ALTERATION
        01    TRXIREAL    ALTERATION TO REAL STORAGE ADDR
        3F    TRXISTAT    BITS IN TRXSTAT2 FOR INSTR STATUS

224   TRXSTAT3   001      MISCELLANEOUS TRACE STATUS

        BITS DEFINED IN TRXSTAT3 (AT HEX DISPLACEMENT: 224)

        80    TRXCTACT    TRACE COUNT IS ACTIVE

225               3X      RESERVED
228   TRXTMPSW    004     PSW ADDR AT LAST DISPLAY TO TERMINAL
22C   TRXPRPSW    004     PSW ADDR AT LAST DISPLAY TO PRINTER
230   TRXCCWBF    004     SYSTEM VIRTUAL ADDR OF CCW
                          TRACE BUFFER
234   TRXMPPFX    004     NN  PREFIX FOR VIRTUAL MP OUTPUT
238   TRXBUFF     096     BUFFER FOR TERMINAL/PRINTER OUTPUT
298   TRXEND      008     END OF TRACE CONTROL BLOCK

                  EQUATES

        53    TRXSIZE     NUMBER OF DOUBLEWORDS IN BLOCK.


         REDEFINITION -

204   TRXMCADR    004     MACHINE CHECK OLD PSW ADDRESS
208   TRXMCFLG    001     FLAGS FOR TERM/PRINT OPTION
20A               2X      RESERVED
20C   TRXMCINT    004     MACHINE CHECK INTERRUPT BITS
214   TRXMCFSA    004     FAILING STORAGE ADDRESS
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
TRXAGCR9	004	0E0	TRXCP1ST	004	1E4	TRXGAPDW	004	1CC
TRXARNG1	004	1A0	TRXCRALT	002	0E6	TRXGAPL	004	1D4
TRXARNG2	004	1AC	TRXCTACT	001	080	TRXGAPS	004	1D0
TRXBADDR	004	17C	TRXDATA	001	008	TRXGAPU	004	1D8
TRXBK	001	000	TRXDINST	001	21E	TRXGCRS	004	0E8
TRXBLIPB	004	188	TRXDIOS	002	218	TRXGCR0	004	0E8
TRXBLIPG	004	194	TRXDOPER	001	080	TRXGCR1	004	0EC
TRXBLIPI	004	18C	TRXDYEXT	004	1EC	TRXGCR10	004	110
TRXBLIPS	004	190	TRXDYIO	004	1FC	TRXGCR11	004	114
TRXBUFF	096	238	TRXDYMCH	004	204	TRXGCR12	004	118
TRXCATEG	001	220	TRXDYPRG	004	1F4	TRXGCR13	004	11C
TRXCCWBF	004	230	TRXEND	008	298	TRXGCR14	004	120
TRXCFMOD	001	004	TRXEVENT	004	168	TRXGCR15	004	124
TRXCNCLP	001	001	TRXEVSET	001	040	TRXGCR2	004	0F0
TRXCNCLT	001	002	TRXEXCUT	004	178	TRXGCR3	004	0F4
TRXCOUNT	004	1DC	TRXFLAG	001	21F	TRXGCR4	004	0F8
TRXCPLST	004	1E8	TRXGAP	004	1C8	TRXGCR5	004	0FC

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Name	Len	Value/Disp	Name	Len	Value/Disp
TRXGCR6	004	100	TRXTCR13	004	15C
TRXGCR7	004	104	TRXTCR14	004	160
TRXGCR8	004	108	TRXTCR15	004	164
TRXGCR9	004	10C	TRXTCR2	004	130
TRXGPRAM	002	170	TRXTCR3	004	134
TRXGPRBP	002	21C	TRXTCR4	004	138
TRXGPRBT	002	21A	TRXTCR5	004	13C
TRXGPRS	004	088	TRXTCR6	004	140
TRXGRNG1	004	1A4	TRXTCR7	004	144
TRXGRNG2	004	1B0	TRXTCR8	004	148
TRXHVPER	001	020	TRXTCR9	004	14C
TRXIADDR	004	16C	TRXTMPSW	004	228
TRXIBSET	001	004	TRXTPSW	001	010
TRXICNCL	001	020	TRXTRPNF	008	168
TRXINSR1	001	172	TRXTRPNL	001	020
TRXINSR2	001	173	TRXTRSET	004	1C0
TRXINSR3	001	174	TRXTVMA	001	0E5
TRXINSR4	001	175	TRXVMA	001	0E4
TRXINSR5	001	176			
TRXINSR6	001	177			
TRXINSTR	006	172			
TRXINS56	002	176			
TRXINULL	001	001			
TRXIPOST	001	010			
TRXIPROG	001	008			
TRXIREAL	001	001			
TRXISTAT	001	03F			
TRXIUNKN	001	002			
TRXLBASE	002	080			
TRXMCADR	004	204			
TRXMCALT	001	080			
TRXMCFLG	001	208			
TRXMCFSA	004	214			
TRXMCINT	004	20C			
TRXMPPFX	004	234			
TRXNBASE	008	078			
TRXNOTRP	002	1BA			
TRXNOTRS	002	1B8			
TRXPERCT	001	221			
TRXPERTR	001	004			
TRXPPNEM	001	040			
TRXPRPSW	004	22C			
TRXPSW	008	0C8			
TRXRCOMP	001	020			
TRXRETRN	004	1C4			
TRXRLINK	001	080			
TRXRNGAN	004	198			
TRXRSORT	001	040			
TRXRSRCH	001	010			
TRXSADDR	004	180			
TRXSAVE	120	000			
TRXSDLCT	002	0D4			
TRXSDNTC	008	0D8			
TRXSDSVC	004	0D0			
TRXSDTCH	002	0D6			
TRXSIZE	001	053			
TRXSLENG	004	184			
TRXSTATS	001	222			
TRXSTAT2	001	223			
TRXSTAT3	001	224			
TRXSUSP	001	008			
TRXSVCTR	001	002			
TRXTBTBK	004	1E0			
TRXTCHBS	002	082			
TRXTCRS	004	128			
TRXTCR0	004	128			
TRXTCR1	004	12C			
TRXTCR10	004	150			
TRXTCR11	004	154			
TRXTCR12	004	158			

HCPTSTBK— TRACE SERVICE TOOL BLOCK

DSECT NAME: TSTBK

DESCRIPTIVE NAME: TRACE SERVICE TOOL BLOCK

FUNCTION: CONTAINS THE STATUS OF TRACE SERVICE TOOLS AND ANCHORS THE NECESSARY RESOURCES WHEN IT IS ACTIVE

LOCATED BY:

SYSTSTBK

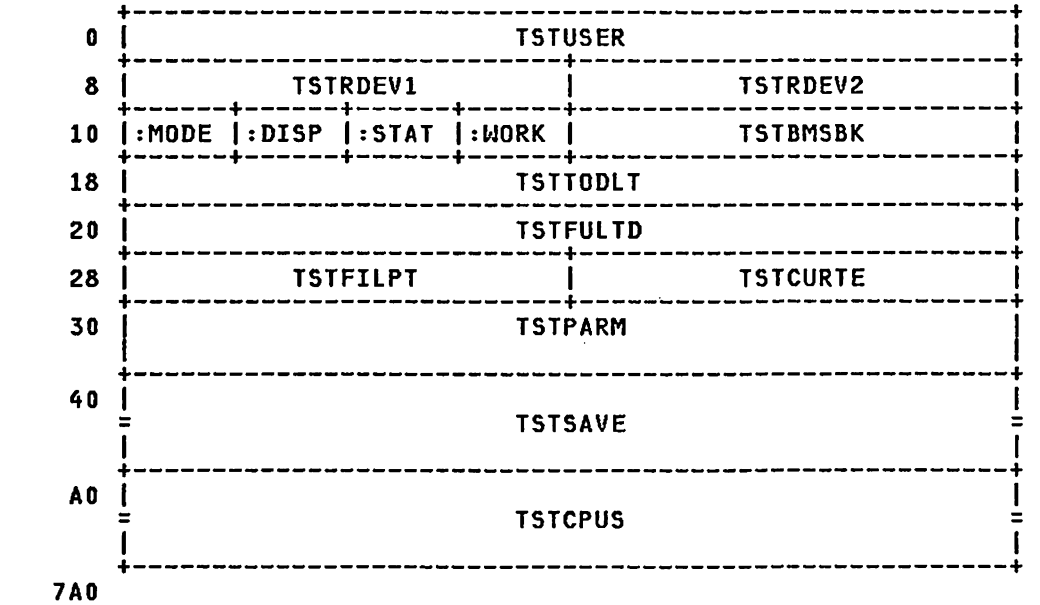
CREATED BY:

WHEN THE TRSAVE ON COMMAND IS FIRST SPECIFIED

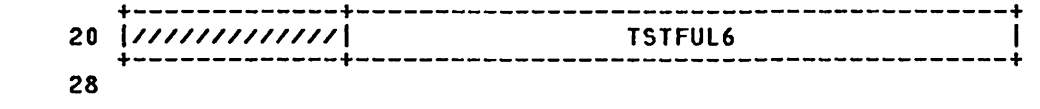
DELETED BY:

WHEN THE TRSAVE FUNCTION IS COMPLETE

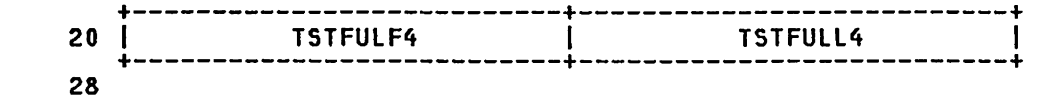
TSTBK - TRACE SERVICE TOOLS BLOCK



REDEFINITION - NEED ONLY LAST 6 BYTES OF FULL TOD

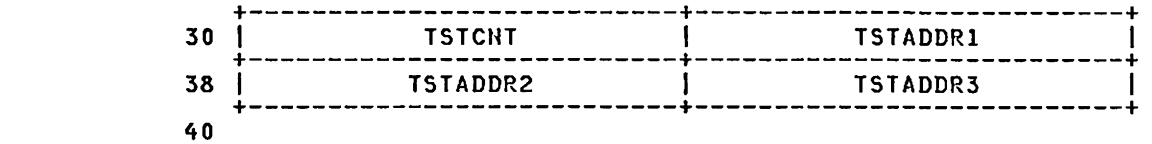


REDEFINITION - NEED BREAK DOWN OF FULL TOD BYTES

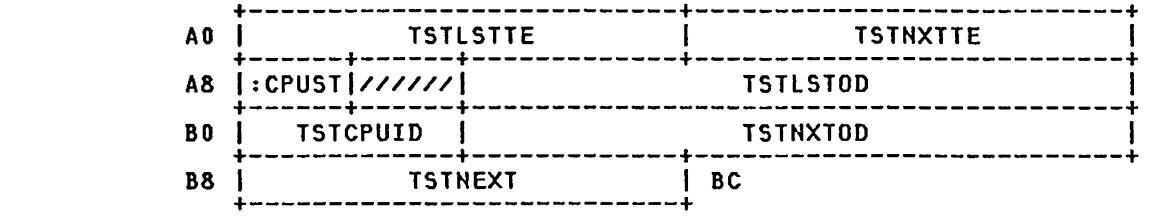


REDEFINITION - NEED BREAK DOWN OF FULL TOD BYTES

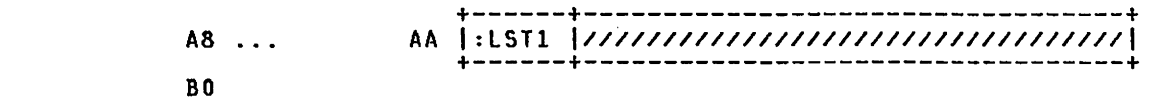
REDEFINITION - PARM LIST USED BY TRACE SERVICE TOOLS



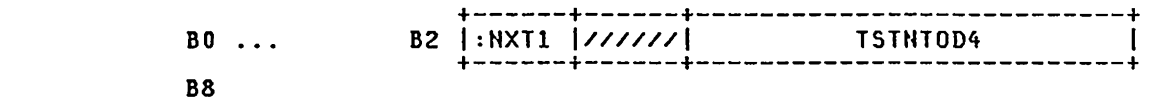
REDEFINITION - INFORMATION REPEATED FOR EACH CPU



REDEFINITION - NEED BREAK DOWN OF BYTES IN LAST TOD



REDEFINITION - NEED BREAK DOWN OF BYTES IN NEXT TOD



disp	name	length	description
000	TSTUSER	008	USERID OF TRACE SERVICE TOOL INITIATOR
008	TSTRDEV1	004	ADDRESS OF 1ST TAPE DRIVE BEING USED
00C	TSTRDEV2	004	ADDRESS OF 2ND TAPE DRIVE BEING USED
010	TSTMODE	001	TAPE MODE

CODES DEFINED IN TSTMODE (AT HEX DISPLACEMENT: 10)

04	TST38K	38K RECORDING DENSITY
03	TST6250	6250 BYTES PER INCH
02	TST1600	1600 BYTES PER INCH
01	TST800	800 BYTES PER INCH

011	TSTDISP	001	DISPOSITION OF THE TAPE

CODES DEFINED IN TSTDISP (AT HEX DISPLACEMENT: 11)

02	TSTREW	TAPE WILL BE REWOUND WHEN FULL
01	TSTRUN	TAPE WILL BE REWOUND AND UNLOADED

012	TSTSTAT	001	TRACE SERVICE TOOL STATUS FLAG

BITS DEFINED IN TSTSTAT (AT HEX DISPLACEMENT: 12)

80	TSTON	TRACE SERVICE TOOL CURRENTLY ACTIVE
40	TSTOFF	TRACE SERVICE TOOL TURNED OFF
20	TSTCANCL	TRACE SERVICE TOOL CANCELLED

```
         10     TSTFATAL     TRACE SERVICE TOOL FATAL I/O ERROR
         08     TSTABND      TRACE SERVICE TOOL ABEND ISSUED

013    TSTWORK     001       TRACE SERVICE TOOK WORK BIT

         BITS DEFINED IN TSTWORK  (AT HEX DISPLACEMENT: 13)

         80     TSTRECRD     TRACE SERVICE TOOL RECORDING ON
         40     TSTLOST      DATA LOST MESSAGE ISSUED
         20     TSTFFCC      TOD COMMUNICATION ENTRY NEEDED
         10     TSTINIT      INITIALIZE THE FULL TOD ENTRY
         08     TSTSUSP      SUSPEND TRACE SAVING

014    TSTBMSBK    004       POINTER TO BUFFER MANAGEMENT SERVICE BK
018    TSTTODLT    008       TIME OF DAY WHEN ISSUED LOST MESSAGE
020    TSTFULTD    008       FULL TOD CLOCK
028    TSTFILPT    004       POINTER TO BUFFER CURRENTLY FILLING
02C    TSTCURTE    004       POINTER TO NEXT SLOT IN BUFFER TO BE
                             FILLED WITH A TRACE ENTRY
030    TSTPARM     004       PARM LIST USED BY TRACE SERVICE TOOLS
040    TSTSAVE     004       SAVEAREA FOR USE BY TSMRG
0A0    TSTCPUS     004       7 WORDS OF INFO FOR EACH CPU (64 CPUS)
                             NOTE:  THIS AREA MUST BE THE LAST AREA
                             IN THIS CONTROL BLOCK
7A0    TSTCPEND    002       END OF CPU INFO

                        EQUATES

         F4     TSTSIZE      TSTBK SIZE IN DOUBLEWORDS


           REDEFINITION - NEED ONLY LAST 6 BYTES OF FULL TOD

020                 XL2       RESERVED
022    TSTFUL6      006       LAST 6 BYTES OF THE FULL TOD CLOCK

           REDEFINITION - NEED BREAK DOWN OF FULL TOD BYTES

020    TSTFULF4     004       FIRST 4 BYTES OF THE FULL TOD CLOCK
024    TSTFULL4     004       LAST 4 BYTES OF THE FULL TOD CLOCK

           REDEFINITION - NEED BREAK DOWN OF FULL TOD BYTES

020    TSTFULF2     002       FIRST 2 BYTES OF THE FULL TOD CLOCK

           REDEFINITION - PARM LIST USED BY TRACE SERVICE TOOLS

030    TSTCNT       004       NUMBER OF BUFFERS
034    TSTADDR1     004       ADDRESS OF FIRST BUFFER
038    TSTADDR2     004       ADDRESS OF SECOND BUFFER
03C    TSTADDR3     004       ADDRESS OF THIRD BUFFER

           REDEFINITION - INFORMATION REPEATED FOR EACH CPU

0A0    TSTLSTTE     004       ADDRESS OF LAST TT ENTRY SAVED
0A4    TSTNXTTE     004       ADDRESS OF NEXT TT ENTRY TO BE SAVED
0A8    TSTCPUST     001       CPU STATUS BYTE

                        EQUATES

         80     TSTCPUON     CPU IS OPERATIONAL
         40     TSTCPUSP     CPU TRACE SAVING IS SUSPENDED

0A9                 XL1       RESERVED FOR IBM USE
0AA    TSTLSTOD     006       TOD OF LAST ENTRY SAVED TO DETECT WRAP
0B0    TSTCPUID     002       ID OF CPU WHOSE INFORMATION THIS IS
0B2    TSTNXTOD     006       TOD OF NEXT ENTRY SAVED TO DETECT WRAP
0B8    TSTNEXT      004       POINTER TO THE NEXT OPERATIONAL CPU

                        EQUATES

         1C     TSTCPUSZ

0BC    TSTNCPU      004       POINTER TO THE NEXT CPU'S INFORMATION
```

REDEFINITION - NEED BREAK DOWN OF BYTES IN LAST TOD

0AA	TSTLST1	001	HIGHEST BYTE OF LAST TOD
0AB		XL5	RESERVED

REDEFINITION - NEED BREAK DOWN OF BYTES IN NEXT TOD

0B2	TSTNXT1	001	HIGHEST BYTE OF NEXT TOD
0B3		XL1	RESERVED
0B4	TSTNTOD4	004	LAST 4 BYTES OF TOD CLOCK OF NEXT ENTRY

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
TSTABND	001	008	TSTTODLT	008	018
TSTADDR1	004	034	TSTUSER	008	000
TSTADDR2	004	038	TSTWORK	001	013
TSTADDR3	004	03C	TST1600	001	002
TSTBK	001	000	TST38K	001	004
TSTBMSBK	004	014	TST6250	001	003
TSTCANCL	001	020	TST800	001	001
TSTCNT	004	030			
TSTCPEND	002	7A0			
TSTCPUID	002	0B0			
TSTCPUON	001	080			
TSTCPUS	004	0A0			
TSTCPUSP	001	040			
TSTCPUST	001	0A8			
TSTCPUSZ	001	01C			
TSTCURTE	004	02C			
TSTDISP	001	011			
TSTFATAL	001	010			
TSTFFCC	001	020			
TSTFILPT	004	028			
TSTFULF2	002	020			
TSTFULF4	004	020			
TSTFULL4	004	024			
TSTFULTD	008	020			
TSTFUL6	006	022			
TSTINIT	001	010			
TSTLOST	001	040			
TSTLSTOD	006	0AA			
TSTLSTTE	004	0A0			
TSTLST1	001	0AA			
TSTMODE	001	010			
TSTNCPU	004	0BC			
TSTNEXT	004	0B8			
TSTNTOD4	004	0B4			
TSTNXTOD	006	0B2			
TSTNXTTE	004	0A4			
TSTNXT1	001	0B2			
TSTOFF	001	040			
TSTON	001	080			
TSTPARM	004	030			
TSTRDEV1	004	008			
TSTRDEV2	004	00C			
TSTRECRD	001	080			
TSTREW	001	002			
TSTRUN	001	001			
TSTSAVE	004	040			
TSTSIZE	001	0F4			
TSTSTAT	001	012			
TSTSUSP	001	008			

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HCPTTABK— TABLE OF TRACE ENTRY CODES

DSECT NAME: TTABK

DESCRIPTIVE NAME: TABLE OF TRACE ENTRY CODES

FUNCTION: THIS CONTROL BLOCK MAPS THE STRUCTURE OF THE TABLE OF TRACE ENTRY CODES AS THEY EXIST EITHER IN HCPTTATB DATA AREA, OR IN FREE STORAGE CREATED BY THE SET CPTRACE COMMAND PROCESSOR.

LOCATED BY:

PFXTTATB POINTS TO THE NON-EXPLICIT (DEFAULT) COPY OF THE TTABK
VMDTTABK IN EVERY VMDBK

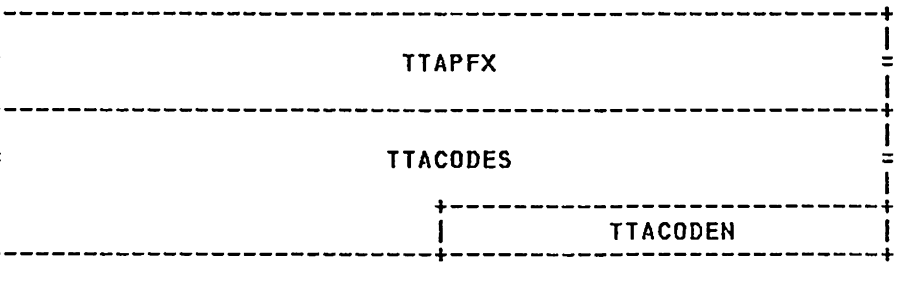
CREATED BY:

HCPCFASC - SET CPTRACE COMMAND PROCESSOR
THE HCPTTATB DATA AREA, ALSO MAPPED BY THIS BLOCK, IS PART OF THE CP RESIDENT NUCLEUS

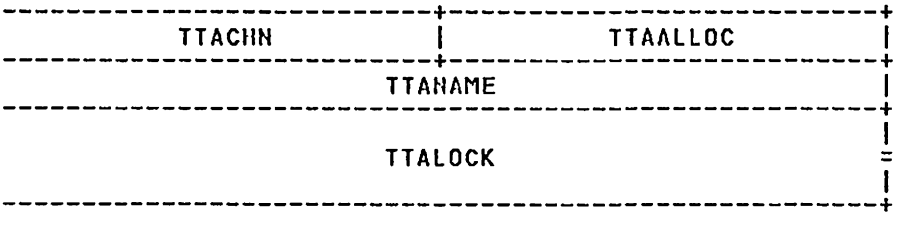
DELETED BY:

HCPCFAFR - FRET TTABK'S WHICH SET CPTRACE ACQUIRED
HCPCFALG - FRET (IF NECESSARY) A VMDBK'S TTABK DURING LOGOFF PROCESSING
THE HCPTTATB DATA AREA IS NEVER DELETED

TTABK - TABLE OF TRACE ENTRY CODES



REDEFINITION -



REDEFINITION -

80	TTACWS	TTARWS
88	TTAEXD	TTARUN
90	TTANIC	TTAOFS
98	TTARFS	TTAKCP
A0	TTAUCP	TTAEXT
A8	TTAINT	TTATCO

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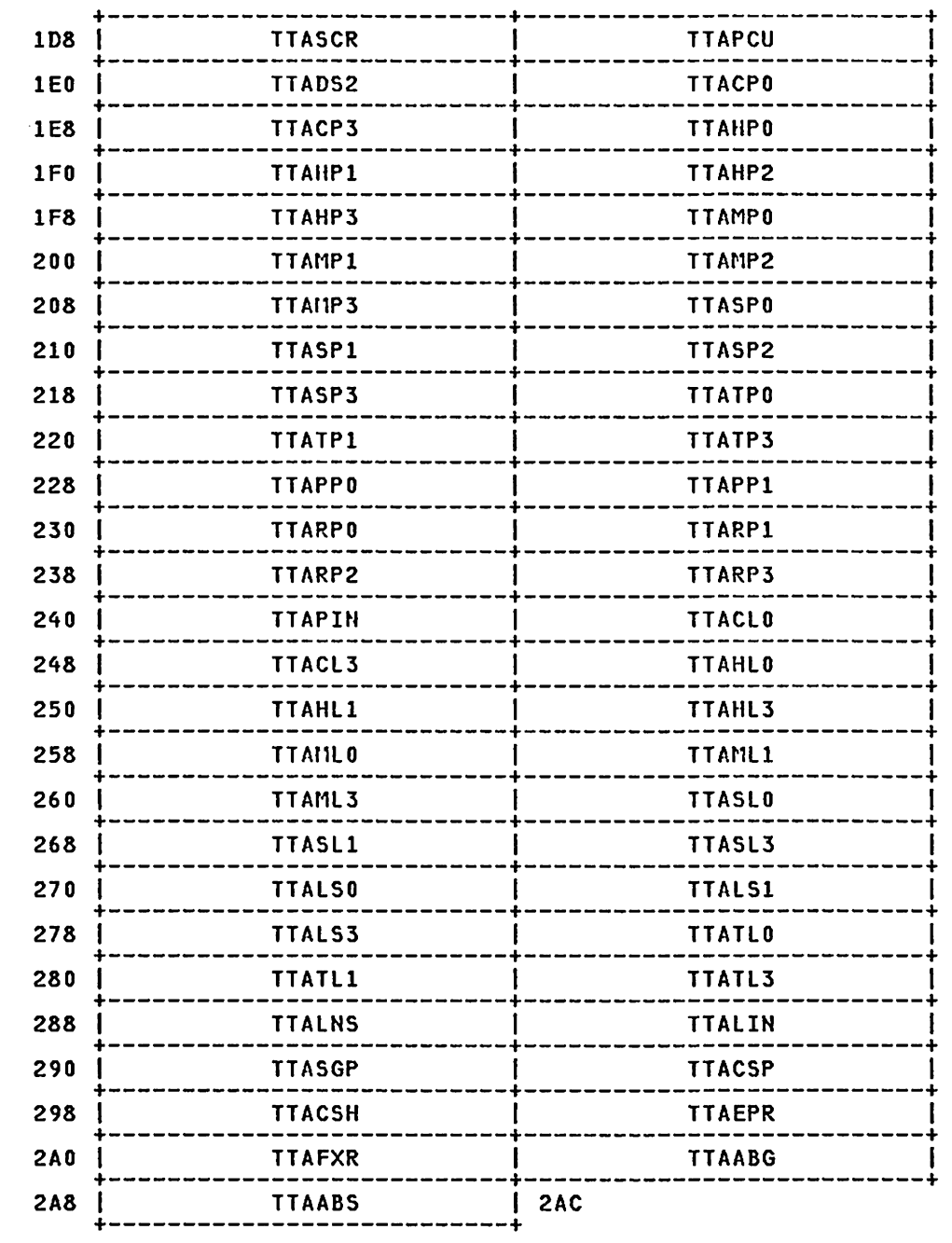
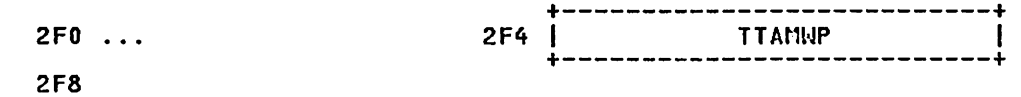
B0	TTASC0	TTAUIO
B8	TTAKIO	TTAIGI
C0	TTAPGM	TTAPTR
C8	TTAGUT	TTAAUL
D0	TTADUL	TTACSW
D8	TTASIO	TTACON
E0	TTAMC0	TTAV35
E8	TTASIF	TTADS1
F0	TTAVIN	TTAV33
F8	TTAXCP	TTASS0
100	TTASVC	TTAMCH
108	TTAOPS	TTARPS
110	TTAVLS	TTAV32
118	TTAV36	TTACC0
120	TTACC3	TTAHC0
128	TTAHC1	TTAHC3
130	TTAMC1	TTAMC3
138	TTASC1	TTASC3
140	TTASS1	TTASS3
148	TTATC1	TTATC3
150	TTARC0	TTARC1
158	TTARC2	TTARC3
160	TTASNS	TTAIQU
168	TTAITM	TTAIRB
170	TTAIDE	TTAISE
178	TTAIRC	TTAIRP
180	TTAITC	TTAIRJ
188	TTAIPU	TTAIAC
190	TTAICO	TTAIDB
198	TTAIQI	TTAIRE
1A0	TTAISV	TTAISM
1A8	TTAISC	TTARUV
1B0	TTAVSI	TTAUCH
1B8	TTAUEX	TTAMCC
1C0	TTAIOC	TTASDN
1C8	TTAKWB	TTADRS
1D0	TTASCS	TTADRR



REDEFINITION -



disp	name	length	description
000	TTAPFX	128	RESERVE 1 CACHE LINE
080	TTACODES	004	TRACE CODES MODIFIABLE BY SET CPTRACE 000088 0000000000000000
2F4	TTACODEN	004	TRACE CODES NOT MODIFIABLE BY SET CPTRACE

2F8	TTAEND	004	END OF TTABK

EQUATES

6F	TTASIZE	SIZE OF TTABK FOR DYNAMIC ALLOCATION. EXTRA SPACE FOR CACHE ALIGNMENT INCLUDED.
05	TTATCTLV	NUMBER OF LEVELS IN TRACE CATEGORY TREE

REDEFINITION -

000	TTACHN	004	TTABK CHAIN POINTER
004	TTAALLOC	004	ADDRESS OF ALLOCATED STORAGE
008	TTANAME	008	EXPLICIT TRACE NAME
010	TTALOCK	008	LOCK
028	TTACODE	004	TRACE CODE (TO USE W/ INDEXING)

REDEFINITION -

030	TTACWS	004	CALL-WITH-SAVEAREA	(SVC)
084	TTARWS	004	RETURN-WITH-SAVEAREA	(SVC)
088	TTAEXD	004	EXIT TO THE DISPATCHER	(DSP)
08C	TTARUN	004	RUN USER	(RUN)
090	TTANIC	004	INTERCEPTION CONDITION, NOT INSTRUCTION	(RUN)
094	TTAOFS	004	OBTAIN FREE STORAGE (FREE)	(FRE)
098	TTARFS	004	RETURN FREE STORAGE (FRET)	(FRE)
09C	TTAKCP	004	STACK CPEBK	(STK)
0A0	TTAUCP	004	UNSTACK CPEBK	(CFM,DSB)
0A4	TTAEXT	004	EXTERNAL INTERRUPTION	(EXT)
0A8	TTAINT	004	I/O INTERRUPTION	(IOS)
0AC	TTATC0	004	TEST SUBCHANNEL CC=0	(IOS)
0B0	TTASC0	004	START SUBCHANNEL CC=0	(IOS)
0B4	TTAUIO	004	UNSTACK IORBK/TRQBK	(DSB)
0B8	TTAKIO	004	STACK IORBK/TRQBK	(STK)
0BC	TTAIGI	004	GUEST INSTRUCTION INTERCEPTION	(PRV)
0C0	TTAPGM	004	PROGRAM INTERRUPTION	(PRG)
0C4	TTAPTR	004	PAGE TRANSLATION RESULTS	(PTR)
0C8	TTAGUT	004	GUEST I/O UNTRANSLATION	(UNT)
0CC	TTAAUL	004	ADD USER TO DISPATCH LIST	(STK)
0D0	TTADUL	004	DROP USER FROM DISPATCH LIST	(STK)
0D4	TTACSW	004	VIRTUAL CSW STORED	(CSW)
0D8	TTASIO	004	VIRTUAL START I/O	(VOH,VOD)
0DC	TTACON	004	ADD OR STACK A COMBK	(QCN)
0E0	TTAMC0	004	MODIFY SUBCHANNEL CC=0	(IOS)
0E4	TTAV35	004	VIRTUAL TEST SUBCHANNEL	(VOS)
0E8	TTASIF	004	VIRTUAL START I/O FAST	(VOD)
0EC	TTADS1	004	DEMAND SCAN PASS 1	(ALD)
0F0	TTAVIN	004	VIRTUAL 370-XA I/O INTERRUPTION	(VIS)
0F4	TTAV33	004	VIRTUAL START SUBCHANNEL	(VOS)
0F8	TTAXCP	004	EXECUTE CP COMMAND	(CFM)
0FC	TTASS0	004	START SUBCHANNEL CC=0 SENSE	(PTI)
100	TTASVC	004	SVC INTERRUPTION	(SVC)
104	TTAMCH	004	MACHINE CHECK INTERRUPTION	(MCH)
108	TTAOPS	004	OBTAIN PAGEABLE FREE STORAGE	
10C	TTARPS	004	RETURN PAGEABLE FREE STORAGE	
110	TTAVLS	004	LOAD/STORE VECTOR FACILITY	(VSM)
114	TTAV32	004	VIRTUAL MODIFY SUBCHANNEL	(VOL)
118	TTAV36	004	VIRTUAL TEST PENDING INTERRUPTION	(VOS)
11C	TTACC0	004	CLEAR SUBCHANNEL CC=0	(IOS)
120	TTACC3	004	CLEAR SUBCHANNEL CC=3	(IOS)
124	TTAHC0	004	HALT SUBCHANNEL CC=0	(IOS)
128	TTAHC1	004	HALT SUBCHANNEL CC=1	(IOS)
12C	TTAHC3	004	HALT SUBCHANNEL CC=3	(IOS)
130	TTAMC1	004	MODIFY SUBCHANNEL CC=1	(IOS)
134	TTAMC3	004	MODIFY SUBCHANNEL CC=3	(IOS)
138	TTASC1	004	START SUBCHANNEL CC=1	(IOS)
13C	TTASC3	004	START SUBCHANNEL CC=3	(IOS)

140	TTASS1	004	START SUBCHANNEL CC=1 SENSE (PTI)
144	TTASS3	004	START SUBCHANNEL CC=3 SENSE (PTI)
148	TTATC1	004	TEST SUBCHANNEL CC=1 (IOS)
14C	TTATC3	004	TEST SUBCHANNEL CC=3 (IOS)
150	TTARC0	004	RESUME SUBCHANNEL (VIR,VOS,VOD) CC=0
154	TTARC1	004	RESUME SUBCHANNEL (VIR,VOS,VOD) CC=1
158	TTARC2	004	RESUME SUBCHANNEL (VIR,VOS,VOD) CC=2
15C	TTARC3	004	RESUME SUBCHANNEL (VIR,VOS,VOD) CC=3
160	TTASNS	004	I/O SENSE DATA RECEIVED (IOS)
164	TTAIQU	004	IUCV QUERY FUNCTION (IUA)
168	TTAITM	004	IUCV TEST MESSAGE FUNCTION (IUA)
16C	TTAIRB	004	IUCV RETRIEVE BUFFER FCN (IUA)
170	TTAIDE	004	IUCV DESCRIBE FUNCTION (IUA)
174	TTAISE	004	IUCV SEND FUNCTION (IUA)
178	TTAIRC	004	IUCV RECEIVE FUNCTION (IUA)
17C	TTAIRP	004	IUCV REPLY FUNCTION (IUA)
180	TTAITC	004	IUCV TEST COMPLETION FCN (IUA)
184	TTAIRJ	004	IUCV REJECT FUNCTION (IUA)
188	TTAIPU	004	IUCV PURGE FUNCTION (IUA)
18C	TTAIAC	004	IUCV ACCEPT FUNCTION (IUA)
190	TTAICO	004	IUCV CONNECT FUNCTION (IUA)
194	TTAIDB	004	IUCV DECLARE BUFFER FCN (IUA)
198	TTAIQI	004	IUCV QUIESCE FUNCTION (IUA)
19C	TTAIRE	004	IUCV RESUME FUNCTION (IUA)
1A0	TTAISV	004	IUCV SEVER FUNCTION (IUA)
1A4	TTAISM	004	IUCV SET MASK FUNCTION (IUA)
1A8	TTAISC	004	IUCV SET CONTROL MASK FCN (IUA)
1AC	TTARUV	004	RUN USER IN VIRTUAL SIE MODE (VRU)
1B0	TTAVSI	004	VIRTUAL SIE INTERCEPTION (VRU)
1B4	TTAUCH	004	UNIT CHECK (TRE)
1B8	TTAUEX	004	UNIT EXCEPTION (RDE)
1BC	TTAMCC	004	I/O RELATED MACHINE CHECK (RFC)
1C0	TTAIOC	004	CHANNEL CHECK (RFC)
1C4	TTASDN	004	CHANNEL CHECK AT TERMINATION (RFC)
1C8	TTAKWB	004	STACK WORK BITS (STK)
1CC	TTADRS	004	PROCESSOR CONTROLLER DIAGNOSE R&DCEST STARTED (PCA)
1D0	TTASCS	004	PROCESSOR CONTROLLER SERVICE CALL R&DCEST STARTED (PCB)
1D4	TTADRR	004	PROCESSOR CONTROLLER DIAGNOSE R&DCEST RETURNED (PCA)
1D8	TTASCR	004	PROCESSOR CONTROLLER SERVICE CALL R&DCEST RETURNED (PCB)
1DC	TTAPCU	004	UNSOLICITED PROCESSOR CONTROLLER INTERRUPT RECEIVED (PCR)
1E0	TTADS2	004	DEMAND SCAN PASS 2 (ALD)
			I/O PASSTHROUGH ENTRIES:
1E4	TTACP0	004	I/O PASSTHRU CSCH, CC=0 (PTI)
1E8	TTACP3	004	I/O PASSTHRU CSCH, CC=3 (PTI)
1EC	TTAHP0	004	I/O PASSTHRU HSCH, CC=0 (PTI)
1F0	TTAHP1	004	I/O PASSTHRU HSCH, CC=1 (PTI)
1F4	TTAHP2	004	I/O PASSTHRU HSCH, CC=2 (PTI)
1F8	TTAHP3	004	I/O PASSTHRU HSCH, CC=3 (PTI)
1FC	TTAMP0	004	I/O PASSTHRU MSCH, CC=0 (PTI)
200	TTAMP1	004	I/O PASSTHRU MSCH, CC=1 (PTI)
204	TTAMP2	004	I/O PASSTHRU MSCH, CC=2 (PTI)
208	TTAMP3	004	I/O PASSTHRU MSCH, CC=3 (PTI)
20C	TTASP0	004	I/O PASSTHRU SSCH, CC=0 (PTI)
210	TTASP1	004	I/O PASSTHRU SSCH, CC=1 (PTI)
214	TTASP2	004	I/O PASSTHRU SSCH, CC=2 (PTI)
218	TTASP3	004	I/O PASSTHRU SSCH, CC=3 (PTI)
21C	TTATP0	004	I/O PASSTHRU TSCH, CC=0 (PTI)
220	TTATP1	004	I/O PASSTHRU TSCH, CC=1 (PTI)
224	TTATP3	004	I/O PASSTHRU TSCH, CC=3 (PTI)
228	TTAPP0	004	I/O PASSTHRU TPI, CC=0 (PTI)
22C	TTAPP1	004	I/O PASSTHRU TPI, CC=1 (PTI)
230	TTARP0	004	I/O PASSTHRU RSCH, CC=0 (PTI)
234	TTARP1	004	I/O PASSTHRU RSCH, CC=1 (PTI)
238	TTARP2	004	I/O PASSTHRU RSCH, CC=2 (PTI)
23C	TTARP3	004	I/O PASSTHRU RSCH, CC=3 (PTI)

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240   TTAPIN     004      I/O PASSTHRU INTERRUPTION   (IPT)
244   TTACL0     004      CLEAR LOGICAL SUBCHANNEL
                          CC=0                        (IOS)
248   TTACL3     004      CLEAR LOGICAL SUBCHANNEL
                          CC=3                        (IOS)
24C   TTAHL0     004      HALT LOGICAL SUBCHANNEL
                          CC=0                        (IOS)
250   TTAHL1     004      HALT LOGICAL SUBCHANNEL
                          CC=1                        (IOS)
254   TTAHL3     004      HALT LOGICAL SUBCHANNEL
                          CC=3                        (IOS)
258   TTAML0     004      MODIFY LOGICAL SUBCHANNEL
                          CC=0                        (IQM)
25C   TTAML1     004      MODIFY LOGICAL SUBCHANNEL
                          CC=1                        (IQM)
260   TTAML3     004      MODIFY LOGICAL SUBCHANNEL
                          CC=3                        (IQM)
264   TTASL0     004      START LOGICAL SUBCHANNEL
                          CC=0                        (IOS)
268   TTASL1     004      START LOGICAL SUBCHANNEL
                          CC=1                        (IOS)
26C   TTASL3     004      START LOGICAL SUBCHANNEL
                          CC=3                        (IOS)
270   TTALS0     004      START LOGICAL SUBCHANNEL SENSE
                          CC=0                        (IOS)
274   TTALS1     004      START LOGICAL SUBCHANNEL SENSE
                          CC=1                        (IOS)
278   TTALS3     004      START LOGICAL SUBCHANNEL SENSE
                          CC=3                        (IOS)
27C   TTATL0     004      TEST LOGICAL SUBCHANNEL
                          CC=0                        (IOS)
280   TTATL1     004      TEST LOGICAL SUBCHANNEL
                          CC=1                        (IOS)
284   TTATL3     004      TEST LOGICAL SUBCHANNEL
                          CC=3                        (IOS)
288   TTALNS     004      LOGICAL I/O SENSE DATA
                          RECEIVED                    (IOS)
28C   TTALIN     004      LOGICAL I/O INTERRUPTION    (IOS)
290   TTASGP     004      SIGP INSTRUCTION            (SGP)
294   TTACSP     004      CPU IS CHECK STOPPED        (MCH)
298   TTACSH     004      CHECK STOP CPU RECOVERY     (MCH)
29C   TTAEPR     004      RETURN FREE STORAGE FRAME
2A0   TTAFXR     004      OBTAIN FREE STORAGE FRAME
                          DC    A(X'FFCC')    RESERVED FOR TRACE SERVICE TOOLS
                          DC    A(X'FFDD')    RESERVED FOR TRACE SERVICE TOOLS
2A4   TTAABG     004      RESUME TRACE AFTER SOFT     (ABN)
                          ABEND
2A8   TTAABS     004      SUSPEND TRACE DURING SOFT   (ABN)
                          ABEND
                          ENDTTA

         REDEFINITION -

2F4   TTAMWP     004      TRACE PAGE FULL DURING      (MCH)
                          MACHINE CHECK HANDLING
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
TTAABG	004	2A4	TTACC0	004	11C	TTACODE	004	028
TTAABS	004	2A8	TTACC3	004	120	TTACODEN	004	2F4
TTAALLOC	004	004	TTACHN	004	000	TTACODES	004	080
TTAAUL	004	0CC	TTACL0	004	244	TTACON	004	0DC
TTABK	001	000	TTACL3	004	248	TTACP0	004	1E4

Name	Len	Value/Disp	Name	Len	Value/Disp
TTACP3	004	1E8	TTANIC	004	090
TTACSH	004	298	TTAOFS	004	094
TTACSP	004	294	TTAOPS	004	108
TTACSW	004	0D4	TTAPCU	004	1DC
TTACWS	004	080	TTAPFX	128	000
TTADRR	004	1D4	TTAPGM	004	0C0
TTADRS	004	1CC	TTAPIN	004	240
TTADS1	004	0EC	TTAPP0	004	228
TTADS2	004	1E0	TTAPP1	004	22C
TTADUL	004	0D0	TTAPTR	004	0C4
TTAEND	004	2F8	TTARC0	004	150
TTAEPR	004	29C	TTARC1	004	154
TTAEXD	004	088	TTARC2	004	158
TTAEXT	004	0A4	TTARC3	004	15C
TTAFXR	004	2A0	TTARFS	004	098
TTAGUT	004	0C8	TTARPS	004	10C
TTAHC0	004	124	TTARP0	004	230
TTAHC1	004	128	TTARP1	004	234
TTAHC3	004	12C	TTARP2	004	238
TTAHL0	004	24C	TTARP3	004	23C
TTAHL1	004	250	TTARUN	004	08C
TTAHL3	004	254	TTARUV	004	1AC
TTAHP0	004	1EC	TTARWS	004	084
TTAHP1	004	1F0	TTASCR	004	1D8
TTAHP2	004	1F4	TTASCS	004	1D0
TTAHP3	004	1F8	TTASC0	004	0B0
TTAIAC	004	18C	TTASC1	004	138
TTAICO	004	190	TTASC3	004	13C
TTAIDB	004	194	TTASDN	004	1C4
TTAIDE	004	170	TTASGP	004	290
TTAIGI	004	0BC	TTASIF	004	0E8
TTAINT	004	0A8	TTASIO	004	0D8
TTAIOC	004	1C0	TTASIZE	001	06F
TTAIPU	004	188	TTASL0	004	264
TTAIQI	004	198	TTASL1	004	268
TTAIQU	004	164	TTASL3	004	26C
TTAIRB	004	16C	TTASNS	004	160
TTAIRC	004	178	TTASP0	004	20C
TTAIRE	004	19C	TTASP1	004	210
TTAIRJ	004	184	TTASP2	004	214
TTAIRP	004	17C	TTASP3	004	218
TTAISC	004	1A8	TTASS0	004	0FC
TTAISE	004	174	TTASS1	004	140
TTAISM	004	1A4	TTASS3	004	144
TTAISV	004	1A0	TTASVC	004	100
TTAITC	004	180	TTATCTLV	001	005
TTAITM	004	168	TTATC0	004	0AC
TTAKCP	004	09C	TTATC1	004	148
TTAKIO	004	0B8	TTATC3	004	14C
TTAKWB	004	1C8	TTATL0	004	27C
TTALIN	004	28C	TTATL1	004	280
TTALNS	004	288	TTATL3	004	284
TTALOCK	008	010	TTATP0	004	21C
TTALS0	004	270	TTATP1	004	220
TTALS1	004	274	TTATP3	004	224
TTALS3	004	278	TTAUCH	004	1B4
TTAMCC	004	1BC	TTAUCP	004	0A0
TTAMCH	004	104	TTAUEX	004	1B8
TTAMC0	004	0E0	TTAUIO	004	0B4
TTAMC1	004	130	TTAVIN	004	0F0
TTAMC3	004	134	TTAVLS	004	110
TTAML0	004	258	TTAVSI	004	1B0
TTAML1	004	25C	TTAV32	004	114
TTAML3	004	260	TTAV33	004	0F4
TTAMP0	004	1FC	TTAV35	004	0E4
TTAMP1	004	200	TTAV36	004	118
TTAMP2	004	204	TTAXCP	004	0F8
TTAMP3	004	208			
TTAMWP	004	2F4			
TTANAME	008	008			

HCPTTEBK— TRACE TABLE ENTRY FORMAT

DSECT NAME: TTEBK

DESCRIPTIVE NAME: TRACE TABLE ENTRY FORMAT

FUNCTION: THIS CONTROL BLOCK DEFINES THE FORMAT OF A CP TRACE TABLE ENTRY CREATED BY HARDWARE FROM THE TRACE INSTRUCTION'S EXECUTION (AS CODED IN VM/XA). EACH CP TRACE ENTRY MADE HAS A UNIQUE TRACE CODE USED WHEN EXECUTING THE TRACE INSTRUCTION. ALL THE TRACE ENTRY CODES ARE DEFINED IN THE TTABK DSECT.

LOCATED BY:

CONTROL REGISTER 12: CONTAINS THE ADDRESS OF THE NEXT ENTRY TO BE GENERATED IN EACH CPU'S TRACE TABLE.

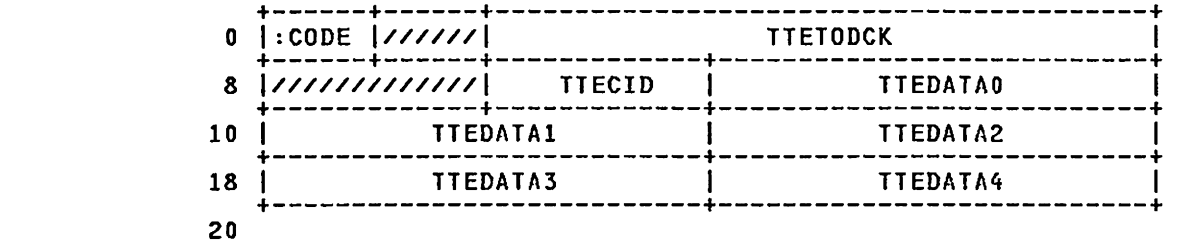
CREATED BY:

NOT APPLICABLE. DSECT DEFINES FORMAT USED BY TRACE INSTRUCTION.

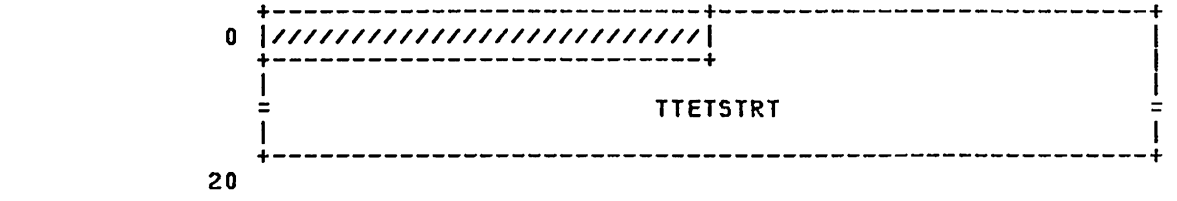
DELETED BY:

NOT APPLICABLE.

TTEBK - TRACE TABLE ENTRY FORMAT



REDEFINITION - TRACE SERVICE TOOLS TAPE ENTRY



REDEFINITION - LAST 6 BYTES OF TOD CLOCK, BY

REDEFINITION - LAST 6 BYTES OF TOD CLOCK, BY

disp	name	length	description
000	TTECODE	001	HARDWARE TRACE ENTRY IDENTIFIER '7N' (N IS THE NO. OF REGISTERS

```
                                MINUS ONE STORED: 4 FOR VM/XA)
001                 X'00'       HARDWARE ARCHITECTED TO X'00'
002     TTETODCK    006         LAST 6 BYTES OF TOD CLOCK, BY
                                HARDWARE

                                ALL OF THE ABOVE FIELDS ARE
                                SUPPLIED BY THE HARDWARE
                                EXECUTION OF THE TRACE
                                INSTRUCTION

                                THE FOLLOWING FIELDS ARE THE DATA
                                PASSED BY THE TRACE INSTRUCTION
                                BY THE SOFTWARE.

008                 XL2'00'     RESERVED FOR HARDWARE USE
00A     TTECID      002         TRACE ENTRY ID (IE 0A00=RUN USER)

                                THE FOLLOWING FIELDS ARE PASSED
                                TO THE  TRACE INSTRUCTION IN
                                CONSECUTIVE GENERAL PURPOSE
                                REGISTERS.

00C     TTEDATA0    004         FIRST DATA FIELD PASSED  (RX)
010     TTEDATA1    004         SECOND DATA FIELD PASSED (RX+1)
014     TTEDATA2    004         THIRD DATA FIELD PASSED  (RX+2)
018     TTEDATA3    004         FOURTH DATA FIELD PASSED (RX+3)
01C     TTEDATA4    004         FIFTH DATA FIELD PASSED  (RX+4)
020     TTENEXT     004         NEXT TRACE ENTRY


                    EQUATES

        04     TTESIZE      :SIZE OF BLOCK IN DOUBLE WORDS
        20     TTELEN       :LENGTH OF BLOCK IN BYTES


          REDEFINITION - TRACE SERVICE TOOLS TAPE ENTRY

000                 F           1ST WORD NOT SAVED ON TAPE
004     TTETSTRT    028         LAST HALF OF TOD ON IS SAVED

                    EQUATES

        1C     TTETSTSZ     SIZE OF TST TRACE ENTRY ON TAPE

          REDEFINITION - LAST 6 BYTES OF TOD CLOCK, BY

          REDEFINITION - LAST 6 BYTES OF TOD CLOCK, BY

002     TTETODHI    004         FIRST 4 BYTES OF TTATODCK
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
TTEBK	001	000	TTEDATA4	004	01C	TTETSTSZ	001	01C
TTECID	002	00A	TTELEN	001	020			
TTECODE	001	000	TTENEXT	004	020			
TTEDATA0	004	00C	TTESIZE	001	004			
TTEDATA1	004	010	TTETODCK	006	002			
TTEDATA2	004	014	TTETODHI	004	002			
TTEDATA3	004	018	TTETSTRT	028	004			

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HCPTTPBK— TRACE TABLE PAGE FORMAT

DSECT NAME: TTPBK

DESCRIPTIVE NAME: TRACE TABLE PAGE FORMAT

FUNCTION: THIS CONTROL BLOCK DEFINES THE FORMAT OF ONE TRACE TABLE PAGE AS USED BY CP.

LOCATED BY:

PFXTTPNT - FULL WORD POINTER USED TO LOCATE TRACE TABLE PAGES DURING SYSTEM INITIALIZATION AND FOR DUMPS
TTPFPNT - FORWARD POINTER FOR CHAIN OF TRACE TABLE PAGES
TTPBPNT - BACKWARD POINTER FOR CHAIN OF TRACE TABLE PAGES

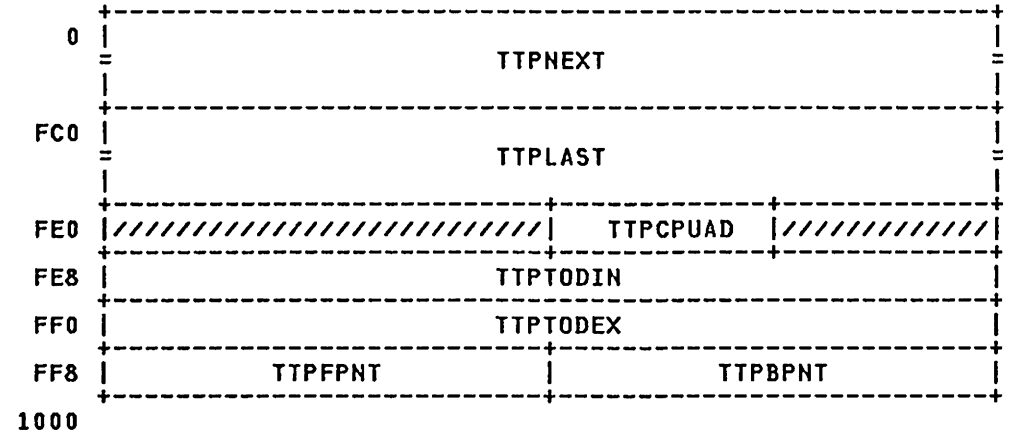
CREATED BY:

HCPMPSON - WHILE ACQUIRING TRACE TABLE PAGES FOR A PROCESSOR BEING BROUGHT ONLINE

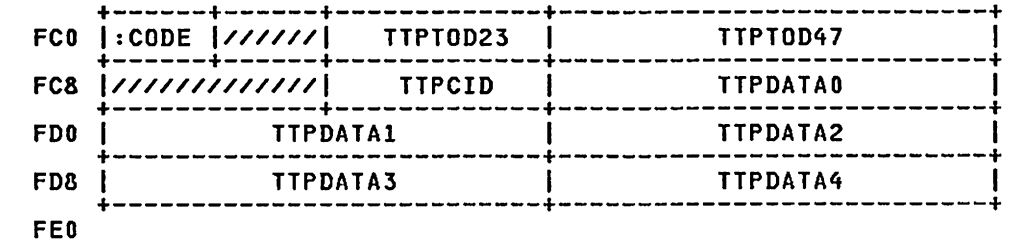
DELETED BY:

HCPMPSOF - WHEN RELEASING TRACE TABLE PAGES FOR A PROCESSOR BEING TAKEN OFFLINE

TTPBK - TRACE TABLE PAGE BLOCK



REDEFINITION - THIS TRACE ENTRY IS BUILT BY HAND



disp	name	length	description
000	TTPNEXT	032	TRACE ENTRIES
FC0	TTPLAST	032	TRACE INTERRUPT TRACE ENTRY (HAND BUILT TO RECORD INTERRUPT)
FE0		F	RESERVED FOR FUTURE USE
FE4	TTPCPUAD	002	CPU ADDR OF OWNER OF THIS PAGE

FE6		H	RESERVED FOR FUTURE USE
FE8	TTPTODIN	008	TOD CLOCK ON ENTRY TO PAGE
FF0	TTPTODEX	008	TOD CLOCK ON EXIT FROM PAGE
FF8	TTPFPNT	004	FORWARD POINTER FOR TRACE TABLE CHAIN
FFC	TTPBPNT	004	BACKWARD POINTER FOR TRACE TABLE CHAIN

REDEFINITION - THIS TRACE ENTRY IS BUILT BY HAND

FC0	TTPCODE	001	HARDWARE TRACE ENTRY IDENTIFIER X'7N' (WHERE N IS THE NUMBER OF REGISTERS STORED MINUS ONE, WILL ALWAYS BE FOUR IN VM)
FC1		X'00'	RESERVED FOR FUTURE HARDWARE USE
FC2	TTPTODCK	006	LAST 6 BYTES OF TOD CLOCK, HARDWARE SUPPLIED.
FC2	TTPTOD23	002	BYTES 2 AND 3 OF TOD CLOCK
FC4	TTPTOD47	004	BYTES 4 THROUGH 7 OF TOD CLOCK
			ALL OF THE ABOVE FIELDS ARE SUPPLIED BY THE HARDWARE EXECUTION OF THE TRACE INSTRUCTION.
			THE FOLLOWING FIELDS ARE THE DATA PASSED TO THE TRACE INSTRUCTION BY THE SOFTWARE.
FC8	TTPTRCCD	004	TRACE ENTRY IDENTIFIER
FC8		XL2'00'	TRACE PARAMETER, ARCHITECTED TO BE ZEROES.
FCA	TTPCID	002	TRACE ENTRY ID (IE 0300 = PROGRAM INTERRUPT)
			THE FOLLOWING FIELDS ARE PASSED TO THE TRACE INSTRUCTION IN CONSECUTIVE GENERAL PURPOSE REGISTERS.
FCC	TTPDATA0	004	FIRST DATA FIELD PASSED TO TRACE
FD0	TTPDATA1	004	SECOND DATA FIELD PASSED TO TRACE
FD4	TTPDATA2	004	THIRD DATA FIELD PASSED TO TRACE
FD8	TTPDATA3	004	FOURTH DATA FIELD PASSED TO TRACE
FDC	TTPDATA4	004	FIFTH DATA FIELD PASSED TO TRACE

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
TTPBK	001	000	TTPTOD47	004	FC4
TTPBPNT	004	FFC	TTPTRCCD	004	FC8
TTPCID	002	FCA			
TTPCODE	001	FC0			
TTPCPUAD	002	FE4			
TTPDATA0	004	FCC			
TTPDATA1	004	FD0			
TTPDATA2	004	FD4			
TTPDATA3	004	FD8			
TTPDATA4	004	FDC			
TTPFPNT	004	FF8			
TTPLAST	032	FC0			
TTPNEXT	032	000			
TTPTODCK	006	FC2			
TTPTODEX	008	FF0			
TTPTODIN	008	FE8			
TTPTOD23	002	FC2			

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HCPTTSBK— TRACE TABLE SAVE ENTRY FORMAT

DSECT NAME: TTSBK

DESCRIPTIVE NAME: TRACE TABLE SAVE ENTRY FORMAT

FUNCTION: THIS CONTROL BLOCK DEFINES THE FORMAT OF A 28-BYTE CP TRACE TABLE ENTRY, SAVED ONTO TAPE BY HSERV AND USED BY DVF FOR TRACE SERVICE TOOLS. THIS CONTROL BLOCK IS IDENTICAL TO THE FORMAT OF THE HARDWARE TRACE ENTRIES, EXCEPT THAT THE FIRST FULLWORD HAS BEEN REMOVED AND THE ID OF THE PROCESSOR GENERATING THE TRACE ENTRY HAS BEEN INCLUDED THE TRACE ENTRY HAS BEEN INCLUDED. IF THIS CONTROL BLOCK IS CHANGED, THE TTEBK MUST BE VERIFIED TO SEE IF THE SAME CHANGE EXISTS THERE.

LOCATED BY:

WORK REGISTERS IN HCPTSM (SAVES THE TRACE ENTRIES)

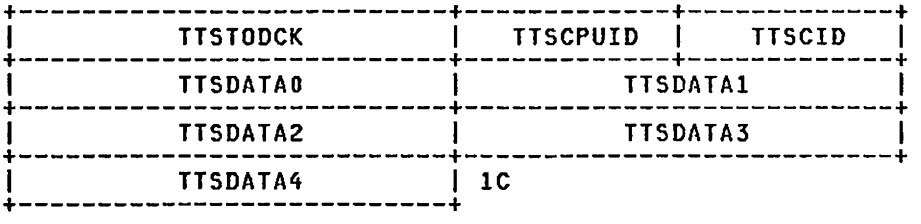
CREATED BY:

NOT APPLICABLE. DSECT DEFINES FORMAT USED BY TRACE INSTRUCTION.

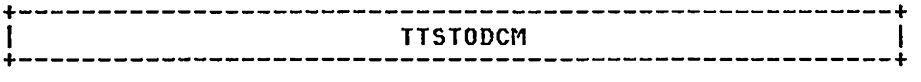
DELETED BY:

NOT APPLICABLE.

TTSBK - TRACE TABLE SAVE ENTRY FORMAT



REDEFINITION - COMMUNICATION ENTRY



disp	name	length	description
000	TTSTODCK	004	LAST 4 BYTES OF TOD CLOCK
004	TTSCPUID	002	ID OF THE PROCESSOR GENERATING THIS TRACE INSTRUCTION
006	TTSCID	002	TRACE ENTRY ID (IE 0A00=RUN USER)
008	TTSDATA0	004	FIRST DATA FIELD PASSED (RX)
00C	TTSDATA1	004	SECOND DATA FIELD PASSED (RX+1)
010	TTSDATA2	004	THIRD DATA FIELD PASSED (RX+2)
014	TTSDATA3	004	FOURTH DATA FIELD PASSED (RX+3)
018	TTSDATA4	004	FIFTH DATA FIELD PASSED (RX+4)

EQUATES

```
04    TTSSIZE     :SIZE OF BLOCK IN DOUBLE WORDS
1C    TTSLEN      :LENGTH OF BLOCK IN BYTES
```

THE FOLLOWING IS A REDEFINITION OF THE FIRST TWO *

008	TTSTODCM	008	FULL 8-BYTE TOD ENTRY FOR

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COMMUNICATION TO DVF

CROSS REFERENCE

Name	Len	Value/Disp
TTSBK	001	000
TTSCID	002	006
TTSCPUID	002	004
TTSDATA0	004	008
TTSDATA1	004	00C
TTSDATA2	004	010
TTSDATA3	004	014
TTSDATA4	004	018
TTSLEN	001	01C
TTSSIZE	001	004
TTSTODCK	004	000
TTSTODCM	008	008

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HCPUZPAG— PREFIX STORAGE AREA - MACHINE USAGE

DSECT NAME: UZPAG

DESCRIPTIVE NAME: PREFIX STORAGE AREA - MACHINE USAGE

FUNCTION: THIS CONTROL BLOCK DESCRIBES THE ARCHITECTED FIELDS IN PAGE ZERO (EITHER REAL ZERO OR ABSOLUTE ZERO DEPENDING ON USAGE). THIS IS USED TO REFER TO GUEST PAGE ZERO. FOR HOST PAGE ZERO, THE PFXBK COPY FILE IS USED INSTEAD OF UZPAG.

LOCATED BY:

VMDPAGZP (WHILE NOT IN CONSOLE FUNCTION MODE)
- HOST REAL ADDRESS OF THE GUEST PAGE ZERO

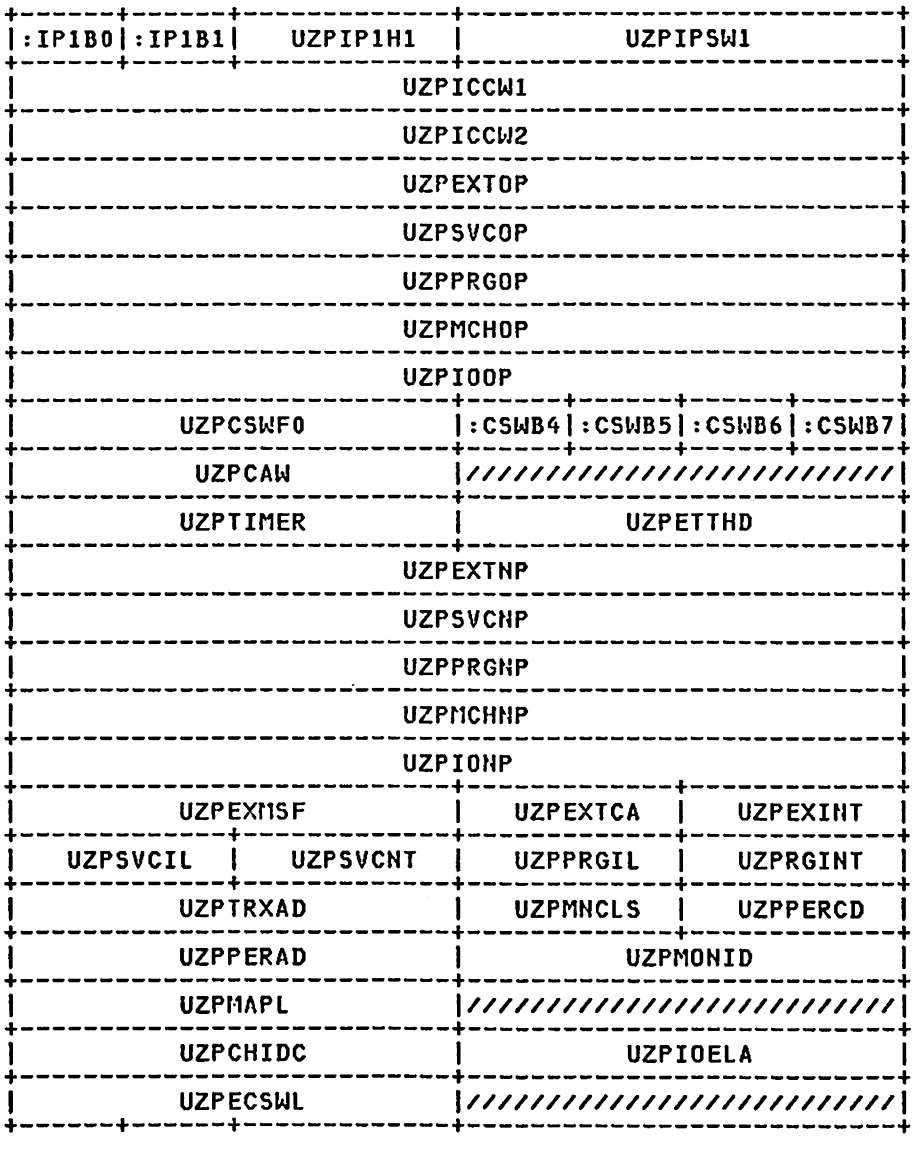
CREATED BY:

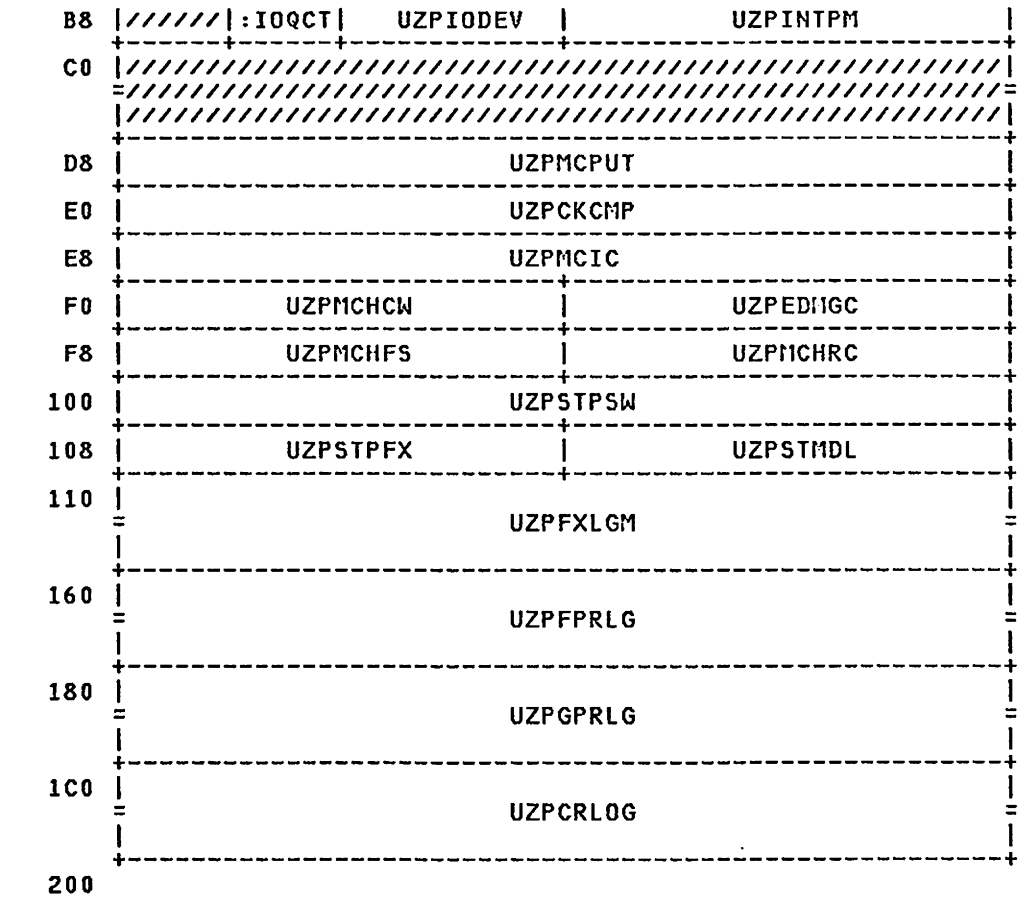
NOT APPLICABLE (CREATE AS A FUNCTION OF THE GUEST OPERATING SYSTEM

DELETED BY:

NOT APPLICABLE

UZPAG - PREFIX STORAGE AREA - MACHINE USAGE





disp	name	length	description
000	UZPIPSW	008	IPL START PSW
000	UZPIPSW0	004	
000	UZPIP1B0	001	
001	UZPIP1B1	001	EXTENDED MODE
002	UZPIP1H1	002	IPL DEVICE ADDRESS
004	UZPIPSW1	004	(ALSO RESTART NEW PSW)
008	UZPICCW1	008	IPL CCW, FIRST (ALSO RESTART OLD PSW)
010	UZPICCW2	008	IPL CCW, SECOND
018	UZPEXTOP	008	EXTERNAL OLD PSW
020	UZPSVCOP	008	SVC OLD PSW
028	UZPPRGOP	008	PROGRAM OLD PSW
030	UZPMCHOP	008	MACHINE-CHECK OLD PSW
038	UZPIOOP	008	INPUT/OUTPUT OLD PSW
040	UZPCSW	008	CHANNEL STATUS WORD
040	UZPCSWF0	004	KEY AND ADDRESS OF FULL CSW
044	UZPCSWF1	004	2ND FULLWORD OF CSW
044	UZPCSWH	002	HALFWORD CSW
044	UZPCSWB4	001	5TH BYTE OF CSW
045	UZPCSWB5	001	6TH BYTE OF CSW
046	UZPCSWB6	001	COUNT FIELD OF FULL CSW
047	UZPCSWB7	001	COUNT FIELD OF FULL CSW
048	UZPCAW	004	CHANNEL ADDRESS WORD
04C		F	NOT REFERENCED
050	UZPTIMER	004	INTERVAL TIMER
054	UZPETTHD	004	EXT. FACIL. TRACE TABLE HDR
058	UZPEXTNP	008	EXTERNAL NEW PSW
060	UZPSVCNP	008	SVC NEW PSW
068	UZPPRGNP	008	PROGRAM NEW PSW
070	UZPMCHNP	008	MACHINE-CHECK NEW PSW

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078    UZPIONP     008       INPUT/OUTPUT NEW PSW
080    UZPEXMSF    004       MSF DATA BLOCK ADDR-CLASS 21 EXT
084    UZPEXTCD    004       EXTERNAL INTERRUPT CODE,FULLWORD
084    UZPEXTCA    002       EXTERNAL IRPT. CPU ADDRESS
086    UZPEXINT    002       EXTERNAL INTERRUPT CODE,HALFWORD
088    UZPSVCIL    002       SVC INSTRUCTION LENGTH CODE
08A    UZPSVCNT    002       SVC INTERRUPT CODE
08C    UZPPRGCD    004       PROGRAM ILC AND INTERRUPT CODE
08C    UZPPRGIL    002       PROGRAM INSTRUCTION LENGTH CODE
08E    UZPRGINT    002       PROGRAM INTERRUPT CODE
090    UZPTRXAD    004       TRANSLATION EXCEPTION ADDRESS
094    UZPMNCLS    002       MONITOR CLASS
096    UZPPERCD    002       PROGRAM EVENT RECORDER(PER) CODE
098    UZPPERAD    004       PER ADDRESS
09C    UZPMONID    004       MONITOR CODE
0A0    UZPMAPL     004       CONTROL BLOCK FOR EXT. FACIL.
0A4                F         RESERVED FOR FUTURE HARDWARE USE
0A8    UZPCHIDC    004       CHANNEL IDENTIFIER FROM 'STIDC'
0AC    UZPIOELA    004       I/O EXTENDED LOGOUT AREA POINTER
0B0    UZPECSWL    004       LIMITED CHANNEL LOGOUT (ECSW)
0B4                F         RESERVED FOR FUTURE HARDWARE USE
0B8    UZPIOSID    004       370/XA I/O INTERRUPT SUBSYS ID
0B8                X         370: UNUSED, 370/XA: ZERO
0B9    UZPIOQCT    001       370: QUEUED I/O COUNT, 370/XA:01
0BA    UZPIODEV    002       370: DEVICE ADDRESS,
                             370/XA: SUBCHANNEL NUMBER
0BC    UZPINTPM    004       370/XA I/O INTERRUPTION PARM
0C0                3D        RESERVED FOR FUTURE HARDWARE USE
0D8    UZPMCPUT    008       CPU TIMER LOGOUT
0E0    UZPCKCMP    008       TOD COMPARATOR LOGOUT ON MACHINE
0E8    UZPMCIC     008       MACHINE-CHECK INTERRUPT CODE

                    EQUATES

       E8    UZPMCI01        OVLY FOR FIRST TWO BYTES OF MCIC

0F0    UZPMCHCW    004       MACHINE CHECK CHAN. REPORT WORD
0F4    UZPEDMGC    004       EXTERNAL DAMAGE CODE
0F8    UZPMCHFS    004       MACHINE CHECK FAILING STOR. ADDR
0FC    UZPMCHRC    004       MACHINE CHECK REGION CODE
100    UZPFCLOG    096       GUEST FULL CHANNEL LOGOUT
100    UZPFXLOG    096       MACHINE CHECK FIXED LOGOUT AREA
100    UZPSTPSW    008       STORE STATUS PSW LOGOUT AREA
108    UZPSTPFX    004       STORE STATUS PREFIX LOGOOUT AREA
10C    UZPSTMDL    004       STORE STATUS MODEL DEPENDENT
110    UZPFXLGM    008       REMAINDER OF FIXED LOGOUT AREA
160    UZPFPRLG    008       FLOATING POINT REG. LOGOUT AREA
180    UZPGPRLG    004       GENERAL REGISTER LOGOUT AREA
1C0    UZPCRLOG    004       CONTROL REGISTER LOGOUT AREA

                    EQUATES

       00    UZPLAP          LIMIT OF LOW ADDRESS PROTECTION
                             FIELDS ABOVE ADDRESS 512 ARE NOT SPECIFIED BY
                             PROCESSOR ARCHITECTURE.
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
UZPAG	001	000	UZPCRLOG	004	1C0	UZPCSWB6	001	046
UZPCAW	004	048	UZPCSW	008	040	UZPCSWB7	001	047
UZPCHIDC	004	0A8	UZPCSWB4	001	044	UZPCSWF0	004	040
UZPCKCMP	008	0E0	UZPCSWB5	001	045	UZPCSWF1	004	044

Name	Len	Value/Disp
UZPCSWH	002	044
UZPECSWL	004	0B0
UZPEDMGC	004	0F4
UZPETTHD	004	054
UZPEXINT	002	086
UZPEXMSF	004	080
UZPEXTCA	002	084
UZPEXTCD	004	084
UZPEXTNP	008	058
UZPEXTOP	008	018
UZPFCLOG	096	100
UZPFPRLG	008	160
UZPFXLGM	008	110
UZPFXLOG	096	100
UZPGPRLG	004	180
UZPICCW1	008	008
UZPICCW2	008	010
UZPINTPM	004	0BC
UZPIODEV	002	0BA
UZPIOELA	004	0AC
UZPIONP	008	078
UZPIOOP	008	038
UZPIOQCT	001	0B9
UZPIOSID	004	0B8
UZPIPSW	008	000
UZPIPSW0	004	000
UZPIPSW1	004	004
UZPIP1B0	001	000
UZPIP1B1	001	001
UZPIP1H1	002	002
UZPLAP	001	200
UZPMAPL	004	0A0
UZPMCHCW	004	0F0
UZPMCHFS	004	0F8
UZPMCHNP	008	070
UZPMCHOP	008	030
UZPMCHRC	004	0FC
UZPMCIC	008	0E8
UZPMCI01	002	0E8
UZPMCPUT	008	0D8
UZPMNCLS	002	094
UZPMONID	004	09C
UZPPERAD	004	098
UZPPERCD	002	096
UZPPRGCD	004	08C
UZPPRGIL	002	08C
UZPPRGNP	008	068
UZPPRGOP	008	028
UZPRGINT	002	08E
UZPSTMDL	004	10C
UZPSTPFX	004	108
UZPSTPSW	008	100
UZPSVCIL	002	088
UZPSVCNP	008	060
UZPSVCNT	002	08A
UZPSVCOP	008	020
UZPTIMER	004	050
UZPTRXAD	004	090

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HCPVDEV— VIRTUAL DEVICE CONTROL BLOCK

DSECT NAME: VDEV

DESCRIPTIVE NAME: VIRTUAL DEVICE CONTROL BLOCK

FUNCTION: DESCRIBE THE STATUS OF AN I/O DEVICE (REAL OR VIRTUAL) ACCESSABLE BY A VIRTUAL MACHINE.

LOCATED BY:

A POINTER IN THE LOWEST LEVEL INDEX VECTOR IN THE FOUR-LEVEL TREE ANCHORED IN:
- VMDCHRSN - FOR ACCESS VIA SUBCHANNEL NUMBER
- VMDCHRDN - FOR ACCESS VIA DEVICE NUMBER

RDEVVDEV - DEDICATED DEVICE ONLY
BLKVDEVA - DEVICES CONNECTED TO DASD BLOCK I/O SYSTEM SERVICE
VDEVBASE - MULTIPLE EXPOSURE DEVICE ONLY
VMDVSPRT - PRINTER TO USE IN DUMP, TRACE, ... CMDS
VMDVCONS - CONSOLE
MDIRVDEV - VDEV TO WHICH A MINI-DISK EXTENT IS VIRTUALLY RESERVED.

WHILE AN I/O EVENT IS OUTSTANDING FOR A VIRTUAL MACHINE, THE ADDRESS OF A VDEV MAY APPEAR IN:
- CHCQUEUE(I) - FIRST DEVICE WITH AN INTERRUPT PENDING ON CHANNEL I (OR IN CHANNEL CLASS I)
- VDEVFPNT - NEXT DEVICE WITH INTERRUPT PENDING ON THIS CHANNEL (OR THIS VDEV, IF LAST)
- VDEVBPNT - PREVIOUS INTERRUPT PENDING DEVICE ON THIS CHANNEL (OR THIS VDEV, IF FIRST)
- VMDWVDEV - DEVICE CAUSING I/O WAIT CONDITION
  - SYNCHRONOUS I/O VIA DIAGNOSE 18 OR 20
  - VIRTUAL MACHINE LOOPING ON TIO INSTR.
- IORVDEV - VDEV WITH WHICH VIRTUAL MACHINE'S I/O REQUEST IS ASSOCIATED.

I/O SUPERVISOR ROUTINES NORMALLY USE REGISTER 6 TO ADDRESS THE VDEV ASSOCIATED WITH THE EVENT BEING PROCESSED.

CREATED BY:

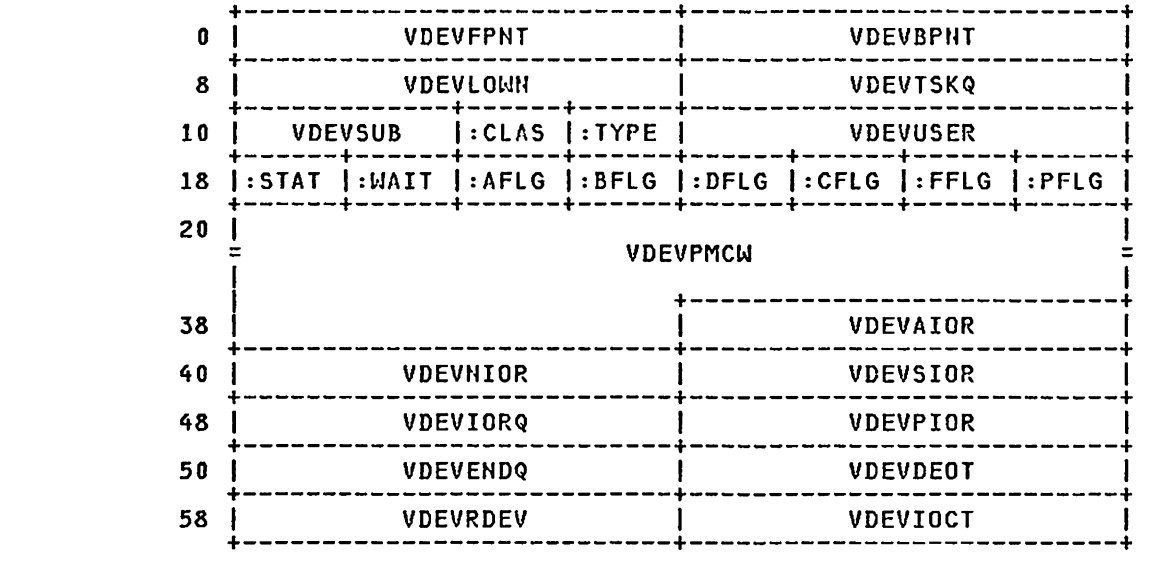
HCPVDB

DELETED BY:

HCPVDB

BLK HCPBLK (CP) VM/XA - SYSTEM PRODUCT 5664-308

VDEV - VIRTUAL DEVICE CONTROL BLOCK



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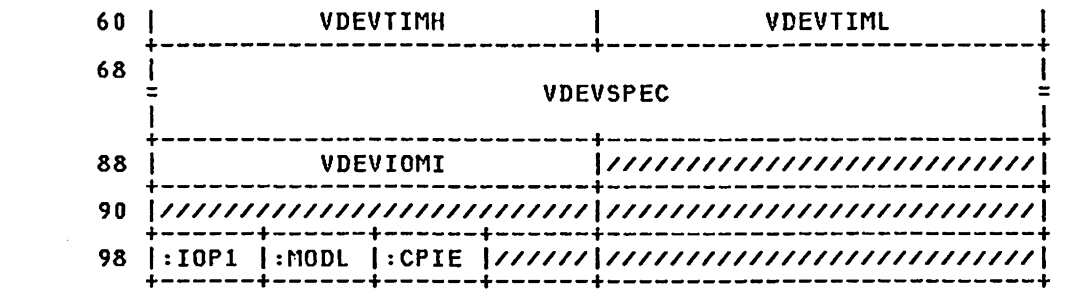
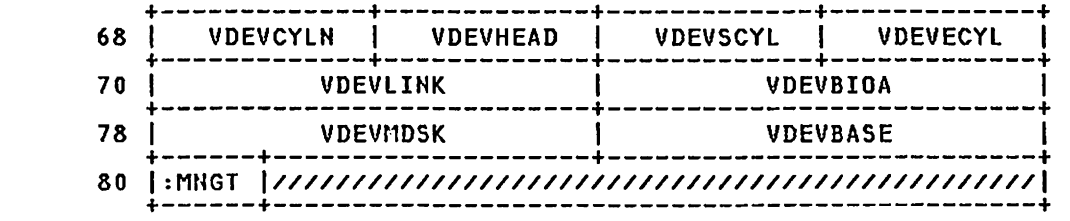
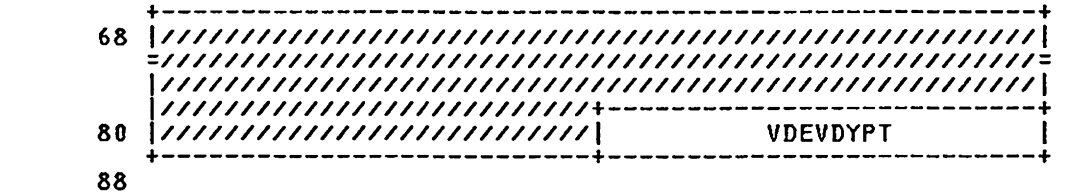


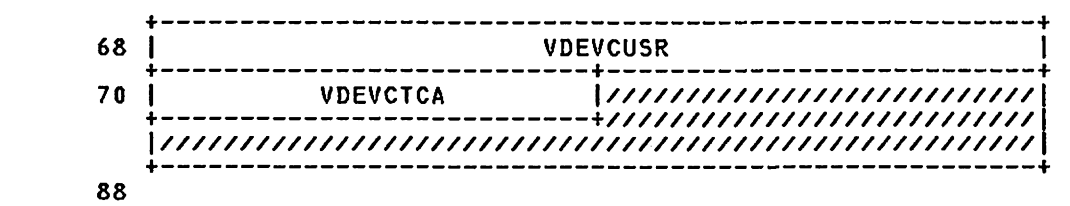
REDEFINITION - DASD SPECIFICATION VALUES



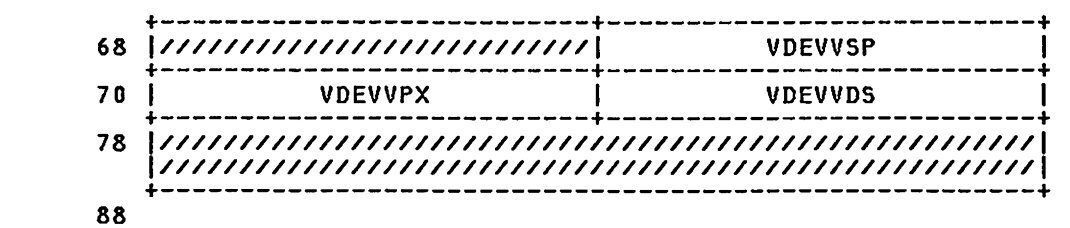
REDEFINITION - TAPE SPECIFICATION VALUES



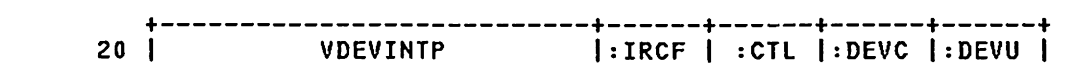
REDEFINITION - VIRTUAL CTCA SPECIFICATION VALUES



REDEFINITION - SPOOL CONSOLE AND UNIT RECORD SPEC.



REDEFINITION - DEFINE PATH MANAGEMENT CONTROL WORD



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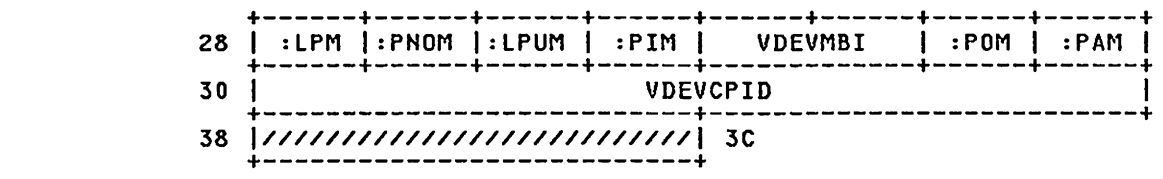

REDEFINITION - VIRTUAL DEVICE SUBCHANNEL NUMBER

disp	name	length	description
000	VDEVFPNT	004	FORWARD INTERRUPTION POINTER
004	VDEVBPNT	004	BACKWARD INTERRUPTION POINTER
008	VDEVLOCK	008	VIRTUAL DEVICE LOCKWORD
008	VDEVLOWN	004	ADDRESS OF LOCK OWNER'S VMDBK
00C	VDEVTSKQ	004	ANCHOR FOR QUEUE OF WAITING TASKS
010	VDEVSUB	002	VIRTUAL SUBCHANNEL NUMBER
012	VDEVCODE	002	VIRTUAL DEVICE IDENTITY CODE
012	VDEVCLAS	001	DEVICE CLASS
	BITS DEFINED FOR VDEVCLAS BY HCPDVTYP DEVCLAS		
013	VDEVTYPE	001	DEVICE TYPE
	BITS DEFINED FOR VDEVTYPE BY HCPDVTYP DEVTYPE		
014	VDEVUSER	004	POINTER TO VMDBK OF OWNER
018	VDEVSTAT	001	DEVICE STATUS - OWNED BY VIRTUAL I/O INSTRUCTION SIMULATION. THIS IS NOT TO BE USED BY VIRTUAL DEVICE SIMULATION.
	BITS DEFINED IN VDEVSTAT (AT HEX DISPLACEMENT: 18)		
	80 VDEVBUSY		START FUNCTION
	40 VDEVPRCE		CHANNEL END RECEIVED
	20 VDEVCLRF		CLEAR FUNCTION
	10 VDEVHLTF		HALT FUNCTION
	F0 VDEVACTV		
	08 VDEVSUSP		SUBCHANNEL SUSPENDED
	04 VDEVRPND		RESUME PENDING
	02 VDEVQUED		DEVICE-BUSY RECEIVED - VDEVNIOR CONTAINS THE ADDRESS OF AN IORBK WHICH RECEIVED AN INITIAL STATUS OF BUSY-ALONE AND IS AWAITING AN UNSOLICITED DEVICE END.
019	VDEVWAIT	001	WAIT STATUS CONTROLS
	BITS DEFINED IN VDEVWAIT (AT HEX DISPLACEMENT: 19)		
	80 VDEVIMRS		VM SUSPENDED PENDING I/O RESPONSE
	40 VDEVWINT		CPU(S) AWAITING STATUS (TIO/TSCH BUSY)
01A	VDEVAFLG	001	DEVICE ALLOCATION FLAG
	BITS DEFINED IN VDEVAFLG (AT HEX DISPLACEMENT: 1A)		
	80 VDEVINTV		SIMULATED INTERVENTION REQUIRED
	40 VDEVTDSK		DEVICE IS DASD TDISK
	20 VDEVVSIM		DEVICE IS SIMULATED BY VDSBK
	10 VDEVFULL		DEVICE IS A COMPLETE VOLUME
	08 VDEVDED		DEVICE IS ATTACHED TO VDEVRDEV
	04 VDEVMPLX		MULTIPLE EXPOSURE DEVICE

01B	VDEVBFLG	001	BACKUP STATUS FLAG - OWNED BY HALT SIMULATION PROCESSING TO PRESERVE INTERMEDIATE STATUS ACROSS HALT.

BITS DEFINED IN VDEVBFLG (AT HEX DISPLACEMENT: 1B)

80	VDEVBCC0	BACKUP CONFIRMED CC 0 FLAG
40	VDEVBPCI	BACKUP PCI FLAG
20	VDEVBSUI	BACKUP SUSPENSION INTERRUPT FLAG

01C	VDEVDFLG	001	DEVICE CONTROL FLAGS

BITS DEFINED IN VDEVDFLG (AT HEX DISPLACEMENT: 1C)

80	VDEVRO	DEVICE- READ ONLY ACCESS
40	VDEVENAB	COMMUNICATION LINE - ENABLED
20	VDEVDIAL	COMMUNICATION LINE - DIALED
04	VDEVRSRL	RESERVE/RELEASE VALID CCW'S
02	VDEVNSEG	NO CHAN PROG SEGMENTATION ALLOWED

01D	VDEVCFLG	001	CONSOLE PROCESSING CONTROLS

BITS DEFINED IN VDEVCFLG (AT HEX DISPLACEMENT: 1D)

80	VDEVUCAT	UNSERVICED CONSOLE ATTENTION: VIRTUAL MACHINE HAS NOT RESPONDED WITH A CHANNEL PROGRAM TO THE LAST ATTENTION INTERRUPTION.
40	VDEVPPA1	REFLECT PA1 KEY TO THE VIRTUAL MACHINE
20	VDEVGSUS	FULL SCREEN GUEST WAS SUSPENDED WITH UNIT EXCEPTION. CP MUST GENERATE AN UNSOLICITED DEVICE END TO RESUME GUEST

01E	VDEVFFLG	001	RESERVED FOR FUTURE IBM USE
01F	VDEVPFLG	001	DEVICE PROCESSING FLAG

BITS DEFINED IN VDEVPFLG (AT HEX DISPLACEMENT: 1F)

80	VDEVCPCL	DEVICE CLOSED BY CP COMMAND
40	VDEVPURG	DEVICE CLOSED AND PURGED BY CP COMMAND
20	VDEVNRSM	DEVICE CANNOT RESUME CHANNEL PROGRAM
10	VDEVDPRE	DYNAMIC PATHING HAS BEEN REQUESTED

020	VDEVPMCW	028	PATH MANAGEMENT CONTROL WORD
03C	VDEVAIOR	004	POINTER TO THE ACTIVE IORBK
040	VDEVNIOR	004	SSCH PNDING (NOT YET STARTED) IORBK
044	VDEVSIOR	004	IORBK HOLDING SENSE DATA FOR DEVICE
048	VDEVIORQ	004	RDEV-TO-VDEV LOCK SWAPPING PIVOT
04C	VDEVPIOR	004	PENDING INTERRUPT IORBK
050	VDEVENDQ	004	COMPLETION TASK QUEUE ANCHOR
054	VDEVDEOT	004	DELAYED ENDOP TRQBK ANCHOR
058	VDEVRDEV	004	POINTER TO RDEV OF ACTUAL DEVICE
05C	VDEVIOCT	004	COUNTER FOR I/O REQUESTS
060	VDEVTIME	008	TOD CLOCK AT DEVICE CREATION
060	VDEVTIMH	004	HI ORDER TOD CLOCK ROUGHLY IN SECONDS
064	VDEVTIML	004	LO ORDER TOD CLOCK
068	VDEVSPEC	008	DEVICE-DEPENDENT SPECIFICATIONS
088	VDEVIOMI	004	ADDRESS OF VIRTUAL I/O MANAGEMENT INFO
08C		1F	RESERVED FOR FUTURE IBM USE
090		1F	RESERVED FOR FUTURE IBM USE
094		1F	RESERVED FOR FUTURE IBM USE
098	VDEVIOP1	001	I/O PASS THROUGH FLAGS

BITS DEFINED IN VDEVIOP1 (AT HEX DISPLACEMENT: 98)

40	VDEVIOPA	DEV IS OPERATING UNDER PASS THROUGH
20	VDEVIOPI	DEV BEING PUT UNDER I/O PASS THROUGH
10	VDEVIOPO	TAKE DEVICE OUT OF PASS THROUGH AT NEXT OPPORTUNITY
08	VDEVIOPR	DEV BEING REMOVED FROM PASS THROUGH
02	VDEVIOPX	DEVICE IS ELIGIBLE FOR XA I/O PASS THROUGH
01	VDEVIOP3	DEVICE IS ELIGIBLE FOR 370 I/O PASS

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THROUGH

099	VDEVMODL	001	VIRTUAL DEVICE MODEL NUMBER
09A	VDEVCPIE	001	CHANNEL PATH IN ERROR MASK
09B		1X	RESERVED FOR FUTURE IBM USE
09C		1F	RESERVED FOR FUTURE IBM USE

EQUATES

14	VDEVSIZE	VDEV SIZE IN DOUBLE-WORDS

REDEFINITION - DASD SPECIFICATION VALUES

068	VDEVPOSN	004	VIRTUAL DASD ARM POSITION
068	VDEVCYLN	002	VIRTUAL DASD CYLINDER NUMBER

EQUATES

68	VDEVCYL0	1ST BYTE OF CYLINDER INFORMATION
69	VDEVCYL1	2ND BYTE OF CYLINDER INFORMATION

06A	VDEVHEAD	002	VIRTUAL DASD HEAD NUMBER

EQUATES

6A	VDEVHED0	1ST BYTE OF HEAD INFORMATION
6B	VDEVHED1	2ND BYTE OF HEAD INFORMATION

06C	VDEVEXTN	004	VIRTUAL DASD CYLINDER EXTENTS
06C	VDEVSCYL	002	MINIDISK STARTING CYLINDER
06E	VDEVECYL	002	MINIDISK ENDING CYLINDER
070	VDEVLINK	004	NEXT MINIDISK LINKED TO THIS RDEV
074	VDEVBIOA	004	BLOCK I/O CONNECT BLOCK
078	VDEVMDSK	004	MINI-DISK BLOCK FOR RESERVE/RELEASE
07C	VDEVBASE	004	BASE ADDRESS VDEV FOR MULT-EXPOSURE
080	VDEVMNGT	001	LEVEL OF CONTROL FOR CACHED DASD

BITS DEFINED IN VDEVMNGT (AT HEX DISPLACEMENT: 80)

80	VDEVCA	CACHING AVAILABLE TO A MINIDISK
40	VDEVCNA	CACHING NOT AVAILABLE TO A MINIDISK
20	VDEVSCTL	SYSTEM CONTROL FOR CACHED DASD
10	VDEVDCTL	DEVICE CONTROL FOR CACHED DASD
08	VDEVNCTL	NO CONTROL FOR CACHED DASD

081		1XL7	RESERVED FOR FUTURE IBM USE

REDEFINITION - TAPE SPECIFICATION VALUES

068		XL28	RESERVED FOR FUTURE IBM USE
084	VDEVDYPT	004	POINTER TO TAPE PATHING CONTROL BLOCK

REDEFINITION - VIRTUAL CTCA SPECIFICATION VALUES

038	VDEVCUSR	008	RESTRICTED USERID FOR COUPLING
070	VDEVCTCA	004	ADDRESS OF CACBK
074		1XL20	RESERVED FOR FUTURE IBM USE

REDEFINITION - SPOOL CONSOLE AND UNIT RECORD SPEC.

068		1F	RESERVED FOR FUTURE IBM USE
06C	VDEVVSP	004	ADDRESS OF THE VIRTUAL SPOOL BLOCK
070	VDEVVPX	004	ADDRESS OF PRT EXTENSION BLOCK
074	VDEVVDS	004	DEVICE SIMULATION POINTER
078		1XL16	RESERVED FOR FUTURE IBM USE

REDEFINITION - DEFINE PATH MANAGEMENT CONTROL WORD

020	VDEVPMW0	004	WORD 0 OF PMCW
020	VDEVINTP	004	INTERRUPT PARAMETER
024	VDEVPMW1	004	WORD 1 OF PMCW
024	VDEVIRCF	001	SUBCHANNEL INTERUPT REQUEST CODE

BITS DEFINED FOR VDEVIRCF BY HCPEQUAT CSWIRCF

025	VDEVCTL	001	SUBCHANNEL STATUS CONTROL

BITS DEFINED FOR VDEVCTL BY HCPEQUAT CSWCTL

026	VDEVDEV	002	INTERNAL DEVICE NUMBER
026	VDEVDEVC	001	CHANNEL NUMBER
027	VDEVDEVU	001	DEVICE/CONTROL UNIT NUMBER
028	VDEVPMW2	004	WORD 2 OF PMCW
028	VDEVLPM	001	SUBCHANNEL LOGICAL PATH MASK
029	VDEVPNOM	001	SUBCHANNEL PATH NOT OPERATIONAL MASK
02A	VDEVLPUM	001	SUBCHANNEL LAST PATH USED MASK
02B	VDEVPIM	001	SUBCHANNEL PATH INSTALLED MASK
02C	VDEVPMW3	004	WORD 3 OF PMCW
02C	VDEVMBI	002	MEASUREMENT BLOCK INDEX
02E	VDEVPOM	001	SUBCHANNEL OPERATIONAL MASK
02F	VDEVPAM	001	SUBCHANNEL PATH AVAILABLE MASK
030	VDEVCPID	001	CHANNEL PATH IDENTIFIERS 0 - 7
038		1F	RESERVED FOR FUTURE HARDWARE USE

REDEFINITION - VIRTUAL DEVICE SUBCHANNEL NUMBER

010	VDEVSUBL	001	LEFT DIGIT OF SUBCHANNEL NUMBER
011	VDEVSUBR	001	RIGHT DIGIT OF SUBCHANNEL NUMBER

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
VDEV	001	000	VDEVDIAL	001	020	VDEVMBI	002	02C
VDEVACTV	001	0F0	VDEVDPRE	001	010	VDEVMDSK	004	078
VDEVAFLG	001	01A	VDEVDYPT	004	084	VDEVMNGT	001	080
VDEVAIOR	004	03C	VDEVECYL	002	06E	VDEVMODL	001	099
VDEVBASE	004	07C	VDEVENAB	001	040	VDEVMPLX	001	004
VDEVBCC0	001	080	VDEVENDQ	004	050	VDEVNCTL	001	008
VDEVBFLG	001	01B	VDEVEXTN	004	06C	VDEVNIOR	004	040
VDEVBIOA	004	074	VDEVFFLG	001	01E	VDEVNRSM	001	020
VDEVBPCI	001	040	VDEVFPNT	004	000	VDEVNSEG	001	002
VDEVBPNT	004	004	VDEVFULL	001	010	VDEVPAM	001	02F
VDEVBSUI	001	020	VDEVGSUS	001	020	VDEVPFLG	001	01F
VDEVBUSY	001	080	VDEVHEAD	002	06A	VDEVPIM	001	02B
VDEVCA	001	080	VDEVHED0	001	06A	VDEVPIOR	004	04C
VDEVCFLG	001	01D	VDEVHED1	001	06B	VDEVPMCW	028	020
VDEVCLAS	001	012	VDEVHLTF	001	010	VDEVPMW0	004	020
VDEVCLRF	001	020	VDEVIMRS	001	080	VDEVPMW1	004	024
VDEVCNA	001	040	VDEVINTP	004	020	VDEVPMW2	004	028
VDEVCODE	002	012	VDEVINTV	001	080	VDEVPMW3	004	02C
VDEVCPCL	001	080	VDEVIOCT	004	05C	VDEVPNOM	001	029
VDEVCPID	001	030	VDEVIOMI	004	088	VDEVPOM	001	02E
VDEVCPIE	001	09A	VDEVIOPA	001	040	VDEVPOSN	004	068
VDEVCTCA	004	070	VDEVIOPI	001	020	VDEVPPA1	001	040
VDEVCTL	001	025	VDEVIOPO	001	010	VDEVPRCE	001	040
VDEVCUSR	008	068	VDEVIOPR	001	008	VDEVPURG	001	040
VDEVCYLN	002	068	VDEVIOPX	001	002	VDEVQUED	001	002
VDEVCYL0	001	068	VDEVIOP1	001	098	VDEVRDEV	004	058
VDEVCYL1	001	069	VDEVIOP3	001	001	VDEVRO	001	080
VDEVDCTL	001	010	VDEVIORQ	004	048	VDEVRPND	001	004
VDEVDED	001	008	VDEVIRCF	001	024	VDEVRSRL	001	004
VDEVDEOT	004	054	VDEVLINK	004	070	VDEVSCTL	001	020
VDEVDEV	002	026	VDEVLOCK	008	008	VDEVSCYL	002	06C
VDEVDEVC	001	026	VDEVLOWN	004	008	VDEVSIOR	004	044
VDEVDEVU	001	027	VDEVLPM	001	028	VDEVSIZE	001	014
VDEVDFLG	001	01C	VDEVLPUM	001	02A	VDEVSPEC	008	068

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Name	Len	Value/Disp
VDEVSTAT	001	018
VDEVSUB	002	010
VDEVSUBL	001	010
VDEVSUBR	001	011
VDEVSUSP	001	008
VDEVTDSK	001	040
VDEVTIME	008	060
VDEVTIMH	004	060
VDEVTIML	004	064
VDEVTSKQ	004	00C
VDEVTYPE	001	013
VDEVUCAT	001	080
VDEVUSER	004	014
VDEVVDS	004	074
VDEVVPX	004	070
VDEVVSIM	001	020
VDEVVSP	004	06C
VDEVWAIT	001	019
VDEVWINT	001	040

HCPVDSBK— VIRTUAL DEVICE SIMULATION BLOCK

DSECT NAME: VDSBK

DESCRIPTIVE NAME: VIRTUAL DEVICE SIMULATION BLOCK

FUNCTION: THIS CONTROL BLOCK CONTAINS INFORMATION NECESSARY FOR SIMULATION OF A VIRTUAL DEVICE.

LOCATED BY:

VDEVVDS FIELD OF HCPVDEV

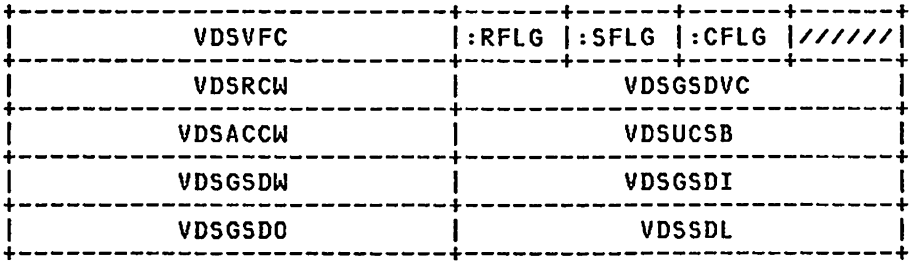
CREATED BY:

HCPVDSDF - WHILE DEFINING A VIRTUAL DEVICE.

DELETED BY:

HCPVDBDL - WHEN DELETING A VIRTUAL DEVICE.

VDSBK - VIRTUAL DEVICE SIMULATION BLOCK



disp	name	length	description
000	VDSVFC	004	POINTER TO VFCBLOK
004	VDSFLAGS	004	DEVICE SIMULATION FLAGS
004	VDSRFLG	001	DEVICE SIMULATION REQUEST FLAG
	BITS DEFINED IN VDSRFLG (AT HEX DISPLACEMENT: 4)		
	80 VDSATTN		CONS - 2 OR MORE ATTENTIONS SEEN
	40 VDSDIAG		DIAGNOSE I/O ACTIVE ON THIS DEVICE
005	VDSSFLG	001	DEVICE SIMULATION STATUS FLAG
	BITS DEFINED IN VDSSFLG (AT HEX DISPLACEMENT: 5)		
	80 VDSCCW1		PROCESSING FIRST CCW IN CHAIN
	40 VDSCPOST		VIRTUAL COND. CODE PRESENTED
	20 VDSLTIC		LAST CCW PROCESSED WAS A TIC
	10 VDSDTRAN		DATA XFER IN THIS CCW STRING
	08 VDSFEED		RDR - LAST CCW DID A 'FEED'
	04 VDSCRCW		TIC SCAN PASSED CURR RCWTASK
	02 VDSREJLT		PRESENT COMMAND REJECT LATER
	01 VDSUE		UNIT EXCEPTION HAS BEEN PRESENTED
006	VDSCFLG	001	DEVICE SIMULATION CONTROL FLAG
	BITS DEFINED IN VDSCFLG (AT HEX DISPLACEMENT: 6)		
	08 VDSAUCR		CONS - AUTO CR ON FIRST READ
007		1X	RESERVED FOR FUTURE IBM USE
008	VDSRCW	004	POINTER TO CURRENT RCWTASK
00C	VDSGSDVC	004	POINTER TO WORK GSDBLOK
010	VDSACCW	004	ADDRESS OF CURRENT CCW IN RCWTASK
014	VDSUCSB	004	POINTER TO UCSB DATA BLOCK
018	VDSGSDW	004	POINTER TO VSP WORK GSDBLOK

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01C   VDSGSDI    004      POINTER TO INPUT GSDBLOK
020   VDSGSDO    004      POINTER TO OUTPUT GSDBLOK
024   VDSSDL     004      POINTER TO AN SDLBK
```

EQUATES

```
05    VDSSIZE    VDSBK SIZE IN DOUBLE-WORDS
```

CROSS REFERENCE

Name	Len	Value/Disp
VDSACCW	004	010
VDSATTN	001	080
VDSAUCR	001	008
VDSBK	001	000
VDSCCW1	001	080
VDSCFLG	001	006
VDSCPOST	001	040
VDSCRCW	001	004
VDSDIAG	001	040
VDSDTRAN	001	010
VDSFEED	001	008
VDSFLAGS	004	004
VDSGSDI	004	01C
VDSGSDO	004	020
VDSGSDVC	004	00C
VDSGSDW	004	018
VDSLTIC	001	020
VDSRCW	004	008
VDSREJLT	001	002
VDSRFLG	001	004
VDSSDL	004	024
VDSSFLG	001	005
VDSSIZE	001	005
VDSUCSB	004	014
VDSUE	001	001
VDSVFC	004	000

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HCPVDUBK— VIRTUAL MACHINE DUMP BLOCK

DSECT NAME: VDUBK

DESCRIPTIVE NAME: VIRTUAL MACHINE DUMP BLOCK

FUNCTION: TO PASS VMDUMP COMMAND PARAMETERS FROM HCPVMD AND TO PROVIDE A SAVEAREA FOR SUBROUTINES IN HCPVDU.

LOCATED BY:

SEE REGISTER USAGE IN MODULES HCPVMD AND HCPVDU.

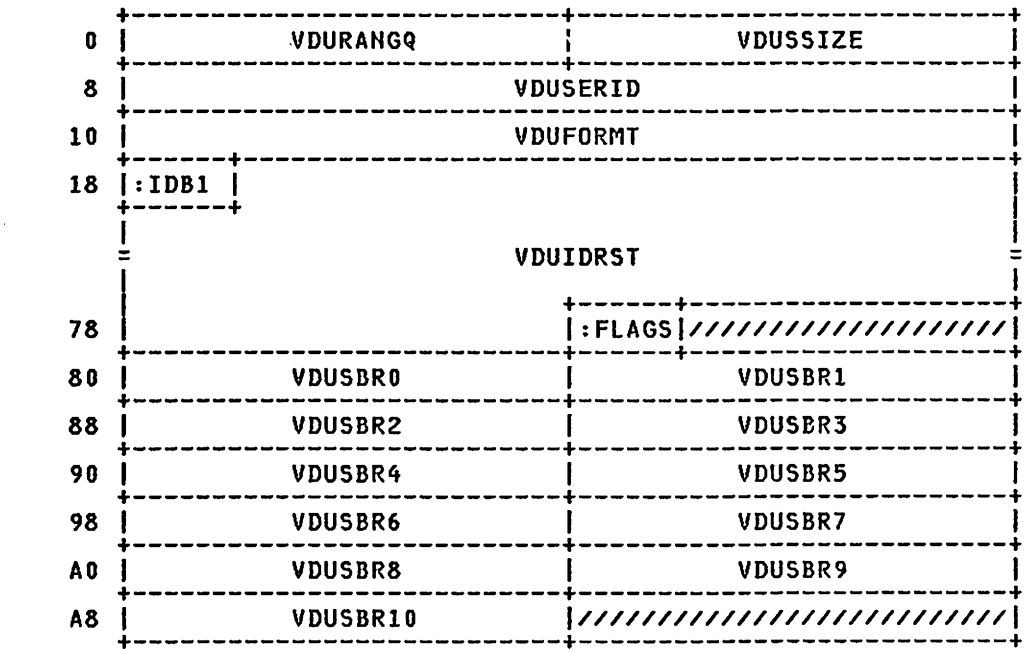
CREATED BY:

HCPVMDMP

DELETED BY:

HCPVMDMP

VDUBK - VIRTUAL MACHINE DUMP BLOCK



disp	name	length	description
000	VDURANGQ	004	QUEUE OF ADDRESS RANGES TO DUMP
004	VDUSSIZE	004	VIRT. MACH. STORAGE SIZE INCLUDING DCSS AREAS IF ANY
008	VDUSERID	008	USER TO RECEIVE THE DUMP FILE
010	VDUFORMT	008	THE DUMP FILE FORMAT (FILE TYPE)
018	VDUDMPID	100	THE DUMP ID (IF SPECIFIED)
018	VDUIDB1	001	. . . BYTE 1
019	VDUIDRST	099	. . . REST OF THE IDENTIFIER
07C	VDUFLAGS	001	DUMP FLAGS
07D		XL3	RESERVED FOR FUTURE IBM USE
080	VDUSBRGS	044	SUBROUTINE SAVEAREA FOR HCPVDU
080	VDUSBR0	004	SUBROUTINE REGISTER 0
084	VDUSBR1	004	SUBROUTINE REGISTER 1
088	VDUSBR2	004	SUBROUTINE REGISTER 2
08C	VDUSBR3	004	SUBROUTINE REGISTER 3
090	VDUSBR4	004	SUBROUTINE REGISTER 4
094	VDUSBR5	004	SUBROUTINE REGISTER 5
098	VDUSBR6	004	SUBROUTINE REGISTER 6

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```
09C   VDUSBR7     004       SUBROUTINE REGISTER 7
0A0   VDUSBR8     004       SUBROUTINE REGISTER 8
0A4   VDUSBR9     004       SUBROUTINE REGISTER 9
0A8   VDUSBR10    004       SUBROUTINE REGISTER 10
0AC               F         RESERVED FOR FUTURE IBM USE
```

EQUATES

```
        16     VDUSIZE      VDUBK LENGTH IN DOUBLE WORDS
```

MORE EQUATES

```
        01     VDUTO        'TO' OR 'SYSTEM' WAS SPECIFIED
        02     VDUFORM      'FORMAT' WAS SPECIFIED
        04     VDUNRTRN     'NORETURN' WAS SPECIFIED
        10     VDUDUMP      'DUMP' WAS SPECIFIED
        20     VDUTSELF     'TO SELF' WAS SPECIFIED
        40     VDUINLIN     INLINE RANGE FOUND
        80     VDUXA        DUMP IS TO BE IN 370-XA FORMAT
```

CROSS REFERENCE

Name	Len	Value/Disp
VDUBK	001	000
VDUDMPID	100	018
VDUDUMP	001	010
VDUFLAGS	001	07C
VDUFORM	001	002
VDUFORMT	008	010
VDUIDB1	001	018
VDUIDRST	099	019
VDUINLIN	001	040
VDUNRTRN	001	004
VDURANGQ	004	000
VDUSBRGS	044	080
VDUSBR0	004	080
VDUSBR1	004	084
VDUSBR10	004	0A8
VDUSBR2	004	088
VDUSBR3	004	08C
VDUSBR4	004	090
VDUSBR5	004	094
VDUSBR6	004	098
VDUSBR7	004	09C
VDUSBR8	004	0A0
VDUSBR9	004	0A4
VDUSERID	008	008
VDUSIZE	001	016
VDUSSIZE	004	004
VDUTO	001	001
VDUTSELF	001	020
VDUXA	001	080

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HCPVECBK— GUEST VECTOR FACILITY CONTROL BLOCK

DSECT NAME: VECBK

DESCRIPTIVE NAME: GUEST VECTOR FACILITY CONTROL BLOCK

FUNCTION: HCPVECBK IS THE PRIMARY CONTROL BLOCK FOR A VIRTUAL CPU'S VECTOR FACILITY. IT CONTAINS OR REFERS TO ALL GUEST VECTOR FACILITY REGISTERS, PLUS ADDITIONAL VECTOR ACTIVITY COUNTERS.

LOCATED BY:

VMDVECTR IN THE VMBDK OF THE OWNING VIRTUAL CPU.

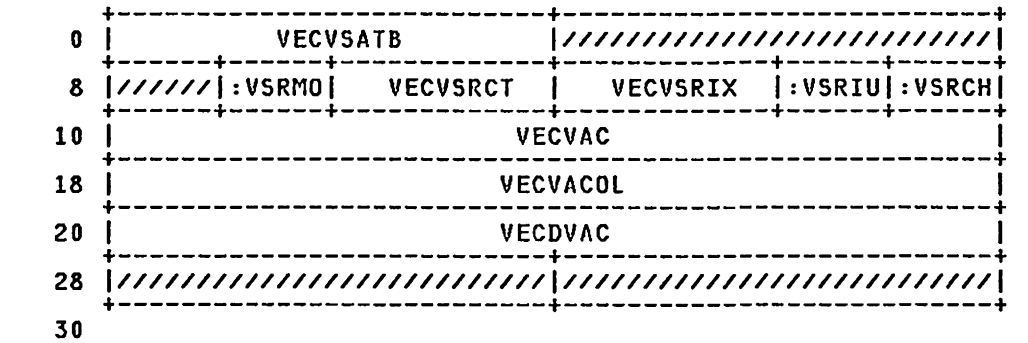
CREATED BY:

HCPVFVIN - VIRTUAL VECTOR FACILITY INITIALIZATION.

DELETED BY:

HCPVFVDE - VIRTUAL VECTOR FACILITY DE-INITIALIZATION.

VECBK - GUEST VECTOR FACILITY CONTROL BLOCK



disp	name	length	description
000	VECVSATB	004	POINTER TO THE VECTOR REGISTER SAVE AREA BLOCK
004		F	RESERVED FOR FUTURE IBM USE
008	VECVSR	008	GUEST VECTOR STATUS REGISTER:
008		XL1	..RESERVED FOR FUTURE IBM USE
009	VECVSRMO	001	..VECTOR MODE FLAGS
	BITS DEFINED IN VECVSRMO (AT HEX DISPLACEMENT: 9)		
	01 VECVSRMM		....VECTOR MASK MODE
00A	VECVSRCT	002	..VECTOR COUNT (OF ELEMENTS TO ....PARTICIPATE IN OPERATIONS)
00C	VECVSRIX	002	..VECTOR INTERRUPTION INDEX (NEXT ....ELEMENT NUMBER)
00E	VECVSRIC	002	..VECTOR IN-USE AND CHANGE MASK
00E	VECVSRIU	001	....VECTOR IN-USE MASK (ONE BIT ......PER VR PAIR)
00F	VECVSRCH	001	....VECTOR CHANGE MASK (ONE BIT ......PER VR PAIR)
010	VECVAC	008	GUEST VECTOR ACTIVITY COUNT
018	VECVACOL	008	GUEST VECTOR ACTIVITY COUNT AT THE TIME OF LAST UPDATING OF ACCOUNTING VALUES
020	VECDVAC	008	GUEST VECTOR ACTIVITY COUNT AT THE START OF THE TIMESLICE
028		F	RESERVED FOR FUTURE IBM USE
02C		F	RESERVED FOR FUTURE IBM USE

EQUATES

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	06	VECSIZE	SIZE OF VECBK IN DOUBLEWORDS EXCLUDING VECVMR
030	VECVMR	001	GUEST VECTOR MASK REGISTER THE SIZE OF VECVMR IS (SECTION SIZE / 2) BYTES

CROSS REFERENCE

Name	Len	Value/Disp
VECBK	001	000
VECDVAC	008	020
VECSIZE	001	006
VECVAC	008	010
VECVACOL	008	018
VECVMR	001	030
VECVSATB	004	000
VECVSR	008	008
VECVSRCH	001	00F
VECVSRCT	002	00A
VECVSRIC	002	00E
VECVSRIU	001	00E
VECVSRIX	002	00C
VECVSRMM	001	001
VECVSRMO	001	009

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HCPVFCBK— VIRTUAL FORMS BUFFER CONTROL BLOCK

DSECT NAME: VFCBK

DESCRIPTIVE NAME: VIRTUAL FORMS BUFFER CONTROL BLOCK

FUNCTION: CONTAINS THE FORMS CONTROL BUFFER DATA AND CONTROL INFORMATION FOR A VIRTUAL SPOOLING DEVICE.

LOCATED BY:

VDSVFC FIELD OF HCPVDSBK

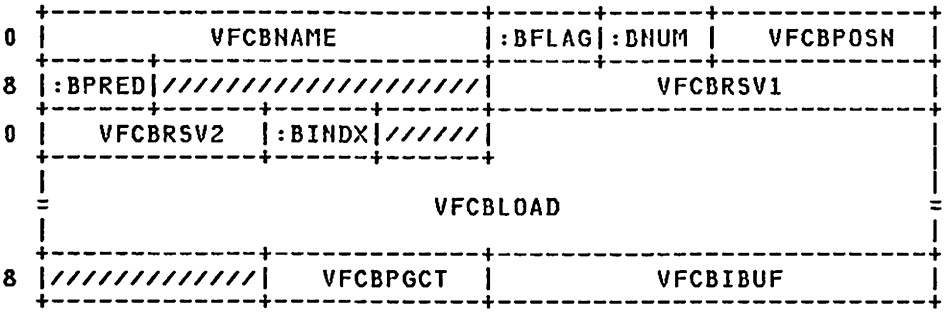
CREATED BY:

HCPSCB - FOR PROCESSING THE LOADBUF COMMAND

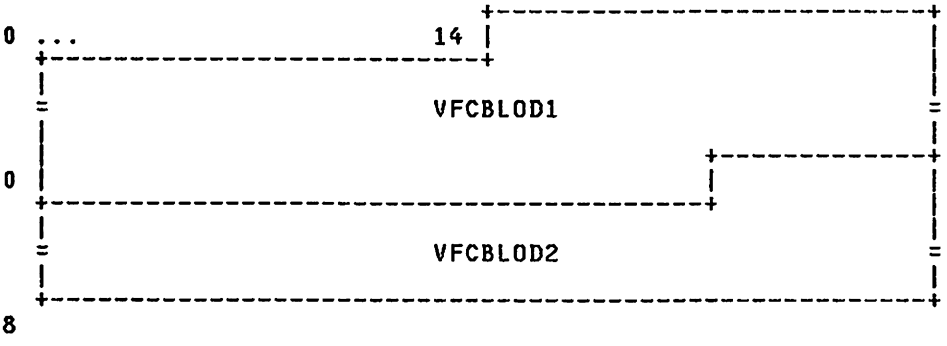
DELETED BY:

HCPDTD - WHEN THE DEVICE IS DETACHED

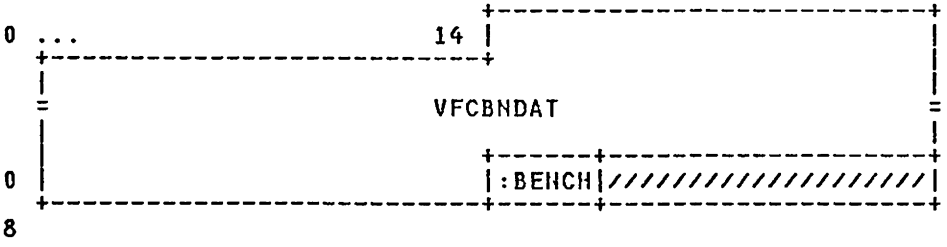
VFCBK - VIRTUAL FORMS BUFFER CONTROL BLOCK



REDEFINITION - REDEF FCB DATA FOR CLEARING FCB



REDEFINITION - REDEF FCB DATA FOR NORMAL FCB



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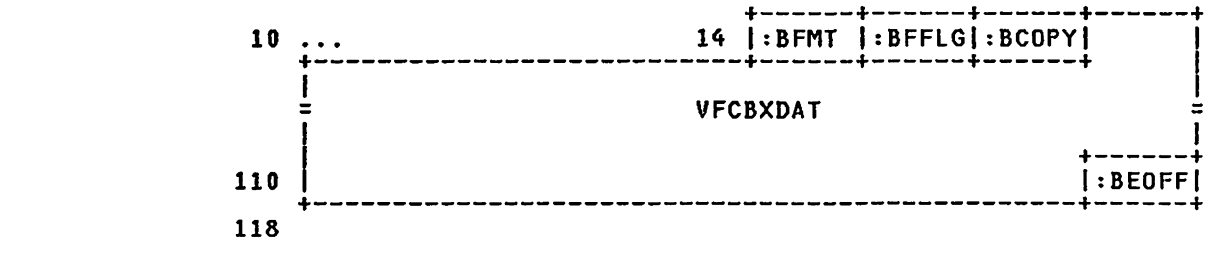
REDEFINITION - REDEF FCB DATA FOR EXTENDED FCB



REDEFINITION - 'SENSE INTERMEDIATE BUFFER' INFO

disp	name	length	description
000	VFCBNAME	004	FCB'S NAME
004	VFCBFLAG	001	STATUS FLAGS

BITS DEFINED IN VFCBFLAG (AT HEX DISPLACEMENT: 4)

80	VFCBEOF	END OF FORMS PASSED ONCE
40	VFCBDIAG	USED IN 'READ BUFFER' SUPPORT

005	VFCBNUM	001	CHANNEL NUMBER OR SPACE COUNT
006	VFCBPOSN	002	CURRENT LINE NUMBER
008	VFCBWORK	004	WORK WORD
008	VFCBPRED	001	THE LAST CCW ISSUED
009		3X	SPACE
00C	VFCBRSV1	004	RESERVED FOR FUTURE IBM USE
010	VFCBRSV2	002	RESERVED FOR FUTURE IBM USE
012	VFCBINDX	001	FCB INDEX BYTE VALUE
013		1X	RESERVED FOR FUTURE IBM USE
014	VFCBLOAD	260	FORMS CONTROL BUFFER DATA
118		2X	RESERVED FOR FUTURE IBM USE
11A	VFCBPGCT	002	CURRENT PAGE COUNT
11C	VFCBIBUF	004	'SENSE INTERMEDIATE BUFFER' INFO
120	VFCBEND	008	END OF VFC BUFFER BLOCK

EQUATES

24	VFCBSIZE	BLOCK SIZE IN DBLWDS
00	VFCBLEN	NORMAL FCB DATA LENGTH
04	VFCBXLEN	EXTENDED FCB DATA LENGTH

REDEFINITION - REDEF FCB DATA FOR CLEARING FCB

014	VFCBLOD1	130	FOR CLEARING: FCB 1ST HALF
096	VFCBLOD2	130	FOR CLEARING: FCB 2ND HALF

REDEFINITION - REDEF FCB DATA FOR NORMAL FCB

014	VFCBNDAT	256	NORMAL FCB DATA
114	VFCBENCH	001	END-OF-FCB FENCE
115		XL3	(UNUSED PORTION OF EXTENDED FCB)

REDEFINITION - REDEF FCB DATA FOR EXTENDED FCB

014	VFCBFMT	001	FCB FORMAT INDICATOR

CODES DEFINED IN VFCBFMT (AT HEX DISPLACEMENT: 14)

```
        7E    VFCBXTND    EXTENDED FCB FORMAT

015   VFCBFFLG   001       FCB FLAGS

        BITS DEFINED IN VFCBFFLG (AT HEX DISPLACEMENT: 15)

        10    VFCBXDUP    DUPLICATE COPY ENABLED
        80    VFCBZERO    BIT ZERO MUST BE 0 BY DEFINITION

016   VFCBCOPY   001       COPY COUNT
017   VFCBXDAT   256       EXTENDED FCB: ACTUAL FCB DATA
117   VFCBEOFF   001       EXTENDED FCB END-OF-FORMS MARKER

        CODES DEFINED IN VFCBEOFF (AT HEX DISPLACEMENT: 117)

        FE    VFCBXEOF    EXTENDED FCB END-OF-FORMS CODE


         REDEFINITION - 'SENSE INTERMEDIATE BUFFER' INFO

11C   VFCBFCBP   002       CURRENT FCB POINTER
11E   VFCBCPGC   002       CURRENT PAGE COUNTER
```

CROSS REFERENCE

Name	Len	Value/Disp
VFCBCOPY	001	016
VFCBCPGC	002	11E
VFCBDIAG	001	040
VFCBENCH	001	114
VFCBEND	008	120
VFCBEOF	001	080
VFCBEOFF	001	117
VFCBFCBP	002	11C
VFCBFFLG	001	015
VFCBFLAG	001	004
VFCBFMT	001	014
VFCBIBUF	004	11C
VFCBINDX	001	012
VFCBK	001	000
VFCBLEN	001	100
VFCBLOAD	260	014
VFCBLOD1	130	014
VFCBLOD2	130	096
VFCBNAME	004	000
VFCBNDAT	256	014
VFCBNUM	001	005
VFCBPGCT	002	11A
VFCBPOSN	002	006
VFCBPRED	001	008
VFCBRSV1	004	00C
VFCBRSV2	002	010
VFCBSIZE	001	024
VFCBWORK	004	008
VFCBXDAT	256	017
VFCBXDUP	001	010
VFCBXEOF	001	0FE
VFCBXLEN	001	104
VFCBXTND	001	07E
VFCBZERO	001	080

HCPVIOMI— VIRTUAL I/O MANAGEMENT INFORMATION

DSECT NAME: VIOMI

DESCRIPTIVE NAME: VIRTUAL I/O MANAGEMENT INFORMATION

FUNCTION: VIOMI MAPS THE VIRTUAL I/O MANAGEMENT INFORMATION AREA POINTED TO BY THE DCTBL.

LOCATED BY:

DCTVIODD FIELD OF DCTBL, FOR DEDICATED DEVICES
DCTVIOSH FIELD OF DCTBL, FOR SHARED DEVICES
DCTVIOSM FIELD OF DCTBL, FOR SIMULATED DEVICES
VDEVIOMI FIELD OF VDEV

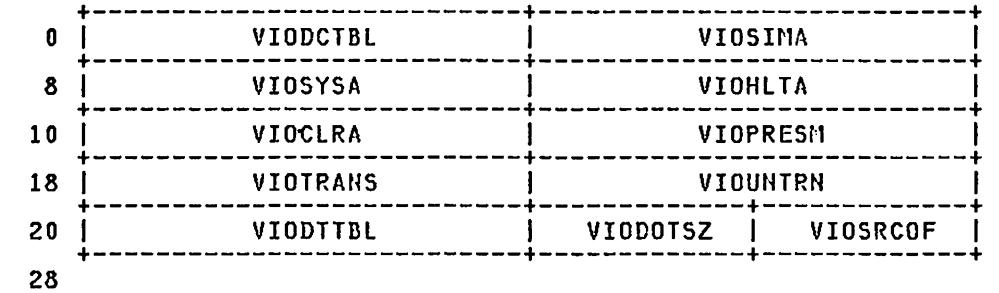
CREATED BY:

INVOCATION OF THE HCPVIOGN MACRO.

DELETED BY:

THIS CONTROL BLOCK IS NEVER DELETED.

VIOMI - VIRTUAL I/O MANAGEMENT INFORMATION



disp	name	length	description
000	VIODCTBL	004	POINTER TO DCTBL FOR THIS VIOMI
004	VIOSIMA	004	ADDRESS OF SIMULATION ROUTINE
008	VIOSYSA	004	ADDRESS OF SYSTEM RESET ROUTINE
00C	VIOHLTA	004	ADDRESS OF INTERFACE DISCONNECT ROUTINE
010	VIOCLRA	004	ADDRESS OF SELECTIVE RESET ROUTINE
014	VIOPRESM	004	ADDRESS OF PRESIMULATION ROUTINE
018	VIOTRANS	004	ADDRESS OF DEVICE TRANSLATOR FOR CHANNEL PROGRAM TRANSLATION
01C	VIOUNTRN	004	ADDRESS OF DEVICE UNTRANSLATOR FOR CHANNEL PROGRAM TRANSLATION
020	VIODTTBL	004	ADDRESS OF DEVICE TRANSLATION TABLE FOR CHANNEL PROGRAM TRANSLATION
024	VIODOTSZ	002	DOUBLEWORD SIZE OF THE DOTMA
026	VIOSRCOF	002	OFFSET FROM VMDVSRCA TO PROPER VIRTUAL START COUNTER THIS DEVICE/SUPPORT FOR THIS DEVICE CLASS AND/OR TYPE

EQUATES

05	VIOSIZE	SIZE, IN DOUBLEWORDS, OF VIOMI

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CROSS REFERENCE

Name	Len	Value/Disp
VIOCLRA	004	010
VIODCTBL	004	000
VIODOTSZ	002	024
VIODTTBL	004	020
VIOHLTA	004	00C
VIOMI	001	000
VIOPRESM	004	014
VIOSIMA	004	004
VIOSIZE	001	005
VIOSRCOF	002	026
VIOSYSA	004	008
VIOTRANS	004	018
VIOUNTRN	004	01C

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VMCBLOK— VMCF COMMUNICATIONS BLOCK

DSECT NAME: VMCBLOK

DESCRIPTIVE NAME: VMCF COMMUNICATIONS BLOCK

FUNCTION: VMCBLOK CONTAINS DATA TRANSFER AND STATUS INFORMATION USED BY THE VIRTUAL MACHINE CONFIGURATION FACILITY (VMCF).

LOCATED BY:

VMCFPNT FIELD OF VMCBLOK (POINTER TO NEXT VMCBLOK)
VMDVMCB FIELD OF HCPVMDBK

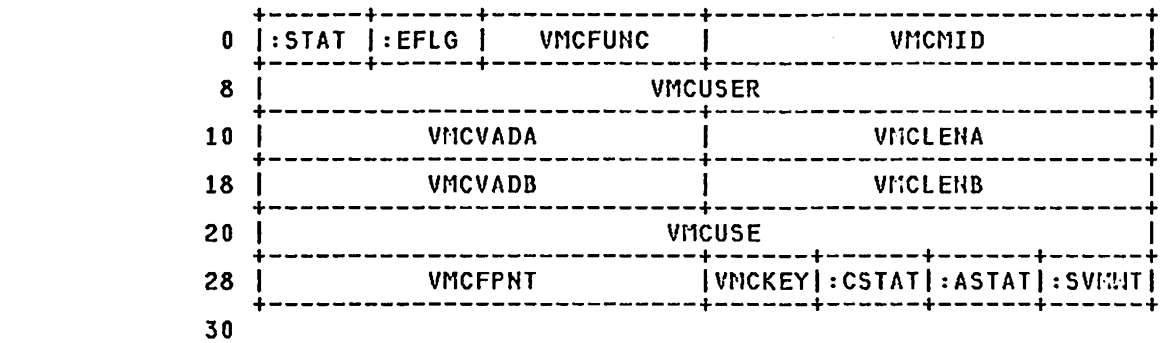
CREATED BY:

HCPVMC (TO HANDLE VMCF FUNCTIONS)

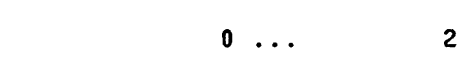
DELETED BY:

HCPVMC (VMCF PROCESSING)

VMCBLOK - VMCF COMMUNICATIONS BLOCK



REDEFINITION - HEADER (MASTER) VMCBLOK



disp	name	length	description
000	VMCSTAT	001	VMCBLOK USER STATUS
	BITS DEFINED IN VMCSTAT (AT HEX DISPLACEMENT: 0)		
	80 VMCRESP		FINAL RESPONSE INTERRUPT
	40 VMCRJCT		MESSAGE REJECTED
	20 VMCPRTY		PRIORITY MESSAGE
	10 VMCACCT		CP ACNT RECORD (CP USE ONLY)
	08 VMCEREP		CP EREP RECORD (CP USE ONLY)
	04 VMCVMCF		VMCF RECORD (CP USE ONLY)
	02 VMCHADR		VMCF LOOP SWITCH (CP USE ONLY)
001	VMCEFLG	001	DATA TRANSFER RETURN CODE
	CODES DEFINED FOR VMCEFLG BY VMCMHDR VMCMEFLG		
002	VMCFUNC	002	SUB - FUNCTION CODE
	CODES DEFINED FOR VMCFUNC BY VMCPARM VMCPFUNC		
004	VMCMID	004	MESSAGE IDENTIFIER
008	VMCUSER	008	SOURCE / SINK USERID (VMUSER)
010	VMCVADA	004	VADDR OF MESSAGE BUFFER

014	VMCLENA	004	LENGTH OF MESSAGE
018	VMCVADB	004	VADDR OF REPLY BUFFER (SEND / RECV ONLY)
01C	VMCLENB	004	LENGTH OF REPLY BUFFER (SEND / RECV ONLY)
020	VMCUSE	008	USER SUPPLIED DOUBLE-WORD
028	VMCFPNT	004	ADDRESS OF NEXT VMCBLOK
02C	VMCKEY	001	USER PSW KEY
02D	VMCCSTAT	001	VMCBLOK CONTROL STATUS

BITS DEFINED IN VMCCSTAT (AT HEX DISPLACEMENT: 2D)

80	VMCCXINT	EXTERNAL INTERRUPT VMCBLOK
40	VMCCRECP	TRANSACTION PROCESSED
20	VMCCBUSY	VMCBLOK BUSY
10	VMCCPURG	VMCBLOK SCHEDULED FOR PURGE

02E	VMCASTAT	001	VMCBLOK AUTHORIZATION STATUS

BITS DEFINED IN VMCASTAT (AT HEX DISPLACEMENT: 2E)

80	VMCAAUTS	AUTHORIZED SPECIFIC
40	VMCAPRTY	AUTHORIZED PRIORITY
20	VMCAQIES	USER QUIESCING

02F	VMCSVMWT	001	SERVICE VIRTUAL MACHINE (SVM)

EQUATES

80	VMCEND	TRANSACTION END FLAG
06	VMCBSIZE	SIZE OF VMCBLOK (DOUBLEWORDS)

REDEFINITION - HEADER (MASTER) VMCBLOK

002	VMCACNT	002	ACTIVE MESSAGE COUNT

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
VMCAAUTS	001	080	VMCRESP	001	080
VMCACCT	001	010	VMCRJCT	001	040
VMCACNT	002	002	VMCSTAT	001	000
VMCAPRTY	001	040	VMCSVMWT	001	02F
VMCAQIES	001	020	VMCUSE	008	020
VMCASTAT	001	02E	VMCUSER	008	008
VMCBLOK	001	000	VMCVADA	004	010
VMCBSIZE	001	006	VMCVADB	004	018
VMCCBUSY	001	020	VMCVMCF	001	004
VMCCPURG	001	010			
VMCCRECP	001	040			
VMCCSTAT	001	02D			
VMCCXINT	001	080			
VMCEFLG	001	001			
VMCEND	001	080			
VMCEREP	001	008			
VMCFPNT	004	028			
VMCFUNC	002	002			
VMCHADR	001	002			
VMCKEY	001	02C			
VMCLENA	004	014			
VMCLENB	004	01C			
VMCMID	004	004			
VMCPRTY	001	020			

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VMCMHDR— VMCF COMMUNICATION MESSAGE HEADER

DSECT NAME: VMCMHDR

DESCRIPTIVE NAME: VMCF COMMUNICATION MESSAGE HEADER

FUNCTION: VMCMHDR PROVIDES INFORMATION TO IDENTIFY THE SPECIAL VMCF EXTERNAL INTERRUPTS.

LOCATED BY:

XMCMHDR	FIELD	IN MODULE HCPRET
RECVMCHA	FIELD	IN MODULE HCPREC
VMCVADA	FIELD	IN VMCBLOCK
VMCPVADA	FIELD	IN VMCPARM

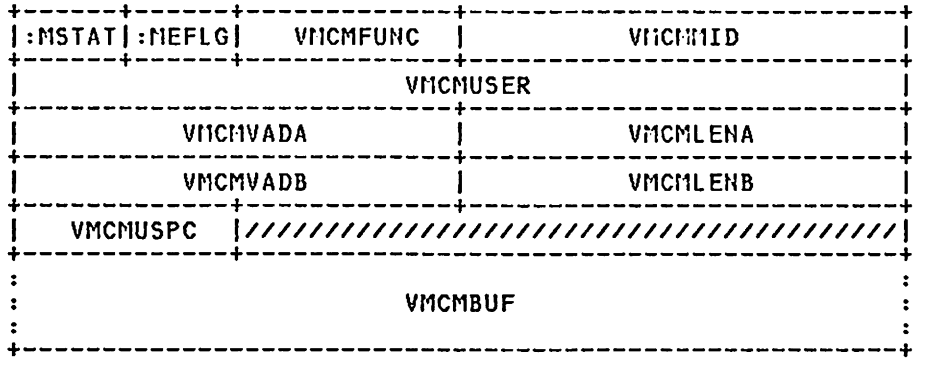
CREATED BY:

HCPREC (FOR CP VMCF COMMUNICATION)
A VIRTUAL MACHINE INVOKING VMCF

DELETED BY:

A VIRTUAL MACHINE

VMCMHDR - VMCF COMMUNICATION MESSAGE HEADER



disp	name	length	description
000	VMCMSTAT	001	MESSAGE STATUS BYTE

BITS DEFINED IN VMCMSTAT (AT HEX DISPLACEMENT: 0)

80	VMCMRESP	FINAL RESPONSE INTERRUPT
40	VMCMRJCT	MESSAGE REJECTED
20	VMCMPRTY	PRIORITY MESSAGE

001	VMCMEFLG	001	DATA TRANSFER RETURN CODE

CODES DEFINED IN VMCMEFLG (AT HEX DISPLACEMENT: 1)

01	VMC01	INVALID VIRTUAL ADDRESS
02	VMC02	INVALID SUB-FUNCTION CODE
03	VMC03	PROTOCOL VIOLATION
04	VMC04	USER NOT AUTHORIZED (SOURCE)
05	VMC05	USER NOT AVAILABLE
06	VMC06	PROTECTION VIOLATION
07	VMC07	SENDX DATA TOO LARGE
08	VMC08	DUPLICATE MESSAGE
09	VMC09	TARGET VM QUIESCING
0A	VMC10	MESSAGE LIMIT EXCEEDED
0B	VMC11	CANCEL - REPLY CANCELLED
0C	VMC12	MESSAGE NOT FOUND
0D	VMC13	SYNCHRONIZATION ERROR
0E	VMC14	CANCEL - TOO LATE

```
         0F     VMC15        PAGING I/O ERROR
         10     VMC16        INCORRECT LENGTH
         11     VMC17        DESTRUCTIVE OVERLAP
         12     VMC18        USER NOT AUTHORIZED PRIORITY
         13     VMC19        DATA TRANSFER ERROR
         14     VMC20        CANCEL - BUSY

002    VMCMFUNC    002       SUB-FUNCTION CODE (ORIGINAL REQ)

         CODES DEFINED IN VMCMFUNC (AT HEX DISPLACEMENT: 2)

         02     VMCMSEND     SEND
         03     VMCMSENR     SEND/RECV
         04     VMCMSENX     SENDX
         0A     VMCMIDEN     IDENTIFY

004    VMCMMID     004       MESSAGE IDENTIFIER
008    VMCMUSER    008       SOURCE / SINK USERID (VMUSER)
010    VMCMVADA    004       VIRTUAL BUFFER ADDRESS
014    VMCMLENA    004       MESSAGE LENGTH
018    VMCMVADB    004       VIRTUAL REPLY BUFFER ADDRESS
01C    VMCMLENB    004       REPLY BUFFER LENGTH
020    VMCMUSE     008       USER SUPPLIED DOUBLE-WORD
020    VMCMUSPC    002       USER SUPPLIED PROTOCOL
022                XL6       REST OF USER SUPPLIED DOUBLE-WORD
028    VMCMBUF     001       START OF VARIABLE LENGTH DATA

                     EQUATES

         28     VMCMLEN      LENGTH OF VMCMHDR (BYTES)


                   MORE EQUATES

         32     VMCSMAX      MAXIMUM ACTIVE MESSAGE LIMIT
         01     VMCXCODE     VMCF EXTERNAL INTERRUPT CODE
         01     VMCXMASK     VMCF CR0 EXTERNAL INTERRUPT MASK
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
VMCMBUF	001	028	VMCXMASK	001	001
VMCMEFLG	001	001	VMC01	001	001
VMCMFUNC	002	002	VMC02	001	002
VMCMHDR	001	000	VMC03	001	003
VMCMIDEN	001	00A	VMC04	001	004
VMCMLEN	001	028	VMC05	001	005
VMCMLENA	004	014	VMC06	001	006
VMCMLENB	004	01C	VMC07	001	007
VMCMMID	004	004	VMC08	001	008
VMCMPRTY	001	020	VMC09	001	009
VMCMRESP	001	080	VMC10	001	00A
VMCMRJCT	001	040	VMC11	001	00B
VMCMSEND	001	002	VMC12	001	00C
VMCMSENR	001	003	VMC13	001	00D
VMCMSENX	001	004	VMC14	001	00E
VMCMSTAT	001	000	VMC15	001	00F
VMCMUSE	008	020	VMC16	001	010
VMCMUSER	008	008	VMC17	001	011
VMCMUSPC	002	020	VMC18	001	012
VMCMVADA	004	010	VMC19	001	013
VMCMVADB	004	018	VMC20	001	014
VMCSMAX	001	032			
VMCXCODE	001	001			

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VMCPARM— VMCF COMMUNICATIONS PARAMETER LIST

DSECT NAME: VMCPARM

DESCRIPTIVE NAME: VMCF COMMUNICATIONS PARAMETER LIST

FUNCTION: VMCPARM CONTAINS THE USER-SUPPLIED PARAMETERS WHEN A VMCF SUBFUNCTION IS EXECUTED.

LOCATED BY:

RECVMCPA FIELD IN MODULE HCPREC
XMCPARM FIELD IN MODULE HCPRET
RX REGISTER OF A DIAGNOSE X'68' INSTRUCTION

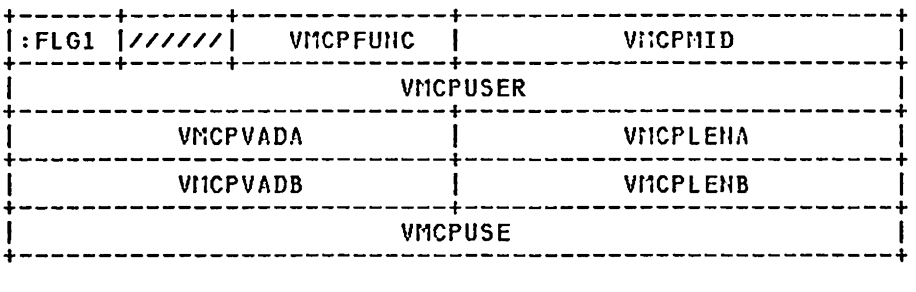
CREATED BY:

HCPREC FOR VMCF
A VIRTUAL MACHINE (FOR VMCF)

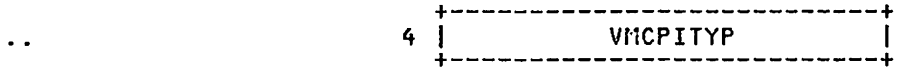
DELETED BY:

A VIRTUAL MACHINE (FOR VMCF)

VMCPARM - VMCF COMMUNICATIONS PARAMETER LIST



REDEFINITION - REDEFINITION OF VMCPMID



disp	name	length	description
000	VMCPFLG1	001	VMCPARM FLAG BYTE
	BITS DEFINED IN VMCPFLG1 (AT HEX DISPLACEMENT: 0)		
	80	VMCPAUTS	AUTHORIZE SPECIFIC REQUEST
	40	VMCPPRTY	PRIORITY MESSAGE
	20	VMCPSMSG	RECEIVING SPECIAL MESSAGES
001		1X	RESERVED FOR FUTURE IBM USE
002	VMCPFUNC	002	SUB - FUNCTION CODE
	CODES DEFINED IN VMCPFUNC (AT HEX DISPLACEMENT: 2)		
	00	VMCPAUTH	AUTHORIZE
	01	VMCPUAUT	UN-AUTHORIZE
	02	VMCPSEND	SEND
	03	VMCPSENR	SEND/RECV
	04	VMCPSENX	SENDX
	05	VMCPRECV	RECEIVE
	06	VMCPCANC	CANCEL
	07	VMCPREPL	REPLY
	08	VMCPQUIE	QUIESCE

	09	VMCPRESM	RESUME
	0A	VMCPIDEN	IDENTIFY
	0B	VMCPRJCT	REJECT

004	VMCPMID	004	MESSAGE IDENTIFIER
008	VMCPUSER	008	TARGET USERID
010	VMCPVADA	004	VADDR OF MESSAGE BUFFER
014	VMCPLENA	004	LENGTH OF MESSAGE
018	VMCPVADB	004	VADDR OF REPLY BUFFER (SEND/RECV ONLY)
01C	VMCPLENB	004	LENGTH OF REPLY BUFFER (SEND/RECV ONLY)
020	VMCPUSE	008	USER SUPPLIED DOUBLE-WORD

EQUATES

28	VMCPLEN	LENGTH OF VMCPARM (BYTES)

REDEFINITION - REDEFINITION OF VMCPMID

004	VMCPITYP	004	RETRIEVE ACCOUNTING OR EREP RECDS (IDENTIFY ONLY)

CROSS REFERENCE

Name	Len	Value/Disp
VMCPARM	001	000
VMCPAUTH	001	000
VMCPAUTS	001	080
VMCPCANC	001	006
VMCPFLG1	001	000
VMCPFUNC	002	002
VMCPIDEN	001	00A
VMCPITYP	004	004
VMCPLEN	001	028
VMCPLENA	004	014
VMCPLENB	004	01C
VMCPMID	004	004
VMCPPRTY	001	040
VMCPQUIE	001	008
VMCPRECV	001	005
VMCPREPL	001	007
VMCPRESM	001	009
VMCPRJCT	001	00B
VMCPSEND	001	002
VMCPSENR	001	003
VMCPSENX	001	004
VMCPSMSG	001	020
VMCPUAUT	001	001
VMCPUSE	008	020
VMCPUSER	008	008
VMCPVADA	004	010
VMCPVADB	004	018

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HCPVMDBK— VIRTUAL MACHINE DEFINITION BLOCK

DSECT NAME: VMDBK

DESCRIPTIVE NAME: VIRTUAL MACHINE DEFINITION BLOCK

FUNCTION: HCPVMDBK IS USED AS THE PRIMARY CONTROL BLOCK FOR ALMOST ALL ACTIVITIES RELATED TO A SINGLE VIRTUAL MACHINE. THE BLOCK CONTAINS THE FOLLOWING INFORMATION: THE DISPATCH AND PRIORITY LEVEL OF THE VIRTUAL MACHINE, THE VIRTUAL MACHINE'S PROCESSOR REGISTERS, PREFERRED VIRTUAL MACHINE OPTION VALUES, AND OTHER VALUES SIGNIFICANT TO VIRTUAL MACHINE OPERATIONS.

LOCATED BY:

VMDQFPNT	DOUBLY CHAINED	(DISPATCH LIST)
VMDQBPNT	DOUBLY CHAINED	(DISPATCH LIST)
COMUSER	FIELD OF HCPCOMBK	(ADDRESS OF DESTINATION USER)
MCVVMDBK	FIELD OF HCPMCVBK	(USER ON FAILING PROCESSOR)
MCVFSAUS	FIELD OF HCPMCVBK	(USER OWNING BAD FRAME)
MURSNDR	FIELD OF HCPMURBK	(SENDER'S)
MURRCVR	FIELD OF HCPMURBK	(RECEIVER'S)
PCSIOCPW	FIELD OF HCPPCSBK	(IOCP WRITE REQUEST)
PCSIOCPR	FIELD OF HCPPCSBK	(IOCP READ REQUEST)
PFXSYSVM	FIELD OF HCPPFXPG	(SYSTEM)
PFXSYSOP	FIELD OF HCPPFXPG	(SYSTEM OPERATOR)
PFXUDEDM	FIELD OF HCPPFXPG	(DEDICATED TO THIS CPU)
PGMVM	FIELD OF HCPPGMBK	(PGMBK OWNER)
SRMELIST	FIELD OF HCPSRMBK	(ELIGIBLE LIST)
SRMDLIST	FIELD OF HCPSRMBK	(DORMANT LIST)
SYSVMVR	FIELD OF HCPSYSCM	(V=R USER LOGGED ON)
SYSVMGCB	FIELD OF HCPSYSCM	(SYSTEM)
SYSVRLOC	FIELD OF HCPSYSCM	(V=R USER LOGGED OFF)
TRQUSER	FIELD OF HCPTRQBK	(USER'S)
VCTXOTHR	FIELD OF HCPVCTCA	(Y-SIDE USER)
VCTYOTHR	FIELD OF HCPVCTCA	(X-SIDE USER)
VDEVLOWN	FIELD OF HCPVDEV	(LOCK OWNER)

BLK HCPBLK (CP) VM/XA - SYSTEM PRODUCT 5664-308

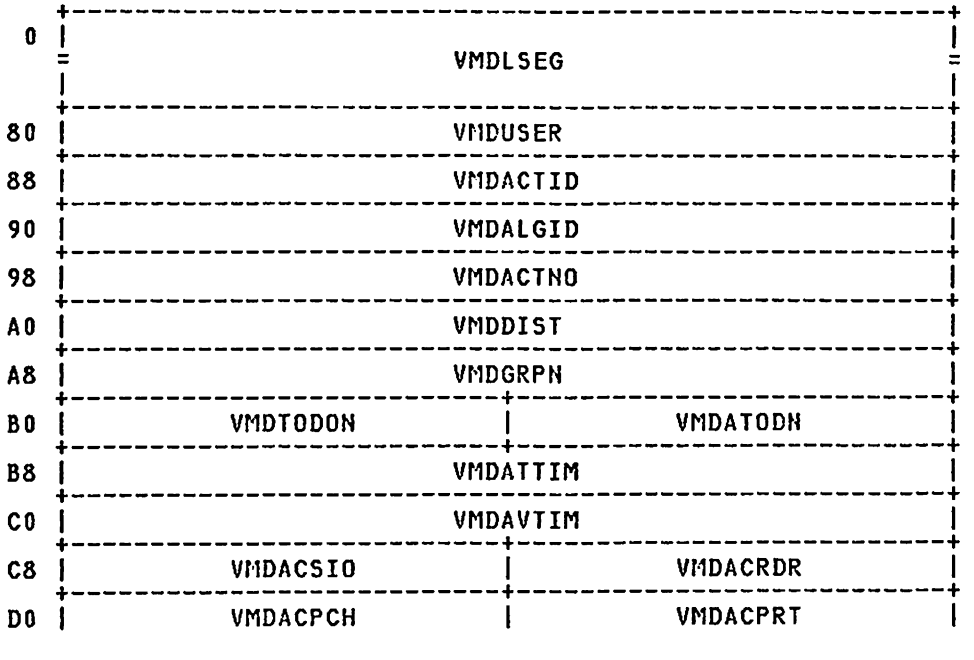
CREATED BY:

HCPBVM (WHEN A USER LOGS ON)

DELETED BY:

HCPUSO (WHEN A USER LOGS OFF, OR IS FORCED OFF)

VMDBK - VIRTUAL MACHINE DEFINITION BLOCK



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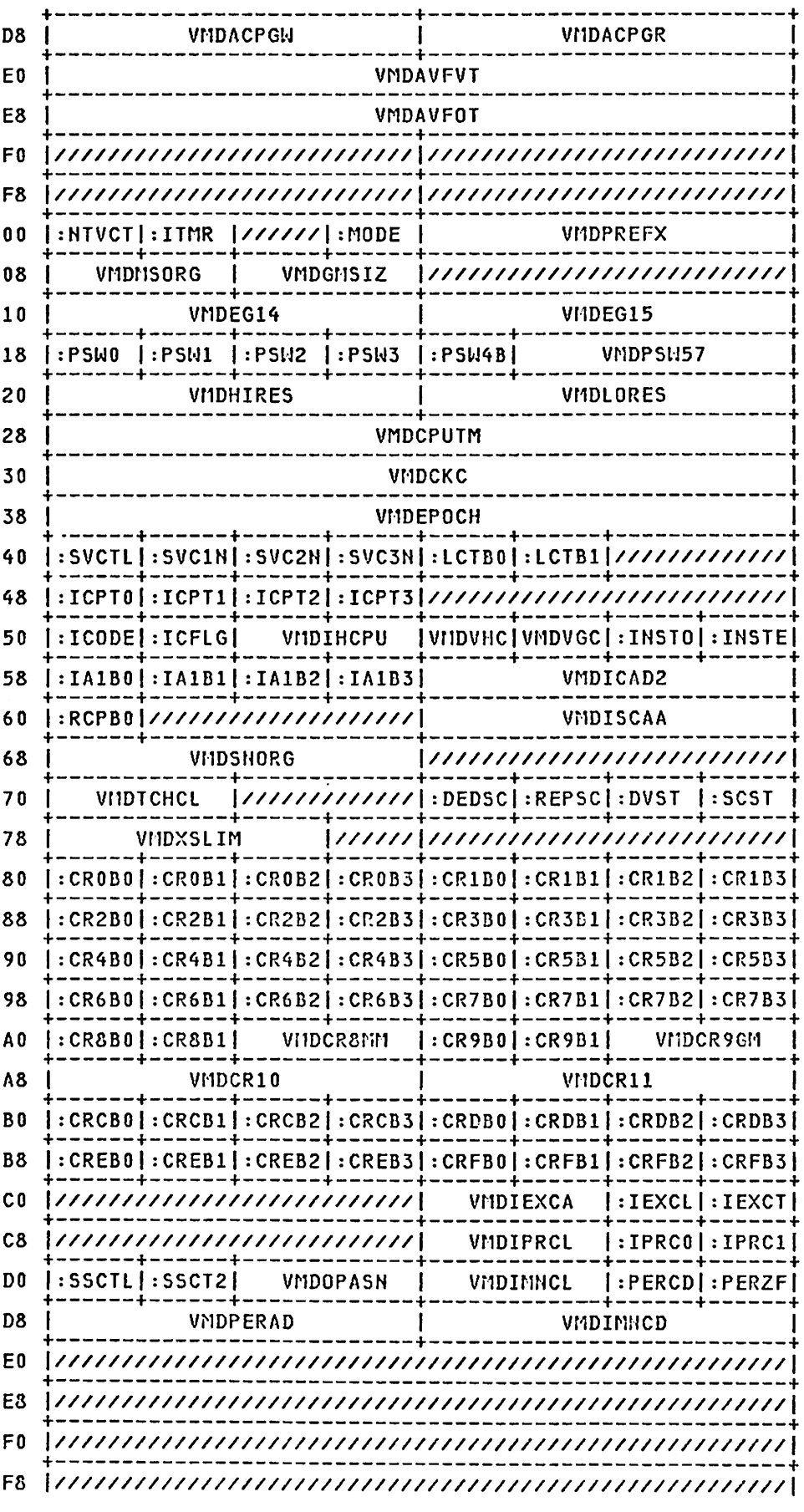

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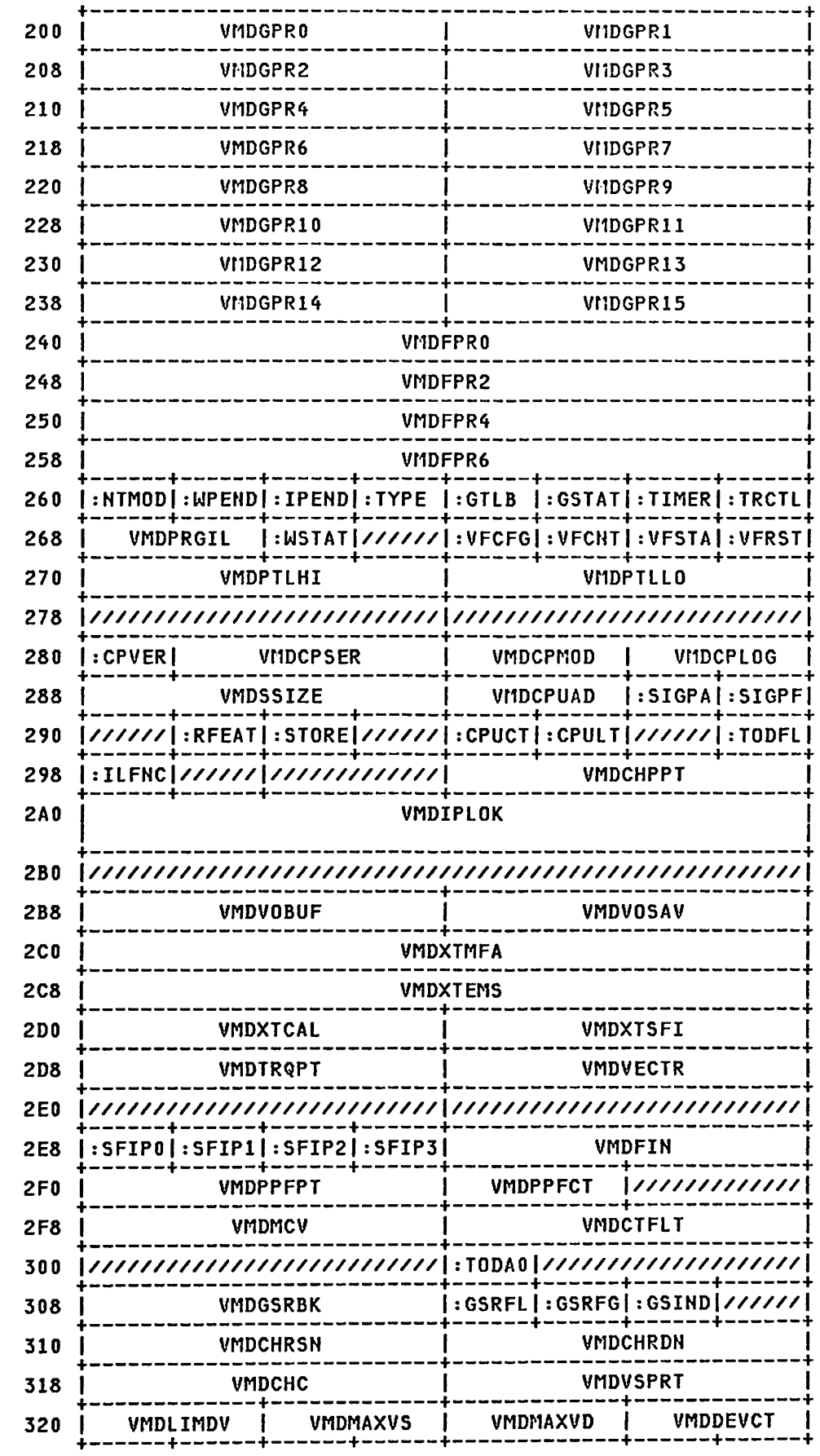
200 VMDGPR0 VMDGPR1
208 VMDGPR2 VMDGPR3
210 VMDGPR4 VMDGPR5
218 VMDGPR6 VMDGPR7
220 VMDGPR8 VMDGPR9
228 VMDGPR10 VMDGPR11
230 VMDGPR12 VMDGPR13
238 VMDGPR14 VMDGPR15
240 VMDFPR0
248 VMDFPR2
250 VMDFPR4
258 VMDFPR6
260 :NTMOD :WPEND :IPEND :TYPE :GTLB :GSTAT :TIMER :TRCTL
268 VMDPRGIL :WSTAT ////// :VFCFG :VFCNT :VFSTA :VFRST
270 VMDPTLHI VMDPTLLO
278 //////////////////////////// ////////////////////////////
280 :CPVER VMDCPSER VMDCPMOD VMDCPLOG
288 VMDSSIZE VMDCPUAD :SIGPA :SIGPF
290 ////// :RFEAT :STORE ////// :CPUCT :CPULT ////// :TODFL
298 :ILFNC ////// ////////////// VMDCHPPT
2A0 VMDIPLOK
2B0 //
2B8 VMDVOBUF VMDVOSAV
2C0 VMDXTMFA
2C8 VMDXTEMS
2D0 VMDXTCAL VMDXTSFI
2D8 VMDTRQPT VMDVECTR
2E0 //////////////////////////// ////////////////////////////
2E8 :SFIP0 :SFIP1 :SFIP2 :SFIP3 VMDFIN
2F0 VMDPPFPT VMDPPFCT //////////////
2F8 VMDMCV VMDCTFLT
300 //////////////////////////// :TODA0 ////////////////////
308 VMDGSRBK :GSRFL :GSRFG :GSIND //////
310 VMDCHRSN VMDCHRDN
318 VMDCHC VMDVSPRT
320 VMDLIMDV VMDMAXVS VMDMAXVD VMDDEVCT

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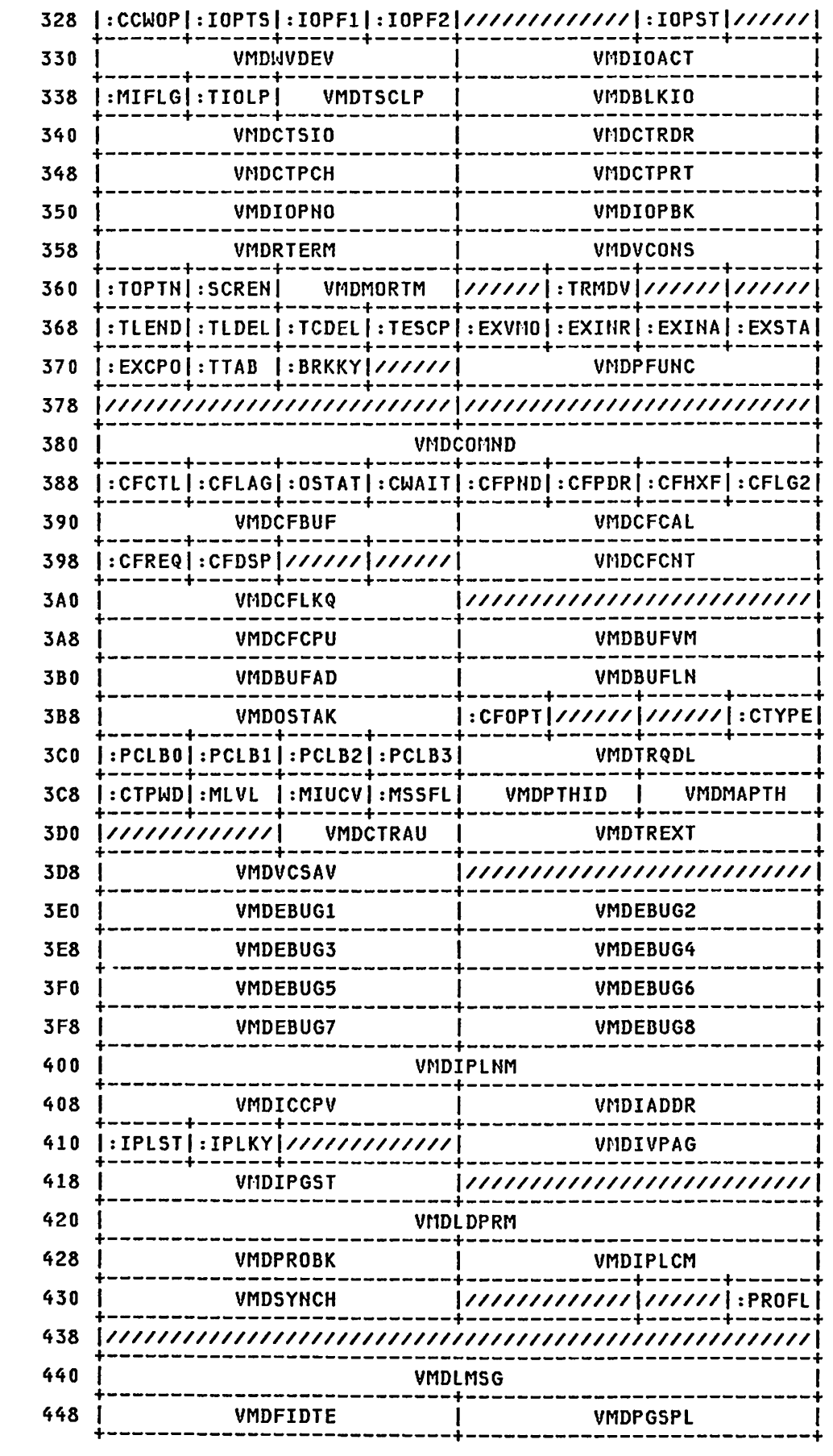

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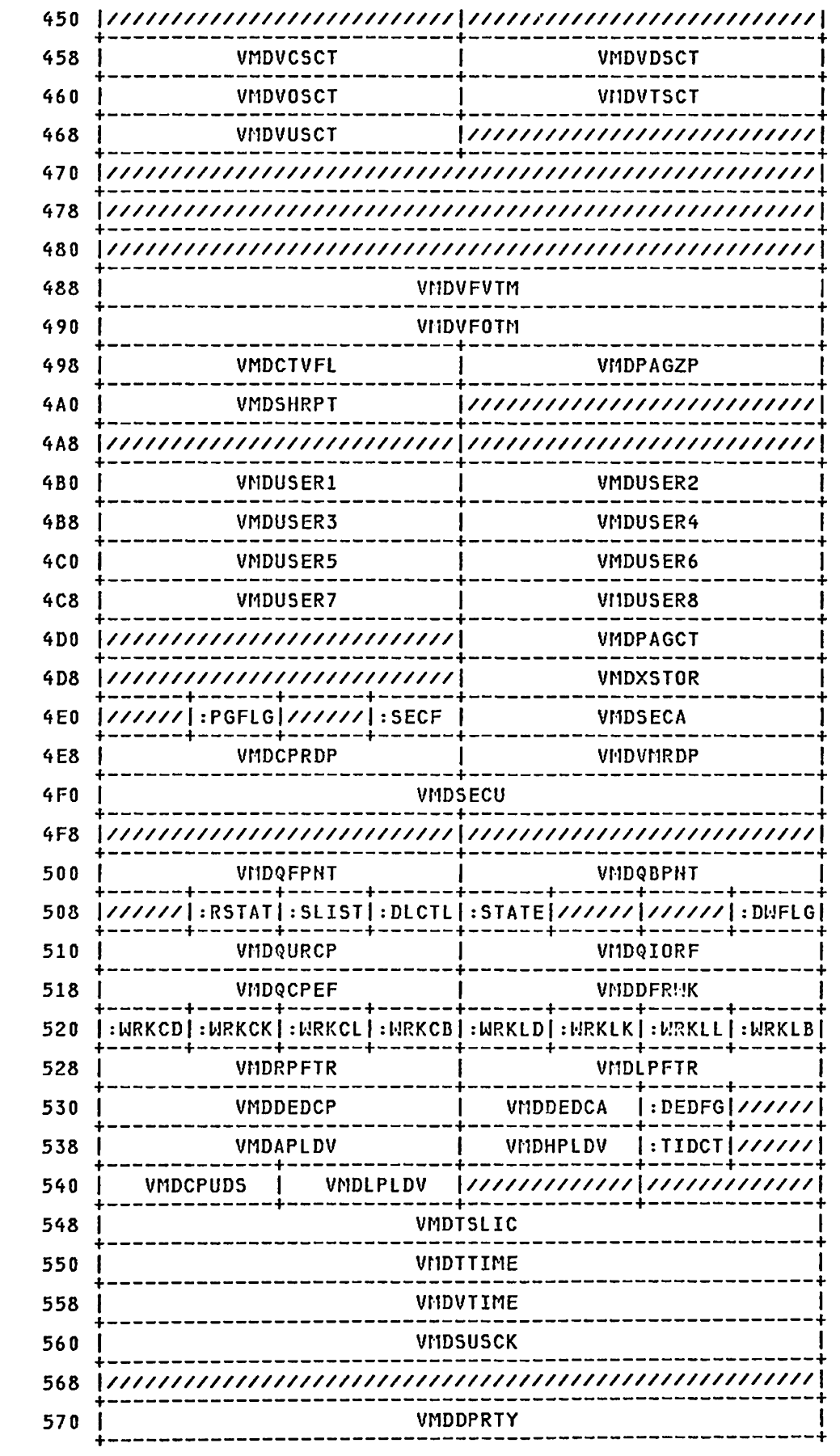
450
458 VMDVCSCT VMDVDSCT
460 VMDVOSCT VMDVTSCT
468 VMDVUSCT
470
478
480
488 VMDVFVTM
490 VMDVFOTM
498 VMDCTVFL VMDPAGZP
4A0 VMDSHRPT
4A8
4B0 VMDUSER1 VMDUSER2
4B8 VMDUSER3 VMDUSER4
4C0 VMDUSER5 VMDUSER6
4C8 VMDUSER7 VMDUSER8
4D0 VMDPAGCT
4D8 VMDXSTOR
4E0 :PGFLG :SECF VMDSECA
4E8 VMDCPRDP VMDVMRDP
4F0 VMDSECU
4F8
500 VMDQFPNT VMDQBPNT
508 :RSTAT :SLIST :DLCTL :STATE :DWFLG
510 VMDQURCP VMDQIORF
518 VMDQCPEF VMDDFRNK
520 :WRKCD :WRKCK :WRKCL :WRKCB :WRKLD :WRKLK :WRKLL :WRKLB
528 VMDRPFTR VMDLPFTR
530 VMDDEDCP VMDDEDCA :DEDFG
538 VMDAPLDV VMDHPLDV :TIDCT
540 VMDCPUDS VMDLPLDV
548 VMDTSLIC
550 VMDTTIME
558 VMDVTIME
560 VMDSUSCK
568
570 VMDDPRTY

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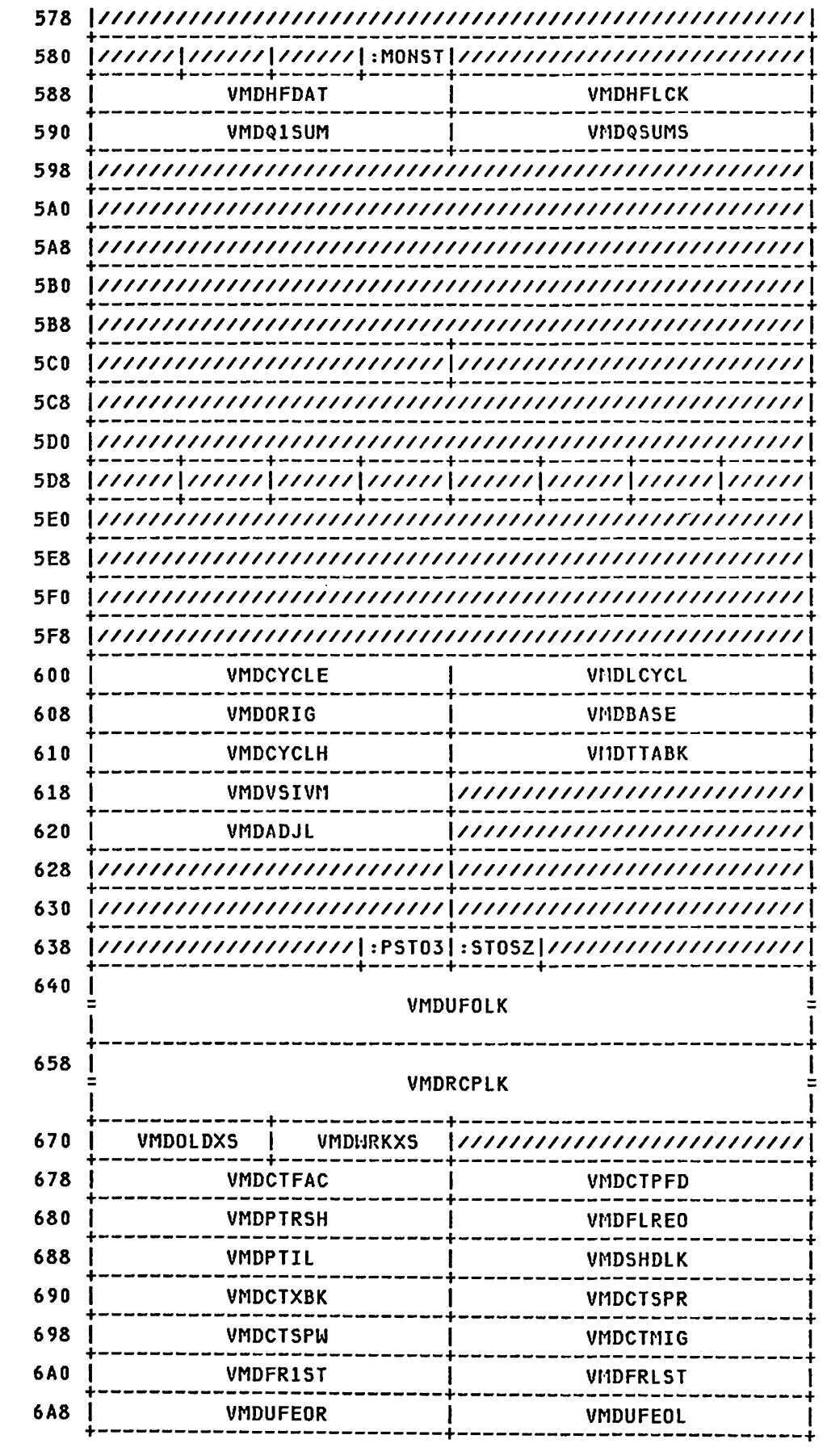

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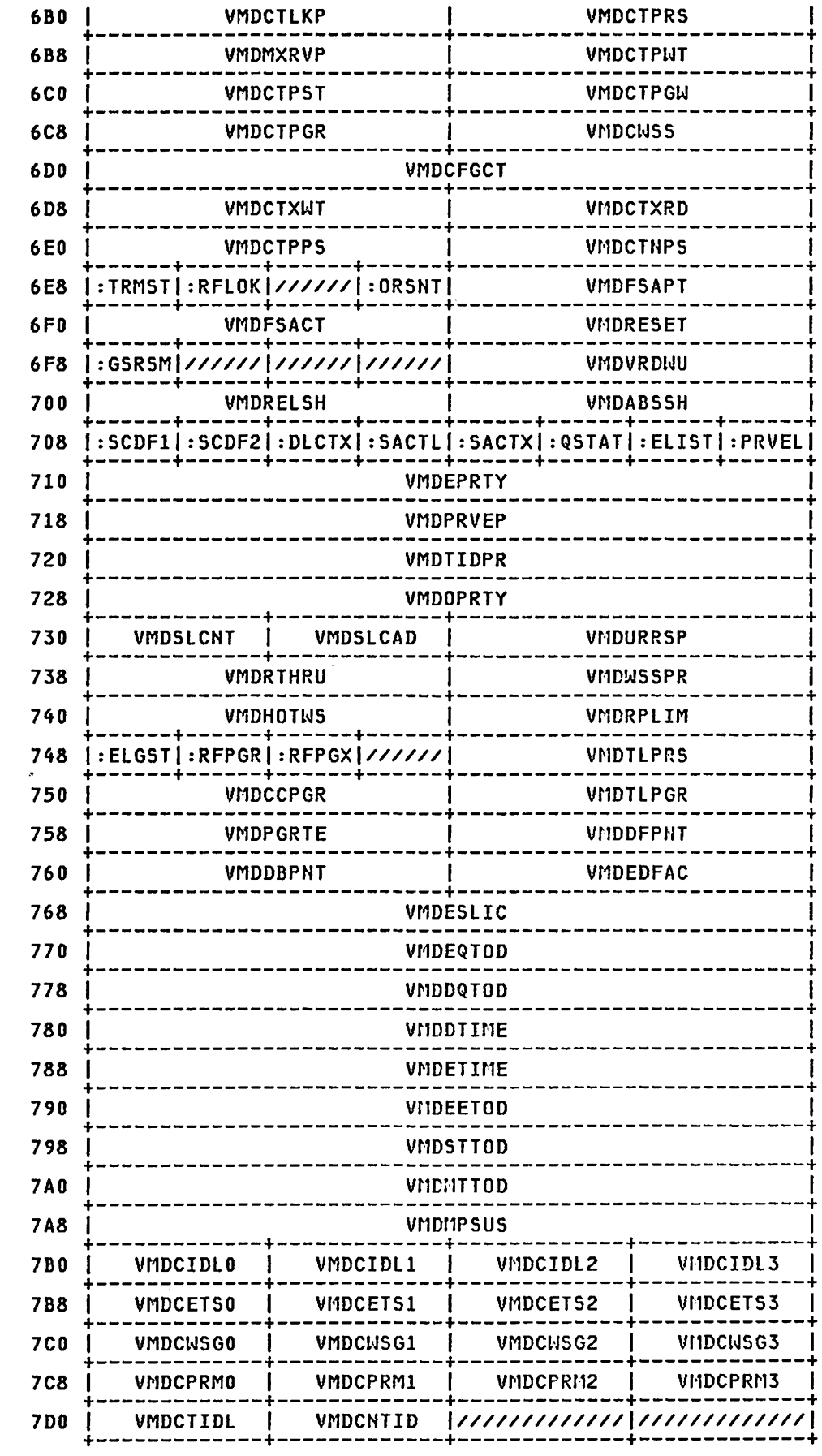
6B0 VMDCTLKP VMDCTPRS
6B8 VMDMXRVP VMDCTPWT
6C0 VMDCTPST VMDCTPGW
6C8 VMDCTPGR VMDCWSS
6D0 VMDCFGCT
6D8 VMDCTXWT VMDCTXRD
6E0 VMDCTPPS VMDCTNPS
6E8 :TRMST :RFLOK ////// :ORSNT VMDFSAPT
6F0 VMDFSACT VMDRESET
6F8 :GSRSM ////// ////// ////// VMDVRDWU
700 VMDRELSH VMDABSSH
708 :SCDF1 :SCDF2 :DLCTX :SACTL :SACTX :QSTAT :ELIST :PRVEL
710 VMDEPRTY
718 VMDPRVEP
720 VMDTIDPR
728 VMDOPRTY
730 VMDSLCNT VMDSLCAD VMDURRSP
738 VMDRTHRU VMDWSSPR
740 VMDHOTWS VMDRPLIM
748 :ELGST :RFPGR :RFPGX ////// VMDTLPRS
750 VMDCCPGR VMDTLPGR
758 VMDPGRTE VMDDFPNT
760 VMDDBPNT VMDEDFAC
768 VMDESLIC
770 VMDEQTOD
778 VMDDQTOD
780 VMDDTIME
788 VMDETIME
790 VMDEETOD
798 VMDSTTOD
7A0 VMDMTTOD
7A8 VMDMPSUS
7B0 VMDCIDL0 VMDCIDL1 VMDCIDL2 VMDCIDL3
7B8 VMDCETS0 VMDCETS1 VMDCETS2 VMDCETS3
7C0 VMDCWSG0 VMDCWSG1 VMDCWSG2 VMDCWSG3
7C8 VMDCPRM0 VMDCPRM1 VMDCPRM2 VMDCPRM3
7D0 VMDCTIDL VMDCNTID //////////// ////////////

```
  7D8 |////////////////////////////////////////////////////////|
      +-------------------------+-------------------------+
  7E0 |          VMDTRQQS       |/////////////////////////|
      +-------------------------+-------------------------+
  7E8 |////////////////////////////////////////////////////////|
      +--------------------------------------------------------+
  7F0 |////////////////////////////////////////////////////////|
      +--------------------------------------------------------+
  7F8 |////////////////////////////////////////////////////////|
      +--------------------------------------------------------+
  800 |                                                        |
      =                        VMDVMCFL                        =
      |                                                        |
      +-------------------------+-------------------------+
  818 |          VMDVMCB        |          VMDVSEVM       |
      +-------------------------+-------------------------+
  820 |          VMDVSTVM       |          VMDVSUVM       |
      +-------------------------+-------------------------+
  828 |                                                        |
      =                        VMDIUCVL                        =
      |                                                        |
      +-------------------------+-------------------------+
  840 |          VMDIUCVB       |          VMDISEVM       |
      +-------------------------+-------------------------+
  848 |          VMDISTVM       |          VMDISUVM       |
      +-------------------------+-------------------------+
  850 |                        VMDSVMID                        |
      +--------------------------------------------------------+
  858 |////////////////////////////////////////////////////////|
      +-------------------------+------+------+------+------+
  860 |          VMDSVMFX       |:SVMWT|:SVMW2|:RDYCM|//////|
      +-------------------------+------+------+------+------+
  868 |////////////////////////////////////////////////////////|
      +--------------------------------------------------------+
  870 |////////////////////////////////////////////////////////|
      +--------------------------------------------------------+
  878 |////////////////////////////////////////////////////////|
      +--------------------------------------------------------+
  880 |                                                        |
      =                        VMDLSPAC                        =
      |                                                        |
      +--------------------------------------------------------+
 1000
```

REDEFINITION - FREE STORAGE HEADER PROTOTYPE

```
      +-------------------------+-------------------------+
  880 |          VMDLCPTR       |          VMDLCLEN       |
      +-------------------------+-------------------------+
  888
```

REDEFINITION - FOR V/SIE VMDBLOK ONLY

```
      +-------------------------+-------------------------+
  200 |          VMDWRCPV       |          VMDWSHAD       |
      +-------------------------+-------------------------+
  208 |          VMDWSDAD       |          VMDWSHC1       |
      +-------------------------+-------------------------+
  210 |          VMDGPR4        |          VMDGPR5        |
      +------+------+------+------+------+------+---------+
  218 |:WMODC|:WNTKY|:WFLAG|:WNTC3|:WNTVC|//////|  VMDWMSOR  |
      +------+------+------+------+------+------+---------+
  220
```

REDEFINITION - FOR V/SIE VMDBLOK ONLY

```
      +--------------------------------------------------------+
  240 |                        VMDWUTOD                        |
      +--------------------------------------------------------+
```

```
248 |                        VMDWRGVT                          |
    +----------------------------------------------------------+
250 |                        VMDWTIME                          |
    +----------------------------------------------------------+
258 |                        VMDWG145                          |
    +----------------------------------------------------------+
260
```

disp	name	length	description
000	VMDLSEG	004	HOST SEGMENT TABLE FOR USER STORAGE THIS IS THE HOST SEGMENT TABLE WHICH IS USED TO DESCRIBE GUEST REAL STORAGE, AND IS DESCRIBED BY THE 'HCPSEGTB' DSECT. IT MUST START ON A 4K PAGE BOUNDARY. THIS AREA IS USED WHENEVER GUEST STORAGE IS DEFINED AS 31 MEGABYTES OR LESS. IF GUEST STORAGE IS DEFINED AS MORE THAN 31 MEGABYTES, A SEPARATE PAGE (OR PAGES) IS ALLOCATED TO CONTAIN THE SEGMENT TABLE. FOR A GUEST SHARED-STORAGE MULTIPROCESSOR, ONLY THE BASE CPU STORAGE IS USED, AND DEFINED CPU'S REFER TO THE BASE CPU STORAGE.

EQUATES

80	VMDLSGLN		HOST SEGMENT TABLE LENGTH
080	VMDUSER	008	USER LOGON IDENTIFICATION
088	VMDACTID	008	ACCOUNTING USER IDENTIFICATION. THIS FIELD CONTAINS THE USERID TO BE PUT IN THE ACCOUNTING RECORDS GENERATED. IT IS GENERALLY THE SAME AS THE USERID, WHICH IS HOW IT IS SET WHEN A USER LOGS ON. IT IS COPIED WHEN A LOCAL VMDBK IS BUILT. IT CAN BE CHANGED BY AN AUTHORIZED USER ISSUING A DIAGNOSE X'4C'. THIS IS INTENDED FOR USE BY THE CMS BATCH MACHINE.
090	VMDALGID	008	USERID CAUSING THIS USER'S LOGON FOR NORMAL USERS, THIS FIELD CONTAINS THE USER LOGON IDENTIFICATION. FOR USERS AUTOLOGGED BY THE SYSTEM AT IPL TIME, THIS FIELD CONTAINS 'SYSTEM'. FOR USERS AUTOLOGGED BY OTHER USERS, THIS FIELD CONTAINS THE USERID ISSUING THE AUTOLOG. FOR VMDBLOKS CREATED AS ADJUNCT VIRTUAL MACHINES, THIS FIELD CONTAINS THE USER IDENTIFICATION OF THE BASE VMDBLOK.
098	VMDACTNO	008	USER ACCOUNTING NUMBER
0A0	VMDDIST	008	USER DISTRIBUTION CODE. THIS IS THE DEFAULT DISTRIBTUION CODE OBTAINED FROM THE DIRECTORY FOR THIS USER. IT IS USED IN SPOOL FILE COMMANDS TO ASSIGN THE DEFAULT DISTRIBUTION CODE TO THE SPOOL FILE.
0A8	VMDGRPN	008	RACF ACI GROUP NAME
0B0	VMDTODON	004	SESSION LOGON TOD, BITS 0-31
0B4	VMDATODN	004	VALUE OF VMDTODON AT LAST 'ACNT' OR AT LOGON, WHICHEVER IS LATER. THE FOLLOWING FIELDS CONTAIN THE VALUES OF THE INDICATED ACCOUNTING FIELDS AT THE LAST 'ACNT' COMMAND OR AT LOGON, WHICHEVER IS LATER. SUBSEQUENT ACCOUNTING RECORDS ARE GENERATED USING THE DIFFERENCE BETWEEN THE CURRENT VALUE AND THE 'LAST' VALUE. THIS ALLOWS ACCOUNTING RECORDS TO BE GENERATED DURING A SESSION WHILE ALSO MAINTAINING SESSION TOTALS. NOTE: THE ASSEMBLER CONSTRUCT 'FL8S12' IS USED TO GENERATE A FIXED-POINT NUMBER WHICH REPRESENTS A TIME VALUE (IN MICROSECONDS) IN TOD CLOCK FORMAT OR CPU TIMER FORMAT. USE OF 'FL8S12E6' IS USED

```
                                TO GENERATE A TIME VALUE IN SECONDS (RATHER THAN
                                MICROSECONDS).
0B8   VMDATTIM    008           VALUE OF VMDTTIME AT LAST 'ACNT'
0C0   VMDAVTIM    008           VALUE OF VMDVTIME AT LAST 'ACNT'
0C8   VMDACSIO    004           VALUE OF VMDCTSIO AT LAST 'ACNT'
0CC   VMDACRDR    004           VALUE OF VMDCTRDR AT LAST 'ACNT'
0D0   VMDACPCH    004           VALUE OF VMDCTPCH AT LAST 'ACNT'
0D4   VMDACPRT    004           VALUE OF VMDCTPRT AT LAST 'ACNT'
0D8   VMDACPGW    004           VALUE OF VMDCTPGW AT LAST 'ACNT'
0DC   VMDACPGR    004           VALUE OF VMDCTPGR AT LAST 'ACNT'
0E0   VMDAVFVT    008           VALUE OF VMDVFVTM AT LAST 'ACNT'
0E8   VMDAVFOT    008           VALUE OF VMDVFOTM AT LAST 'ACNT'
0F0               F             RESERVED FOR FUTURE IBM USE
0F4               F             RESERVED FOR FUTURE IBM USE
0F8               F             RESERVED FOR FUTURE IBM USE
0FC               F             RESERVED FOR FUTURE IBM USE
100   VMDSDSC     256           GUEST MACHINE STATE DESCRIPTOR
                                THIS AREA DESCRIBES THE GUEST MACHINE TO THE
                                EMULATION HARDWARE, AND IS ALSO USED BY SOFTWARE
                                TO CONTAIN GUEST MACHINE STATUS.
                                WARNING: THIS AREA IS DEFINED BY PROCESSOR ARCHITECTURE.
                                DO NOT MODIFY THIS AREA EXCEPT TO INSTALL
                                ARCHITECTED CHANGES.
100   VMDNTVCT    001           EMULATION INTERVENTION CONTROL
                                CHANGES TO THIS FIELD ARE SERIALIZED BY USING
                                COMPARE-AND-SWAP INSTRUCTIONS.
                                (COMPARE-DOUBLE-AND-SWAP NOT ALLOWED)

        BITS DEFINED FOR VMDNTVCT BY HCPSIEBK SIENTVCT

101   VMDITMR     001           INTERVAL TIMER INTERRUPT STATUS

        BITS DEFINED IN VMDITMR  (AT HEX DISPLACEMENT: 101)

        80     VMDITMRI         INTERVAL TIMER INTERRUPT PENDING.
                                THIS BIT IS SET WHEN THE INTERVAL TIMER
                                IS DECREMENTED FROM A POSITIVE OR ZERO
                                NUMBER TO A NEGATIVE NUMBER.

102               X             RESERVED FOR IBM HARDWARE USE
103   VMDMODE     001           DESCRIBES THE MACHINE MODE OF
                                THE GUEST.

        BITS DEFINED IN VMDMODE  (AT HEX DISPLACEMENT: 103)

        40     VMDVCCIN         VECTOR CHANGE CONTROL :
                                INTERCEPTION MODE.
        20     VMDXA            THIS BIT SIGNIFIES THAT THE
                                GUEST IS A SYSTEM/370 XA TYPE MACHINE.
        10     VMD370           THIS BIT SIGNIFIES THAT THE
                                GUEST IS A 370 TYPE MACHINE.
        08     VMDVR            THIS BIT SIGNIFIES THAT THE
                                GUEST IS A V=R GUEST.  THE STORAGE FOR THE
                                V=R GUEST IS MAPPED FROM THE HOST REAL STORAGE
                                V=R REGION AS DEFINED AT SYSTEM GENERATION.
        04     VMDITMOF         THIS BIT SIGNIFIES THAT THE
                                GUEST INTERVAL TIMER IS DISABLED.  (APPLIES ONLY
                                TO SYSTEM/370 MODE GUEST MACINES).  THE SET TIMER
                                COMMAND CONTROLS THE SETTING OF THIS BIT.

104   VMDPREFX    004           GUEST PREFIX REGISTER VALUE
108   VMDMSORG    002           GUEST REAL MAIN STORAGE ORIGIN
                                (ALWAYS ZERO)
10A   VMDGMSIZ    002           GUEST REAL MAIN STORAGE EXTENT
                                THIS FIELD DEFINES THE GUEST STORAGE SIZE TO THE
                                EMULATION HARDWARE.  THE FIELD CONTAINS BITS 1-15 OF
                                THE HIGHEST ADDRESS WHICH MAY BE USED BY THE GUEST.
                                EMULATION CONSIDERS STORAGE TO BE IN 64K INCREMENTS.
                                THIS IS THE NUMBER OF 64K BLOCKS LESS ONE OF
                                GUEST STORAGE.
10C               F             RESERVED FOR IBM HARDWARE USE
110   VMDEG145    008           GUEST GPR 14-15 FOR SIE USE ONLY
110   VMDEG14     004           GUEST GPR 14 FOR SIE USE ONLY
114   VMDEG15     004           GUEST GPR 15 FOR SIE USE ONLY
```

```
118   VMDPSW      008       GUEST PSW.
118   VMDPSW0F    004       GUEST PSW BITS 0-31
118   VMDPSW0     001       GUEST PSW BYTE ZERO, SYST. MASK

        BITS DEFINED FOR VMDPSW0 BY HCPEQUAT PSW0B

119   VMDPSW1     001       GUEST PSW BYTE ONE, KEY/EMWP

        BITS DEFINED FOR VMDPSW1 BY HCPEQUAT PSW1

11A   VMDPSW2H    002       GUEST BC PSW BYTE 2,3 IRPT CODE
11A   VMDPSW2     001       GUEST EC PSW BYTE TWO, EC MODE
                            SECONDARY/COND. CODE/PGM MASK

        BITS DEFINED FOR VMDPSW2 BY HCPEQUAT PSW2

11B   VMDPSW3     001       GUEST EC PSW BYTE THREE,
                            OR BC MODE INTERRUPT CODE 8-15
11C   VMDPSW4F    004       GUEST EC PSW INSTRUCTION ADDRESS
                            (S/370 BITS 32-39 ZERO)
11C   VMDPSW4     001       GUEST EC PSW BYTE FOUR, AMODE

        BITS DEFINED FOR VMDPSW4 BY HCPEQUAT PSW4

11C   VMDPSW4B    001       GUEST BC PSW BYTE FOUR,
                            ILC/CC/PROGRAM MASK

        BITS DEFINED FOR VMDPSW4B BY HCPEQUAT PSW4B

11D   VMDPSW57    003       GUEST PSW BYTE 5,6,7 BC INSTR.
                            ADDRESS (370 GUEST ONLY)
120   VMDHIRES    004       HI ORDER INTERVAL TIMER RESIDUE
                            COUNTER (USED BY SOFTWARE ONLY)
124   VMDLORES    004       LOW ORDER INTERVAL TIMER RESIDUE
                            COUNTER
                            THE INTERVAL TIMER RESIDUE COUNTER IS IN THE FORMAT
                            OF THE TOD CLOCK, AND CONTAINS GUEST CPU TIME
                            WHICH HAS NOT YET BEEN APPLIED TO THE GUEST INTERVAL
                            TIMER.  IT IS USED TO COLLECT SHORT INCREMENTS OF
                            CPU TIME UNTIL 3.333 MILLISECONDS HAS BEEN
                            ACCUMULATED, AT WHICH POINT THE GUEST INTERVAL TIMER
                            IS DECREMENTED AND THE RESIDUE COUNTER IS REDUCED
                            BY 3.333 MILLISECONDS.  SOFTWARE USES THE RESIDUE
                            COUNTER TO COLLECT ELAPSED TIME IN GUEST WAIT STATE
                            BEFORE APPLYING THE TIME TO THE INTERVAL TIMER.
128   VMDCPUT0    001       HIGH-ORDER BYTE OF CPU TIMER

        BITS DEFINED IN VMDCPUT0 (AT HEX DISPLACEMENT: 128)

        80     VMDCPUTN     TIMER VALUE IS NEGATIVE

128   VMDCPUTM    008       GUEST CPU TIMER VALUE.
                            THIS IS USUALLY MANAGED BY THE EMULATION
                            FACILITY.  CP UPDATES THIS VALUE FOR THE TIME
                            A GUEST SPENDS IN A WAIT STATE.
130   VMDCKC      008       GUEST CLOCK COMPARATOR VALUE.
                            THIS VALUE IS ESTABLISHED BY THE EMULATION
                            HARDWARE WHEN THE GUEST EXECUTES A SCKC
                            INSTRUCTION.  CP USES THIS VALUE TO MAINTAIN
                            GUEST TIMERS AND DETERMINE CLOCK COMPARATOR
                            INTERRUPTS DURING SIMULATION.
138   VMDEPOCH    008       GUEST TIME-OF-DAY CLOCK EPOCH
                            TO DEFINE DELTA BETWEEN HOST
                            TOD CLOCK AND GUEST TOD CLOCK.
                            EPOCH IS ADDED TO HOST TOD CLOCK
                            VALUE TO OBTAIN GUEST TOD CLOCK
                            VALUE.
140   VMDSVCTL    001       SVC INTERCEPTION CONTROLS

        BITS DEFINED FOR VMDSVCTL BY HCPSIEBK SIESVCTL

141   VMDSVC1N    001       INTERCEPT SVC NUMBER FIRST ID
142   VMDSVC2N    001       INTERCEPT SVC NUMBER SECOND ID
143   VMDSVC3N    001       INTERCEPT SVC NUMBER THIRD ID
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144   VMDLCTLS   002      LOAD CONTROL INTERCEPTION CTLS
144   VMDLCTB0   001      LCTL INTERCEPTION, CR0-CR7

        BITS DEFINED FOR VMDLCTB0 BY HCPSIEBK SIELCTB0

145   VMDLCTB1   001      LCTL INTERCEPTION, CR8-CR15

        BITS DEFINED FOR VMDLCTB1 BY HCPSIEBK SIELCTB1

146              H        RESERVED FOR IBM HARDWARE USE
148   VMDICTLS   008      INTERCEPTION CONTROLS
148   VMDICPT0   001      INTERCEPTION CONTROLS, BYTE 0

        BITS DEFINED FOR VMDICPT0 BY HCPSIEBK SIEICPT0

149   VMDICPT1   001      INTERCEPTION CONTROLS, BYTE 1

        BITS DEFINED FOR VMDICPT1 BY HCPSIEBK SIEICPT1

14A   VMDICPT2   001      INTERCEPTION CONTROLS, BYTE 2

        BITS DEFINED FOR VMDICPT2 BY HCPSIEBK SIEICPT2

14B   VMDICPT3   001      INTERCEPTION CONTROLS, BYTE 3

        BITS DEFINED FOR VMDICPT3 BY HCPSIEBK SIEICPT3

14C              4X       RESERVED FOR IBM HARDWARE USE
150   VMDICODE   001      INTERCEPTION EVENT CODE.
                          THIS FIELD DESCRIBES A GUEST CONDITION DETECTED
                          BY THE EMULATION HARDWARE (USUALLY) WHICH
                          REQUIRES SOFTWARE INTERVETION OR SIMULATION.  IT
                          IS ALSO USED BY SOFTWARE TO INDICATE THAT THERE
                          EXISTS A DESCRIPTION OF GUEST CONDITIONS BY
                          SOFTWARE, IN VMDNTMOD, THAT REQUIRES SOFTWARE
                          INTERVENTION FOR TRACING.

        CODES DEFINED IN VMDICODE (AT HEX DISPLACEMENT: 150)

        00     VMDENDOP  GUEST IS BETWEEN INSTRUCTIONS
                         VMDENDOP IS USED BY SOFTWARE TO INDICATE THAT
                         THE GUEST MACHINE IS BETWEEN INSTRUCTIONS, OR
                         CURRENTLY EXECUTING IN EMULATION MODE.
        24     VMDMISC   SOFTWARE EVENT, SEE VMDNTMOD
                         SIEMISC IS USED BY SOFTWARE TO INDICATE THAT A
                         SOFTWARE EVENT HAS OCCURRED WHICH IS NOT ONE OF THE
                         OTHER CODES.  THE CONDITION IS FURTHER DESCRIBED
                         IN THE 'VMDNTMOD' FIELD.

151   VMDICFLG   001      INSTRUCTION INTERCEPT MODIFIER

        BITS DEFINED FOR VMDICFLG BY HCPSIEBK SIEICFLG

152   VMDIHCPU   002      LAST HOST CPU ADDRESS
154   VMDVCP     002      VECTOR CHANGE PRESERVATION AREA
154   VMDVHC     001      VECTOR HOST CHANGE BIT
                          PRESERVATION
155   VMDVGC     001      VECTOR GUEST CHANGE BIT
                          PRESERVATION
                          FOR INSTR INTERCEPT FORMAT 2:
156   VMDINSTR   006      ENTIRE INSTRUCTION TEXT
                          FOR INSTR INTERCEPT FORMAT 1:
156   VMDINST    002      INTERCEPTED INSTRUCTION BIT 0-15
156   VMDINST0   001      INTERCEPTED INSTRUCTION BITS 0-7
157   VMDINSTE   001      INTERCEPTED INSTR. BITS 8-15
                          WHICH IS OP CODE BITS 8-15,
                          OR R1R2 FIELD OR LENGTH FIELD
158   VMDICAD1   004      INTERCEPTED INSTRUCTION OPERAND
                          EFFECTIVE ADDRESS (RS, RX)
158   VMDIA1H0   002      HALFWORD 0 OF OPERAND 1 ADDRESS
158   VMDIA1B0   001      BYTE 0 OF OPERAND 1 ADDRESS
159   VMDIA1B1   001      BYTE 1 OF OPERAND 1 ADDRESS
15A   VMDIA1H1   002      HALFWORD 1 OF OPERAND 1 ADDRESS
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15A   VMDIA1B2   001      BYTE 2 OF OPERAND 1 ADDRESS
15B   VMDIA1B3   001      BYTE 3 OF OPERAND 1 ADDRESS

                    EQUATES

        5B    VMDICARR    OPERAND ADDRESS BYTE 3
                          (R1R2 FOR RRE FORMAT INST.)

15C   VMDICAD2   004      INTERCEPTED INSTR OPERAND ADDR.
                          (SS FORMAT INSTRUCTIONS)
160   VMDRCP     004      RCP-AREA HOST VIRTUAL ADDRESS
160   VMDRCPB0   001      BYTE ZERO, FLAGS FOR STORAGE KEY
                          ASSIST

        BITS DEFINED FOR VMDRCPB0 BY HCPSIEBK SIERCPB0

161                3X     RESERVED WHEN SKA ACTIVE
164   VMDISCAA   004      SYSTEM CONTROL AREA ADDRESS. FOR
                          A VIRTUAL MP, CONTAINS A POINTER
                          TO THE IPTE LOCKWORD (VMDIPLOK)
                          LOCATED IN THE BASE VMDBK.
                          OTHERWISE, CONTAINS ZEROS.
168   VMDSNORG   004      SUBCHANNEL NUMBER TABLE ORIGIN
16C                F      RESERVED FOR IBM HARDWARE USE
170   VMDTCHCL   002      TCH INTERCEPTION CONTROLS
172                H      RESERVED FOR IBM HARDWARE USE
174   VMDIOPCT   004      I/O PASSTHROUGH CONTROL
174   VMDDEDSC   001      DEDICATED SUBCLASS CONTROL

        BITS DEFINED FOR VMDDEDSC BY HCPEQUAT CR6B0

175   VMDREPSC   001      REPLACEMENT ISC NUMBER

        CODES DEFINED FOR VMDREPSC BY HCPEQUAT CSWIRCF

176   VMDDVSCS   002      IRB DEVICE & SUBCHAN STATUS MASK
176   VMDDVST    001      DEVICE STATUS BYTE OF THE IRB DS
                          MASK. THE CONTENTS OF THIS FIELD
                          ARE ANDED WITH THE DEVICE STATUS
                          BYTE OF THE IRB BY TSCH TO SEE
                          IF TYPE B INFORMATION IS PRESENT.

        BITS DEFINED FOR VMDDVST BY HCPEQUAT CSWDVST

177   VMDSCST    001      SUBCHANNEL STATUS BYTE OF THE
                          IRB DS MASK.  THE CONTENTS OF
                          THIS FIELD ARE ANDED WITH THE
                          SUBCHANNEL STATUS BYTE OF THE
                          IRB BY TSCH TO SEE IF TYPE B
                          INFORMATION IS PRESENT.

        BITS DEFINED FOR VMDSCST BY HCPEQUAT CSWSCST

178   VMDXSLIM   003      EXTENDED STORAGE UPPER LIMIT
                          BLOCK ADDRESS.
17B                X      RESERVED FOR IBM HARDWARE USE
17C                F      RESERVED FOR IBM HARDWARE USE
180   VMDCRS     064      GUEST CONTROL REGISTERS 0-15.
180   VMDCR0     004      GUEST CONTROL REGISTER 0
180   VMDCR0B0   001      GUEST CONTROL REGISTER 0, BYTE 0

        BITS DEFINED FOR VMDCR0B0 BY HCPEQUAT CR0B0

181   VMDCR0B1   001      GUEST CONTROL REGISTER 0, BYTE 1

        BITS DEFINED FOR VMDCR0B1 BY HCPEQUAT CR0B1

182   VMDCR0XM   002      GUEST CR 0 EXTERNAL IRPT MASK
182   VMDCR0B2   001      GUEST CONTROL REGISTER 0, BYTE 2

        BITS DEFINED FOR VMDCR0B2 BY HCPEQUAT CR0B2

183   VMDCR0B3   001      GUEST CONTROL REGISTER 0, BYTE 3
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BITS DEFINED FOR VMDCR0B3 BY HCPEQUAT CR0B3

184	VMDCR1	004	GUEST CONTROL REGISTER 1 XA GUEST STO VALUE
184	VMDCR1B0	001	GUEST CONTROL REGISTER 1, BYTE 0 370 GUEST SEGMENT TABLE LENGTH

BITS DEFINED FOR VMDCR1B0 BY HCPEQUAT CR1B0

185	VMDCR1SO	003	370 GUEST STO VALUE
185	VMDCR1B1	001	GUEST CONTROL REGISTER 1, BYTE 1
186	VMDCR1B2	001	GUEST CONTROL REGISTER 1, BYTE 2
187	VMDCR1B3	001	GUEST CONTROL REGISTER 1, BYTE 3

BITS DEFINED FOR VMDCR1B3 BY HCPEQUAT CR1B3

188	VMDCR2	004	GUEST CONTROL REGISTER 2
188	VMDCR2IM	002	370 GUEST CHANNEL MASK
188	VMDCR2B0	001	GUEST CONTROL REGISTER 2, BYTE 0
189	VMDCR2B1	001	GUEST CONTROL REGISTER 2, BYTE 1
18A	VMDCR2B2	001	GUEST CONTROL REGISTER 2, BYTE 2
18B	VMDCR2B3	001	GUEST CONTROL REGISTER 2, BYTE 3
18C	VMDCR3	004	GUEST CONTROL REGISTER 3
18C	VMDCR3B0	001	GUEST CONTROL REGISTER 3, BYTE 0
18D	VMDCR3B1	001	GUEST CONTROL REGISTER 3, BYTE 1
18E	VMDCR3B2	001	GUEST CONTROL REGISTER 3, BYTE 2
18F	VMDCR3B3	001	GUEST CONTROL REGISTER 3, BYTE 3
190	VMDCR4	004	GUEST CONTROL REGISTER 4
190	VMDCR4B0	001	GUEST CONTROL REGISTER 4, BYTE 0
191	VMDCR4B1	001	GUEST CONTROL REGISTER 4, BYTE 1
192	VMDCR4B2	001	GUEST CONTROL REGISTER 4, BYTE 2
193	VMDCR4B3	001	GUEST CONTROL REGISTER 4, BYTE 3
194	VMDCR5	004	GUEST CONTROL REGISTER 5
194	VMDCR5B0	001	GUEST CONTROL REGISTER 5, BYTE 0
195	VMDCR5B1	001	GUEST CONTROL REGISTER 5, BYTE 1
196	VMDCR5B2	001	GUEST CONTROL REGISTER 5, BYTE 2
197	VMDCR5B3	001	GUEST CONTROL REGISTER 5, BYTE 3
198	VMDCR6	004	GUEST CONTROL REGISTER 6
198	VMDCR6B0	001	GUEST CONTROL REGISTER 6, BYTE 0

BITS DEFINED FOR VMDCR6B0 BY HCPEQUAT CR6B0

199	VMDCR6B1	001	GUEST CONTROL REGISTER 6, BYTE 1
19A	VMDCR6B2	001	GUEST CONTROL REGISTER 6, BYTE 2
19B	VMDCR6B3	001	GUEST CONTROL REGISTER 6, BYTE 3
19C	VMDCR7	004	GUEST CONTROL REGISTER 7
19C	VMDCR7B0	001	GUEST CONTROL REGISTER 7, BYTE 0
19D	VMDCR7B1	001	GUEST CONTROL REGISTER 7, BYTE 1
19E	VMDCR7B2	001	GUEST CONTROL REGISTER 7, BYTE 2
19F	VMDCR7B3	001	GUEST CONTROL REGISTER 7, BYTE 3
1A0	VMDCR8	004	GUEST CONTROL REGISTER 8
1A0	VMDCR8B0	001	GUEST CONTROL REGISTER 8, BYTE 0
1A1	VMDCR8B1	001	GUEST CONTROL REGISTER 8, BYTE 1
1A2	VMDCR8MM	002	MONITOR CALL EVENT MASK
1A4	VMDCR9	004	GUEST CONTROL REGISTER 9
1A4	VMDCR9B0	001	GUEST CONTROL REGISTER 9, BYTE 0

BITS DEFINED FOR VMDCR9B0 BY HCPEQUAT CR9B0

1A5	VMDCR9B1	001	GUEST CONTROL REGISTER 9, BYTE 1
1A6	VMDCR9GM	001	PER GPR ALTERATION MASK
1A8	VMDCR10	004	GUEST CONTROL REGISTER 10
1AC	VMDCR11	004	GUEST CONTROL REGISTER 11
1B0	VMDCR12	004	GUEST CONTROL REGISTER 12
1B0	VMDCRCB0	001	GUEST CONTROL REGISTER 12,BYTE 0

BITS DEFINED FOR VMDCRCB0 BY HCPEQUAT CRCB0

1B1	VMDCRCB1	001	GUEST CONTROL REGISTER 12,BYTE 1
1B2	VMDCRCB2	001	GUEST CONTROL REGISTER 12,BYTE 2
1B3	VMDCRCB3	001	GUEST CONTROL REGISTER 12,BYTE 3

BITS DEFINED FOR VMDCRCB3 BY HCPEQUAT CRCB3

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1B4   VMDCR13    004       GUEST CONTROL REGISTER 13
1B4   VMDCRDB0   001       GUEST CONTROL REGISTER 13,BYTE 0
1B5   VMDCRDB1   001       GUEST CONTROL REGISTER 13,BYTE 1
1B6   VMDCRDB2   001       GUEST CONTROL REGISTER 13,BYTE 2
1B7   VMDCRDB3   001       GUEST CONTROL REGISTER 13,BYTE 3
1B8   VMDCR14    004       GUEST CONTROL REGISTER 14
1B8   VMDCREB0   001       GUEST CONTROL REGISTER 14,BYTE 0

        BITS DEFINED FOR VMDCREB0 BY HCPEQUAT CREB0

1B9   VMDCREB1   001       GUEST CONTROL REGISTER 14,BYTE 1

        BITS DEFINED FOR VMDCREB1 BY HCPEQUAT CREB1

1BA   VMDCREB2   001       GUEST CONTROL REGISTER 14,BYTE 2
1BB   VMDCREB3   001       GUEST CONTROL REGISTER 14,BYTE 3
1BC   VMDCR15    004       GUEST CONTROL REGISTER 15
                            MACHINE CHECK EXTENDED LOG ADDR
1BC   VMDCRFB0   001       GUEST CONTROL REGISTER 15,BYTE 0
1BD   VMDCRFB1   001       GUEST CONTROL REGISTER 15,BYTE 1
1BE   VMDCRFB2   001       GUEST CONTROL REGISTER 15,BYTE 2
1BF   VMDCRFB3   001       GUEST CONTROL REGISTER 15,BYTE 3
1C0               F        RESERVED FOR IBM HARDWARE USE
1C4   VMDIEXCF   004       EXTERNAL INTERRUPTION PARAMETERS
1C4   VMDIEXCA   002       EXTERNAL INTERRUPTION CPU ADDR
1C6   VMDIEXCD   002       EXTERNAL INTERRUPTION CODE, HW
1C6   VMDIEXCL   001       EXTERNAL INTERRUPTION CLASS CODE

        CODES DEFINED FOR VMDIEXCL BY HCPEQUAT EXTICLAS

1C7   VMDIEXCT   001       EXTERNAL INTERRUPTION TYPE CODE

        CODES DEFINED FOR VMDIEXCT BY HCPEQUAT EXTICODE

1C8               F        RESERVED FOR IBM HARDWARE USE
1CC   VMDIPRCD   004       PROGRAM INTERRUPT ILC AND CODE
1CC   VMDIPRCL   002       PROGRAM INTERRUPT ILC
1CE   VMDIPRCC   002       PROGRAM INTERRUPT CODE, HALFWORD
1CE   VMDIPRC0   001       PROGRAM INTERRUPT CODE, S/B 0
1CF   VMDIPRC1   001       PROGRAM INTERRUPT CODE, DETAIL

        CODES DEFINED FOR VMDIPRC1 BY HCPEQUAT PRGICODE

1D0   VMDITRAD   004       TRANSLATION EXCEPTION ADDRESS
                            THE FOLLOWING IS A REDEFINITION OF VMDITRAD
                            FOR SPACE SWITCH EVENT PROGRAM INTERRUPTS:
1D0   VMDSSCTL   001       SPACE SWITCH EVENT CONTROL

        BITS DEFINED IN VMDSSCTL (AT HEX DISPLACEMENT: 1D0)

1D1   VMDSSCT2   001       WHEN A SPACE SWITCH PROGRAM
                           INTERRUPT OCCURS, THE SPACE
                           SWITCH EVENT CONTROL BIT
                           IS SAVED IN THE HIGH ORBER BIT
                           OF VMDSSCTL.
                           THE REMAINING BITS OF VMDSSCTL
                           AND VMDSSCT2 ARE SET TO 0.
1D2   VMDOPASN   002       OLD PASN - SET FOR A SPACE
                           SWITCH EVENT PROGRAM INTERRUPT
1D4   VMDIMNCL   002       MONITOR CLASS CODE
1D6   VMDPERCL   002       PER CLASS CODE
1D6   VMDPERCD   001       PER EVENT CODE IDENTIFIER

        BITS DEFINED FOR VMDPERCD BY HCPEQUAT CR9B0

1D7   VMDPERZF   001       PER INTERRUPT CODE, RESERVED
                           ALSO USED BY SOFTWARE TO GENERATE GUEST PER EVENTS.
1D8   VMDPERAD   004       PER EVENT INSTRUCTION ADDRESS
                           ALSO USED BY SOFTWARE TO GENERATE GUEST PER EVENTS.
1DC   VMDIMNCD   004       MONITOR CODE
1E0               D        RESERVED FOR IBM HARDWARE USE
1E8               D        RESERVED FOR IBM HARDWARE USE
1F0               D        RESERVED FOR IBM HARDWARE USE
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1F8              D        RESERVED FOR IBM HARDWARE USE
200   VMDGPRS    064      GUEST GENERAL PURPOSE REGISTERS
                          0-15.

                    EQUATES

        03     VMDGPRLO    TO ACCESS LOW-ORDER BYTE OF A
                           GUEST GPR

200   VMDGPR0    004      GUEST GENERAL PURPOSE REGISTER 0
204   VMDGPR1    004      GUEST GENERAL PURPOSE REGISTER 1
208   VMDGPR2    004      GUEST GENERAL PURPOSE REGISTER 2
20C   VMDGPR3    004      GUEST GENERAL PURPOSE REGISTER 3
210   VMDGPR4    004      GUEST GENERAL PURPOSE REGISTER 4
214   VMDGPR5    004      GUEST GENERAL PURPOSE REGISTER 5
218   VMDGPR6    004      GUEST GENERAL PURPOSE REGISTER 6
21C   VMDGPR7    004      GUEST GENERAL PURPOSE REGISTER 7
220   VMDGPR8    004      GUEST GENERAL PURPOSE REGISTER 8
224   VMDGPR9    004      GUEST GENERAL PURPOSE REGISTER 9
228   VMDGPR10   004      GUEST GENERAL PURPOSE REGISTER 10
22C   VMDGPR11   004      GUEST GENERAL PURPOSE REGISTER 11
230   VMDGPR12   004      GUEST GENERAL PURPOSE REGISTER 12
234   VMDGPR13   004      GUEST GENERAL PURPOSE REGISTER 13
238   VMDGPE45   008      GUEST GPR 14-15 FOR SIE TRANSFER
238   VMDGPR14   004      GUEST GENERAL PURPOSE REGISTER 14
23C   VMDGPR15   004      GUEST GENERAL PURPOSE REGISTER 15
240   VMDFPRS    032      GUEST FLOATING POINT REGISTERS
240   VMDFPR0    008      GUEST FLOATING POINT REGISTER 0
248   VMDFPR2    008      GUEST FLOATING POINT REGISTER 2
250   VMDFPR4    008      GUEST FLOATING POINT REGISTER 4
258   VMDFPR6    008      GUEST FLOATING POINT REGISTER 6
260   VMDNTMOD   001      INTERCEPTION CODE 36 MODIFIER

      CODES DEFINED IN VMDNTMOD (AT HEX DISPLACEMENT: 260)

      04     VMDNTFIO    I/O INTERRUPTION
      08     VMDNTFRS    RESTART INTERRUPTION
      0C     VMDNTFMC    MACHINE CHECK INTERRUPTION
      10     VMDNTFEX    SIMULATED EXTERNAL INTERRUPTION
      14     VMDNTFPG    SIMULATED PROGRAM INTERRUPTION
                         EQU   24              RESERVED
      1C     VMDNTFPF    HOST PAGE FAULT ON USER PAGE
      20     VMDNTFGX    UNSTACKED GOTO/CPEX FOR ENDOP
      24     VMDNTFIS    INTERRUPT SCAN, I/O, EXTERNAL

261   VMDWPEND   001      WORK PENDING STATUS

      BITS DEFINED IN VMDWPEND (AT HEX DISPLACEMENT: 261)

      80     VMDPDPPF    REFLECT AN INITIAL PAGEX PROGRAM
                         ..INTERRUPT TO THE GUEST.
      40     VMDCKPSW    CHECK THE FORMAT OF THE GUEST
                         PSW.  WHENEVER A NEW GUEST PSW IS ESTABLISHED
                         EITHER FROM STARTING THE GUEST RUNNING FOLLOWING
                         SOME STOPPED STATE OR WHEN SWAPPING PSWS TO REFLECT
                         AN INTERRUPT TO THE GUEST, THIS BIT IS SET
                         REQUESTING THE NEW GUEST PSW TO BE EXAMINED AND
                         VALIDATED.  WHEN SET, THE GUEST'S PSW IS VALIDATED
                         BEFORE ENTERING SIE FOR THE GUEST.
      20     VMDPDTMR    UPDATE THE GUEST INTERVAL TIMER
      10     VMDPDIRP    SCAN GUEST INTERRUPTION LISTS
      08     VMDPDCFM    PERFORM CONSOLE FUNCTION
      02     VMDPDTRD    TRACE DISPLAY IS PENDING

262   VMDIPEND   001      INTERRUPT PENDING STATUS

      BITS DEFINED IN VMDIPEND (AT HEX DISPLACEMENT: 262)

      80     VMDXTKEY    SIGNIFIES THAT AN EXTERNAL KEY
                         INTERRUPT IS PENDING FOR THE GUEST.
      20     VMDEXMCK    THIS BIT IS SET TO INDICATE
                         AN EXIGENT MACHINE CHECK HAS BEEN MADE PENDING
                         FOR THE GUEST AND A GOTO WAS STACKED TO ENTER
                         HCPENDOP TO BEGIN PROCESSING TO REFLECT THE
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EXIGENT MACHINE CHECK.

263 VMDTYPE 001 IDENTIFIES THE VMDBK TYPE. MAY ONLY BE ONE OF THE DEFINED TYPES.

CODES DEFINED IN VMDTYPE (AT HEX DISPLACEMENT: 263)

00	VMDTYPPR	PROTOTYPE VMDBK
58	VMDTYPSY	SYSTEM VMDBK
15	VMDTYPUS	USER VMDBK
1F	VMDTYPAD	USER ADJUNCT VMDBK
17	VMDTYPMP	USER DEFINED CPU (GUEST MP)
2C	VMDTYPSI	USER VIRTUAL SIE VMDBK

264 VMDGTLB 001 GUEST TLB STATUS

BITS DEFINED IN VMDGTLB (AT HEX DISPLACEMENT: 264)

20	VMDGPTLB	GUEST PTLB WAS SIMULATED. FOR SIMULATION OF THE PTLB INSTRUCTION AND FOR SIMULATION OF OTHER INSTRUCTIONS THAT REQUIRE CLEARING THE TLB, VMDGPTLB IS SET.
10	VMDINVPG	A GUEST PAGE TABLE ENTRY HAS BECOME INVALID, EITHER FROM THE STEAL TASK OR FROM A GUEST IPTE INSTRUCTION.

265 VMDGSTAT 001 GUEST VIRTUAL RUNNING STATUS

BITS DEFINED IN VMDGSTAT (AT HEX DISPLACEMENT: 265)

80	VMDVSIE	GUEST IS IN V/SIE MODE. THIS BIT IS SET WHEN SIMULATING A SIE INSTRUCTION, AFTER A V/SIE VMDBK HAS BEEN BUILT, AND ALL SIE ENTRY VALIDITY CHECKS ARE COMPLETE IN PREPARATION FOR ENTERING EMULATION. IT IS RESET AFTER AN INTERRUPT OR INTERCEPT TAKES US OUT OF EMULATION AND THE VGUEST STATE DESCRIPTOR IS MADE TO APPEAR AS THOUGH SIE WERE JUST EXITED FOR THAT GUEST.
40	VMDRGPER	PRESERVE A PENDING PER INTERRUPT DURING THE SIMULATION OF A GUEST SIE INSTRUCTION. THE PENDING PER INTERRUPT IS CLEARED DURING THE SIMULATION OF SIE TO PREVENT IT FROM BEING REFLECTED PREMATURELY IN THE EVENT OF A SUBSEQUENT INTERRUPT.
20	VMDRGTRD	PRESERVE A PENDING TRACE DISPLAY DURING THE SIMULATION OF A GUEST SIE INSTRUCTION. THE PENDING TRACE DISPLAY IS CLEARED DURING THE SIMULATION OF SIE TO PREVENT THE DISPLAY FROM OCCURRING PREMATURELY IN THE EVENT OF A SUBSEQUENT INTERRUPT.
10	VMDIPTLH	IPTE LOCK HELD FOR THIS VIRTUAL CPU. FOR VIRTUAL MP, THE IPTE LOCK (THE SYSTEM CONTROL AREA POINTED TO BY VMDISCAA) WILL BE OBTAINED SHARED FOR A PAGEABLE VGUEST. THIS IS DONE TO SYNCHRONIZE THE CASE WHERE ONE VGUEST IS IN SIE MODE, AND ANOTHER VGUEST ISSUES AN IPTE. THE SYNCHRONIZATION IS NEEDED TO KEEP THE SHADOW TABLES OF THE FIRST VGUEST UP TO DATE WITH THE PAGE TABLES AFFECTED BY THE IPTE.
08	VMDSCALK	PAGE CONTAINING THE SYSTEM CONTROL AREA (SCA) IS LOCKED FOR A PAGEABLE RGUEST. THIS IS SET BY V/SIE SUPPORT IN PREPARATION FOR ISSUING SIE FOR THE V/SIE VMDBK. IT IS RESET WHEN THE RGUEST IS REMOVED FROM V/SIE MODE.

266 VMDTIMER 001 GUEST TIMER CONTROLS

BITS DEFINED IN VMDTIMER (AT HEX DISPLACEMENT: 266)

80	VMDPTRQ	GUEST TIMERS ARE BEING TRACKED DURING GUEST PSW-WAIT STATE. (SEE ALSO VMDPTRQQ.)
40	VMDITMRL	THIS BIT DESIGNATES THAT THE INTERVAL TIMER IS TO BE UPDATED DURING BOTH RUN AND WAIT TIME FOR THE USER. THE SET TIMER COMMAND CONTROLS THE SETTING OF THIS BIT.

	20	VMDVPTRK	GUEST CPU TIMER BEING TRACKED. BEFORE A V/SIE VMDBK IS RUN, THE CPU TIMER IS SET TO THE SMALLER OF EITHER THE CURRENT HOST CPU TIMER OR THE SMALLEST RGUEST TIMER VALUE (CPU TIMER OR CLOCK COMPARATOR INTERVAL). VMDVPTRK IS SET TO INDICATE WHEN THE RGUEST TIMER VALUE IS USED. (USED ONLY DURING THE SIMULATION OF A GUEST SIE INSTRUCTION).
	10	VMDTODAC	TOD CLOCK ACCOUNTING FLAG FLAG INDICATING THE TOD CLOCK ACCOUNTING INTERFACE IS ACTIVE (DIAGNOSE X'70'). SEE VMDTODAI.
	08	VMDPTRQQ	THE TRQBK (ANCHORED AT VMDTRQPT) FOR TRACKING TIMERS DURING GUEST WAIT STATE HAS BEEN ENQUEUED ON THE QUEUE OF ACTIVE (UN-EXPIRED) TRQBK'S. WHEN TRACKING TIMERS FOR GUEST WAIT STATE IT IS SOMETIMES NOT NECESSARY TO ENQUEUE THE TRQBK. THEREFORE WHEN VMDPTRQ IS SET, VMDPTRQQ MAY OR MAY NOT BE SET. WHEN VMDPTRQ IS ZERO, VMDPTRQQ WILL ALSO BE ZERO.
267	VMDTRCTL	001	GUEST MACHINE TRACING CONTROL

BITS DEFINED IN VMDTRCTL (AT HEX DISPLACEMENT: 267)

80	VMDTRACT	TRACE ACTIVE BIT. THIS BIT IS SET WHEN THE GUEST IS USING THE TRACE FACILITY AND THERE IS AN ACTIVE TRACE SET WHICH CONTAINS ACTIVE TRACE TRAPS. WHEN THIS BIT IS SET, IT IS POSSIBLE THAT EXECUTION OF THE GUEST MACHINE MAY HALT BECAUSE A TRACE TRAP IS HIT.
40	VMDTRALT	TRACE ALTERED BIT. THIS BIT IS SET WHEN THE GUEST IS USING THE TRACE FACILITY AND TRACE HAS DECIDED THAT THE GUEST'S PSW AND/OR CONTROL REGISTERS MUST BE ALTERED TO ACCOMPLISH THE REQUESTED TRACING FUNCTION.
20	VMDTRCTR	CCW TRACING ACTIVE, TERMINAL
10	VMDTRCPR	CCW TRACING ACTIVE, PRINTER
30	VMDTRCCW	CCW TRACING ACTIVE

268	VMDPRGIL	002	THE VGUEST INSTRUCTION LENGTH CODE IS MAINTAINED IN THIS FIELD FOR INSTRUCTIONS SIMULATED IN V/SIE.
26A	VMDWSTAT	001	PSEUDO-WAIT CONDITIONS

BITS DEFINED IN VMDWSTAT (AT HEX DISPLACEMENT: 26A)

80	VMDWTPAG	GUEST IS IN PAGE WAIT. THIS IS A SOFT (OR PSEUDO) WAIT STATE ENTERED FROM HANDLING A HOST PAGE FAULT FOR A GUEST PAGE. THE SOFT WAIT STATE IS ENDED WHEN THE PAGING OPERATION COMPLETES OR IF THE GUEST RECEIVES AN I/O, OR EXTERNAL INTERRUPT, OR ENTERS A COMMAND.
40	VMDWTTIO	GUEST IS IN TIO-BUSY WAIT
20	VMDWTTSC	GUEST IS IN TSCH-BUSY WAIT
10	VMDWIUCV	INDICATE IUCV SOFT WAIT

26B		X	RESERVED
26C	VMDVFCFG	001	VIRTUAL VECTOR FACILITY CONFIGURATION STATUS

BITS DEFINED IN VMDVFCFG (AT HEX DISPLACEMENT: 26C)

80	VMDVFDEF	A VIRTUAL VECTOR FACILITY IS DEFINED ON THIS VIRTUAL CPU
40	VMDVFHAD	USER HAS, OR HAD SINCE LOGON, A VIRTUAL VECTOR FACILITY DEFINED

26D	VMDVFCNT	001	COUNT OF VIRTUAL VECTOR FACILITIES DEFINED IN THIS CONFIGURATION (VALID ONLY IN BASE VMDBK)

CODES DEFINED IN VMDVFCNT (AT HEX DISPLACEMENT: 26D)

00	VMDVFNON	VMDVFCNT VALUE FOR NON-VECTOR CONFIGURATION

26E	VMDVFSTA	001	VIRTUAL VECTOR FACILITY STATUS. SERIALIZED BY THE SCHEDULER LOCK.

BITS DEFINED IN VMDVFSTA (AT HEX DISPLACEMENT: 26E)

80	VMDVFCKS	THE VIRTUAL VECTOR FACILITY IS IN CHECK-STOP STATE, I.E. A VFF MACHINE-CHECK HAS BEEN REFLECTED TO THE GUEST.
40	VMDVFAVL	THE VIRTUAL VECTOR FACILITY WAS REPORTED AVAILABLE BY THE MOST RECENT SCLP - READ SCP INFO.
20	VMDVFACT	INDICATE THAT THIS VMDBK IS INCLUDED IN THE COUNT OF RECENTLY-ACTIVE VECTOR USER. VALID IN ALL VMDBKS.

26F	VMDVFRST	001	VIRTUAL VECTOR FACILITY REGISTER STATUS

BITS DEFINED IN VMDVFRST (AT HEX DISPLACEMENT: 26F)

80	VMDVFLOD	THE VIRTUAL VECTOR FACILITY IS LOADED INTO A REAL VECTOR FACILITY.
40	VMDVFSTL	GUEST VIRTUAL VECTOR STATE LOST: CAUSES A VFS MACHINE-CHECK TO BE REFLECTED TO THE GUEST DURING THE NEXT ATTEMPT TO USE THE VECTOR FACILITY.

270	VMDPTLBT	008	TOD CLOCK AT LAST HOST PTLB REQUEST FOR THIS USER. THIS FIELD IS COMPARED TO THE TOD VALUE AT THE LAST PTLB ON THIS CPU TO DETERMINE WHETHER A FRESH PTLB SHOULD BE PERFORMED BEFORE THE USER IS RUN IN EMULATION MODE ON A PARTICULAR HOST CPU.
270	VMDPTLHI	004	FIRST WORD OF VMDPTLBT
274	VMDPTLLO	004	SECOND WORD OF VMDPTLBT
278		F	RESERVED
27C		F	RESERVED
280	VMDCPUID	008	GUEST MACHINE CPU ID (FOR STIDP) DEFAULTS TO CPUID OF HOST IPLED CPU, MODIFIED TO SHOW VERSION CODE X'FF', AND ZERO LOGOUT LENGTH.
280	VMDCPVER	001	GUEST CPU ID VERSION CODE

CODES DEFINED FOR VMDCPVER BY HCPEQUAT CPUID

231	VMDCPSER	003	GUEST CPU ID SERIAL NUMBER
284	VMDCPMOD	002	GUEST CPU ID MODEL NUMBER
286	VMDCPLOG	002	GUEST CPU ID EXTENDED LOG LENGTH
288	VMDSSIZE	004	CONTIGUOUS GUEST REAL STORAGE SIZE IN BYTES
28C	VMDCPUAD	002	CPU ADDRESS OF VIRTUAL CPU
28E	VMDSIGPA	001	FLAG FOR SIGP ACCESS PATH BUSY. THIS IS MAINTAINED BY TEST-AND-SET TO PREVENT CONCURRENT SIGP FUNCTIONS FROM BEING EXECUTED SIMULTANEOUSLY.
28F	VMDSIGPF	001	FLAG FOR SIGP FUNCTION INCOMPLETE THIS IS MAINTAINED BY TEST-AND-SET TO PREVENT CONCURRENT SIGP FUNCTIONS FROM BEING EXECUTED SIMULTANEOUSLY.
290		X	RESERVED FOR IBM USE
291	VMDRFEAT	001	GUEST MACHINE SIMULATION OPTIONS SERIALIZATION - WRITE IS CFM. READ IS CFM OR EXCLUSIVE-FROM-CFM

BITS DEFINED IN VMDRFEAT (AT HEX DISPLACEMENT: 291)

80	VMDNOVFA	NO VIRTUAL VECTOR FACILITY .. ALLOWED FOR THIS USER. VALID

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                                .. IN ALL VMDBKS.
        40      VMDSVMST        SVMSTAT SPECIFIED IN THE OPTION
                                DIRECTORY CARD FOR THIS USER.
        20      VMDVMCFA        VM COMMUNICATION FACILITY
                                ALLOWED.  IT IS USED TO DETERMINE IF THE GUEST IS
                                USING VMCF AND TO ENSURE THAT THE USER OF VMCF HAD
                                INVOKED THE VMCF AUTHORIZE FUNCTION PRIOR TO
                                ATTEMPTING SUBSEQUENT VMCF FUNCTIONS.
        10      VMDVERP         VIRTUAL ERROR RECORDING ACTIVE
                                VMDVERP = 0 (DEFAULT) - CP INTERCEPTS GUEST SVC76 AND
                                PERFORMS ERROR RECORDING ON BEHALF OF THE GUEST.
                                VMDVERP = 1 - SVC76 IS REFLECTED TO THE GUEST.
        02      VMDACTRC        GUEST MACHINE MAY CREATE ACCOUNT
                                RECORDS
        01      VMDVTOD         THE TODENABLE OPTION HAS BEEN
                                SPECIFIED IN THE OPTION STATEMENT IN THE DIRECTORY.
                                VALID IN ALL VMDBKS.

292 VMDSTORE    001             STORAGE OPTIONS

      BITS DEFINED IN VMDSTORE (AT HEX DISPLACEMENT: 292)

        80      VMDPAGEX        PSEUDO PAGE FAULT OPTION ACTIVE

293             X               RESERVED FOR FUTURE IBM USE
294 VMDCPUCT    001             COUNT OF GUEST DEFINED CPUS.
                                VALUE IS ONE LESS THAN THE NUMBER OF VIRTUAL CPUS IN
                                THE CONFIGURATION.  (THE BASE CPU IS NOT COUNTED FOR
                                IT IS NOT GUEST DEFINED.)  KEEPS TRACE OF THE NUMBER
                                OF CPUS IN A GUEST VIRTUAL MP CONFIGURATION.  ALSO
                                USED AS AN INDICATION OF WHETHER THE GUEST IS A
                                VIRTUAL MP GUEST (A NON ZERO VALUE INDICATES GUEST
                                MP).
295 VMDCPULT    001             MAX MP GUEST CPU COUNT LESS ONE
                                WHICH MAY BE DEFINED, INCL BASE
296             X               RESERVED FOR IBM USE
297 VMDTODFL    001             FLAG FOR TIME-OF-DAY CLOCK BUSY.
                                THIS IS MAINTAINED BY TEST-AND-
                                SET  TO  PREVENT  MORE THAN ONE
                                STACKED CALL-FROM-CFM  BECOMING
                                PENDING FOR SCK FUNCTIONS TO BE
                                EXECUTED WITH ALL VIRTUAL  CPUS
                                AT ENDOP.
298 VMDILFNC    001             INDICATOR OF WHAT CP FUNCTION(S)
                                REQUIRED NOTIFICATION OF GUEST
                                PSW CHANGES

      BITS DEFINED IN VMDILFNC (AT HEX DISPLACEMENT: 298)

        80      VMDILIOP        I/O PASS THROUGH

299             X               RESERVED FOR FUTURE IBM USE
29A             H               RESERVED FOR FUTURE IBM USE
29C VMDCHPPT    004             POINTER TO INOP CHPID ARRAY
                                THE INOPERATIVE CHPID ARRAY IS A 256 BIT (32 BYTE)
                                ARRAY WHERE BITS 0 TO 255 REPRESENT CHPIDS 0 TO 255.
                                A BIT IS ON IF THE ASSOCIATED CHANNEL PATH IS NOT
                                OPERATIONAL (I.E. A CHANNEL PATH TERMINAL CRW HAS
                                BEEN RECEIVED FOR IT AND IT HAS NOT BEEN SUCCESSFULLY
                                RECOVERED).
                                LOCKWORD FOR IPTE INSTRUCTION
                                **** MUST BE ON QUADWORD BOUNDARY ****
                                DEFINED AS L-TYPE CONSTANT TO GET IMPLICIT LENGTH 16

2A0 VMDIPLOK    016             IPTE LOCKWORD FOR VIRTUAL MP.
                                THIS IS THE SYSTEM CONTROL AREA DEFINED BY
                                ARCHITECTURE.  FOR A VIRTUAL MP, THE ADDRESS OF
                                THIS LOCKWORD IS STORED IN VMDISCAA IN EACH VMDBK
                                IN THE VIRTUAL CONFIGURATION.  THE IPTE LOCK WILL BE
                                OBTAINED SHARED FOR A PAGEABLE VGUEST.  WHEN THIS
                                LOCK IS HELD THE ARCHITECTURE WILL INTERCEPT ALL
                                IPTE INSTRUCTIONS ISSUED FROM ANY VMDBK IN THE
                                VIRTUAL CONFIGURATION.  THIS IS DONE TO SYNCHRONIZE
                                THE CASE WHERE ONE VGUEST IS IN SIE MODE, AND
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                                ANOTHER VGUEST ISSUES AN IPTE THROUGH THE IPTE
                                SIMULATION.  THE SYNCHRONIZATION IS NEEDED TO
                                KEEP THE SHADOW TABLES OF THE FIRST VGUEST UP TO
                                DATE WITH THE PAGE TABLES AFFECTED BY THE IPTE.
2B0                 D           RESERVED FOR FUTURE IBM USE
                                FIELDS FOR INSTRUCTION OPERAND PROCESSING

2B8   VMDVOBUF      004         THIS FIELD IS USED DURING
                                INSTRUCTION SIMULATION AND TRACE PROCESSING TO
                                FIND THE VIRTUAL OPERAND BUFFER.  THE VIRTUAL
                                OPERAND BUFFER IS USED TO PASS THE OPERANDS OF A
                                GUEST INSTRUCTION TO AND FROM MODULE HCPVOP.

                          EQUATES

          21    VMDVOSIZ    BUFFER LENGTH IN DOUBLEWORDS
                            32 DOUBLEWORDS ARE THE LARGEST OPERANDS POSSIBLE,
                            (EX: MVC INSTRUCTION.)  ONE EXTRA DOUBLEWORD IS
                            NEEDED FOR ALIGNMENT PURPOSES WHICH ALLOWS BLOCK
                            CONSISTENT ACCESS TO OPERANDS IN GUEST STORAGE.

2BC   VMDVOSAV      004         SIMULATION SAVBK STACK ANCHOR.
                                TO REDUCE THE PATH LENGTH IN A PERFORMANCE SENSITIVE
                                PATH, A STACK OF SAVBKS ARE ALLOCATED WHEN THE VMDBK
                                IS CREATED.  FREQUENTLY CALLED MODULE HCPVOP USES THE
                                SAVBK STACK RATHER THAN CALLING HCPFREE AND HCPFRET
                                TO OBTAIN AND RELEASE SAVBKS.

                          EQUATES

          03    VMDVODEP    DEPTH OF SIMULATION SAVBK STACK

2C0                 0D
2C0   VMDXT        024         EXTERNAL INTERRUPT PENDING DATA.
2C0   VMDXTMFA     008         A BIT MASK FOR THE SOURCE
                                VIRTUAL CPUS WHICH HAVE MADE MALFUNCTION ALERTS
                                PENDING ON THIS VIRTUAL CPU.  THIS MASK IS USED
                                TO FIND ALL VIRTUAL CPUS WHICH HAVE MADE A
                                MALFUNCTION ALERT PENDING ON THIS VIRTUAL CPU.
2C8   VMDXTEMS     008         A BIT MASK OF THE SOURCE
                                VIRTUAL CPUS WHICH HAVE MADE EXTERNAL EMERGENCY
                                SIGNALS PENDING ON THIS VIRTUAL CPU.  THIS MASK IS
                                USED TO FIND ALL VIRTUAL CPUS WHICH HAVE MADE
                                EXTERNAL EMERGENCY SIGNALS TO THIS VIRTUAL CPU.
2D0   VMDXTCAL     004         THIS FIELD SERVES AS A SIGNAL
                                THAT AN EXTERNAL CALL EXTERNAL INTERRUPT IS
                                PENDING AND IT SERVES TO REMEMBER THE SOURCE OF THE
                                EXTERNAL CALL.
2D4   VMDXTSFI     004         ANCHOR OF PENDING SFXBK'S.
                                SFXBKS ARE USED TO MAINTAIN THE DATA REQUIRED FOR
                                GUEST SOFTWARE EXTERNAL INTERRUPTS WHILE THE
                                INTERRUPT IS PENDING.
2D8   VMDTRQPT     004         ADDRESS OF TRQBK FOR GUEST
                                TIMERS WHILE THE GUEST IS IN A WAIT STATE.
2DC   VMDVECTR     004         POINTER TO THE GUEST VECTOR
                                FACILITY CONTROL BLOCK (VECBK)
                                SOFTWARE-DEFINED-INTERRUPTION STATUS (VMC, PPF)
2E0                 F           RESERVED FOR FUTURE IBM USE
2E4                 F           RESERVED FOR FUTURE IBM USE
2E8   VMDSFIPM     004         SOFTWARE-GENERATED-INTERRUPT
                                ENABLEMENT MASK
2E8   VMDSFIP0     001         SOFTWARE INTERRUPT MASK BYTE 0

        BITS DEFINED FOR VMDSFIP0 BY HCPSFXBK SFXIMSK0

2E9   VMDSFIP1     001         SOFTWARE INTERRUPT MASK BYTE 1

        BITS DEFINED FOR VMDSFIP1 BY HCPSFXBK SFXIMSK1

2EA   VMDSFIP2     001         SOFTWARE INTERRUPT MASK BYTE 2
2EB   VMDSFIP3     001         SOFTWARE INTERRUPT MASK BYTE 3
                                FLOATING INTERRUPTION STATUS
2EC   VMDFIN       004         POINTER TO FLOATING INTERRUPTION
                                QUEUE CONTROL (FINBK).  THE FINBK MAINTAINS A
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                                GUEST'S PENDING FLOATING EXTERNAL INTERRUPTS.
2F0   VMDPPFPT    004          LIST OF PSEUDO PAGE FAULT
                                PENDING INTERRUPTS (PPFBLOK)
2F4   VMDPPFCT    002          COUNT OF PSEUDO PAGE FAULTS FOR
                                ..PAGES NOT YET RESOLVED (THOSE
                                ..FOR WHICH AN INITIAL PAGEX
                                ..INTERRUPT HAS BEEN REFLECTED,
                                ..BUT NO COMPLETION INTERRUPT
                                ..HAS BEEN REFLECTED YET).
2F6               H          RESERVED FOR FUTURE IBM USE
                                VIRTUAL MACHINE CHECK SIMULATION FIELDS
2F8   VMDMCV      004          POINTER TO MCVBK, FOR GUEST
                                PENDING NON-FLOATING MACHINE CHECK INTERRUPTS.  A
                                SINGLE MCVBK IS ADDRESSED BY THIS FIELD THAT
                                CONTAINS ALL NON-FLOATING MACHINE CHECK CONDITIONS
                                THAT ARE PENDING AGAINST THIS VIRTUAL MACHINE.
2FC   VMDCTFLT    004          COUNT OF HOST SEGMENT AND PAGE
                                FAULTS ON GUEST PAGES WHILE RUNNING THIS VIRTUAL CPU.
                                DOES NOT INCLUDE FAULTS ON RCP PAGES.
300               F          RESERVED FOR FUTURE IBM USE
304   VMDTODAI    004          ADDRESS OF TOD ACCOUNTING
                                INFORMATION AREA IN A LOCKED GUEST PAGE.
304   VMDTODA0    001          INDICATES TYPE OF ADDRESS
305               XL3          AND THE REST OF THE ADDRESS
308   VMDGSRBK    004          POINTER TO GUEST SURVIVAL
                                RECOVERY CONTROL BLOCK
30C   VMDGSRST    004          GUEST SURVIVAL STATUS INFORMATION
30C   VMDGSRFL    001          FLAGS FOR GUEST SURVIVAL STATUS

        BITS DEFINED IN VMDGSRFL (AT HEX DISPLACEMENT: 30C)

        40     VMDGSBNC      GUEST SURVIVAL WHILE THE SYSTEM
                             IS BOUNCING. SET WHEN WE BEGIN
                             TERMINATING AND RESET AT EITHER
                             SUCCESSFUL RESTART OR ABANDONMENT
                             OF THE ATTEMPT TO RECOVER THE GUEST
        20     VMDGSQWK      AT THE TIME OF A SYSTEM INCIDENT
                             THERE WAS QUEUED OR DEFERRED
                             WORK FOR THE V=R GUEST. THE WORK
                             IS LOST.
        01     VMDGSMSG      FREE STORAGE EXHAUSTED MESSAGE
                             HAS BEEN ISSUED BY HCPVRRFX

30D   VMDGSRFG    001          FLAGS FOR GUEST SURVIVAL IPL AND
                                RESET STATUS

        BITS DEFINED IN VMDGSRFG (AT HEX DISPLACEMENT: 30D)

        80     VMDGSIPL      GUEST IPL IN PROGRESS
        40     VMDGSRES      GUEST VIRTUAL SYSTEM RESET IN
                             PROGRESS

30E   VMDGSIND    001          INDICATES GUEST SURVIVAL STATUS

        BITS DEFINED IN VMDGSIND (AT HEX DISPLACEMENT: 30E)

        80     VMDGSURV      GUEST SURVIVAL IS POSSIBLE

30F               X          RESERVED FOR FUTURE IBM USE
310   VMDCHRSN    004          ANCHOR FOR RADIX TREE TO VIRTUAL
                                DEVICE BLOCKS BY SUBCHANNEL NO.
314   VMDCHRDN    004          ANCHOR FOR RADIX TREE TO VIRTUAL
                                DEVICE BLOCKS BY DEVICE NUMBER
318   VMDCHC      004          POINTER TO HCPCHCBK
31C   VMDVSPRT    004          ADDRESS OF PRINTER VDEVBK FOR
                                USE BY DUMP, TRACE COMMANDS
                                VIRTUAL DEVICE COUNTS
320   VMDLIMDV    002          MAX NUMBER OF VIRTUAL DEVICES
                                WHICH CAN BE DEFINED BY THE USER
322   VMDMAXVS    002          HIGHEST VIRTUAL SUBCHANNEL
324   VMDMAXVD    002          HIGHEST VIRTUAL DEVICE NUMBER
326   VMDDEVCT    002          COUNT OF DEFINED DEVICES
328   VMDCCWOP    001          GUEST CCW TRANSLATION OPTIONS
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BITS DEFINED IN VMDCCWOP (AT HEX DISPLACEMENT: 328)

80	VMDBPCCW	BYPASS CCW TRANSLATION (CAN BE USED BY THE V=R USER ONLY) ('SET CCWTRAN OFF')
40	VMDFAUTO	AUTOPOLL CCW HANDSHAKE ACTIVE
20	VMDNOP	TRANSFER DATA FOR NOP CCW'S

329	VMDIOPTS	001	GUEST I/O SIMULATION OPTIONS GUEST I/O PASS THROUGH FIELDS
32A	VMDIOPF1	001	REASONS FOR I/O PASS THROUGH BEING INACTIVE. VALID ONLY IN THE BASE VMDBK.

BITS DEFINED IN VMDIOPF1 (AT HEX DISPLACEMENT: 32A)

80	VMDIOPBC	I/O PASS THROUGH IS INACTIVE BECAUSE GUEST USED A BC MODE PSW
40	VMDIOPCD	I/O PASS THROUGH IS INACTIVE BECAUSE IOASSIST IS SET OFF
20	VMDIOPDG	I/O PASS THROUGH IS INACTIVE BECAUSE GUEST ISSUED DIAG X'18' OR X'20'.
10	VMDIOPIS	I/O PASS THROUGH IS INACTIVE BECAUSE GUEST DISABLED A VIRTUAL ISC THAT WAS GROUPED INTO A REAL DEDICATED ISC
08	VMDIOPVP	I/O ASSIST IS INACTIVE BECAUSE ONE OR MORE CHANNEL PATHS ARE IN THE PROCESS OF BEING VARIED OFFLINE
04	VMDIOPAL	I/O PASS THROUGH IS INACTIVE BECAUSE VIRTUAL MACHINE IS USING ADDRESS LIMIT CHECKING
02	VMDIOPMB	I/O PASS THROUGH IS INACTIVE BECAUSE GUEST MEASUREMENT BLOCK AREA EXCEEDS VIRTUAL MACHINE STORAGE SIZE
01	VMDIOPDS	I/O PASS THROUGH IS INACTIVE BECAUSE THE GUEST IS IN DCCF

32B	VMDIOPF2	001	I/O PASS THROUGH FLAGS. VALID ONLY IN THE BASE VMDBK

BITS DEFINED IN VMDIOPF2 (AT HEX DISPLACEMENT: 32B)

80	VMDIOPOP	THE SYSTEM IS CURRENTLY BEING REMOVED FROM I/O PASS THROUGH BUT CONDITIONS CAUSING THE REMOVAL HAVE CHANGED. THE SYSTEM CAN BE PUT BACK INTO PASS THROUGH, BUT ALL THE DEVICES ARE NOT YET OUT OF PASS THROUGH. WHEN ALL THE DEVICES ARE TAKEN OUT (COUNT IN VMDIOPNO GOES TO ZERO), PUT THE SYSTEM BACK INTO PASS THROUGH.
40	VMDIOP1T	THE SYSTEM WAS IN I/O PASS THROUGH AT ONE TIME, ALTHOUGH IT MAY OR MAY NOT BE CURRENTLY IN I/O PASS THROUGH.
20	VMDIOPM6	MONITOR THE GUEST'S USE OF CR 6 TO ENSURE THE GUEST DOES NOT SELECTIVELY ENABLE - DISABLE AN ISC WHICH CP DID NOT DEDICATE TO THE GUEST.
08	VMDIOPEW	I/O PASS THROUGH GUEST HAS ENTERED AN ENABLED WAIT STATE
04	VMDIOPIP	INITIAL IPL PSW FOR A 370 GUEST IS BC MODE.

32C		H	RESERVED FOR FUTURE IBM USE
32E	VMDIOPST	001	I/O PASS THROUGH STATE. VALID

ONLY IN THE BASE VMDBK.

CODES DEFINED IN VMDIOPST (AT HEX DISPLACEMENT: 32E)

00	VMDIOPSN	I/O PASS THROUGH NOT ACTIVE
80	VMDIOPS1	I/O PASS THROUGH BEING INITIALIZED
C0	VMDIOPSA	I/O PASS THROUGH ACTIVE
40	VMDIOPSR	I/O PASS THROUGH BEING REMOVED

32F		X	RESERVED FOR FUTURE IBM USE GUEST I/O SIMULATION STATUS
330	VMDWVDEV	004	ADDRESS OF VDEVBK FOR STATUS RESPONSE
334	VMDIOACT	004	NUMBER OF I/O'S OUTSTANDING
338	VMDMIFLG	001	FLAG USED BY MISSING INT HANDLER

BITS DEFINED IN VMDMIFLG (AT HEX DISPLACEMENT: 338)

80	VMDMIHON	MISSING INTERRUPTS ARE TO BE HANDLED BY CP FOR THIS GUEST
01	VMDDPS	DYNAMIC PATH SELECTION CAPABLE (VALID ONLY IN BASE VMDBK AND VALID ONLY FOR XA MODE GUEST)

339	VMDTIOLP	001	TIO LOOP DETECTION FIELD

BITS DEFINED IN VMDTIOLP (AT HEX DISPLACEMENT: 339)

80	VMDTIOBZ	GUEST IS APPARENTLY IN TIO BUSY OR TSCH BUSY ENDLESS LOOP UNTIL I/O COMPLETES
60	VMDTSCBZ	TWO BIT COUNT OF TSCH BUSY
20	VMDTSCX1	TSCH BUSY INITIAL COUNT VALUE

33A	VMDTSCLP	002	TSCH LOOPING TEST DEVICE ADDRESS
33C	VMDBLKIO	004	BLOCK I/O CHAIN POINTER
340	VMDCTSIO	004	COUNT OF VIRTUAL SIO'S, TO REAL DEVICES OR MINIDISKS
344	VMDCTRDR	004	COUNT IS MAINTAINED BY SPOOLING FOR EACH CARD READ. ACCOUNTING CALCULATES THE NUMBER OF CARDS READ BY COMPARING IT TO VMDACRDR, THE VALUE AT THE PREVIOUS ACCOUNTING. THE INDICATE USER COMMAND DISPLAYS THE FIELD. (NOTE: THIS COUNT PERTAINS TO SPOOLED INPUT ONLY. IT DOES NOT COUNT CARDS READ FROM DEDICATED DEVICES.)
348	VMDCTPCH	004	COUNT OF CARDS OUTPUTTED TO VIRTUAL SPOOLED PUNCHES. COUNT IS MAINTAINED BY SPOOLING FOR EACH CARD PUNCHED. ACCOUNTING CALCULATES THE NUMBER OF CARDS PUNCHED BY COMPARING IT TO VMDACPCH, THE VALUE AT THE PREVIOUS ACCOUNTING. THE INDICATE USER COMMAND DISPLAYS THE FIELD. (NOTE: THIS COUNT PERTAINS TO SPOOLED OUTPUT ONLY. IT DOES NOT COUNT CARDS PUNCHED ON DEDICATED DEVICES.)
34C	VMDCTPRT	004	COUNT OF LINES SPOOLED TO VIRTUAL PRINTERS. COUNT IS MAINTAINED BY SPOOLING FOR EACH DATA RECORD PRINTED. CONTROL OPERATIONS SUCH AS EJECTS OR SKIPS ARE NOT COUNTED. ACCOUNTING CALCULATES THE NUMBER OF RECORDS PRINTED BY COMPARING IT TO VMDACPRT, THE VALUE AT THE PREVIOUS ACCOUNTING. THE INDICATE USER COMMAND DISPLAYS THE FIELD. (NOTE: THIS COUNT PERTAINS TO SPOOLED OUTPUT ONLY. IT DOES NOT COUNT LINES PRINTED ON DEDICATED DEVICES.)
350	VMDIOPNO	004	COUNT OF DEVICES TO BE TAKEN OUT OF I/O PASS THROUGH. VALID ONLY IN THE BASE VMDBK.
354	VMDIOPBK	004	ADDRESS OF IOPBK. USED ONLY IN ..THE ORIGIN V=R VMDBK. ..SERIALIZED BY CONSOLE FUNCTION ..MODE. SHOULD NOT BE TOUCHED ..OVER A SYSTEM INCIDENT.
358	VMDRTERM	004	USER DISPLAY STATION RDEVBK

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                          ADDRESS.  THIS IS THE RDEV OF THE DISPLAY STATION
                          THE USER LOGGED ON TO.
35C   VMDVCONS    004     GUEST CONSOLE VDEVBLOK ADDRESS
360   VMDTOPTN    001     USER DEFINED DISPLAY STATION
                          OPTIONS

        BITS DEFINED IN VMDTOPTN (AT HEX DISPLACEMENT: 360)

        80     VMDCLEXT   AN EXTERNAL INTERRUPT IS TO BE
                          SIMULATED TO THE VIRTUAL MACHINE WHEN THE PA2 KEY IS
                          HIT.  (ONLY WHEN IN VM READ, MORE, OR HOLDING STATUS
                          AND THE TERMINAL APL ON COMMAND HAS BEEN ISSUED.)
        40     VMDEDIT    SPECIFIES THAT EDITING, USING
                          THE USER DEFINED EDITING CHARACTERS, IS TO BE DONE
                          ON CONSOLE INPUT.
        20     VMDATTCP   ONE OR MORE ATTENTIONS ON THE
                          CONSOLE WILL PUT THE CONSOLE INTO CP READ MODE.
        10     VMDTSTAM   REQUEST TIME STAMP ON CP OUTPUT
        08     VMDNOBKY   TERMINAL BREAK-KEY IS DISABLED
        04     VMDPFIKY   IMMEDIATE PF KEY REQUEST
        02     VMDGSTCL   BREAKIN IN GUESTCTL
        01     VMDHLITE   TERMINAL HILIGHT FLAG

361   VMDSCREN    001     MORE AND HOLDING STATUS FOR THE
                          DISPLAY SCREEN.

        BITS DEFINED IN VMDSCREN (AT HEX DISPLACEMENT: 361)

        80     VMDCRMOR   DISPLAY SCREEN AUTOMATICALLY
                          CLEARS AFTER 60 SECONDS WITH A 10 SECOND ALARM
                          WARNING.
        40     VMDCRHLD   SCREEN GOES TO 'HOLDING' STATUS
                          RATHER THAN 'MORE' IF ALARMED OUTPUT IS PRESENT
                          ON THE DISPLAY SCREEN.

362   VMDMORTM    002     CONTAINS THE TIME INTERVAL THAT
                          THE MORE STATUS WILL REMAIN ON THE DISPLAY SCREEN;
                          IS CURRENTLY 60 SECONDS FOR ALL VIRTUAL MACHINES.
                          A WARNING IS SOUNDED 10 SECONDS BEFORE THE MORE
                          STATUS WILL BE CLEARED AND THE WAITING OUTPUT IS
                          DISPLAYED.
364               X       RESERVED FOR FUTURE IBM USE
365   VMDTRMDV    001     REAL DISPLAY DEVICE STATUS

        BITS DEFINED IN VMDTRMDV (AT HEX DISPLACEMENT: 365)

        80     VMDTRMIO   INDICATES TO I/O SUBSYSTEM THAT
                          THIS I/O HAS BEEN INITIATED TO A REAL DISPLAY DEVICE.

366               X       RESERVED FOR FUTURE IBM USE
367               X       RESERVED FOR FUTURE IBM USE
                          TERMINAL INPUT LINE EDITING CHARACTERS
368   VMDTEDIT    004     DISPLAY INPUT LINE EDITING
                          CHARACTERS
368   VMDTLEND    001     CONTAINS THE CHARACTER DEFINED
                          AS THE LINE END CHARACTER USED FOR EDITING CONSOLE
                          INPUT.
369   VMDTLDEL    001     CONTAINS THE CHARACTER DEFINED
                          AS THE LINE DELETE CHARACTER USED FOR EDITING CONSOLE
                          INPUT.
36A   VMDTCDEL    001     CONTAINS THE CHARACTER DEFINED
                          AS THE CHARACTER DELETE CHARACTER USED FOR EDITING
                          CONSOLE INPUT.
36B   VMDTESCP    001     CONTAINS THE CHARACTER DEFINED
                          AS THE ESCAPE CHARACTER USED FOR EDITING CONSOLE
                          INPUT.
                          EXTENDED COLOR AND EXTENDED HILIGHT FLAG BYTES
36C   VMDEXVMO    001     VM OUTPUT
                          THE FOLLOWING EQUATES APPLY TO THE EXTENDED COLOR AND
                          EXTENDED HILIGHT FLAG BYTES.

        CODES DEFINED IN VMDEXVMO (AT HEX DISPLACEMENT: 36C)

        00     VMDEXNON   NONE
```

	10	VMDEXBLI	BLINKING
	20	VMDEXREV	REVERSE VIDEO
	40	VMDEXUND	UNDERSCORE
	F0	VMDEXHGH	MASK TO ISOLATE EXTENDED HILIGHTING.
	00	VMDEXDEF	DEFAULT
	01	VMDEXBLU	BLUE
	02	VMDEXRED	RED
	03	VMDEXPIN	PINK
	04	VMDEXGRE	GREEN
	05	VMDEXTUR	TURQUIOSE
	06	VMDEXYEL	YELLOW
	07	VMDEXWHI	WHITE
	0F	VMDEXCOL	MASK TO ISOLATE EXTENDED COLOR

36D	VMDEXINR	001	INPUT REDISPLAY

CODES DEFINED FOR VMDEXINR BY HCPVMDBK VMDEXVMO

36E	VMDEXINA	001	INPUT AREA

CODES DEFINED FOR VMDEXINA BY HCPVMDBK VMDEXVMO

36F	VMDEXSTA	001	STATUS AREA

CODES DEFINED FOR VMDEXSTA BY HCPVMDBK VMDEXVMO

370	VMDEXCPO	001	CP OUTPUT

CODES DEFINED FOR VMDEXCPO BY HCPVMDBK VMDEXVMO

371	VMDTTAB	001	TERMINAL TAB CHARACTER
372	VMDBRKKY	001	USER DEFINED BREAK-IN BY CP KEY
373		X	RESERVED FOR FUTURE IBM USE
374	VMDPFUNC	004	AN ANCHOR FOR A LIST OF 24 FULL WORD POINTERS; ONE FOR EACH OF THE 24 PF KEYS. THE POINTER POINTS TO A GSDBK CONTAINING THE INPUT THAT WAS USED TO SET THE FUNCTION OF THAT PARTICULAR PF KEY.
378		F	RESERVED FOR FUTURE IBM USE
37C		F	RESERVED FOR FUTURE IBM USE
380	VMDCOMND	008	LAST CP COMMAND EXECUTED
388		0D	
388	VMDCFCTL	001	CONSOLE FUNCTION CONTROL

BITS DEFINED IN VMDCFCTL (AT HEX DISPLACEMENT: 388)

80	VMDEXCF	INDICATES THAT CONSOLE FUNCTION EXECUTION IS IN PROGRESS. THAT IS, ONE OF THE FOLLOWING FUNCTIONS IS ACTIVE: THE STACK OF CONSOLE FUNCTION OUTPUT IS BEING DISPLAYED. THE CALL-FROM-CFM CPEBK STACK IS BEING UNSTACKED AND PROCESSED. THE COMMAND INPUT BUFFER IS BEING UNSTACKED AND COMMANDS ARE BEING PROCESSED. THIS BIT IS USED BY THE DISPATCHER TO PREVENT THE VMDBK FROM BEING DROPPED FROM THE DISPATCH LIST.
40	VMDDGCF	CONSOLE FUNCTION MODE ENTERED VIA DIAGNOSE INSTRUCTION
20	VMDCFRD	INDICATES WHEN A CONSOLE FUNCTION READ (CP READ APPEARS AT THE LOWER RIGHT HAND CORNER OF THE SCREEN) IS ACTIVE FOR A VIRTUAL CONFIGURATION. THIS IS USED TO AVOID ATTEMPTING A SUBSEQUENT CONSOLE FUNCTION READ BEFORE THE FIRST IS SATISFIED.
04	VMDSTOPD	INDICATES WHEN SET THAT A VIRTUAL CPU IS IN A HARD STOPPED STATE AS DEFINED BY 370 ARCHITECTURE. THAT IS, NO INSTRUCTIONS OR INTERRUPTIONS OTHER THAN THE RESTART INTERRUPTION MAY BE EXECUTED WHILE IN THIS STATE. THIS BIT IS USED BY CP TO DETERMINE WHICH VMDBKS MAY RUN. WHILE SET IN A VMDBK, THE VMDBK IS NOT ALLOWED TO RUN. IT IS SET WHEN HANDLING SOFT ABENDS AND

PROGRAM INTERRUPT LOOPS, SYSTEM AND CPU RESETS, AND WHEN INITIALIZING VMDBKS. IT IS RESET WHEN PROCESSING THE BEGIN, IPL AND SYSTEM RESTART COMMANDS.

02	VMDCFIDL	INDICATES THAT THE GUEST CONFIGURATION IS IN CONSOLE FUNCTION WAIT AND IS IDLE. IT IS USED TO INDICATE THAT CONSOLE INPUT BE DIRECTED TO CP.
01	VMDCFACT	INDICATES THAT THE VIRTUAL MACHINE WAS ACTIVE SINCE THE LAST CP READ. IT IS USED TO CONTROL THE DISPLAY OF THE 'CP' PROMPT BEFORE ISSUING A CP READ. IF SET, NO PROMPT IS DISPLAYED. IF NOT SET FURTHER TESTS ARE MADE TO DETERMINE IF A PROMPT IS NECESSARY.

389 VMDCFLAG 001 CONSOLE FUNCTION STATUS FLAGS

BITS DEFINED IN VMDCFLAG (AT HEX DISPLACEMENT: 389)

80	VMDLOGON	USER NOT YET LOGGED ON
40	VMDLOGOF	USER IS LOGGING OFF. THIS BIT IS SET ONCE LOG OFF PROCESSING BEGINS FOLLOWING A COMMAND REQUESTING LOGOFF OF A USER OR CPU, OR A CP DETECTED PROBLEM REQUIRING A LOGOFF.
20	VMDREST	GUEST SYSTEM RESET IN PROGRESS. THIS BIT IS USED FOR TWO PURPOSES: TO FLAG SOFTWARE EXTERNAL INTERRUPT ROUTINES THAT THEY ARE BEING CALLED DUE TO A GUEST SYSTEM RESET; AND TO FLAG THE ROUTINE THAT RESTORES THE GUEST VIRTUAL PAGE USED BY THE IPL SIMULATOR THAT IT IS BEING CALLED DUE TO A SYSTEM RESET.
10	VMDUTERM	CONSOLE FUNCTION OUTPUT IS NOT TO BE DISPLAYED TO THE DISPLAY STATION, BUT IS WRITTEN TO AND CONTROLLED BY THE VIRTUAL CONSOLE. THIS IS USED FOR TRACE OUTPUT AND CP COMMANDS ISSUED VIA THE DIAGNOSE X'08' INSTRUCTION.
04	VMDBUFWT	VALID ONLY IN THE PRIMARY VMDBK: SET FOR CONSOLE FUNCTION OUTPUT TO A USER BUFFER ADDRESS FROM A DIAGNOSE CONSOLE FUNCTION COMMAND. WHEN SET, THE FOLLOWING FIELDS IN THE PRIMARY VMDBK ARE ALSO VALID: VMDBUFVM = ADDRESS OF VMDBK VMDBUFAD = ADDRESS OF BUFFER VMDBUFLN = REMAINING LENGTH
02	VMDBUFIF	VMDBUFIF IS SET TO INDICATE THAT A GUEST PSW SWAP OCCURRED IN THE SIMULATION OF A DIAGNOSE X'08' INSTRUCTION THAT REQUESTED OUTPUT TO A BUFFER. THE PSW WAS SWAPPED TO REFLECT A PROGRAM INTERRUPTION FOR AN INSTRUCTION FETCH PER EVENT. IT IS NECESSARY TO RECORD THIS INFORMATION IN VMDBUFIF SINCE THE PROCESSING OF THE DIAGNOSE X'08' COMMANDS OCCURS AFTER THE DIAGNOSE INSTRUCTION SIMULATION HAS REACHED ENDOP AND THE PER EVENT PROGRAM INTERRUPTION IS REFLECTED. THE CONDITIN CODE FOR THE DIAGNOSE INSTRUCTION MUST BE SET BASED ON THE SUCCESS OF STORING THE COMMAND OUTPUT IN THE GUEST BUFFERS. IF THE PER INSTRUCTION FETCH IS ACTIVE, THE CONDITION CODE MUST BE SET IN THE GUEST'S PROGRAM CHECK OLD PSW, OTHERWISE IT IS SET IN THE GUEST'S CURRENT PSW.
01	VMDCFNUL	INDICATES THAT NO DATA WAS INPUT FROM THE LAST CONSOLE FUNCTION READ THAT HCPCFM ISSUED. IT IS USED TOGETHER WITH OTHER FLAGS TO CONTROL THE DISPLAY OF THE 'CP' PROMPT BEFORE ISSUING A CP READ. IF SET, A PROMPT MAY BE REQUIRED. IF NOT SET, NO PROMPT IS DISPLAYED.

38A VMDOSTAT 001 VIRTUAL MACHINE OPERATING STATUS

BITS DEFINED IN VMDOSTAT (AT HEX DISPLACEMENT: 38A)

	80	VMDSYSOP	USER IS PRIMARY SYSTEM OPERATOR
	40	VMDUSRCT	USER INCLUDED IN SYSTEM USER CT
	10	VMDFORCE	USER IS TO BE LOGGED OFF. THIS BIT IS SET WHENEVER CP DETERMINES THAT A VMDBK MUST BE LOGGED OFF. IT IS A CP REQUEST TO BEGIN LOGOFF PROCESSING FOR A VMDBK. THE REQUEST MAY BE A FORCED LOGOFF OR AT THE USER'S REQUEST VIA THE LOGOFF COMMAND.
	08	VMDUFORC	USER IS FORCED TO LOGOFF THE SYSTEM.
	04	VMDDISC	USER IS RUNNING DISCONNECTED
	02	VMDAUTOL	AUTOLOGGED USER IN DISCONNECTED MODE. THIS BIT IS SET WHEN A USER IS AUTOLOGGED ON AND REMAINS SET UNTIL THE USER ENTERS A LOGON COMMAND FROM A DISPLAY STATION TO RECONNECT.

38B	VMDCWAIT	001	CF WAIT CONTROL

BITS DEFINED IN VMDCWAIT (AT HEX DISPLACEMENT: 38B)

	80	VMDSTOP	VIRTUAL MACHINE IN STOP STATE
	40	VMDSLEEP	VIRTUAL MACHINE IS SLEEPING
	20	VMDCKST	VIRT CPU IN CHECK STOP STATE
	10	VMDDSCWT	USER IS IN 'DISCONNECTED WAIT' MODE. I/O WAS ATTEMPTED TO THE USER'S DISPLAY AND THE USER WAS DISCONNECTED, SO A TIMER IS SET TO LOG THE USER OFF IF NOT RECONNECTED WITHIN 15 MINUTES.

38C	VMDCFPND	001	CONSOLE FUNCTION IS PENDING. THIS FIELD CONTROLS THE PROCESSING OF THE CONSOLE FUNCTION TASK FOR A GUEST CONFIGURATION. ONCE THE C.F. TASK BEGINS, VMDCFPND IS SET TO ZERO TO KEEP THE C.F. TASK ACTIVE AS LONG AS THERE ARE (POSSIBLY) MORE CONSOLE FUNCTIONS TO HANDLE.
38D	VMDCFPDR	001	CONSOLE FUNCTION READ PENDING. USED IN HCPCFM TO INDICATE A CP READ REQUEST IS PENDING. A CP READ IS REQUESTED BY FIRST CALLING HCPCFMBK TO ASSIGN ZEROS TO VMDCFPDR, AND STACKING A GOTO TO HCPCFMRD TO HANDLE THE PENDING READ.
38E	VMDCFHXF	001	CONSOLE FUNCTION HALT FLAG. USED TO HALT LONG RUNNING CONSOLE FUNCTIONS (I.E. DISPLAY, DUMP) AND TO STOP ALL STACKED CONSOLE FUNCTION DISPLAY FROM BEING DISPLAYED. IT IS USED TO INTERRUPT CONSOLE FUNCTION OUTPUT WHEN THE USER ENTERS THE BRKKEY OR IS BEING FORCED TO LOGOFF.
38F	VMDCFLG2	001	CONSOLE FUNCTION STATUS FLAGS. THIS BYTE IS A LOGICAL EXTENSION OF VMDCFLAG.

BITS DEFINED IN VMDCFLG2 (AT HEX DISPLACEMENT: 38F)

	80	VMDRSTLG	THE SYSTEM-RESET-CLEAR NEEDED FOR THE LOGOFF OF ONE OR MORE VMDBKS IN THIS CONFIGURATION HAS BEEN DONE. THIS BIT IS USED ONLY BY THE VMDBK LOGOFF PROCESSES AND MAY BE MISLEADING IF INSPECTED ELSEWHERE. THIS BIT IS ONLY VALID IN A BASE VMDBK.

390	VMDCFBUF	004	THIS IS THE ANCHOR TO A STACK OF INPUT BUFFERS (GSDBKS) CONTAINING CONSOLE COMMANDS TO BE PROCESSED. THE FIRST GSDBK ON THE STACK CONTAINS THE NEXT COMMAND TO BE PROCESSED.
394	VMDCFCAL	004	QUEUE OF CPEBKS TO BE SCHEDULED UPON ENTRY TO CONSOLE FUNCTION MODE. EXECUTE BLOCKS ARE STACKED ON THIS QUEUE WHEN A FUNCTION MUST EXECUTE WITH ALL VIRTUAL CPUS IN A VIRTUAL MP CONFIGURATION HELD AT ENDOP.
398	VMDCFREQ	001	CONSOLE FUNCTION ENTRY FLAG. INDICATES WHEN A VMDBK IN THE LOCAL CYCLIC LIST HAS BEEN REQUESTED TO ENTER HCPCFM TO SUPPORT CONSOLE FUNCTION ENTRY REQUIREMENTS. A VALUE OF X'FF' INDICATES A REQUEST HAS BEEN MADE. ZEROS INDICATE NO REQUEST HAS BEEN MADE. THIS FIELD IS USED TO ENSURE THAT ALL VMDBKS IN THE LOCAL CYCLIC

			LIST ENTER HCPCFM BEFORE ANY CONSOLE FUNCTIONS ARE PROCESSED. THIS IS PART OF THE TECHNIQUE TO REQUIRE ALL VMDBKS IN THE LOCAL CYCLIC LIST TO REACH ENDOP BEFORE PROCESSING CONSOLE FUNCTIONS.
399	VMDCFDSP	001	CONSOLE FUNCTION ENDOP FLAG. THIS FIELD INDICATES WHEN A VIRTUAL MACHINE IS BEING HELD AT ENDOP FOR CONSOLE FUNCTION MODE. A VALUE OF X'FF' INDICATES THE VMDBK WAS NOT RUNNING BUT WAS AT ENDOP. ZEROS INDICATE IT WAS RUNNING. HCPCFM SETS VMDCFDSP WHENEVER IT IS STOPPING A RUNNING VMDBK TO ENTER CONSOLE FUNCTION MODE. IT RESETS VMDCFDSP BEFORE EXITING TO HCPRUNU TO START A VMDBK RUNNING.
39A		X	RESERVED FOR FUTURE IBM USE
39B		X	RESERVED FOR FUTURE IBM USE
			THE FOLLOWING FIELDS ARE VALID ONLY IN THE PRIMARY VMDBK ADDRESSED BY VMDORIG IN EACH VMDBK WITHIN A LOCAL CYCLIC LIST
39C	VMDCFCNT	004	CONSOLE FUNCTION ENDOP COUNT. A POSITIVE VALUE IN THIS FIELD INDICATES A COUNT OF RUNNING VMDBKS IN A VIRTUAL CONFIGURATION. A ZERO VALUE INDICATES AN IDLE CONFIGURATION, ALL CPUS IN THE VIRTUAL CONFIGURATION ARE AT ENDOP. A VALUE OF MINUS ONE INDICATES THAT A CONSOLE FUNCTION IS RUNNING FOR THE CONFIGURATION. THIS FIELD IS THE CONSOLE FUNCTION LOCK, USED TO SERIALIZE THE PROCESSING OF CONSOLE FUNCTIONS. ONCE HELD EXCLUSIVELY (VMDCFCNT < 0), A CONSOLE FUNCTION TASK IS RUNNING AND NO SECOND CONSOLE FUNCTION TASK MAY BEGIN.
3A0	VMDCFLKQ	004	QUEUE OF CPEBKS THAT DEFERRED WAITING FOR CONSOLE FUNCTION LOCK. THIS FIELD ONLY HAS MEANING IN THE ORIGIN VMDBK.
3A4		F	RESERVED FOR FUTURE IBM USE
3A8	VMDCFCPU	004	ASYNCHRONOUS COMMAND AND CONSOLE FUNCTION READ TARGET. THIS FIELD CONTAINS THE ADDRESS OF THE VMDBK IN A VIRTUAL MP CONFIGURATION THAT IS TO RECEIVE ALL ' (ASYNCHRONOUS COMMANDS) AND INPUT FROM A CP READ. THE USER CHANGES THE VALUE IN THIS FIELD BY ISSUING THE 'CPU NNN' COMMAND. THE VMDBK ASSOCIATED WITH THE VIRTUAL CPU WITH CPU ADDRESS NNN WILL BE ASSIGNED TO VMDCFCPU.
3AC	VMDBUFVM	004	CONTAINS THE VMDBK ADDRESS OF THE VIRTUAL CPU THAT EXECUTED THE DIAGNOSE X'08' INSTRUCTION REQURING OUTPUT TO A BUFFER.
3B0	VMDBUFAD	004	THE GUEST REAL ADDRESS FOR A BUFFER TO RECEIVE THE NEXT CONSOLE FUNCTION OUTPUT FOR COMMANDS ISSUED VIA THE DIAGNOSE X'08' INSTRUCTION. THIS FIELD IS INITIALLY SET TO THE ADDRESS PROVIDED BY THE GUEST IN THE DIAGNOSE INSTRUCTION AND IS CONTINUALLY CHANGED AS OUTPUT IS MOVED TO THE BUFFER.
3B4	VMDBUFLN	004	CONTAINS THE LENGTH REMAINING IN THE DIAGNOSE X'08' CONSOLE FUNCTION BUFFER. IT IS INITIALLY SET TO THE LENGTH OF THE BUFFER AND IS CONTINUALLY CHANGED AS CONSOLE FUNCTION OUTPUT IS MOVED TO THE BUFFER.
			END OF PRIMARY-ONLY AREA FOR CONSOLE FUNCTION CONTROLS
3B8	VMDOSTAK	004	CONSOLE FUNCTION OUTPUT STACK. THIS IS AN ANCHOR OF A STACK OF GSDBKS CONTAINING OUTPUT FROM A CONSOLE FUNCTION THAT IS DEFERRED UNTIL THE CONSOLE FUNCTION COMPLETES.
3BC	VMDCFOPT	001	CONSOLE FUNCTION OPTIONS.
3BD		X	RESERVED FOR FUTURE IBM USE
3BE		X	RESERVED FOR FUTURE IBM USE
3BF	VMDCTYPE	001	COMMAND TYPE(S) THIS USER IS AUTHORIZED TO ISSUE.

BITS DEFINED FOR VMDCTYPE BY HCPCLASS USERCLS0

3C0	VMDPCL	004	AUTHORIZED PRIVILEGE CLASSES
3C0	VMDPCLB0	001	AUTHORIZED PRIV CLASSES - BYTE 0

BITS DEFINED FOR VMDPCLB0 BY HCPCLASS USERCLS0

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3C1   VMDPCLB1   001      AUTHORIZED PRIV CLASSES - BYTE 1

        BITS DEFINED FOR VMDPCLB1 BY HCPCLASS USERCLS1

3C2   VMDPCLB2   001      AUTHORIZED PRIV CLASSES - BYTE 2

        BITS DEFINED FOR VMDPCLB2 BY HCPCLASS USERCLS2

3C3   VMDPCLB3   001      AUTHORIZED PRIV CLASSES - BYTE 3

        BITS DEFINED FOR VMDPCLB3 BY HCPCLASS USERCLS3

3C4   VMDTRQDL   004      DELAYED SLEEP OR LOGOFF TRQBK
                          POINTER.  VMDTRQDL POINTS TO THE TRQBK THAT WAS SET
                          TO EITHER TIME THE GUEST IN A SLEEP STATE FOR A
                          LIMITED PERIOD OF TIME OR TO TIME FIFTEEN MINUTES
                          BEFORE LOGGING OFF A DISCONNECTED GUEST FOLLOWING AN
                          ATTEMPTED DISPLAY I/O (TIME BOMB LOGOFF).
3C8   VMDCTPWD   001      DIAGNOSE LINK PASSWORD COUNT
3C9   VMDMLVL    001      MESSAGE RECEIVING LEVEL

        BITS DEFINED IN VMDMLVL  (AT HEX DISPLACEMENT: 3C9)

        80    VMDMSGON    CONTROLS WHETHER MESSAGES SENT
                          BY OTHER USERS ARE DISPLAYED.  (CONTROLLED BY THE
                          SET MSG OR TERMINAL MSG COMMANDS)
        40    VMDWNGON    CONTROLS WHETHER MESSAGES SENT
                          USING THE WARNING COMMAND ARE DISPLAYED.  (CONTROLLED
                          BY THE SET WNG OR TERMINAL WNG COMMANDS)
        20    VMDMCODE    CONTROLS ERROR MESSAGE DISPLAY
                          OF THE ERROR MESSAGE CODE.  (CONTROLLED BY THE SET
                          EMSG OR TERMINAL EMSG COMMANDS)
        10    VMDMTEXT    CONTROLS ERROR MESSAGE DISPLAY
                          OF THE ERROR MESSAGE TEXT.  (CONTROLLED BY THE SET
                          EMSG OR TERMINAL EMSG COMMANDS)
        08    VMDSPMSG    CONTROLS WHETHER SPECIAL
                          MESSAGES SENT BY OTHER USERS CAN BE RECEIVED.
                          (CONTROLLED BY THE SET SMSG COMMAND)
        04    VMDMIMSG    CONTROLS THE DISPLAY OF SELECTED
                          CP COMMAND INFORMATIONAL RESPONSES.  IF SET THE
                          RESPONSES ARE DISPLAYED, IF NOT THE RESPONSES WILL
                          NOT BE DISPLAYED.  (CONTROLLED BY THE SET IMSG AND
                          TERMINAL IMSG COMMANDS)

3CA   VMDMIUCV   001      'SET' COMMAND IUCV FLAGS

        BITS DEFINED IN VMDMIUCV (AT HEX DISPLACEMENT: 3CA)

        80    VMDMSGIU    INDICATES THAT MSG IS SET TO
                          ..IUCV.
        40    VMDWNGIU    INDICATES THAT WNG IS SET TO
                          ..IUCV.
        20    VMDEMSGI    INDICATES THAT EMSG IS SET TO
                          ..IUCV.
        08    VMDSMSGI    INDICATES THAT SMSG IS SET TO
                          ..IUCV.
        04    VMDIMSGI    INDICATES THAT IMSG IS SET TO
                          ..IUCV.
        02    VMDCPCOI    INDICATES THAT CPCONIO IS SET
                          ..TO IUCV.
        01    VMDVMCOI    INDICATES THAT VMCONIO IS SET
                          ..TO IUCV.

3CB   VMDMSSFL   001      MESSAGE SYSTEM SERVICE FLAGS

        BITS DEFINED IN VMDMSSFL (AT HEX DISPLACEMENT: 3CB)

        80    VMDMSSVP    INDICATES THERE IS A VALID PATH
                          ..TO THE MESSAGE SYSTEM SERVICE
                          ..(AND THAT THE FIELD VMDPTHID
                          ..IS THEREFORE VALID).
        40    VMDMSSCS    INDICATES THAT AN IUCV "CONNECT"
                          ..IS IN PROGRESS TO THE *MSG
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                                ..SYSTEM SERVICE.
        20      VMDMSAVP        INDICATES THERE IS A VALID PATH
                                ..TO THE *MSGALL SYSTEM SERVICE
                                ..(AND THAT THE FIELD VMDMAPTH
                                ..IS THEREFORE VALID).
        10      VMDMSACS        INDICATES THAT CONNECTION
                                ..PROCESSING HAS STARTED (AND
                                ..POSSIBLY COMPLETED) FOR A
                                ..PATH TO *MSGALL.

3CC     VMDPTHID    002         THE PATH ID FOR THE USERID'S
                                ..CONNECTION TO THE MESSAGE
                                ..SYSTEM SERVICE.  THIS FIELD IS
                                ..ONLY VALID WHEN THE FLAG
                                ..VMDMSSVP IS SET.
3CE     VMDMAPTH    002         THE PATH ID FOR THE *MSGALL
                                ..SYSTEM SERVICE'S CONNECTION
                                ..TO THIS USERID.  THIS FIELD
                                ..IS ONLY VALID WHEN THE FLAG
                                ..VMDMSAVP IS SET.
3D0                 H           RESERVED FOR FUTURE IBM USE
3D2     VMDCTRAU    002         COUNT OF AUTOLOG COMMANDS THAT
                                REJECT BECAUSE OF INCORRECT
                                PASSWORDS. VALID ONLY IN ORIGIN
                                VMDBK. SERIALIZATION: CONSOLE
                                FUNCTION MODE. SHOULD NOT BE
                                CHANGED OVER A SYSTEM INCIDENT.
3D4     VMDTREXT    004         ADDRESS OF EXTENDED TRACE BLOCK

                        EQUATES

        D7      VMDTREX3        OVLY FOR TEST OF LOW-ORDER BYTE

3D8     VMDVCSAV    004         R13 AT LAST SAVEAREA CALL/RETURN
3DC                 F           RESERVED FOR FUTURE IBM USE
                                THIS AREA CAN BE USED TO SET A LOCAL TRAP WHICH IS
                                ACTIVE ONLY FOR AN INDIVIDUAL USER.  THE TRAP WOULD
                                BE ACTIVATED BY 'BAL  R14,VMDEBUG1'.  USERS FOR WHICH
                                THE TRAP DO NOT APPLY WOULD CONTAIN 'BR  R14' IN THE
                                DEBUG AREA.  THE USER FOR WHICH THE TRAP IS TO BE
                                EFFECTIVE WOULD HAVE A BRANCH INSTRUCTION REPLACING
                                THE 'BR  R14', WHICH WOULD BRANCH TO THE TRAP CODE.
                                THE TRAP CODE WOULD LATER RETURN ON R14.
                                THE FOLLOWING EIGHT HALFWORDS MUST EACH BE INITIALIZED TO
                                BR    R14
3E0     VMDEBUG1    002         RESERVED FOR PATCHING, DEBUGGING
3E4     VMDEBUG2    002         RESERVED FOR PATCHING, DEBUGGING
3E8     VMDEBUG3    002         RESERVED FOR PATCHING, DEBUGGING
3EC     VMDEBUG4    002         RESERVED FOR PATCHING, DEBUGGING
                                THE ABOVE EIGHT HALFWORDS MUST EACH BE INITIALIZED TO
                                BR    R14
3F0     VMDEBUG5    004         RESERVED FOR PATCHING, DEBUGGING
3F4     VMDEBUG6    004         RESERVED FOR PATCHING, DEBUGGING
3F8     VMDEBUG7    004         RESERVED FOR PATCHING, DEBUGGING
3FC     VMDEBUG8    004         RESERVED FOR PATCHING, DEBUGGING
400     VMDIPLNM    008         DEVICE NUMBER IN EBCDIC OR NAMED
                                SAVED SYSTEM (NSS) NAME FROM THE LAST IPL. IF
                                VMDIPDEV IS SET THIS IS THE FOUR-DIGIT IPL DEVICE
                                NUMBER LEFT JUSTIFIED; OTHERWISE, THIS IS THE NSS
                                NAME LEFT JUSTIFIED AND PADDED WITH BLANKS.
408     VMDICCPV    004         DASD ADDRESS OF THE SAVED GUEST
                                PAGE THAT IS BEING USED FOR THE IPL SIMULATOR FOR A
                                PAGEABLE GUEST.
40C     VMDIADDR    004         GUEST REAL ADDRESS OF IPL
                                SIMULATOR WITHIN GUEST STORAGE.
410     VMDIPLST    001         GUEST IPL FLAGS AND STATUS

        BITS DEFINED IN VMDIPLST (AT HEX DISPLACEMENT: 410)

        08      VMDFIPSV        INDICATES THAT THE IPL SIMULATOR
                                CURRENTLY RESIDES IN A PAGE OF GUEST STORAGE.  THE
                                GUEST PAGE HAS BEEN SAVED BY CP DURING THE IPL.
        04      VMDIPDEV        INDICATES THAT THE LAST IPL WAS
                                DONE BY DEVICE NUMBER
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411   VMDIPLKY   001      PRESERVES THE STORAGE KEY FROM
                          THE GUEST PAGE USED FOR THE IPL SIMULATOR DURING A
                          GUEST IPL.
412              H        RESERVED FOR FUTURE IBM USE
414   VMDIVPAG   004      IPL SIMULATOR HOST VIRTUAL
                          ADDRESS OF V=R GUEST PAGE
                          SAVED WHILE IPL IS IN PROGRESS
418   VMDIPGST   004      SAVED IPL PAGE STATUS INFO.
                          SAVED IPL PAGE STATUS INFORMATION IS USED TO RESTORE
                          THE GUEST SAVED IPL PAGE FOLLOWING THE COMPLETION OF
                          THE IPL SIMULATOR.  THE USE OF THE PAGE BY THE IPL
                          SIMULATOR SHOULD NOT CHANGE ANY DATA IN THE PAGE
                          OR THE STATUS OF THE PAGE UNLESS REQUESTED BY THE
                          BY THE GUEST USING THE CLEAR OPTION ON THE IPL COMMAND.
41C              F        RESERVED FOR FUTURE IBM USE
420   VMDLDPRM   008      IPL LOAD PARAMETER.  (THIS FIELD
                          IS ONLY VALID IN A BASE VMDBK).
428   VMDPROBK   004      POINTER TO USER'S PROTECT BLOCK
42C   VMDIPLCM   004      POINTER TO LAST IPL COMMAND
430   VMDSYNCH   004      CPEBK POINTER INDICATING A
                          SYNCHRONOUS AUTOLOG COMMAND IS
                          WAITING FOR COMPLETION OF LOGON
                          AND IPL PROCESSING ON THIS TARGET
                          VMDBK.
434              H        RESERVED FOR IBM USE
436              X        RESERVED FOR IBM USE
437   VMDPROFL   001      PROTECTED APPLICATION FLAGS

        BITS DEFINED IN VMDPROFL (AT HEX DISPLACEMENT: 437)

        80     VMDPROAP    PROT. APPL. ENVIRONMENT ACTIVE

438              D        RESERVED FOR FUTURE IBM USE
440   VMDLMSG    008      USERID FROM WHOM THE FORCED
                          LOGOFF WAS ISSUED, EITHER ANOTHER USER OR THE SYSTEM.
448   VMDFIDTE   004      FILEID TABLE ENTRY. RESIDES IN
                          SYSTEM VIRTUAL ADDRESS SPACE.
                          VALID ONLY IN BASE.
44C   VMDPGSPL   004      TOTAL NUMBER OF PAGES SPOOLED
                          FOR THIS USER. INCLUDES PAGES
                          SPOOLED FOR VIRTUAL RDR, PRT,
                          PUN, CONS, DUMP AND TRACE FILES.
450              F        RESERVED FOR FUTURE IBM USE
454              F        RESERVED FOR FUTURE IBM USE
458   VMDVSRCA   004      VIRTUAL START REQUEST COUNTER
                          ARRAY USED TO COUNT NUMBER OF VIRTUAL START REQUESTS
                          FOR A GIVEN DEVICE.

                     EQUATES

        00     VMDOFCON    OFFSET TO CONSOLE I/O COUNT

458   VMDVCSCT   004      COUNT OF START REQUESTS TO THE
                          VIRTUAL MACHINE CONSOLE.

                     EQUATES

        04     VMDOFDAS    OFFSET TO DASD I/O COUNT

45C   VMDVDSCT   004      COUNT OF VIRTUAL I/O REQUESTS
                          THE VIRTUAL MACHINE HAS ISSUED
                          TO DASD DEVICES.

                     EQUATES

        08     VMDOFOTH    OFFSET TO OTHER I/O COUNT

460   VMDVOSCT   004      COUNT OF START REQUESTS TO
                          DEVICES NOT DEFINED IN ARRAY.

                     EQUATES

        0C     VMDOFCTC    OFFSET TO CTCA I/O COUNT
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464	VMDVTSCT	004	COUNT OF START REQUESTS TO VIRTUAL CTCAS.

EQUATES

10	VMDOFUR	OFFSET TO UNIT RECORD I/O COUNT

468	VMDVUSCT	004	COUNT OF START REQUESTS TO VIRTUAL UNIT RECORD DEVICES.
46C		F	RESERVED FOR FUTURE IBM USE
470		D	RESERVED FOR FUTURE IBM USE
478		D	RESERVED FOR FUTURE IBM USE
480		D	RESERVED FOR FUTURE IBM USE
488	VMDVFVTM	008	VECTOR FACILITY VIRTUAL TIME
490	VMDVFOTM	008	VECTOR FACILITY CP OVERHEAD TIME
498	VMDCTVFL	004	COUNT OF VECTOR FACILITY LOAD OPERATIONS
49C	VMDPAGZP	004	GUEST PAGE ZERO HOST REAL ADDR, IF THE FIELD IS NON-ZERO. THIS FIELD IS NOT MAINTAINED FOR A VMDBK WHILE IN CONSOLE FUNCTION MODE.
4A0	VMDSHRPT	004	POINTER TO THE USER'S SHRBK CHAIN
4A4		F	RESERVED FOR FUTURE IBM USE
4A8		F	RESERVED FOR FUTURE IBM USE
4AC		F	RESERVED FOR FUTURE IBM USE
4B0	VMDUSER1	004	RESERVED FOR INSTALLATION USE
4B4	VMDUSER2	004	RESERVED FOR INSTALLATION USE
4B8	VMDUSER3	004	RESERVED FOR INSTALLATION USE
4BC	VMDUSER4	004	RESERVED FOR INSTALLATION USE
4C0	VMDUSER5	004	RESERVED FOR INSTALLATION USE
4C4	VMDUSER6	004	RESERVED FOR INSTALLATION USE
4C8	VMDUSER7	004	RESERVED FOR INSTALLATION USE
4CC	VMDUSER8	004	RESERVED FOR INSTALLATION USE
4D0		F	RESERVED FOR FUTURE IBM USE
4D4	VMDPAGCT	004	INTERVAL PAGE I/O COUNT
4D8		F	RESERVED FOR FUTURE IBM USE
4DC	VMDXSTOR	004	THE NUMBER OF PAGES IN THE EXPANDED STORAGE FACILITY.
4E0		X	RESERVED FOR FUTURE IBM USE
4E1	VMDPGFLG	001	PAGING CONTROL FLAGS

BITS DEFINED IN VMDPGFLG (AT HEX DISPLACEMENT: 4E1)

10	VMDPWQD	TASKS WAITING FOR PAGE WAIT EXIT
01	VMDPZUNV	GUEST PAGE ZERO IS UNAVAILABLE

4E2		X	RESERVED FOR FUTURE IBM USE
4E3	VMDSECF	001	SECONDARY USER'S FUNCTIONALITY

BITS DEFINED IN VMDSECF (AT HEX DISPLACEMENT: 4E3)

02	VMDSECFP	USER WAS DEFINED AS A SECONDARY USER BY PRIMARY USER
01	VMDSECFY	USER'S FUNCTIONALITY AS A SECONDARY USER

4E4	VMDSECA	004	SECONDARY USER'S ADDRESS
4E8	VMDCPRDP	004	POINTER TO SCIF SECONDARY CP READ REQUEST AWAITING INPUT BY SECONDARY USER.
4EC	VMDVMRDP	004	POINTER TO SCIF SECONDARY VM READ REQUEST AWAITING INPUT BY SECONDARY USER.
4F0	VMDSECU	008	USERID OF THE SECONDARY USER. SCIF (SINGLE CONSOLE IMAGE FACILITY) ALLOWS A SECONDARY USER TO PROVIDE CONSOLE SERVICES FOR A DISCONNECTED USER.
4F8		F	RESERVED FOR FUTURE IBM USE
4FC		F	RESERVED FOR FUTURE IBM USE
500	VMDQFPNT	004	DISPATCH LIST FORWARD POINTER
504	VMDQBPNT	004	DISPATCH LIST BACKWARD POINTER

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                                THESE POINTERS ALSO USED IN ELIGIBLE, DORMANT LISTS
508                 X           RESERVED FOR FUTURE IBM USE
509   VMDRSTAT      001         RUNNING BLOCKAGE STATUS.  THIS
                                FIELD CONTAINS FLAGS THAT PREVENT A DISPATCHED VMDBK
                                FROM BEING RUN.

      BITS DEFINED IN VMDRSTAT (AT HEX DISPLACEMENT: 509)

      40      VMDCFWT           THE VMDBK IS IN CONSOLE FUNCTION
                                WAIT.  EITHER A CONSOLE FUNCTION IS ACTIVE, OR THE
                                VIRTUAL MACHINE IS WAITING FOR THE REMAINING VMDBKS IN
                                THE CONFIGURATION TO ENTER CONSOLE FUNCTION MODE.
                                IN EITHER CASE, UNTIL ALL PENDING CONSOLE FUNCTIONS
                                ARE SATISFIED FOR THE VIRTUAL CONFIGURATION, THIS BIT
                                WILL REMAIN SET.  THE DISPATCHER ON FINDING THIS BIT
                                SET WILL NOT RUN A DISPATCHED VMDBK.
      20      VMDSIMWT          PERFORMING GUEST SIMULATION.
                                THIS BIT IS SET WHEN CP IS SIMULATING SOME HARDWARE
                                FUNCTION FOR THE GUEST (INSTRUCTIONS, INTERRUPTS,
                                TIMER UPDATES).  WHEN IN SIMULATION THE DISPATCHER
                                PREVENTS THE VIRTUAL MACHINE FROM RUNNING TO AVOID
                                POTENTIAL CONFLICTS WITH THE SIMULATION.
      10      VMDIOWT           INSTRUCTION WAITING FOR I/O
                                STATUS FOR COMPLETION.
                                (MAY BE CANCELLED WITHOUT
                                LOSS OF SYSTEM INTEGRITY.)

50A   VMDSLIST      001         SCHEDULING LIST DEFINITION

      CODES DEFINED IN VMDSLIST (AT HEX DISPLACEMENT: 50A)

      37      VMDDISPL          USER IS IN THE DISPATCH LIST
      21      VMDELIG           USER IS IN THE ELIGIBLE LIST
      0B      VMDDORM           USER IS IN THE DORMANT LIST
      00      VMDDNULL          VIRTUAL MACHINE IS NOT IN A LIST

50B   VMDDLCTL      001         DISPATCH LIST CONTROLS

      BITS DEFINED IN VMDDLCTL (AT HEX DISPLACEMENT: 50B)

      80      VMDESEND          ELAPSED TIME SLICE EXCEEDED
      40      VMDDSEND          DISPATCH TIME SLICE EXCEEDED
      20      VMDVSEND          VOLUNTARY TIME SLICE END
      10      VMDVLOPR          VOLUNTARY DISPATCH PRIORITY DROP
                                TO DROP BEHIND LOWEST VMDBK IN
                                THE DISPATCH LIST
      08      VMDIDROP          USER SHOULD BE DROPPED FROM
                                THE DISPATCH LIST IMMEDIATELY
      04      VMDLOVMP          VIRTUAL MP VOLUNTARY DROP
                                OF DISPATCH PRIORITY BEHIND
                                LOWEST VIRTUAL MP CPU IN THE
                                DISPATCH LIST
      02      VMDREORD          VMDBK IS TO BE REORDERED IN THE
                                DISPATCH LIST
      01      VMDRSCEL          VMDBK EXCEEDED LIMITS OF A
                                ..CONTROLLED RESOURCE.  VMDDLCTX
                                ..IDENTIFIES THE RESOURCE.
      FF      VMDSTKDL          ANY BIT REQUIRES HCPSTKDL CALL

50C   VMDSTATE      001         SCHEDULER/DISPATCHER STATE
                                IDENTIFICATION

      CODES DEFINED IN VMDSTATE (AT HEX DISPLACEMENT: 50C)

      63      VMDRVSPN          REVIEW SUSPENDED.  VMDBK SHOULD
                                BE CHANGED TO SUSPENDED STATE IF
                                THE C/S WORK BITS ARE ZERO,
                                ELSE BACK TO READY.
                                (CODE MUST BE MORE THAN VMDISPCH.)
                                (VMDISPCH IS ALSO IMPLIED.)
      58      VMDRVIDL          REVIEW IDLE.  VMDBK SHOULD BE
                                CHANGED TO TEST-IDLE STATE IF THE
                                C/S WORK BITS ARE ZERO,
                                ELSE BACK TO READY.
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                                (CODE MUST BE MORE THAN VMDISPCH.)
                                (VMDISPCH IS ALSO IMPLIED.)
          4D      VMDISPCH      VMDBK HAS BEEN SELECTED BY THE
                                DISPATCHER.  THIS CODE IS ALSO
                                THE LOGICAL VMDBK DISPATCH LOCK.
          42      VMDREADY      VMDBK IS READY FOR SELECTION BY
                                THE DISPATCHER WHEN THE VMDBK
                                IS IN THE DISPATCH LIST
          37      VMDTIDLE      TEST-IDLE.
                                VMDBK IS READY FOR SELECTION BY
                                THE DISPATCHER BUT SHOULD BE
                                DROPPED FROM THE DISPATCH LIST
                                WHEN NEXT SELECTED.
          2C      VMDSUSPN      VMDBK IS SUSPENDED, WAITING FOR
                                A (PROBABLY) SHORT-TERM EVENT
                                TO OCCUR.
          00      VMDIDLE       VMDBK IS IDLE, NO WORK AVAILABLE

50D                 X           RESERVED FOR FUTURE IBM USE
50E                 X           RESERVED FOR FUTURE IBM USE
50F     VMDDWFLG    001         WORK DISPATCHING CONTROL FLAGS

          BITS DEFINED IN VMDDWFLG (AT HEX DISPLACEMENT: 50F)

          08      VMDDWACO      VMDBK IS TO BE DISPATCHED ON
                                AFFINITY CPU ONLY
          04      VMDDWMCT      VMDBK NEEDS TO BE TRANSFERRED TO
                                THE MASTER CPU
          02      VMDDWMCO      VMDBK IS TO BE DISPATCHED ON
                                THE MASTER CPU ONLY

510     VMDQURCP    004         URGENT CPEBK PUSH-THRU STACK
514     VMDQIORF    004         IORBK/TRQBK PUSH-THRU STACK
518     VMDQCPEF    004         CPEBK PUSH-THRU STACK
51C     VMDDFRWK    004         DEFERED WORK COUNTER
520     VMDWRKCS    004         COMPARE-AND-SWAP WORK BITS FIELD
                                WHEN ACCESSED AS A FULL-WORD.
                                ALL CHANGES TO THIS WORD MUST
                                USE COMPARE-AND-SWAP LOGIC.
                                (FIELD USED BY DSP/STK/DSW ONLY)
                                (FOLLOWING 4 BYTES CONSTITUTE THE
                                CONTENTS OF THIS FULL-WORD)
520     VMDWRKCD    001         DISPATCHING/SCHEDULING WORK
                                (BITS USED BY DSP/STK/DSW ONLY)

          BITS DEFINED IN VMDWRKCD (AT HEX DISPLACEMENT: 520)

          80      VMDWKETS      ELAPSED TIME-SLICE END PENDING
          40      VMDWKHIP      HI-PRIORITY SCHEDULING REQUEST
          20      VMDWKMCO      MASTER CPU ONLY DISPATCH REQUIRED
          10      VMDWKGRL      VMDBK EXCEEDED WSS GROWTH LIMIT
          08      VMDWKPRM      VMDBK REQUIRES PRE-EMPTION FROM
                                ..DISPATCH LIST
          04      VMDWKCPX      VIRTUAL MP COMPLEX DROPPED. (USED
                                ..ONLY IN VIRTUAL MP ADJUNCTS)

521     VMDWRKCK    001         EXECUTION-BLOCK STACK STATUS
                                (BITS USED BY DSP/STK/DSW ONLY)

          BITS DEFINED IN VMDWRKCK (AT HEX DISPLACEMENT: 521)

          80      VMDWKUCP      URGENT CPEBK STACKED
          40      VMDWKIOR      IORBK/TRQBK STACKED
          20      VMDWKCPE      CPEBK STACKED
          08      VMDWKCPF      CPEBK STACKED FOR CONSOLE FUNCTION

522     VMDWRKCL    001         RESERVED FOR FUTURE IBM USE
                                (CORRESPONDS TO LOCAL-ONLY WORK
                                BITS IN VMDWRKLC)
523     VMDWRKCB    001         STACKED WORK CONTROL BITS (USED
                                BY DSP/STK/DSW/PRG/TSA ONLY)

          BITS DEFINED IN VMDWRKCB (AT HEX DISPLACEMENT: 523)
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        80      VMDWKCFM    ENTER HCPCFM FOR CONSOLE FUNCTION
        40      VMDWKTST    ENTER HCPTSMRG FOR TRACE TABLE
                            SAVE (SYSTEM VMDBK ONLY)
        08      VMDWKMNI    MONITOR IUCV: INITIATE EVENT IUCV
                            SENDS FOR MONITOR DATA WHEN A
                            DIRECT CALL IS NOT POSSIBLE OR
                            WANTED.  (SYSTEM VMDBK ONLY)
        04      VMDWKMNX    MONITOR IUCV: INITIATE FRAME
                            REPLENISHMENT FOR THE MONITOR
                            UNUSED FRAME LIST WHEN A DIRECT
                            CALL IS NOT POSSIBLE OR WANTED.
                            (SYSTEM VMDBK ONLY)
        02      VMDWKSCI    REQUEST XA SUBCHANNEL I/O
                            INTERRUPT SCAN AND RUN
        01      VMDWKXCL    REQUEST AN INTERRUPT SCAN TO
                            ..REFLECT A PENDING EXTERNAL CALL
                            ..INTERRUPT.

524   VMDWRKLC    004       LOCAL WORK BITS
                            (FOLLOWING 4 BYTES CONSTITUTE THE
                            CONTENTS OF THIS FULL-WORD)
                            (NO COMPARE-AND-SWAP CAN BE USED.)
524   VMDWRKLD    001       DISPATCHING/SCHEDULING WORK
                            (BITS USED BY DSP/STK/DSW ONLY)

        BITS DEFINED FOR VMDWRKLD BY HCPVMDBK VMDWRKCD

525   VMDWRKLK    001       EXECUTION-BLOCK STACK STATUS

        BITS DEFINED FOR VMDWRKLK BY HCPVMDBK VMDWRKCK

526   VMDWRKLL    001       LOCAL-ONLY WORK BITS

        BITS DEFINED IN VMDWRKLL (AT HEX DISPLACEMENT: 526)

        80      VMDWKPIN    INDICATES A SIE INTERCEPTION WAS
                            PENDING WHEN SIE WAS INTERRUPTED.
        10      VMDWKRUN    INDICATES THAT WHEN DISPATCHED,
                            HCPRUNU MAY BE ENTERED FOR THIS VMDBK TO RUN THE
                            VIRTUAL MACHINE, TAKE A GUEST INTERRUPTION, ENTER
                            CONSOLE FUNCTION MODE, OR PERFORM OTHER GUEST CPU
                            ACTIVITY.

527   VMDWRKLB    001       STACKED WORK CONTROL BITS
                            FEATURE AFFINITY MASKS:

        BITS DEFINED FOR VMDWRKLB BY HCPVMDBK VMDWRKCB

528   VMDRPFTR    004       REQUIRED PROCESSOR FEATURE MASK
52C   VMDLPFTR    004       LOADED PROCESSOR FEATURE MASK
530   VMDDEDCP    004       DEDICATED HOST CPU LOGICAL CPU
                            IDENTIFIER MASK (NONE IF ZERO)
534   VMDDEDCA    002       CPU ADDRESS OF DEDICATED CPU
                            IF VMDDEDCP FIELD IS NON-ZERO
536   VMDDEDFG    001       DEDICATION FLAGS

        BITS DEFINED IN VMDDEDFG (AT HEX DISPLACEMENT: 536)

        80      VMDUNDED    AN EXPLICIT 'UNDEDICATE' COMMAND
                            ..HAS BEEN ISSUED FOR THIS
                            ..VMDBK.

537               X         RESERVED FOR FUTURE IBM USE
538   VMDAPLDV    004       ACTUAL PROCESSOR LOCAL DISPATCH
                            ..VECTOR.
                            FOR EACH VMDBK IN A PROCESSOR LOCAL DISPATCH VECTOR,
                            INDICATES THE ADDRESS OF THE DISPATCH VECTOR THAT THE
                            VMDBK IS CURRENTLY IN.  FOR USERS WHO AREN'T CURRENTLY IN
                            A DISPATCH VECTOR, THE CONTENTS OF THIS FIELD ARE ZEROS.
                            THIS FIELD IS SERIALIZED BY THE SCHEDULER LOCK, AND SHOULD
                            BE SET TO ZERO OVER A SYSTEM TERMINATION FOR GUEST SURVIVAL.
53C   VMDHPLDV    002       HOME PROCESSOR LOCAL DISPATCH
                            ..VECTOR
                            FOR EACH VMDBK IN THE SYSTEM, INDICATES THE PFXINDEX*2**5
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OF THE PROCESSOR TO WHICH THIS VMDBK CURRENTLY HAS SOFT AFFINITY. IT IS A DISPLACEMENT INTO THE LIST OF PROCESSOR LOCAL DISPATCH VECTORS OF THE VECTOR THIS USER SHOULD BE KEPT IN. THIS FIELD IS MEANINGFUL EVEN FOR USERS WHO AREN'T CURRENTLY ACTIVE OR IN THE DISPATCH LIST TO INDICATE WHAT DISPATCH VECTOR THEY SHOULD BE PUT IN WHEN THEY BECOME "READY", OR ARE ADDED TO THE DISPATCH LIST. IT IS NOT NECESSARILY THE DISPATCH VECTOR THE VMDBK IS CURRENTLY IN (SEE THE VMDAPLDV FIELD), IT'S THE ONE IT WOULD PREFER TO BE IN. THIS FIELD IS SERIALIZED BY THE SCHEDULER LOCK, AND DOES NOT NEED TO BE CHANGED OVER A SYSTEM TERMINATION FOR GUEST SURVIVAL.

EQUATES

	05 VMDHDVSH		NUMBER OF BITS A PFXINDEX VALUE ..MUST BE SHIFTED LEFT TO BECOME ..A VMDHPLDV VALUE.
53E	VMDTIDCT	001	CURRENT VALUE OF TEST-IDLE ..TOLERANCE OR ZERO IF TEST-IDLE ..PROCESSING IS NOT TO BE USED ..FOR THIS VMDBK. THIS FIELD IS USED BY TEST-IDLE PROCESSING. IT IS SERIALIZED BY THE SCHEDULER LOCK, AND DOES NOT NEED TO BE CHANGED OVER A SYSTEM TERMINATION FOR GUEST SURVIVAL.
53F		X	RESERVED FOR FUTURE IBM USE
540	VMDCPUDS	002	HOST CPU ADDRESS ON WHICH USER WAS LAST DISPATCHED
542	VMDLPLDV	002	LOADED PROCESSOR LOCAL DISPATCH ..VECTOR FOR EACH VMDBK IN THE SYSTEM, VMDLPLDV IS THE PFXINDEX*2**5 (LIKE VMDHPLDV) OF THE PROCESSOR ON WHICH THIS VMDBK CURRENTLY HAS FEATURES LOADED. IT IS MEANINGFUL ONLY WHEN VMDLPFTR IS NON-ZERO. WHENEVER THE GUEST REQUIRES AFFINITY TO ANY LOADED FEATURE (I.E. (VMDRPFTR & VMDLPFTR) ¬= 0), IT MUST BE RUN ON THIS PROCESSOR.
544		H	RESERVED FOR FUTURE IBM USE
546		H	RESERVED FOR FUTURE IBM USE
548	VMDTSLIC	008	DISPATCH (MINOR) TIME SLICE
550	VMDTTIME	008	SESSION TOTAL CPU TIME USED
558	VMDVTIME	008	SESSION VIRTUAL CPU TIME USED
560	VMDSUSCK	008	TOD CLOCK WHEN USER WAS MARKED SUSPENDED
568		FL8S12	RESERVED FOR FUTURE IBM USE
570	VMDDPRTY	008	DISPATCH LIST SORTING PRIORITY
578		D	RESERVED FOR FUTURE IBM USE
580	VMDMONDA	004	MONITOR STATUS FIELDS. CS LOGIC WILL BE USED ON THIS FULLWORD.
580		X	RESERVED FOR FUTURE IBM USE
581		X	RESERVED FOR FUTURE IBM USE
582		X	RESERVED FOR FUTURE IBM USE
583	VMDMONST	001	MONITORING STATUS

BITS DEFINED IN VMDMONST (AT HEX DISPLACEMENT: 583)

80	VMDMONEU	USER MONITORED FOR EVENTS
40	VMDMONSD	USER NOT BEING MONITORED FOR SAMPLE COLLECTION
20	VMDMONEC	USER MONITORED FOR SCHEDULER EVENTS
10	VMDMONTV	LAST TRANSACTION BY THIS USER WAS TRIVIAL

584		F	RESERVED FOR FUTURE IBM USE
588	VMDHFDAT	004	POINTER TO HIGH FREQUENCY DATA - HCPHFUBK. SERIALIZED BY VMDHFLCK
58C	VMDHFLCK	004	LOCK FOR VMDHFDAT
590	VMDQ1SUM	004	MONITOR TRANSACTION-END DATA: SUM OF Q1 EVENTS
594	VMDQSUMS	004	MONITOR TRANSACTION-END DATA: SUM OF Q0, Q2, AND Q3 EVENTS
598		D	RESERVED FOR FUTURE IBM USE
5A0		D	RESERVED FOR FUTURE IBM USE

5A8		D	RESERVED FOR FUTURE IBM USE
5B0		D	RESERVED FOR FUTURE IBM USE
5B8		D	RESERVED FOR FUTURE IBM USE
5C0		F	RESERVED FOR FUTURE IBM USE
5C4		F	RESERVED FOR FUTURE IBM USE
5C8		D	RESERVED FOR FUTURE IBM USE
5D0		D	RESERVED FOR FUTURE IBM USE
5D8		X	RESERVED FOR FUTURE IBM USE
5D9		X	RESERVED FOR FUTURE IBM USE
5DA		X	RESERVED FOR FUTURE IBM USE
5DB		X	RESERVED FOR FUTURE IBM USE
5DC		X	RESERVED FOR FUTURE IBM USE
5DD		X	RESERVED FOR FUTURE IBM USE
5DE		X	RESERVED FOR FUTURE IBM USE
5DF		X	RESERVED FOR FUTURE IBM USE
5E0		D	RESERVED FOR FUTURE IBM USE
5E8		D	RESERVED FOR FUTURE IBM USE
5F0		D	RESERVED FOR FUTURE IBM USE
5F8		D	RESERVED FOR FUTURE IBM USE
600	VMDCYCLE	004	CYCLIC LIST OF LOGGED ON USERS
604	VMDLCYCL	004	USER-LOCAL CYCLIC LIST
608	VMDORIG	004	THE ORIGINATING VMDBK. THIS IS THE ADDRESS OF THE SINGLE VMDBK ESTABLISHED AT LOGON. VIRTUAL MP VMDBKS ARE DEFINED FROM THE ORIGINATING VMDBK. ALL VMDBKS IN THE LOCAL CYCLIC LIST WILL USE THIS FIELD TO ADDRESS THE ORIGINATING VMDBK OF THE LOCAL CONFIGURATION.
60C	VMDBASE	004	THE ADDRESS OF THE VMDBK OWNING THE STORAGE AND I/O CONFIGURATION FOR THE VIRTUAL MP CONFIGURATION. VMDBASE IS EQUAL TO THIS VMDBK ADDRESS EXCEPT WHEN THE VMDTYPE OF THIS VMDBK IS VMDTYPMP.
610	VMDCYCLH	004	VMDBK CYCLIC LIST HOLD STATE: LOCK VALUE IS THE NUMBER OF REQUESTS FOR THIS PROTOTYPE VMDBK TO REMAIN IN THE GLOBAL CYCLIC LIST (SHARED HOLDS), OR NEGATIVE ONE (EXCLUSIVE HOLD). THE VMDBK MAY NOT BE RELEASED FROM THE GLOBAL CYCLIC LIST UNTIL THIS FIELD IS ZERO.
614	VMDTTABK	004	POINTER TO TTABK (TRACE INSTR. CODES IN EFFECT FOR THIS VMDBK)
618	VMDVSIVM	004	POINTER BETWEEN RGUEST AND V/SIE VMDBK (BIDIRECTIONAL).
61C		F	RESERVED FOR FUTURE IBM USE
620	VMDADJL	004	LINKED LIST OF ADJUNCT VMDBKS BASED OFF OF SRMADJL, AND SERIALIZED WITH HCPLKADJ, THE ADJUNCT LIST LOCK.
624		F	RESERVED FOR FUTURE IBM USE
628		F	RESERVED FOR FUTURE IBM USE
62C		F	RESERVED FOR FUTURE IBM USE
630		F	RESERVED FOR FUTURE IBM USE
634		F	RESERVED FOR FUTURE IBM USE
638	VMDRVMBK	008	RSM VMDBK/SNTBK MAP
638	VMDPSTO	004	SEGMENT TABLE ORIGIN
638		3X	
63B	VMDPSTO3	001	RIGHTMOST 7 BITS ARE THE SEGMENT TABLE LENGTH (IN UNITS OF 64 BYTE BLOCKS, MINUS 1)

BITS DEFINED IN VMDPSTO3 (AT HEX DISPLACEMENT: 63B)

01	VMDSTO01	2 64-BYTE BLOCKS (TO ADDRESS 32M)
3F	VMDSTO3F	64 64-BYTE BLOCKS (TO ADDRESS 1024M (VM ONLY USES 999M))

63C	VMDSTOSZ	001	SEGMENT TABLE SIZE INDEX

CODES DEFINED IN VMDSTOSZ (AT HEX DISPLACEMENT: 63C)

00	VMDSTO32	SEGMENT TABLE SIZE = 32MEG

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                                IF STORAGE KEY ASSIST IS AVAILABLE,
                                MAXIMUM GUEST ADDRESS = 32 MEG
                                IF STORAGE KEY ASSIST IS NOT AVAILABLE,
                                MAXIMUM GUEST ADDRESS = 31 MEG
        04      VMDSTO1G        SEGMENT TABLE SIZE = 1GIG
                                MAXIMUM GUEST ADDRESS = 999 MEG
        08      VMDSTO2G        SEGMENT TABLE SIZE = 2GIG
                                MAXIMUM GUEST ADDRESS = 1999 MEG

63D                 3X          RESERVED FOR FUTURE IBM USE
640     VMDUFOLK    008         USER FRAME OWNED LIST SPIN LOCK
                                ALL DATA ASSOCIATED WITH THE
                                USER FRAME OWNED LIST CAN ONLY
                                BE UPDATED BY HOLDING THIS LOCK.
                                VMDCTFAC IS PART OF THAT DATA.
658     VMDRCPLK    008         RCP PRESERVATION DATA LOCK
670     VMDOLDXS    002         TIME STAMP OF THE OLDEST
                                EXPANDED STORAGE BLOCK ASSIGNED BY CP TO THIS VMDBK.
                                IDENTIFIES VIRTUAL MACHINES WITH RECLAIMABLE
                                EXPANDED STORAGE BLOCKS.
672     VMDWRKXS    002         OLDEST XSTORE BLOCK ENCOUNTERED
                                BY AN ACTIVE MIGRATE TASK.
674                 F           RESERVED FOR FUTURE IBM USE
678     VMDCTFAC    004         CUMULATIVE COUNT OF FRAMES
                                ..ACQUIRED.  (DEFINED IN THE
                                ..BASE VMDBK ONLY.)
                                ..UPDATING IS SERIALIZED BY THE
                                ..USER-FRAME-OWNED-LIST LOCK
                                ..(VMDUFOLK).  FETCHING IS VIA
                                ..ATOMIC INSTRUCTIONS.
67C     VMDCTPFD    004         CUMULATIVE COUNT OF PAGE FAULTS
                                WHICH RESULT IN A READ FROM DASD, EITHER MULTI-PAGE
                                OR SINGLE-PAGE READ. VALID IN BASE VMDBK.
680     VMDPTRSH    004         CUMULATIVE COUNT OF PAGE
                                TRANSLATIONS FOR SHARED PAGES.
684     VMDFLREO    004         CUMULATIVE COUNT OF FRAME LIST
                                REORDERS FOR THIS VIRTUAL SYSTEM OR SHARED LIST OF
                                FRAMES.
688     VMDPTIL     004         PAGE TABLE INVALIDATION LOCK
                                THIS WORD IS USED IN THE BASE VMDBK TO SERIALIZE PAGE
                                TABLE INVALIDATION.  IT INDICATES TO THE ALR TASKS
                                WHETHER AN IPTE INSTRUCTION IS NECESSARY TO INVALIDATE
                                A PAGE TABLE ENTRY.  IT INDICATES TO THE DISPATCHER
                                NOT TO RUN A VIRTUAL MACHINE WHILE THE ALR FUNCTION IS
                                STEALING PAGES FROM THIS VIRTUAL MACHINE.
68C     VMDSHDLK    004         V/SIE SHADOW TABLE LOCK
                                THIS WORD IS USED TO SERIALIZE PAGE TABLE INVALIDATION IN THE
                                SPECIAL CASE WHERE THE VMDBK BEING STOLEN FROM MAY ENTER VSIE.
                                IT INDICATES TO THE AVAILABLE LIST REPLENISHMENT TASKS THAT
                                PAGES CANNOT BE STOLEN FROM THIS VMDBK. IT INDICATES TO SIE
                                SIMULATION ROUTINES THAT SHADOW TABLES MAY NOT BE MANIPULATED
                                THE ALR FUNCTION IS STEALING PAGES FROM THIS VIRTUAL MACHINE

        CODES DEFINED IN VMDSHDLK (AT HEX DISPLACEMENT: 68C)

        FF      VMDSHALD        INDICATE THE LOCK IS OWNED BY
                                THE DEMAND SCAN

690     VMDCTXBK    004         COUNT OF XSTORE BLOCKS FOR USER
694     VMDCTSPR    004         COUNT OF SPOOLING PAGE READS
698     VMDCTSPW    004         COUNT OF SPOOLING PAGE WRITES
69C     VMDCTMIG    004         COUNT OF VIRTUAL MACHINE PAGES
                                MIGRATED BY CP FROM XSTORE TO
                                DASD SINCE LOGON
6A0     VMDFR1ST    004         1ST USER OWNED LIST FRAME ENTRY
                                (INITIALIZED AS POINTING TO ITSELF)
6A4     VMDFRLST    004         LAST USER OWNED LIST FRAME ENTRY
                                (INITIALIZED AS POINTING TO ITSELF)
6A8     VMDUFEOR    004         UFO LIST LAST REFERENCED FRME
                                THIS WORD IN THE BASE VMDBK WILL BE USED AS A POINTER
                                TO THE LAST FRAME ON A USER FRAME OWNED LIST THAT HAS
                                BEEN REFERENCED SINCE THE LAST REORDERING.  THIS POINTER
                                IS SET BY THE PREPARATION FOR REPLENISHMENT FUNCTION WHEN
                                THIS LIST OF FRAMES HAS BEEN REORDERED, AND REFERENCE BITS
```

			RESET. IT IS USED BY THE ALR DEMAND SCAN. (INITIALIZED TO POINT TO VMDFR1ST)
6AC	VMDUFEOL	004	UFO LIST LAST ORDERED FRMTE THIS WORD IN THE BASE VMDBK WILL BE USED AS A POINTER TO THE LAST FRAME ON A USER FRAME OWNED LIST THAT HAS BEEN ORDERED. THIS POINTER IS SET BY THE PREPARATION FOR REPLENISHMENT FUNCTION WHEN THIS LIST OF FRAMES HAS BEEN REORDERED, AND REFERENCE BITS RESET. IT IS USED BY THE ALR DEMAND SCAN (INITIALIZED TO POINT TO VMDFR1ST)
6B0	VMDCTLKP	004	COUNT OF LOCKED USER PAGES
6B4	VMDCTPRS	004	RESIDENT PAGE COUNT
6B8	VMDMXRVP	004	MAXIMUM RESERVED PAGE COUNT
6BC	VMDCTPWT	004	PAGE WAIT COUNT
6C0	VMDCTPST	004	COUNT OF PAGES STOLEN FROM USER
6C4	VMDCTPGW	004	NUMBER OF PAGE WRITES
6C8	VMDCTPGR	004	NUMBER OF PAGE READS
6CC	VMDCWSS	004	ESTIMATED CORE WORKING SET SIZE ESTIMATED CORE WORKING SET SIZE IN THE BASE VMDBK IS THE NUMBER OF REAL FRAMES A VIRTUAL MACHINE SHOULD BE ALLOWED TO RETAIN. THIS VALUE IS DETERMINED BY THE SCHEDULER AND USED BY THE ALR TO DETERMINE THE NUMBER OF FRAMES TO TAKE FROM EACH VIRTUAL MACHINE
6D0		0D	DOUBLEWORD ALIGNMENT
6D0	VMDCFGCT	008	VIRT CONFIG. TOTAL CPU TIME THIS FIELD IS USED TO ACCUMULATE THE TOTAL TIME A VIRTUAL CONFIGURATION SPENDS IN EMULATION AND CP OVERHEAD. A COMPARE AND SWAP INSTRUCTION WILL BE USED ON THIS VALUE TO GUARANTEE THAT AN UPDATE FOR ANOTHER VMDBK IN THE VIRTUAL CONFIGURATION DOES NOT OCCUR ON A DIFFERENT CPU AT THE SAME TIME. THIS CALCULATION WILL BE USED TO DETERMINE WHEN A VMDBK'S FRAMES SHOULD BE REORDERED AND RESET BY AN AVAILABLE LIST REPLENISHMENT FUNCTION.
6D8	VMDCTXWT	004	COUNT OF VIRTUAL MACHINE PAGES PAGED OUT (WRITE) FROM MAIN STORAGE TO XSTORE SINCE LOGON.
6DC	VMDCTXRD	004	COUNT OF VIRTUAL MACHINE PAGES PAGED IN (READ) FROM XSTORE TO MAIN STORAGE SINCE LOGON.
6E0	VMDCTPPS	004	COUNT OF PREFERRED PAGING SLOTS
6E4	VMDCTNPS	004	COUNT OF SPOOLING AND NON-PREFERRED PAGING SLOTS
6E8	VMDTRMST	001	TRIM FUNCTION STATUS THIS BYTE WILL BE USED TO INDICATE WHEN A TRIM FUNCTION SHOULD BE PERFORMED FOR A PARTICULAR VMDBK. THIS FIELD IS SET BY THE PREPARATION FOR REPLENISHMENT FUNC. WHEN THIS LIST OF FRAMES HAS BEEN REORDERED, AND REFERENCE BITS RESET. IT IS USED BY THE DISPATCHER TO DETERMINE WHEN TO CALL THE TRIM FUNCTION. THE TRIM FUNCTION RESETS THIS FIELD WHEN A VMDBK HAS BEEN COMPLETELY TRIMMED.

BITS DEFINED IN VMDTRMST (AT HEX DISPLACEMENT: 6E8)

01	VMDTRMEN	TRIM FUNCTION ENABLED

6E9	VMDRFLOK	001	REORDER FUNCTION LOCK THIS BYTE WILL BE USED BY THE AVAILABLE LIST REPLENISHMENT REORDER FUNCTION AS A LOCK TO GUARANTEE THAT A REORDER IS DONE ONLY ONCE PER RESET INTERVAL FOR A VIRTUAL CONFIGURATION. TEST AND SET LOGIC WILL BE USED TO MANIPULATE THIS LOCK
6EA		X	RESERVED FOR FUTURE IBM USE
6EB	VMDORSNT	001	IDENTIFY VMDBK OR SNTBK

CODES DEFINED IN VMDORSNT (AT HEX DISPLACEMENT: 6EB)

00	VMDVMDBK	THIS BLOCK IS A VMDBK
80	VMDSNTBK	THIS BLOCK IS AN SNTBK

6EC	VMDFSAPT	004	VMDBK FREE STORAGE CHAIN POINTER
6F0	VMDFSACT	004	COUNT OF BLOCKS ON FREE STORAGE CHAIN
6F4	VMDRESET	004	CUMULATIVE COUNT OF REFERENCED FRAMES RESIDENT WHEN RESET WAS DONE FOR THIS VIRTUAL SYSTEM OR SHARED FRAME LIST.

EQUATES

	C0	VMDRVMSZ	SIZE OF THE RSM SECTION
6F8	VMDCSGS	004	
6F8	VMDGSRSM	001	INDICATES FREE STORAGE STATUS FOR GUEST SURVIVAL

BITS DEFINED IN VMDGSRSM (AT HEX DISPLACEMENT: 6F8)

80	VMDGSEXH	GUEST FREE STORAGE EXHAUSTED
40	VMDGSFRE	GUEST VMDBK RESIDES IN STATIC SYSGENED MEGABYTE AND SO FREE STORAGE COMES FROM THAT REGION
20	VMDGSCHN	V=R FREE STORAGE CHAIN IS BEING UPDATED. THIS BIT ON AT INCIDENT TIME PROHIBITS GUEST SURVIVAL.

6F9		X	RESERVED FOR FUTURE IBM USE
6FA		X	RESERVED FOR FUTURE IBM USE
6FB		X	RESERVED FOR FUTURE IBM USE
6FC	VMDVRDWU	004	COUNT OF DOUBLEWORDS OF VMDBK FREE STORAGE IN USE.

EQUATES

FC	VMDVMDWU	THIS FIELD NAME USED WHEN GUEST IS NOT A V=R GUEST

700		0D	
700	VMDSHARS	004	A SYMBOL USED AS A BASE FOR INDEXING THE FOLLOWING TWO FIELDS, VMDRELSH AND VMDABSSH. CODE DEPENDS ON THESE FIELDS EACH BEING FULLWORDS AND CONSECUTIVE IN THE FOLLOWING ORDER.
700	VMDRELSH	004	THIS USER'S RELATIVE SHARE OF THE SYSTEM. CODE SHOULD BE ABLE TO HANDLE A RANGE OF 1-32767, ALTHOUGH CURRENTLY, ONLY 1-10000 IS VALID.
704	VMDABSSH	004	THIS USER'S ABSOLUTE SHARE OF THE SYSTEM (ALL CPUS). THE RANGE IS 0.01-1.00.
708	VMDSCDF1	001	SCHEDULER FLAGS

BITS DEFINED IN VMDSCDF1 (AT HEX DISPLACEMENT: 708)

80	VMDTTIED	TOD-TIED ATTRIBUTE
40	VMDLDGDL	USER REMAINED LOADING DURING ..ENTIRE DISPATCH LIST STAY
10	VMDTREND	'REPORT TRANSACTION END'. ALL VMDBKS IN A USER'S VIRTUAL MP COMPLEX ARE IDLE WHICH MEANS THAT THE NEXT TIME THE COMPLEX IS MOVED TO THE ELIGIBLE LIST, TRANSACTION END SHOULD BE CHECKED.
08	VMDQDSPU	QUICKDISP USER DESIGNATION

709	VMDSCDF2	001	SCHEDULING FLAGS BYTE 2

BITS DEFINED IN VMDSCDF2 (AT HEX DISPLACEMENT: 709)

80	VMDCONTR	THIS IS A CONTINUING TRANSACTION
40	VMDFRDSP	USER IS COMING FROM DISPATCH LIST
20	VMDFRELG	USER IS COMING FROM ELIGIBLE LIST
10	VMDFRDRM	USER IS COMING FROM DORMANT LIST
08	VMDLRGST	USER WAS PRE-EMPTED DUE TO ITS ..LARGE STORAGE REQUIREMENT
04	VMDELTOD	USER ENTERED ELIGIBLE LIST PRIOR ..TO TOD CLOCK BEING INITIALIZED
02	VMDCKVMP	USER IS A BASE VMDBK COMING INTO ..THE ELIGIBLE LIST FROM THE ..DORMANT LIST. FOR ANY NON-BASE ..VIRTUAL MP VMDBKS ALREADY IN ..THE ELIGIBLE LIST, SET ITS ..E-LIST CLASS TO THAT OF THE ..BASE AND ADD THAT NON-BASE ..INTO THE E-LIST CLASS COUNTS

70A	VMDDLCTX	001	EXTENSION FOR VMDDLCTL - IDENTIFIES A CONTROLLED RESOURCE WHICH WAS EXCEEDED.

BITS DEFINED IN VMDDLCTX (AT HEX DISPLACEMENT: 70A)

80	VMDWSSGR	WSS GROWTH LIMIT EXCEEDED
40	VMDPRMPT	USER IS TO BE PRE-EMPTED
20	VMDCPLXD	COMPLEX DROPPED (VALID ONLY ..FOR VIRTUAL MP ADJUNCT)

70B	VMDSACTL	001	SAVED COPY OF VMDDLCTL FOR LATER ..EXAMINATION OF WHY USER DROPPED ..FROM THE DISPATCH LIST

BITS DEFINED FOR VMDSACTL BY HCPVMDBK VMDDLCTL

70C	VMDSACTX	001	SAVED COPY OF VMDDLCTX. USED ..IN THE SAME WAY AS VMDSACTL.

BITS DEFINED FOR VMDSACTX BY HCPVMDBK VMDDLCTX

70D	VMDQSTAT	001	USER SCHEDULING STATUS

BITS DEFINED IN VMDQSTAT (AT HEX DISPLACEMENT: 70D)

80	VMDHOTRQ	HOT SHOT SCHEDULING REQUESTED
40	VMDHOTST	HOT SHOT USER SCHEDULING GRANTED
20	VMDLOADU	LOADING USER DESIGNATION
10	VMDIABIA	INTERACTIVE BIAS IS IN EFFECT
08	VMDPGBIA	PAGING BIAS IS IN EFFECT
01	VMDNULL	VMDBK SHOULD BE DESTROYED BY THE SCHEDULER.

70E	VMDELIST	001	ELIGIBLE LIST CLASS FOR CURRENT TRANSACTION
70F	VMDPRVEL	001	PREV E-LIST CLASS (BEFORE HOTSHOT
710	VMDEPRTY	008	ELIGIBLE LIST PRIORITY VALUE
718	VMDPRVEP	008	PREV E-LIST PRIORITY (B4 HOTSHOT
720	VMDTIDPR	008	TEST-IDLE STATE SAVEAREA FOR PRIOR D-LIST PRIORITY VALUE
728	VMDOPRTY	008	A VERSION OF VMDDPRTY COMPUTED WITHOUT CONSIDERING THE PRESENCE OF INTERACTIVE BIAS.
730	VMDSLCNT	002	COUNT OF MINOR TIMESLICES COMPLETED SO FAR DURING THIS TRANSACTION. THIS FIELD IS PROTECTED BY THE SCHEDULER LOCK.
732	VMDSLCAD	002	VMDSLCNT SAVED AT D-LIST ADD
734	VMDURRSP	004	USER'S RESOURCE REQUIREMENT FOR ..STORAGE AND PAGING.
738	VMDRTHRU	004	REQUIRED THROUGHPUT WHILE USER ..IS IN THE DISPATCH LIST
73C	VMDWSSPR	004	WORKING SET SIZE PROJECTION
740	VMDHOTWS	004	ALTERNATE WSS FOR HOTSHOT
744	VMDRPLIM	004	WORKING SET GROWTH LIMIT. ..WHEN THE COUNT OF FRAMES ..ACQUIRED REACHES THIS VALUE, ..IT IS TIME TO CHECK IN WITH ..THE SCHEDULER BY CALLING ..HCPSTKGL.
748	VMDELGST	001	A FLAG BYTE MANIPULATED BY TEST-AND-SET INDICATING WHETHER OR NOT PAGES WERE STOLEN FROM A VMDBK WHILE IT WAS IN THE ELIGIBLE LIST. THE BYTE IS INITIALIZED TO X'FF' AND SET TO X'00' VIA A MVI WHEN PAGES ARE TAKEN FROM THE VMDBK. THE SCHEDULER WILL THEN TS THIS BYTE WHEN IT NEXT DETERMINES THE VMDBK'S PRIORITY.
749	VMDRFPGR	001	A FLAG BYTE INDICATING WHETHER OR NOT ANY OF A VMDBK'S REFERENCED PAGES WERE TAKEN FROM REAL STORAGE.

CODES DEFINED IN VMDRFPGR (AT HEX DISPLACEMENT: 749)

FF	VMDSTLPG	REFERENCED PAGE TAKEN

74A	VMDRFPGX	001	A FLAG BYTE INDICATING WHETHER OR NOT ANY OF A VMDBK'S REFERENCED PAGES WERE TAKEN FROM XSTORE.
			CODES DEFINED FOR VMDRFPGX BY HCPVMDBK VMDRFPGR
74B		X	RESERVED FOR FUTURE IBM USE
74C	VMDTLPRS	004	THE LAST RESIDENT PAGE COUNT WHEN THE VMDBK WAS DROPPED FROM THE D-LIST. IT IS USED TO CALCULATE A USER'S WORKING SET FACTOR TO RE-CALCULATE THE INITIAL D-LIST PRIORITY.
750	VMDCCPGR	004	COUNT OF CUMULATIVE PG READS (AT ..START OF MINOR TIME SLICE)
754	VMDTLPGR	004	COUNT OF CUMULATIVE PAGE READS (CCPGR) AT ENTRY TO D-LIST
758	VMDPGRTE	004	PAGING RATE DURING LAST D-LIST ..STAY
			POINTERS:
75C	VMDDFPNT	004	FORWARD DISPATCH PAGE STEAL LIST ..POINTER
760	VMDDBPNT	004	BACKWARD DPS-LIST POINTER
764	VMDEDFAC	004	ELIGIBLE LIST DELAY FACTOR. THIS ..IS THE ACTUAL TIME THE USER ..SPENT IN THE ELIGIBLE LIST ..DURING ITS LAST STAY, ..EXPRESSED AS A MULTIPLE OF ..ITS CURRENT ELAPSED TIME SLICE. ..THIS FIELD IS VALID ONLY WHILE ..THE USER IS IN THE DISPATCH ..LIST.
			MISCELLANEOUS TOD AND ELAPSED TIME RECORDINGS
768	VMDESLIC	008	ELAPSED TIME SLICE FOR D-LIST
770	VMDEQTOD	008	TOD AT LAST D-LIST ENTRY
778	VMDDQTOD	008	TOD AT LAST DROP FROM THE D-LIST
780	VMDDTIME	008	ACTUAL TIME IN D-LIST (LAST STAY) ..USED TO GET EXPANSION FACTOR
788	VMDETIME	008	ACTUAL TIME IN E-LIST (LAST STAY) ..USED TO GET EXPANSION FACTOR
790	VMDEETOD	008	TOD AT LAST E-LIST ENTRY
798	VMDSTTOD	008	TOD AT LAST STARTED TRANSACTION
7A0	VMDMTTOD	008	TOD AT LAST STARTED TRANSACTION ..FOR MONITOR
7A8	VMDMPSUS	008	MOST-RECENT VMDSUSCK TIME IN ..THE MP COMPLEX
			EVENT COUNTS MAINTAINED FOR THE MONITOR FACILITY:
7B0	VMDCIDLD	002	COUNT OF USER WENT IDLE DROPS
7B0	VMDCIDL0	002	... FOR Q0 USER DROPS
7B2	VMDCIDL1	002	... FOR Q1 USER DROPS
7B4	VMDCIDL2	002	... FOR Q2 USER DROPS
7B6	VMDCIDL3	002	... FOR Q3 USER DROPS
7B8	VMDCETSD	002	COUNT OF E-SLICE END DROPS
7B8	VMDCETS0	002	... FOR Q0 USER DROPS
7BA	VMDCETS1	002	... FOR Q1 USER DROPS
7BC	VMDCETS2	002	... FOR Q2 USER DROPS
7BE	VMDCETS3	002	... FOR Q3 USER DROPS
7C0	VMDCWSGD	002	COUNT OF WSS GROWTH LIMIT DROPS
7C0	VMDCWSG0	002	... FOR Q0 USER DROPS
7C2	VMDCWSG1	002	... FOR Q1 USER DROPS
7C4	VMDCWSG2	002	... FOR Q2 USER DROPS
7C6	VMDCWSG3	002	... FOR Q3 USER DROPS
7C8	VMDCPRMD	002	COUNT OF PRE-EMPTION DROPS
7C8	VMDCPRM0	002	... FOR Q0 USER DROPS
7CA	VMDCPRM1	002	... FOR Q1 USER DROPS
7CC	VMDCPRM2	002	... FOR Q2 USER DROPS
7CE	VMDCPRM3	002	... FOR Q3 USER DROPS
7D0	VMDCTIDL	002	COUNT OF TEST IDLE GRANTED.
7D2	VMDCNTID	002	COUNT OF NO TEST IDL GRANTED DROP
7D4		H	RESERVED FOR FUTURE IBM USE

7D6		H	RESERVED FOR FUTURE IBM USE
7D8		D	RESERVED FOR FUTURE IBM USE
7E0	VMDTRQQS	004	POINTER TO SCHEDULING TRQBLOK
7E4		F	RESERVED FOR FUTURE IBM USE
7E8		D	RESERVED FOR FUTURE IBM USE
7F0		D	RESERVED FOR FUTURE IBM USE
7F8		D	RESERVED FOR FUTURE IBM USE
800	VMDVMCFL	008	VMCF LOCKWORD SEMAPHORE
818	VMDVMCB	004	POINTER TO CHAIN OF VMCBLOKS. EACH VMCBLOK CONTAINS DATA TRANSFER AND STATUS INFORMATION USED BY THE VIRTUAL MACHINE CONFIGURATION FACILITY (VMCF).
81C	VMDVSEVM	004	NUMBER OF TIMES VMCF DATA WAS SUCCESSFULLY TRANSFERRED BY THIS VIRTUAL MACHINE.
820	VMDVSTVM	004	NUMBER OF TIMES VMCF DATA WAS SUCCESSFULLY TRANSFERRED TO THIS VIRTUAL MACHINE.
824	VMDVSUVM	004	NUMBER OF TIMES VMCF DATA WAS NOT SUCCESSFULLY TRANSFERRED BY THIS VIRTUAL MACHINE.
828	VMDIUCVL	008	IUCV LOCKWORD SEMAPHORE
840	VMDIUCVB	004	POINTER TO IUCV BLOCK
844	VMDISEVM	004	NUMBER OF TIMES IUCV DATA WAS SUCCESSFULLY TRANSFERRED BY THIS VIRTUAL MACHINE.
848	VMDISTVM	004	NUMBER OF TIMES IUCV DATA WAS SUCCESSFULLY TRANSFERRED TO THIS VIRTUAL MACHINE.
84C	VMDISUVM	004	NUMBER OF TIMES IUCV DATA WAS NOT SUCCESSFULLY TRANSFERRED BY THIS VIRTUAL MACHINE.
850	VMDSVMID	008	USERID OR CP SYSTEM SERVICE NAME FOR THE LAST SUCCESSFUL IUCV OR VMCF SEND FOR THIS VIRTUAL MACHINE.
858		D	RESERVED FOR FUTURE IBM USE
860	VMDSVMFX	004	COUNT OF TIMES SVM-WAIT FLAG WAS LEFT ON AT TRANSACTION END AND WAS RESET BY THE SCHEDULER.
864	VMDSVMWT	001	SERVICE VIRTUAL MACHINE WAIT FLAG.

BITS DEFINED IN VMDSVMWT (AT HEX DISPLACEMENT: 864)

80	VMDSVMWF	VMDBK IS WAITING FOR A RESPONSE FROM IUCV OR VMCF.

865	VMDSVMW2	001	BACK-UP BYTE FOR VMDSVMWT.

BITS DEFINED FOR VMDSVMW2 BY HCPVMDBK VMDSVMWT

866	VMDRDYCM	001	READIED-BY/RECEIVED-INTERRUPT-FROM COMMUNICATIONS FLAG.

BITS DEFINED FOR VMDRDYCM BY HCPVMDBK VMDSVMWT

867		X	RESERVED FOR FUTURE IBM USE
868		D	RESERVED FOR FUTURE IBM USE
870		D	RESERVED FOR FUTURE IBM USE
878		D	RESERVED FOR FUTURE IBM USE
880	VMDLSPAC	008	USER-LOCAL FREE STORAGE AREA THIS AREA IS MANAGED BY HCPFRE AS FREE STORAGE WHICH IS LOCAL TO THE VMDBLOK. FREE STORAGE BLOCKS ALLOCATED FROM THIS AREA ARE LONG-TERM BLOCKS WHICH ARE ASSOCIATED ONLY WITH THIS VMDBLOK.

EQUATES

F0	VMDLSPSZ	LOCAL SPACE SIZE, DOUBLE WORDS
80	VMDLSLEN	LOCAL SPACE BYTE LENGTH
00	VMDBKSIZ	SIZE OF VMD BLOCK IN DOUBLEWORDS S/B 512 DOUBLE WORDS (X'200')
FF	VMDKKLT1	LENGTH CHECK
FF	VMDKKLT2	LENGTH CHECK

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(GIVES OVERFLOW ERROR IF NOT A FULL-PAGE LENGTH)

REDEFINITION - FREE STORAGE HEADER PROTOTYPE

880	VMDLCPTR	004	POINTER TO NEXT CHUNK
884	VMDLCLEN	004	LENGTH OF THIS CHUNK IN BYTES

REDEFINITION - FOR V/SIE VMDBLOK ONLY

200	VMDWRCPV	004	RGUEST VIRTUAL ADDRESS OF THE RCP AREA WHICH IS IDENTIFIED BY THE VIRTUAL STATE DESCRIPTOR. THIS VGUEST RCP AREA ADDRESS IS USED BY V/SIE KEYOP SIMULATION IN ORDER TO MAINTAIN TWO LEVELS OF RCP AREA. THE RGUEST RCP AREA IS ALWAYS STORED IN THE V/SIE VMDRCP FIELD.
204	VMDWSHAD	004	ADDRESS OF V/SIE SHADOW TABLE BLOCK (VSIBK). THE VSIBK CONTROLS THE SHADOW TRANSLATION TABLES USED BY THE HARDWARE TO TRANSLATE FROM VIRTUAL GUEST REAL TO HOST REAL ADDRESSES.
208	VMDWSDAD	004	VIRTUAL STATE DESCRIPTOR RGUEST REAL ADDRESS. THIS IS THE ADDRESS OF THE STATE DESCRIPTOR SPECIFIED BY THE VGUEST IN THE SIE INSTRUCTION.
20C	VMDWSHC1	004	HOST CONTROL REGISTER 1 VALUE FOR THE SHADOW TRANSLATION TABLES. THIS IS USED FOR ASSIGNING CR1 BEFORE ISSUING THE SIE INSTRUCTION IN VIRTUAL SIE SIMULATION.
210		F	(RESERVED FOR V/SIE USE)
214		F	(RESERVED FOR V/SIE USE)
218	VMDWMODC	001	COPY OF VMDMODE FROM VIRTUAL STATE DESCRIPTOR, SIEBK. SINCE THE VMDMODE IN THE V/SIE VMDBK WILL BE CHANGED TO REFLECT BOTH THE VGUEST AND RGUEST MODES. VMDWMODC IS ESTABLISHED TO PRESERVE THE VGUEST VMDMODE IN THE V/SIE VMDBK.

BITS DEFINED FOR VMDWMODC BY HCPSIEBK SIEMODE

219	VMDWNTKY	001	COPY OF ISK/SSK/RRB INTERCEPT BITS FROM THE VGUEST STATE DESCRIPTOR. THESE INTERCEPT BITS ARE SAVED HERE TO KNOW WHETHER TO SIMULATE THESE INSTRUCTIONS OR SEND THEM BACK TO THE RGUEST AS INTERCEPTIONS.
21A	VMDWFLAG	001	VGUEST CONTROL AND STATUS FLAGS

BITS DEFINED IN VMDWFLAG (AT HEX DISPLACEMENT: 21A)

80	VMDWUSHD	USE SHADOW TRANSLATE TABLES (USED WHEN RUNNING A PAGEABLE VGUEST)
40	VMDWUNRQ	VGUEST UN-RUN IS REQUIRED

21B	VMDWNTC3	001	COPY OF SIEICPT3 FROM VGUEST STATE DESCRIPTOR. USED TO TEST FOR RGUEST INTERCEPTION OF RESTORE VECTOR ACTIVITY COUNT INSTRUCTION.

BITS DEFINED FOR VMDWNTC3 BY HCPSIEBK SIEICPT3

21C	VMDWNTVC	001	COPY OF SIENTVCT FROM VGUEST STATE DESCRIPTOR. USED TO DISTINGUISH RGUEST FROM HOST STOP INTERVENTION REQUESTS.

BITS DEFINED FOR VMDWNTVC BY HCPSIEBK SIENTVCT

21D		X	(RESERVED FOR V/SIE USE)
21E	VMDWMSOR	002	MAIN STORAGE ORIGIN FIELD FROM THE VGUEST STATE DESCRIPTOR, IS PRESERVED IN THIS FIELD. THE V/SIE VMDMSORG FIELD IS ALWAYS CLEARED TO ZERO SINCE THE SHADOW TABLES ARE CREATED FOR ORIGIN ZERO.

REDEFINITION - FOR V/SIE VMDBLOK ONLY

240	VMDWUTOD	008	TOD CLOCK AT LAST USE OF THIS V/SIE VMDBK. THIS TIME STAMP IS USED BY HCPSTP TO RELEASE V/SIE VMDBKS THAT HAVE NOT BEEN USED FOR APPROXIMATELY 2 MINUTES.
248	VMDWRGVT	008	THE RGUEST VMDVTIME, AT THE TIME THE VGUEST IS RUN, IS SAVED HERE FOR USE IN ADJUSTING RGUEST TIMERS AFTER AN EXIT FROM SIE.
250	VMDWTIME	008	ACCUMULATED CPU TIME IN HOST EMULATION MODE FOR V/SIE.
258	VMDWG145	008	RGUEST R14,R15 WHILE IN V/SIE MODE. R14 AND R15 ARE THE ONLY REGISTERS PRESERVED AND RESTORE BY THE EMULATION FACILITY. FOR V/SIE THEY MUST BE PRESERVED FOR THE RGUEST.

MORE EQUATES

03	VMDIMLT4	TO ENSURE FIELD IS MULTIPLE OF 4
80	VMDSSON	SPACE SWITCH CONTROL BIT IS ON
80	VMDTODGA	ADDRESS IS A V=R GUEST ABSOLUTE IF ON AND HOST REAL IF OFF GUEST SURVIVAL FIELDS
10	VMDCFRUN	GUEST MACHINE CAN RUN FOLLOWING A CONSOLE FUNCTION OPERATION WITHOUT REQUIRING THE USER TO ENTER A 'BEGIN' COMMAND OR A COMMAND WITH AN IMPLIED BEGIN. THIS BIT IS SET AND RESET BY THE 'SET RUN' COMMAND.

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
VMDABSSH	004	704	VMDCETS0	002	7B8	VMDCKC	008	130
VMDACPCH	004	0D0	VMDCETS1	002	7BA	VMDCKPSW	001	040
VMDACPGR	004	0DC	VMDCETS2	002	7BC	VMDCKST	001	020
VMDACPGW	004	0D8	VMDCETS3	002	7BE	VMDCKVMP	001	002
VMDACPRT	004	0D4	VMDCFACT	001	001	VMDCLEXT	001	080
VMDACRDR	004	0CC	VMDCFBUF	004	390	VMDCNTID	002	7D2
VMDACSIO	004	0C8	VMDCFCAL	004	394	VMDCOMND	008	380
VMDACTID	008	088	VMDCFCNT	004	39C	VMDCONTR	001	080
VMDACTNO	008	098	VMDCFCPU	004	3A8	VMDCPCOI	001	002
VMDACTRC	001	002	VMDCFCTL	001	388	VMDCPLOG	002	286
VMDADJL	004	620	VMDCFDSP	001	399	VMDCPLXD	001	020
VMDALGID	008	090	VMDCFGCT	008	6D0	VMDCPMOD	002	284
VMDAPLDV	004	538	VMDCFHXF	001	38E	VMDCPRDP	004	4E8
VMDATODN	004	0B4	VMDCFIDL	001	002	VMDCPRM0	002	7C8
VMDATTCP	001	020	VMDCFLAG	001	389	VMDCPRM0	002	7C8
VMDATTIM	008	0B8	VMDCFLG2	001	38F	VMDCPRM1	002	7CA
VMDAUTOL	001	002	VMDCFLKQ	004	3A0	VMDCPRM2	002	7CC
VMDAVFOT	008	0E8	VMDCFNUL	001	001	VMDCPRM3	002	7CE
VMDAVFVT	008	0E0	VMDCFOPT	001	3BC	VMDCPSER	003	281
VMDAVTIM	008	0C0	VMDCFPDR	001	38D	VMDCPUAD	002	28C
VMDBASE	004	60C	VMDCFPND	001	38C	VMDCPUCT	001	294
VMDBK	001	000	VMDCFRD	001	020	VMDCPUDS	002	540
VMDBKSIZ	001	200	VMDCFREQ	001	398	VMDCPUID	008	280
VMDBLKIO	004	33C	VMDCFRUN	001	010	VMDCPULT	001	295
VMDBPCCW	001	080	VMDCFWT	001	040	VMDCPUTM	008	128
VMDBRKKY	001	372	VMDCHC	004	318	VMDCPUTN	001	080
VMDBUFAD	004	3B0	VMDCHPPT	004	29C	VMDCPUTO	001	128
VMDBUFIF	001	002	VMDCHRDN	004	314	VMDCPVER	001	280
VMDBUFLN	004	3B4	VMDCHRSN	004	310	VMDCRCB0	001	1B0
VMDBUFVM	004	3AC	VMDCIDLD	002	7B0	VMDCRCB1	001	1B1
VMDBUFWT	001	004	VMDCIDL0	002	7B0	VMDCRCB2	001	1B2
VMDCCPGR	004	750	VMDCIDL1	002	7B2	VMDCRCB3	001	1B3
VMDCCWOP	001	328	VMDCIDL2	002	7B4	VMDCRDB0	001	1B4
VMDCETSD	002	7B8	VMDCIDL3	002	7B6	VMDCRDB1	001	1B5

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Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
VMDCRDB2	001	1B6	VMDCSGS	004	6F8	VMDEBUG7	004	3F8
VMDCRDB3	001	1B7	VMDCTFAC	004	678	VMDEBUG8	004	3FC
VMDCREB0	001	1B8	VMDCTFLT	004	2FC	VMDEDFAC	004	764
VMDCREB1	001	1B9	VMDCTIDL	002	7D0	VMDEDIT	001	040
VMDCREB2	001	1BA	VMDCTLKP	004	6B0	VMDEETOD	008	790
VMDCREB3	001	1BB	VMDCTMIG	004	69C	VMDEG14	004	110
VMDCRFB0	001	1BC	VMDCTNPS	004	6E4	VMDEG145	008	110
VMDCRFB1	001	1BD	VMDCTPCH	004	348	VMDEG15	004	114
VMDCRFB2	001	1BE	VMDCTPFD	004	67C	VMDELGST	001	748
VMDCRFB3	001	1BF	VMDCTPGR	004	6C8	VMDELIG	001	021
VMDCRHLD	001	040	VMDCTPGW	004	6C4	VMDELIST	001	70E
VMDCRMOR	001	080	VMDCTPPS	004	6E0	VMDELTOD	001	004
VMDCRS	064	180	VMDCTPRS	004	6B4	VMDEMSGI	001	020
VMDCR0	004	180	VMDCTPRT	004	34C	VMDENDOP	001	000
VMDCR0B0	001	180	VMDCTPST	004	6C0	VMDEPOCH	008	138
VMDCR0B1	001	181	VMDCTPWD	001	3C8	VMDEPRTY	008	710
VMDCR0B2	001	182	VMDCTPWT	004	6BC	VMDEQTOD	008	770
VMDCR0B3	001	183	VMDCTRAU	002	3D2	VMDESEND	001	080
VMDCR0XM	002	182	VMDCTRDR	004	344	VMDESLIC	008	768
VMDCR1	004	184	VMDCTSIO	004	340	VMDETIME	008	788
VMDCR1B0	001	184	VMDCTSPR	004	694	VMDEXBLI	001	010
VMDCR1B1	001	185	VMDCTSPW	004	698	VMDEXBLU	001	001
VMDCR1B2	001	186	VMDCTVFL	004	498	VMDEXCF	001	080
VMDCR1B3	001	187	VMDCTXBK	004	690	VMDEXCOL	001	00F
VMDCR1S0	003	185	VMDCTXRD	004	6DC	VMDEXCPO	001	370
VMDCR10	004	1A8	VMDCTXWT	004	6D8	VMDEXDEF	001	000
VMDCR11	004	1AC	VMDCTYPE	001	3BF	VMDEXGRE	001	004
VMDCR12	004	1B0	VMDCWAIT	001	38B	VMDEXHGH	001	0F0
VMDCR13	004	1B4	VMDCWSGD	002	7C0	VMDEXINA	001	36E
VMDCR14	004	1B8	VMDCWSG0	002	7C0	VMDEXINR	001	36D
VMDCR15	004	1BC	VMDCWSG1	002	7C2	VMDEXMCK	001	020
VMDCR2	004	188	VMDCWSG2	002	7C4	VMDEXNON	001	000
VMDCR2B0	001	188	VMDCWSG3	002	7C6	VMDEXPIN	001	003
VMDCR2B1	001	189	VMDCWSS	004	6CC	VMDEXRED	001	002
VMDCR2B2	001	18A	VMDCYCLE	004	600	VMDEXREV	001	020
VMDCR2B3	001	18B	VMDCYCLH	004	610	VMDEXSTA	001	36F
VMDCR2IM	002	188	VMDDBPNT	004	760	VMDEXTUR	001	005
VMDCR3	004	18C	VMDDEDCA	002	534	VMDEXUND	001	040
VMDCR3B0	001	18C	VMDDEDCP	004	530	VMDEXVMO	001	36C
VMDCR3B1	001	18D	VMDDEDFG	001	536	VMDEXWHI	001	007
VMDCR3B2	001	18E	VMDDEDSC	001	174	VMDEXYEL	001	006
VMDCR3B3	001	18F	VMDDEVCT	002	326	VMDFAUTO	001	040
VMDCR4	004	190	VMDDFPNT	004	75C	VMDFIDTE	004	448
VMDCR4B0	001	190	VMDDFRWK	004	51C	VMDFIN	004	2EC
VMDCR4B1	001	191	VMDDGCF	001	040	VMDFIPSV	001	008
VMDCR4B2	001	192	VMDDISC	001	004	VMDFLREO	004	684
VMDCR4B3	001	193	VMDDISPL	001	037	VMDFORCE	001	010
VMDCR5	004	194	VMDDIST	008	0A0	VMDFPRS	032	240
VMDCR5B0	001	194	VMDDLCTL	001	50B	VMDFPR0	008	240
VMDCR5B1	001	195	VMDDLCTX	001	70A	VMDFPR2	008	248
VMDCR5B2	001	196	VMDDNULL	001	000	VMDFPR4	008	250
VMDCR5B3	001	197	VMDDORM	001	00B	VMDFPR6	008	258
VMDCR6	004	198	VMDDPRTY	008	570	VMDFRDRM	001	010
VMDCR6B0	001	198	VMDDPS	001	001	VMDFRDSP	001	040
VMDCR6B1	001	199	VMDDQTOD	008	778	VMDFRELG	001	020
VMDCR6B2	001	19A	VMDDSCWT	001	010	VMDFRLST	004	6A4
VMDCR6B3	001	19B	VMDDSEND	001	040	VMDFR1ST	004	6A0
VMDCR7	004	19C	VMDDTIME	008	780	VMDFSACT	004	6F0
VMDCR7B0	001	19C	VMDDVSCS	002	176	VMDFSAPT	004	6EC
VMDCR7B1	001	19D	VMDDVST	001	176	VMDGMSIZ	002	10A
VMDCR7B2	001	19E	VMDDWACO	001	008	VMDGPE45	008	238
VMDCR7B3	001	19F	VMDDWFLG	001	50F	VMDGPRLO	001	203
VMDCR8	004	1A0	VMDDWMCO	001	002	VMDGPRS	064	200
VMDCR8B0	001	1A0	VMDDWMCT	001	004	VMDGPR0	004	200
VMDCR8B1	001	1A1	VMDEBUG1	002	3E0	VMDGPR1	004	204
VMDCR8MM	002	1A2	VMDEBUG2	002	3E4	VMDGPR10	004	228
VMDCR9	004	1A4	VMDEBUG3	002	3E8	VMDGPR11	004	22C
VMDCR9B0	001	1A4	VMDEBUG4	002	3EC	VMDGPR12	004	230
VMDCR9B1	001	1A5	VMDEBUG5	004	3F0	VMDGPR13	004	234
VMDCR9GM	001	1A6	VMDEBUG6	004	3F4	VMDGPR14	004	238

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
VMDGPR15	004	23C	VMDIMSGI	001	004	VMDLMSG	008	440
VMDGPR2	004	208	VMDINST	002	156	VMDLOADU	001	020
VMDGPR3	004	20C	VMDINSTE	001	157	VMDLOGOF	001	040
VMDGPR4	004	210	VMDINSTO	001	156	VMDLOGON	001	080
VMDGPR5	004	214	VMDINSTR	006	156	VMDLORES	004	124
VMDGPR6	004	218	VMDINVPG	001	010	VMDLOVMP	001	004
VMDGPR7	004	21C	VMDIOACT	004	334	VMDLPFTR	004	52C
VMDGPR8	004	220	VMDIOPAL	001	004	VMDLPLDV	002	542
VMDGPR9	004	224	VMDIOPBC	001	080	VMDLRGST	001	008
VMDGPTLB	001	020	VMDIOPBK	004	354	VMDLSEG	004	000
VMDGRPN	008	0A8	VMDIOPCD	001	040	VMDLSGLN	001	080
VMDGSBNC	001	040	VMDIOPCT	004	174	VMDLSLEN	001	780
VMDGSCHN	001	020	VMDIOPDG	001	020	VMDLSPAC	008	880
VMDGSEXH	001	080	VMDIOPDS	001	001	VMDLSPSZ	001	0F0
VMDGSFRE	001	040	VMDIOPEW	001	008	VMDMAPTH	002	3CE
VMDGSIND	001	30E	VMDIOPF1	001	32A	VMDMAXVD	002	324
VMDGSIPL	001	080	VMDIOPF2	001	32B	VMDMAXVS	002	322
VMDGSMSG	001	001	VMDIOPIP	001	004	VMDMCODE	001	020
VMDGSQWK	001	020	VMDIOPIS	001	010	VMDMCV	004	2F8
VMDGSRBK	004	308	VMDIOPMB	001	002	VMDMIFLG	001	338
VMDGSRES	001	040	VMDIOPM6	001	020	VMDMIHDN	001	080
VMDGSRFG	001	30D	VMDIOPNO	004	350	VMDMIMSG	001	004
VMDGSRFL	001	30C	VMDIOPOP	001	080	VMDMISC	001	024
VMDGSRSM	001	6F8	VMDIOPSA	001	0C0	VMDMIUCV	001	3CA
VMDGSRST	004	30C	VMDIOPSI	001	080	VMDMLVL	001	3C9
VMDGSTAT	001	265	VMDIOPSN	001	000	VMDMODE	001	103
VMDGSTCL	001	002	VMDIOPSR	001	040	VMDMONDA	004	580
VMDGSURV	001	080	VMDIOPST	001	32E	VMDMONEC	001	020
VMDGTLB	001	264	VMDIOPTS	001	329	VMDMONEU	001	080
VMDHDVSH	001	005	VMDIOPVP	001	008	VMDMONSD	001	040
VMDHFDAT	004	588	VMDIOP1T	001	040	VMDMONST	001	583
VMDHFLCK	004	58C	VMDIOWT	001	010	VMDMONTV	001	010
VMDHIRES	004	120	VMDIPDEV	001	004	VMDMORTM	002	362
VMDHLITE	001	001	VMDIPEND	001	262	VMDMPSUS	008	7A8
VMDHOTRQ	001	080	VMDIPGST	004	418	VMDMSACS	001	010
VMDHOTST	001	040	VMDIPLCM	004	42C	VMDMSAVP	001	020
VMDHOTWS	004	740	VMDIPLKY	001	411	VMDMSGIU	001	080
VMDHPLDV	002	53C	VMDIPLNM	008	400	VMDMSGON	001	080
VMDIABIA	001	010	VMDIPLOK	016	2A0	VMDMSORG	002	108
VMDIADDR	004	40C	VMDIPLST	001	410	VMDMSSCS	001	040
VMDIA1B0	001	158	VMDIPRCC	002	1CE	VMDMSSFL	001	3CB
VMDIA1B1	001	159	VMDIPRCD	004	1CC	VMDMSSVP	001	080
VMDIA1B2	001	15A	VMDIPRCL	002	1CC	VMDMTEXT	001	010
VMDIA1B3	001	15B	VMDIPRC0	001	1CE	VMDMTTOD	008	7A0
VMDIA1H0	002	158	VMDIPRC1	001	1CF	VMDMXRVP	004	6B8
VMDIA1H1	002	15A	VMDIPTLH	001	010	VMDNOBKY	001	008
VMDICAD1	004	158	VMDISCAA	004	164	VMDNOP	001	020
VMDICAD2	004	15C	VMDISEVM	004	844	VMDNOVFA	001	080
VMDICARR	001	15B	VMDISPCH	001	04D	VMDNTFEX	001	010
VMDICCPV	004	408	VMDISTVM	004	848	VMDNTFGX	001	020
VMDICFLG	001	151	VMDISUVM	004	84C	VMDNTFIO	001	004
VMDICODE	001	150	VMDITMOF	001	004	VMDNTFIS	001	024
VMDICPT0	001	148	VMDITMR	001	101	VMDNTFMC	001	00C
VMDICPT1	001	149	VMDITMRI	001	080	VMDNTFPF	001	01C
VMDICPT2	001	14A	VMDITMRL	001	040	VMDNTFPG	001	014
VMDICPT3	001	14B	VMDITRAD	004	1D0	VMDNTFRS	001	008
VMDICTLS	008	148	VMDIUCVB	004	840	VMDNTMOD	001	260
VMDIDLE	001	000	VMDIUCVL	008	828	VMDNTVCT	001	100
VMDIDROP	001	008	VMDIVPAG	004	414	VMDNULL	001	001
VMDIEXCA	002	1C4	VMDKKLT1	001	FFF	VMDOFCON	001	000
VMDIEXCD	002	1C6	VMDKKLT2	001	FFF	VMDOFCTC	001	00C
VMDIEXCF	004	1C4	VMDLCLEN	004	884	VMDOFDAS	001	004
VMDIEXCL	001	1C6	VMDLCPTR	004	880	VMDOFOTH	001	008
VMDIEXCT	001	1C7	VMDLCTB0	001	144	VMDOFUR	001	010
VMDIHCPU	002	152	VMDLCTB1	001	145	VMDOLDXS	002	670
VMDILFNC	001	298	VMDLCTLS	002	144	VMDOPASN	002	1D2
VMDILIOP	001	080	VMDLCYCL	004	604	VMDOPRTY	008	728
VMDIMLT4	001	003	VMDLDGDL	001	040	VMDORIG	004	608
VMDIMNCD	004	1DC	VMDLDPRM	008	420	VMDORSNT	001	6EB
VMDIMNCL	002	1D4	VMDLIMDV	002	320	VMDOSTAK	004	3B8

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Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
VMDOSTAT	001	38A	VMDREADY	001	042	VMDSTO3F	001	03F
VMDPAGCT	004	4D4	VMDRELSH	004	700	VMDSTO32	001	000
VMDPAGEX	001	080	VMDREORD	001	002	VMDSTTOD	008	798
VMDPAGZP	004	49C	VMDREPSC	001	175	VMDSUSCK	008	560
VMDPCL	004	3C0	VMDRESET	004	6F4	VMDSUSPN	001	02C
VMDPCLB0	001	3C0	VMDREST	001	020	VMDSVCTL	001	140
VMDPCLB1	001	3C1	VMDRFEAT	001	291	VMDSVC1N	001	141
VMDPCLB2	001	3C2	VMDRFLOK	001	6E9	VMDSVC2N	001	142
VMDPCLB3	001	3C3	VMDRFPGR	001	749	VMDSVC3N	001	143
VMDPDCFM	001	008	VMDRFPGX	001	74A	VMDSVMFX	004	860
VMDPDIRP	001	010	VMDRGPER	001	040	VMDSVMID	008	850
VMDPDPPF	001	080	VMDRGTRD	001	020	VMDSVMST	001	040
VMDPDTMR	001	020	VMDRPFTR	004	528	VMDSVMWF	001	080
VMDPDTRD	001	002	VMDRPLIM	004	744	VMDSVMWT	001	864
VMDPERAD	004	1D8	VMDRSCEL	001	001	VMDSVMW2	001	865
VMDPERCD	001	1D6	VMDRSTAT	001	509	VMDSYNCH	004	430
VMDPERCL	002	1D6	VMDRSTLG	001	080	VMDSYSOP	001	080
VMDPERZF	001	1D7	VMDRTERM	004	358	VMDTCDEL	001	36A
VMDPFIKY	001	004	VMDRTHRU	004	738	VMDTCHCL	002	170
VMDPFUNC	004	374	VMDRVIDL	001	058	VMDTEDIT	004	368
VMDPGBIA	001	008	VMDRVMBK	008	638	VMDTESCP	001	36B
VMDPGFLG	001	4E1	VMDRVMSZ	001	0C0	VMDTIDCT	001	53E
VMDPGRTE	004	758	VMDRVSPN	001	063	VMDTIDLE	001	037
VMDPGSPL	004	44C	VMDSACTL	001	70B	VMDTIDPR	008	720
VMDPPFCT	002	2F4	VMDSACTX	001	70C	VMDTIMER	001	266
VMDPPFPT	004	2F0	VMDSCALK	001	008	VMDTIOBZ	001	080
VMDPREFX	004	104	VMDSCDF1	001	708	VMDTIOLP	001	339
VMDPRGIL	002	268	VMDSCDF2	001	709	VMDTLDEL	001	369
VMDPRMPT	001	040	VMDSCREN	001	361	VMDTLEND	001	368
VMDPROAP	001	080	VMDSCST	001	177	VMDTLPGR	004	754
VMDPROBK	004	428	VMDSDSC	256	100	VMDTLPRS	004	74C
VMDPROFL	001	437	VMDSECA	004	4E4	VMDTODAC	001	010
VMDPRVEL	001	70F	VMDSECF	001	4E3	VMDTODAI	004	304
VMDPRVEP	008	718	VMDSECFP	001	002	VMDTODA0	001	304
VMDPSTO	004	638	VMDSECFY	001	001	VMDTODFL	001	297
VMDPST03	001	63B	VMDSECU	008	4F0	VMDTODGA	001	080
VMDPSW	008	118	VMDSFIPM	004	2E8	VMDTODON	004	0B0
VMDPSW0	001	118	VMDSFIP0	001	2E8	VMDTOPTN	001	360
VMDPSW0F	004	118	VMDSFIP1	001	2E9	VMDTRACT	001	080
VMDPSW1	001	119	VMDSFIP2	001	2EA	VMDTRALT	001	040
VMDPSW2	001	11A	VMDSFIP3	001	2EB	VMDTRCCW	001	030
VMDPSW2H	002	11A	VMDSHALD	001	FFF	VMDTRCPR	001	010
VMDPSW3	001	11B	VMDSHARS	004	700	VMDTRCTL	001	267
VMDPSW4	001	11C	VMDSHDLK	004	68C	VMDTRCTR	001	020
VMDPSW4B	001	11C	VMDSHRPT	004	4A0	VMDTREND	001	010
VMDPSW4F	004	11C	VMDSIGPA	001	28E	VMDTREXT	004	3D4
VMDPSW57	003	11D	VMDSIGPF	001	28F	VMDTREX3	001	3D7
VMDPTHID	002	3CC	VMDSIIWT	001	020	VMDTRMDV	001	365
VMDPTIL	004	688	VMDSLCAD	002	732	VMDTRMEN	001	001
VMDPTLBT	008	270	VMDSLCNT	002	730	VMDTRMIO	001	080
VMDPTLHI	004	270	VMDSLEEP	001	040	VMDTRMST	001	6E8
VMDPTLLO	004	274	VMDSLIST	001	50A	VMDTRQDL	004	3C4
VMDPTRQ	001	080	VMDSMSGI	001	008	VMDTRQPT	004	2D8
VMDPTRQQ	001	008	VMDSNORG	004	168	VMDTRQQS	004	7E0
VMDPTRSH	004	680	VMDSNTBK	001	080	VMDTSCBZ	001	060
VMDPWQD	001	010	VMDSPMSG	001	008	VMDTSCLP	002	33A
VMDPZUHV	001	001	VMDSSCTL	001	1D0	VMDTSCX1	001	020
VMDQBPNT	004	504	VMDSSCT2	001	1D1	VMDTSLIC	008	548
VMDQCPEF	004	518	VMDSSIZE	004	288	VMDTSTAM	001	010
VMDQDSPU	001	008	VMDSSON	001	080	VMDTTAB	001	371
VMDQFPNT	004	500	VMDSTATE	001	50C	VMDTTABK	004	614
VMDQIORF	004	514	VMDSTKDL	001	0FF	VMDTTIED	001	080
VMDQSTAT	001	70D	VMDSTLPG	001	0FF	VMDTTIME	008	550
VMDQSUMS	004	594	VMDSTOP	001	080	VMDTYPAD	001	01F
VMDQURCP	004	510	VMDSTOPD	001	004	VMDTYPE	001	263
VMDQ1SUM	004	590	VMDSTORE	001	292	VMDTYPMP	001	017
VMDRCP	004	160	VMDSTOSZ	001	63C	VMDTYPPR	001	000
VMDRCPB0	001	160	VMDST001	001	001	VMDTYPSI	001	02C
VMDRCPLK	008	658	VMDST01G	001	004	VMDTYPSY	001	058
VMDRDYCM	001	866	VMDST02G	001	008	VMDTYPUS	001	015

Name	Len	Value/Disp
VMDUFEOL	004	6AC
VMDUFEOR	004	6A8
VMDUFOLK	008	640
VMDUFORC	001	008
VMDUNDED	001	080
VMDURRSP	004	734
VMDUSER	008	080
VMDUSER1	004	4B0
VMDUSER2	004	4B4
VMDUSER3	004	4B8
VMDUSER4	004	4BC
VMDUSER5	004	4C0
VMDUSER6	004	4C4
VMDUSER7	004	4C8
VMDUSER8	004	4CC
VMDUSRCT	001	040
VMDUTERM	001	010
VMDVCCIN	001	040
VMDVCONS	004	35C
VMDVCP	002	154
VMDVCSAV	004	3D8
VMDVCSCT	004	458
VMDVDSCT	004	45C
VMDVECTR	004	2DC
VMDVERP	001	010
VMDVFACT	001	020
VMDVFAVL	001	040
VMDVFCFG	001	26C
VMDVFCKS	001	080
VMDVFCNT	001	26D
VMDVFDEF	001	080
VMDVFHAD	001	040
VMDVFLOD	001	080
VMDVFNON	001	000
VMDVFOTM	008	490
VMDVFRST	001	26F
VMDVFSTA	001	26E
VMDVFSTL	001	040
VMDVFVTM	008	488
VMDVGC	001	155
VMDVHC	001	154
VMDVLOPR	001	010
VMDVMCB	004	818
VMDVMCFA	001	020
VMDVMCFL	008	800
VMDVMCOI	001	001
VMDVMDBK	001	000
VMDVMDWJ	004	6FC
VMDVMRDP	004	4EC
VMDVOBUF	004	2B8
VMDVODEP	001	003
VMDVOSAV	004	2BC
VMDVOSCT	004	460
VMDVOSIZ	001	021
VMDVPTRK	001	020
VMDVR	001	008
VMDVRDWU	004	6FC
VMDVSEND	001	020
VMDVSEVM	004	81C
VMDVSIE	001	080
VMDVSIVM	004	618
VMDVSPRT	004	31C
VMDVSRCA	004	458
VMDVSTVM	004	820
VMDVSUVM	004	824
VMDVTIME	008	558
VMDVTOD	001	001
VMDVTSCT	004	464
VMDVUSCT	004	468
VMDWFLAG	001	21A
VMDWG145	008	258
VMDWIUCV	001	010
VMDWKCFM	001	080
VMDWKCPE	001	020
VMDWKCPF	001	008
VMDWKCPX	001	004
VMDWKETS	001	080
VMDWKGRL	001	010
VMDWKHIP	001	040
VMDWKIOR	001	040
VMDWKMCO	001	020
VMDWKMHI	001	008
VMDWKMHX	001	004
VMDWKPIN	001	080
VMDWKPRM	001	008
VMDWKRUN	001	010
VMDWKSCI	001	002
VMDWKTST	001	040
VMDWKUCP	001	080
VMDWKXCL	001	001
VMDWM0DC	001	218
VMDWMSOR	002	21E
VMDWSIGIU	001	040
VMDWWGON	001	040
VMDWWNTC3	001	21B
VMDWWNTKY	001	219
VMDWWNTVC	001	21C
VMDWPEND	001	261
VMDWRCPV	004	200
VMDWRGVT	008	248
VMDWRKCB	001	523
VMDWRKCD	001	520
VMDWRKCK	001	521
VMDWRKCL	001	522
VMDWRKCS	004	520
VMDWRKLB	001	527
VMDWRKLC	004	524
VMDWRKLD	001	524
VMDWRKLK	001	525
VMDWRKLL	001	526
VMDWRKXS	002	672
VMDWSDAD	004	208
VMDWSHAD	004	204
VMDWSHC1	004	20C
VMDWSSGR	001	080
VMDWSSPR	004	73C
VMDWSTAT	001	26A
VMDWTIME	008	250
VMDWTPAG	001	080
VMDWTTIO	001	040
VMDWTTSC	001	020
VMDWUNRQ	001	040
VMDWUSHD	001	080
VMDWUTOD	008	240
VMDWVDEV	004	330
VMDXA	001	020
VMDXSLIM	003	178
VMDXSTOR	004	4DC
VMDXT	024	2C0
VMDXTCAL	004	2D0
VMDXTEMS	008	2C8
VMDXTKEY	001	080
VMDXTMFA	008	2C0
VMDXTSFI	004	2D4
VMD370	001	010

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HCPVPGBK— VIRTUAL PAGE BLOCK

DSECT NAME: VPGBK

DESCRIPTIVE NAME: VIRTUAL PAGE BLOCK

FUNCTION: THE VPGBK IS USED TO MAP A PAGTE, PGSTE AND ASATE FOR ONE VIRTUAL PAGE. IT EXISTS SOLELY FOR ADDRESSABILITY. THE ADDRESS OF A PAGTE IS USED AS A VPGBK ADDRESS SO THAT THE CORRESPONDING PGSTE AND ASATE CAN BE ACCESSED USING ONLY ONE BASE REGISTER.

LOCATED BY:

THE VPGBK IS NOT A FIXED BLOCK. ITS ADDRESS IS THE SAME AS THE ADDRESS FOR ANY PAGTE.

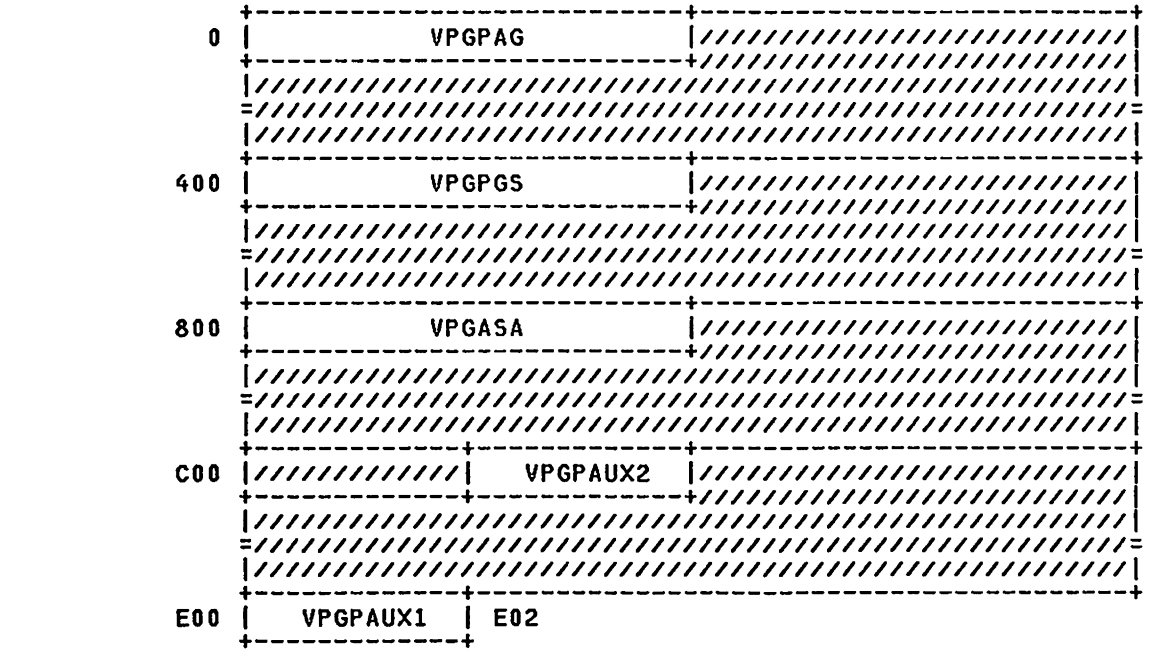
CREATED BY:

A VPGBK IS USED FOR ADDRESSABILITY ONLY. IT IS NOT CREATED OR DELETED.

DELETED BY:

SEE CREATED BY

VPGBK - VIRTUAL PAGE BLOCK



REDEFINITION -

REDEFINITION - PAGE STATUS WITHIN PAGE ENTRY

```
        REDEFINITION -

     +---------------------------+
400  |          VPGSNTRY         | 404
     +---------------------------+


        REDEFINITION - VIRTUAL PAGE STATUS

     +--------------------+------+
400  |      VPGSVKCF      |//////| 404
     +--------------------+------+


        REDEFINITION - VIRTUAL PAGE STATUS

     +------+------+------+------+
400  |:SVKEY|:SRCP |:SFLAG|:SSTAT| 404
     +------+------+------+------+


        REDEFINITION -

     +---------------------------+
800  |          VPGANTRY         | 804
     +---------------------------+


        REDEFINITION - AUXILIARY STORAGE ADDRESS

     +-------------+------+------+
800  |   VPGACNUM  |:APNUM|:AVOL | 804
     +-------------+------+------+
```

disp	name	length	description
000	VPGPAG	004	PAGE TABLE ENTRY
004	VPGNEXT	004	ADDRESS FOR NEXT VPGBK
004		255F	
400	VPGPGS	004	PAGE STATUS TABLE ENTRY
404		255F	
800	VPGASA	004	AUXILIARY STORAGE ADDRESS ENTRY
804		255F	
C00		H	
C02	VPGPAUX2	002	AUXILARY FIELD USED IF PTE > 128
C04		127F	
E00	VPGPAUX1	002	AUXILARY FIELD USED IF PTE < 128
	REDEFINITION -		
000	VPGPNTRY	004	HARDWARE PAGE TABLE ENTRY
	REDEFINITION - PAGE STATUS WITHIN PAGE ENTRY		
000	VPGPLINK	002	USED TO LINK DASD BLOCKS
000		X	BITS 1-19 ARE ARCHITECTED AS THE
001		X	4K ALIGNED PAGE FRAME ADDRESS.
002	VPGPSTAT	001	BITS 0, 20, AND 23 MUST BE ZERO, BITS 21 AND 22 ARE DEFINED BELOW
	BITS DEFINED FOR VPGPSTAT BY HCPPAGTE PAGSTAT		
003		X	THIS BYTE IS NOT ARCHITECTED AND IS AVAILABLE FOR SOFTWARE USE. IT IS RECOMMENDED THAT SOFTWARE REFRAIN FROM USING THIS BYTE UNLESS IT IS TO STORE THE GUEST

```
                          STORAGE KEY.

         REDEFINITION -

400   VPGSNTRY   004      VIRTUAL PAGE STATUS ENTRY

         REDEFINITION - VIRTUAL PAGE STATUS

400   VPGSVKCF   003      FIELD CONTAINING VPGSVKEY,VPGSRCP
                          AND VPGSFLAG
403              X        RESERVED FOR FUTURE IBM USE

         REDEFINITION - VIRTUAL PAGE STATUS

400   VPGSVKEY   001      GUEST STORAGE KEY BITS 0-4
401   VPGSRCP    001      ARCHITECTED AREA FOR RCP BYTE
                          IF THE STORAGE KEY ASSIST IS
                          BEING UTILIZED. (SEE THE PGSTE
                          AND RCPTE CONTROL BLOCKS FOR
                          FURTHER DETAILS)

        BITS DEFINED FOR VPGSRCP BY HCPPGSTE PGSRCP

402   VPGSFLAG   001      VIRTUAL PAGE FLAGS

        BITS DEFINED FOR VPGSFLAG BY HCPPGSTE PGSFLAG

403   VPGSSTAT   001      VIRTUAL PAGE STATUS BITS

        BITS DEFINED FOR VPGSSTAT BY HCPPGSTE PGSSTAT


         REDEFINITION -

800   VPGANTRY   004      AUXILIARY STORAGE ADDRESS

         REDEFINITION - AUXILIARY STORAGE ADDRESS

800   VPGACNUM   002      AUXILIARY STORAGE CYLINDER NUMBER
802   VPGAPNUM   001      AUXILIARY STORAGE PAGE NUMBER
803   VPGAVOL    001      AUXILIARY STORAGE VOLUME CODE

                   MORE EQUATES

       000    VPGPAGTE    VPGBK PAGE TABLE ENTRY
       400    VPGPGSTE    VPGBK PAGE STATUS ENTRY
       800    VPGASATE    VPGBK AUX STORAGE ADDRESS
       001    VPGBYTE3    MULTIPLIER FOR VPGSNTRY BYTE 3
       100    VPGBYTE2    MULTIPLIER FOR VPGSNTRY BYTE 2
       000    VPGBYTE1    MULTIPLIER FOR VPGSNTRY BYTE 1
       000    VPGBYTE0    MULTIPLIER FOR VPGSNTRY BYTE 0

                          MASK FOR SETTING LONG TERM SERIALIZATION:

       040    VPGLON

                          MASK FOR SETTING SHORT TERM SERIALIZATION:

       000    VPGSON

                          MASK FOR SETTING 'PAGE IN ERROR':

       001    VPGEON

                          MASK FOR RESETTING PAGE SERIALIZATION BITS:

       FBE    VPGFOFF
```

CROSS REFERENCE

Name	Len	Value/Disp
VPGACNUM	002	800
VPGANTRY	004	800
VPGAPNUM	001	802
VPGASA	004	800
VPGASATE	001	800
VPGAVOL	001	803
VPGBK	001	000
VPGBYTE0	001	000
VPGBYTE1	001	000
VPGBYTE2	001	100
VPGBYTE3	001	001
VPGEON	001	001
VPGFOFF	001	FBE
VPGLON	001	040
VPGNEXT	004	004
VPGPAG	004	000
VPGPAGTE	001	000
VPGPAUX1	002	E00
VPGPAUX2	002	C02
VPGPGS	004	400
VPGPGSTE	001	400
VPGPLINK	002	000
VPGPNTRY	004	000
VPGPSTAT	001	002
VPGSFLAG	001	402
VPGSNTRY	004	400
VPGSON	001	000
VPGSRCP	001	401
VPGSSTAT	001	403
VPGSVKCF	003	400
VPGSVKEY	001	400

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HCPVPXBK— VIRTUAL PRINTER EXTENSION BLOCK

DSECT NAME: VPXBK

DESCRIPTIVE NAME: VIRTUAL PRINTER EXTENSION BLOCK

FUNCTION: THIS CONTROL BLOCK CONTAINS INFORMATION SPECIFIC TO VIRTUAL 3800 PRINTERS.

LOCATED BY:

VDEVVPX FIELD OF HCPVDEV

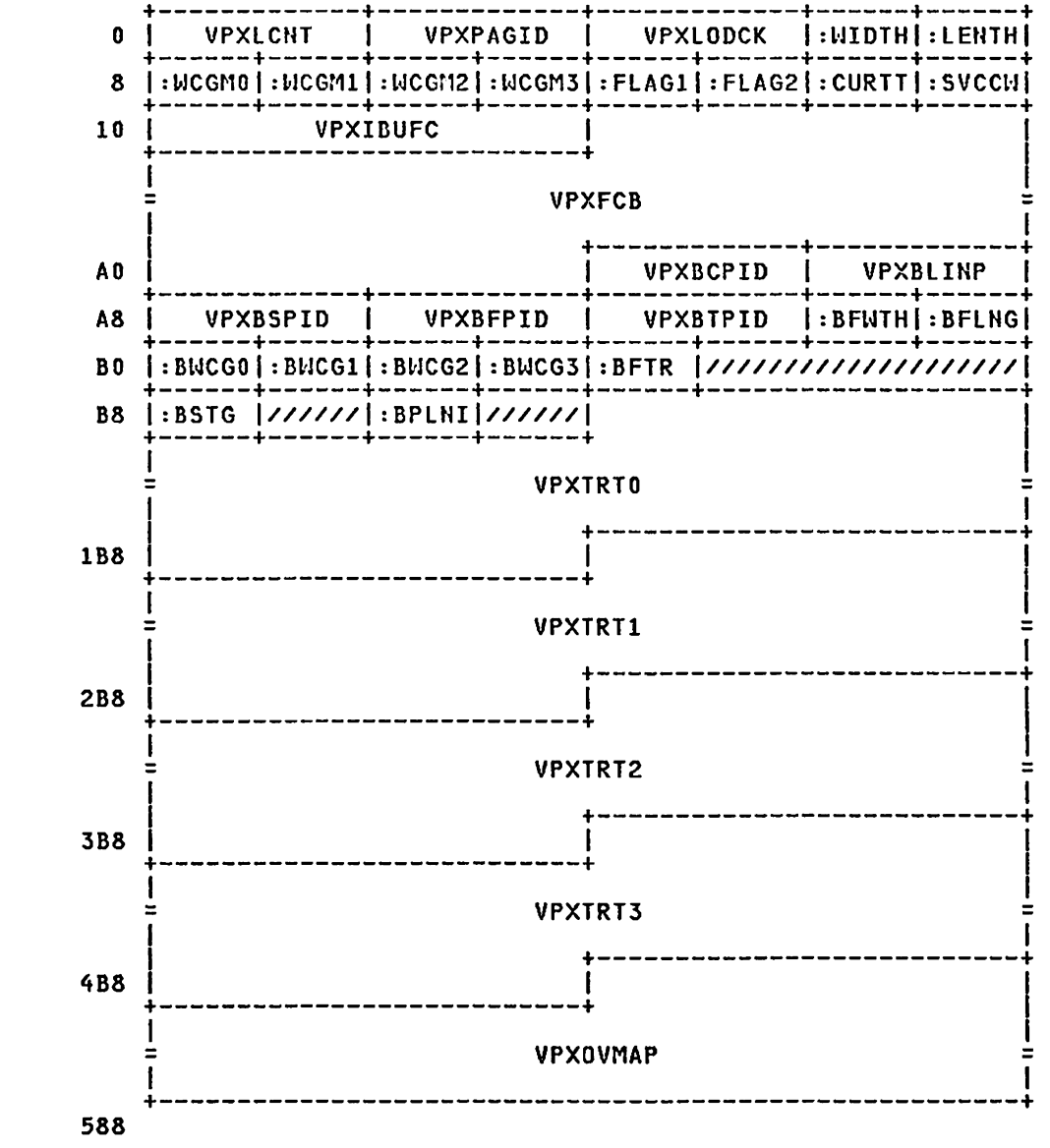
CREATED BY:

HCPVDSDF - WHILE DEFINING A VIRTUAL DEVICE.

DELETED BY:

HCPVDBDL - WHEN DELETING A VIRTUAL DEVICE.

VPXBK - VIRTUAL PRINTER EXTENSION BLOCK



disp	name	length	description
000		0F	
000	VPXLCNT	002	CURRENT LINE NUMBER
002	VPXPAGID	002	CHANNEL PAGE ID
004	VPXLODCK	002	RELATIVE DISPLACEMENT FOR LOAD CHECKS
006	VPXWIDTH	001	CODE FOR FORMS WIDTH
007	VPXLENTH	001	CODE FOR FORMS LENGTH
008	VPXWCGM0	001	CONTENTS OF WCGM 0
009	VPXWCGM1	001	CONTENTS OF WCGM 1
00A	VPXWCGM2	001	CONTENTS OF WCGM 2
00B	VPXWCGM3	001	CONTENTS OF WCGM 3
00C	VPXFLAG1	001	FEATURES/MISCELLANEOUS FLAGS
	BITS DEFINED IN VPXFLAG1 (AT HEX DISPLACEMENT: C)		
	80 VPXTT0V		TRANSLATE TABLE 0 IS VALID
	40 VPXTT1V		TRANSLATE TABLE 1 IS VALID
	20 VPXTT2V		TRANSLATE TABLE 2 IS VALID
	10 VPXTT3V		TRANSLATE TABLE 3 IS VALID
	08 VPXBTS		BURSTER-TRIMMER-STACKER FEATURE
	04 VPX4WCGM		4-WCGM FEATURE INSTALLED
	02 VPXBLKDC		DATA CHECKS SHOULD BE BLOCKED
	01 VPXALLDC		REFLECT ALL DATA CHECKS
00D	VPXFLAG2	001	SIMULATION CONTROLS
	BITS DEFINED IN VPXFLAG2 (AT HEX DISPLACEMENT: D)		
	80 VPXCLPRS		'CLR PRT' SUPPRESSED ON LOAD CCW
	40 VPXBIGBF		LARGE BUFFER IN USE
	20 VPXOVPRT		CHECK NEXT LINE FOR OVERPRINT
	10 VPXNORML		CURRENT CCW IS NOT A LOAD CCW
	08 VPXLFCB		A 'LOAD FCB' HAS BEEN ISSUED
00E	VPXCURTT	001	CURRENT TRANSLATE TABLE
00F	VPXSVCCW	001	CURRENT CCW COMMAND CODE
010		0F	
010	VPXIBUFC	004	DATA COUNT FOR INTERMEDIATED BUFFER
014	VPXFCB	144	FCB CURRENTLY LOADED
0A4	VPXINTBF	024	INTERMEDIATE BUFFER SUBFIELDS IN 3800 INTERMEDIATE BUFFER IN RESPONSE TO THE REQUEST PRINTER INFORMATION ORDER CODE OF THE EXECUTE ORDER CONTROL CCW.
0A4	VPXBCPID	002	CHANNEL PAGE ID
0A6	VPXBLINP	002	FCB LINE POSITION
0A8	VPXBSPID	002	STACKED PAGE ID
0AA	VPXBFPID	002	FUSER PAGE ID
0AC	VPXBTPID	002	TRANSFER PAGE ID
0AE	VPXBFWTH	001	FORMS WIDTH CODE
0AF	VPXBFLNG	001	LENGTH OF CURR PAGE (1/2 IN)
0B0	VPXBWCGS	004	WCGMS 0-3 IDS
0B0	VPXBWCG0	001	WCGM 0 ID
0B1	VPXBWCG1	001	WCGM 1 ID
0B2	VPXBWCG2	001	WCGM 2 ID
0B3	VPXBWCG3	001	WCGM 3 ID
0B4	VPXBFTR	001	FEATURES
	BITS DEFINED IN VPXBFTR (AT HEX DISPLACEMENT: B4)		
	08 VPXB4WCG		4 WCGM INSTALLED
	04 VPXBBTS		BTS INSTALLED
0B5		XL3	
0B8	VPXBSTG	J01	STORAGE SIZE, 3800-3
	CODES DEFINED IN VPXBSTG (AT HEX DISPLACEMENT: B8)		
	31 VPXBSTGS		DEFAULT STORAGE SIZE,3800-3
0B9		XL1	
0BA	VPXBPLNI	001	PAPER LINE INFO, 3800-3
	BITS DEFINED IN VPXBPLNI (AT HEX DISPLACEMENT: BA)		

```
        01    VPXBBTS3    BTS INSTALLED 3800-3

0BB                 XL1
0BC   VPXTRT0       256       BYTE MAP FOR UNPRINTABLE
1BC   VPXTRT1       256       ... CHARACTERS FOR EACH
2BC   VPXTRT2       256       ... OF THE POSSIBLE
3BC   VPXTRT3       256       ... TRANSLATE TABLES
4BC   VPXOVMAP      204       MAP FOR OVERPRINT DETECTION

                    EQUATES

        B1    VPXSIZE     BLOCK SIZE IN DBL-WORDS


                  MORE EQUATES

        08    VPXWCGMS    WCGM CODES DEFINED
        14    VPXFCB1     1ST BYTE OF FCB
        0F    VPXFCBND    6 BYTES BEFORE END OF FCB
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
VPXALLDC	001	001	VPXPAGID	002	002
VPXBBTS	001	004	VPXSIZE	001	0B1
VPXBBTS3	001	001	VPXSVCCW	001	00F
VPXBCPID	002	0A4	VPXTRT0	256	0BC
VPXBFLNG	001	0AF	VPXTRT1	256	1BC
VPXBFPID	002	0AA	VPXTRT2	256	2BC
VPXBFTR	001	0B4	VPXTRT3	256	3BC
VPXBFWTH	001	0AE	VPXTT0V	001	080
VPXBIGBF	001	040	VPXTT1V	001	040
VPXBK	001	000	VPXTT2V	001	020
VPXBLINP	002	0A6	VPXTT3V	001	010
VPXBLKDC	001	002	VPXWCGMS	004	008
VPXBPLNI	001	0BA	VPXWCGM0	001	008
VPXBSPID	002	0A8	VPXWCGM1	001	009
VPXBSTG	001	0B8	VPXWCGM2	001	00A
VPXBSTGS	001	031	VPXWCGM3	001	00B
VPXBTPID	002	0AC	VPXWIDTH	001	006
VPXBTS	001	008	VPX4WCGM	001	004
VPXBWCGS	004	0B0			
VPXBWCG0	001	0B0			
VPXBWCG1	001	0B1			
VPXBWCG2	001	0B2			
VPXBWCG3	001	0B3			
VPXB4WCG	001	008			
VPXCLPRS	001	080			
VPXCURTT	001	00E			
VPXFCB	144	014			
VPXFCBND	144	00F			
VPXFCB1	001	014			
VPXFLAG1	001	00C			
VPXFLAG2	001	00D			
VPXIBUFC	004	010			
VPXINTBF	024	0A4			
VPXLCNT	002	000			
VPXLENTH	001	007			
VPXLFCB	001	008			
VPXLODCK	002	004			
VPXNORML	001	010			
VPXOVMAP	204	4BC			
VPXOVPRT	001	020			

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HCPVRSBK— V=R RECOVERY STORAGE MANAGEMENT

DSECT NAME: VRSBK

DESCRIPTIVE NAME: V=R RECOVERY STORAGE MANAGEMENT BACKUP AREA.

FUNCTION: A SAVEAREA FOR V=R FREE STORAGE DATA

LOCATED BY:

HCPWRKRS

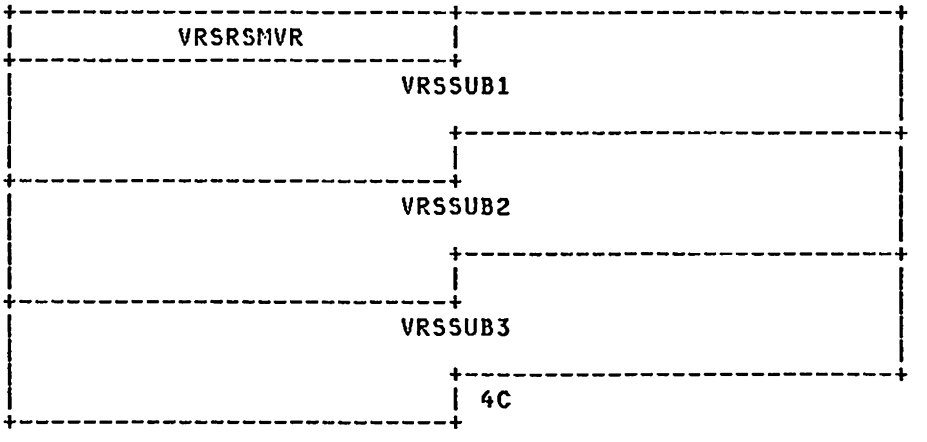
CREATED BY:

NEVER CREATED. HCPVRSBK MAPS THE DATA AREA 'HCPWRKRS' LOCATED IN THE DATA MODULE 'HCPWRK'.

DELETED BY:

NEVER DELETED - SEE ABOVE

VRSBK - V=R RECOVERY STORAGE MANAGEMENT BACKUP AREA



disp	name	length	description
000	VRSRSMVR	004	DW'S OF V=R FREE STORAGE IN USE
004	VRSSUB1	004	1ST ELEMENT OF V=R SUBPOOL DATA
01C	VRSSUB2	004	2ND ELEMENT OF V=R SUBPOOL DATA
034	VRSSUB3	004	3RD ELEMENT OF V=R SUBPOOL DATA

EQUATES

0A	VRSSIZE	LENGTH OF HCPVRSBK IN DWS

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
VRSBK	001	000	VRSSUB2	004	01C
VRSRSMVR	004	000	VRSSUB3	004	034
VRSSIZE	001	00A			
VRSSUB1	004	004			

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HCPVSATB— VECTOR SAVE AREA TABLE

DSECT NAME: VSATB

DESCRIPTIVE NAME: VECTOR SAVE AREA TABLE

FUNCTION: MAPS THE VECTOR REGISTER SAVE AREA FOR THE GUESTS VIRTUAL VECTOR FACILITY

LOCATED BY:

VECVSATB (FIELD IN VECBK)

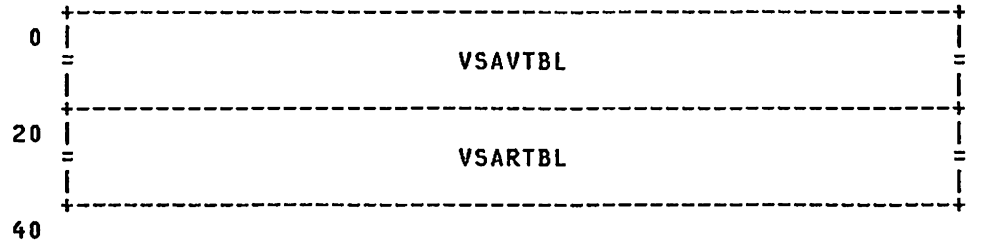
CREATED BY:

HCPVSMAL

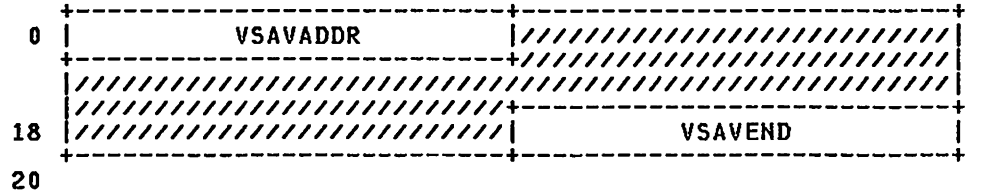
DELETED BY:

HCPVSMDA

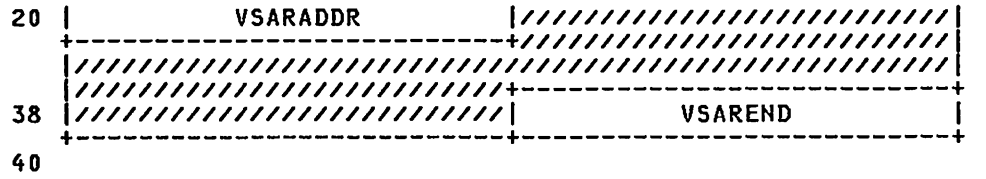
VSATB - VECTOR SAVE AREA TABLE



REDEFINITION -



REDEFINITION -



disp	name	length	description
0u0		0D	ALIGN TO DOUBLEWORD BOUNDARY
000	VSAVTBL	004	VIRTUAL ADDRESS SECTION. CONTAINS 8 SYSTEM VIRTUAL ADDRESSES
020	VSARTBL	004	REAL ADDRESS SECTION. CONTAINS 8 REAL ADDRESSES

EQUATES

08	VSASIZE	SIZE OF TABLE IN DOUBLEWORDS

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```
        REDEFINITION -

000   VSAVADDR   004       FIRST SYSTEM VIRTUAL ADDRESS

                  EQUATES

        04     VSAELMSZ     SIZE OF ONE ELEMENT IN BYTES

004                6A       6 SYSTEM VIRTUAL ADDRESSES...
                            IN BETWEEN
01C   VSAVEND    004       LAST SYSTEM VIRTUAL ADDRESS


        REDEFINITION -

020   VSARADDR   004       FIRST REAL ADDRESSES
024                6A       6 REAL ADDRESSES IN BETWEEN
03C   VSAREND    004       LAST REAL ADDRESS
```

CROSS REFERENCE

Name	Len	Value/Disp
VSAELMSZ	001	004
VSARADDR	004	020
VSAREND	004	03C
VSARTBL	004	020
VSASIZE	001	008
VSATB	001	000
VSAVADDR	004	000
VSAVEND	004	01C
VSAVTBL	004	000

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HCPVSHBK— VIRTUAL SIE PAGE TABLE DESCRIPTION

DSECT NAME: VSHBK

DESCRIPTIVE NAME: VIRTUAL SIE PAGE TABLE DESCRIPTION

FUNCTION: DESCRIBES THE SHADOW PAGE TABLES USED WITH V/SIE

LOCATED BY:

MULTIPLE COPIES OF THE VSHBK ARE CONTAINED IN THE VSIBK WHICH IS POINTED TO BY THE VMDWSHAD FIELD OF HCPVMDBK.
VSISHPTS IN THE VSIBK POINTS TO THE FIRST OF THE PAGE TABLE DESCRIPTORS.
VSISHPTL POINTS TO THE LAST OF THE PAGE TABLE DESCRIPTORS.

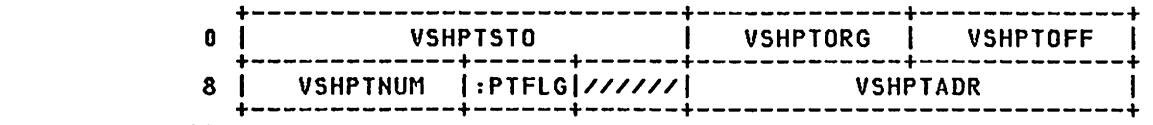
CREATED BY:

HCPWSHPX

DELETED BY:

HCPWSHFR

VSHBK - VIRTUAL SIE SHADOW CONTROL



disp	name	length	description
000	VSHPTSTO	004	STO VALUE AT LAST USE
004	VSHPTORF	004	VGUEST ORIGIN AND OFFSET
004	VSHPTORG	002	VGUEST ORIGIN FOR THIS TABLE
006	VSHPTOFF	002	OFFSET TO LAST STE USING THIS
008	VSHPTNUM	002	SEGMENT FAULT CREATION NUMBER
00A	VSHPTFLG	001	FLAG FOR PAGE TABLE LOOKASIDE
	BITS DEFINED IN VSHPTFLG (AT HEX DISPLACEMENT: A)		
	80 VSHPTVLD		THIS PAGE TABLE IS VALID
	40 VSHPTUSE		THIS PAGE TABLE IN USE
00B		X	RESERVED FOR FUTURE IBM USE
00C	VSHPTADR	004	SHADOW PAGE TABLE ADDRESS
010	VSHPTEND	004	END OF PAGE TABLE DESCRIPTOR
	EQUATES		
	10 VSHPTLEN		LENGTH OF PAGE TABLE DESCRIPTOR WARNING - THIS FIELD MUST BE 16 BYTES FOR COMPATIBILITY WITH VSIBK COPY FILE AND HCPWSH MODULE. FOLLOWING EQUATES VERIFY THIS LENGTH
	FF VSHLXXX1		LENGTH CHECK
	FF VSHWXXX2		LENGTH CHECK (ASSEMBLY ERROR IS GENERATED IF LENGTH CHECK FAILS)

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CROSS REFERENCE

Name	Len	Value/Disp
VSHBK	001	000
VSHLXXX1	001	FFF
VSHPTADR	004	00C
VSHPTEND	004	010
VSHPTFLG	001	00A
VSHPTLEN	001	010
VSHPTNUM	002	008
VSHPTOFF	002	006
VSHPTORF	004	004
VSHPTORG	002	004
VSHPTSTO	004	000
VSHPTUSE	001	040
VSHPTVLD	001	080
VSHWXXX2	001	FFF

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HCPVSIBK— V/SIE SHADOW TRANSLATION TABLE CONTROL

DSECT NAME: VSIBK

DESCRIPTIVE NAME: V/SIE SHADOW TRANSLATION TABLE CONTROL

FUNCTION: THIS BLOCK CONTROLS THE SHADOW TRANSLATION TABLES USED WHEN A GUEST HAS ISSUED A SIE INSTRUCTION (V/SIE). THE SHADOW TRANSLATION TABLES ALLOW THE HARDWARE TO TRANSLATE FROM VIRTUAL GUEST REAL TO HOST REAL, IN THE SAME WAY AS IT NORMALLY TRANSLATES GUEST REAL TO HOST REAL FOR NORMAL GUESTS. WITHIN THIS CONTROL BLOCK, THERE ARE UP TO 12 COPIES OF THE VSHBK COPY FILE WHICH IS USED TO DESCRIBE THE PAGE TABLES USED BY V/SIE. THE VSIBK CONTAINS MOSTLY SEGMENT TABLE INFORMATION, WHILE THE VSHBK HAS PAGE TABLE INFORMATION.

LOCATED BY:

THE VMDWSHAD FIELD OF THE VMDBK

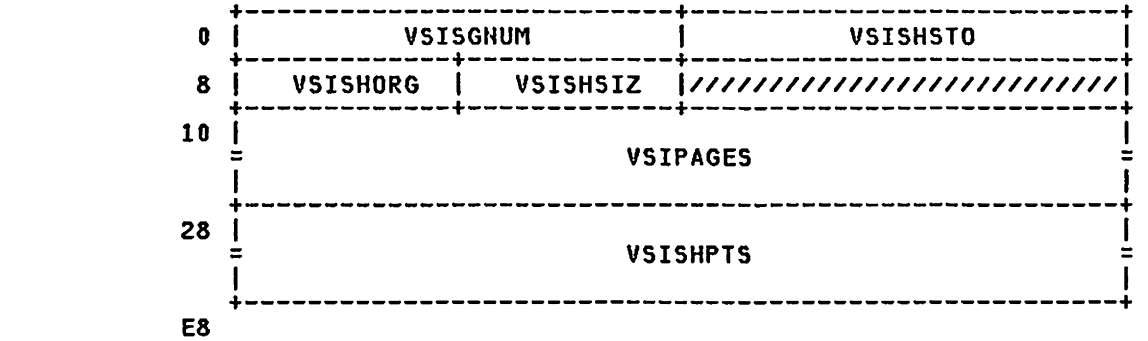
CREATED BY:

HCPWSHPX

DELETED BY:

HCPWSHFR

VSIBK - VIRTUAL SIE PAGE TABLE DESCRIPTION



disp	name	length	description
000	VSISGNUM	004	CURRENT SEGMENT FAULT NUMBER FIELD INCREMENTED BY ONE AT EACH SEGMENT FAULT. USED AS AN 'AGE' FACTOR TO DETERMINE VALID ENTRIES.
004	VSISHSTO	004	STO VALUE AT LAST VSIE ENTRY
008	VSISHORG	002	SIEMSORG FOR CURRENT TABLES
00A	VSISHSIZ	002	SIEGMSIZ FOR CURRENT TABLES
00C		F	RESERVED FOR FUTURE IBM USE VIRTUAL-GUEST MAIN STORAGE ORIGIN VALUE IF NOT ZERO
010	VSIPAGES	008	SYSTEM PAGE DESCRIPTORS * ??? THIS FIELD NEEDS MORE DESCRIPTION

EQUATES

03	VSIPGCNT	NUMBER OF SYSTEM PAGE SLOTS
0C	VSIPTCNT	NUMBER OF PAGE TABLES
28	VSISHDRL	LENGTH TO CLEAR TO ZEROES

028	VSISHDES	008	ALIGNMENT FOR SHADOW DESCRIPTORS
028	VSISHPTS	016	TWELVE COPIES OF VSHBK COPY

EQUATES

D8	VSISHPTL	ADDRESS OF LAST ENTRY IN TABLE WARNING - THERE ARE 12 COPIES OF VSHBK CONTAINED WITHIN VSISHPTS, OF EXACTLY 16 BYTES EACH. THIS LENGTH CANNOT BE CHANGED WITHOUT CHANGES TO VSIBK COPY FILE AND HCPWSH MODULE.

```
                        FOLLOWING EQUATES USED TO ENSURE VSHBK IS 16 BYTES.
        FF      VSILXXX1        LENGTH CHECK
        FF      VSIWXXX2        LENGTH CHECK
                                (ASSEMBLY ERROR IS GENERATED IF LENGTH CHECK FAILS)
        E8      VSISHLEN        LENGTH OF BLOCK IN BYTES
        1D      VSISIZE         BLOCK SIZE, DOUBLE WORDS
```

CROSS REFERENCE

Name	Len	Value/Disp
VSIBK	001	000
VSILXXX1	001	FFF
VSIPAGES	008	010
VSIPGCNT	001	003
VSIPTCNT	001	00C
VSISGNUM	004	000
VSISHDES	008	028
VSISHDRL	001	028
VSISHLEN	001	0E8
VSISHORG	002	008
VSISHPTL	001	0D8
VSISHPTS	016	028
VSISHSIZ	002	00A
VSISHSTO	004	004
VSISIZE	001	01D
VSIWXXX2	001	FFF

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HCPVSPBK— VIRTUAL SPOOLING DEVICE BLOCK

DSECT NAME: VSPBK

DESCRIPTIVE NAME: VIRTUAL SPOOLING DEVICE BLOCK

FUNCTION: CONTAINS THE INFORMATION NECESSARY FOR SIMULATION OF A VIRTUAL SPOOLING DEVICE (READER, PRINTER, PUNCH, OR CONSOLE).

LOCATED BY:

ANCHOR IN HCPVDEV

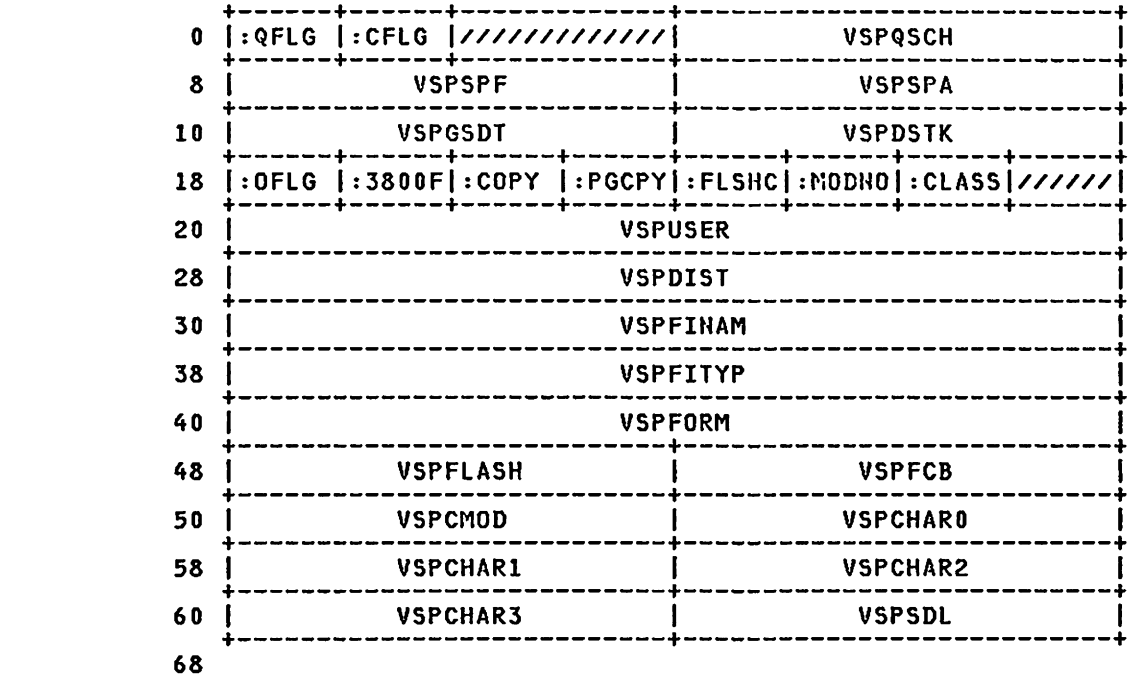
CREATED BY:

HCPABNDS : MUST CREATE A DUMMY SPOOLING PRINTER ON WHICH A PRINTABLE DUMP MAY BE CREATED.
HCPVSPBV : BUILD A VSPBK FOR A SPOOLING DEVICE.

DELETED BY:

HCPABNDS : ONCE A PRINTABLE DUMP ON THE DUMMY PRINTER HAS BEEN CREATED.
HCPVDBDL : WHEN DELETING A VIRTUAL DEVICE.

VSPBK - VIRTUAL SPOOLING DEVICE BLOCK



disp	name	length	description
000	VSPQFLG	001	SPOOL FILE QUEUE FLAG

BITS DEFINED IN VSPQFLG (AT HEX DISPLACEMENT: 0)

80	VSPRDR	CHAIN ON RDR QUEUE AT CLOSE
40	VSPPUN	CHAIN ON PUN QUEUE AT CLOSE
20	VSPPRT	CHAIN ON PRT QUEUE AT CLOSE

001	VSPCFLG	001	SPOOLING DEVICE CONTROL FLAG

BITS DEFINED IN VSPCFLG (AT HEX DISPLACEMENT: 1)

```
        80     VSPACTV     SPOOLING TASK ACTIVE ON THE DEVICE

002               1H       RESERVED FOR FUTURE IBM USE
004    VSPQSCH    004      SPFBK LAST 'FOUND' IN DIAG. SUPPORT
008    VSPSPF     004      POINTER TO ACTIVE SPFBK
00C    VSPSPA     004      POINTER TO CURRENT SPABK
010    VSPGSDT    004      POINTER TO GSDBK CONTAINING TAG DATA
014    VSPDSTK    004      LOCAL SPOOLING TASK STACK (CPEBK'S)
018    VSPOFLG    001      VIRTUAL DEVICE SPOOL OPTIONS FLAG

        BITS DEFINED IN VSPOFLG  (AT HEX DISPLACEMENT: 18)

        80     VSPCONT     'CONT'  OPTION SET
        40     VSPHOLD     'HOLD'  OPTION SET
        20     VSPKEEP     'KEEP'  OPTION SET
        10     VSPMSG      'MSG'   OPTION SET
        08     VSPSTRT     'START' OPTION SET
        04     VSPTERM     'TERM'  OPTION SET
        02     VSPEOF      'EOF'   OPTION SET

019    VSP3800F   001      VIRTUAL 3800 PRINTER FLAGS

        BITS DEFINED IN VSP3800F (AT HEX DISPLACEMENT: 19)

        80     VSPFLALL    FLASH ALL COPIES OF THE FILE

01A    VSPCOPY    001      FILE COPY COUNT
01B    VSPPGCPY   001      PAGE COPY COUNT (USED ONLY FOR 3800)
01C    VSPFLSHC   001      3800 FLASH COUNT FOR SPOOL FILES
01D    VSPMODNO   001      3800 COPY MOD CHAR SET NUMBER (0-3)
01E    VSPCLASS   001      SPOOL CLASS (A-Z OR 0-9)
01F               1X       RESERVED FOR FUTURE IBM USE
020    VSPUSER    008      USERID TO RECIEVE RESULTING SPOOL FILES
028    VSPDIST    008      DISTRIBUTION CODE
030    VSPFINAM   008      FILENAME
038    VSPFITYP   008      FILETYPE
040    VSPFORM    008      FORM NAME
048    VSPFLASH   004      3800 FORMS OVERLAY (FLASH) NAME
04C    VSPFCB     004      3800 FORMS CONTROL BUFFER (FCB) NAME
050    VSPCMOD    004      3800 COPY MODIFICATION NAME
054    VSPCHARS   016      LENGTH ATTRIBUTE TO CLEAR CHAR0 - CHAR3
054    VSPCHAR0   004      3800 CHARACTER SET NAME - FIRST
058    VSPCHAR1   004      3800 CHARACTER SET NAME - SECOND
05C    VSPCHAR2   004      3800 CHARACTER SET NAME - THIRD
060    VSPCHAR3   004      3800 CHARACTER SET NAME - FOURTH
064    VSPSDL     004      ADDRESS OF THE SDLBK - USED BY SPOOL

                   EQUATES

        0D     VSPSIZE     VSPBK SIZE IN DOUBLE-WORDS
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp	Name	Len	Value/Disp
VSPACTV	001	080	VSPCMOD	004	050	VSPFLALL	001	080
VSPBK	001	000	VSPCONT	001	080	VSPFLASH	004	048
VSPCFLG	001	001	VSPCOPY	001	01A	VSPFLSHC	001	01C
VSPCHARS	016	054	VSPDIST	008	028	VSPFORM	008	040
VSPCHAR0	004	054	VSPDSTK	004	014	VSPGSDT	004	010
VSPCHAR1	004	058	VSPEOF	001	002	VSPHOLD	001	040
VSPCHAR2	004	05C	VSPFCB	004	04C	VSPKEEP	001	020
VSPCHAR3	004	060	VSPFINAM	008	030	VSPMODNO	001	01D
VSPCLASS	001	01E	VSPFITYP	008	038	VSPMSG	001	010

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Name	Len	Value/Disp
VSPOFLG	001	018
VSPPGCPY	001	01B
VSPPRT	001	020
VSPPUN	001	040
VSPQFLG	001	000
VSPQSCH	004	004
VSPRDR	001	080
VSPSDL	004	064
VSPSIZE	001	00D
VSPSPA	004	00C
VSPSPF	004	008
VSPSTRT	001	008
VSPTERM	001	004
VSPUSER	008	020
VSP3800F	001	019

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HCPWRMBK— WARMSTART WORKAREA OVERLAY

DSECT NAME: WRMBK

DESCRIPTIVE NAME: WARMSTART WORKAREA OVERLAY

FUNCTION: OVERLAYS THE WARM START FREE STORAGE WORK AREA PAGE CREATED BY HCPWRM.

LOCATED BY:

N/A

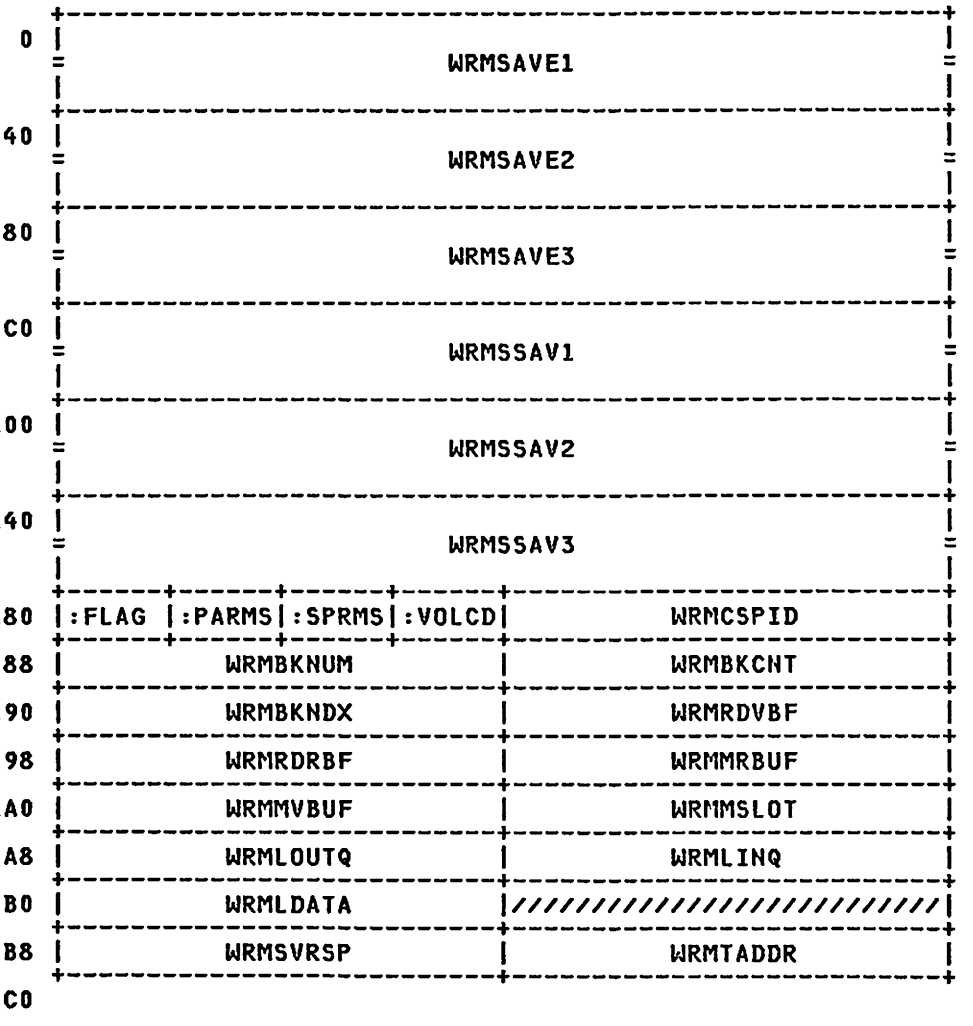
CREATED BY:

N/A

DELETED BY:

N/A

WRMBK - WARMSTART WORKAREA OVERFLOW



disp	name	length	description
000	WRMSAVE1	004	1ST LEVEL SUBROUTINE SAVEAREA
040	WRMSAVE2	004	2ND LEVEL SUBROUTINE SAVEAREA
080	WRMSAVE3	004	3RD LEVEL SUBROUTINE SAVEAREA
0C0	WRMSSAV1	004	1ST LEVEL SUBROUTINE SAVEAREA
100	WRMSSAV2	004	2ND LEVEL SUBROUTINE SAVEAREA

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```
140   WRMSSAV3   004      3RD LEVEL SUBROUTINE SAVEAREA
180   WRMFLAG    001      WARM-START CONTROL FLAG
181   WRMPARMS   001      WORK COPY OF WRM ENTRY PARAMETERS
182   WRMSPRMS   001      WORK COPY OF WRS ENTRY PARAMETERS
183   WRMVOLCD   001      VOLUME CODE FOR SYSRES DEVICE
184   WRMCSPID   004      CURRENT SPOOL FILE RECOVERY SPID
188   WRMBKNUM   004      NUMBER OF CURRENT DASD BLOCK
18C   WRMBKCNT   004      NUMBER OF DASD BLOCKS FOR ENTRY
190   WRMBKNDX   004      ADDRESS OF NEXT RECORD IN BUFFER
194   WRMRDVBF   004      VIRTUAL BUFFER ADDRESS
198   WRMRDRBF   004      REAL BUFFER ADDRESS
19C   WRMMRBUF   004      SPOOL FILE CKPT MAP REAL ADDRESS
1A0   WRMMVBUF   004      SPOOL FILE CKPT MAP VIRT ADDRESS
1A4   WRMMSLOT   004      ADDRESS OF ASA IN MAP PAGE
1A8   WRMLOUTQ   004      CURRENT OUTPUT QUEUE POINTER
1AC   WRMLINQ    004      CURRENT INPUT QUEUE POINTER
1B0   WRMLDATA   004      CURRENT DATA QUEUE POINTER
1B4               F       RESERVED FOR IBM USE
1B8   WRMSVRSP   004      SAVE AREA FOR RSPBK POINTER
1BC   WRMTADDR   004      SAVE AREA FOR VIRTUAL ADDRESS
1C0   WRMEND     004      MARKER FOR END OF WORK AREA

                    EQUATES

      38    WRMSIZE     WRMBK SIZE IN DOUBLEWORDS


                  MORE EQUATES

      02    WRMRSTRT    UNIT RECORD RESTART REQUIRED
      04    WRMUPDTE    UPDATE CURRENT SFNDX PAGE
                        EQU   X'08'         RESERVED FOR FUTURE IBM USE
      10    WRMM9201    MESSAGE 9201W SENT ONCE ALREADY
                        EQU   X'20'         RESERVED FOR FUTURE IBM USE
                        EQU   X'40'         RESERVED FOR FUTURE IBM USE
                        EQU   X'80'         RESERVED FOR FUTURE IBM USE
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
WRMAUTO	001	010	WRMSAVE1	004	000
WRMBK	001	000	WRMSAVE2	004	040
WRMBKCNT	004	18C	WRMSAVE3	004	080
WRMBKNDX	004	190	WRMSHTDN	001	008
WRMBKNUM	004	188	WRMSIZE	004	038
WRMCOLD	001	001	WRMSPRMS	001	182
WRMCSPID	004	184	WRMSSAV1	004	0C0
WRMDRAIN	001	004	WRMSSAV2	004	100
WRMDSABL	001	040	WRMSSAV3	004	140
WRMEND	004	1C0	WRMSVRSP	004	1B8
WRMFLAG	001	180	WRMTADDR	004	1BC
WRMFRCE	001	020	WRMUPDTE	001	004
WRMLDATA	004	1B0	WRMVOLCD	001	183
WRMLINQ	004	1AC	WRMWARM	001	002
WRMLOUTQ	004	1A8			
WRMMRBUF	004	19C			
WRMMSLOT	004	1A4			
WRMMVBUF	004	1A0			
WRMM9201	001	010			
WRMNODIR	001	080			
WRMPARMS	001	181			
WRMRDRBF	004	198			
WRMRDVBF	004	194			
WRMRSTRT	001	002			

HCPXBLBK— XA BUFFER LIST BLOCK.

DSECT NAME: XBLBK

DESCRIPTIVE NAME: XA BUFFER LIST BLOCK.

FUNCTION: THIS BLOCK IS USED TO KEEP TRACK OF THE REAL BUFFERS THAT CONTAIN VIRTUAL DEVICE INFORMATION.

LOCATED BY:

ADDRESSABILITY IS ESTABLISHED WHEN OBTAINING FREE STORAGE. THE BLOCK IS NOT ANCHORED ANYWHERE.

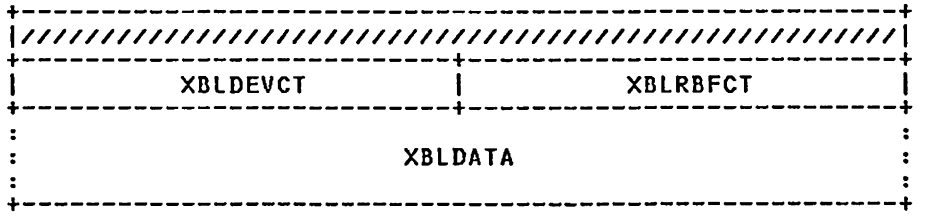
CREATED BY:

HCPIIR WHEN SAVING THE VIRTUAL DEVICE INFORMATION.
- HCPNSE WHEN RESTORING THE VIRTUAL DEVICE INFORMATION.

DELETED BY:

HCPNSE WILL RETURN THE BLOCK TO FREE STORAGE.

XBLBK - XA BUFFER LIST BLOCK



REDEFINITION -

disp	name	length	description
000		XL8	RESERVED FOR FUTURE IBM USE.
008	XBLDEVCT	004	COUNT OF THE NUMBER OF DEVICES.
00C	XBLRBFCT	004	COUNT OF REAL BUFFER ADDRESSES.
			EQUATES
	02 XBLHDRSZ		THIS IS THE HEADER SIZE IN DW.
010	XBLDATA	004	START OF VARIABLE LENGTH DATA.
			REDEFINITION -
010	XBLRBFAD	004	THE FIRST REAL BUFFER ADDRESS STARTS HERE.
			EQUATES
	04 XBLRBSIZ		THIS IS THE SIZE OF AN ENTRY FOR A REAL BUFFER.

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CROSS REFERENCE

Name	Len	Value/Disp
XBLBK	001	000
XBLDATA	004	010
XBLDEVCT	004	008
XBLHDRSZ	001	002
XBLRBFAD	004	010
XBLRBFCT	004	00C
XBLRBSIZ	001	004

HCPXDRBK— EXPANDED STORAGE DIRECTORY BLOCK

DSECT NAME: XDRBK

DESCRIPTIVE NAME: EXPANDED STORAGE DIRECTORY BLOCK

FUNCTION: THIS BLOCK MAINTAINS THE STATE OF ALL INCREMENTS OF EXPANDED STORAGE INSTALLED ON THE SYSTEM.

LOCATED BY:

THE POINTER TO THE COLLECTION OF XDRBKS KNOWN AS THE "DIRECTORY" IS LOCATED IN FIELD XSTDIRAN OF THE EXPANDED STORAGE MANAGEMENT DATA BLOCK (XSTMG).

CREATED BY:

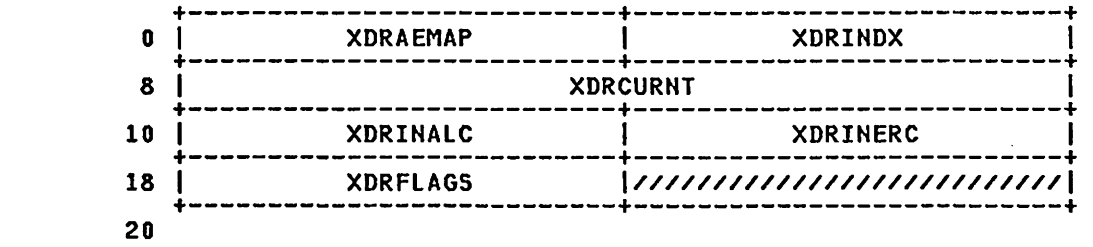
HCPESCDI DURING INITIALIZATION PROCESSING.

DELETED BY:

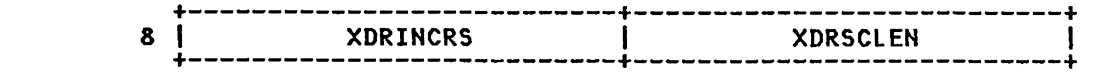
HCPESCDI IF NO EXPANDED STORAGE IS CONFIGURED TO THE SYSTEM.

XDRBK - EXPANDED STORAGE DIRECTORY BLOCK

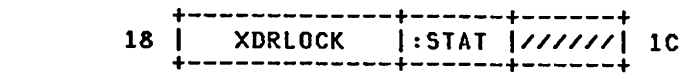
REDEFINITION -



REDEFINITION -



REDEFINITION -



REDEFINITION -

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disp	name	length	description
000	XDRINCDR	008	INCREMENT DIRECTORY ENTRY
	REDEFINITION -		
000	XDRENTRY	008	INCREMENT DIRECTORY ENTRY
000	XDRAEMAP	004	ADDRESS OF ALLOCATION AND ERROR MAPS (XSUBK) FOR THIS INCREMENT.
004	XDRINDX	004	INCREMENT INDEX.
008	XDRCURNT	008	CURRENT STATUS OF ALLOCATION.
010	XDRINALC	004	COUNT OF BLOCKS AVAILABLE IN THE INCREMENT
014	XDRINERC	004	COUNT OF BLOCKS IN ERROR IN THE INCREMENT.
018	XDRFLAGS	004	FLAGS AND LOCKS FOR THE ENTRY
01C		F	RESERVED FOR IBM USE
	REDEFINITION -		
008	XDRINCRS	004	INCREMENT CURSOR WHICH POINTS TO THE NEXT AVAILABLE BLOCK TO ATTEMPT TO ALLOCATE WITHIN THIS INCREMENT.
00C	XDRSCLEN	004	LENGTH OF ALLOCATION MAP LEFT TO SCAN. IT IS THE NUMBER OF BYTES BETWEEN XDRINCRS AND THE END OF THE ALLOCATION MAP.
	REDEFINITION -		
018	XDRLOCK	002	LOCK AREA FOR THIS INCREMENT
01A	XDRSTAT	001	INCREMENT STATUS FLAG BYTE
	BITS DEFINED IN XDRSTAT (AT HEX DISPLACEMENT: 1A)		
	80 XDRCONFG		INCREMENT IS CONFIGURED TO THIS HARDWARE PARTITION.
	40 XDRSTDBY		INCREMENT IS IN STANDBY MODE
	20 XDRRESVD		INCREMENT IS IN RESERVED MODE
	08 XDRONLIN		INCREMENT IS LOGICALLY ONLINE AND USABLE.
	02 XDRCP		INCREMENT IS FOR CP ALLOCATION
01B		X	RESERVED FOR IBM USE
	REDEFINITION -		
018	XDRINCLK	001	THIS IS THE LOCK BYTE FOR THE INCREMENT. THE LOCK MUST BE OBTAINED TO SCAN FOR A BLOCK WITHIN THE INCREMENT.
019	XDROWNER	001	THIS IS THE LOCK OWNER IDENTIFIER FIELD.
	CODES DEFINED IN XDROWNER (AT HEX DISPLACEMENT: 19)		
	E3 XDRATTCH		ATTACH OWNS THE LOCK
	D9 XDREPAIR		USABILITY MAP REPAIR OWNS LOCK
	C5 XDRDETCH		DETACH OWNS THE LOCK
	C4 XDRDEALC		DEALLOCATION OWNS THE LOCK
	00 XDRALLOC		IF XDRINCLK IS SET, ALLOCATION OWNS THE LOCK. IF XDRINCLK IS NOT SET THEN NO OWNER.
	MORE EQUATES		
	20 XDRLENTH		LENGTH OF EACH XDRBK IN BYTES
	04 XDRSIZE		LENGTH OF EACH XDRBK IN DWORDS

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CROSS REFERENCE

Name	Len	Value/Disp
XDRAEMAP	004	000
XDRALLOC	001	000
XDRATTCH	001	0E3
XDRBK	001	000
XDRCONFG	001	080
XDRCP	001	002
XDRCURNT	008	008
XDRDEALC	001	0C4
XDRDETCH	001	0C5
XDRENTRY	008	000
XDREPAIR	001	0D9
XDRFLAGS	004	018
XDRINALC	004	010
XDRINCDR	008	000
XDRINCLK	001	018
XDRINCRS	004	008
XDRINDX	004	004
XDRINERC	004	014
XDRLENTH	001	020
XDRLOCK	002	018
XDRONLIN	001	008
XDROWNER	001	019
XDRRESVD	001	020
XDRSCLEN	004	00C
XDRSIZE	001	004
XDRSTAT	001	01A
XDRSTDBY	001	040

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HCPXSTMG— EXPANDED STORAGE MANAGEMENT DATA

DSECT NAME: XSTMG

DESCRIPTIVE NAME: EXPANDED STORAGE MANAGEMENT DATA

FUNCTION: THIS BLOCK IS USED TO KEEP TRACK OF GLOBAL INFORMATION ASSOCIATED WITH THE EXPANDED STORAGE FACILITY AND BLOCK PAGING.

LOCATED BY:

THIS DSECT OVERLAYS THE DATA ENTRY POINT HCPPGDXT.

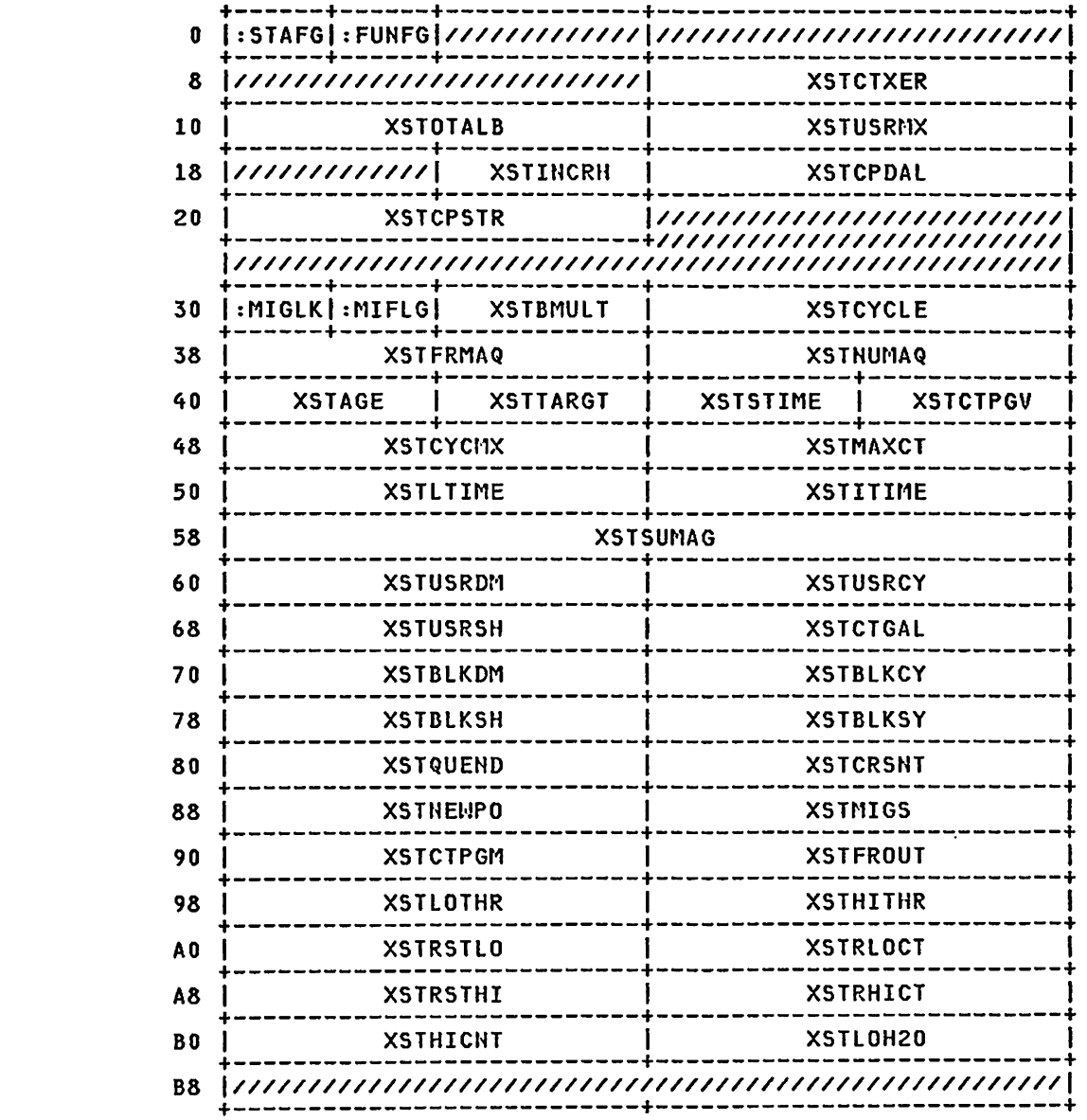
CREATED BY:

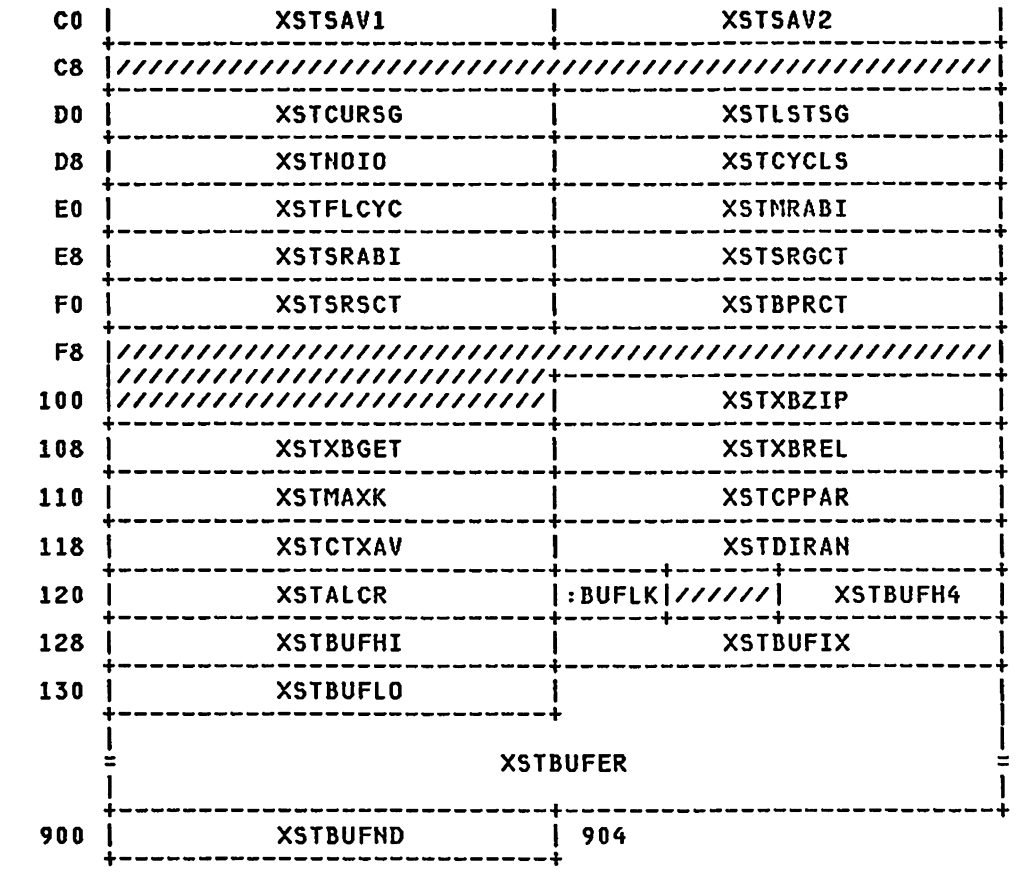
HCPPGD IS LOADED BY THE SYSTEM DURING IPL. THE XSTMG IS INITIALIZED BY HCPESCDI.

DELETED BY:

NEVER DELETED.

XSTMG - EXPANDED STORAGE MANAGEMENT BLOCK





disp	name	length	description
000	XSTMGSTR	004	START OF XSTMG BLOCK
000	XSTFLAGS	004	FLAGS FOR THE XSTMG.
000	XSTSTAFG	001	STATUS INFORMATION FLAG, UPDATED WITH COMPARE AND SWAP. THE FOLLOWING ARE THE FLAGS THAT INDICATE STATUS.

BITS DEFINED IN XSTSTAFG (AT HEX DISPLACEMENT: 0)

01	XSTNCONF	XSTORE IS NOT CONFIGURED TO THE SYSTEM.
01	XSTOFFLN	XSTORE WAS TAKEN OFFLINE BECAUSE ALL BLOCKS ARE IN ERROR.
02	XSTMPDSB	XSTORE HAS BEEN DISABLED FOR CP PAGING TEMPORARILY UNTIL AT LEAST ONE INCREMENT CAN BE BROUGHT ONLINE DURING INITILIZATION OR RECOVERY FROM A MACHINE CHECK. THIS BIT HAS NO MEANING IF XSTOFFLN IS ON.
04	XSTNAVAL	INDICATES THAT THERE IS NO XSTORE AVAILABLE FOR ALLOCATION. THIS MAY HAPPEN IF ALL XSTORE HAS BEEN ATTACHED TO A GUEST OR THE CP PARTITION HAS BEEN COMPLETELY ALLOCATED.
40	XSTRREQD	USABILITY-MAP REPAIR IS REQUIRED. WHEN THIS BIT IS ON, WORK HAS BEEN STACKED TO PERFORM THE REPAIR ACTION. THIS BIT HAS NO MEANING

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IF XSTOFFLN IS ON.

001	XSTFUNFG	001	IDENTIFY ALL ACTIVE XSTORE FUNCTIONS WHICH REQUIRE SERIAL-IZATION, BUT MUST RELEASE THE XSTORE ALLOCATION LOCK. THIS MAY ONLY BE CHANGED WHILE THE XSTORE ALLOCATION LOCK IS HELD. THE FOLLOWING ARE THE FLAGS THAT IDENTIFY FUNCTIONS TO BE SERIALIZED.

BITS DEFINED IN XSTFUNFG (AT HEX DISPLACEMENT: 1)

01	XSTATACH	ATTACH/DETACH PROCESSING REQUIRES SERIALIZATION.

002		2X	RESERVED FOR IBM USE
004		2F	RESERVED FOR IBM USE
00C	XSTCTXER	004	COUNT OF XSTORE BLOCKS THAT ARE IN ERROR AND ARE CURRENTLY ALLOCATED.
010	XSTOTALB	004	AMOUNT OF XSTORE INSTALLED IN BLOCKS.
014	XSTUSRMX	004	MAXIMUM GUEST PARTITION SIZE ALLOWED IN BLOCKS.
018	XSTINCRB	004	NUMBER OF BLOCKS PER INCREMENT.
018		H	
01A	XSTINCRH	002	HALFWORD VERSION OF XSTINCRB
01C	XSTCPDAL	004	THE LOWEST XSTORE BLOCK NUMBER IN THE CP PARTITION. IF THERE IS NO CP PARTITION IT IS EQUAL TO XSTTOTALB. IT IS USED BY XSTORE DEALLOCATION TO DETERMINE IF THE BLOCK BEING RELEASED BELONGS TO A GUEST.
020	XSTCPSTR	004	SIZE IN BLOCKS OF XSTORE RETAINED FOR CP USE.
024		3F	RESERVED FOR IBM USE.
030		0F	MIGRATION LOCK AND FLAG WORD
030	XSTMIGLK	001	TS LOCK BYTE FOR MIGRATION
031	XSTMIFLG	001	MIGRATION FLAG BYTE

BITS DEFINED IN XSTMIFLG (AT HEX DISPLACEMENT: 31)

032	XSTBMULT	002	USED TO CONTROL NUMBER OF MIGRATE BUFFERS OBTAINED AT MIGRATION INVOCATION. (XSTBMULT * XSTCTPGV)

EQUATES

0F	XSTMMAX	HIGHEST ALLOWED VALUE FOR XSBMULT
05	XSTMMIN	LOWEST VALUE ALLOWED FOR XSTBMULT

034	XSTCYCLE	004	THE VMDBK ADDRESS OF A USER IN THE CYCLIC LIST THAT WILL BE THE NEXT TARGET OF MIGRATION.
038	XSTFRMAQ	004	MIGRATION FRAME QUEUE (BUFFERS)
03C	XSTNUMAQ	004	NUMBER ON THE MIGRATE FRAME QUEUE
040	XSTAGE	002	APPROX AVG AGE OF AN XSTORE BLOCK
042	XSTTARGT	002	TARGET AGE IN SECONDS
044	XSTSTIME	002	MIGRATE/STEAL TIMER
046	XSTCTPGV	002	COUNT OF CP PAGING VOLUMES
048	XSTCYCMX	004	NUMBER OF USERS TO VISIT BEFORE LOWERING TARGET TIME
04C	XSTMAXCT	004	NUM OF TIMES TARGET TIME LOWERED
050	XSTLTIME	004	TOD XSTAGE WAS LAST CALCULATED
054	XSTITIME	004	TOD OF FIRST STEAL OR TMR WRAP
058	XSTSUMAG	008	SUM OF AGES OF MIGRATED BLOCKS
060	XSTUSRDM	004	NUMBER OF DORMANT GUESTS THAT WERE THE TARGET OF MIGRATION
064	XSTUSRCY	004	NUMBER OF NON-DORMANT GUESTS THAT

			WERE THE TARGET OF MIGRATION
068	XSTUSRSH	004	NUMBER OF SHARED SYSTEMS THAT WERE THE TARGET OF MIGRATION
06C	XSTCTGAL	004	COUNT OF BLOCKS TO FLUSH FROM A USERS PARTITON
070	XSTBLKDM	004	NUMBER OF BLOCKS MIGRATED FROM A DORMANT GUEST
074	XSTBLKCY	004	NUMBER OF BLOCKS MIGRATED FROM A NON-DORMANT GUEST
078	XSTBLKSH	004	NUMBER OF BLOCKS MIGRATED FROM A SHARED SYSTEM
07C	XSTBLKSY	004	NUMBER OF BLOCKS MIGRATED FROM THE CP SYSTEM
080	XSTQUEND	004	ANCHOR OF CURRENT SNT QUEUE
084	XSTCRSNT	004	CURRENT SNT DURING SHARED MIGRATE
088	XSTNEWPO	004	COUNT OF PGOUTS SINCE XSTLTIME
08C	XSTMIGS	004	COUNT OF MIGRATE INVOCATIONS
090	XSTCTPGM	004	COUNT OF PGMBKS SELECTED
094	XSTFROUT	004	QUEUE OF FRAMES TO BE WRITTEN
098	XSTLOTHR	004	LOW THRESHOLD FOR MIGRATION
09C	XSTHITHR	004	HIGH THRESHOLD FOR MIGRATION
0A0	XSTRSTLO	004	XSTLOTHR IS RAISED IF XSTLOH20 IS SMALLER THAN RSTLO AT END OF MIG
0A4	XSTRLOCT	004	NUMBER OF TIMES BUFFER INCREASED
0A8	XSTRSTHI	004	XSTLOTHR IS LOWERED IF XSTLOH20 IS LARGER 3 TIMES IN A ROW AT MIG END
0AC	XSTRHICT	004	NUMBER OF TIMES BUFFER DECREASED
0B0	XSTHICNT	004	NUMBER OF TIMES XSTLOH20 WAS LARGER THAN XSTRSTHI
0B4	XSTLOH20	004	MINIMUM NUMBER OF XSTORE BLOCKS AVAILABLE DURING THIS MIGRATION
0B8		2F	RESERVED FOR IBM USE
0C0	XSTSAV1	004	REGISTER SAVE AREA
0C4	XSTSAV2	004	REGISTER SAVE AREA
0C8		2F	RESERVED FOR FUTURE IBM USE
0D0	XSTCURSG	004	SEGMENT CURRENTLY BEING MIGRATED
0D4	XSTLSTSG	004	MIGRATEE'S FINAL SEGMENT
0D8	XSTNOIO	004	NO IO WAS REQUIRED FOR MIGRATION
0DC	XSTCYCLS	004	NUMBER OF TIMES THROUGH CYCLIC
0E0	XSTFLCYC	004	NUMBER OF CYCLES WHILE FLUSHING
0E4	XSTMRABI	004	COUNT OF PAGES THAT WERE READ IN AS PART OF A BLOCK BUT NOT USED (AS SEEN BY MIGRATE)
0E8	XSTSRABI	004	COUNT OF PAGES THAT WERE READ IN AS PART OF A BLOCK BUT NOT USED (AS SEEN BY STEAL)
0EC	XSTSRGCT	004	SINGLE READS FOR GUESTS
0F0	XSTSRSCT	004	SINGLE READS FOR SYSTEM
0F4	XSTBPRCT	004	BLOCKS OF PAGES READ
0F8		3F	RESERVED FOR FUTURE IBM USE
104	XSTXBZIP	004	TIMES NO XSTORE WAS AVAILABLE
108	XSTXBGET	004	NUMBER OF XSTORE ALLOCATIONS
10C	XSTXBREL	004	NUMBER OF XSTORE RELEASES
110	XSTMAXK	004	HIGHEST XSTORE INCREMENT NUMBER
114	XSTCPPAR	004	TOTAL NUMBER OF BLOCKS IN CP PARTITION FOR ALLOCATION.
118	XSTCTXAV	004	COUNT OF AVAILABLE BLOCKS IN THE CP PARTITITION. UPDATE HOLDING XSTBUFLK.

EQUATES

1C	XSTMGMSZ	SIZE OF MONITORED PORTION OF XSTMG

11C	XSTDIRAN	004	ANCHOR TO THE XSTORE DIRECTORY
120	XSTALCR	004	ALLOCATION CURSOR: POINTS TO THE DIRECTORY ENTRY (XDRBK) WHERE THE THE LAST BLOCK WAS ALLOCATED.
124	XSTBUFLK	001	TS LOCK FOR BAT BUFFER
125		X'00'	RESERVED FOR FUTURE IBM USE
126	XSTBUFH4	002	TABLE ENTRY INDEX SIZE
128	XSTBUFHI	004	END OF THE BAT BUFFER
12C	XSTBUFIX	004	NEXT ENTRY TO TAKE IN BAT BUFFER
130	XSTBUFLO	004	ADDR OF START OF BUFFER

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```
134   XSTBUFER   004      THE BAT BUFFER
900   XSTBUFND   004      LAST ENTRY IN THE BAT BUFFER

                  MORE EQUATES

        40    XSTMISLP    MIGRATION IS AWAITING REDRIVE
        20    XSTNORML    NORMAL MIGRATION IN PROGRESS
        08    XSTFLUSH    FLUSH IS IN PROGRESS
        04    XSTDCS      DCS SCAN IS IN PROGRESS
        02    XSTNSS      NSS SCAN IS IN PROGRESS
        06    XSTSHARE    A SHRED SYSTEM SCAN IS IN PROGRESS
```

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
XSTAGE	002	040	XSTMGMSZ	001	11C
XSTALCR	004	120	XSTMGSTR	004	000
XSTATACH	001	001	XSTMIFLG	001	031
XSTBLKCY	004	074	XSTMIGLK	001	030
XSTBLKDM	004	070	XSTMIGS	004	08C
XSTBLKSH	004	078	XSTMISLP	001	040
XSTBLKSY	004	07C	XSTMMAX	001	00F
XSTBMULT	002	032	XSTMMIN	001	005
XSTBPRCT	004	0F4	XSTMPDSB	001	002
XSTBUFER	004	134	XSTMRABI	004	0E4
XSTBUFHI	004	128	XSTNAVAL	001	004
XSTBUFH4	002	126	XSTNCONF	001	001
XSTBUFIX	004	12C	XSTNEWPO	004	088
XSTBUFLK	001	124	XSTNOIO	004	0D8
XSTBUFLO	004	130	XSTNORML	001	020
XSTBUFND	004	900	XSTNSS	001	002
XSTCPDAL	004	01C	XSTNUMAQ	004	03C
XSTCPPAR	004	114	XSTOFFLN	001	001
XSTCPSTR	004	020	XSTOTALB	004	010
XSTCRSNT	004	084	XSTQUEND	004	080
XSTCTGAL	004	06C	XSTRHICT	004	0AC
XSTCTPGM	004	090	XSTRLOCT	004	0A4
XSTCTPGV	002	046	XSTRREQD	001	040
XSTCTXAV	004	118	XSTRSTHI	004	0A8
XSTCTXER	004	00C	XSTRSTLO	004	0A0
XSTCURSG	004	0D0	XSTSAV1	004	0C0
XSTCYCLE	004	034	XSTSAV2	004	0C4
XSTCYCLS	004	0DC	XSTSHARE	001	006
XSTCYCMX	004	048	XSTSRABI	004	0E8
XSTDCS	001	004	XSTSRGCT	004	0EC
XSTDIRAN	004	11C	XSTSRSCT	004	0F0
XSTFLAGS	004	000	XSTSTAFG	001	000
XSTFLCYC	004	0E0	XSTSTIME	002	044
XSTFLUSH	001	008	XSTSUMAG	008	058
XSTFRMAQ	004	038	XSTTARGT	002	042
XSTFROUT	004	094	XSTUSRCY	004	064
XSTFUNFG	001	001	XSTUSRDM	004	060
XSTHICNT	004	0B0	XSTUSRMX	004	014
XSTHITHR	004	09C	XSTUSRSH	004	068
XSTINCRB	004	018	XSTXBGET	004	108
XSTINCRH	002	01A	XSTXBREL	004	10C
XSTITIME	004	054	XSTXBZIP	004	104
XSTLOH2O	004	0B4			
XSTLOTHR	004	098			
XSTLSTSG	004	0D4			
XSTLTIME	004	050			
XSTMAXCT	004	04C			
XSTMAXK	004	110			
XSTMG	001	000			

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HCPXSUBK— EXPANDED STORAGE USABILITY MAP

DSECT NAME: XSUBK

DESCRIPTIVE NAME: EXPANDED STORAGE USABILITY MAP

FUNCTION: THIS MAP IS USED TO KEEP TRACK OF THE ALLOCATION OF EXPANDED STORAGE. EACH MAP CORRESPONDS TO ONE INCREMENT OF XSTORE AND CAN THEREFORE REPRESENT UP TO 64MEG OF EXPANDED STORAGE.

LOCATED BY:

XDRUMAPT LOCATED IN THE HCPXDRBK.

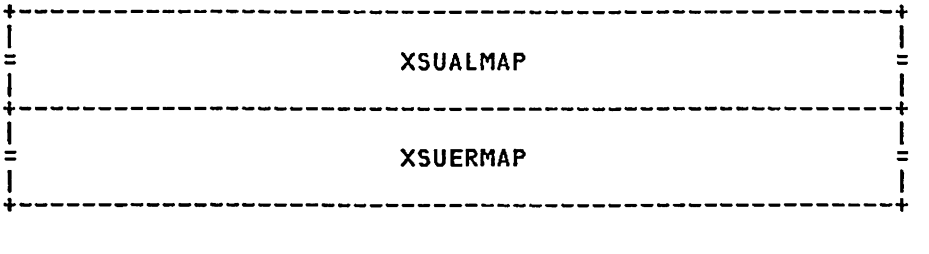
CREATED BY:

HCPESCDI DURING INITIALIZATION PROCESSING.

DELETED BY:

HCPESCDI IF NO EXPANDED STORAGE IS CONFIGURED TO THE SYSTEM.

XSUBK - EXPANDED STORAGE USABILITY MAP



disp	name	length	description
000	XSUALMAP	001	XSTORE AVAILABILITY MAP. WHEN A BIT'S VALUE IS "1" THEN THE CORRESPONDING BLOCK IS ALLOCATED.
800	XSUERMAP	001	XSTORE ERROR MAP. WHEN A BIT'S VALUE IS "1" THEN THE CORRESPONDING BLOCK IS IN ERROR.

CROSS REFERENCE

Name	Len	Value/Disp
XSUALMAP	001	000
XSUBK	001	000
XSUERMAP	001	800

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APPENDIX. EQUATES

HCPCLASS— USER CLASS CATEGORIES

DSECT NAME: CLASS

DESCRIPTIVE NAME: USER CLASS CATEGORIES

FUNCTION: THE USER CLASS CATEGORIES DEFINES THE CP COMMAND CATEGORIES WHICH CAN BE ASSOCIATED WITH EACH VIRTUAL MACHINE

LOCATED BY:

NOT APPLICABLE

CREATED BY:

THIS FILE CONTAINS ONLY CONSTANTS
AND DEFINITIONS TO BE USED ELSEWHERE
THEREFORE, IT TAKES UP NO SPACE
AND REQUIRES NO STORAGE.

DELETED BY:

NOT APPLICABLE

Value	Name	Description
80	CLASSA	CLASS A FUNCTIONS
40	CLASSB	CLASS B FUNCTIONS
20	CLASSC	CLASS C FUNCTIONS
10	CLASSD	CLASS D FUNCTIONS
08	CLASSE	CLASS E FUNCTIONS
04	CLASSF	CLASS F FUNCTIONS
02	CLASSG	CLASS G FUNCTIONS
01	CLASSH	CLASS H FUNCTIONS
		USERCLS1 BIT DEFINITIONS - BYTE 1
80	CLASSI	CLASS I FUNCTIONS
40	CLASSJ	CLASS J FUNCTIONS
20	CLASSK	CLASS K FUNCTIONS
10	CLASSL	CLASS L FUNCTIONS
08	CLASSM	CLASS M FUNCTIONS
04	CLASSN	CLASS N FUNCTIONS
02	CLASSO	CLASS O FUNCTIONS
01	CLASSP	CLASS P FUNCTIONS
		USERCLS2 BIT DEFINITIONS - BYTE 2
80	CLASSQ	CLASS Q FUNCTIONS
40	CLASSR	CLASS R FUNCTIONS
20	CLASSS	CLASS S FUNCTIONS
10	CLASST	CLASS T FUNCTIONS
08	CLASSU	CLASS U FUNCTIONS
04	CLASSV	CLASS V FUNCTIONS
02	CLASSW	CLASS W FUNCTIONS
01	CLASSX	CLASS X FUNCTIONS
		USERCLS3 BIT DEFINITIONS - BYTE 3
80	CLASSY	CLASS Y FUNCTIONS
40	CLASSZ	CLASS Z FUNCTIONS
20	CLASS1	CLASS 1 FUNCTIONS
10	CLASS2	CLASS 2 FUNCTIONS
08	CLASS3	CLASS 3 FUNCTIONS
04	CLASS4	CLASS 4 FUNCTIONS
02	CLASS5	CLASS 5 FUNCTIONS
01	CLASS6	CLASS 6 FUNCTIONS
		CLASSALL DEFINITION
FF	CLASSALL	ALL FUNCTIONS ALLOWED

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HCPCWOEQ— CONSTANTS FOR CHANNEL COMMANDS AND TERMINAL ORDERS

DSECT NAME: CWOEQ

DESCRIPTIVE NAME: Constants for Channel Commands and for Terminal Orders (CCW Opcode Extentions).

FUNCTION: Contains constants for CCW Operation Codes

LOCATED BY:

Every Host Control Program (HCP) Module

CREATED BY:

This file contains only constants
and definitions to be used elsewhere.
Therefore, it takes up no space
and requires no storage.

DELETED BY:

None

Value	Name	Description
01	CWOWRITE	GENERAL WRITE
02	CWOREAD	GENERAL READ
03	CWONOP	NO OPERATION
04	CWOSENSE	SENSE
08	CWOTIC	TRANSFER IN CHANNEL (TIC)
2B	CWODORNT	ORIENT (2305)
13	CWODRCAL	RECALIBRATE
5E	CWODRMCK	READ MULTIPLE COUNT KEY DATA
07	CWODSEEK	SEEK
0B	CWODSKCY	SEEK CYLINDER
1B	CWODSKHD	SEEK HEAD
0F	CWODSPCT	SPACE COUNT
1F	CWODSTFM	SET FILE MASK
23	CWODSECT	SET SECTOR
17	CWODRSTR	RESTORE (PSEUDO NOP)
27	CWODVSNS	VARY SENSING
53	CWODDGLD	DIAGNOSE LOAD
73	CWODDGWR	DIAGNOSE WRITE
02	CWODXIPL	(READ) IPL TRACK
22	CWODRSCT	READ SECTOR
A4	CWODRLOG	READ BUFFER LOG (33XX)
24	CWODRBFR	READ BUFFER LOG (2305)
94	CWODRELS	RELEASE THE DEVICE
B4	CWODRSRV	RESERVE THE DEVICE
44	CWODDIAG	DIAGNOSTIC READ
19	CWODWRHA	WRITE HOME ADDRESS
15	CWODWRR0	WRITE RECORD ZERO
11	CWODERAS	ERASE A TRACK
1D	CWODWCKD	WRITE COUNT KEY AND DATA
01	CWODWSKD	WRITE SPECIAL COUNT KEY AND DATA
05	CWODWDTA	WRITE DATA
0D	CWODWRKD	WRITE KEY AND DATA
F3	CWODDCTL	DIAGNOSTIC CONTROL
63	CWODDEXT	DEFINE EXTENT
34	CWODSNPG	SENSE PATH GROUP ID
C4	CWODDSNS	DIAGNOSTIC SENSE/READ
E4	CWODSNID	SENSE ID
85	CWODWUD	WRITE UPDATE RECORD
47	CWODLOCR	LOCATE RECORD
09	CWODDWHA	DIAGNOSTIC WRITE HOME ADDRESS
0A	CWODDRHA	DIAGNOSTIC READ HOME ADDRESS
5B	CWODSNPR	SUSPEND MULTIPATH RECONNECTION
8D	CWODWUKD	WRITE UPDATE KEY AND DATA
9D	CWODWCNT	WRITE CKD NEXT TRACK
3E	CWODRTRL	READ TRACK LENGTH

DE	CWODRDTR	READ TRACK
AF	CWODSTPG	SET PATH GROUP ID
14	CWODRSVU	UNCONDITIONAL RESERVE
64	CWODRDCH	READ DEVICE CHARACTERISTICS
44	CWODRSAL	RESET ALLEGIANCE
27	CWODPSF	PERFORM SUBSYSTEM FUNCTION
3E	CWODRSD	READ SUBSYSTEM DATA
FA	CWODRCD	READ CONFIGURATION DATA
54	CWODSUBS	SENSE SUBSYSTEM STATUS
74	CWODSUBC	SENSE SUBSYSTEM COUNTS
87	CWODSUBM	SET SUBSYSTEM MODE
3B	CWODHPSL	SET HI PERFORMANCE STORAGE LIMITS
8B	CWODSPP	SET PAGING PARAMETERS
8F	CWODDB	DISCARD BLOCK
39	CWODSHAE	SEARCH HOME ADDRESS EQUAL
31	CWODSIDE	SEARCH IDENTIFIER EQUAL
51	CWODSIDH	SEARCH IDENTIFIER HIGH
71	CWODSIDX	SEARCH IDENTIFIER EQUAL/HIGH
29	CWODSKYE	SEARCH KEY EQUAL
49	CWODSKYH	SEARCH KEY HIGH
69	CWODSKYX	SEARCH KEY EQUAL OR HIGH
2D	CWODSKDE	SEARCH KEY AND DATA EQUAL
4D	CWODSKDH	SEARCH KEY AND DATA HIGH
6D	CWODSKDX	SEARCH KEY AND DATA EQUAL/HIGH
1A	CWODRDHA	READ HOME ADDRESS
12	CWODRDCT	READ COUNT
16	CWODRDR0	READ RECORD 0
06	CWODRDTA	READ DATA
0E	CWODRDKD	READ KEY AND DATA
1E	CWODRCKD	READ COUNT KEY AND DATA
B9	CWODXHAE	SEARCH HOME ADDRESS EQUAL
B1	CWODXIDE	SEARCH IDENTIFIER EQUAL
D1	CWODXIDH	SEARCH IDENTIFIER HIGH
F1	CWODXIDX	SEARCH IDENTIFIER EQUAL/HIGH
A9	CWODXKYE	SEARCH KEY EQUAL
C9	CWODXKYH	SEARCH KEY HIGH
E9	CWODXKYX	SEARCH KEY EQUAL OR HIGH
AD	CWODXKDE	SEARCH KEY AND DATA EQUAL
CD	CWODXKDH	SEARCH KEY AND DATA HIGH
ED	CWODXKDX	SEARCH KEY AND DATA EQUAL/HIGH
9A	CWODXRHA	READ HOME ADDRESS
92	CWODXRCT	READ COUNT
96	CWODXRR0	READ RECORD 0
86	CWODXRDT	READ DATA
8E	CWODXRKD	READ KEY AND DATA
9E	CWODXRCD	READ COUNT KEY AND DATA
25	CWO$SCNE	CONTINUE SCAN EQUAL
45	CWO$SCNH	CONTINUE SCAN HIGH
65	CWO$SCNX	CONTINUE SCAN EQUAL OR EQUAL
35	CWO$SCM1	SET COMPARE
75	CWO$SCM2	SET COMPARE
55	CWO$SNCM	SET NO COMPARE
A5	CWO$ZCNE	CONTINUE SCAN EQUAL
C5	CWO$ZCNH	CONTINUE SCAN HIGH
E5	CWO$ZCNX	CONTINUE SCAN EQUAL OR EQUAL
B5	CWO$ZCM1	SET COMPARE
F5	CWO$ZCM2	SET COMPARE
D5	CWO$ZNCM	SET NO COMPARE
01	CWOTWRIT	WRITE
02	CWOTREAD	FORWARD READ
0C	CWOTBACK	BACKWARD READ
E4	CWOTSNID	SENSE ID
F4	CWOTRSRV	TAPE RESERVE (3420)
D4	CWOTRELS	TAPE RELEASE (3420)
1B	CWOTTIE	TRACK IN ERROR
8B	CWOTLPWR	LOOP WRITE TO READ (3420)
4B	CWOTDIAG	SET DIAGNOSE (3420)
07	CWOTRWND	REWIND THE TAPE
0F	CWOTRUNL	REWIND AND UNLOAD TAPE
17	CWOTEGAP	ERASE A GAP
1F	CWOTWRTM	WRITE A TAPE MARK
27	CWOTBBLK	BACK SPACE A BLOCK
2F	CWOTBFIL	BACK SPACE A FILE
37	CWOTFBLK	FORWARD SPACE A BLOCK

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```
3F    CWOTFFIL    FORWARD SPACE A FILE
97    CWOTESEC    ERASE FOR DATE SECURITY
0B    CWOTDMOD    DIAGNOSTIC MODE SET
B7    CWOTASSN    ASSIGN
E3    CWOTCTLA    CONTROL ACCESS
9F    CWOTLDSP    LOAD DISPLAY
DB    CWOTMODS    MODE SET
22    CWOTRBID    READ BLOCK ID
12    CWOTRBUF    READ BUFFER
24    CWOTRBLG    READ BUFFER LOG
34    CWOTSNPG    SENSE PATH GROUP ID
AF    CWOTSTPG    SET PATH GROUP ID
C3    CWOTSTWI    SET TAPE-WRITE-IMMEDIATE
5B    CWOTSMPR    SUSPEND MULTIPATH RECONNECTION
43    CWOTSYNC    SYNCHRONIZE
C7    CWOTUNAS    UNASSIGN
20    CWOTBSR     BUFF WRT,SUP CMDS,AUTO ERP
21    CWOTBSU     BUFF WRT,SUP CMDS,NO AUTO ERP
30    CWOTBNR     BUFF WRT,NO SUP CMDS,AUTO ERP
31    CWOTBNU     BUFF WRT,NO SUP CMDS,NO AUTO ERP
00    CWOTISR     IMM WRT,SUP CMDS,AUTO ERP
01    CWOTISU     IMM WRT,SUP CMDS,NO AUTO ERP
10    CWOTINR     IMM WRT,NO SUP CMDS,AUTO ERP
11    CWOTINU     IMM WRT,NO SUP CMDS,NO AUTO ERP
13    CWOT20CN    200 - ODD  - CONVERT - NO TRANS.
23    CWOT2ELN    200 - EVEN - LEAVE   - NO TRANS.
2B    CWOT2ELT    200 - EVEN - LEAVE   - TRANSLATE
33    CWOT20LN    200 - ODD  - LEAVE   - NO TRANS.
3B    CWOT20LT    200 - ODD  - LEAVE   - TRANSLATE
53    CWOT50CN    556 - ODD  - CONVERT - NO TRANS.
63    CWOT5ELN    556 - EVEN - LEAVE   - NO TRANS.
6B    CWOT5ELT    556 - EVEN - LEAVE   - TRANSLATE
73    CWOT50LN    556 - ODD  - LEAVE   - NO TRANS.
7B    CWOT50LT    556 - ODD  - LEAVE   - TRANSLATE
93    CWOT80CN    800 - ODD  - CONVERT - NO TRANS.
B3    CWOT8ELN    800 - EVEN - LEAVE   - NO TRANS.
BB    CWOT8ELT    800 - EVEN - LEAVE   - TRANSLATE
A3    CWOT80LN    800 - ODD  - LEAVE   - NO TRANS.
AB    CWOT80LT    800 - ODD  - LEAVE   - TRANSLATE
CB    CWOT0800    NINE TRACK TAPE - 0800 BPI
C3    CWOT1600    NINE TRACK TAPE - 1600 BPI
D3    CWOT6250    NINE TRACK TAPE - 6250 BPI
09    CWOPS1LA    SPACE 1 LINE  AFTER WRITE
0B    CWOPS1LI    SPACE 1 LINE IMMEDIATELY
11    CWOPS2LA    SPACE 2 LINES AFTER WRITE
13    CWOPS2LI    SPACE 2 LINES IMMEDIATELY
19    CWOPS3LA    SPACE 3 LINES AFTER WRITE
1B    CWOPS3LI    SPACE 3 LINES IMMEDIATELY
89    CWOPSC1A    SKIP TO CHANNEL  1 AFTER WRITE
91    CWOPSC2A    SKIP TO CHANNEL  2 AFTER WRITE
99    CWOPSC3A    SKIP TO CHANNEL  3 AFTER WRITE
A1    CWOPSC4A    SKIP TO CHANNEL  4 AFTER WRITE
A9    CWOPSC5A    SKIP TO CHANNEL  5 AFTER WRITE
B1    CWOPSC6A    SKIP TO CHANNEL  6 AFTER WRITE
B9    CWOPSC7A    SKIP TO CHANNEL  7 AFTER WRITE
C1    CWOPSC8A    SKIP TO CHANNEL  8 AFTER WRITE
C9    CWOPSC9A    SKIP TO CHANNEL  9 AFTER WRITE
D1    CWOPS10A    SKIP TO CHANNEL 10 AFTER WRITE
D9    CWOPS11A    SKIP TO CHANNEL 11 AFTER WRITE
E1    CWOPS12A    SKIP TO CHANNEL 12 AFTER WRITE
83    CWOPSC0I    SKIP TO CHANNEL  0 IMMEDIATE
8B    CWOPSC1I    SKIP TO CHANNEL  1 IMMEDIATE
93    CWOPSC2I    SKIP TO CHANNEL  2 IMMEDIATE
9B    CWOPSC3I    SKIP TO CHANNEL  3 IMMEDIATE
A3    CWOPSC4I    SKIP TO CHANNEL  4 IMMEDIATE
AB    CWOPSC5I    SKIP TO CHANNEL  5 IMMEDIATE
B3    CWOPSC6I    SKIP TO CHANNEL  6 IMMEDIATE
BB    CWOPSC7I    SKIP TO CHANNEL  7 IMMEDIATE
C3    CWOPSC8I    SKIP TO CHANNEL  8 IMMEDIATE
CB    CWOPSC9I    SKIP TO CHANNEL  9 IMMEDIATE
D3    CWOPS10I    SKIP TO CHANNEL 10 IMMEDIATE
DB    CWOPS11I    SKIP TO CHANNEL 11 IMMEDIATE
E3    CWOPS12I    SKIP TO CHANNEL 12 IMMEDIATE
01    CWOPWRIT    PRINT WITHOUT SPACING
```

02	CWOPDGRD	DIAGNOSTIC READ (1403)
02	CWOPRPLB	READ PRINT LINE BUFFER (3203,3211,3262,4245,4248)
05	CWOPDGWR	DIAGNOSTIC WRITE (3211,3262,4245,4248)
06	CWOPDGRC	CHECK READ (3203,3211,4245,4248)
06	CWOPRFCP	READ FCB POINTER (3262)
07	CWOPDGGT	DIAGNOSTIC GATE (3203,3211,3262,4245,4248)
0A	CWOPRUCS	READ UCS BUFFER (3203,3211,3262,4245)
0A	CWOPRBDI	READ BAND ID (4248)
12	CWOPRFCB	READ FCB (3203,3211,3262,4245,4248)
23	CWOPUFLD	UNFOLD (3203,3211,3262,4245,4248)
33	CWOPXORD	EXECUTE ORDER (4248)
43	CWOPFOLD	FOLD (3203,3211,3262,4245,4248)
63	CWOPLFCB	LOAD FCB (3203,3211,3262,4245,4248)
6B	CWOPLIFT	LIFT THE COVER (3203,3211,3262,4245)
6B	CWOPSATN	SIGNAL ATTENTION (4248)
73	CWOPBLKC	BLOCK DATA CHECK
7B	CWOPALDC	ALLOW DATA CHECK
EB	CWOPUCSG	UCS GATE LOAD (1403)
F3	CWOPLUFL	LOAD UCSBAND FOLD (1403 ONLY)
F3	CWOPVBID	VERIFY BAND ID (4248)
FB	CWOPUCSB	LOAD UCSB WITHOUT FOLDING
FB	CWOPVBI2	VERIFY BAND ID (4248)
07	CWOPEOT	END OF TRANSMISSION (3800)
14	CWOPSIBF	SENSE INTERMEDIATE BUFFER (3800,4248)
17	CWOPMKFM	MARK FORMS (3800)
23	CWOPLCNM	LOAD COPY NUMBER (3800)
24	CWOPSELG	SENSE ERROR LOG (3800)
25	CWOPLGCM	LOAD GRAF CHAR MOD (3800)
33	CWOPXCTL	EXECUTE CONTROL (3800)
35	CWOPLCMD	LOAD COPY MODIFICATION (3800)
37	CWOPINPR	INITIALIZE PRINTER (3800)
43	CWOPLFOS	LOAD FORMS OVERLAY SEQUENCE (3800)
47	CWOPSTR0	SELECT TRANSLATE TABLE 0 (3800)
57	CWOPSTR1	SELECT TRANSLATE TABLE 1 (3800)
67	CWOPSTR2	SELECT TRANSLATE TABLE 2 (3800)
77	CWOPSTR3	SELECT TRANSLATE TABLE 3 (3800)
53	CWOPWCGM	LOAD WCGM (3800)
83	CWOPLTRT	LOAD TRANSLATE TABLE (3800)
87	CWOPCLPR	CLEAR PRINTER (3262,3800,4245,4248)
E4	CWOPSIOT	SENSE I/O TYPE / SENSE ID (3203,3262,3800,4245,4248)
33	CWOPXOA	EXECUTE ORDER ANYSTATE
97	CWOPSHS	SET HOME STATE
0D	CWOPWFC	WRITE FACTORED TEXT CONTROL
1D	CWOPLE	LOAD EQUIVALENCE
2D	CWOPWT	WRITE TEXT
3D	CWOPWIC	WRITE IMAGE CONTROL
4D	CWOPWI	WRITE IMAGE
5D	CWOPEND	END
6D	CWOPLPP	LOAD PAGE POSTION
7D	CWOPIO	INCLUDE OVERLAY
0F	CWOPLFI	LOAD FONT INDEX
1F	CWOPLFC	LOAD FONT CONTROL
2F	CWOPLF	LOAD FONT
3F	CWOPLFE	LOAD FONT EQUIVALENCE
4F	CWOPDF	DELETE FONT
5F	CWOPBPS	BEGIN PAGE SEGMENT
6F	CWOPDPS	DELETE PAGE SEGMENT
7F	CWOPIPS	INCLUDE PAGE SEGMENT
8F	CWOPXOH	EXECUTE ORDER HOMESTATE
9F	CWOPLCC	LOAD COPY CONTROL
AF	CWOPBP	BEGIN PAGE
BF	CWOPEP	END PAGE
CF	CWOPLPD	LOAD PAGE DESCRIPTION
DF	CWOPBO	BEGIN OVERLAY

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EF    CWOPDO      DELETE OVERLAY
01    CWOKWRNR    WRITE WITHOUT CARRAIGE RETURN
09    CWOKWRWR    WRITE WITH CARRAIGE RETURN
0A    CWOKREAD    READ INQUIRY
0B    CWOKALRM    SOUND AUDIBLE ALARM
23    CWORFSS1    FEED SELECT POCKET 1 UNFORMATTED
63    CWORFSS2    FEED SELECT POCKET 2 UNFORMATTED
A3    CWORFSX2    FEED SELECT POCKET 2 UNFORMATTED
2B    CWORFFS1    FEED SELECT POCKET 1   FORMATTED
6B    CWORFFS2    FEED SELECT POCKET 2   FORMATTED
AB    CWORFFX2    FEED SELECT POCKET 2   FORMATTED
D2    CWORDGRD    DIAGNOSTIC READ
11    CWORDGWR    DIAGNOSTIC RCE WRITE
02    CWORRFS1    READ, FEED, SELECT 1 UNFORMATTED
42    CWORRFS2    READ, FEED, SELECT 2 UNFORMATTED
82    CWORRFX2    READ, FEED, SELECT 2 UNFORMATTED
C2    CWORRFXX    READ ONLY
0A    CWORRES1    READ, FEED, SELECT 1   FORMATTED
4A    CWORRES2    READ, FEED, SELECT 2   FORMATTED
8A    CWORREX2    READ, FEED, SELECT 2   FORMATTED
CA    CWORREXX    READ ONLY
02    CWORCFS1    READ, FEED, SELECT 1 UNFORMATTED
42    CWORCFS2    READ, FEED, SELECT 2 UNFORMATTED
82    CWORCFX2    READ, FEED, SELECT 2 UNFORMATTED
C2    CWORCFXX    READ ONLY
0A    CWORCES1    READ, FEED, SELECT 1   FORMATTED
4A    CWORCES2    READ, FEED, SELECT 2   FORMATTED
8A    CWORCEX2    READ, FEED, SELECT 2   FORMATTED
CA    CWORCEXX    READ ONLY
31    CWORWOMR    WRITE OMR FORMAT (3504,3505)
01    CWOPCHX1    PUNCH SELECT 1 EBCDIC
21    CWOPCHI1    PUNCH SELECT 1 IMAGE
41    CWOPCHX2    PUNCH SELECT 2 EBCDIC
61    CWOPCHI2    PUNCH SELECT 2 IMAGE
81    CWOPCXX2    PUNCH SELECT 2 EBCDIC
C1    CWOPCXI2    PUNCH SELECT 2 IMAGE
05    CWOPRTLN    (+N)    PRINT A LINE POSITION N (N*8)
26    CWOMPRD     PREPARE READ DATA
27    CWOMINSY    INTERROGATE SYSTEM
41    CWOMDGWR    DIAGNOSTIC WRITE
42    CWOMDGRD    DIAGNOSTIC READ
43    CWOMDGCN    DIAGNOSTIC CONTROL
44    CWOMSWTC    SWITCH
87    CWOMEXEC    EXECUTE
A3    CWOMMNOP    MODIFIED NO OPERATION
A4    CWOMRBL     READ BUFFERED LOG
E4    CWOMSNIO    SENSE I/O
01    CWOGLWRT    WRITE
11    CWOGLWSF    WRITE STRUCTURED FIELD
05    CWOGLERS    ERASE WRITE
0D    CWOGLEWA    ERASE WRITE/ALTERNATE
02    CWOGLRD     READ BUFFER
06    CWOGLRMD    READ MODIFIED
0F    CWOGLEUN    ERASE UNPROTECTED
0B    CWOGLSEL    SELECT
1B    CWOGLSRB    SELECT RB
2B    CWOGLRMB    SELECT RMB
3B    CWOGLRBP    SELECT RBP
4B    CWOGLSWR    SELECT WRITE
E4    CWOGLSID    SENSE ID
F1    CWOGRWRT    WRITE
F5    CWOGRERS    ERASE WRITE
7E    CWOGREWA    ERASE WRITE/ALTERNATE
F2    CWOGRRD     READ BUFFER
F6    CWOGRRMD    READ MODIFIED
F7    CWOGRCPY    COPY
6F    CWOGREUN    ERASE UNPROTECTED
31    CWOGAWRT    WRITE
35    CWOGAERS    ERASE WRITE
3D    CWOGAEWA    ERASE WRITE/ALTERNATE
32    CWOGARD     READ BUFFER
36    CWOGARMD    READ MODIFIED
37    CWOGACPY    COPY
3F    CWOGAEUN    ERASE UNPROTECTED
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05	CWOADWRT	DIAGNOSTIC WRITE
06	CWOAPREP	PREPARE
09	CWOAPOLL	AUTO-POLL
0A	CWOAINHB	INHIBIT
0D	CWOABRK	BREAK
0E	CWOASRCH	SEARCH
11	CWOAWRTT	WRITE WITH TIMEOUT
13	CWOASAD0	SAD ZERO
17	CWOASAD1	SAD ONE
1B	CWOASAD2	SAD TWO
1E	CWOADDPR	ADDRESS PREPARE
1F	CWOASAD3	SAD THREE
27	CWOAENAB	ENABLE
29	CWOADIAL	DIAL
2E	CWOASMOD	SET MODE
2F	CWOADISA	DISABLE
42	CWOCCRED	READ
19	CWO58DIS	DISPLAY DATA (LINE MODE)
29	CWO58WRT	WRITE (FULL SCREEN MODE)
2A	CWO58RED	READ (FULL SCREEN MODE)
FF	CWO19ERO	ERASE OUTPUT AREA
FE	CWO19ERS	ERASE ENTIRE SCREEN
80	CWO29ERW	ERASE/WRITE
C0	CWO29EWA	ERASE/WRITE ALTERNATE
20	CWO29WSF	WRITE STRUCTURED FIELD
00	CWO29WRT	WRITE
80	CWO2ARDM	READ MODIFIED
00	CWO2ARDB	READ BUFFER
C0	ORDWCC0	NOTHING...
C2	ORDWCC3	RESTORE KEYBOARD
C6	ORDWCC56	RESTORE KEYBOARD AND SOUND ALARM
F8	ORDWCC8	W.C.C.TO PRINT FOR 80 CHAR LINE
04	ORDALRM	BIT TO SOUND ALARM
1D	ORDFKAT	3277 FAKE ATTRIBUTE FOR APL/TEXT
08	ORDESCP	3278 GRAF ESCAPE CHAR - APL/TEXT
11	ORDSBA	SET BUFFER ADDRESS
12	ORDEUA	ERASE UNPROTECTED TO ADDRESS
13	ORDIC	INSERT CURSOR
1D	ORDSF	START FIELD DEFINITION
3C	ORDRA	REPEAT CHARACTER TO ADDRESS
28	ORDSA	SET ATTRIBUTE
29	ORDSFE	START FIELD EXTENDED
2C	ORDMF	MODIFY ATTRIBUTE (FIELD)
00	ORDEXACA	ALL CHARACTER ATTRIBUTES
C0	ORDEXFA	3270 FIELD ATTRIBUTE
C1	ORDEXFV	FIELD VALIDATION
41	ORDEXHIL	EXTENDED HILIGHT
42	ORDEXCOL	EXTENDED COLOR
43	ORDEXPSS	PSS SELECT
60	ORDPRLO	PROTECTED, LOW INTENSITY
E8	ORDPRHI	PROTECTED, HI INTENSITY
C1	ORDUPLO	UNPROTECTED, LOW INTENSITY, MDT
4D	ORDPRID	PROTECTED, INHIBIT DISPLAY, MDT
01	ORDSOH	START OF HEADING
02	ORDSTX	START OF TEXT
03	ORDETX	END OF TEXT
10	ORDDLE	DATA LINK ESCAPE
1F	ORDITB	INTERMEDIATE TEXT BLOCK
26	ORDETB	END OF BLOCK
27	ORDESC	ESCAPE
37	ORDEOT	END OF TRANSMISSION
2D	ORDENQ	ENQUIRY
3D	ORDNAK	NEGATIVE ACKNOWLEDGMENT
6B	ORDWACK	WAIT BEFORE TRANSMIT
7C	ORDRVI	REVERSE INTERRUPT
70	ORDACK0	EVEN ACKNOWLEDGE
61	ORDACK1	ODD ACKNOWLEDGE
00	ORDFRSPT	RESET PARTITION
01	ORDFRDPT	READ PARTITION
06	ORDFLPSS	LOAD PSS
08	ORDFDACP	DEFINE ALTERNATE CHARACTER PAGE
09	ORDFSRM	SET REPLY MODE
0B	ORDFSWO	SET WINDOW ORIGIN
0C	ORDFCRPT	CREATE PARTITION

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0D    ORDFDSPT    DESTROY PARTITION
0E    ORDFACPT    ACTIVATE PARTITION
40    ORDFOUTB    OUTBOUND STRUCTURED FIELD
4A    ORDFSFG     SELECT FORMAT GROUP
4B    ORDFPAF     PRESENT ABSOLUTE FORMAT
4C    ORDFPRF     PRESENT RELATIVE FORMAT
80    ORDFINBE    3270E INBOUND DATA STRUCTURE
81    ORDFQRSP    QUERY RESPONSE STRUCTURE
10    CWOCPPRG    CP-FORCED CHANNEL PROGRAM CHECK
20    CWOWRINH    CP-FORCED WRITE INHIBIT
30    CWOCMDRJ    CP-FORCED COMMAND REJECT
02    CWOPRGAD    CP-FORCED PROGRAM CHECK
04    CWOPRTAD    CP-FORCED PROTECTION CHECK
06    CWOIFCAD    CP-FORCED INTERFACE CONTROL CHECK
02    CWOIDAPG    CP-FORCED PROGRAM CHECK IN IDA
04    CWOIDAPT    CP-FORCED PROTECTION CHECK IN IDA
```

HCPDVTYP— CONSTANTS FOR DEVICE TYPE INFORMATION

DSECT NAME: DVTYP

DESCRIPTIVE NAME: CONSTANTS FOR DEVICE TYPE INFORMATION

FUNCTION: CONTAINS CONSTANTS FOR DEVICE TYPE, MODEL AND FEATURE INFORMATION

LOCATED BY:

N/A

CREATED BY:

THIS FILE CONTAINS ONLY CONSTANTS
AND DEFINITIONS TO BE USED ELSEWHERE.
THEREFORE, IT TAKES UP NO SPACE
AND REQUIRES NO STORAGE.

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NONE

Value	Name	Description
80	CLASTERM	TERMINAL DEVICE CLASS
40	CLASGRAF	GRAPHIC DISPLAY DEVICE CLASS
41	CLASGRFR	GRAPHIC DISPLAY DEVICE CLASS (REMOTE)
20	CLASPOOL	UNIT RECORD SPOOLING DEVICE CLASS
08	CLASTAPE	MAGNETIC TAPE DEVICE CLASS
04	CLASDASD	DIRECT ACCESS STORAGE DEVICE CLASS
02	CLASSPEC	SPECIAL DEVICE CLASS
80	TYP2700	TERM - 2700 BISYNC LINE
88	TYPBSC	TERM - BISYNC LINE FOR 3270 REMOTE STATION
40	TYPCONS	TERM - CONSOLE DEVICE
40	TYP3215	TERM - 3215 CONSOLE
40	TYP1052	TERM - 1052 CONSOLE
20	TYPTTY	TERM - USASCII-8 TELEGRAPH TERMINAL
10	TYPIBM1	TERM - IBM TERMINAL CONTROL TYPE 1
1C	TYPUNDEF	TERM - TERMINAL TYPE UNDEFINED
18	TYP2741	TERM - 2741 COMMUNICATIONS TERMINAL
18	TYP3767	TERM - 3767 IN 2741 COMPATIBILITY MOD
14	TYP1050	TERM - 1050 COMMUNICATIONS TERMINAL
40	TYP3270	GRAF - 3270 GENERIC DISPLAY STATION
80	TYP3277	GRAF - 3277 DISPLAY STATION
40	TYP3278	GRAF - 3278 DISPLAY STATION
40	TYP3178	GRAF - 3178 DISPLAY STATION
40	TYP3279	GRAF - 3279 DISPLAY STATION
40	TYP3179	GRAF - 3179 DISPLAY STATION
40	TYP3180	GRAF - 3180 DISPLAY STATION
40	TYP3290	GRAF - 3290 DISPLAY STATION
40	TYP3190	GRAF - 3190 DISPLAY STATION
20	TYP3271	GRAF - 3271 CONTROLLER (REMOTE)
10	TYP3275	GRAF - 3275 DISPLAY STATION
08	TYP3284	GRAF - 3284 PRINTER
08	TYP3286	GRAF - 3286 PRINTER
09	TYP3287	GRAF - 3287 PRINTER
08	TYP3288	GRAF - 3288 PRINTER
09	TYP3289	GRAF - 3289 PRINTER
04	TYP2250	GRAF - 2250 DISPLAY UNIT
04	TYP3250	GRAF - 3250 DISPLAY UNIT
06	TYP5080	GRAF - 5080 DISPLAY UNIT
30	TYPCLUST	GRAF - CLUSTER CTLR (3271 OR 3275)
80	TYPRDR	SPOL - CARD READER DEVICE
81	TYP2501	SPOL - 2501 CARD READER
82	TYP2540R	SPOL - 2540 CARD READER
84	TYP3505	SPOL - 3505 CARD READER
40	TYPPUN	SPOL - CARD PUNCH DEVICE

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42    TYP2540P    SPOL - 2540 CARD PUNCH
44    TYP3525     SPOL - 3525 CARD PUNCH
20    TYPPRT      SPOL - PRINTER TYPE DEVICE
21    TYP1403     SPOL - 1403 PRINTER
22    TYP32XX     SPOL - 3203 OR 3211 PRINTER
26    TYP3203     SPOL - 3203 PRINTER
22    TYP3211     SPOL - 3211 PRINTER
28    TYP3800     SPOL - 3800 PRINTER
23    TYP3262     SPOL - 3262 PRINTER
24    TYP4245     SPOL - 4245 PRINTER
29    TYP4248     SPOL - 4248 PRINTER
10    TYPSYS      SPOL - SYSTEM VIRT DEVICE FOR DUMPS

10    TYP3420     TAPE - 3420 TAPE DRIVE
20    TYP3430     TAPE - 3430 TAPE DRIVE
40    TYP3480     TAPE - 3480 TAPE DRIVE

40    TYP3330     DASD - 3330 DISK STORAGE FACILITY
20    TYP3340     DASD - 3340 DISK STORAGE FACILITY
10    TYP3350     DASD - 3350 DISK STORAGE FACILITY
11    TYP3350C    DASD - 3350 4 X 8 PAGING STORAGE
12    TYP3350D    DASD - 3350 4 X 4 PAGING STORAGE
08    TYP2305     DASD - 2305 FIXED HEAD
                  STORAGE FACILITY
04    TYP3380     DASD - 3380 DISK STORAGE FACILITY
80    TYP3375     DASD - 3375 DISK STORAGE FACILITY
02    TYP3370     DASD - 3370 DISK STORAGE FACILITY

80    TYPCTCA     SPEC - CHANNEL TO CHANNEL ADAPTER
40    TYP3704     SPEC - 3704 PROGRAMMABLE
                  COMMUNICATION CONTROL UNIT
40    TYP3705     SPEC - 3705 PROGRAMMABLE
                  COMMUNICATION CONTROL UNIT
02    TYP3851     SPEC - MSS MASS STORAGE COMMUNICATOR
08    TYP3890     SPEC - 3890 DOCUMENT PROCESSOR
01    TYPUNSUP    SPEC - DEVICE UNSUPPORTED BY        *
                  THE VM/ 370 MIGRATION AID
80    FTROPRDR    GRAF - OPERATOR ID CARD READER
01    FTRDIAL     GRAF - 3275 WITH SWITCHED
                  LINE SUPPORT

01    FTRUCS      SPOL - UCS FEATURE
80    FTR4WCGM    SPOL - 3800 WITH FOUR WRITEABLE
                  CHARACTER GENERATION MODULES

80    FTR7TRK     TAPE - 7-TRACK FEATURE
40    FTRDUAL     TAPE - DUAL DENSITY FEATURE
20    FTRTRAN     TAPE - TRANSLATE FEATURE
10    FTRCONV     TAPE - DATA CONVERSION FEATURE

80    FTRRPS      DASD - ROTATIONAL POSITIONAL SENSING
40    FTRDYNP     DASD - DYNAMIC PATHING
20    FTRVUA      DASD - 3330V THAT MAY BE DEDICATED
                  TO A VIRTUAL MACHINE
08    FTR35MB     DASD - 35 MB DATA MODULE (3340)
04    FTR70MB     DASD - 70 MB DATA MODULE (3340)
02    FTRRSRL     DASD/TAPE RESERVE?RELEASE CCW FEATURE
01    FTRCOMP     DASD - 3350 IN 3330 COMPAT. MODE

80    FTRTERM     SPEC - UNSUPPORTED TERMINAL DEVICE
40    FTRGRAF     SPEC - UNSUPPORTED GRAPHIC DISPLAY
                  DEVICE
20    FTRSPOOL    SPEC - UNSUPPORTED UNIT RECORD
                  SPOOLING DEVICE
08    FTRTAPE     SPEC - UNSUPPORTED MAGNETIC TAPE
                  DEVICE
04    FTRDASD     SPEC - UNSUPPORTED DIRECT ACCESS
                  DEVICE
10    FTRTYP1     SPEC - TYPE ONE CHANNEL ADAPTER
40    FTRTYP4     SPEC - TYPE FOUR CHANNEL ADAPTER
80    FTR80M11    DASD - 3350 HIGH PERFORMANCE PAGING
                  SUBSYSTEM -- 3880 MODEL 11
40    FTR80M21    DASD - 3350 HIGH PERFORMANCE PAGING
                  SUBSYSTEM
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39	PAG3330	PAGES PER CYLINDER PER 3330
18	PAG3340	PAGES PER CYLINDER PER 3340
78	PAG3350	PAGES PER CYLINDER PER 3350
60	PAG3375	PAGES PER CYLINDER PER 3375
96	PAG3380	PAGES PER CYLINDER PER 3380
18	PAG2305	PAGES PER CYLINDER PER 2305

PGPTRK CODE DEFINITIONS NUMBER OF PAGES PER TRACK

03	PPT3330	PAGES PER TRACK PER 3330
02	PPT3340	PAGES PER TRACK PER 3340
04	PPT3350	PAGES PER TRACK PER 3350
08	PPT3375	PAGES PER TRACK PER 3375
0A	PPT3380	PAGES PER TRACK PER 3380
03	PPT2305	PAGES PER TRACK PER 2305

CYLPDEV CODE DEFINITIONS NUMBER OF CYLINDERS PER SPINDLE

94	CYL3330	CYLINDERS PER 3330 NOT MOD 11
28	CYL3331	CYLINDERS PER 3330 MOD 11
5C	CYL3340	CYLINDERS PER 3340 35 MB
B8	CYL3347	CYLINDERS PER 3340 70 MB
2B	CYL3350	CYLINDERS PER 3350
BF	CYL3375	CYLINDERS PER 3375
75	CYL3380	CYLINDERS PER 3380
75	CYL3380A	CYLINDERS PER 3380 MOD A
75	CYL3380D	CYLINDERS PER 3380 MOD D
EA	CYL3380E	CYLINDERS PER 3380 MOD E
75	CYL3380J	CYLINDERS PER 3380 MOD J
5F	CYL3380K	CYLINDERS PER 3380 MOD K
60	CYL2352	CYLINDERS PER 2305 MOD 2

TCYLDEV CODE DEFINITIONS TOTAL NUMBER OF CYLINDERS

60	TCYL2352	TOTAL CYLINDERS 2305 MOD 2
9B	TCYL3330	TOTAL CYLINDERS 3330 NOT MOD 11
2F	TCYL3331	TOTAL CYLINDERS 3330 MOD 11
5D	TCYL3340	TOTAL CYLINDERS 3340 35 MB
BA	TCYL3347	TOTAL CYLINDERS 3340 70 MB
30	TCYL3350	TOTAL CYLINDERS 3350
C0	TCYL3375	TOTAL CYLINDERS 3375
76	TCYL3380	TOTAL CYLINDERS 3380
76	TCYL338A	TOTAL CYLINDERS 3380 MOD A
76	TCYL338D	TOTAL CYLINDERS 3380 MOD D
EB	TCYL338E	TOTAL CYLINDERS 3380 MOD E
76	TCYL338J	TOTAL CYLINDERS 3380 MOD J
60	TCYL338K	TOTAL CYLINDERS 3380 MOD K

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HCPEQUAT— EQUATE SYMBOLS

DSECT NAME: EQUAT

DESCRIPTIVE NAME: EQUATE SYMBOLS

FUNCTION: PROVIDE STANDARDIZED EQUATE SYMBOLS FOR COMMONLY USED DEFINITIONS AND CODES

LOCATED BY:

EVERY HOST CONTROL PROGRAM (HCP) MODULE

CREATED BY:

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NONE

Value	Name	Description	
80	CCWDC	CHAIN DATA ADDRESS AND COUNT	
40	CCWCC	COMMAND CHAIN	
20	CCWSILI	SUPPRESS INCORRECT LENGTH	
10	CCWSKIP	SUPPRESS INBOUND DATA TRANSFER	
08	CCWPCIR	REQUEST PC INTERRUPTION	
04	CCWIDA	INDIRECT DATA ADDRESSING	
03	CCWINVAL	I/O UNDEFINED PAIR OF BITS	
02	CCWSUSPN	I/O SUSPENSION/RESUMPTION	
01	CCWUNDEF	I/O UNDEFINED BIT	
		CSWSKEY BIT DEFINITIONS	SUBCHANNEL KEY AND COND. CODE
F0	CSWKEY	KEY OF I/O OPERATION (0-15)	
0F	CSWRQCLR	MUST BE CLEAR AT INITIATION	
08	CSWSRENA	SUSPEND-RESUME ENABLEMENT	
04	CSWESTAT	1=EXTENDED STATUS, 0=TIME	
03	CSWDFCC	DEFERRED CC EXTRACT MASK	
00	CSWCC0	DEFERRED CC CODE 0	
01	CSWCC1	DEFERRED CC CODE 1	
02	CSWCC2	DEFERRED CC CODE 2	
03	CSWCC3	DEFERRED CC CODE 3	
		CSWFPIZN BIT DEFINITIONS	FORMAT,PREFETCH AND RESPONSES
F8	CSWSUMRY	SUMMARY TEST FIELD	
80	CSWFORMT	FORMAT OF CCW	
40	CSWPREF	UNLIMITED PREFETCH ALLOWED.	
20	CSWRESPN	INITIAL STATUS RESPONSE PRESENTED	
10	CSWLMODE	ADDRESS LIMIT IS IN EFFECT	
08	CSWSUPSI	SUPPRESS SUSPENDED INTERRUPTION	
04	CSWZCC	CONFIRMED ZERO CONDITION CODE	
02	CSWELOG	EXTENDED I/O LOGOUT STORED	
01	CSWPHOPR	NOT-OPERATION PATH ENCOUNTERED	
		CSWFCTL BIT DEFINITIONS	FUNCTION CONTROLS
40	CSWSFCN	START SUBCHANNEL FUNCTION	
20	CSWHFCN	HALT SUBCHANNEL FUNCTION	
10	CSWCFCN	CLEAR SUBCHANNEL FUNCTION	
08	CSWRPND	RESUME SUBCHANNEL PENDING	
04	CSWSPND	START SUBCHANNEL PENDING	
02	CSWHPND	HALT SUBCHANNEL PENDING	
01	CSWCPND	CLEAR SUBCHANNEL PENDING	

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                        CSWACTL BIT DEFINITIONS     ACTIVITY CONTROLS

80      CSWSCACT        SUBCHANNEL ACTIVE
40      CSWDVACT        DEVICE     ACTIVE
20      CSWSUSPN        SUBCHANNEL SUSPENDED
10      CSWALERT        ALERT STATUS
08      CSWISTAT        INTERMEDIATE STATUS
04      CSWPSTAT        PRIMARY      STATUS
02      CSWNSTAT        SECONDARY    STATUS
01      CSWSTPND        STATUS PENDING

                        CSWDVST BIT DEFINITIONS     BYTE 8 DEVICE STATUS BYTE

80      CSWATTN         ATTENTION
40      CSWSM           STATUS MODIFIER
20      CSWCUE          CONTROL UNIT END
10      CSWBUSY         BUSY
08      CSWCE           CHANNEL END
04      CSWDE           DEVICE END
02      CSWUC           UNIT CHECK
01      CSWUE           UNIT EXCEPTION
0C      CSWCEDE         CHANNEL END AND DEVICE END
2C      CSWCEDC         CHANNEL END,DEVICE END,AND CUE
50      CSWSMBSY        CONTROL UNIT BUSY
70      CSWCBS          CONTROL UNIT BUSY AND END
84      CSWDEA          DEVICE END AND ATTENTION

                        CSWSCST BIT DEFINITIONS     BYTE 9 CHANNEL STATUS BYTE

80      CSWPCI          PROGRAM CONTROLLED INTERRUPTION
40      CSWIL           INCORRECT LENGTH INDICATION
20      CSWPRG          CHANNEL PROGRAM CHECK
10      CSWPROT         STORAGE PROTECTION CHECK
08      CSWCDC          CHANNEL DATA CHECK
04      CSWCCC          CHANNEL CONTROL CHECK
02      CSWIFCC         INTERFACE CONTROL CHECK
01      CSWCHC          CHANNEL CHAINING CHECK
0E      CSWHCE          CDC+CCC+IFCC HARDWARE ERRORS
31      CSWPCE          PRG+CHC+PROT PROGRAM  ERRORS

                        CSWECF BIT DEFINITIONS ERROR CHECK FLAGS

40      CSWMBKCK        INVALID CBC ON STORAGE KEY
20      CSWMBPCK        ADDRESSING EXCEPTION ON MBI
10      CSWMBDCK        INVALID CBC ON MEASURE BLOCK
08      CSWMBACK        ACCESS EXCEPTION OF MEASURE BLK
04      CSWCCWCK        INVALID CBC ON CCW FIELDS
02      CSWIDACK        INVALID CBC ON IDAL FIELDS
01      CSWSALCK        INVALID ADDRESS LIMIT SET

                        CSWFVF BIT DEFINITIONS FIELD VALIDITY FLAGS

40      CSWFVFLP        LAST-PATH-USED IS VALID
20      CSWFVFTC        TERMINATION CODE IS VALID
10      CSWFVFSC        SEQUENCE CODE IS VALID
08      CSWFVFDS        DEVICE STATUS IS VALID
04      CSWFVFCA        CCW ADDRESS IS VALID
03      CSWSACOD        STORAGE ACCESS CODE:
00      CSWSAUNK        00 - UNKNOWN TYPE
01      CSWSARD         01 - READ
02      CSWSAWRT        02 - WRITE
03      CSWSARDB        03 - READ BACKWARDS
02      CSWFVFCN        S/370-ONLY: CHANNEL
01      CSWFVFDN        S/370-ONLY: DEVICE
1C      CSWFVFCM        common fields

                        CSWTMSEQ BIT DEFINITIONS    TERMINATION AND SEQUENCE CODES

C0      CSWTMCOD        TERMINATION CODE :
00      CSWTMCID        00 - INTERFACE DISCONNECT
40      CSWTMCST        01 - STOP, STACK, NORMAL TERM
80      CSWTMCSR        10 - SELECTIVE RESET
C0      CSWTMXXX        11 - RESERVED
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10    CSWSECER    SECONDARY ERROR
08    CSWEALRT    LOGOUT IS FROM I/O ERROR ALERT
07    CSWSQCOD    SEQUENCE CODE :
00    CSWSQXXX    000 - RESERVED
01    CSWSQCOA    001 - COMMAND-OUT & ADDRESS-IN
02    CSWSQCAC    010 - COMMAND ACCEPTED
03    CSWSQDTR    011 - DATA TRANSFERRED
04    CSWSQCNA    100 - COMMAND NOT ACCEPTED
05    CSWSQCAQ    101 - COMMAND ACCEPTED BUT DATA
                  TRANSFER UNKNOWN
06    CSWSQYYY    110 - RESERVED
07    CSWSQZZZ    111 - RESERVED

                  CSWDETCT BIT DEFINITIONS    S/370 LCL DETECTION FIELD

08    CSWDTCPU    DETECTED BY THE CPU
04    CSWDTCHN    DETECTED BY THE CHANNEL
02    CSWDTMSC    DETECTED BY MAIN STORAGE CONTROL
01    CSWDTMSM    DETECTED BY MAIN STORAGE

                  CSWSOURC BIT DEFINITIONS    S/370 LCL SOURCE FIELD

80    CSWSCCPU    SOURCE IS WITHIN THE CPU
40    CSWSCCHN    SOURCE IS WITHIN THE CHANNEL
20    CSWSCMSC    SOURCE IS WITHIN MAIN STORAGE CONTROL
10    CSWSCMSM    SOURCE IS WITHIN MAIN STORAGE
08    CSWSCCU     SOURCE IS WITHIN THE CONTROL UNIT
01    CSWSCXTL    EXTENDED LOGOUT SUCCESSFULLY STORED

                  CSWIRCF BIT DEFINITIONS     INTERRUPTION SUBCLASS FIELD

38    CSWIRC      INTERRUPTION SUBCLASS EXTRACT MASK
01    CSWABC      ALTERNATE BLOCK CONTROL BIT

                  CSWIRCF CODE DEFINITIONS    INTERRUPTION SUBCLASS FIELD

00    CSWISC0     INTERRUPTION SUBCLASS 0 = ..000...
08    CSWISC1     INTERRUPTION SUBCLASS 1 = ..001...
10    CSWISC2     INTERRUPTION SUBCLASS 2 = ..010...
18    CSWISC3     INTERRUPTION SUBCLASS 3 = ..011...
20    CSWISC4     INTERRUPTION SUBCLASS 4 = ..100...
28    CSWISC5     INTERRUPTION SUBCLASS 5 = ..101...
30    CSWISC6     INTERRUPTION SUBCLASS 6 = ..110...
38    CSWISC7     INTERRUPTION SUBCLASS 7 = ..111...
00    CSWISCCP    CP INTERRUPTION SUBCLASS
08    CSWISCRP    REPLACEMENT INTERRUPTION SUBCLASS
10    CSWISCVR    PREFERRED INTERRUPTION SUBCLASS
20    CSWISCFP    FULL PACK MINIDISK INTERRUPTION SUBCL

                  CSWCTL BIT DEFINITIONS SUBCHANNEL STATUS INFORMATION

80    CSWENB      INTERRUPTIONS ENABLED
60    CSWLM       PREFERRED LIMIT MODE
40    CSWLOW      PROG CHECK IF ADDR .GE. LIMIT
20    CSWHIGH     PROG CHECK IF ADDR .LT. LIMIT
18    CSWMM       MEASUREMENT FLAGS
10    CSWMSP      MEASUREMENT PERMITTED
08    CSWTIM      TIMING      PERMITTED
04    CSWDYNPT    DYNAMIC PATHING AVALIABLE
02    CSWTIMFC    TIMING FACILITY AVALIABLE
01    CSWVLD      VALID DEVICE NUMBER ASSIGNED

                  CR0B0 BIT DEFINITIONS  BYTE 0 SYSTEM CONTROLS

80    CR0BMPX     BLOCK MULTIPLEXING CONTROL
40    CR0SSMP     SYSTEM MASK SUPPRESSION CONTROL
20    CR0SYNC     TOD CLOCK SYNCH CONTROL
10    CR0LAP      LOW ADDRESS PROTECTION CONTROL
08    CR0EXAUT    EXTRACTION AUTHORITY CONTROL
04    CR0SSCTL    SECONDARY SPACE CONTROL
02    CR0LAFPI    LOW ADDRESS FETCH PROTECTION INHIBIT
01    CR0KEY4     ALLOW A 370 GUEST TO USE ALL KEY OPS

                  CR0B1 BIT DEFINITIONS  BYTE 1 TRANSLATION CONTROLS
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80      CR0PG4K     TRANSLATE WITH 4096-BYTE PAGE
40      CR0PG2K     TRANSLATE WITH 2048-BYTE PAGE
20      CR0PTE4     FOUR-BYTE PAGE TABLE ENTRIES
10      CR0SG1M     MEGABYTE SEGMENTS
08      CR0SG64     64K-BYTE SEGMENTS
04      CR0PFA      MVSA PAGE FAULT ASSIST CONTROL
02      CR0VFENA    VECTOR FACILITY ENABLED

                    CR0B2 BIT DEFINITIONS  BYTE 2 MACHINE CHECK CONTROLS

80      CR0MFAM     MALFUNCTION ALERT MASK
40      CR0EMSM     EMERGENCY SIGNAL MASK
20      CR0ECLM     EXTERNAL CALL MASK
10      CR0TSYN     TOD SYNCH CHECK MASK
08      CR0CKCM     TOD CLOCK COMPARATOR MASK
04      CR0CPTM     CPU TIMER MASK
02      CR0SVSG     SERVICE PROCESSOR SIGNAL MASK
02      CR0PVM      VM PASS-THROUGH LOGICAL DEVICE
                    EXTERNAL INTERRUPTION MASK

                    CR0B3 BIT DEFINITIONS  BYTE 3 INTERRUPT MASKS

80      CR0INTM     S/370 INTERVAL TIMER MASK
40      CR0EXKY     EXTERNAL INTERRUPT KEY MASK
20      CR0SIGM     S/360 EXTERNAL SIGNALS 2-7 MASK
02      CR0IUCV     INTER-USER COMMUNICATION VEHICLE
                    EXTERNAL INTERRUPTION MASK
01      CR0VMCF     VIRTUAL MACHINE COMMUNICATION
                    FACILITY EXTERNAL INTERRUPTION MASK

                    CR1B0 BIT DEFINITIONS  BYTE 0 CROSS MEMORY CONTROL

80      CR1SSXA     370/XA SPACE SWITCH EVENT MASK


                    CR1B3 BIT DEFINITIONS  BYTE 3 CROSS MEMORY CONTROL

01      CR1SS370    370 SPACE SWITCH EVENT MASK

                    CR6B0 BIT DEFINITIONS  BYTE 0 CHANNEL CLASS INTERRUPT MASKS

FF      CR6IOMSK    FLOATING CHANNEL INTERRUPT MASK
80      CR6IOCL0    FLOATING CHANNEL INTERRUPT CLASS 0
40      CR6IOCL1    FLOATING CHANNEL INTERRUPT CLASS 1
20      CR6IOCL2    FLOATING CHANNEL INTERRUPT CLASS 2
10      CR6IOCL3    FLOATING CHANNEL INTERRUPT CLASS 3
08      CR6IOCL4    FLOATING CHANNEL INTERRUPT CLASS 4
04      CR6IOCL5    FLOATING CHANNEL INTERRUPT CLASS 5
02      CR6IOCL6    FLOATING CHANNEL INTERRUPT CLASS 6
01      CR6IOCL7    FLOATING CHANNEL INTERRUPT CLASS 7

                    CR9B0 BIT DEFINITIONS  BYTE 0 PROGRAM EVENT MONITORING

80      CR9SUBR     MONITOR SUCCESFUL BRANCHES
40      CR9IFET     MONITOR INSTRUCTION FETCH
20      CR9SALT     MONITOR STORAGE ALTERATION
10      CR9GPRS     MONITOR REGISTER ALTERATION
                    GENERAL REGISTER MASK BITS

                    CRCB0 BIT DEFINITIONS  BYTE 0 BRANCH TRACING CONTROLS

80      CRCBRCTL    BRANCH TRACE CONTROL BIT. WHEN ON,
                    ALL BALR, BASR AND BASSM INST
                    ARE TRACED BY THE HARDWARE.

                    CRCB3 BIT DEFINITIONS  BYTE 3 ADDRESS SPACE TRACING CONTROLS
                    AND EXPLICIT TRACING CONTROLS

02      CRCASCTL    ADDRESS SPACE TRACE CONTROL BIT.
                    WHEN ON, ALL PC, PT AND SSAR INST
                    ARE TRACED BY THE HARDWARE.
01      CRCEXCTL    EXPLICIT TRACE CONTROL BIT. WHEN
                    ON, ALL TRACE INST ARE EXECUTED BY
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                        THE HARDWARE.

                        CREB0 BIT DEFINITIONS  BYTE 0 RECOVERY CONTROLS

80      CRESTOP         HARD STOP ON MACHINE CHECK (370 GUEST)
40      CRESYNC         SYNCHRONOUS EXTENDED LOGOUT CONTROL
20      CREIOLG         I/O LOGOUT CONTROL          (370 GUEST)
10      CRECRWM         REPRESSIBLE CRW MASK (370/XA ONLY)
08      CRERCVY         RECOVERY-REPORT MASK
04      CRECNFG         DEGRADATION-REPORT MASK
02      CREDAMG         EXTERNAL-DAMAGE-REPORT MASK
01      CREWARN         WARNING CONDITION REPORT MASK

                        CREB1 BIT DEFINITIONS  BYTE 1 LOGOUT CONTROLS

80      CREXLOG         ASYNCH EXTENDED LOGOUT CONTROL
40      CREFLOG         ASYNCH FIXED LOGOUT CONTROL

                        EXTICODE CODE DEFINITIONS  EXTERNAL INTERRUPT TYPE CODE

40      EXTIKEY         CODE X'0040' INTERRUPT KEY
80      EXTITMR         CODE X'0080' 370 INTERVAL TIMER
03      EXTITSYN        CODE X'1003' TOD SYNCH CHECK
04      EXTICKC         CODE X'1004' CLOCK COMPARATOR
05      EXTICPU         CODE X'1005' CPU TIMER
00      EXTIMALF        CODE X'1200' MALFUNCTION ALERT
01      EXTIEMGS        CODE X'1201' EMERGENCY SIGNAL
02      EXTICALL        CODE X'1202' EXTERNAL CALL
01      EXTISVSG        CODE X'2401' SERVICE SIGNAL
02      EXTIPVM         CODE X'2402' PVM LOGICAL DEVICE
00      EXTIIUCV        CODE X'4000' IUCV INTERRUPTION
01      EXTIVMCF        CODE X'4001' VMCF INTERRUPTION
02      EXTIACCT        CODE X'4002' VMCF ACCOUNTING
                        INTERRUPTION
03      EXTIEREP        CODE X'4003' VMCF EREP INTERRUPT.

                        EXTICLAS CODE DEFINITIONS  EXTERNAL INTERRUPT CLASS CODE

00      EXTICL00        CLASS 00 EXTERNAL INTERRUPTS
                        (INTERRUPT KEY, INTERVAL TIMER)
10      EXTICL10        CLASS 10 EXTERNAL INTERRUPTS
                        (TIMER, COMPARATOR, TOD SYNCH)
12      EXTICL12        CLASS 12 EXTERNAL INTERRUPTS
                        (MULTI-CPU SIGNALS)
24      EXTICL24        CLASS 24 EXTERNAL INTERRUPTS
                        (SERVICE SIGNALS)
40      EXTICL40        CLASS 40 EXTERNAL INTERRUPTS
                        (VMCF AND IUCV COMMUNICATION)

                        MCIC0 BIT DEFINITIONS  BYTE 0  MACHINE CHECK DAMAGE INFO.

FF      MCIPRIM0
                        PRIMARY MACHINE CHECK BITS - BYTE 0
80      MCICSD          SYSTEM DAMAGE BIT.
40      MCICPD          PROCESSING DAMAGE BIT.
20      MCICSR          SYSTEM RECOVERY BIT.
10      MCICITD         INTERVAL TIMER DAMAGE.    (370 GUESTS)
08      MCICCD          TIMING (CLOCK) FACILITY DAMAGE.
04      MCICED          EXTERNAL DAMAGE.
02      MCICVFF         VECTOR FACILITY FAILURE
01      MCICDG          DEGRADATION BIT.

                        MCIC1 BIT DEFINITIONS  BYTE 1  CHANNEL DAMAGE & OTHER STUFF

F0      MCIPRIM1
                        PRIMARY MACHINE CHECK BITS - BYTE 1
80      MCICW           WARNING BIT.
40      MCICCRW         PENDING-CRW REPORT.
20      MCICSP          SERVICE PROCESSOR DAMAGE.
10      MCICCSD         CHANNEL-SUBSYSTEM DAMAGE.
04      MCICVFS         VECTOR FACILITY SOURCE
02      MCICBU          'BACKED UP' BIT.
01      MCICDL          'DELAYED' BIT.            (370 GUESTS)
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                        MCIC2 BIT DEFINITIONS  BYTE 2  STORAGE ERRORS & VALIDITY BITS

        80      MCICSE      STORAGE ERROR UNCORRECTED.
        40      MCICSC      STORAGE ERROR CORRECTED.
        20      MCICKE      STORAGE-KEY ERROR UNCORRECTED.
        10      MCICSDG     STORAGE DEGRADATION.  MODIFIES
                            STORAGE ERROR CORRECTED.
        08      MCICVWP     BITS 12-15 OF MC OLD PSW VALID.
        04      MCICVMS     SYSTEM MASK & KEY OF MC OLD PSW VALID.
        02      MCICVPM     PROGRAM MASK & CC OF MC OLD PSW VALID.
        01      MCICVIA     INSTR ADDR OF MC OLD PSW IS VALID.

                        MCIC3 BIT DEFINITIONS  BYTE 3  VALIDITY BITS

        80      MCICVFA     FAILING STORAGE ADDRESS IS VALID.
        20      MCICVED     EXTERNAL-DAMAGE CODE IS VALID.
        10      MCICVFP     FP REGISTERS STORED ARE VALID.
        08      MCICVGR     GP REGISTERS STORED ARE VALID.
        04      MCICVCR     CONTROL REGISTERS STORED VALID.
        02      MCICVLG     EXTENDED LOGOUT AREA IS VALID.
        01      MCICVST     INST. MODIFIED STORAGE IS VALID.

                        MCIC4 BIT DEFINITIONS  BYTE 4  RESERVED FOR FUTURE USE

        40      MCICVAR     RESERVED FOR FUTURE IBM USE
        20      MCICDA      DELAYED ACCESS EXCEPTION BIT

                        MCIC5 BIT DEFINITIONS  BYTE 5  TIMING FACILITIES VALIDITY

        02      MCICVCT     CPU TIMER STORED IS VALID.
        01      MCICVCC     CLOCK COMPARATOR STORED IS VALID.

                        MCEXTDMC BIT DEFINITIONS   EXTERNAL DAMAGE CODE BITS

        80      MCEXTDXN    EXTENDED STORAGE NOT OPERATIONAL
        40      MCEXTDXF    EXTENDED STORAGE CONTROL FAILURE

                        ORBORB7 BIT DEFINITIONS OPERATION REQUEST BLOCK CONTROL BITS

        80      ORBIOILF    IGNORE INC. LEN. ON IMMED. OPERATIONS

                        PRGICODE CODE DEFINITIONS  PROGRAM INTERRUPT TYPE CODE

        01      PRGIOPER    OPERATION
        02      PRGIPRIV    PRIVILEGED OPERATION
        03      PRGIEXEC    EXECUTE
        04      PRGIPROT    PROTECTION
        05      PRGIADDR    ADDRESSING
        06      PRGISPEC    SPECIFICATION
        07      PRGIDATA    DATA
        08      PRGIFXDV    FIXED POINT OVERFLOW
        09      PRGIFDIV    FIXED POINT DIVIDE
        0A      PRGIDECO    DECIMAL OVERFLOW
        0B      PRGIDDIV    DECIMAL DIVIDE
        0C      PRGIEXPO    EXPONENT OVERFLOW
        0D      PRGIEXPU    EXPONENT UNDERFLOW
        0E      PRGISGNF    SIGNIFICANCE
        0F      PRGIFPDV    FLOATING POINT DIVIDE
        10      PRGISEG     SEGMENT TRANSLATION
        11      PRGIPAGE    PAGE TRANSLATION
        12      PRGITSPC    TRANSLATION SPECIFICATION
        13      PRGISPOP    SPECIAL OPERATION
        14      PRGIPPF     PSEUDO-PAGE-FAULT (SOFTWARE ONLY)
        15      PRGIOPND    OPERAND (370/XA ONLY)
        16      PRGITRAC    TRACE TABLE FULL (370/XA ONLY)
        17      PRGIASNT    ASN TRANSLATION SPECIFICATION
                            EXCEPTION
        19      PRGIVOP     VECTOR OPERATION EXCEPTION
        1C      PRGISPSW    SPACE SWITCH EVENT
        1E      PRGIUNOP    UNNORMALIZED OPERAND EXCEPTION
        20      PRGIAFXT    AFX TRANSLATION
        21      PRGIASXT    ASX TRANSLATION
        22      PRGILXTR    LX TRANSLATION
        23      PRGIEXTR    EX TRANSLATION
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24      PRGIPRIA    PRIMARY AUTHORITY
25      PRGISECA    SECONDARY AUTHORITY
40      PRGIMC      MONITOR CALL
7F      PRGICMSK    MASK TO ISOLATE PROGRAM CHECK
80      PRGIPER     PROGRAM EVENT RECORDING, POSSIBLY
                    WITH ANOTHER EXCEPTION CODE
00      PRGIARPC    ARITHMETIC PARTIAL COMPLETION BIT
                    OF THE EXCEPTION EXTENSION CODE
                    (BIT 0 OF THE PROGRAM CHECK
                    INTERRUPT CODE)
                    CODE NUMBER (X'007F')

                    PSW0 BIT DEFINITIONS   BYTE 0 (EC MODE) INTERRUPT MASK

40      PSWPERA     PROGRAM EVENT RECORDING ACTIVE
04      PSWTRAN     ADDRESS TRANSLATE MODE ACTIVE
02      PSWIOSM     I/O INTERRUPTION SUMMARY MASK
01      PSWEXSM     EXTERNAL INTERRUPT SUMMARY MASK

                    PSW1 BIT DEFINITIONS   BYTE 1 ENABLE MASK AND MODE

F0      PSWKEY      PSW ACCESS KEY EXTRACTION MASK
08      PSWECMD     EXTENDED CONTROL MODE ACTIVE
04      PSWMCHK     MACHINE CHECK SUMMARY MASK
02      PSWWAIT     PROGRAM WAIT STATE
01      PSWPROB     PROGRAM PROBLEM STATE

                    PSW2 BIT DEFINITIONS   BYTE 2 (EC MODE) EXECEPTIONS

80      PSWSMODE    SECONDARY MODE
30      PSWCOND     PSW CONDITION CODE
20      PSWCOND2    PSW CONDITION CODE BIT FOR CC=2,3
10      PSWCOND1    PSW CONDITION CODE BIT FOR CC=1,3
0F      PSWPMSK     FIXO+DECO+EXUN+SIGN     PROGRAM MASK
08      PSWFIXO     FIXED-PT OVERFLOW INTRPT MASK
04      PSWDECO     DECIMAL OVERFLOW INTRPT MASK
02      PSWEXUN     EXPONENT UNDERFLOW INTRPT MASK
01      PSWSIGN     SIGNIFICANCE INTERRUPT MASK

                    PSW4 BIT DEFINITIONS   BYTE 4 (EC MODE) ADDRESSING MODE AND
                    THE INSTRUCTION COUNTER
80      PSW31BT     31-BIT LOGICAL ADDRESSING MODE
7F      PSWHIADR    INSTRUCTION COUNTER BITS 1-7
                    MUST BE ZERO IN 24-BIT MODE.
00      PSW31AMF    ADDRESS MODE FULLWORD MASK
                    CORRESPONDS TO PSW31BT

                    PSW0B BIT DEFINITIONS  BYTE 0 (BC MODE) INTERRUPT MASK

FC      PSWIOMSK    CHANNEL MASK, CHANNELS 0-5
02      PSWIOSMB    I/O SUMMARY MASK, CHANNEL 6-15
01      PSWEXSMB    EXTERNAL INTERRUPT SUMMARY MASK

                    PSW4B BIT DEFINITIONS  BYTE 4 (BC MODE) PROGRAM MASK

C0      PSWILCBC    INSTRUCTION LENGTH CODE (ILC)
80      PSWILCB4    BC MODE ILC, 4 BYTE LENGTH
40      PSWILCB2    BC MODE ILC, 2 BYTE LENGTH
30      PSWCONDB    PSW CONDITION CODE
20      PSWCONB2    PSW CONDITION CODE BIT FOR CC=2,3
10      PSWCONB1    PSW CONDITION CODE BIT FOR CC=1,3
0F      PSWPMSKB    FIXOB+DECOB+EXUNB+SIGNB PROGRAM MASK
08      PSWFIXOB    FIXED-PT OVERFLOW INTRPT MASK
04      PSWDECOB    DECIMAL OVERFLOW INTRPT MASK
02      PSWEXUNB    EXPONENT UNDERFLOW INTRPT MASK
01      PSWSIGNB    SIGNIFICANCE INTERRUPT MASK

                    SIGP CODES DEFINITIONS SIGNAL PROCESSOR CODES

01      SIGPSENS    SIGP SENSE
02      SIGPEXTC    SIGP EXTERNAL CALL
03      SIGPEMER    SIGP EMERGENCY SIGNAL
04      SIGPSTRT    SIGP START
05      SIGPSTOP    SIGP STOP
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06    SIGPRSTR    SIGP RESTART
07    SIGPIPR     SIGP INITIAL PROGRAM RESET
08    SIGPPR      SIGP PROGRAM RESET
09    SIGPSSTT    SIGP STOP AND STORE STATUS
0B    SIGPICPU    SIGP INITIAL CPU RESET
0C    SIGPCPU     SIGP CPU RESET
0D    SIGPSPFX    SIGP SET PREFIX
0E    SIGPSSTS    SIGP STORE STATUS AT ADDRESS

                  SIGPSNS BIT DEFINITIONS     SIGP SENSE RETURN CODES

00    SIGSEQCK    SIGP SENSE EQUIPMENT CHECK
00    SIGSISTS    SIGP SENSE INCORRECT STATE
00    SIGSIPRM    SIGP SENSE INVALID PARAMETER
80    SIGSPECL    SIGP SENSE EXTERNAL-CALL PENDING
40    SIGSSTOP    SIGP SENSE CPU STOP STATE
20    SIGSINTV    SIGP SENSE OPERATOR INTERVENING
10    SIGSCKST    SIGP SENSE CHECK STOP
04    SIGSINOP    SIGP SENSE ORDER CODE INOPERATIVE
02    SIGSINVO    SIGP SENSE INVALID ORDER CODE
01    SIGSRCVK    SIGP SENSE RECEIVER CHECK
80    ABNHARD     FORCE ALL SOFT ABENDS TO HARD

                  ACO BIT DEFINITIONS    OPTIONS FOR HCPACO

20    ACOALTVM    ACCOUNT RECORD FOR ALTERNATE VMDBK
20    ACOHIPR     WRITE THIS MESSAGE IMMEDIATELY

                  AFFPF BIT DEFINITIONS  OPTIONS FOR HCPAFFPF

08    AFFLOAFF    LOSS OF AFFINITY
04    AFFSTLST    STATE LOST
00    AFFUNLD     UNLOAD

                  ALLVM BIT DEFINITIONS  OPTIONS FOR HCPALLVM

80    ALLVMDBK    ALL LOGGED-ON USERS AND THEIR
                  ADJUNCT VMDBKS
40    ALLVMURS    ALL LOGGED ON USER VMDBKS
20    ALLVMALL    All VMDBKs regardless of status (modif
                  above bits

                  ALLVN BIT DEFINITIONS  OPTIONS FOR HCPALLVN

00    ALLVNDYN    MAKE A DYNAMIC CALL
00    ALLVNSTC    MAKE A STATIC CALL

                  BMS CODE DEFINITIONS   OPTIONS FOR HCPBMS

00    BMSCNRLS    CONDITIONALLY RELEASE AND TERMINATE
04    BMSUNRLS    UNCONDITIONALLY RELEASE AND TERMINATE

                  BVM BIT DEFINITIONS    OPTIONS FOR HCPBVM

37    BVMVRVM     REQUEST TO BUILD VMDBK FOR V=R GUEST

                  CPU BIT DEFINITIONS    OPTIONS FOR HCPCPUNO

80    CPUNOKEY    ANY NON-ADDRESS OPERAND DELIMITS
                  THE CPU ADDRESS LIST (NO KEYWORD)
40    CPUKEY      A KEYWORD LIST WILL BE USED TO
                  DELIMIT CPU ADDRESS LIST
20    CPUNOALL    'ALL' SHOULD NOT BE ACCEPTED AS A
                  CPU ADDRESS EXPRESSION

                  CQF BIT DEFINITIONS    OPTIONS FOR HCPCQFFI

80    CQFSYS      QUERY SYSTEM FILES AT OPERATOR LOGON

                  CQP BIT DEFINITIONS    OPTIONS FOR HCPCQPRS AND HCPCQPRX

40    CQPORIG     ORIGINID NEEDED IN RESPONSE
20    CQPSRD      SHORT RESPONSE - CLASS D USER
10    CQPSRG      SHORT RESPONSE - CLASS G USER
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                        DSTORE BIT DEFINITIONS OPTIONS FOR DISPLAY/STORE

80      DSTVMODE        TREAT REFERENCES AS 'V' MODE
40      DSTRMODE        TREAT REFERENCES AS 'R' MODE
20      DSTWMODE        TREAT REFERENCES AS 'W' MODE
10      DSTHMODE        TREAT REFERENCES AS 'H' MODE
08      DSTLMODE        TREAT REFERENCES AS 'L' MODE

                        WARNING - DO NOT ADD OR CHANGE ERM BITS WITHOUT QCN CHECK

                        ERM CODE DEFINITIONS   CALLING PARAMETERS OPTIONS FOR HCPERM

                        -----                  BYTE ZERO OF CALLING PARAMETERS

80      ERMNOSUP        DON'T SUPPRESS MESSAGE ACCORDING TO
                        THE EMSG SETTING
40      ERMIMSG         PROCESS MESSAGE ACCORDING TO IMSG SETT

20      ERMMODID        R9 ADDRESS THE ALTERNATE MODULE NAME

                        -----                  BYTES ONE AND TWO

00      ERMDATA         DATA INSTEAD OF ADDRESS IN R1
00      ERMBRITE        BRITE ON SCREEN, 3 SPACE ON 2741
00      ERMALTVM        ERROR MESSAGE FOR DIFFERENT USER
00      ERMALTID        ALTERNATE USERID SUPPLIED
00      ERMEMSG         ERROR MESSAGE FOR HCPQCN
00      ERMSYNC         SYNCHRONOUS CALL TO HCPERM
00      ERMINFO         EDITING ONLY ERM REQUEST
00      ERMOPER         OPERATOR MESSAGE FOR HCPQCN
20      ERMHIPR         HIGH PRIORITY FOR HCPQCN
04      ERMNOCR         SUPPRESS AUTOMATIC CARRIAGE RETURN
02      ERMALRM         AUDIBLE ALARM FOR HCPQCN
01      ERMTIME         ADD TIMESTAMP TO MESSAGE

                        GIRR2 BIT DEFINITIONS  OPTIONS FOR HCPGIRVR, IN R2

04      GIRLOOK         SEARCH AND RETURN I/O INTERRUPT ADDR
02      GIRUNSTK        SEARCH AND UNSTACK I/O INTERRUPTION
01      GIRFIND         SEARCH FOR I/O INTERRUPTION

                        GIRR0 CODE DEFINITIONS DEVICE

00      GIRCH           SEARCH ON CHANNEL ADDRESS
F0      GIRCU16         SEARCH ON 16-DEVICE CONTROL UNIT
F8      GIRCU8          SEARCH ON 8-DEVICE CONTROL UNIT
FF      GIRDV           SEARCH ON DEVICE ADDRESS

                        GSRRUWU CODE DEFINITIONS OPTIONS FOR HCPGSRRU AND HCPGSRWU

00      GSRVVIRT        HCPPTRAN SHOULD BE CALLED
00      GSRRVIRT        VIRTUAL ADDRESS ALREADY TRANSLATED.

                        GSVSL BIT DEFINITIONS  OPTIONS FOR HCPGSVSL

01      GSVSET          SET ADDRESS LIMITS
02      GSVRESET        RESET ADDRESS LIMITS

                        MPCFL BIT DEFINITIONS  OPTIONS FOR HCPMPCFL

01      MPCLOGVY        LOGICAL VARY OFF REQUEST

                        MSG   BIT DEFINITIONS  OPTIONS FOR HCPMSG

00      MSGMSS          INDICATE *MSG PATH
01      MSGMALL         INDICATE *MSGALL PATH

                        NLDR CODE DEFINITIONS  OPTIONS FOR HCPNLD

40      NLDAUTO         AUTOMATIC LOAD

                        NSC BIT DEFINITIONS    OPTIONS FOR HCPNSCID, HCPNSCNM, AND
                        HCPNSCAL
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01    NSCDCSS     PROCESS DISCONTIGUOUS SAVED SEGMENTS
02    NSCIMG      PROCESS IMAGE FILES
04    NSCNSS      PROCESS NAMED SAVED SYSTEM FILES

                  NSM BIT DEFINITIONS    OPTION FOR HCPNSCNM

01    NSMDCSS     SET CP NOTIFICATION ADDRESS FOR NSS
04    NSMNSS      SET CP NOTIFICATION ADDRESS FOR DCSS

                  NSN CODE DEFINITIONS   OPTIONS FOR HCPNSNID, HCPNSNNM, AND
                  HCPNSNAL
00    NSNNSS      PROCESS NAMED SAVED SYSTEM OR
                  DISCONTIGUOUS SAVED SEGMENT FILES
02    NSNIMG      PROCESS IMAGE FILES

00    NSNLKHLD    DO NOT ATTEMPT TO GET OR RELEASE THE
                  SYMBOLIC LOCK. LOCK BEING MANAGED BY
                  CALLING ROUTINE.
                  NSP CODE DEFINITIONS   OPTIONS FOR HCPNSP

01    NSPNIMB     SYSTEM DATA FILE TO BE PURGED NOT
                  IMBEDDED
00    NSPLKHLD    Do not attempt to get or release the
                  symbolic lock. lock being managed by
                  calling routine.


                  OPR CODE DEFINITIONS   OPTIONS FOR HCPOPR

00    OPRCLR      CLEAR SCREEN ON ENTRY
02    OPRALRM     AUDIBLE ALARM FOR HCPOPR

                  PCRRQ BIT DEFINITIONS  OPTIONS FOR HCPPCRRQ

80    PCRVMREQ    VIRTUAL MACHINE REQUEST TO THE
                  PROCESSOR CONTROLLER
40    PCRCPREQ    CP REQUEST TO PROCESSOR CONTROLLER

                  PGT BIT DEFINITIONS    OPTIONS FOR HCPPGT

01    PGTPAGE     DASD SLOT REQUIRED FOR PAGING
02    PGTSPOOL    DASD SLOT REQUIRED FOR SPOOLING
04    PGTSYST     DASD SLOT REQUIRED FOR SYS FILE
08    PGTDRO      MAKE DASD SLOT FOR CCPV R/O
20    PGTALTVM    REQUEST APPLIES TO ALT VMDBK
40    PGTSYS      CALL APPLIES TO SYSTEM SPACE
80    PGTRLSE     REQUEST IS FOR VOLUME RELEASE

                  PTF CODE DEFINITIONS      OPTIONS FOR HCPPTFGF

01    FRMCP       FRAME IN USE BY CONTROL PROGRAM
21    FRMTRACE    CP TRACE TABLE FRAME
31    FRMPRFX     PREFIX PAGE FRAME
61    FRMFREE     FRAME USED FOR FREE STORAGE OR
                  SAVE AREA FRAME
80    FRMUSER     FRAME USED AS USER PAGE
81    FRMSUSER    IN USE AS SYSTEM VIRTUAL PAGE

                  RELEASE BIT DEFINITIONS USED BY HCPRPB AND HCPRPC

20    RPBCLRCP    CLEAR RCP BYTE
08    RPBMSMAT    ERROR IN INPUT PASSED TO HCPRPC
04    RPBCLSHR    CLEAR SHARED PAGES
04    RPBPTLRQ    PTLB REQUIRED BY RELEASE
01    RPBCLSCP    CLEAR SHARED CP PAGES

                  WARNING - DO NOT ADD OR CHANGE QCN BITS WITHOUT ERM CHECK

                  QCN BIT DEFINITIONS    OPTIONS FOR HCPQCNWT AND HCPQCNRD:

00    QCNIMSG     CONTROL PROGRAM INFORMATIONAL MESSAGE
00    QCNSCIF     WRITE IS FOR SECONDARY USER
00    QCNNOTIM    GRAF - NO TIMSTAMP ON REDISPLAY
00    QCNBRITE    BRITE ON SCREEN, 3 SPACE 1741
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00    QCNALTVM    SEND OUTPUT TO VMDBK IN R10
00    QCNNORSP    RESPONSE IS NOT A COMMAND RESPONSE
00    QCNEMSG     CONTROL PROGRAM ERROR MESSAGE
00    QCNSYNC     RETURN WHEN I/O COMPLETE
00    QCNDIAG     I/O REQUEST GENERATED VIA DIAGNOSE
00    QCNOPER     MESSAGE FOR SYSTEM OPERATOR
80    QCNDROP     LOGOFF & DROP LINE AFTER MESSAGE
40    QCNLOPRI    MESSAGE BREAKIN ABLE TO BE INHIBITED
20    QCNHIPR     WRITE THIS MESSAGE IMMEDIATELY
10    QCNVMIO     I/O REQUEST FROM A GUEST
04    QCNNOCR     SUPPRESS AUTO CARRIAGE RETURN
02    QCNALRM     SOUND THE AUDIBLE ALARM
01    QCNTIME     USE TIME STAMP AS MESSAGE HEADER
08    QCNHIDE     PREVENT DISPLAY OF THIS DATA
04    QCNEDIT     EDIT INPUT DATA FOR CORRECTIONS
02    QCNUPPR     TRANSLATE DATA TO UPPER CASE

2B    MAXILEN     MAXIMUM SIZE OF INPUT BUFFER FROM
                  ANY DISPLAY TERMINAL
26    MAXILEND    MAXILEN IN DOUBLEWORDS

                  RETURN CODES FOR HCPQCNRD AND DMCQCNWT
                  QCNRTN CODE DEFINITIONS

04    QCNRCATN    SINGLE ATTENTION
08    QCNRCAT2    2 OR MORE ATTENTIONS
0C    QCNRCLBK    LINE BREAK

                  RDL BIT DEFINITIONS    OPTIONS FOR HCPRDLSP

01    RDLCRPLY    REPLY REQUEST BEING CANCELLED

                  SDF BIT DEFINITIONS    OPTIONS FOR HCPSDF

40    SDFPNAME    FILE NAME SPECIFIED
20    SDFSPID     SPOOLID SPECIFIED
10    SDFUSER     USER OR OWNER SPECIFIED
08    SDFVOL      ONE VOLUME SPECIFIED
04    SDFCLAS     ONE CLASS SPECIFIED

                  SFP BIT DEFINITIONS    OPTIONS FOR HCPSFPPW

80    SFPNDP      GET NEXT DATA PAGE AFTER WRITE

                  SGPLC BIT DEFINITIONS  OPTIONS FOR HCPSGPLC

04    SGPLCREP    REPLACE BITS IN SPECIFIED CONTROL REG
02    SGPLCOFF    AND BITS OFF IN SPECIFIED CONTROL REG
01    SGPLCORN    OR BITS ON IN SPECIFIED CONTROL REG

                  SVC CODE DEFINITIONS   SVC INTERRUPTION CODES IN CP

00    SVCABEND    SVC 00 = HOST CP SYSTEM ABEND
04    SVCSABND    SVC 04 = HOST CP SYSTEM SOFT ABEND
4C    SVC76ERP    SVC 76 = ERROR RECORDING MODULE CALL

                  THKPG CODE DEFINITIONS PARAMETERS FOR PROCESSING INDICATE
                  PAGING COMMAND

01    THKPGWT     INDICATE PAGING WAIT COMMAND
02    THKPGALL    INDICATE PAGING ALL COMMAND

                  TPEIN CODE DEFINITIONS TAPE MODE (DENSITY) PARAMETERS FOR
                  CALLS TO HCPTPEIN

04    TPE38K      MODE = 38K
03    TPE6250     MODE = 6250 BPI
02    TPE1600     MODE = 1600 BPI
01    TPE800      MODE = 800  BPI

                  TPEDISP CODE DEFINITIONS    TAPE DISPOSITION DEFINITIONS

02    TPEREW      REWIND TAPE
01    TPERUN      REWIND AND UNLOAD TAPE
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                        VAT BIT DEFINITIONS    OPTIONS FOR HCPVATLA

        08      VATSTORE    CHECK FOR GUEST PAGE PROTECTION
        04      VATALTC0    ALTERNATE GUEST CR-0 IN R0
        02      VATHOST     RETURN HOST REAL ADDRESS
        01      VATALTST    ALTERNATE GUEST STO IN R4

                        VSM BIT DEFINITIONS    OPTIONS FOR HCPVSMDA

        80      VSMVRREC    GUEST SURVIVAL INDICATOR

                        WAT CODE DEFINITIONS   OPTIONS FOR HCPWATRN

        00      WATVVIRT    INPUT ADDR VGUEST VIRTUAL
        00      WATVLOGD    INPUT ADDR VGUEST LOGICAL, DATA
        00      WATVLOGI    INPUT ADDR VGUEST LOGICAL,IFETCH
        80      WATVREAL    INPUT OR OUTPUT ADDR VGUEST REAL
        40      WATVABS     INPUT OR OUTPUT ADDR VGUEST ABS
        20      WATGREAL    OUTPUT ADDR RGUEST REAL
        10      WATGABS     OUTPUT ADDR RGUEST ABSOLUTE
        00      WATHOST     OUTPUT ADDR HOST REAL
        02      WATNOREF    NO ERROR REFLECTION SIMULATION
        01      WATSTORE    CHECK FOR PAGE PROTECTION

                        WRM BIT DEFINITIONS    OPTIONS FOR HCPWRM

        80      WRMNODIR    NO DIRECTORY - DONT TRY TO READ
        40      WRMDSABL    WARMSTART - LEAVE LINES DISABLED
        20      WRMFRCE     FORCE SPOOL FILE RECOVERY
        10      WRMAUTO     HOT START
        08      WRMSHTDN    SHUTDOWN REQUEST
        04      WRMDRAIN    WARMSTART - DRAIN ALL UR
        02      WRMWARM     WARM START REQUESTED
        01      WRMCOLD     COLD START REQUESTED

                        WRP BIT DEFINITIONS    OPTIONS FOR HCPWRPUP

        00      WRPMONS     STOP MONITORING IF ACTIVE
        80      WRPNOGSR    INHIBIT GUEST SURVIVAL
        40      WRPASAP     STOP AS SOON AS POSSIBLE
        20      WRPSHUT     SHUTDOWN COMMAND ISSUED
        10      WRPSTART    RESTART IF POSSIBLE
        08      WRPSPOOL    STOP OPERATOR SPOOLING
        04      WRPWAIT     TERMINATE IN SPECIFIED WAIT STATE
        02      WRPCKPT     TAKE A CHECKPOINT IF POSSIBLE
        01      WRPDUMP     TAKE A DUMP IF POSSIBLE

                        WRS CODE DEFINITIONS   OPTIONS FOR HCPWRS

        02      WRSCOLD     COLD START PROCESSING REQUESTED
        01      WRSFRCNC    FORCE STARTED REQUESTED AND
                            CHECKPOINT NOT COMPLETE
        10      SHRSCALE    NUMBER OF BITS TO THE RIGHT OF THE
                            BINARY POINT IN SCHEDULER SHARE
                            CALCULATIONS
        10      RELSHMAX    MAXIMUM VALUE ACCEPTED FOR A
                            "RELATIVE" SCHEDULING SHARE.
        80      SNTPRDEF    PARMREGS OPTION SPECIFIED ON DEFSYS
        40      SNTPRNO     PARMREGS=NONE SPECIFIED ON DEFSYS
        00      FTRAVAIL    MASK FOR "AVAILABLE" FEATURE
        00      FTRNTDED    MASK FOR "NOT DEDICATED" FEATURE
        00      FTRVECTR    MASK FOR "VECTOR" FEATURE
        01      MSGMSG      INDICATE IUCV MESSAGE
        02      MSGWNG      INDICATE IUCV WARNING
        03      MSGCPIO     INDICATE IUCV CP I/O
        04      MSGSMSG     INDICATE IUCV SPECIAL MESSAGE
        05      MSGVMIO     INDICATE IUCV VM I/O
        06      MSGEMSG     INDICATE IUCV ERROR MESSAGE
        07      MSGIMSG     INDICATE IUCV INFORMATION MESSAGE
        08      MSGSCIF     INDICATE IUCV SCIF MESSAGE
        FF      CPUIDVM     VIRTUAL MACHINE VERSION CODE
        00      R0
        01      R1
```


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```
02    R2
03    R3
04    R4
05    R5
06    R6
07    R7          GENERAL
08    R8          REGISTER
09    R9          DEFINITIONS
0A    R10
0B    R11
0C    R12
0D    R13
0E    R14
0F    R15

                  FLOATING CODE DEFINITIONS

00    Y0          FLOATING
02    Y2          POINT
04    Y4          REGISTER
06    Y6          DEFINITIONS

                  CONTROL CODE DEFINITIONS

00    C0
01    C1
02    C2
03    C3
04    C4
05    C5
06    C6
07    C7          CONTROL
08    C8          REGISTER
09    C9          DEFINITIONS
0A    C10
0B    C11
0C    C12
0D    C13
0E    C14
0F    C15

                  CCMASK CODE DEFINITIONS

01    CC3         CC=3 MEANS MASK=1
02    CC2         CC=2 MEANS MASK=2
04    CC1         CC=1 MEANS MASK=4
08    CC0         CC=0 MEANS MASK=8
```

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HCPMONEQ— MONITOR EQUATE SYMBOLS

DSECT NAME: MONEQ

DESCRIPTIVE NAME: MONITOR EQUATE SYMBOLS

FUNCTION: PROVIDE STANDARDIZED EQUATE SYMBOLS FOR DOMAIN AND RECORD NUMBERS FOR MONITOR RECORDS. THESE EQUATES SHOULD ALSO BE USED TO CODE THE MONITOR CALL INSTRUCTION (MC) FOR EVENT PROCESSING

LOCATED BY:

NONE

CREATED BY:

THIS FILE CONTAINS ONLY CONSTANTS 0
AND DEFINITIONS TO BE USED ELSEWHERE
THEREFORE, IT TAKES UP NO SPACE
AND REQUIRES NO STORAGE.

DELETED BY:

NONE

MONEQ - MONITOR EQUATE SYMBOLS

0

disp	name	length	description
			MORE EQUATES
00	MONSYTCL		DOMAIN NUMBER FOR SYSTEM EVENTS
01	MONYSYPC		SAMPLE RECORD - SYSTEM DATA PER PROCESSOR
02	MONYPRPC		SAMPLE RECORD - PROCESSOR DATA PER PROCESSOR
03	MONYRSGC		SAMPLE RECORD - REAL STORAGE DATA, GLOBAL
04	MONYRSPC		SAMPLE RECORD - REAL STORAGE DATA, PER PROCESSOR
05	MONYXSPC		SAMPLE RECORD - EXPANDED STORAGE DAT PER PROCESSOR
06	MONYASGC		SAMPLE RECORD - AUXILIARY STORAGE DA GLOBAL
07	MONYSHSC		SAMPLE RECORD - SHARED STORAGE DATA
08	MONYUSRC		SAMPLE RECORD - USER DATA
09	MONYCPCC		SAMPLE RECORD - CHANNEL PATH CONTENT
0A	MONYSCGC		SAMPLE RECORD - SCHEDULER ACTIVITY
0B	MONYCOMC		SAMPLE RECORD - COMMUNICATIONS ACTIV
0C	MONYUWTC		SAMPLE RECORD - USER WAIT STATES
0D	MONYSCPC		SAMPLE RECORD - SCHEDULER ACTIVITY D PER PROCESSOR
0E	MONYXSGC		SAMPLE RECORD - EXPANDED STORAGE DATA (GLOBAL)
01	MONMTRCL		DOMAIN NUMBER FOR MONITOR EVENTS
01	MONMEPRC		EVENT RECORD - EVENT PROFILE DATA
02	MONMECMC		EVENT RECORD - EVENT ALTERATION COMM
03	MONMSUSC		EVENT RECORD - SUSPENSION RECORD
04	MONMSYSC		SAMPLE RECORD - SYSTEM CONFIGURATION
05	MONMPRPC		SAMPLE RECORD - PROCESSOR CONFIGURAT DATA
06	MONMDEVC		SAMPLE RECORD - DEVICE CONFIGURATION
07	MONMMEMC		SAMPLE RECORD - MEMORY CONFIGURATION
08	MONMPAGC		SAMPLE RECORD - PAGING CONFIGURATION
09	MONMSPRC		SAMPLE RECORD - SAMPLE PROFILE DATA
0A	MONMSCMC		SAMPLE RECORD - SAMPLE ALTERATION CO
0B	MONMENDC		SAMPLE RECORD - INTERVAL END
0C	MONMSOSC		EVENT RECORD - START OF EVENT SUSPE
0D	MONMEOFC		EVENT AND SAMPLE RECORD - END OF FRA

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0E	MONMDDRC	EVENT AND SAMPLE RECORD - DOMAIN DET
0F	MONMUSRC	SAMPLE RECORD - LOGGED ON USERS
10	MONMSCHC	SAMPLE RECORD - SCHEDULER SETTINGS
11	MONMXSGC	SAMPLE RECORD - EXPANDED STORAGE DATA
02	MONSCLCL	DOMAIN NUMBER FOR SCHEDULER EVENTS
01	MONCRDBC	EVENT RECORD - BEGIN READ
02	MONCRDCC	EVENT RECORD - READ COMPLETE
03	MONCWRRC	EVENT RECORD - WRITE RESPONSE
04	MONCADLC	EVENT RECORD - ADD USER TO DISPATCH DISPATCH LIST
05	MONCDDLC	EVENT RECORD - DROP USER FROM DISPAT LIST
06	MONCAELC	EVENT RECORD - ADD USER TO ELIGIBLE LIST
07	MONCSRMC	EVENT RECORD - SET SRM CHANGES
08	MONCSTPC	EVENT RECORD - SYSTEM TIMER POP
09	MONCSHRC	EVENT RECORD - SET SHARE CHANGES
0A	MONCSQDC	EVENT RECORD - SET QUICKDISP CHANGES
03	MONSTOCL	DOMAIN NUMBER FOR STORAGE EVENTS
01	MONTRSGC	SAMPLE RECORD - REAL STORAGE MANAGEM GLOBAL DATA
02	MONTRSPC	SAMPLE RECORD - REAL STORAGE ACTIVIT PER PROCESSOR
03	MONTSHRC	SAMPLE RECORD - SHARED STORAGE MANAG
04	MONTASPC	SAMPLE RECORD - AUXILIARY STORAGE MA
05	MONTSHSC	EVENT RECORD - NSS/DCSS SAVED
06	MONTSHPC	EVENT RECORD - NSS/DCSS SUCCESSFULLY PURGED
07	MONTATCC	EVENT RECORD - ATTACH CP VOLUME
08	MONTBPGC	SAMPLE RECORD - BLOCK PAGING DATA
09	MONTXSGC	SAMPLE RECORD - EXPANDED STORAGE DATA (GLOBAL)
0A	MONTXSUC	SAMPLE RECORD - EXPANDED STORAGE DATA (PER USER)
04	MONUSECL	DOMAIN NUMBER FOR USER EVENTS
01	MONULONC	EVENT RECORD - USER LOG ON
02	MONULOFC	EVENT RECORD - USER LOG OFF
03	MONUACTC	SAMPLE RECORD - USER ACTIVITY
04	MONUINTC	SAMPLE RECORD - USER INTERACTION
05	MONUDFCC	EVENT RECORD - DEFINE CPU
06	MONUDTCC	EVENT RECORD - DETACH CPU
07	MONURDCC	EVENT RECORD - DEFINE CPU N AS M
08	MONUTREC	EVENT RECORD - TRANSACTION END
09	MONUATEC	EVENT RECORD - ACTITITY AT TRANSACTI
0A	MONUITEC	EVENT RECORD - INTERACTION AT TRANSA END
05	MONPRCCL	DOMAIN NUMBER FOR PROCESSOR EVENTS
01	MONPVONC	EVENT RECORD - VARY ON PROCESSOR
02	MONPVOFC	EVENT RECORD - VARY OFF PROCESSOR
03	MONPPRPC	SAMPLE RECORD - PROCESSOR ACTIVITY, PROCESSOR
04	MONPVFNC	EVENT RECORD - VARY ON VECTOR FACILI
05	MONPVFFC	EVENT RECORD - VARY OFF VECTOR FACIL
06	MONIODCL	DOMAIN NUMBER FOR IO DOMAIN EVENTS
01	MONOVONC	EVENT RECORD - VARY ON DEVICE
02	MONOVOFC	EVENT RECORD - VARY OFF DEVICE
03	MONODEVC	SAMPLE RECORD - DEVICE ACTIVITY DATA
04	MONOCADC	SAMPLE RECORD - CACHE ACTIVITY DATA
05	MONOATDC	EVENT RECORD - ATTACH DEVICE
06	MONODTDC	EVENT RECORD - DETACH DEVICE
07	MONOENBC	EVENT RECORD - ENABLE TERMINAL
08	MONODSBC	EVENT RECORD - DISABLE TERMINAL
07	MONSEKCL	DOMAIN NUMBER FOR SEEK EVENTS
01	MONKSK1C	EVENT RECORD - SEEK EVENT: DIAG X'A4 AND VIRTUAL DEVICE SIMULATION INTERFACE
02	MONKSK2C	EVENT RECORD - SEEK EVENT: HCPPAG... ...INTERFACE
03	MONKSK3C	EVENT RECORD - SEEK EVENT: DIAG X'18 ...INTERFACE
00	MONMINDM	MINIMUM DOMAIN NUMBER
0F	MONMAXDM	MAXIMUM DOMAIN NUMBER

CROSS REFERENCE

Name	Len	Value/Disp	Name	Len	Value/Disp
MONCADLC	001	004	MONTXSUC	001	00A
MONCAELC	001	006	MONUACTC	001	003
MONCDDLC	001	005	MONUATEC	001	009
MONCRDBC	001	001	MONUDFCC	001	005
MONCRDCC	001	002	MONUDTCC	001	006
MONCSHRC	001	009	MONUINTC	001	004
MONCSQDC	001	00A	MONUITEC	001	00A
MONCSRMC	001	007	MONULOFC	001	002
MONCSTPC	001	008	MONULONC	001	001
MONCWRRC	001	003	MONURDCC	001	007
MONEQ	001	000	MONUSECL	001	004
MONIODCL	001	006	MONUTREC	001	008
MONKSK1C	001	001	MONYASGC	001	006
MONKSK2C	001	002	MONYCONC	001	00B
MONKSK3C	001	003	MONYCPCC	001	009
MONMAXDM	001	00F	MONYPRPC	001	002
MONMDDRC	001	00E	MONYRSGC	001	003
MONMDEVC	001	006	MONYRSPC	001	004
MONMECMC	001	002	MONYSCGC	001	00A
MONMENDC	001	00B	MONYSCPC	001	00D
MONMEOFC	001	00D	MONYSHSC	001	007
MONMEPRC	001	001	MONYSYPC	001	001
MONMINDM	001	000	MONYUSRC	001	008
MONMMEMC	001	007	MONYUWTC	001	00C
MONMPAGC	001	008	MONYXSGC	001	00E
MONMPRPC	001	005	MONYXSPC	001	005
MONMSCHC	001	010			
MONMSCMC	001	00A			
MONMSOSC	001	00C			
MONMSPRC	001	009			
MONMSUSC	001	003			
MONMSYSC	001	004			
MONMTRCL	001	001			
MONMUSRC	001	00F			
MONMXSGC	001	011			
MONOATDC	001	005			
MONOCADC	001	004			
MONODEVC	001	003			
MONODSBC	001	008			
MONODTDC	001	006			
MONOENBC	001	007			
MONOVOFC	001	002			
MONOVONC	001	001			
MONPPRPC	001	003			
MONPRCCL	001	005			
MONPVFFC	001	005			
MONPVFNC	001	004			
MONPVOFC	001	002			
MONPVONC	001	001			
MONSCLCL	001	002			
MONSEKCL	001	007			
MONSTOCL	001	003			
MONSYTCL	001	000			
MONTASPC	001	004			
MONTATCC	001	007			
MONTBPGC	001	008			
MONTRSGC	001	001			
MONTRSPC	001	002			
MONTSHPC	001	006			
MONTSHRC	001	003			
MONTSHSC	001	005			
MONTXSGC	001	009			

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HCPSNSEQ— CONSTANTS FOR DEVICE SENSE INFORMATION

DSECT NAME: SNSEQ

DESCRIPTIVE NAME: Constants For Device Sense Information

FUNCTION: Contains constants for device sense use.

LOCATED BY:

Every Host Control Program (HCP) Module

CREATED BY:

This file contains only constants
and definitions to be used elsewhere.
Therefore, it takes up no space
and requires no storage.

DELETED BY:

None

Value	Name	Description
80	SNSCMREJ	BIT 0 - COMMAND REJECT
40	SNSINTRQ	BIT 1 - INTERVENTION RSNSIRED
20	SNSBSCK	BIT 2 - BUS OUT PARITY CHECK
10	SNSEQCK	BIT 3 - SNSIPMENT CHECK
08	SNSDTCK	BIT 4 - DATA CHECK
04	SNSOVRUN	BIT 5 - OVERRUN CONDITION
		SNSB0DA BIT DEFINITIONS SENSE BYTE 0 FOR DASD
02	SNSDTRKC	DASD - TRACK CONDITION
01	SNSDSKCK	DASD - SEEK CHECK
		SNSB0RM BIT DEFINITIONS SENSE BYTE 0 FOR REMOTE 3270 TCU
02	SNSXLDTA	3270 - LOST DATA CONDITION
01	SNSXTIME	3270 - TIMEOUT CONDITION
		SENSE BYTE 0 FOR 3270 CLUSTER CONTROLLER SNSB0CL BIT DEFINITIONS
80	SNSXFUDG	327X - SEE 3270 COMP DESCRIPTION
40	SNSXONE	327X - ALWAYS ON(SEE 3270 COMP DESC)
08	SNSXDEVB	327X - DEVICE BUSY
04	SNSXUNSP	327X - UNIT SPECIFY
02	SNSXDEVE	327X - DEVICE END
01	SNSXTRCH	3275 - TRANSMISSION CHECK
		SNSB0TA BIT DEFINITIONS SENSE BYTE 0 FOR TAPE
01	SNSTDTCV	TAPE - DATA CONVERTER
01	SNSTAAEW	3480 TAPE ALREADY ASSIGNED ELSEWHERE
		SENSE BYTE 0 FOR PRINTERS AND PUNCHES SNSB0PR BIT DEFINITIONS
04	SNSPUCSP	P/PU - UCS PARITY ERROR
02	SNSPLDCK	P/PU - LOAD CHECK
01	SNSPCHN9	P/PU - CHANNEL 9 (END OF PAGE)
		SNSB0RD BIT DEFINITIONS SENSE BYTE 0 FOR READERS
02	SNSRUNUS	RDRS - UNUSUAL SSNSENCE
01	SNSRPRMK	RDRS - 3505 PERM ERROR KEY SET
		SENSE BYTE 0 FOR 3704/3705 CONTROLLERS SNSB0LN BIT DEFINITIONS

```
02    SNSIPLRQ    370X  - IPL RSNSIRED
01    SNSABORT    370X  - CONTROL PROG FAILURE

                  SENSE BYTE 1 FOR 3270 CLUSTER CONTROLLER
                  SNSB1CL BIT DEFINITIONS

20    SNSXCOMR    327X  - COMMAND REJECT
10    SNSXINTR    327X  - INTERVENTION RSNSIRED
08    SNSXEQCH    327X  - SNSIPMENT CHECK
04    SNSXDATC    327X  - DATA CHECK
02    SNSXCTLC    3271  - CONTROL CHECK
01    SNSXOPCH    327X  - OPERATION CHECK

                  SNSB1DA BIT DEFINITIONS   SENSE BYTE 1 FOR DASD

80    SNSDPERM    DASD  - PERMANENT ERROR
40    SNSDTRKO    DASD  - TRACK OVERFLOW
20    SNSDEOC     DASD  - END OF CYLINDER
10    SNSDMOP     DASD  - MESSAGE TO OPERATOR
08    SNSDNRF     DASD  - NO RECORD FOUND
04    SNSDFPE     DASD  - FILE PROTECT ERROR
02    SNSDWRIN    DASD  - WRITE INHIBITED
01    SNSINCOM    DASD  - INCOMPLETE I/O TRANSFER

                  SNSB1TA BIT DEFINITIONS   SENSE BYTE 1 FOR TAPE

80    SNSTNOIS    TAPE  - NOISE RECORD
20    SNSTTAU     TAPE - TAPE UNIT STATUS B
10    SNST7TRK    TAPE  - SEVEN TRACK TAPE
08    SNSTLDPT    TAPE  - LOAD POINT
02    SNSTFPRO    TAPE - FILE PROTECTED
01    SNSTNOCP    TAPE  - NOT CAPABLE CHECK

                  SENSE BYTE 1 FOR PRINTERS AND PUNCHES
                  SNSB1PR BIT DEFINITIONS

FC    SNSPUNP3    P/PU  - 3800-3 UNPRINTABLE CHARACTER
FB    SNSPDXCT    P/PU  - 3800-3 INVALID DATA TRANSFER
                  COUNT
FA    SNSPBTTP    P/PU  - 3800-3 NO VALID TRANSLATE
                  TABLE OR INVALID PITCH
F6    SNSPIMCH    P/PU  - 3800-3 MODIFIED CHAR CAN NOT
                  BE CONTAINED IN A CHAR CELL
                  OF 40 SCAN LINES
F2    SNSPGCSF    P/PU  - 3800-3 GRAPHIC CHAR MOD SCAN
                  FIELDS INCORRECT
F1    SNSPRBNZ    P/PU  - 3800-3 LOAD GCM, RESERVED
                  BITS NOT ZEROS
F0    SNSPFOSI    P/PU  - 3800-3 FORMS OVERLAY SEQUENCE
                  INVALID
EF    SNSPTXTL    P/PU  - 3800-3 LOAD COPY MOD, TEXT
                  LENGTH FIELD INVALID
EE    SNSPPRTL    P/PU  - 3800-3 LOAD COPY MOD, SUM OF
                  STARTING PRINT POSITION AND
                  TEXT LENGTH FIELD INVALID
ED    SNSPPRPI    P/PU  - 3800-3 LOAD COPY MOD, PRINT
                  POSITION INVALID
EC    SNSPNWG0    P/PU  - 3800-3 NO ID FOR WCGM 0
EB    SNSPINWG    P/PU  - 3800-3 INVALID CHAR SET ID
E9    SNSPWGNL    P/PU  - 3800-3 WCGM NOT LOADED
E8    SNSPFCBS    P/PU  - 3800-3 FCB LENGTH INCORRECT
E7    SNSPFCBC    P/PU  - 3800-3 FCB CHAN CODES INVALID
E6    SNSPFCBB    P/PU  - 3800-3 FCB BOT 1/2 INCH ERROR
E5    SNSPFCBT    P/PU  - 3800-3 FCB TOP 1/2 INCH ERROR
E4    SNSPFCBM    P/PU  - 3800-3 INCORRECT MULTIPLE OF
                  6, 8, 10, OR 12 LPI
E3    SNSPCPML    P/PU  - 3800-3 LOAD COPY MOD, LENGTH
                  IS INCORRECT
E2    SNSPTRNL    P/PU  - 3800-3 TRANS TBL LENGTH < 256
E1    SNSPWCGL    P/PU  - 3800-3 WCGM LENGTH < 4
E0    SNSPFOIL    P/PU  - 3800-3 FORMS OVERLAY SEQUENCE
                  LENGTH INVALID
84    SNSPMLCH    P/PU  - 3800-3 MULTIPLE CHARACTERS
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```
83    SNSPNCCM    P/PU  - 3800-3 NO FCB CHAN CODE MATCH
82    SNSPNTRT    P/PU  - 3800-3 NO TRANSLATE TABLE
                  SELECTED FOR WRITING
81    SNSPNOTR    P/PU  - 3800-3 LOAD COPY MOD, NO
                  TRANSLATE TABLE SELECTED
0B    SNSEQCAB    PRT   - 4248 ACTION CODE 0B - RETRIABL
0A    SNSCH9AA    PRT   - 4248 ACTION CODE 0A - CHANNEL
07    SNSEQCA7    PRT   - 4248 ACTION CODE 07 - NON-RETR
06    SNSEQCA6    PRT   - 4248 ACTION CODE 06 - NON-RETR
05    SNSEQCA5    PRT   - 4248 ACTION CODE 05 - RETRIABL
03    SNSIRA3     PRT   - 4248 ACTION CODE 03 - OPERATOR
80    SNSPCMRT    P/PU  - 3211 COMMAND RETRY
80    SNSPEQHW    P/PU  - 3800 HARDWARE error
80    SNSPINVC    P/PU  - 3800 invalid command
80    SNSPINVL    P/PU  - 3800 invalid length
80    SNSPNRDY    P/PU  - 3800 not ready
80    SNSPUNPC    P/PU  - 3800 unprintable character
40    SNSPEQPM    P/PU  - 3800 PERMANENT error
40    SNSPILPI    P/PU  - 3800  incorrect multiple of
                  6,8, or 12 lpi
40    SNSPRTCK    P/PU  - 3211 PRINT CHECK
20    SNSPELFL    P/PU  - 3800 INTERNAL ERROR LOG FULL
20    SNSPFHIE    P/PU  - 3800 FCB half-inch error
20    SNSPNOTT    P/PU  - 3800 no translate table
20    SNSPRTQL    P/PU  - 3211 PRINT QUALITY
10    SNSPCNCL    P/PU  - 3800 CANCEL KEY
10    SNSPIFCC    P/PU  - 3800 INVALID FCB CHANNEL CODE
10    SNSPLPER    P/PU  - LINE PLACEMENT ERROR
10    SNSPNFCM    P/PU  - 3800 No FCB channel code match
08    SNSPFCBL    P/PU  - 3800 FCB length check
08    SNSPMCHR    P/PU  - 3800 multiple characters
04    SNSPCMSP    P/PU  - 3211 COMMAND SUPPRESS
04    SNSPEFRM    P/PU  - 3800 end of forms
04    SNSPNWCG    P/PU  - 3800 WCGM not loaded
04    SNSBCKA4    PRT   - 4248 ACTION CODE 04 - BUSOUT P
02    SNSPMOTN    P/PU  - MOTION ERROR
02    SNSPCTLC    P/PU  - CONTROLLER CHECK
02    SNSPUNGC    P/PU  - 3800 UNASSIGNED GRAPHIC CHAR
02    SNSIRA2     PRT   - 4248 ACTION CODE 02 - OPERATOR
01    SNSPINV3    P/PU  - 3800-3 INVALID COMMAND
01    SNSPENDF    P/PU  - 3800-3 END OF FORMS
01    SNSDCKA1    PRT   - 4248 ACTION CODE 01 - DATA CK.

                  SNSB1RD BIT DEFINITIONS   SENSE BYTE 1 FOR READERS

80    SNSRPRMS    RDRS  - 3505 INTERNAL PERM ERROR
10    SNSRRTAI    RDRS  - RETRY AFTER INTERVENTION

                  SNSB2DA BIT DEFINITIONS   SENSE BYTE 2 FOR DASD

80    SNSDRPS     DASD  - ROTATE. POSITION SENSING
80    SNSDBLF     DASD  - 2305 LOG BUFFER FULL
40    SNSDFXER    DASD  - CORRECTABLE ERROR
20    SNSDFLOG    DASD  - FIRST LOGGED ERROR
10    SNSDENVD    DASD  - ENVIRONMENTAL DATA PRESENT
08    SNSCMPAT    DASD  - 3330 COMPATIBILITY MODE
08    SNS3344     DASD  - 3344 DEVICE
08    SNSDINTV    DASD  - 3380 DEVICE INTENT VIOLATION
04    SNSDIMPE    DASD  - 3380 DEVICE IMPRECISE ENDING
02    SNSD70MB    DASD  - 3340 70MB PACK PRESENT
01    SNSD35MB    DASD  - 3340 35MB PACK PRESENT

                  SNSB2PR BIT DEFINITIONS   SENSE BYTE 2 FOR PRINTERS

80    SNSPINVW    P/PU 3800 INVALID WCGM ID
40    SNSPNWC0    P/PU 3800 NO ID FOR WCGM 00
20    SNSPINCM    P/PU 3800 INVALID COPY MODIFICATION
14    SNSPIRBT    P/PU 3800-3 INTERVENTION REQUIRED FOR
                  BTS STACKER OR TRIMMER CHECK
13    SNSPIRNB    P/PU 3800-3 INTERVENTION REQUIRED FOR
                  NO BURST CHECK
12    SNSPIRBC    P/PU 3800-3 INTERVENTION REQUIRED FOR
                  BURSTER INPUT CHECK
11    SNSPIRFW    P/PU 3800-3 INTERVENTION REQUIRED FOR
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                        CFS FOLD WRONG
        10      SNSPIFOS    P/PU 3800 INVALID FORMS OVERLAY
                            SEQUENCE
        0F      SNSPARCK    P/PU 3800-3 ACCUMULATOR READ CHECK
        0D      SNSPEIML    P/PU 3800-3 EQUIPMENT CHECK AFTER
                            AUTOMATIC IML
        0B      SNSPPPER    P/PU 3800-3 PROCESS POWER ERROR
        0A      SNSPCH9     P/PU 3800-3,4248 CHANNEL 9 SENSED
        09      SNSPDREC    P/PU 3800-3 DATA RELATED EQUIPMENT
                            CHECK AT PRINT TIME
        08      SNSPIRPB    P/PU 3800-3 INTERVENTION REQUIRED FOR
                            PAGE BACKUP
        07      SNSPRELF    P/PU 3800-3 RETRY ERROR LOG FULL
        06      SNSPUCDE    P/PU 3800-3 UNIT CHECK/DEVICE END
        06      SNSINTNR    P/PU 4248 OPER. INTERV. NO RETRY
        05      SNSPUCNO    P/PU 3800-3 UNIT CHECK/DEVICE END(OBR)
        03      SNSPOPIN    P/PU 3800-3,4248 OPERATOR INTERV (NO O

        02      SNSPOIOB    P/PU 3800-3,4248 OPERATOR INTERV (OBR
        01      SNSPLOVR    P/PU 3800 LINE OVERRUN
        01      SNSPPGM     P/PU 3800-3 PROGRAMMING ERROR

                        SNSB3PR BIT DEFINITIONS   SENSE BYTE 3 FOR PRINTERS

        80      SNSPREDY    P/PU  - 3800 PRINTER READY
        80      SNSPUCSB    P/PU  - UCSB PARITY ERROR
        40      SNSPPLB     P/PU  - PLB PARITY ERROR
        20      SNSPBDCK    P/PU  - 3800 BLOCK DATA CHECK
        20      SNSPFCB     P/PU  - FCB PARITY ERROR
        10      SNSPBTS     P/PU  - 3800 PAPER THREADED FOR BTS
        10      SNSPCOIL    P/PU  - COIL PROTECTION ERROR
        08      SNSPHMRF    P/PU  - HAMMER FIRE CHECK
        08      SNSPSYSR    P/PU  - 3800  SYSTEM RESTART
        02      SNSPSYNC    P/PU  - SYNC CHECK

                        SNSB3TA BIT DEFINITIONS SENSE BYTE 3 FOR 3480 TAPE SUBSYSTEM

        00      SNSTNES     3480 NON ERROR SENSE
        21      SNSTDSNO    3480 DATA STREAM NOT OPERATIONAL
        22      SNSTPEC     3480 PATH EQUIPMENT CHECK
        23      SNSTRDC     3480 READ DATA CHECK
        24      SNSTLDSP    3480 LOAD DISPLAY
        25      SNSTWDC     3480 WRITE DATA CHECK
        26      SNSTDCRO    3480 DATA CHECK READ OPPOSITE
        27      SNSTCMDR    3480 COMMAND REJECT
        28      SNSTWIM     3480 WRITE ID MARK CHECK
        2A      SNSTBLDA    3480 BUFFERED LOG DATA PRESENT
        2B      SNSTBLDB    3480 BUFFERED LOG DATA PREAENT
        2C      SNSTPEQ     3480 PATH EQUIPMENT CHECK
        2D      SNSTDSE     3480 DATA SECUTITY ERASE
        2E      SNSTNCBE    3480 NOT CAPABLE BOT ERROR
        30      SNSTFPRT    3480 FILE PROTECTED
        31      SNSTVOID    3480 TAPE VOID
        32      SNSTLAST    3480 LOAD ASSISTANCE
        33      SNSTLOAD    3480 LOAD FAILURE
        34      SNSTMUNL    3480 MANUAL UNLOAD
        35      SNSTDEC     3480 DRIVE EQUIPMENT CHECK
        36      SNSTDPL     3480 DRIVE PATCH LOAD FAILURE
        37      SNSTTLE     3480 TAPE LENGTH ERROR
        38      SNSTPEO     3480 PHYSICAL END OF TAPE
        39      SNSTBWAB    3480 BACKWARD AT BOT
        3A      SNSTDRBO    3480 DRIVE RESET BY OPERATOR
        3B      SNSTVRBO    3480 VOLUME REMOVE BY OPERATOR
        40      SNSTDDA     3480 DEVICE DEFERRED ACCESS (OVERRUN)
        41      SNSTBISE    3480 BLOCK ID SEQUENCE ERROR
        42      SNSTDEGR    3480 DEGRADED MODE
        43      SNSTIREQ    3480 INTERVENTION REQUIRED
        44      SNSTLBUS    3480 LOCATE BLOCK UNSUCCESSFUL
        45      SNSTDAE     3480 DRIVE ASSIGNED ELSEWHERE
        46      SNSTDNO     3480 DRIVE NOT ONLINE
        47      SNSTCUE     3480 CONTROL UNIT ERROR
        48      SNSTCCRR    3480 CONTROLLING COMPUTER RETRY REQUEST
        49      SNSTBUSO    3480 BUS OUT PARITY
        4A      SNSTCUF     3480 CONTROL UNIT ERP FAILURE
```


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```
4B      SNSTCUA     3480 CONTROL UNIT & DRIVE INCOMPATIBLE
4C      SNSTRCHK    3480 RECOVERY CHECK ONE FAILURE

                    SNSB4DA BIT DEFINITIONS   SENSE BYTE 4 FOR DASD DEVICES

20      SNSPRPA     3380 - PERMANENT PATH ERROR
07      SNSLAPUA    3330 - MASK FOR LAP UNIT ADDRESS
C0      SNSCNTLR    3344 - CONTROLLER ADDRESS
07      SNSPHYSA    3344 - PHYSICAL DRIVE ADDRESS

                    SNSB4PR BIT DEFINITIONS   SENSE BYTE 4 FOR PRINTERS

DE      SNSPDATE    P/PU  - DATA ERROR
84      SNSP3203    P/PU  - PRINTER ID NOT 3211

                    SNSB4TA BIT DEFINITIONS   SENSE BYTE 4 FOR TAPE DRIVES

20      SNSEOT      3420  - TAPE INDICATE  (END-OF-TAPE)

                    SNSB5TA BIT DEFINITIONS   SENSE BYTE 5 FOR TAPE

10      SNSTPEBM    TAPE  - PE BURST MODE

                    SNSB6DA BIT DEFINITIONS   SENSE BYTE 6 FOR DASD DEVICES

80      SNS75512    3375 - ADD 512 TO CYLINDER BITS
80      SNSD50CE    CE CYLINDER INDICATOR FOR 3350
80      SNS802K     ADD 2048 TO CYLINDER BITS FOR 3380
40      SNSDA512    ADD 512 TO CYLINDER BITS FOR 3330-11,
                    3340, 3350, 3350 IN 3330-11
                    COMPATIBILITY MODE
40      SNS30256    ADD 256 TO CYLINDER BITS FOR 3330-1,
                    3350 IN 3330-1 COMPATIBILITY MODE
40      SNS75256    3375 - ADD 256 TO CYLINDER BITS
40      SNSHCYL3    3330-1, 3350 IN 3330-1 COMPATIBILITY
                    MODE - HI-ORDER CYLINDER ADDRESS BIT
40      SNS801K     ADD 1024 TO CYLINDER BITS FOR 3380
20      SNSDA256    ADD 256 TO CYLINDER BITS FOR 3330-11,
                    3340, 3350, 3350 IN 3330-11
                    COMPATIBILITY MODE
20      SNS80512    3380 - ADD 512 TO CYLINDER BITS
10      SNSD40CE    CE CYLINDERS INDICATOR FOR 3340
10      SNS80256    3380 - ADD 256 TO CYLINDER BITS

                    SNSB6DA1 BIT DEFINITIONS

C0      SNSHCYL7    3375 - HI-ORDER CYLINDER ADDRESS BITS

                    SNSB6DA2 BIT DEFINITIONS

60      SNSHCYLD    3340, 3350, 3330-11, 3350 IN 3330-11
                    COMPATIBILITY MODE - HI-ORDER
                    CYLINDER ADDRESS BITS

                    SNSB6DA3 BIT DEFINITIONS

30      SNSHCYL8    3380 - HI-ORDER CYLINDER ADDRESS BIT
70      SNSHCY8E    3380E - HI-ORDER CYLINDER ADDRESS BIT
F0      SNSHCY8X    3380X - HI-ORDER CYLINDER ADDRESS BIT
                    MASK FOR ALL 3380'S
1F      SNSDAHED    HEAD ADDRESS BITS FOR 3330, 3350,
                    3350 IN 3330 COMPATIBILITY MODE
0F      SNS40HED    HEAD ADDRESS BITS FOR 3340
0F      SNS75HED    HEAD ADDRESS BITS FOR 3375
0F      SNS80HED    HEAD ADDRESS BITS FOR 3380

                    CE CYLINDER VALUES DEFINED BY SNSB6DA

30      SNSCED50    CYLINDER VALUE FOR 3350 CE CYLINDER
00      SNSCED40    VALUE TO ADD TO CYLINDER BITS FOR
                    3340 CE CYLINDERS

                    SHIFT COUNTS FOR SNSB6DA
```

02	SNS3SHFT	NUMBER OF BITS TO SHIFT SNSHCYL3 TO GENERATE THE CYLINDER ADDRESS FOR 3330-1, 3350 IN 3330-1 COMPATIBILITY MODE
02	SNS7SHFT	3375 - NUMBER OF BITS TO SHIFT SNSHCYL7
03	SNSDSHFT	NUMBER OF BITS TO SHIFT SNSHCYLD TO GENERATE THE CYLINDER ADDRESS FOR 3330-11, 3340, 3350 IN 3330-11 COMPATIBILITY MODE
04	SNS8SHFT	3380 - NUMBER OF BITS TO SHIFT SNSHCYL8
		SNSB6PR BIT DEFINITIONS SENSE BYTE 6 FOR PRINTERS
01	SNSPWNSP	P/PU - 3800-3 CURRENT LINE IS A WRITE NO SPACE
		SNSB7DA BIT DEFINITIONS SENSE BYTE 7 FOR DASD DEVICES
F0	SNSFORMT	FORMAT OF REMAINING SENSE BYTES
02	SNSICMDS	INVALID COMMAND SEQUENCE
08	SNSRSNT	RESET NOTIFICATION INDICATION
30	SNSSDCC	STORAGE DIRECTOR CONTROL CHECK
40	SNSECCU	ECC UNCORRECTABLE DATA CHECKS
50	SNSECCC	ECC CORRECTABLE DATA CHECKS
60	SNSUSOE	USAGE STATISTICS/OVERRUN ERRORS
		SNSB7PR BIT DEFINITIONS SENSE BYTE 7 FOR PRINTERS
40	SNSPBLKD	P/PU - 3800-3 DATA CHECKS BLOCKED
		SNSB7TA BIT DEFINITIONS SENSE BYTE 7 FOR TAPE
08	SNSTSECE	TAPE - SECURITY ERASE COMMAND
21	SNSTF21	3480 - FORMAT 21 SENSE BYTES
		SNSB18PR BIT DEFINITIONS SENSE BYTE 18 FOR PRINTERS
01	SNSPEFM2	P/PU - 3262 END OF FORMS
22	SNSPNCHM	P/PU - 4245 NO FCB CHANNEL CODE MATCH
23	SNSPFLCK	P/PU - FCB LOAD CHECK
		SNSB19PR BIT DEFINITIONS SENSE BYTE 19 FOR PRINTERS
01	SNSPCHK1	P/PU - 3800-3 CHECK GROUP 1
		SNSB23DA BIT DEFINITIONS SENSE BYTE 23 FOR DASD
01	SNSCUTOF	CHANNEL CUTOFF
		SNSB23PR BIT DEFINITIONS SENSE BYTE 23 FOR PRINTERS
22	SNSP3262	P/PU - 3262 PRINTER INDICATOR
23	SNSP4245	P/PU - 4245 PRINTER INDICATOR
00	SNSRGNUL	NULL RESPONSE
81	SNSRGUA	USABLE AREA
84	SNSRGPT	PARTITIONS
85	SNSRGCS	CHARACTER SETS
86	SNSRGCOL	COLOR
87	SNSRGEXH	EXTENDED HILIGHT
88	SNSRGIRM	INBOUND REPLY MODE
8A	SNSRGVAL	FIELD VALIDATION
30	SNSRGPSS	PSS FEATURE

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A

automatic software re-IPL. The process by which the control program attempts to restart the system after abnormal termination. This process does not involve the hardware IPL process. See also virtual=real machine recovery.

C

CCW. Channel command word.

channel command word (CCW). A doubleword structure that directs an I/O operation on a device or channel and includes pointers to any storage areas associated with the operation. One or more CCWs make up a channel program.

CMS. Conversational monitor system.

control program (CP). The component of VM/XA SP that manages the resources of a single System/370-Extended Architecture system so that multiple computing systems appear to exist. Each virtual machine is the functional equivalent of either a System/370 computing system or a System/370-Extended Architecture computing system.

conversational monitor system (CMS). The component of VM/XA SP that, as a virtual machine operating system, provides interactive time-sharing. CMS allows users to communicate with the system and with each other, to create and edit files, and to develop and run application programs. It operates in either System/370 mode or 370-XA mode under the control of CP.

CP. Control program.

D

DCSS. Discontiguous saved segment.

directory. A CP disk file that includes an entry for each user in the system. The entry defines the characteristics of the user's initial virtual machine configuration. These characteristics include the userid, the password, normal and maximum allowable virtual storage, virtual device definitions, the privilege class, the dispatching priority, logical line editing characters, and the account number.

discontiguous saved segment (DCSS). A saved segment that occupies one or more architecturally-defined segments. It begins and ends on segment boundaries. It is accessed by its own name. Contrast with member saved segment. See also saved segment, segment, segment space.

dump viewing facility. A VM/XA SP component that allows users to display, format, and print data interactively from CP abend, stand-alone, and virtual machine dumps, and to process CP trace table data stored on tape.

dynamic paging area. The area of real storage allocated by CP for V=V machine paging. This area also contains CP nonresident modules, CP control blocks, CP trace tables, free storage pages, and the alternate processor's prefix storage areas.

E

Expanded Storage. Optional integrated high-speed storage used for paging. In VM/XA SP, Expanded Storage may be shared by CP and one or more virtual machines. It may also be dedicated to CP or to a particular virtual machine.

F

full-pack minidisk. A virtual disk that contains all of the addressable cylinders of a real DASD volume.

full-screen mode. In VM/XA SP, the environment in which an entire 3270 display screen is under the control of a program running in a virtual machine.

G

guest. An operating system running in a virtual machine managed by the VM/XA SP control program. Contrast with host.

guest real storage. The storage that appears real to the operating system running in a virtual machine. Contrast with guest virtual storage, host real storage, and host virtual storage.

guest virtual storage. The storage that appears virtual to the operating system

running in a virtual machine. Contrast with guest real storage, host real storage, and host virtual storage.

H

host. The VM/XA SP control program in its capacity as manager of a virtual machine in which another operating system is running. Contrast with guest.

host real storage. The storage that appears real to the control program. If VM/XA SP is running native, this is real storage; if VM/XA SP is running in a virtual machine, this is virtual storage. Contrast with guest real storage, guest virtual storage, and host virtual storage.

host virtual storage. The storage that appears virtual to the control program. Contrast with guest real storage, guest virtual storage, and host real storage.

I

image library. A set of modules, contained in a system data file, that define the spacing, characters, and copy modification data that a 3800 printer uses to print a spool file or that define the spacing and character set that an impact printer uses to print a spool file. See also system data file.

inter-user communication vehicle (IUCV). A generalized CP interface that facilitates the transfer of data among virtual machines.

IUCV. Inter-user communication vehicle.

M

member saved segment. A saved segment that begins and ends on a page boundary. It belongs to up to 64 segment spaces and is accessed either by the segment space name or by its own name. Contrast with discontiguous saved segment. See also saved segment, segment, segment space.

missing interrupt handler. A CP function for detecting and dealing with real I/O operations that do not complete within a specified time.

multiple preferred guests. A VM/XA SP enhancement that supports up to four preferred virtual machines when the 3090 Multiple High Performance Guests Support feature is installed in the real machine. See also preferred virtual machine.

N

named saved system (NSS). A copy of an operating system that a user has named and retained in a system data file. The user can load the operating system by its name, which is more efficient than loading it by device number. See also discontiguous saved segment, member saved segment, saved segment, segment space, system data file.

NSS. Named saved system.

P

pageable virtual machine. Synonymous with virtual=virtual machine.

preferred virtual machine. A virtual machine that runs in the V=R area. CP gives this virtual machine preferred treatment in the areas of performance, processor assignment, and I/O interrupt handling. See also multiple preferred guests, virtual=fixed machine, virtual=real area, virtual=real machine.

R

real system operator. Any user who loads and runs VM/XA SP in the real machine. Contrast with virtual machine operator.

S

saved segment. One or more pages of storage that have been named and retained in a system data file. See also discontiguous saved segment, member saved segment, segment, segment space, system data file.

segment. In System/370 architecture, 64 kilobytes of storage. In 370-XA architecture, 1 megabyte of storage. See also saved segment.

segment space. A saved segment composed of up to 64 member saved segments accessed by a single name. A segment space occupies one or more architecturally-defined segments; it begins and ends on segment boundaries. A user with access to a segment space has access to all of its members. See also discontiguous saved segment, member saved segment, saved segment, segment.

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service virtual machine. A virtual machine that provides system services. These services include accounting, error recording, monitoring, and those provided by supported licensed programs.

SMSG function. A CP function that allows a virtual machine to send a special message to another virtual machine programmed to accept and process the message. See also special message.

special message. A data transmission, made up of instructions or commands, sent from one virtual machine to another via the SMSG function. A special message is processed by the receiving virtual machine and does not appear on the receiver's console. See also SMSG function.

spool file. A collection of data along with CCWs for processing on a unit record device. Contrast with system data file.

SVC 76. In VM/XA SP, a supervisor call instruction that records the error incidents encountered by certain operating systems running in virtual machines. When a virtual machine operating system issues an SVC 76, VM/XA SP translates the virtual storage and I/O device addresses to real addresses, records the information on the VM/XA SP error recording virtual machine, and returns control to the issuing virtual machine. This interface bypasses the virtual machine's own error recording routine, and avoids duplicate error recording.

System/370 mode. A virtual machine operating mode in which System/370 functions are simulated. Contrast with 370-XA mode.

system data file. A collection of data associated with a particular function. Types of system data files include saved segments, NSSs, UCR files, and image libraries. Because a system data file contains no CCWs, it cannot be processed on a unit record device. Contrast with spool file.

system hold status. A spool file status that prevents a file from being printed, punched, or read until the real system operator releases it. Contrast with user hold status.

U

UCR file. User class restructure file.

unit record device. A reader, a printer, or a punch.

user class restructure file (UCR file). A type of system data file that contains information used to override the IBM-defined privilege class structure of CP commands, DIAGNOSE instruction codes, and certain CP system functions.

user directory. See directory.

user hold status. A spool file status that prevents a file from being printed, punched, or read until the file owner releases it. Contrast with system hold status.

V

Vector Facility (VF). A hardware feature that provides synchronous instruction processing for high-speed manipulation of fixed-point and floating-point data.

VF. Vector Facility.

V=F machine. Virtual=fixed machine.

virtual=fixed machine (V=F machine). A preferred virtual machine with a fixed, contiguous area of host real storage that does not start at page 0. CP provides performance enhancements for this virtual machine. See also multiple preferred guests, preferred virtual machine, virtual=real area, virtual=real machine, virtual=virtual machine.

virtual machine. In VM/XA SP, a functional equivalent of either a System/370 computing system or a System/370-Extended Architecture computing system. Each virtual machine is controlled by an operating system. VM/XA SP controls the concurrent execution of multiple virtual machines on an actual System/370-Extended Architecture system.

Virtual Machine/Extended Architecture System Product (VM/XA SP). An operating system that allows multiple IBM System/370 and 370-XA operating systems to run simultaneously on a single 370-XA processor. The multiple systems may be used for production, testing, developing application programs, maintenance, and migration. VM/XA SP also provides a high-capacity interactive environment. There are three components: the control program (CP), the conversational monitor system (CMS), and the dump viewing facility.

virtual machine operator. Any user who loads and runs an operating system in a virtual machine. Contrast with real system operator.

virtual=real area (V=R area). A fixed, contiguous section of real storage, starting at page 0, in which preferred virtual machines execute. CP does not page this storage. See also preferred

virtual machine, virtual=fixed machine, virtual=real machine.

virtual=real machine (V=R machine). A preferred virtual machine with a fixed, contiguous area of host real storage that starts at page 0. CP provides performance enhancements and an automatic recovery facility for this virtual machine. See also multiple preferred guests, preferred virtual machine, virtual=real area, virtual=real machine recovery, virtual=virtual machine.

virtual=real machine recovery (V=R machine recovery). A CP function that allows the V=R machine to resume operation after most CP abnormal terminations. When possible, the facility reestablishes the V=R machine environment, allowing the operating system running in that virtual machine to perform its own recovery processes. See also automatic software re-IPL.

virtual=virtual machine (V=V machine). A virtual machine that runs in the dynamic paging area. CP pages this virtual machine's guest real storage in and out of host real storage. See also dynamic paging area, virtual=fixed machine, virtual=real machine.

virtual supervisor state. A condition, controlled by a virtual machine's current PSW, during which the control program allows the virtual machine to issue input/output and other privileged instructions. When these instructions are not emulated, the control program intercepts these instructions and simulates their functions for the virtual machine.

virtual wait time. The period during which the control program suspends the processing of a program while a required resource is unavailable.

VM/XA SP. Virtual Machine/Extended Architecture System Product.

V=R area. Virtual=real area.

V=R machine. Virtual=real machine.

V=R machine recovery. Virtual=real machine recovery.

V=V machine. Virtual=virtual machine.

Numerics

370 mode. Synonym for System/370 mode.

370-XA mode. A virtual machine operating mode in which System/370-Extended Architecture functions are simulated. Contrast with System/370 mode.

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BIBLIOGRAPHY

DESCRIPTION OF VM/XA SYSTEM PRODUCT RELEASE 1 PUBLICATIONS

You can order the library from Mechanicsburg through the System Library Subscription Service (SLSS) or from your IBM representative.

To help you organize and store your library, IBM provides a set of binders and binder-sleeve inserts tailored for VM/XA SP documentation. Instructions for assembling your library are included with the binder-sleeve inserts.

You can order the VM/XA SP library, binders, and binder-sleeve inserts by using either a bill-of-forms number or individual order numbers.

SBOF-0260 Use this bill-of-forms number to order the core library, the binders, and the inserts.

Note that you must order manuals that contain licensed information (manuals with an order number that begins with LY) through your support personnel. Books that contain licensed information are:

- VM/XA System Product: Features Summary, LY27-8058
- VM/XA System Product: Diagnosis Guide, LY27-8056
- VM/XA System Product: CP Diagnosis Reference, LY27-8054
- VM/XA System Product: CMS Diagnosis Reference, LY27-8052
- VM/XA System Product: CP Data Areas and Control Blocks, LY27-8053
- VM/XA System Product: CMS Data Areas and Control Blocks, LY27-8051.

SX23-0399 Individual binder.

SX23-0398 Set of binder-sleeve inserts.

You can also order VM/XA SP microfiche listings that contain VM/XA SP code. The order numbers for the VM/XA SP microfiche are:

Order No.	Description
LYC7-0314	VM/XA System Product: CP listings.
LYC7-0315	VM/XA System Product: CMS listings.

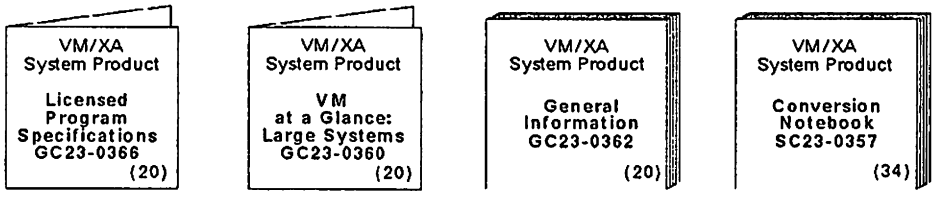
As shown in Figure 2 on page 714, VM/XA SP publications are organized into six categories:

1. Evaluation and introduction: information on VM/XA SP concepts.
2. Planning, installation, administration, and service: planning your system and performing system installation and maintenance.
3. Operation and end use: performing system and virtual machine tasks
4. Application programming: information on using programming interfaces.

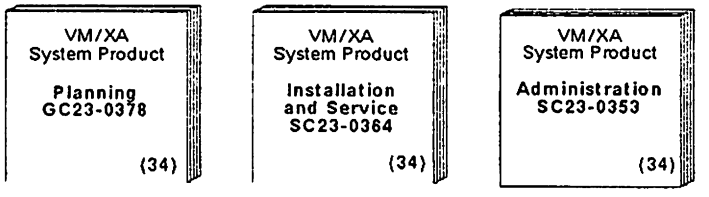
5. Diagnosis: information for understanding of VM/XA SP design and to aid in problem diagnosis.

6. Reference: quick retrieving of library usage information, command language syntax, macro instructions, diagnose codes, and system messages.

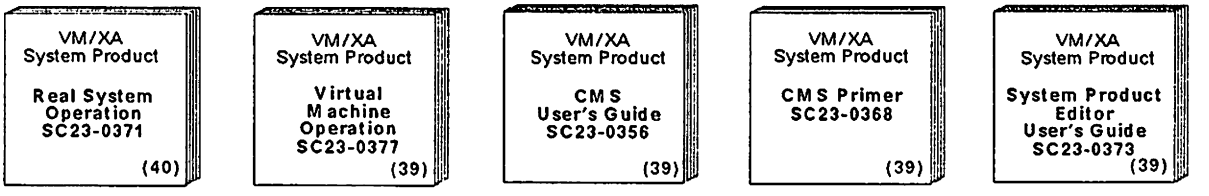
Evaluation and Introduction



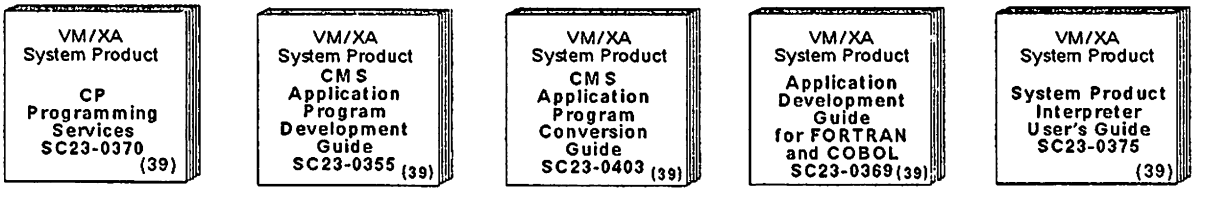
Planning, Installation, Administration, and Service



Operation and End Use



Application Programming



The numbers in parentheses are subject codes. A subject code is a two-digit number found on the System Library Subscription Service (SLSS) subcription form that represents a topic. (For example, general information, evaluation, and flyers are associated with code 20.) By choosing certain subject codes on the SLSS subscription form, you can order specific categories of information about IBM products rather than all of the literature about them. For a complete list of subject codes, see the SLSS subscription form.

Figure 2 (Part 1 of 2). Publications that Support the VM/XA System Product

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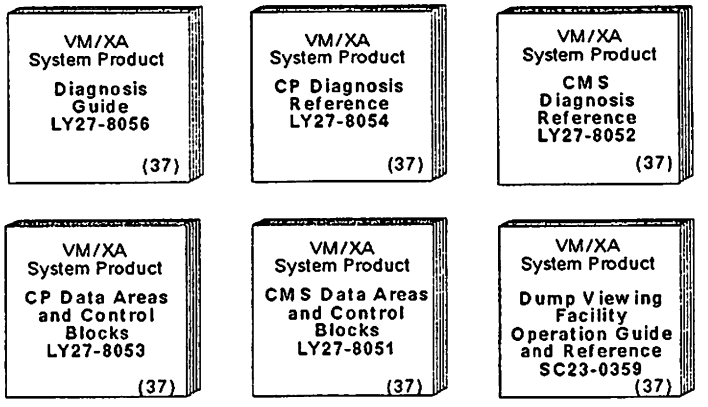
Diagnosis



Reference

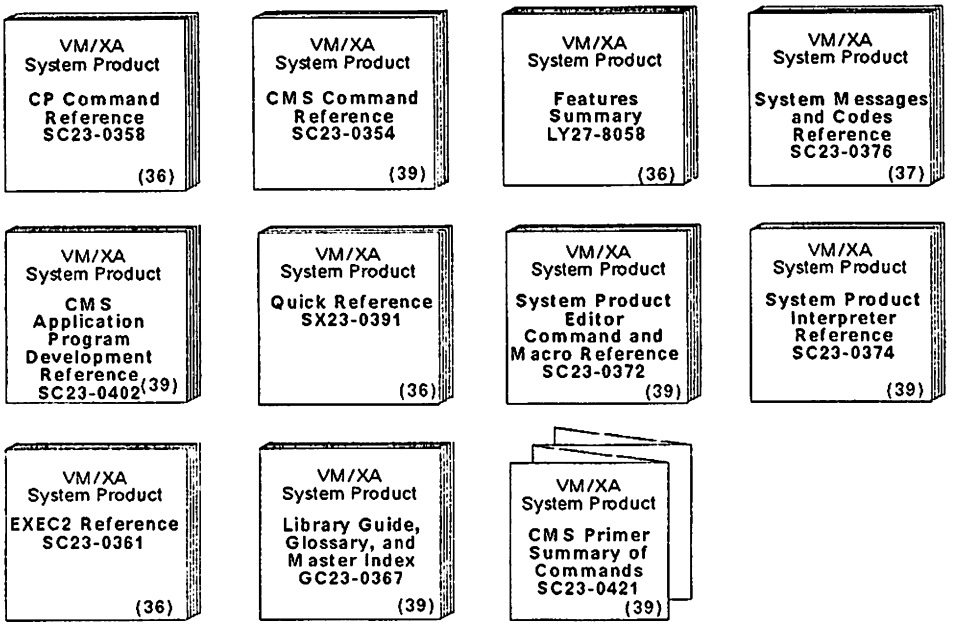


Figure 2 (Part 2 of 2). Publications that Support the VM/XA System Product

EVALUATION AND INTRODUCTION: UNDERSTANDING BASIC SYSTEM CONCEPTS

The evaluation and introduction publications for VM/XA SP are:

- VM/XA System Product: Licensed Program Specifications, GC23-0366

  Provides information on the warranted functions of VM/XA SP and describes the specified operating environment.

- VM at a Glance: Large Systems, GC23-0360

  Presents an overview of the features of each of the large VM systems: the VM/XA Systems Facility, VM/SP High Performance Option, and VM/XA System Product.

- VM/XA System Product: General Information, GC23-0362

  Provides general and planning information for VM/XA SP. It can help you decide whether VM/XA SP can fill your needs.

- VM/XA System Product: Conversion Notebook, SC23-0357

  Provides migration and compatibility information for customers migrating from VM/SP HPO Release 5 and VM/XA SF Release 2.

PLANNING, INSTALLATION, SERVICE, AND ADMINISTRATION: GENERATING AND MAINTAINING THE SYSTEM

- VM/XA System Product: Planning, GC23-0378

  Presents system planning concepts for VM/XA SP and virtual machine planning concepts for guest operating systems. Topics include suggestions for defining you real system configuration and building and updating your directory. This book discusses running these operating systems under VM/XA SP: MVS/SP, MVS/XA, VSE/SP, VM/SP, and VM/SP HPO.

- VM/XA System Product: Installation and Service, SC23-0364

  Gives step-by-step procedures for generating VM/XA SP and describes how to apply service updates to your system.

- VM/XA System Product: Administration, SC23-0353

  Provides information on how to manage your system. Topics include:

  - Setting up virtual machines for accounting, error recording, and CMS batch
  - Setting up the programmable operator
  - Redefining command privilege classes
  - Defining and managing saved segments and named saved systems
  - Tuning the system
  - Reference information on the VM/XA SP monitor.

OPERATIONS AND END USE: MAKING THE SYSTEM WORK FOR YOU

- VM/XA System Product: Real System Operation, SC23-0371

  Provides a task-oriented source for real system operations. In step-by-step format it describes the procedures and commands used to perform each real system task.

- VM/XA System Product: Virtual Machine Operation, SC23-0377

  Provides a task-oriented source for virtual machine operations. In step-by-step format it describes the procedures and commands used to perform each virtual machine task.

- VM/XA System Product: CMS User's Guide, SC23-0356

  Provides information on using CMS.

- VM/XA System Product: CMS Primer, SC23-0368

  Provides a tutorial approach to learning CMS.

- VM/XA System Product: System Product Editor User's Guide, SC23-0373

  Provides information about using the System Product Editor.

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APPLICATION PROGRAMMING: USING PROGRAMMING INTERFACES

- VM/XA System Product: CP Programming Services, SC23-0370

  Provides reference and usage information for the following CP services and macros:

  - The DIAGNOSE codes
  - The IUCV macro
  - CP system services.

- VM/XA System Product: CMS Application Program Development Guide, SC23-0355

  Helps you use the assembler language macros and functions of CMS in your assembler language application programs. It describes how to manage storage, perform I/O, handle interrupts, process abends, load and start programs, and exploit 31-bit addressing. It also includes message repository information.

- VM/XA System Product: CMS Application Program Conversion Guide, SC23-0403

  Helps you convert your existing CMS assembler language application programs so that they run on the CMS provided with VM/XA SP. It summarizes the differences between the CMS provided with VM/XA SP and previous versions of CMS, it describes the tasks you may need to perform in converting your programs, and it points you towards other books that can help you convert your programs.

- VM/XA System Product: Application Development Guide for FORTRAN and COBOL, SC23-0369

  Provides information on how to use the CMS environment to develop and execute FORTRAN and COBOL application programs. The book contains such information as:

  - How to use the System Product Editor to create an application program
  - How to load, compile, and execute selected supported licensed programs.

- VM/XA System Product: System Product Interpreter User's Guide, SC23-0375

  Provides information about using the System Product Interpreter.

DIAGNOSIS: UNDERSTANDING SYSTEM DESIGN

- VM/XA System Product: Diagnosis Guide, LY27-8056

  Provides diagnostic information. It describes how to locate problems within the VM/XA SP control program, and how to describe and report problems to IBM support personnel. The diagnosis reference publications describe how the system works. You should use them as supplements to this book.

- VM/XA System Product: CP Diagnosis Reference, LY27-8054

  Describes each of the major VM/XA SP control program facilities. Also contains a module cross-reference list.

- VM/XA System Product: CMS Diagnosis Reference, LY27-8052

  Describes each of the major conversational monitor system facilities.

- VM/XA System Product: CP Data Areas and Control Blocks, LY27-8053

Lists the data areas and control blocks used by the VM/XA SP control program.

- VM/XA System Product: CMS Data Areas and Control Blocks, LY27-8051

  Lists the data areas and control blocks used by CMS.

- VM/XA System Product: Dump Viewing Facility Operation Guide and Reference, SC23-0359

  Describes step-by-step procedures for using the dump viewing facility. The publication is also a reference for dump viewing facility commands and messages.

REFERENCE: RETRIEVING INFORMATION QUICKLY

- VM/XA System Product: CP Command Reference, SC23-0358

  Provides complete descriptions of the commands used to communicate with VM/XA SP, including usage notes. The commands are in alphabetical order.

- VM/XA System Product: CMS Command Reference, SC23-0354

  Provides complete descriptions of the commands used to communicate with the CMS component of VM/XA SP. The commands are in alphabetical order.

- VM/XA System Product: Features Summary, LY27-8058

  Provides a comprehensive survey of VM/XA SP at a higher level than the VM/XA SP CP Diagnosis Reference. Topics cover such areas as:

  - Supported features, hardware, and operating systems
  - CP-owned direct access storage, CP virtual storage, and real storage organization
  - Virtual machine management
  - Real machine management
  - Multiple preferred guest support.

- VM/XA System Product: System Messages and Codes Reference, SC23-0376

  Contains all the system messages generated by VM/XA SP (both the CP and CMS components). For each message, the publication provides:

  - The message number
  - The message text
  - An explanation of why the message was issued
  - System action
  - Recommended operator action (if any)
  - Recommended user action (if any)
  - Return code (if any).

  The publication also documents all abend codes and wait state codes, as well as the reason for each code and the recommended action.

- VM/XA System Product: CMS Application Program Development Reference, SC23-0402

  Describes the CMS programming interface. It includes descriptions of the CMS macros, DOS macros, and external-use control blocks.

- VM/XA System Product: Quick Reference, SX23-0391

  Shows only the command syntax of all the VM/XA SP commands. The commands summarized in this publication are described in detail in the VM/XA System Product: CP Command Reference,

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the VM/XA System Product: CMS Command Reference, and the VM/XA System Product: Dump Viewing Facility Operation Guide and Reference.

- VM/XA System Product: System Product Editor Command and Macro Reference, SC23-0372

  Describes the system product editor commands, in alphabetical order.

- VM/XA System Product: System Product Interpreter Reference, SC23-0374

  Describes the system product interpreter control words, in alphabetical order.

- VM/XA SP EXEC 2 Reference, SC23-0361

  Describes the EXEC 2 control words, in alphabetical order.

- VM/XA System Product: Library Guide, Glossary, and Master Index, GC23-0367

  Provides an overview of the library's structure, a glossary, and a means for directly locating specific information within a manual or manuals.

- VM/XA System Product: CMS Primer Summary of Commands, SC23-0421

  Contains summary information about commands described in the VM/XA System Product: CMS Primer.

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Virtual Machine/ Extended Architecture System Product Release 1 CP Data Areas and Control Blocks

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