HONEYWELL

DPS 6 SNA ADMINISTRATOR'S GUIDE

SOFTWARE

DPS 6
SNA ADMINISTRATOR'S GUIDE

SUBJECT

Configuration and Operation of DPS 6 Nodes in Systems Network Architecture (SNA) Networks

SOFTWARE SUPPORTED

This document supports Release 1.2 of the SNA program product set operating under Release 3.1 of the MOD 400 Executive.

HARDWARE SUPPORTED

This group of software products is supported for DPS 6, microSystem 6/20, and microSystem 6/10 systems.

SPECIAL INSTRUCTIONS

This manual supersedes CR57-01. This revision includes the AIF Configurator and new SOPR commands. This manual has been extensively revised; therefore, change bars have not been used.

ORDER NUMBER

CR57-02 March 1985

PREFACE

This manual is written for two distinct audiences: operators of DPS 6 nodes in a DPS 6 System Network Architecture (SNA) network and those who configure such nodes. This manual also describes two different system-user interfaces for each audience: form driven and command line.

The major topics discussed in this manual are:

- Configuration of MOD 400 to support the SNA support services and facilities (Section 2)
- Use of the User Productivity Feature to access SOPR and the interactive configurator (Section 3)
- Operation of DPS 6 nodes in an SNA network, including a summary of network operator screens and commands and a description of journal files (Section 4)
- Form-driven configuration of SNA (Section 5)
- Creation of configuration tables for the SNA Configurator, SNA Operator Control (SOPR), the SNA Transport Facility and the SNA program products (Section 6)
- Error messages generated by the Transport Facility and the SNA Configurator (Appendixes A and B)
- Sense data from the host (Appendix C)
- Acceptable binds (Appendix D)
- Configuration samples (Appendix E).

USER COMMENTS FORMS are included at the back of this manual. These forms are to be used to record any corrections, changes, or additions that will make this manual more useful.

File No.: 1R63, 1S63

CR57-02

The reader who intends to operate a DPS 6 SNA node is assumed to have a general understanding of either DPS 6 screens or command formats. The operation of DPS 6 is not discussed in this manual.

The reader who intends to configure a DPS 6 SNA node is assumed to have read the MOD 400 System Building manual and any appropriate IBM documentation. This manual describes neither the configuration of MOD 400 in general nor the configuration of IBM mainframes.

In this manual, the term "SNA program products" is used to refer to all of the SNA software facilities, including the SNA Transport Facility (STF), the Remote Job Entry (RJE) Facility, the Interactive Terminal Facility (ITF), the SNA File Transfer Facility (SFT-6 and SFT-host) and the Application Interface Facility (AIF).

The term DPS 6 is used generically to include DPS 6, microsystem 6/20, and microSystem 6/10 SNA nodes. The term DPS 6 SNA is used to distinguish these nodes from IBM SNA nodes.

The following conventions are used to indicate the relative levels of topic headings used in this manual:

Level	Heading Format
1 (highest)	ALL CAPITAL LETTERS, UNDERLINED
2	Initial Capital Letters, Underlined
3	ALL CAPITAL LETTERS, NOT UNDERLINED
4 (lowest)	Initial Capital Letters, Not Underlined

Menu and Screen Description Format

Menus and additional screens are depicted in figures or boxed text, followed by a description of each prompt and allowable responses to that prompt. These menus and screens are presented in a slightly edited format to fit on these pages.

Command and Directive Description Format

The format illustrated below is used in the descriptions of commands and directives in this manual.

Convention	Meaning
UPPERCASE	Items in uppercase letters must be input as shown.
lowercase	Items in lowercase letters describe what you need to supply.
[ ]	Items in square brackets are optional.
{ }	Braces indicate that the user has a choice between two or more entries. These entries can be stacked vertically or separated by vertical bars. At least one of the entries enclosed in braces must be chosen (unless the entries are also enclosed in square brackets).
|	Vertical bars separate the choices within braces. At least one of the entries separated by vertical bars must be chosen (unless the entries are enclosed in square brackets).

NOTE

You must separate any arguments following commands or directives by one space. Spaces are represented visually in command and directive descriptions.

MANUAL DIRECTORY

Manuals are obtained by submitting a Honeywell Publications Order Form to the following address:

Honeywell Information Systems Inc.
47 Harvard Street
Westwood, MA 02090

Attn: Publications Services MA06-01

SNA MANUALS

The following publications constitute the DPS 6 SNA manual set for Release 1.2 of SNA.

Order Number	Manual Title
CR56	IBM Distributed Data Processing Overview
CR57	DPS 6 SNA Administrator's Guide
CR58	SNA Interactive Terminal Facility User's Guide
CR59	SNA Remote Job Entry Facility User's Guide
CR60	SNA File Transfer Facility User's Guide
GR11	SNA Application Programmer's Guide
CZ74	GCOS 6 Data Base Augmented Real-Time Tracing System User's Guide
GB88	SNA Host System Programmer's Guide

SOFTWARE RELEASE BULLETIN

The SNA product is described in a Software Release Bulletin. Consult the Software Release Bulletin before using the software. The DPS 6 SNA Software Release Bulletin is:

Order Number	SRB Title
GR12	SNA Software Release Bulletin

Contact your Honeywell representative if a copy of the Software Release Bulletin is not available.

MOD 400 MANUALS

The MOD 400 manual set provides information prerequisite to using the SNA manual set. Honeywell software reference manuals are periodically updated to support enhancements and improvements to the software. Before ordering any manuals, refer to the Manual Directory of the MOD 400 Guide to Software Documentation to obtain information concerning the specific edition of the manual that supports the software currently in use at your installation. If you use the four-character base publication number to order a document, you will receive the latest edition of the manual. If you wish to order a specific edition of a document, you must use the seven- or eight-character publication number listed in the MOD 400 Guide to Software Documentation.

IBM MANUALS

Refer to these IBM documents for host programming, operating, application, and configuration information.

Order Number	Manual Title
SC27-0164	ACF/VTAM Messages and Codes
SC27-0449	ACF/VTAM Programming
SC27-0611	ACF/VTAM Planning and Installation Reference
SC30-3167	ACF/NCP Installation and Resource Definition
SC30-3168	ACF/NCP System Support Programs: Utilities
SC30-3169	ACF/NCP and Emulation Program: Messages and Codes
SC23-0046	JES2 Initialization and Tuning
SC33-0149	CICS Resource Definition Guide

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Section 1
INTRODUCTION

DPS 6 SNA administration consists of two functions: network node operation and network configuration. Both functions are described briefly in this section.

DPS 6 SNA NETWORK NODE OPERATION OVERVIEW

DPS 6 SNA software allows any number of logical nodes to be configured on a DPS 6, limited only by the resources (memory, channels, etc.) available on the DPS 6. A single DPS 6 can appear to the host as one or more IBM 3274 clusters and IBM 3777 Remote Job Entry (RJE) stations; each cluster or station is treated by the host as separate Physical Unit Type 2 (PU.T2) nodes on the line. DPS 6 SNA supports the transfer of files between the DPS 6 nodes and the IBM host (SFT) and an interface between DPS 6 COBOL and Assembly language transaction programs and Customer Information Control System (CICS) or Information Management System (IMS) transaction programs (AIF). DPS 6 SNA supports a maximum of four lines; however, more than one node can reside on one line. DPS 6 SNA supports a set of operator functions that provides common monitoring and control of these logical nodes.

The DPS 6 SNA program products consist of:

- The SNA Transport Facility, which consists of SNA Operator Control (SOPR), the SNA Configurator, and the lower levels of baseline, including the link, path and transport levels which are invisible to the user.

- The SNA Remote Job Entry (RJE) Facility
- The SNA Interactive Terminal Facility (ITF)
- The SNA File Transfer Facility (SFT)
- The SNA Application Interface Facility (AIF).

The services (SOPR and the Configurator) and program products can be started from any terminal connected to the DPS 6 system, including the operator terminal. Once a facility is executing, you can monitor its status and display operational statistics, either from terminals attached to SOPR by secondary user logon or from the system operator terminal. You can terminate the facilities from the SOPR terminals or system operator terminal. The number of SOPR terminals is specified in the configuration file for SOPR. Users log on and off as SNA operators.

Section 4 of this manual details node operation, including activation and deactivation of SOPR, SNA operator screens and commands, journal operation, and using the SNAMAP utility.

SNA NETWORK CONFIGURATION OVERVIEW

To use the DPS 6 SNA software, the SNA administrator must configure a logical node for each program product within the DPS 6 to be used in the network. This configuration process is carried out by creating a configuration file for each service and facility. (Configuring the SNA Configurator is optional.) The configuration files contain all the information necessary to tailor the DPS 6 SNA logical node to the expectations of the host.

You must configure your MOD 400 system appropriately for DPS 6 SNA. Section 2 of this manual describes the MOD 400 requirements of DPS 6 SNA.

The configuration of the host requires no special modifications for DPS 6 SNA. If you intend to configure either the RJE Facility, the ITF Facility, or the SFT Facility (SFT-6) make sure the host is configured to expect the appropriate device. These GCOS 6 SNA facilities appear to the host as the corresponding IBM devices. Refer to the SNA Host System Programmer's Guide for details of host SNA configuration.

Two configuration options are open to you. You can use the Configurator in a screen-driven environment to create configuration files (interactive configuration), or you can create the files directly, using a text editor (batch configuration). Creating configuration files interactively is outlined below. Interactive and batch configuration procedures are described for each of the program products in Section 5 (interactive) and Section 6 (batch). Sample configurations are listed in Appendix E.

THE MENU-DRIVEN SNA INTERFACE

The MOD 400 User Productivity Feature (UPF) extends to SNA program products. If you have the UPF software and appropriate VIP or WST terminals, you can choose to configure and/or operate SNA software using a screen-driven interface instead of a command-line interface.

The UPF itself is described in the MOD 400 Menu Management/Maintenance Guide. That manual includes information on keyboard matrixes, cursor movement, and menu navigation that will not be repeated here.

Section 3 of this manual details the use of the UPF and the access roles required to use it.

Section 2
CONFIGURING MOD 400 FOR DPS 6 SNA

To configure MOD 400 for DPS 6 SNA, you must first configure a basic MOD 400 system with certain modifications, which are described in this section. Then you must configure whatever hardware devices and software components SNA and its facilities will use. Finally, you must provide information to configure the SNA Transport Facility, which provides protocol support for the DPS 6 SNA facilities.

DPS 6 RESOURCE REQUIREMENTS

The SNA Transport Facility executes on any DPS 6 system, microSystem 6/20, or disk-based microSystem 6/10.

The SNA Transport Facility requires a communications processor with an HDLC communications adapter (DCM9606).

The SNA Transport Facility requires the GCOS 6 MOD 400 Release 3.1 Executive. For MOD 400 resource requirement information, see the GCOS 6 MOD 400 Executive Release 3.1 Software Release Bulletin.

Resource Requirements for the SNA Remote Job Entry Facility

The SNA Remote Job Entry (RJE) Facility requires the SNA Transport Facility.

The RJE Facility has no hardware or software requirements in addition to those of the Transport Facility. The facility supports any terminal supported by by GCOS 6 MOD 400 (release 3.1) as an RJE operator terminal.

Resource Requirements for the SNA Interactive Terminal Facility

The SNA Interactive Terminal Facility (ITF) requires the SNA Transport Facility.

The ITF supports WST72XX, VIP72XX, asynchronous WST78XX and VIP78XX, and VIP73XX terminals. The facility supports remotely connected terminals.

Resource Requirements for the SNA File Transfer Facility

The SNA File Transfer Facility (SFT) requires the SNA Transport Facility. The SFT has no hardware or software requirements in addition to those of the Transport Facility.

Resource Requirements for the Application Interface Facility

The Application Interface Facility (AIF) requires the SNA Transport Facilty. The AIF has no hardware or software requirements in addition to those of the Transport Facility.

CONFIGURING THE BASIC MOD 400 SYSTEM

You configure the basic MOD 400 system by creating a Configuration Load Manager (CLM) file. You can create this file by using a text editor or the M4_SYSDEF program. Once you create a CLM file, you can bootstrap the system; the Configuration Load Manager reads the CLM file and configures the system accordingly.

M4_SYSDEF is the recommended way to create CLM files. M4_SYSDEF interactively creates a CLM_USER file that always results in an operating MOD 400 system. M4_SYSDEF tests each response for validity as you type it. If you make mistakes, you can correct them immediately. In fact, you can add, delete, or modify information requested by M4_SYSDEF at any point during the execution of the program. For detailed information about MOD 400 system building, see the MOD 400 System Building manual.

While you can use M4_SYSDEF to build a basic system, you cannot use M4_SYSDEF to build a complete MOD 400 system for DPS 6 SNA. After you build the basic system, you must modify the CLM file to include the SNA Transport Facility and to adjust some of the memory pool definitions. The required changes are described later in this section.

However you build the MOD 400 system, keep the following in mind when creating the CLM file:

1. Configure DARTS (see "Configuring DARTS," later in this section).

2. Specify enough system memory to include all received RUs. Program products run in user pool.

3. Specify roughly 75 additional Trap Save Areas (TSAs) and 75 additional Interrupt Request Blocks (IRBs) for SNA. The ITF may require even more IRB's.

4. Make sure all terminals used by the ITF are configured as Asynchronous Terminal Devices (ATDs). When creating the CLM file with a text editor, pair each ATD directive with a corresponding DEVICE directive so that the terminals can be accessed through the File System.

5. Make sure that all Link Control directives are at the same task and interrupt level.

6. The SFT-6 cannot be timesliced or reside in a swap pool.

Also keep these non-CLM considerations in mind:

1. Make sure that you specify enough Logical Resource Numbers (LRNs) and Logical File Numbers (LFNs) for all program products including the configurator. We recommend at least 50 of each.

2. Do not create a task group named "$A" for your own use; $A is reserved for the SOPR task group.

3. Create a Listener Terminals file to include each of the terminals to be used by the ITF and each of the terminals to be used by SOPR. The MOD 400 System Building manual contains a description of the Listener Terminals file.

CONFIGURING DARTS

The SNA Transport Facility interfaces with DARTS. DARTS is a GCOS 6 online diagnostic facility that enables users to monitor network software activity and to record diagnostic information for analysis by Honeywell. (DARTS monitors software executing on a DPS 6 system only.) We recommend that DARTS be configured in all networks so that it is available during each node's initial operational phases. To configure DARTS, include this DRIVER directive:

```
DRIVER ZQDART,lrn,level,X'FFC0'
```

where lrn is the logical resource number, level is the hardware priority level, and FFC0 is a dummy, unused channel number.

For further information about DARTS, see the DARTS User's Guide.

CONFIGURING THE SNA TRANSPORT FACILITY

The SNA Transport Facility has two modules: the Transport Facility Root and Link Control. Transport Facility Root configuration requires the CLM SNA directive. Link Control is configured using the CLM directives SNALN, DEVICE, and SNASTA. The SNALN, SNASTA, and SNA directives are described only in this manual; the DEVICE directive is described more fully in the MOD 400 System Building manual.

Configuring the Transport Facility Root

You must configure the Transport Facility Root before you configure Link Control. This requires an SNA directive.

FORMAT:

SNA lrn,level

ARGUMENTS:

lrn

An appropriate value.

level

The priority level for the SNA Transport Facility. This priority level must be lower than the priority level specified for Link Control. This level must be unique and must not be specified in any other CLM directive.

DESCRIPTION:

The SNA directive loads the Transport Facility root ZNBINT.

Example:

SNA 37,37

In this example 37 is the logical resource number for the Transport Facility and 37 is the priority level of the Transport Facility Root.

Configuring Link Control

You must use a combination of SNALN, SNASTA, and DEVICE directives to configure Link Control. Figure 2-1 contains a sample sequence of CLM directives to configure Link Control.

```
SNALN 32,25,X'F400',,
SNASTA 33
SNASTA 34
SNASTA 35
SNASTA 36
DEVICE GEN00,32,25,X'F400',LINE01
```

Figure 2-1. Sample CLM Directives to Configure Link Control

The directives are described in the order shown in Figure 2-1.

SNALN DIRECTIVE

FORMAT:

SNALN lrn,level,X'channel',[modem],[S],[NRZI]

ARGUMENTS:

lrn

Logical resource number to be associated with the first station on the physical link.

level

An appropriate value.

channel

A four-digit hexadecimal number specifying the communications processor channel to which this HDLC adapter is attached.

[modem]

An appropriate value. The default is 2.

[S]

Specifies that this is a secondary link. The default is secondary.

[NRZI]

Transmission continues from last state. NRZI is not supported by MLCP.

DESCRIPTION:

The SNALN directive creates the channel control table and the first station control table pair for Link Control. You must include one SNALN directive for each SDLC line. All SNALN directives must be at the same level. You must specify at least one SNALN directive. You can configure a maximum of up to four SDLC lines (using a maximum of four SNALN directives). The line type is always full-duplex, with two channel tables per line.

To select appropriate values for the level, channel, and modem arguments, you should consult the MOD 400 System Building manual.

Example:

```
SNALN 32,25,X'F400',,
```

In this example 32 is the logical resource number to be associated with the physical link, 25 is the level, and X'F400' is the channel number of the HDLC adapter to which this SDLC line is attached. The modem is defaulted to 2, and the primary/secondary value is defaulted to secondary.

SNASTA DIRECTIVE

FORMAT:

```
SNASTA lrn
```

ARGUMENTS:

lrn

Logical resource number associated with the station. The value must be an integer between 3 and 255.

DESCRIPTION:

The SNASTA directive generates data structures to which a second or subsequent node poll address can be assigned when the node is activated.

The data structures for one node poll address on a line are provided automatically. If you wish to support more than one logical node on the line, you must specify an SNASTA directive for each node other than the first one. For example, if you expect to have two logical nodes concurrently active on one line, you must specify one SNASTA directive.

Example:

    SNASTA 33

The station LRN is 33.

DEVICE DIRECTIVE

This DEVICE directive identifies a communications station to the file system. You must enter the directive as

    DEVICE GEN00,lrn,level,X'channel',device_name

where:

- The device unit must be GENnn
- lrn, level, and channel must be the same values you specified in the corresponding SNALN directive
- device_name must be the same as the line_name value you specified in the SNA Configurator input. (See Sections 5 and 6.)

You must specify one DEVICE directive for each SDLC line that you configure. The DEVICE directive associates a six-character name with the corresponding SDLC line. This name is then used whenever the line is referred to again during DPS 6 SNA configuration. (See Section 5 or 6).

Example:

    DEVICE GEN00,32,25,X'F400',LINE01

Section 3
USER PRODUCTIVITY FEATURE

The MOD 400 User Productivity Feature (UPF) extends to SNA program products. If you have the UPF software and appropriate VIP or WST terminals, you can choose to configure and/or operate SNA software using a screen-driven interface instead of a command-line interface.

This section describes the menus you will use to invoke SNA Operator Control, the SNA Configurator, or the individual program products, and how you must be registered in order to access these menus.

MENU FEATURES

With UPF, SNA services and program products become selections under menu subsystem selection menus, so that you can invoke an SNA program product by selecting it from a menu rather than by entering a command line.

Once you make a selection, you are presented with a screen, consisting of prompts and prompt fields. You fill the prompt fields as appropriate, or accept default values that pre-fill many of the fields.

MENU ADVANTAGES

The screen-driven SNA interface offers several advantages over the command line interface:

- You enter information in response to prompts on selection screens, rather than by remembering and entering command line strings
- Data verification techniques ensure that the information you enter is valid (e.g., alphabetic only or within a specified numeric range), thus eliminating many common command invocation errors.

Since there is no loss of functionality in using the screen-driven interface, these advantages make the screen-driven interface easier to use than the command line interface, especially for nontechnical and new users.

DETECTING AND REPORTING ERRORS IN SCREENS

When you fill in a screen prompt field, your responses are checked for validity. Error detection is carried out by the terminal, the UPF software, and the SNA software itself. Errors detected at these three stages are reported in slightly different ways.

Each character position of a response field is given an attribute that specifies what type of character you can enter there. If you enter the wrong type of character, the terminal beeps, a status line error message (for example, ALPHA ONLY if you attempt to enter a number in an alphabetic field) and the character is rejected. The available attributes include:

- Digit (0 through 9)
- Numeric (digits plus + - . ,)
- Alphabetic (uppercase and lowercase letters, plus . , - ' and space)
- Alphanumeric (any of the above)
- No validation (any ASCII character).

Each prompt field is given an edit that checks the field as a whole. Some edits specify the way data is formatted (right justify, zero fill); others restrict your possible responses. If you enter an invalid response, the form is not transmitted to the SNA software and you must correct the erroneous field. The available edits include:

* Right justify
* Left justify
* Zero fill
* Blank fill
* Skip field allowed
* Must enter field
* Total fill
* Initial value (default value)
* Constant value
* Autoduplicate
* Enter before transmit
* Permanent once entered
* Range (for numerics).

Screen error checking is also performed by SNA software. If an invalid request is received, the screen is redisplayed, an error message appears at the bottom of the screen, and one or more question marks (?) appear next to the erroneous response. You can correct the error and retransmit the screen. During configuration, if you have filled out more than one field incorrectly, you will see more than one marked field, and more than one error message, presented in the order you filled out the fields.

SNA MENU TREE STRUCTURE

Figure 3-1 depicts the portions of the menu tree that pertain to SNA. In this manual, in illustrations depicting menus and additional screens, menus are shown as boxes and related screens are shown as circles. These screens are the termini of menu pathways; screens correspond to SNA operator commands (e.g., there is a STOP command and a STOP form) or specific subgroupings of the SNA configuration process (e.g., there is an SNA File Transfer Facility Logical Unit (LU) configuration form).

SNA screens are detailed in this manual. For information on navigating through menus, refer to the MOD 400 Menu Management/Maintenance Guide.

SNA ADMINISTRATOR REGISTRATION

The SNA Administrator must be registered as system administrator in order to be allowed access to the Master Menu. The SNA Administrator must also be registered to use the subsystem switcher. Your edit profile must have "subsystem switcher" as a login trait, with "master" as the name of the first menu to access, and you must come up as LISTENUR.

These directions assume that you are properly registered under MOD 400. In order to execute SOPR commands, the SNA task group (described later in this section) must be active. This is the normal case.

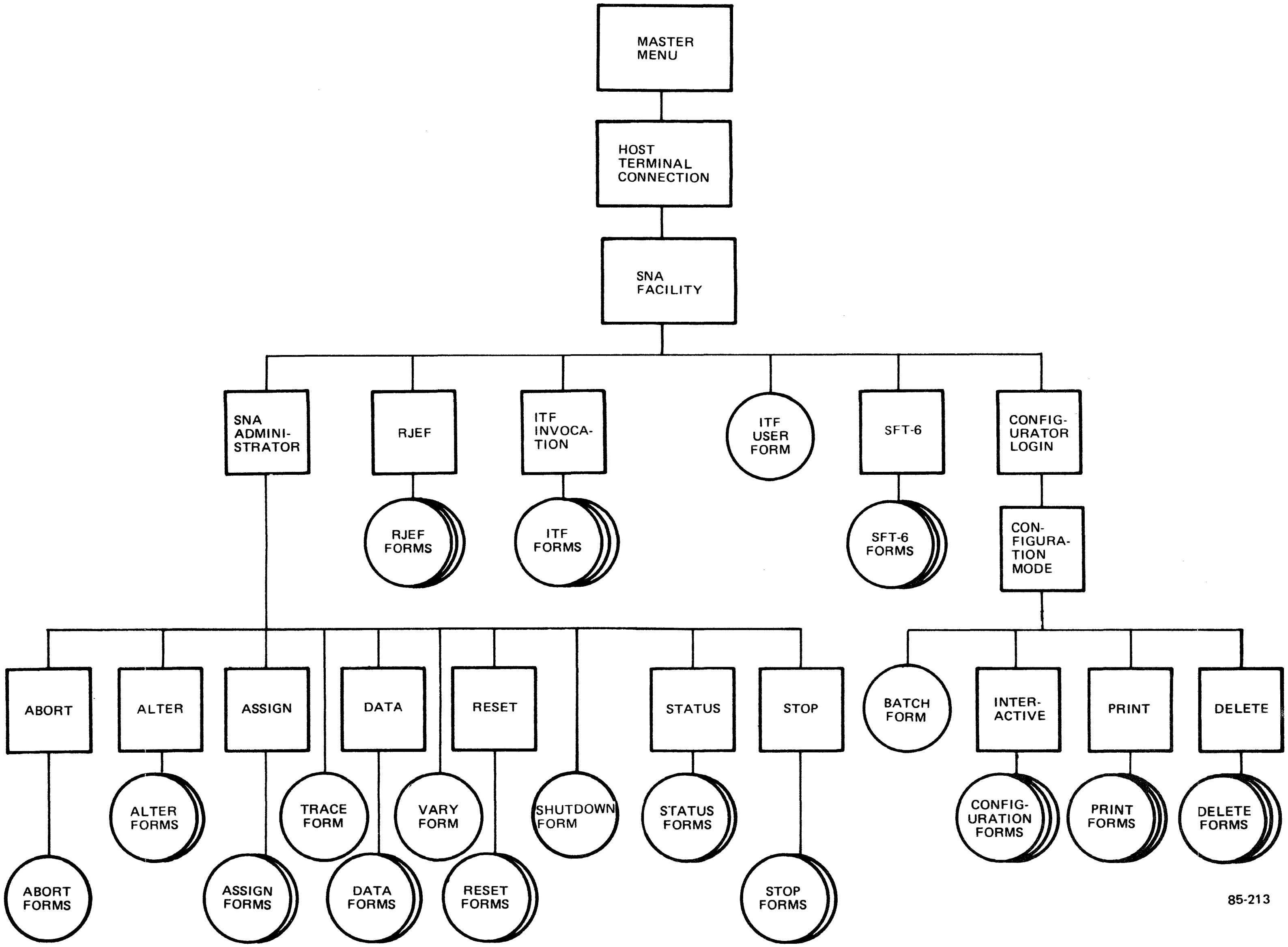

Figure 3-1. SNA Menus and Forms

ACTIVATION/DEACTIVATION FROM MENUS

Figure 3-2 shows the MOD 400 Master Menu. From the Master Menu take the host terminal connection (HC) selection.

```
                    MASTER MENU

    (CL) COMMAND LINE (ECL)
    (MS) GENERAL MENU SYSTEM
    (DE) DATA ENTRY (DEF-II)
    (HC) HOST TERMINAL CONNECTION
    (DO) DOCUMENTATION

     SELECTION: HC
```

Figure 3-2. MOD 400 Master Menu

The HC selection brings up the Host Connect Menu, shown in Figure 3-3. From the Host Terminal Connection Menu, take the SNA (SN) selection.

```
              HOST TERMINAL CONNECTION

    (32) 3271 CONNECTION
    (SN) SNA CONNECTION

     SELECTION: SN
```

Figure 3-3. Host Terminal Connection Menu

The SN selection brings up the SNA Facility Menu, which lists the SNA facilities. The SNA Facilities menu is shown in Figure 3-4.

```
                    SNA FACILITY

    (AD) SNA Administrator     (AI) Application Interface
    (CF) Configurator
    (SF) SNA File Transfer
    (II) Interactive Invocation
    (IT) Interactive Terminal
    (RJ) Remote Job Entry

         Selection:
```

Figure 3-4. SNA Facilities Menu

This manual concentrates on selections AD (SNA Administrator) and CF (Configurator). Table 3-1 describes what options this menu presents and where to find further explanations of these selections.

Table 3-1. SNA Facilities Menu Selections

Menu Selection	Description
(AD) SNA Administrator	Displays the SNA Operator Menu from which you can select the operator control activities you wish to perform. SNA Operator Control (SOPR) is discussed in Section 4.
(CF) Configurator	Puts you in configuration mode and brings up the configuration login menu. Interactive configuration is discussed in Section 5.
(SF) SNA File Transfer	Invokes the SNA File Transfer Facility. The SFT-6 operation is discussed in the SNA File Transfer Facility User's Guide.
(II) Interactive Invocation	Logs you on to an ITF LU at the host. The ITF operation is discussed in the SNA Interactive Terminal Facilty User's Guide.
(IT) Interactive Terminal	Activates an ITF node. The ITF nodes are discussed in the SNA Interactive Terminal Facilty User's Guide.
(RJ) Remote Job Entry	Invokes the SNA Remote Job Entry Facility. The RJE operation is discussed in the SNA Remote Job Entry Facility User's Guide.
(AI) Application Interface	Activates the Application Interface. The AIF is further discussed in the SNA Application Programmer's Guide.

To abbreviate the process of getting from the Master Menu to one of the later menus, such as the SNA Operator Menu, by skipping over two menus, enter your selections in a series, as HC SN AD, at the Master Menu. This will bring you directly to the SNA Operator Menu.

Section 4
OPERATING DPS 6 NODES IN DPS 6 SNA NETWORKS

DPS 6 SNA operators can display the status of active lines, logical nodes, or logical units (LUs); display statistical information collected by the Transport Facility; reset statistical data counters and times; and terminate logical nodes. DPS 6 SNA provides journalizing facilities for the SNA Operator Control (SOPR), Configurator, Transport Facility and program products.

SNA operators on systems equipped with the GCOS 6 User Productivity Feature (UPF) can choose from a command line interface or a screen-driven interface. Both interfaces produce the same results.

This section describes SOPR operation, the format and use of DPS 6 SNA journals, and SNA maintenance utilities. Sections 5 and 6 include information on journal configuration for each of the SNA services and facilities.

ACTIVATING AND DEACTIVATING SNA OPERATOR CONTROL

You can start and stop SOPR from within the menu subsystem or by using command lines. Operator control in both environments is described below.

Activation/Deactivation From Menus

If you wish to activate SOPR through the menu subsystem, start by following the instructions on using the UPF in Section 3. This will get you up and running in the $A task group and should bring you directly to the SNA Operator Menu shown in Figure 4-1.

To deactivate SOPR, return to the SNA Operator menu and select LOGOFF.

```
                 SNA OPERATOR

        (AB) ABORT            (RS) RESET

        (AS) ASSIGN           (SH) SHUTDOWN

        (AT) ALTER            (SS) STATUS

        (CL) CLOSE            (ST) STOP

        (DA) DATA             (TR) TRACE

        (LF) LOGOFF           (VR) VARY

                              SELECTION:__
```

Figure 4-1. SNA Operator Menu

Activation/Deactivation Using Commands

SOPR executes in the task group $A. Using command lines, you can invoke SOPR by:

- Logging on to SOPR from a Listener-monitored terminal
- Starting up the Configurator or one of the program products.

To log on to SOPR on a Listener-monitored terminal, enter

    LOGIN login_id $A

using the standard MOD 400 logon procedure. The task group $A must already exist. (See the Commands manual for further information.)

A terminal connected to SOPR by any means is considered an SOPR terminal.

To log off as an SNA operator, enter:

LOGOFF

(After the LOGOFF command executes, you are connected to the Listener, and you can log on again immediately, if you choose.)

DPS 6 SNA OPERATOR SCREENS AND COMMANDS

You can perform operator functions in the menu-driven environment, using screens, or in the command line environment, using commands. SOPR screens and their command line equivalents are described below.

SNA Operator Menus

The SNA Operator menu is shown in Figure 4-1. Note that the MOD 400 system administrator can restrict the appearance of menus at your installation. Two of the available selections, LOGOFF and CLOSE, do not require information and therefore present no additional screens.

Table 4-1 lists the SNA function screens supporting these selections. These functions can be invoked from any SOPR terminal connected to the DPS 6 system and using menus.

Table 4-1. DPS 6 SNA Operator Functions

Menu Selection	Function Menu	Action
AB	ABORT	Unconditionally terminate logical nodes. Terminate all active nodes or just a specific node. All LUs within the node terminate without any orderly deactivation.
AS	ASSIGN	Assign a new SOPR journal file.
AT	ALTER	Change the state of an Application Interface Facility (AIF) LU to either available or unavailable at the end of its current use.

Table 4-1 (cont). DPS 6 SNA Operator Functions

Menu Selection	Function Menu	Action
CL	CLOSE	Close the SOPR journal file.
DA	DATA	Display statistical information collected by the SNA Transport Facility. Display data for a specific line, logical node, or LU.
LF	LOGOFF	Log off SOPR.
RS	RESET	Reset statistical data counters to 0, and set the date/time counters last cleared to the current date/time. Reset counters for a specific line, logical node, or LU.
SH	SHUTDOWN	Unconditionally terminate all Physical Units (PUs) and LUs and the Transport Facility after a specified period of time.
SS	STATUS	Display the status of active lines, PUs, or LUs. Display status for all active lines, all nodes, all LUs, specific lines, specific nodes, or specific LUs.
ST	STOP	Unconditionally terminate a logical node after a specified time interval. Stopping an AIF LU terminates its current activity and makes the LU available for another caller.
TR	TRACE	Enable or disable the Endpoint Tracing Facility, which is used in conjunction with DARTS to aid in analyzing network traffic.
VR	VARY	Control line characteristics and the printing of messages generated by the Unsolicited Message Processor (UMP) on the system console.

SNA Operator menus often lead to screens that separate mutually exclusive functions. For example, associated with the Abort Request menu are two screens, one for aborting a node by node name and one for aborting a node by task group identifier. However, the TRACE and VARY functions are screens by themselves, and the CLOSE and LOGOFF functions have no additional screens associated with them.

ABORT (AB)

Unconditionally terminate a logical node.

```
MENU:

                        ABORT REQUEST

(AL) All

(ND) Node

(GP) Group




                             SELECTION: ________
```

SELECTIONS:

AL

Unconditionally terminate all active logical nodes. There are no additional screens associated with this selection.

ND

Unconditionally terminate a node. If you make this selection, the following is displayed:

```
                        ABORT REQUEST


    Enter node name: ________
```

The node name must be from one to eight characters in length.

GP

Unconditionally terminate the logical node executing in a task group. If you make this selection, the following screen is displayed:

ABORT REQUEST

Enter group ID: __

The group ID is a two-character MOD 400 task group identifier.

DESCRIPTION:

The Abort request unconditionally terminates a logical node. The appropriate facility program product immediately terminates the LU(s) in the node. You can terminate all active logical nodes or a specific logical node.

ALTER (AT)

Changes the state of an AIF LU to available or unavailable at the end of its current use.

```
MENU:

                    ALTER

(GP) group_name

(ND) node_name



                         SELECTION: ________
```

SELECTIONS:

GP

Change the state of an LU from the group named group_name to available (AV) or unavailable (UN) at the end of its current use. The star convention can be used to change the state of all of the LUs in that group. If you make this selection, the following screen is displayed:

```
                    ALTER REQUEST

    Enter group id:

    Lu address:

    State: AV

    Force: Y
```

ND

Change the state of an LU in the node named node_name to available or unavailable at the end of its current use. The star convention can be used to change the state of all LUs in this node. If you make this selection, the following screen is displayed:

```
                ALTER REQUEST

    Enter node name:

    Lu address:

    Change State: AV

    Force: Y
```

DESCRIPTION:

The Alter request changes the state of a group, node, or LU to available or unavailable at the end of its current use. You can specify immediately, if desired. The star convention makes all LUs available or unavailable.

NOTE

Both the group or node name and the LU address fields must be filled in with this command. If you omit either of these arguments, you get an error message.

ASSIGN JOURNAL (AS)

ASSIGN JOURNAL (AS)

Assign a new journal file for SOPR after closing the existing file or close the existing SOPR journal file and open it as a new file.

MENU:

```
                    ASSIGN JOURNAL REQUEST

    (RE) Reuse existing journal file

    (CR) Create new journal file




                         SELECTION: ________
```

SELECTIONS:

RE

Close the existing SOPR journal file and reopen it as a new file. All data currently in the file is lost.

CR

Create a new SOPR journal file; close the existing file. If you make this selection, the following screen is displayed:

```
                    ASSIGN JOURNAL REQUEST

      Enter
      pathname: ____________________________________
```

Use the specified file as the new journal file. If the file does not exist, it is automatically created. The file is opened in NEW APPEND mode.

DESCRIPTION:

The Assign Journal request recycles the existing SOPR journal file, effectively deleting its contents, or opens a new SOPR journal file.

You use this menu only with the SOPR journal file; you do not use it to assign journal files for support services or facilities other than SOPR.

CLOSE (CL)

Close the SOPR journal file.

MENU:

There is no menu associated with this selection.

DESCRIPTION:

The Close request closes the SOPR journal file.

Use this selection to close only the SOPR journal file.

DATA (DA)

Display statistical information for an active node collected by the SNA Transport Facility.

MENU:

```
                    DATA REQUEST

  (LN) Line

  (ND) Node

  (GP) Group




                              SELECTION: ________
```

SELECTIONS:

LN

Display data for a specific line. If you make this selection, the following screen is displayed:

```
                    DATA REQUEST


  Enter line name: ______
```

The line name is the one- to six-character line name specified in a DEVICE statement in a CLM file. You can request line statistics for a line that is no longer active.

ND

Display data for a logical node. If you make this selection, the following screen is displayed:

```
                         DATA REQUEST


    Enter node name: ________

    LU address: __
```

The node name is from one to eight characters. If you also specify an LU address, you can display data for just that LU.

GP

Display data for a logical node executing in a specific task group. If you make this selection, the following screen is displayed:

```
                         DATA REQUEST


    Enter group ID: __

    LU address: __
```

The group ID is the two-character MOD 400 task group identifier. If you also specify an LU address, you can display data for just that LU.

DESCRIPTION:

The Data request displays statistical information collected by the SNA Transport Facility on an SOPR terminal. The node must be active. The exact information displayed depends on the combination of control arguments specified on the screen.

If you request information on a line, the system displays information for the specified line in the format shown in Figure 4-2.

```
LINE line_name              CHANNEL channel_num

STATISTICAL COUNTERS LAST RESET yyyy/mm/dd hhmm:ss

      nnnnnn        FRAMES WITH FCS ERROR
      nnnnnn        RECEIVE OVERRUNS
      nnnnnn        TRANSMIT OVERRUNS
      nnnnnn        RECEIVED ABORTED FRAMES
      nnnnnn        TRANSMITTED ABORTED FRAMES
      nnnnnn        FRAMES RECEIVED WITHOUT ERROR
      nnnnnn        FRAMES TRANSMITTED WITHOUT ERROR
      nnnnnn        FRAMES NOT SENT DUE TO BUSY THERE
      nnnnnn        FRAMES NOT ACKNOWLEDGED DUE TO BUSY THERE
      nnnnnn        TEXT CHARACTERS RECEIVED
      nnnnnn        TEXT CHARACTERS TRANSMITTED
      nnnnnn        TEST FRAMES RECEIVED
      nnnnnn        TEST FRAME RESPONSES SENT
```

Figure 4-2. Data Request Information Displayed by Line

In actual use, line_name is replaced by the name of the line for which statistics are requested; channel_num is replaced by the channel number; yyyy/mm/dd is replaced with the date and hhmm:ss is replaced by the military time in hours, minutes, and seconds when the counters were last reset; and nnnnnn is replaced by a six-digit number. (If necessary, a twelve-digit number is displayed for TEXT CHARACTERS RECEIVED and TEXT CHARACTERS TRANSMITTED.)

If you request information by node name or group ID, information for the specified node is displayed as shown in Figure 4-3.

```
NODE node_name              TASK GROUP group_id      LRN   lrn_num

STATISTICAL COUNTERS LAST RESET yyyy/mm/dd hhmm:ss

    nnnnnn          FMD REQUEST RU'S RECEIVED
    nnnnnn          FMD REQUEST RU'S TRANSMITTED
    nnnnnn          LU TO LU SESSIONS
    nnnnnn          -RSP SENT BY TRANSPORT FACILITY
```

Figure 4-3. Data Request Information Displayed by Node Name or Group ID

DATA (DA)

In actual use, node_name is the name of the node for which statistics are requested; group_id is the identifier of the task group in which the node executes; lrn_num is the logical resource number of the station on the line; yyyy/mm/dd is replaced with the date and hhmm:ss is the military time in hours, minutes, and seconds when the counters were last reset; and nnnnnn is a six-digit integer.

If you request information on a specific logical unit within a node or group, information for the specified LU in the specified node is displayed as shown in Figure 4-4.

```
LU ID lu_addr   NODE node_name

STATISTICAL COUNTERS LAST RESET yyyy/mm/dd hhmm:ss

   nnnnnn          FMD REQUEST RU'S RECEIVED
   nnnnnn          FMD REQUEST RU'S TRANSMITTED
   nnnnnn          FMD +RSP RU'S RECEIVED
   nnnnnn          FMD +RSP RU'S TRANSMITTED
   nnnnnn          FMD -RSP RU'S RECEIVED
   nnnnnn          FMD -RSP RU'S TRANSMITTED
   nnnnnn          FMD CHARACTERS RECEIVED
   nnnnnn          FMD CHARACTERS TRANSMITTED
```

Figure 4-4. Data Request Information For an LU Displayed by Node Name or Group ID

In actual use, lu_addr is the logical unit address; node_name is the name of the node for which statistics are requested; yyyy/mm/dd is replaced with the date and hhmm:ss is the military time in hours, minutes, and seconds when the counters were last reset; and nnnnnn is a six-digit integer.

LOGOFF (LF)

Terminate SNA Operator Control and return to the Master menu.

MENU:

There is no menu associated with this selection.

DESCRIPTION:

This selection logs you off SOPR and returns you to the Master menu.

RESET (RS)

Set all of the statistical data counters to 0 and set the time counter to the current time.

MENU:

```
                    RESET REQUEST

(LN) Line

(ND) Node

(GP) Group




                              SELECTION: ________
```

SELECTIONS:

LN

Set the counters to 0 for a specific line. If you make this selection, the following screen is displayed:

```
                    RESET REQUEST


Enter line name: ______
```

The line name is from one to six characters.

ND

Set the counters to 0 for a specific logical node. If you make this selection, the following screen is displayed:

```
                    RESET REQUEST


    Enter node name: ________

    LU address: __
```

The node name is from one to eight characters. If you also enter an LU address, counters are reset for just that LU.

GP

Set the counters to 0 for the logical node executing in a specific task group. If you make this selection, the following screen is displayed:

```
                    RESET REQUEST


    Enter group ID: __

    LU address: __
```

The group ID is two characters. If you also enter an LU address, counters are reset for just that LU.

DESCRIPTION:

The Reset request sets statistical data counters to 0 and sets the time that the counters were last cleared to the current time. You specify counters to be reset by specifying either a line name, a node name, or a task group identifier.

SHUTDOWN (SH)

Unconditionally terminates all PUs, LUs, and the Transport Facility after a specified period of time.

SCREEN:

```
                    SHUTDOWN REQUEST


Enter Time: 10
```

ARGUMENT:

Time: nn

Indicates the number of minutes (n) before shutdown occurs. The time value n can be a number from 0 to 60, the default being 10 minutes.

DESCRIPTION:

The Shutdown request causes an orderly shutdown of the SNA network. After allowing the specified time interval, all active program products are aborted, the transport facility terminated, and memory is returned to the system. After a shutdown command, the group $A no longer exists. This returns the system to its initial state.

NOTE

The shutdown request is irrevocable. If you attempt to invoke another product during the time before shutdown is completed, your attempt is rejected, and an error message is displayed.

STATUS (SS)

Display the status of all active lines, nodes, or logical units, or display the status of a specific LU.

MENU:

```
                    STATUS REQUEST

  (AL) All

  (LN) Line

  (ND) Node

  (GP) Group



                              SELECTION: ________
```

SELECTIONS:

AL

Display the name of all active lines and the number of active logical nodes on each line.

LN

Display the one- to eight-character name, task group identifier, and LRN of each active logical node on a specific line. The line name is from one to six characters in length. If you make this selection, the following screen is displayed:

```
                      STATUS REQUEST


    Enter line name: ______
```

ND

Display the logical unit address, device name, and device type for each active logical unit in a specific node. If you make this selection, the following screen is displayed:

```
                        STATUS REQUEST


    Enter node name: ________

    LU address: __

    Session id: __
```

The node name is from one to eight characters. If you also enter an LU address, the system displays detailed status of just that LU.

GP

Display the LU address, device name, and device type for each active LU in the node executing in a specific task group. If you make this selection, the following screen is displayed:

```
                        STATUS REQUEST


    Enter group ID: __

    LU address: __

    Session id: __
```

The group ID is the two-character MOD 400 task group identifier. If you also enter an LU address, the system displays detailed status of just that LU.

DESCRIPTION:

The Status request displays information about active lines, logical nodes, and LUs on the terminal from which the command is invoked. The exact information displayed depends on the control arguments specified, as described on the following pages.

If you select AL, the system displays the information shown in Figure 4-5.

```
ACTIVE LINES                         LOGICAL NODES

line_name1                              num1
  .                                       .
  .                                       .
  .                                       .
line_namen                              numn
```

Figure 4-5. Status Request Information Displayed for All Nodes

In actual use, line_name1 ... line_namen are the names of the active lines; num1, ... numn are the counts of the nodes on the lines.

If you select LN, the system displays the information shown in Figure 4-6 for the specified line.

```
LINE        NODE NAME    TASK GROUP    LRN      PRODUCT   PU_ADDRESS


line_name   node_name1   group_id1   lrn_num1     iii    pu_address
            node_name2   group_id2   lrn_num2     iii    pu_address
                .
                .
                .
            node_namen   group_idn   lrn_numn     iii    pu_address
```

Figure 4-6. Status Request Information Displayed by Line

In actual use, line_name is the name of the line; node_name1 ... node_namen are the node names; group_id1 ... group_idn are the identifiers of the task groups in which each node executes; lrn_num1 ... lrn_numn are the LRNs associated with each line; iii is a (three-character) identifier of the program product currently executing; and pu_address is the address of the PUs that are currently active.

If you select ND or GP, the system displays the information shown in Figure 4-7 for the specified node.

```
    NODE node_name    TASK GROUP group_id  PU_ADDRESS pu_address
    ============================================================


          PU STATE:              pu_state
        LINE STATE:              line_state
         ITS STATE:              its_state
     MESSAGE STATE:              message_state


 LU  LU NAME     DEVICE ADDRESS         LU  LU NAME

 a1  lu_name1                           a2  lu_name2
                       .
                       .
                       .
 a33 lu_name33
```

Figure 4-7. Status Request Information Displayed by Node or Group

In actual use, node_name is the name of the node for which status was requested; group_id is the task group in which node_name is executing; pu_address is the address of the PUs that are currently active; pu_state is either TRACE ON or TRACE OFF; line_state tells if lines are [NOT] CONNECTED or PENDING CONNECT; its_state is either [IN/NOT IN/PENDING] INFORMATION TRANSFER; message_state indicates that [NO] messages are displayed; a1 ... a33 are the addresses of logical units 1 through 33; and lu_name1 ... lu_name33 are the device names that were specified when the system was configured. The device address is only displayed for the ITF.

Device names and addresses can range from 2 to 33 for the ITF, from 1 to 6 for the RJE, and from 1 to 6 for the SFT.

The status information which is displayed for the AIF is slightly different from Figure 4-7. The AIF Status request information is displayed in Figure 4-8.

```
NODE node_name   TASK GROUP group_id   PU_ADDRESS pu_address
============================================================


        PU STATE:               pu_state
      LINE STATE:               line_state
       ITS STATE:               its_state
   MESSAGE STATE:               message_state


    nnnnnn  LOGICAL UNITS CONFIGURED
    nnnnnn  IS LOWEST LOGICAL UNIT ADDRESS
    nnnnnn  IS HIGHEST LOGICAL UNIT ADDRESS
    nnnnnn  TYPE 0 LOGICAL UNITS
    nnnnnn  ACTIVE TASKS
    nnnnnn  LU_SSCP SESSIONS ACTIVE
    nnnnnn  LOGICAL UNITS IN SESSION
    nnnnnn  LOGICAL UNITS IN USE
    nnnnnn  ABNORMALLY TERMINATED SESSIONS
    nnnnnn  LOGICAL UNITS RESERVED
    nnnnnn  SESSIONS PRE-ESTABLISHED
    nnnnnn  LOGICAL UNITS AVVAILABLE
```

Figure 4-8. AIF Status Request Information Displayed by Node or Group

If you select ND or GP and also specify an LU, the system displays the information shown in Figure 4-9 for the specified node LU.

```
NODE node_name   TASK GROUP group_id   PU_ADDRESS pu_address
============================================================


        PU STATE:               pu_state
      LINE STATE:               line_state
       ITS STATE:               its_state
   MESSAGE STATE:               message_state

        LU STATE:               lu_state
        SESSION STATE:          session_state
        BRACKET STATE:          bracket_state
        PRODUCT SPECIFIC:       product_specific_state
```

Figure 4-9. Status Request Information Displayed by LU

In actual use, node_name is the name of the node for which status was requested; group_id is the task group in which node_name is executing; and pu_state is either TRACE ON or TRACE OFF.

Information is provided on these states:

- LU state -
  - LU inactive, trace off
  - LU inactive, trace on
  - LU active, trace off
  - LU active, trace on.

  If the LU is inactive, no further information is displayed. If the LU is active, the state information below is displayed.

- Session state -
  - Not in session (ITF and SFT)
  - Data traffic reset (ITF only)
  - Data traffic active (ITF only)
  - Send (ITF only)
  - Receive (ITF only)
  - ERP1 (ITF only)
  - Not bound (RJE only)
  - Bound (RJE only)
  - Outbound session (RJE only)
  - Inbound session (RJE only).

  In the ITF, if the LU is active but the session is inactive, no further information is displayed.

- Bracket state -
  - Between brackets (ITF only)
  - In brackets (ITF only)
  - Pending begin brackets (ITF only).

- Product-specific state -
  - Display (ITF only)
  - Display/application program (ITF only)
  - Virtual terminal (ITF only)
  - Logical unit type 3 printer (ITF only)
  - Logical unit type 1 printer (ITF only)
  - Unattended mode, no multisignal interrupt (RJE only)
  - Attended mode, no multisignal interrupt (RJE only)
  - Unattended mode, multisignal interrupt (RJE only)
  - Attended mode, multisignal interrupt (RJE only).

If you are requesting status information about an AIF node or group, and also specify an LU, the system displays the information in Figure 4-10 for the specified node LU.

```
NODE node_name   TASK GROUP group_id   PU_ADDRESS pu_address
============================================================


           PU STATE:       pu_state
         LINE STATE:       line_state
          ITS STATE:       its_state
      MESSAGE STATE:       message_state

TASK ACTIVE; LU_SSCP SESSION ACTIVE; IN SESSION; IN USE
ABNORMALLY TERM. SESSION, RESERVED, PREESTABLISHED, AVAILABLE
ASRB IN PROC; NORM FLOW ON Q TOP; FMD ON Q TOP; INTER'T DET'D
WHOLE MESSAGE RECEIVED; DATA TRAFFIC INACTIVE

LU ADDRESS:          nnn       LU_TYPE:       0
STD NAME:            xx        HOST_LU_NAME: host
HOST_TRANS_PROGRAM: xxxx       SESSION_ID:    xxxx
```

Figure 4-10. Status Request Information Displayed by LU

In actual use, node_name is the name of the node for which status was requested; group_id is the task group in which node_name is executing; and pu_state is either TRACE ON or TRACE OFF.

- The following information is provided on these states for all AIF LUs, whether or not the session is active:

  - TASK INACTIVE|TASK ACTIVE
  - LU_SSCP SESSION ACTIVE|NO LU_SSCP SESSION
  - IN SESSION|NOT IN SESSION
  - IN USE|NOT IN USE

  - ABNORMALLY TERMINATED SESSION|converse omitted
  - RESERVED|NOT RESERVED
  - PREESTABLISHED|NOT PREESTABLISHED
  - AVAILABLE|NOT AVAILABLE

- If the task is active, the following information is also presented. If the LU is inactive, this information is omitted.

  - ASRB in process|No ASRB in process
  - Normal flow on Q top|(converse omitted)
  - FMD on Q top
  - Interrupt detected|(converse omitted)

  - Whole message received|(converse omitted)
  - Data traffic active|data traffic not active

  - LU address
  - LU_type

  - STD name
  - Host_LU_name

  - Host transaction program name
  - SESSION_ID

STOP (ST)

Unconditionally terminate a logical node or a specific LU after a specified period of time.

MENU:

```
                    STOP REQUEST

(AL) All

(ND) Node

(GP) Group



                              SELECTION: ________
```

SELECTIONS:

AL

Terminate all active logical nodes. If you make this selection, the following screen is displayed:

```
                    STOP REQUEST

    Enter delay time:10
```

Termination occurs in n minutes, where n is a value from 0 to 60. The default value is 10.

STOP (ST)

ND

Terminate a specific logical node. If you make this selection, the following screen is displayed:

```
                         STOP REQUEST


    Enter node name: ________

    LU address: __

    Session id: ___

    Delay time: 10
```

The node name is from one to eight characters. If you also specify an LU address, only that LU is terminated. Termination occurs in n minutes, where n is a value from 1 to 60. The delay time default value is 10.

GP

Terminate the logical node executing in the task group identified by group identifier. If you make this selection, the following screen is displayed:

```
                         STOP REQUEST


    Enter group ID: __

    LU address:__

    Session id: ___

    Delay time: 10
```

The group ID is the two-character MOD 400 task group identifier. If you also specify an LU address, only that LU will be terminated. The LU address field supports the star convention for the AIF only. Termination occurs in n minutes, where n is a value from 1 to 60. The delay time default value is 10.

DESCRIPTION:

The Stop request causes the unconditional termination of one or more logical nodes or a specific LU. The appropriate facility terminates the LU(s) in the node. You can terminate all active logical nodes or a specific logical node.

NOTES

1. If you are terminating an AIF group or node, or an LU within an AIF group or node, STOP affects only current users. Termination occurs within the specified delay time.

   If you are terminating an LU, STOP takes effect at the end of that LUs current use; the LU is then made available for another user. Once the current use is terminated, the delay time is cancelled. If another user is assigned to that LU, that user will not be affected unless the STOP command is reissued.

   If you are terminating an AIF group or node, STOP takes effect as soon as all current users are terminated. As each LU is terminated, it does not become available for reassignment. When all current users have been terminated, the group or node is aborted.

2. If STOP is directed to a particular LU that is being held for restart because the session has been abnormally terminated, STOP causes the LU to be released from hold and available for reassignment.

TRACE (TR)

Enable or disable endpoint tracing.

SCREEN:

```
                    TRACE REQUEST
Enter node name: ________
Enable or disable trace:
(default is disable)
        Enable trace (y/n):  N
Enable/disable trace on PU (y/n): Y
Enable/disable trace on LUs (lu_addr/*): __
```

FIELDS:

Enter node name:

Activate or deactivate endpoint tracing in this node; the node name is from one to eight characters.

Enable or disable trace:

Enable endpoint tracing. The default value is N (no).

Enable/disable trace on PU (y/n):

Enable tracing of all traffic to and from the physical unit (network address 0). The default value is Y (yes -- enable tracing).

Enable/disable trace on LUs (lu_addr/*):

Enable tracing for either a specific LU or for all LUs. lu_addr is the two-digit LU address, in the range 01 to 33. The star convention can be used to specify all LUs within the specified node.

NOTE

You must specify Y to either a PU or an LU; if neither is specified, the tracing status of endpoints within the node is unchanged.

DESCRIPTION:

The Trace request enables or disables the Endpoint Tracing Facility, used in conjunction with DARTS to aid in problem resolution. The facility would normally be activated only upon the recommendation of a support representative. You can only activate the Endpoint Tracing Facility if DARTS has been configured (see Section 3). Refer to the DARTS User's Guide for information.

VARY (VR)

Control autocall, line state, and the printing of messages generated by the Unsolicited Message Processor (UMP) on the SOPR terminal.

MENU:

```
                          VARY REQUEST

     (AL)  All

     (LN)  line name

     (GP)  group name

     (ND)  node name

                                        SELECTION: _____
```

FIELDS:

AL

Vary the printing of UMP messages ON or OFF for all lines, groups and nodes. If you make this selection, the following screen is displayed:

```
                          VARY REQUEST

     Message printing: ON
```

LN

Vary the line state for logical or physical disconnect and set the autocall bit ON or OFF. If you make this selection, the following screen is displayed:

```
                    VARY REQUEST

Enter line name:

Autocall: ON

State: L
```

GP

Vary the printing of UMP messages for a particular group. If you make this selection, the following screen is displayed:

```
                    VARY REQUEST

Enter group name:

Message Printing: ON
```

ND

Vary the printing of UMP messages for a particular node. If you make this selection, the following screen is displayed:

```
                    VARY REQUEST

Enter node name:

Message Printing: ON
```

VARY (VR)

DESCRIPTION:

The Vary request enables or disables the printing of UMP messages on the SOPR terminal that is specified when SOPR is configured. (The default SOPR device name is !CONSOLE.) UMP messages are always written to the SOPR journal file. The Vary request also changes line states after all PUs are terminated and sets the bit for Autocall connection. This can only be done before the program products are brought up. (Autocall cannot be implemented while program products are running.)

SNA Operator Commands

Table 4-2 lists the operator commands supported by DPS 6 SNA. These commands can be issued from any SOPR terminal connected to the DPS 6 system.

Table 4-2. DPS 6 SNA Operator Commands

Command	Function
ABORT	Unconditionally terminate logical nodes. Terminate all active nodes or just a specific node. All LUs within the node terminate without any orderly deactivation.
ALTER	Change the state of an AIF LU to either available or unavailable at the end of its current use.
ASSIGN	Assign a new SOPR journal file.
CLOSE	Close the SOPR journal file.
DATA	Display statistical information collected by the SNA Transport Facility. Display data for a specific line, logical node, or LU.
FORMAT	Display the format of an SOPR command and the control arguments to be used with it.
HELP	Displays a list of SOPR commands.
LOGOFF	Log off SOPR.
RESET	Reset statistical data counters to 0 and set the time counters last cleared to the current time. Reset counters for a specific line, logical node, or LU.
SHUTDOWN	Unconditionally terminate all PUs, LUs and the Transport Facility after a specified period of time.
STATUS	Display the status of active lines, PUs, or LUs. Display status for all active lines, all nodes, all LUs, specific lines, specific nodes, or specific LUs.

Table 4-2 (cont). DPS 6 SNA Operator Commands

Command	Function
STOP	Unconditionally terminate a logical node after a specified time interval, after broadcasting a warning to logged in ITF users. Stopping an AIF LU terminates its current activity and makes the LU available for another caller.
TRACE	Enable or disable the Endpoint Tracing Facility, which is used in conjunction with DARTS to aid in resolving problems.
VARY	Control line characteristics and the printing of UMP messages on the system console.

ABORT

Unconditionally terminate a logical node.

FORMAT:

    ABORT ctl_arg

ARGUMENTS:

ctl_arg

You must specify only one of the following control arguments:

-AL

Unconditionally terminate all active logical nodes.

-ND node_name

Unconditionally terminate logical node node_name, where node_name is from one to eight characters.

-GP group_id

Unconditionally terminate the logical node executing in task group group_id, where group_id is the two-character MOD 400 task group identifier.

DESCRIPTION:

ABORT unconditionally terminates a logical node. The appropriate program product immediately terminates the LU(s) in the node. You can terminate all active logical nodes or a specific logical node.

After ABORT is processed, the system responds with:

    READY

Example 1:

    ABORT -AL

Unconditionally terminate all active logical nodes.

Example 2:

Assume that the logical node named THISND is executing in the task group TN. Both of these commands unconditionally terminate the logical node THISND:

```
ABORT -ND THISND
```

or

```
ABORT -GP TN
```

ALTER

Change the state of an AIF LU to available or unavailable at the end of its current use.

FORMAT:

```
ALTER   ctl_arg  -CS {AV|UN}
```

ARGUMENTS:

ctl_arg

You must specify either the -ND or the -GP argument, the -LU argument, and the -CS argument. The -FR argument is optional.

-GP group_name

Changes the state of an LU within specified group to available or unavailable at the end of its current use.

-ND node_name

Changes the state of an LU within the specified node to available or unavailable at the end of its current use.

-LU lu_id

Changes the state of a particular LU named lu_id to available or unavailable at the end of its current use. The star convention can be used to make all LUs available or unavailable.

-CS {AV|UN}

The Change State argument is required along with either AV (available) or UN (unavailable), to specify to which state the group, node, or LU is to be changed.

-FR {Y/N}

The Force argument can cause the state of the group, node or LU to be changed immediately, without waiting for the end of its current use. The default for this argument is N (No).

DESCRIPTION:

The Alter request changes the state of a single LU or all LUs within a specified group or node to available or unavailable at the end of its current use. You can specify immediately, if desired. The star convention makes all LUs available or unavailable.

ASSIGN

Assign a new journal file for SOPR after closing the existing one or close the existing SOPR journal file and open it as a new file.

FORMAT:

$\left\{\begin{array}{l}\text{ASSIGN}\\ \text{A}\end{array}\right\}$ ctl_arg

ARGUMENTS:

ctl_arg

You must specify one of these control arguments:.

-JN

Close the existing SOPR journal file and reopen it as a new file. All data currently in the file is lost.

-JN pathname

Close the existing SOPR journal file. Use the file specified by pathname as the new journal file. If the file pathname does not exist, it is automatically created. The file pathname is opened in NEW APPEND mode.

DESCRIPTION:

ASSIGN recycles the existing SOPR journal file, effectively deleting its contents, or opens a new SOPR journal file.

You use this command only with the SOPR journal file; you do not use it to assign journal files for support services or facilities other than SOPR.

Example 1:

ASSIGN -JN

Close the existing SOPR journal file and reopen it as a new file. The contents of the SOPR journal file are deleted.

Example 2:

```
ASSIGN -JN ^JOURNAL>NEW_JOUR
```

Close the existing SOPR journal file. Create ^JOURNAL>NEW_JOUR, if necessary. Open the new file in NEW APPEND mode. After this command executes, the SOPR journal file is ^JOURNAL>NEW_JOUR.

CLOSE

Close the SOPR journal file.

FORMAT:

```
CLOSE -JN
```

ARGUMENT:

-JN

You must specify the -JN argument.

DESCRIPTION:

The CLOSE request closes the SOPR journal file.

Use this command to close <u>only</u> the SOPR journal file.

Example:

```
CLOSE -JN
```

Close the SOPR journal file.

DATA

Display statistical information for an active node collected by the SNA Transport Facility.

FORMAT:

{ DATA } ctl_arg
{ D }

ARGUMENTS:

ctl_arg

You must specify exactly one of the control arguments -LN, -ND, or -GP. If you specify either -ND or -GP, you can specify -LU.

-LN line_name

Display data for line line_name, where line_name is the one- to six-character line name specified in a DEVICE GENnn statement in a CLM file. You can request line statistics for a line that is no longer active.

-ND node_name

Display data for logical node node_name, where node_name is from one to eight characters.

-GP group_id

Display data for a logical node executing in the task group group_id, where group_id is the two-character task group identifier.

-LU lu_addr

Display data for LU lu_addr, where lu_addr is the two-digit LU address. You can only use this argument in combination with -ND or -GP.

DESCRIPTION:

DATA displays statistical information collected by the SNA Transport Facility on an SOPR terminal. The node must be active. The exact information displayed depends on the combination of control arguments specified in the DATA command.

Example 1:

```
DATA -LN LINE01
```

Display data for the line LINE01.

Example 2:

```
DATA -ND THISND
```

Display data for the logical node THISND.

Example 3:

```
DATA -GP TN -LU 01
```

Display data for LU 01 in the node executing in task group TN.

DATA -LN displays information for the specified line in the format shown in Figure 4-11.

```
LINE line_name              CHANNEL channel_num

STATISTICAL COUNTERS LAST RESET yyyy/mm/dd hhmm:ss

      nnnnnn        FRAMES WITH FCS ERROR
      nnnnnn        RECEIVE OVERRUNS
      nnnnnn        TRANSMIT OVERRUNS
      nnnnnn        RECEIVED ABORTED FRAMES
      nnnnnn        TRANSMITTED ABORTED FRAMES
      nnnnnn        FRAMES RECEIVED WITHOUT ERROR
      nnnnnn        FRAMES TRANSMITTED WITHOUT ERROR
      nnnnnn        FRAMES NOT SENT DUE TO BUSY THERE
      nnnnnn        FRAMES NOT ACKNOWLEDGED DUE TO BUSY THERE
      nnnnnn        TEXT CHARACTERS RECEIVED
      nnnnnn        TEXT CHARACTERS TRANSMITTED
      nnnnnn        TEST FRAMES RECEIVED
      nnnnnn        TEST FRAME RESPONSES SENT
```

Figure 4-11. Information Displayed by DATA -LN

In actual use, line_name is replaced by the name of the line for which statistics are requested; channel_num is replaced by the channel number; yyyy/mm/dd is replaced with the date and hhmm:ss is replaced by the military time in hours, minutes, and seconds when the counters were last reset; and nnnnnn is replaced by a six-digit number. (If necessary, a twelve-digit number is displayed for TEXT CHARACTERS RECEIVED and TEXT CHARACTERS TRANSMITTED.)

If you specify either DATA -ND or DATA -GP, information for the specified node is displayed as in Figure 4-12.

```
NODE node_name              TASK GROUP group_id      LRN  lrn_num

STATISTICAL COUNTERS LAST RESET yyyy/mm/dd hhmm:ss

    nnnnnn           FMD REQUEST RU'S RECEIVED
    nnnnnn           FMD REQUEST RU'S TRANSMITTED
    nnnnnn           LU TO LU SESSIONS
    nnnnnn           -RSP SENT BY TRANSPORT FACILITY
```

Figure 4-12. Information Displayed by DATA -ND or DATA -GP

In actual use, node_name is the name of the node for which statistics are requested; group_id is the identifier of the task group in which the node executes; lrn_num is the LRN of the station on the line; yyyy/mm/dd is replaced with the date and hhmm:ss is the military time in hours, minutes, and seconds when the counters were last reset; and nnnnnn is a six-digit integer.

If you specify either DATA -ND -LU or DATA -GP -LU, information for the specified LU in the specified node is displayed as shown in Figure 4-13.

```
LU ID lu_addr    NODE node_name

STATISTICAL COUNTERS LAST RESET yyyy/mm/dd hhmm:ss

    nnnnnn            FMD REQUEST RU'S RECEIVED
    nnnnnn            FMD REQUEST RU'S TRANSMITTED
    nnnnnn            FMD +RSP RU'S RECEIVED
    nnnnnn            FMD +RSP RU'S TRANSMITTED
    nnnnnn            FMD -RSP RU'S RECEIVED
    nnnnnn            FMD -RSP RU'S TRANSMITTED
    nnnnnn            FMD CHARACTERS RECEIVED
    nnnnnn            FMD CHARACTERS TRANSMITTED
```

Figure 4-13. Information Displayed by DATA -ND -LU or DATA -GP -LU

In actual use, lu_addr is the LU address; node_name is the name of the node for which statistics are requested; yyyy/mm/dd is replaced with the date and hhmm:ss is replaced by the military time in hours, minutes, and seconds when the counters were last reset; and nnnnnn is a six-digit integer.

FORMAT

FORMAT

Display the format and arguments for the specified command.

FORMAT:

$$\left\{\begin{array}{l}\text{FORMAT}\\ \text{F}\end{array}\right\}\text{-XX}$$

ARGUMENT:

-XX

The two alphabetic character selection of the command for which you desire the format. (See the description of the HELP command for a list of these selections.)

DESCRIPTION:

FORMAT displays the format of the specified command and the control arguments that can be used with this command.

Example:

FORMAT -AS

Display the format of the Assign Journal command and the arguments that can be used with it.

HELP

Lists SOPR commands.

FORMAT:

{ HELP }
{ ? }

ARGUMENT:

There are no arguments for this command.

DESCRIPTION:

HELP displays a list of SOPR commands to be used with the FORMAT command on the following screen:

```
THE FOLLOWING IS A LIST OF THE SNA ADMINISTRATOR COMMANDS.
FOR THE FORMAT OF A COMMAND ENTER:
ID   COMMAND                     ID   COMMAND
==   =======                     ==   =======
AB   ABORT                       RS   RESET
AS   ASSIGN                      SH   SHUTDOWN
AT   ALTER                       SS   STATUS
CL   CLOSE                       ST   STOP
DA   DATA                        TR   TRACE
LF   LOGOFF                      VR   VARY
```

LOGOFF

LOGOFF

Log off SNA.

FORMAT:

LOGOFF

ARGUMENTS:

There are no arguments to this command.

DESCRIPTION:

LOGOFF logs a secondary user off SNA (the $A task group). You are returned to the Listener. LOGOFF does not terminate any service or facility.

RESET

Set all of the statistical data counters to 0 and set the time counter to the current time.

FORMAT:

```
{ RESET } ctl_arg
{ R     }
```

ARGUMENTS:

ctl_arg

You must specify only one of the following control arguments:

-LN line_name

Set the counters to 0 for line line_name, where line_name is from one to six characters.

-ND node_name

Set the counters to 0 for logical node node_name; node_name is from one to eight characters.

-GP group_id

Set the counters to 0 for the logical node executing in the task group group_id; group_id is two characters.

-LU lu_addr

Within the specified node or task group, reset the counters for this LU only. You must specify either -ND or -GP before specifying this argument.

DESCRIPTION:

RESET sets statistical data counters to 0 and sets the time that the counters were last cleared to the current time. You specify counters to be reset by specifying either a line name, a node name, or a task group identifier.

After RESET executes, the system responds with:

```
READY
```

Example 1:

```
RESET -LN LINE01
```

Set all the statistical data counters to 0, and set the time-last-cleared counter to the current time, for the line named LINE01.

Example 2:

Assume THISND is the name of the logical node executing in task group TN. Both these commands set the statistical counters to 0, and set the time-last-cleared counter to the current time, for the logical node THISND:

```
RESET -ND THISND
```

or

```
RESET -GP TN
```

SHUTDOWN

Unconditionally terminates all PUs, LUs, and the Transport Facility after a specified period of time.

FORMAT:

```
SHUTDOWN ctl_arg
```

ARGUMENTS

ctl_arg

If you do not wish to accept the 10-minute default, you may specify the following argument.

-TM time

Indicates the number of minutes (n) before shutdown occurs. The time value n can be a number from 0 to 60, the default value is 10 minutes.

DESCRIPTION:

The shutdown request causes an orderly shutdown of the SNA network. After allowing the specified time interval, all active program products are aborted, the transport facility terminated, and memory returned to the system. After a shutdown command, the group $A no longer exists. This returns the system to its initial state.

NOTE

The shutdown request is irrevocable. If you attempt to invoke another product during the time before shutdown is completed, your attempt is rejected and an error message is displayed.

STATUS

Display the status of all active lines, nodes, or LUs, or display the status of a specific LU.

FORMAT:

```
{ STATUS } ctl_arg
{ S      }
```

ARGUMENTS:

ctl_arg

You must specify one or more of the following control arguments:

-AL

Display the name of all active lines and the number of active logical nodes on each line.

-LN line_name

Display the one- to eight-character name, task group identifier, and LRN of each active logical node on line line_name. line_name is from one to six characters.

-ND node_name

Display the LU address, device name, and device type for each active LU in node node_name. node_name is from one to eight characters.

-GP group_id

Display the LU address, device name, and device type for each active LU in the node executing in the task group group_id; group_id is two characters.

-LU lu_addr

Display the status of the LU lu_addr on the node node name or the group group_id. You must first specify -ND or -GP before specifying this argument.

-ID session_id

If you are selecting an AIF node, you must enter the four alphanumeric character session id. Before specifying this argument, you must first specify -ND or -GP.

DESCRIPTION:

STATUS displays information about active lines, logical nodes, and LUs. The exact information displayed depends on the control arguments specified.

After processing the STATUS command, the system responds with:

```
    READY
```

STATUS -AL displays the information shown in Figure 4-14.

```
    ACTIVE LINES                          LOGICAL NODES

    line_name1                               num1
     .                                        .
     .                                        .
     .                                        .
    line_namen                               numn
```

Figure 4-14. Information Displayed by STATUS -AL

In actual use, line_name1 ... line_namen are the names of the active lines; num1, ... numn are the counts of the nodes on the lines.

STATUS -LN displays the information shown in Figure 4-15 for the specified line.

```
LINE       NODE NAME        TASK GROUP       LRN        PRODUCT

line_name  node_name1       group_id1        lrn_num1    iii
           node_name2       group_id2        lrn_num2    iii
                .
                .
                .
           node_namen       group_idn        lrn_numn    iii
```

Figure 4-15. Information Displayed by STATUS -LN

In actual use, line_name is the name of the line; node_name1 ... node_namen are the node names; group_id1 ... group_idn are the identifiers of the task groups in which each node executes; lrn_num1 ... lrn_numn are the LRNs associated with each line; iii is a (three-character) identifier of the program product currently executing, and pu_address is the address of the PUs that are currently active.

STATUS -ND or STATUS -GP displays the information in Figure 4-16 for the specified node.

```
  NODE node_name    TASK GROUP group_id    PU ADDRESS pu_address
  ==============================================================


        PU STATE:             pu_state
      LINE STATE:             line_state
       ITS STATE:             its_state
    MESSAGE STATE:            message_state


LU  LU NAME     DEVICE ADDRESS          LU  LU NAME

a1  lu_name1                            a2  lu_name2
                      .
                      .
                      .
a33 lu_name33
```

Figure 4-16. Status Request Information Displayed by -ND or-GP

In actual use, node_name is the name of the node for which status was requested; group_id is the task group in which node_name is executing; pu_address is the address of the PUs that are currently active; pu_state is either TRACE ON or TRACE OFF; line_state tells if lines are [NOT] CONNECTED or PENDING CONNECT; its_state is either [IN/NOT IN/PENDING] INFORMATION TRANSFER; message_state is either [NO] messages displayed; a1 ... a33 are the addresses of LUs 1 through 33; and lu_name1 ... lu_name33 are the device names that were specified when the system was configured. The device address is only displayed for the ITF.

Device names and addresses can range from 2 to 33 for the ITF, from 1 to 6 for the RJE, and from 1 to 6 for the SFT.

The status information that is displayed for the AIF is slightly different from Figure 4-16. The AIF Status request Information is shown in Figure 4-17.

```
NODE node_name   TASK GROUP group_id   PU ADDRESS pu_address
=============================================================


      PU STATE:              pu_state
    LINE STATE:              line_state
     ITS STATE:              its_state
 MESSAGE STATE:              message_state

  nnnnnn  LOGICAL UNITS CONFIGURED
  nnnnnn  IS LOWEST LOGICAL UNIT ADDRESS
  nnnnnn  IS HIGHEST LOGICAL UNIT ADDRESS
  nnnnnn  TYPE 0 LOGICAL UNITS
  nnnnnn  ACTIVE TASKS
  nnnnnn  LU_SSCP SESSIONS ACTIVE
  nnnnnn  LOGICAL UNITS IN SESSION
  nnnnnn  LOGICAL UNITS IN USE
  nnnnnn  ABNORMALLY TERMINATED SESSIONS
  nnnnnn  LOGICAL UNITS RESERVED
  nnnnnn  SESSIONS PRE-ESTABLISHED
  nnnnnn  LOGICAL UNITS AVAILABLE
```

Figure 4-17. AIF Status Request Information Displayed by -ND or -GP

STATUS -ND -LU or STATUS -GP -LU displays the information in Figure 4-18 for the specified node LU.

```
NODE node_name    TASK GROUP group_id   PU ADDRESS pu_address
=============================================================


      PU STATE:              pu_state
    LINE STATE:              line_state
     ITS STATE:              its_state
 MESSAGE STATE:              message_state

      LU STATE:              lu_state
      SESSION STATE:         session_state
      BRACKET STATE:         bracket_state
      PRODUCT SPECIFIC:      product_specific_state
```

Figure 4-18. Information Displayed by STATUS- ND -LU or STATUS -GP -LU

In actual use, node_name is the name of the node for which status was requested; group_id is the task group in which node_name is executing; pu_address is the address of the PUs that are currently active; and pu_state is either TRACE ON or TRACE OFF.

Information is provided on these states:

- LU state -
  - LU inactive, trace off
  - LU inactive, trace on
  - LU active, trace off
  - LU active, trace on.

  If the LU is inactive, no further information is displayed. If the LU is active, the state information below is displayed.

- Session state -
  - Not in session (ITF and SFT)
  - Data traffic reset (ITF only)
  - Data traffic active (ITF only)
  - Send (ITF only)
  - Receive (ITF only)
  - ERP1 (ITF only)
  - Not bound (RJE only)
  - Bound (RJE only)
  - Outbound session (RJE only)
  - Inbound session (RJE only).

  In the ITF, if the LU is active but the session is inactive, no further information is displayed.

- Bracket state -
  - Between brackets (ITF only)
  - In brackets (ITF only)
  - Pending begin brackets (ITF only).

- Product-specific state -
  - Display (ITF only)
  - Display/application program (ITF only)
  - Virtual terminal (ITF only)
  - LU type 3 printer (ITF only)
  - LU type 1 printer (ITF only)
  - Unattended mode, no multisignal interrupt (RJE only)
  - Attended mode, no multisignal interrupt (RJE only)
  - Unattended mode, multisignal interrupt (RJE only)
  - Attended mode, multisignal interrupt (RJE only).

If you are requesting STATUS information about an AIF node or group, and also specify an LU, the system displays the information in Figure 4-19 for the specified node LU.

```
NODE node_name   TASK GROUP group_id   PU_ADDRESS pu_address
============================================================


              PU STATE:     pu_state
            LINE STATE:     line_state
             ITS STATE:     its_state
         MESSAGE STATE:     message_state

TASK ACTIVE; LU_SSCP SESSION ACTIVE; IN SESSION; IN USE
ABNORMALLY TERM. SESSION, RESERVED, PREESTABLISHED, AVAILABLE
ASRB IN PROC; NORM FLOW ON Q TOP; FMD ON Q TOP; INTER'T DET'D
WHOLE MESSAGE RECEIVED; DATA TRAFFIC INACTIVE

LU ADDRESS:           nnn       LU_TYPE:       0
STD NAME:             xx        HOST_LU_NAME: host
HOST_TRANS_PROGRAM: xxxx        SESSION_ID:    xxxx
```

Figure 4-19. Status Request Information Displayed by Logical Unit

In actual use, node_name is the name of the node for which status was requested; group_id is the task group in which node_name is executing; and pu_state is either TRACE ON or TRACE OFF.

- The following information is provided on these states for all AIF LUs, whether or not the session is active:

  - TASK INACTIVE|TASK ACTIVE
  - LU_SSCP SESSION ACTIVE|NO LU_SSCP SESSION
  - IN SESSION|NOT IN SESSION
  - IN USE|NOT IN USE

  - ABNORMALLY TERMINATED SESSION|converse omitted
  - RESERVED|NOT RESERVED
  - PREESTABLISHED|NOT PREESTABLISHED
  - AVAILABLE|NOT AVAILABLE

- If the task is active, the following information is also presented. If the LU is inactive, this information is omitted.

  - ASRB in process|No ASRB in process
  - Normal flow on Q top|(converse omitted)
  - FMD on Q top
  - Interrupt detected|(converse omitted)

  - Whole message received|(converse omitted)
  - Data traffic active|data traffic not active

  - LU address
  - LU_type

  - STD name
  - Host_LU_name

  - Host transaction program name
  - SESSION_ID

STOP

Unconditionally terminate a logical node or a specific LU after a specified period of time.

FORMAT:

STOP ctl_arg

ARGUMENTS:

ctl_arg

You must specify one of the following control arguments:

-AL

Terminate all active logical nodes.

-ND node_name

Terminate logical node node_name; node_name is from one to eight characters.

-GP group_id

Terminate the logical node executing in the task group group_id; group_id is two characters.

-TM n

Termination occurs in n minutes, where n is a value from 0 to 60. The default is 10 minutes.

-LU lu_addr (*)

Terminate the LU lu_addr. The star convention is supported for the AIF only. You must specify either -ND or -GP before using this argument.

-ID session_id

If you are selecting an AIF node, you must enter the four alphanumeric character session id. Before specifying this argument, you must first specify -ND or -GP.

DESCRIPTION:

STOP causes the unconditional termination of one or more logical nodes or specific LUs. Unlike the ABORT command (described earlier in this section), STOP allows a specified time interval before acting. The appropriate facility terminates the LU(s) in the node. You can terminate all active logical nodes or a specific logical node.

After processing the STOP command, the system responds with the READY prompt.

NOTES

1. If you are terminating an AIF group or node, or an LU within an AIF group or node, STOP affects only current users. Termination occurs within the specified delay time.

   If you are terminating an LU, STOP takes effect at the end of that LU's current use; the LU is then made available for another user. Once the current use is terminated, the delay time is cancelled. If another user is assigned to that LU, that user will not be affected unless the STOP command is reissued.

   If you are terminating an AIF group or node, STOP takes effect as soon as all current users are terminated. As each LU is terminated, it does not become available for reassignment. When all current users have been terminated, the group or node is aborted.

2. If STOP is directed to a particular LU that is being held for restart because the session has been abnormally terminated, STOP causes the LU to be released from hold and available for reassignment.

Example 1:

```
STOP -AL
```

Terminate all logical nodes.

Example 2:

Assume THISND is the name of the logical node executing in the task group TN. Both these commands terminate THISND:

```
STOP -ND THISND
```

or

```
STOP -GP TN
```

TRACE

TRACE

Enable or disable endpoint tracing.

FORMAT:

```
{ TRACE } ctl_arg
{ T     }
```

ARGUMENTS:

ctl_arg

You must specify the -ND control argument; -PU, -LU, -EN, and -DS are optional.

-ND node_name

Activate or deactivate endpoint tracing in node_name; node_name is from one to eight characters.

-PU

Enable or disable tracing of all traffic to and from the PU (network address 0).

```
-LU  lu_addr
      *
```

Enable or disable tracing for either a specific LU or for all LUs. lu_addr is the two-digit LU address, in the range 01 to 33. The star convention can be used to specify all LUs within the node specified in the -ND control argument.

-EN

Enable endpoint tracing. If neither -EN nor -DS (see below) is specified in a TRACE command, -EN is assumed.

-DS

Disable endpoint tracing.

NOTE

You must specify either -PU or -LU; if neither is specified, the tracing status of endpoints within the node is unchanged.

DESCRIPTION:

TRACE enables or disables the Endpoint Tracing Facility, used in conjunction with DARTS to aid in network traffic analysis. The facility would normally be activated only upon the recommendation of a support representative. You can only activate the Endpoint Tracing Facility if DARTS has been configured (see Section 3). Refer to the DARTS User's Guide for information.

When the TRACE command has finished processing, the system responds with:

```
READY
```

Example 1:

```
TRACE -ND THISND -LU 01 -EN
```

or

```
TRACE -ND THISND -LU 01
```

Enable endpoint tracing for LU 01 in node THISND.

Example 2:

```
TRACE -ND THISND -PU -DS
```

Disable all endpoint tracing for node THISND.

VARY

Control line characteristics and the printing of UMP messages on the SOPR terminal.

FORMAT:

{VARY|V} ctl_arg

ARGUMENT:

You must specify a combination of these arguments.

-LN linename

The line name is the same as that configured in the SOPR configuration. If you specify -LN, you must follow it by -AC and/or -ST.

-AC {ON|OFF}

The autocall argument, used with the -LN argument, enables or disables the use of the Autocaller when you bring up the product. The default value is ON.

-ST {L|P}

The line state argument, used with the -LN argument, causes a logical or physical disconnect at the end of transmission. The default is a logical disconnect (L).

-GP

Varies the UMP messages on for a particular group. This argument must be followed by the -CN argument.

-ND

Varies the UMP messages on for a particular node. This argument must be followed by the -CN argument.

-CN {ON|OFF}

Required argument if you are specifying -GP or -ND; this argument enables or disables the printing of UMP messages on the SOPR terminal.

DESCRIPTION:

VARY enables or disables the printing of UMP messages on the SOPR terminal that is specified when SNA Operator Control is configured. (The default SOPR device name is !CONSOLE.) UMP messages are always written to the SOPR journal file.

VARY changes line states after all PUs are terminated. The VARY request also sets the bit for AUTOCALL connection. This bit must be set before the program products are up and running.

Example 1:

```
VARY -LN LINE01 -AC ON
```

Activates the autocaller for LINE01.

Example 2:

```
VARY -GP AA -CN OFF
```

Enable print of UMP messages for group AA on the system console.

Section 5
INTERACTIVE SNA CONFIGURATION

Each DPS 6 SNA support service or facility requires a configuration file. The configuration file is used to tailor a support service or facility to your system environment. You use the DPS 6 SNA Configurator to create, update, delete, or print the configuration files. You can perform these operations interactively, using menus and additional screens, or in batch mode, by creating and processing input files.

You can create configuration files for the following SNA components:

- Configurator (CONF)
- Operator Control (SOPR)
- Remote Job Entry (RJE) Facility
- Interactive Terminal Facility (ITF)
- File Transfer Facility (SFT)
- Application Interface Facility (AIF)

This section details interactive configuration for all SNA components. Batch configuration of each SNA component is detailed in Section 6.

INVOKING THE SNA CONFIGURATOR

You can invoke the SNA Configurator in interactive mode from within the menu subsystem or by entering a command line.

Activation/Deactivation From Menus

If you wish to activate SNA Configurator through the menu subsystem, start by following the instructions on using the User Productivity Feature (UPF) in Section 3. This will get you up and running in the $A task group and should bring you directly to the SNA Facility menu shown below.

To deactivate SNA Operator Control (SOPR), return to the SNA Operator menu and select LOGOFF.

```
                         SNA FACILITY

   (AD) SNA Administrator        (AI) Application Interface
   (CF) Configurator
   (SF) SNA File Transfer
   (II) Interactive Invocation
   (IT) Interactive Terminal
   (RJ) Remote Job Entry

       Selection:
```

From the SNA Facility menu, take the Configurator (CF) selection. This brings up the Configuration Login screen.

```
                    CONFIGURATION LOGIN

   Number of Logical Resource Numbers:  50
   Number of Logical File Numbers:  50
```

On the Configuration Login screen, you are prompted to enter the number of LRNs and LFNs to be used by the Configurator. Take both defaults (50 each) and transmit the screen. This brings up the Configuration Mode Menu.

```
                   CONFIGURATION MODE MENU

   (IN)  Interactive Mode Configurator
   (PR)  Print Mode Configurator
   (BA)  Batch Mode Configurator
   (DL)  Delete Mode Configurator

        Selection:
```

Invoking the Configurator From a Command Line

To invoke the Configurator in interactive mode from a command line, enter this command:

SNA?CONF [ctl_arg]

ARGUMENTS:

[ctl_arg]

One or more of the following control arguments. The interactive and print options are mutually exclusive.

NOTE

Batch mode control arguments are described in Section 6.

-IL

Invoke the Configurator in interactive mode, to configure all SNA services and facilities. The first configuration screen (Configurator Specialization) is displayed, and configuration proceeds as described in this section.

-IC

Invoke the Configurator in interactive mode, to configure the SNA Configurator. The Configurator configuration screen (Configurator Specialization) is displayed, and configuration proceeds as described in this section.

-IA

Invoke the Configurator in interactive mode, to configure SOPR. The SOPR configuration screen is displayed, and configuration proceeds as described in this section.

-IR [node_name]

Invoke the Configurator in interactive mode to configure the RJE Facility. The first configuration screen (RJEF Link Protocol Configuration) is displayed, and configuration proceeds as described in this section. If a node name is specified, the Configurator assumes that you wish to create or update an RJE Facility node. If node_name exists, the Configurator assumes that you wish to update and pre-fills the screens with the values that you used to create node_name. If node_name does not exist, the Configurator assumes that you wish to create it, and pre-fills the screens with default values.

-IT [node_name]

Invoke the Configurator in interactive mode, to configure the ITF. The first configuration screen (ITF Line Protocol Configuration) is displayed, and configuration proceeds as described in this section. If a node name is specified, the Configurator assumes that you wish to create or update an ITF node. If node name exists, the configurator assumes that you wish to update and pre-fills the screens with the values that you used to create node_name. If node_name does not exist, the Configurator assumes that you wish to create it, and pre-fills the screens with default values.

-IF [node_name]

Invoke the Configurator in interactive mode, to configure the SFT. The first configuration screen (SFT Link Protocol Configuration) is displayed, and configuration proceeds as described in this section. If a node name is specified, the Configurator assumes that you wish to create or update an SFT node. If node_name exists, the Configurator assumes that you wish to update, and pre-fills the screens with the values that you used to create node_name. If node_name does not exist, the Configurator assumes that you wish to create it, and pre-fills the screens with default values.

-IS [node_name]

Invoke the Configurator in interactive mode, to configure the AIF. The first configuration screen (AIF Link Protocol Configuration) is displayed, and configuration proceeds as described in this section. If a node name is specified, the Configurator assumes that you wish to create or update an AIF node. If node_name exists, the Configurator assumes that you wish to update and pre-fills the screens with the values that you used to create node_name. If node_name does not exist, the Configurator assumes that you wish to create it, and pre-fills the screens with default values.

-PL

Print or display the configuration files of all SNA services and facilities.

-PC

Print or display the configuration file of the SNA Configurator.

-PA

Print or display the configuration files of SOPR.

-PR [node_name]

Print or display the configuration files of the RJE Facility. If a node name is supplied, display only the files for that node.

-PT [node_name]

Print or display the configuration files of the ITF. If a node name is supplied, display only the files for that node.

-PF [node_name]

Print or display the configuration files of the SFT. If a node name is supplied, display only the files for that node.

-PS [node_name]

Print or display the configuration files of the Application Interface Facility. If a node name is supplied, display only the files for that node.

-DL

Delete the configuration files of all SNA services and facilities.

-DC [CONF]

Delete the configuration files of the SNA Configurator.

-DA [SOPR]

Delete the configuration files of SNA Operator Control.

-DR [node_name]

Delete the configuration files of the RJE Facility. If you specify no node name, all RJE nodes are deleted. If you specify a node name, files for that node are deleted.

-DT [node_name]

Delete the configuration files of the ITF. If you specify no node name, all ITF nodes are deleted. If you specify a node name, only files for that node are deleted.

-DF [node_name]

Delete the configuration files of the SFT. If you specify no node name, all SFT nodes are deleted. If you specify a node name, only files for that node are deleted.

-DS [node_name]

Delete the configuration files of the AIF. If you specify no node name, all AIF nodes are deleted. If you specify a node name, only files for that node are deleted.

{ -LIST_PATH } [pathname]
{ -LIST }
{ -LS }
{ -L }

Send the Configurator output and any diagnostic messages to the file pathname (see "Configuring the SNA Configurator," later in this section). If the pathname refers to a logical device, a sequential file with a logical record size of 132 characters must exist there. If pathname is not specified, the Configurator sends messages to the file specified as LIST_PATH when the Configurator is configured. -LIST appends output if the file being written to was previously opened.

This argument applies only to batch configuration or printing configuration files.

DESCRIPTION:

SNA?CONF invokes the SNA Configurator. When invoked with the interactive mode arguments described above, the SNA Configurator creates configuration files for all of the DPS 6 SNA facilities, including SOPR and the SNA Configurator itself.

Within a configuration session, you can configure or print information about any or all of the SNA services or program products. The mode (interactive or batch) in which the Configurator operates is independent of the mode in which you call it. You can request batch configuration (processing a pre-prepared configuration input file) from the menu subsystem, and you can invoke Configurator screens using a command line. You can duplicate or update a node using the same technique.

Example 1:

```
SNA?CONF -IL
```

Invoke the SNA Configurator to step through the screens for all of the SNA program products.

Example 2:

```
SNA?CONF -IR RJEND2
```

Invoke the SNA Configurator and create or update configuration files interactively for a RJE Facility node named RJEND2.

CONFIGURATION SCENARIOS

The following paragraphs describe the various ways you can use the SNA Configurator. Table 5-1 lists the Configurator screens. The meaning of the other columns of this table will be explained later in this section. Figure 5-1 depicts the SNA menu tree. Note that menus (from which you can select paths) are shown as boxes, while additional screens (to which you must provide information) are shown as circles.

NOTE

If you plan to create a new configuration file for SOPR, we recommend that you delete SOPR_DTA from directory >>CCD.

Table 5-1. SNA Configurator Screens

Description	Entry point from: Menu	Entry point from: Command	Multiple Screens?
From the SNA Facility Menu:			
Configuration Login	X		
From the Interactive Mode Configurator Menu:			
Configurator Specialization	X	X	
SNA Operator Configuration	X	X	
RJEF Interactive Mode Conf.	X		
RJEF Link Protocol Configuration		X	
RJEF PU Configuration			
RJEF LU Configuration			Yes
ITF Interactive Mode Conf.	X		
ITF Link Protocol Configuration		X	
ITF PU Configuration			
ITF Printer LU Configuration			Yes
ITF Display LU Configuration			Yes
ITF Printer Matrix Configuration			
SFT Interactive Mode Conf.	X		
File Transfer Link Protocol Conf.		X	
File Transfer PU Configuration			
File Transfer LU Configuration			Yes
AIF Interactive Mode Conf.	X		
AIF Link Protocol Configuration		X	
AIF Physical Unit Configuration			
AIF Session Type Descriptors Unit		Yes	
AIF Preestablished Session Groups			
AIF LU Configuration			Yes
From the Print Mode Configurator Menu:			
CONF Print Mode Configurator	X		
SOPR Print Mode Configurator	X		
SFT Print Mode Configurator	X		
ITF Print Mode Configurator	X		
RJE Print Mode Configurator	X		
Application Interface Facility	X		
SNA Facilities Print Mode Conf.	X		

Table 5-1 (cont). SNA Configurator Screens

Description	Entry point from: Menu	Entry point from: Command	Multiple Screens?
From the Batch Mode Configurator Menu:			
Batch Mode Configurator	X		
From the Delete Mode Configurator Menu:			
SNA Administrator	X		
Configurator	X		
SNA File Transfer Facility	X		
Interactive terminal facility	X		
Remote Job Entry Facility	X		
Application Interface Facility	X		
All	X		

Invocation Scenarios

You have complete flexibility when you invoke the Configurator. The mode (interactive or batch) in which the Configurator operates is independent of the mode in which you call it. You can request batch configuration (processing a pre-prepared configuration input file) from the menu subsystem, or you can invoke Configurator screens using a command line. The final configuration will be identical however you invoke and use the Configurator. However, the sequence of screens differs slightly, depending on whether you call it using a menu or a command line.

Within a configuration session, you can configure any one SNA service or facility or all SNA services and facilities. As described below, you can configure from scratch, duplicate or update a node or logical unit you previously configured, or duplicate the supplied templates. You will most likely wish to duplicate existing information (taking the screen defaults, wherever possible), and then adjust your configuration for optimum performance.

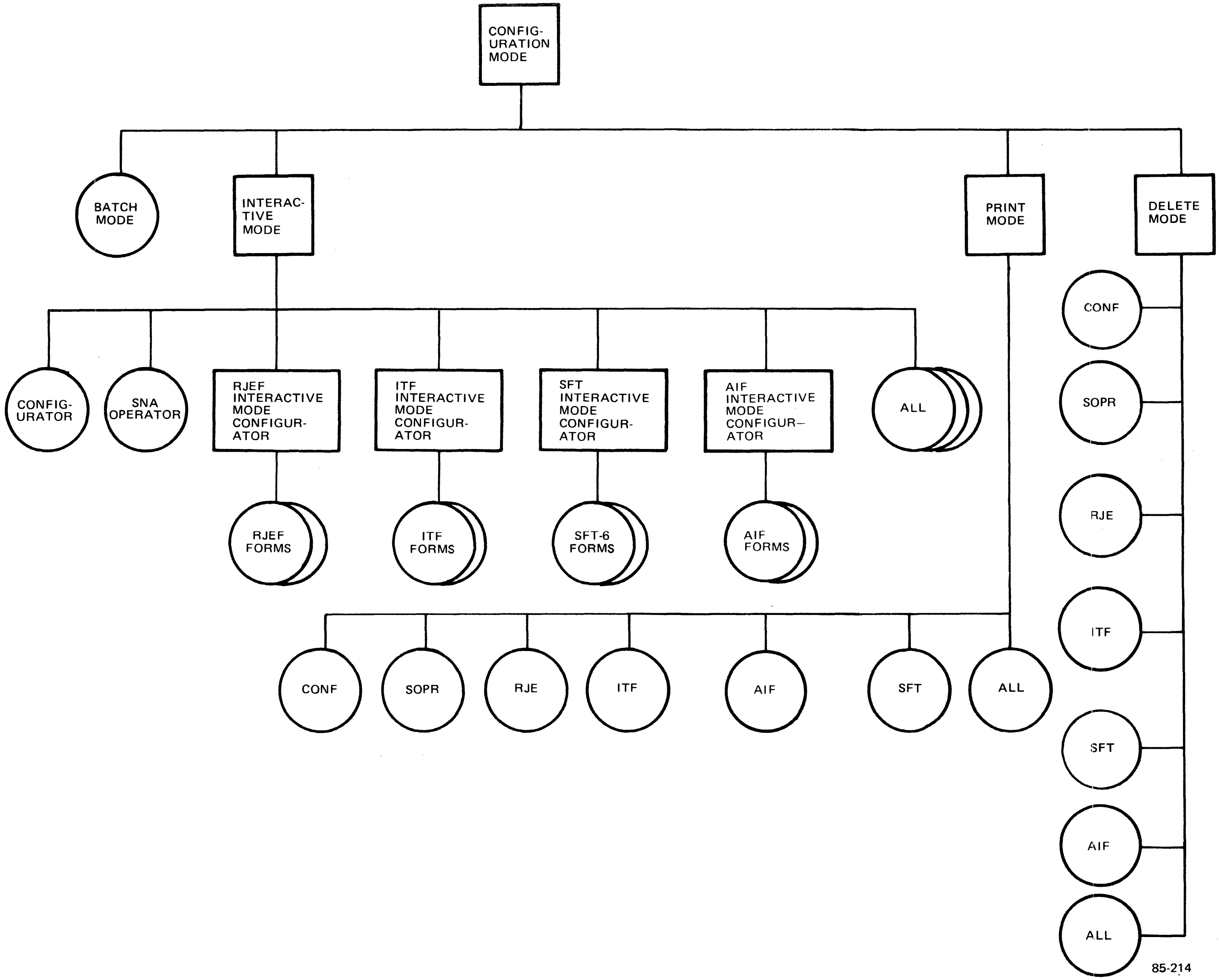

Figure 5-1. SNA Configurator Screen Tree

Creating SNA Services and Facilities

Within a configuration session you can choose to configure one or more of the SNA services and facilities.

If you configure only one service or facility, you are presented with only the relevant screens. Therefore, there are configuration entry points to the screen structure, as listed in Table 5-1. There are five entry points for menu-invoked configuration, and five entry points for command-invoked configuration. (The menu-driven process requires an extra screen.) For example, if you invoke the Configurator from a menu, and configure an RJE Facility node, you will be presented with these additional screens:

1. RJEF Interactive Mode Configuration
2. RJEF Link Protocol Configuration
3. RJEF Physical Unit Configuration
4. RJEF Logical Unit Configuration.

If you invoke the Configurator from a command line to configure one RJE node, the RJEF Interactive Mode Configuration screen will not be displayed.

If you are defining multiple LUs one at a time, multiple copies of the facility's logical unit configuration screen (as indicated in Table 5-1) will be displayed.

If you invoke the Configurator using a command line, you can also configure them all at once, in which case every screen shown in Table 5-1 for the Interactive Mode Configurator menu will be dipslayed in sequence, except the four menus marked as menu-mode entry points only.

You can abort a Configurator session, discarding all changes, by pressing the F4 key.

Duplicating an Existing Logical Unit

To ease the process of defining multiple LUs for a node, the Configurator allows you to skip over the specification of LUs. If you skip an address, the Configurator uses the set of specifications you enter to define the skipped LU(s) of the same type.

For example, suppose you are configuring multiple ITF printers and terminals. The LU addresses are:

Logical Unit Address	Device Type
2	Terminal
3	Printer
4	Terminal
5	Printer
6	Terminal
7	Printer
8	Terminal
9	Printer
10	Terminal
11	Terminal
12	Terminal
13	Terminal

Twelve LU configuration screens will be displayed; the Configurator will pre-fill the address field of each. After you have configured the printer matrixes, the first screen you see is for address 2 (a terminal). If all the terminals are to have the same characteristics, you can change the address to 13, and the Configurator duplicates that set of specifications for all terminals on this node. Similarly, you could enter 9 as the first printer address, and the Configurator duplicates that set of specifications for all printers on this node. If the terminals at addresses 10, 11, 12, and 13 are to have different characteristics, you can enter 8 for the first address to define terminals at addresses 2 through 8, and enter 3 for the next address, to define terminals at 10 through 13.

By duplicating LUs, you may be presented with out-of-sequence LU addresses. For instance, in the example above, if you change the first LU address to 13, you are defining all terminal LUs, and the next screen will be for the printer at logical-unit address 3.

Note that the duplication extends to all elements of the LU specification. In the ITF example above, duplicating an LU would result in duplication of LU type, class, logon information, and logoff information; only the address would be different. If you intend to refer to ITF devices by LU name, do not duplicate LUs using this method.

Except for the situation mentioned above, you will probably duplicate LUs often, since it is much faster than specifying each one individually.

Moving Through the Screens

The NEXT? prompt at the top of each screen allows you to fill in the name of the screen you wish to see next. You can either indicate the name of a component or the name of another program product.

1. The following are valid entries at any point during the configuration of any of the SNA program products:

   a. CONF - goes to the start of the configurator configuration

   b. SOPR - goes to the start of the SNA operator configuration

   c. QUIT - assumes the default for the remaining display, completes the configuration and terminates the configurator.

   d. Name or program product (ITF, RJE, SFT, AIF) - goes to the start of the product's configuration screens

2. In addition to those listed in group 1, above, the following are valid entries if you are configuring RJE, ITF, SFT, or AIF.

   a. LINK - goes to the link protocol display

   b. PU - goes to the PU display

   c. LUnn - goes to the nth LU screen

3. In addition to those listed in groups 1 and 2, the following are valid entries if you are updating the ITF, RJE, or SFT:

   a. LUInn - inserts an LU directly before the one named by nn

   b. LUAnn - appends an additional LU after the one named by nn

4. In addition to those listed in groups 1, 2, and 3, the following is a valid entry if you are configuring the ITF:

   PMn - goes to the nth printer matrix screen, where n is the port number.

5. In addition to groups 1 and 2, the following are valid entries if you are configuring the AIF:

   a. STDEND - completes the session-type descriptor configuration process

   b. STDNCL - adds STDs, using the previous contents of the STD entry

   c. STDCLR - adds STDs, clearing the bind parameters of the previous entry to blanks

   d. STDab - goes to the session type descriptor entry named ab

   e. PSGn - goes to the nth pre-established session group

   f. PSGADD - adds a pre-established session group after the current PSG

   g. PSGEND - finishes the pre-established session group configuration process.

Displaying SNA Configuration Information

You can display information about your configuration by making the Print selection on the Configuration Mode menu. You can display information about any one service or facility, or about the entire SNA configuration. Information is written to a pathname (device or file) you specify; the device can be a terminal or a printer, so you can either display (view) or print the information. Figure 5-2 is an example of the information produced by the function, in this case for RJE. This function is used to check on configurations you have just created, or for documentation purposes.

Displaying SNA configuration information is described under "Printing Configuration Information," later in this section.

Changing the Configuration

You may wish to change your configuration (as opposed to expanding it), either to make corrections or to fine-tune it. There are two paths open to you. You can invoke the Configurator and respecify the relevant service or facility, changing some fields and skipping the rest. You can also prepare an update file containing the configuration keywords you wish to change. You will probably prefer the former method if you are comfortable with screen-driven configuration. If you prefer to manipulate the keyword files, you should refer to the discussions of changing each service and facility, in the sections devoted to individual SNA components.

```
                  RJEF LINK PROTOCOL CONFIGURATION
NODE INFORMATION
NODE NAME IS: RJESMPL1                CREATION DATE  1983/01/19
AUTHOR'S NAME IS: SAMPLE              DATE LAST UPDATED 1983/01/29
JOURNAL PATH NAME: >>CCD>JRNL
HOST CONNECT (LINE) INFORMATION:
  LINE NAME IS: LINE01
  LINE CONFIGURATION IS NONSW
  STATE TIMER VALUE: 010               FRAME TIMER VALUE: 99
  MAX FRAME SIZE: 256                  SEND LIMIT: 7
  MAX NUMBER OF RETRIES: 03

                  RJEF PHYSICAL UNIT CONFIGURATION
PU ADDRESS: 01             MAX RU SIZE: 0256
NUMBER OF LU'S CONFIGURED: 3
NUMBER OF RU'S PER CHAIN: 254
IS MULTIPLE SIGNAL INTERRUPT TO BE USED?: NO
OPERATION MODE: ATTENDED

                  RJEF LOGICAL UNIT CONFIGURATION
LU ADDRESS: 1           RU SIZE: 256

LU ADDRESS: 2           RU SIZE: 256

LU ADDRESS: 3           RU SIZE: 256
```

Figure 5-2. Configuration Listing Information

The process of deleting nodes from your configuration is discussed later in this section.

In order to make a change to your configuration, you must shut down the node, make the desired changes, and restart the affected node before the change goes into effect.

CONFIGURING THE SNA CONFIGURATOR

The SNA Configurator is the only support service or facility that does not require a configuration file. However, you can create a configuration file for the the Configurator, to specify default pathnames for the primary batch input file and the batch listing file, to specify a journal pathname, or to restrict the configuration of any of the SNA facilities.

You configure the Configurator by filling in the Configurator Specialization screen (Figure 5-3), as described below.

```
                              CONFIGURATOR SPECIALIZATION
NEXT ?:QUIT                 MODE:
NODE NAME IS:CONF                     CREATION DATE:    YYYY/MM/DD
AUTHOR'S NAME IS:________             DATE LAST UPDATED:YYYY/MM/DD
CONFIGURATION PATH NAMES FOR:
  JOURNAL FILE:____________________________________________________
  LIST FILE:_______________________________________________________
  BATCH INPUT FILE:________________________________________________
INDICATE FACILITIES THAT MAY BE CONFIGURED (Y OR N):
  REMOTE JOB ENTRY:Y   INTERACTIVE TERMINAL FACILITY:Y
  FILE TRANSFER FACILITY:Y   APPLICATION INTERFACE FACILITY:Y
```

Figure 5-3. Configurator Specialization Screen

NODE NAME IS:

The node name is included purely for documentation. The value must be CONF.

CREATION DATE:

The creation date is included purely for documentation. The default value is YYYY/MM/DD.

AUTHOR'S NAME IS:

The author name, if entered, must consist of one to eight alphanumeric characters.

DATE LAST UPDATED:

The last update date is included purely for documentation. The default value is YYYY/MM/DD.

CONFIGURATION PATH NAME FOR JOURNAL FILE:

The journal pathname specifies a file to which messages and error reports from the Configurator itself are written. The pathname is up to 58 characters in length. The default is not to create such a file.

CONFIGURATION PATH NAME FOR LIST FILE:

The listing pathname specifies the default file used by the Configurator for listing batch input and diagnostic messages. The pathname is up to 58 characters in length. The pathname can specify a device (e.g., a line printer). The default is not to create/use such a file.

CONFIGURATION PATH NAME FOR BATCH INPUT FILE:

The batch pathname specifies the default file from which the Configurator reads batch input. The pathname is up to 58 characters in length. If you do not specify a pathname here, you must specify one each time you invoke the Configurator for batch configuration.

INDICATE FACILITIES THAT MAY BE CONFIGURED (Y OR N):
REMOTE JOB ENTRY:Y
INTERACTIVE TERMINAL FACILITY:Y
FILE TRANSFER FACILITY:Y
SNA PROGRAM INTERFACE FACILITY:Y

If the RJE Facility is to be configured, enter Y; if not, enter N. Similarly, specify whether each of the other program products is to be configured. The default value in each case is Y (yes).

CONFIGURING SNA OPERATOR CONTROL

You must create a configuration file for SNA Operator Control (SOPR) before you can invoke any of the SNA facilities. To configure SOPR, you must specify the following information:

1. Journal pathname
2. Number of users of SOPR
3. Number of lines (one to four)
4. One to four corresponding line names.

You configure SOPR by filling in the SNA Operator (SOPR) Configuration screen (Figure 5-4), as described below.

```
                        SNA OPERATOR (SOPR) CONFIGURATION
NEXT ?:QUIT              MODE:
NODE NAME IS:SOPR                          CREATION DATE:YYYY/MM/DD
AUTHOR'S NAME IS:                          DATE LAST UPDATED:YYYY/MM/DD
ENTER JOURNAL PATH NAME:

SOPR DEVICE NAME IS:!CONSOLE
MESSAGE SUPPRESSION:N         SOPR DEVICE NAME IS:!CONSOLE
MAXIMUM NUMBER OF SOPR USERS IS:1       NUMBER OF SDLC LINES:1
:LINE #:LINE NAME:MAX FRAME SIZE:PHYSICAL DISCONNECT:AUTO DIAL:
:   1  : LINE01   :    0256     :         Y          :    N    :
:   2  : LINE02   :    0256     :         Y          :    N    :
:   3  : LINE03   :    0256     :         Y          :    N    :
:   4  : LINE04   :    0256     :         Y          :    N    :
```

Figure 5-4. SNA Operator (SOPR) Configuration Screen

NODE NAME IS:

The node name is included purely for documentation. The value must be SOPR.

CREATION DATE:

The creation date is included purely for documentation. The default value is YYYY/MM/DD.

AUTHOR'S NAME IS:

The author name, if entered, must consist of one to eight alphanumeric characters.

DATE LAST UPDATED:

The last update date is included purely for documentation. The default value is YYYY/MM/DD.

ENTER JOURNAL PATH NAME:

The journal pathname specifies a file to which messages and error reports from the support services and facilities are written. You must enter a pathname here.

SOPR DEVICE NAME IS:

The SOPR device pathname specifies the physical device pathname of the SOPR console. The pathname must be from 1 to 13 characters in length. The default value is !CONSOLE.

MAXIMUM NUMBER OF SOPR USERS:

This specifies the number of users of SOPR. The value must be 1, 2, 3, 4, 5, or 6. The default value is 2.

ENTER NUMBER OF SDLC LINES:

This specifies the number of SDLC lines attached to the DPS 6 system. The value must be 1, 2, 3, or 4. The default value is 1.

LINE #	LINE NAME	MAX FRAME SIZE	PHYSICAL DISCONNECT	AUTO DIAL
1	LINE01	0256	Y	N
2	LINE02	0256	Y	N
3	LINE03	0256	Y	N
4	LINE04	0256	Y	N

If you do not wish to use the line names LINE01, etc., you must specify a line name for <u>each</u> line you will have. The line name can be from one to six characters in length. The default value, for the first line only, is LINE01. You must have a corresponding LINE_NAMEn value in a CLM DEVICE directive when MOD 400 is configured.

You must specify a maximum frame size for <u>each</u> line you have. It must be either 256 or 512 (characters). The default value, for each line, is 0256. The frame size must be greater than or equal to the largest frame size specified for any of the SNA facilities you intend to configure.

CONFIGURING THE SNA REMOTE JOB ENTRY FACILITY

The SNA Remote Job Entry Facility (RJEF) allows a DPS 6 system to emulate many of the functions of an IBM 3777 Model 3 controller and its attached devices in an SNA environment. More than one invocation of the RJE Facility can reside on the same DPS 6 system. Each invocation of the facility supports up to six LUs. Data can reside on any appropriate DPS 6 device; data can also be directed to any appropriate DPS 6 device. For information about the operation of the facility, see the <u>SNA Remote Job Entry Facility User's Guide</u>.

Appendix D of this manual describes acceptable binds for the RJE Facility.

To create a configuration file for the RJE Facility, you specify the following types of information:

- Administrative and Transport Facility characteristics (node name, author name, journal file name, line name, line configuration, timer, and retry characteristics)
- Physical unit (PU) characteristics (address, request unit size, number of LUs, chain size, operation mode)
- LU characteristics (address, request unit size).

You configure the RJEF by filling in three screens:

1. RJEF Link Protocol Configuration (Figure 5-6)
2. RJEF Physical Unit Configuration (Figure 5-7)
3. RJEF Logical Unit Configuration (Figure 5-8).

You may need to fill in multiple LU screens.

If you invoke the Configurator from the Interactive Mode Configurator Menu, your entry point will be the RJEF Interactive Mode Configurator screen (Figure 5-5):

```
                 RJEF INTERACTIVE MODE CONFIGURATOR

    Enter logical node name:  ________
```

Figure 5-5. RJEF Interactive Mode Configurator Screen

If you wish to create a node or update an existing node, enter the node name in the first field.

RJE Administrative and Transport Facility Characteristics

The RJEF Link Protocol Configuration screen is shown in Figure 5-6 and described below. This screen is your entry point if you invoke the Configurator from a command line to configure RJEF.

```
                    RJEF LINK PROTOCOL CONFIGURATION
NEXT ?:NEXT                  MODE:
ENTER NODE NAME (1-8 CHARACTERS):RJENODE1 CREATION DATE:YYYY/MM/DD
AUTHOR'S NAME IS:                         DATE LAST UPDATED:YYYY/MM/DD
ENTER JOURNAL PATH NAME:

HOST CONNECTION (LINE) INFORMATION:
ENTER LINE NAME:LINE01   ENTER LINE CONFIGURATION (SW OR NONSW):NONSW
IF LINE IS SWITCHED ENTER 12 CHARACTER XID:
STATE TIMER VALUE (1-254):010        ENTER FRAME TIMER VALUE (1-99):99
ENTER MAX FRAME SIZE:256             ENTER SEND LIMIT (1-7):7
ENTER MAX NUMBER OF RETRIES (1-15):03
```

Figure 5-6. RJEF Link Protocol Configuration Screen

ENTER NODE NAME (1-8 CHARACTERS):

The node name is from one to eight alphanumeric characters. If you entered a node name in the previous screen, that name appears here. To create a node, enter the node name. To update a node, change the other fields as required. The default value is RJENODE1.

CREATION DATE:

The creation date is included purely for documentation. The default value is YYYY/MM/DD.

AUTHOR'S NAME IS:

The author name, if entered, must consist of one to eight alphanumeric characters.

DATE LAST UPDATED:

The last update date is included purely for documentation. The default value is YYYY/MM/DD.

ENTER JOURNAL PATH NAME:

The journal pathname specifies a file to which messages and error reports from the RJEF are written.

ENTER LINE NAME:

The line name must be one of the line names you specified when configuring SOPR (see "Configuring SNA Operator Control," earlier in this section). The line name must also be specified in a DEVICE directive when the MOD 400 system is built (see Section 3). The line name is one to six alphanumeric characters. The default value is LINE01.

ENTER LINE CONFIGURATION (SW OR NONSW):

The line configuration can be either switched (SW) or nonswitched (NONSW). This prompt corresponds to the DIAL operand on the GROUP macrocall at the host. If the value of DIAL is YES, enter SW; if the value of DIAL is NO, enter NONSW. The default value is NONSW.

IF LINE IS SWITCHED ENTER 12 CHARACTER XID:

If the line is switched, you must specify an exchange station identifier (XID). The XID is 12 digits, as illustrated below. The XID corresponds to four operands on the PU (switched) statement in the host VTAM definition. Digit 2 of XID corresponds to the PUTYPE=2 operand; digits 5 through 7 of XID correspond to the IDBLK=013 operand; digits 8 through 12 of XID correspond to the IDNUM= value.

```
Digit    1   2   3   4   5   6   7    8   9   10  11  12

Value    0   2   0   0   0   1   3   ____________________
             ^          \____^____/             ^
             |               |                  |
      Physical unit type     |                  |
      (PUTYPE)               |                  |
                             |                  |
      Block Number (IDBLK)---                   |
                                                |
      Unique terminal ID (IDNUM)----------------
```

For example, if the terminal identification is X'00B' and if the PU address is X'C1', then the XID is:

020001300BC1

ENTER STATE TIMER VALUE (1-254):

The state timer value specifies the number of seconds to wait for a poll frame at the secondary node (RJEF node) before counting an error retry (see the description of the ENTER MAX NUMBER OF RETRIES prompt, below). The value must be in the range from 1 to 254 seconds; the default value is 10.

ENTER FRAME TIMER VALUE (1-99):

The frame timer value specifies the maximum number of seconds that an information frame (I-frame) that is to be sent is allowed to remain on the output queue before the I-frame is purged. This time can be large without affecting information transfer, but values much smaller than 10 can result in insufficient time to send a frame or to resend a frame in case of error. The value must be two digits between 1 and 99 seconds. The default value is 99.

ENTER MAX FRAME SIZE:

The frame size is the maximum number of characters allowed in an I-frame excluding FCS, flag bits, and headers. This value must be greater than or equal to the values you select for the maximum request unit size in subsequent PU and LU definition screens for this facility. This value must be either 256 or 512 (characters). The default value is 256.

ENTER SEND LIMIT (1-7):

The send limit is a Transport Control argument specifying the number of I-frames that can be sent before an acknowledgement is received. The DPS 6 automatically stops sending I-frames when this limit is reached and automatically starts sending I-frames once one or more I-frames are acknowledged. This value must be in the range from 1 to 7. The default value is 7.

ENTER MAX NUMBER OF RETRIES (1-15):

This value is the maximum number of error retries allowed before a retry error is reported. Any error that causes the loss of an I-frame results in a retry error. See also the description of state timer value. This value must be in the range from 1 to 15. The default value is 3.

RJE Physical Unit Characteristics

Once you have specified Administrative and Transport Facility characteristics, you characterize the PU by filling in the RJE Physical Unit Configuration screen (Figure 5-7), as described below.

```
                   RJEF PHYSICAL UNIT CONFIGURATION

NEXT ?:NEXT              MODE:
ENTER PU ADDRESS:01           ENTER MAX RU SIZE (256 OR 512):0256
ENTER NUMBER OF LU'S TO BE CONFIGURED (1-6):6
ENTER NUMBER OF RU'S PER CHAIN (1-254):254
IS MULTIPLE SIGNAL INTERRUPT TO BE USED (Y OR N):N
OPERATION MODE:
 (AT) ATTENDED
 (UA) UNATTENDED
     SELECTION:AT
```

Figure 5-7. RJEF Physical Unit Configuration Screen

ENTER PU ADDRESS:

The PU address is two hexadecimal digits in the range 01 to FE. This must be a previously configured value at the host. This value corresponds to the ADDR= value on the PU macrocall at the host. If you specified an XID when you specified Administrative and Transport Facility characteristics, this must be the same value as the last two digits of the XID. For example, if you specified an XID of 020001300BC1, you must specify C1 here. The default value is 01.

ENTER MAX RU SIZE (256 OR 512):

This is the maximum size of a request unit (RU). This value must be less than or equal to the maximum frame size you selected when specifying Administrative and Transport Facility characteristics for this facility in a previous screen. This value must be either 256 or 512 (characters). The default value is 256.

ENTER NUMBER OF LU'S TO BE CONFIGURED (1-6):

The number of LUs is one decimal digit in the range from 1 to 6. The LU's value should be the same as the count of the LU macrocalls specified at the host; this value corresponds to the MAXLU= value for a switched line. The default value is 6.

ENTER NUMBER OF RU'S PER CHAIN (1-254):

This is the maximum number of request units in a chain. The value is a number in the range 1 to 254. The default value is 254. This is used to control the demand for buffers during inbound data transmissions by giving a dummy pacing for inbound data transmissions. For optimal performance, this value should be set to its maximum.

IS MULTIPLE SIGNAL INTERRUPT TO BE USED (Y OR N):

This value must be Y (yes) or N (no). The default value is N. Some IBM RJE subsystems require that Multiple Signal Interrupts be used. In particular, JES2 requires it, but POWER does not. Consult the configuration documentation for the subsystem that you are using. If Multiple Signal Interrupts are required, enter Y here.

OPERATION MODE:
(AT) ATTENDED
(UA) UNATTENDED
SELECTION:

Specify AT (attended) or UA (unattended) for the mode of operation. In attended mode, certain error conditions result in messages being sent to the SOPR terminal. In unattended mode, these same conditions cause negative acknowledgement (NAK) signals to be sent to the host, or cause cancellation of orders. The default value is AT.

<u>Specifying Logical Unit Characteristics</u>

After you have specified Administrative and Transport Facility characteristics, and after you have specified PU characteristics, you must specify LU characteristics. You may describe from one to six LUs. For each LU, you are presented the RJEF Logical Unit Configuration screen (Figure 5-8), as described below.

```
                    RJEF LOGICAL UNIT CONFIGURATION
NEXT ?: NEXT
LU ADDRESS:1                             ENTER RU SIZE (256 OR 512)256
```

Figure 5-8. RJEF Logical Unit Configuration Screen

LU ADDRESS:

The LU address is a decimal digit between 1 and 6. The values correspond to the LOCADDR operand values of LU macrocalls at the host. The Configurator pre-fills this field with ascending addresses. If you skip an address, the Configurator will duplicate your specification for the previous LU(s).

ENTER RU SIZE (256 OR 512)

The RU size is determined by the host. The RU size must be either 256 or 512 (characters). The RU size must not be greater than the maximum RU size you specified when you configured the PU, and must not be greater than the frame size you selected when specifying Administrative and Transport Facility characteristics in a previous screen. The default value is 256.

CONFIGURING THE SNA INTERACTIVE TERMINAL FACILITY

The SNA Interactive Terminal Facility (ITF) permits DPS 6 VIP72XX, VIP73XX, WST72XX, and asynchronous VIP78XX and WST78XX terminals to appear to an IBM host as IBM 3278 terminals attached to an IBM 3274 terminal controller operating in an SNA environment. The Interactive Terminal Facility (ITF) allows DPS 6 matrix and line printers to appear as IBM 3287 printers. DPS 6 terminal users can interact with one or more IBM host application systems. ITF also provides a User Exit Facility that permits user-written programs to be executed before and/or after keyboard activity for each terminal. Information is passed between ITF and user applications using a Screen Image Buffer (SIB). For information about the operation of the ITF, see the SNA Interactive Terminal Facility User's Guide.

Appendix D of this manual describes the acceptable binds for the ITF.

To create a configuration file for the ITF, specify the following types of information:

- Administrative and Transport Facility characteristics (node name, author, journal pathname, line name, line configuration, state timer, information frame (I-frame) characteristics, send limit, retry information)

- PU characteristics (address, number of LUs, number of printers, and SIB characteristics)

- Printer characteristics (port address, matrix mode, class, source device list)

- LU characteristics (address, type, class, name, bound unit pathname, logon, logoff, printer pathname).

You configure the SNA Interactive Terminal Facility by filling in five screens:

1. ITF Link Protocol Configuration (Figure 5-10)
2. ITF Physical Unit Configuration (Figure 5-11)
3. ITF Printer Matrix Configuration (Figure 5-12)
4. ITF Display Logical Unit Configuration (Figure 5-13)
5. ITF Printer Logical Unit Configuration (Figure 5-14).

You may need to fill in multiple LU screens.

If you invoke the Configurator from the Interactive Mode Configurator Menu, you will be presented with the ITF Interactive Mode Configurator screen (Figure 5-9):

```
                ITF INTERACTIVE MODE CONFIGURATOR

    Enter logical node name: ________
```

Figure 5-9. ITF Interactive Mode Configurator Screen

If you wish to create a node or update an existing node, enter the node name in the first field.

<u>ITF Administrative and Transport Facility Characteristics</u>

The ITF Link Protocol Configuration screen is shown in Figure 5-10 and described below. This screen is your entry point if you invoke the Configurator from a command line to configure the ITF.

```
                   ITF LINK PROTOCOL CONFIGURATION
NEXT ?:NEXT           MODE:
ENTER NODE NAME (1-8 CHARACTERS):ITFNODE1 CREATION DATE:YYYY/MM/DD
AUTHOR'S NAME IS:________                 DATE LAST UPDATED:YYYY/MM/DD
ENTER JOURNAL PATH NAME:
       ____________________________________________________________
HOST CONNECTION (LINE) INFORMATION:
ENTER LINE NAME:LINE01    ENTER LINE CONFIGURATION (SW OR NONSW):NONSW
IF LINE IS SWITCHED ENTER 12 CHARACTER XID:
STATE TIMER VALUE (1-254):010        ENTER FRAME TIMER VALUE (1-99):99
ENTER MAX FRAME SIZE:256             ENTER SEND LIMIT (1-7):7
ENTER MAX NUMBER OF RETRIES (1-15):03
```

Figure 5-10. ITF Link Protocol Configuration Screen

ENTER NODE NAME (1-8 CHARACTERS):

The node name is from one to eight alphanumeric characters. If you entered a node name in the previous screen, that name appears here. To create a node, enter the node name. To update a node, change the other fields as required. The default value is ITFNODE1.

CREATION DATE:

The creation date is included purely for documentation. The default value is YYYY/MM/DD.

AUTHOR'S NAME IS:

The author name, if entered, must consist of from one to eight alphanumeric characters.

DATE LAST UPDATED:

The last update date is included purely for documentation. The default value is YYYY/MM/DD.

ENTER JOURNAL PATH NAME:

The journal pathname specifies a file to which messages and error reports from the ITF are written. Each ITF node can have its own journal file.

ENTER LINE NAME:

The line name must be one of the line names you specified when configuring SOPR (see "Configuring SNA Operator Control," earlier in this section). The line name must also be specified in a DEVICE directive when the MOD 400 system is built (see Section 2). The line name is from one to six alphanumeric characters. The default value is LINE01.

ENTER LINE CONFIGURATION (SW OR NONSW):

The line configuration can be either switched (SW) or nonswitched (NONSW). This prompt corresponds to the DIAL operand on the GROUP macrocall at the host. If the value of DIAL is YES, enter SW; if the value of DIAL is NO, enter NONSW. The default value is NONSW.

IF LINE IS SWITCHED ENTER 12 CHARACTER XID:

If the line is switched, you must specify an exchange station identifier (XID). The XID is 12 digits, as illustrated below. The XID corresponds to four operands on the PU (switched) statement in the host VTAM definition. Digit 2 of XID corresponds to the PUTYPE=2 operand; digits 5 through 7 of XID correspond to the IDBLK=017 operand; digits 8 through 12 of XID correspond to the IDNUM= value.

Digit	1	2	3	4	5	6	7	8	9	10	11	12
Value	0	2	0	0	0	1	7					

Physical unit type (PUTYPE)

Block Number (IDBLK)

Unique terminal ID (IDNUM)

For example, assume that the terminal identification is X'00BC1'; you must specify:

020001700BC1

ENTER STATE TIMER VALUE (1-254):

The state timer value specifies the number of seconds to wait for a poll frame at the secondary node (ITF node) before counting an error retry (see the description of the ENTER MAX NUMBER OF RETRIES prompt, below). The value must be in the range from 1 to 254 seconds; the default value is 10.

ENTER FRAME TIMER VALUE (01-99):

The frame timer value specifies the maximum number of seconds that an information frame (I-frame) that is to be sent is allowed to remain on the output queue before the I-frame is purged. This time can be large without affecting information transfer, but values much smaller than 10 can result in insufficient time to send a frame or to resend a frame in case of error. The value must be two digits between 01 and 99 seconds. The default value is 99.

ENTER MAX FRAME SIZE:

The frame size is the maximum number of characters allowed in an I-frame excluding FCS, flag bits, and headers. The only allowable value here is 256.

ENTER SEND LIMIT (1-7):

The send limit is a Transport Control argument specifying the number of I-frames that can be sent before an acknowledgement is received. The DPS 6 automatically stops sending I-frames when this limit is reached and automatically starts sending I-frames once one or more I-frames are acknowledged. This value must be in the range from 1 to 7. The default value is 7.

ENTER MAX NUMBER OF RETRIES (1-15):

This value is the maximum number of error retries allowed before a retry error is reported. Any error that causes the loss of an I-frame results in a retry error. See also the description of state timer value. This value must be in the range from 1 to 15. The default value is 3.

ITF Physical Unit Characteristics

After you have specified Administrative and Transport Facility characteristics, you specify information to characterize the PU by filling in the ITF Physical Unit Configuration screen (Figure 5-11), as described below.

```
                        ITF PHYSICAL UNIT CONFIGURATION
NEXT ?:NEXT                 MODE:
ENTER PU ADDRESS:01                 ENTER MAX RU SIZE (256-1024):0256

ENTER NUMBER OF LU'S TO BE CONFIGURED (1-32):4

ENTER NUMBER OF PRINTERS TO BE CONFIGURED (0-31):01

ENTER NUMBER OF MEMORY RESIDENT SIBS (2-32):10

  IF SIBS ARE TO BE SHARED AMONG LU'S ENTER SIB FILE PATHNAME:
         ____________________________________________________________
```

Figure 5-11. ITF Physical Unit Configuration Screen

ENTER PU ADDRESS:

The PU address is two hexadecimal digits in the range from 01 to FE. This must be a previously configured value at the host. This value corresponds to the ADDR= value on the PU macrocall at the host.

ENTER MAX RU SIZE (256-1024):

This is the maximum size of a request unit (RU). This value must be 256, 512, 768, or 1024 (characters). The default value is 256.

ENTER NUMBER OF LU'S TO BE CONFIGURED (1-32):

The number of LUs is from 1 to 32, including printers. This value should be the same as the count of the LU macrocalls specified at the host; this value corresponds to the MAXLU= value for a switched line. The default value is 4.

ENTER NUMBER OF PRINTERS TO BE CONFIGURED (0-31):

This value is the number of printer LUs for printers attached to the ITF. The value is two decimal digits in the range from 00 to 31. The default value is 01.

ENTER NUMBER OF MEMORY RESIDENT SIBS (2-32):

This value is the number of resident SIBs. The value is two decimal digits in the range from 02 to 32. The default value is 04. If there are more SIBs than LUs, this value is reset by the Configurator to equal the number of LUs. If the number of SIBs is <u>equal to</u> the number of LUs, each LU has a 2K character SIB dedicated in memory for its exclusive use. If the number of SIBs is <u>less than</u> the number of LUs, the LUs share SIBs; screen data is swapped between memory and the file specified by the next prompt, as required. For minimum response time, specify one SIB per LU.

IF SIBS ARE TO BE SHARED AMONG LU'S ENTER SIB FILE PATHNAME:

The SIB pathname is a pathname of up to 58 characters in length. If you want a SIB file, you must create the file using the following command <u>before</u> you invoke ITF:

```
CR path -F_REL -REC_SIZE 2048
```

The default is to specify no SIB file.

ITF Printer Matrix Characteristics

After you specify Administrative and Transport Facility characteristics, you specify printer matrix information. You must define <u>each</u> printer attached to the ITF (up to a total of 31).

You specify printer matrix characteristics by filling in the ITF Printer Matrix Configuration screen (Figure 5-12), as described below.

```
                 ITF PRINTER MATRIX CONFIGURATION
NEXT ?:NEXT          MODE:

 ENTER PORT NUMBER (1-31):01           ENTER MODE (0-2):2

 ENTER CLASS(ES)  (70-85):_______________________________________

 ENTER PORT ADDRESSES FOR SOURCE DEVICE LIST (0-31):
         __________________________________________________
         __________________________________________________
```

Figure 5-12. ITF Printer Matrix Configuration Screen

ENTER PORT NUMBER (1-31):

The port address is two decimal digits in the range from 01 to 31. The Configurator pre-fills this field with the current address. Port addresses do not have to be consecutive numbers.

ENTER MODE (0-2):

The one-character matrix mode can be 0 (system printer used by the host only), 1 (local printer only), or 2 (printer shared by host and displays). The default value is 2.

ENTER CLASS(ES) (70-85):

This field is used to specify the class of the device. The ITF directs printer output to the first available printer in a given class. You can enter one or more of the values from 70 to 85. If you enter more than one class, separate classes with commas (,) or spaces. For example, you could enter:

<u>70,71,80</u>____

to assign the printer to classes 70, 71, and 80. Defining printer classes allows sharing of printers. Another use could be to define two classes of printer, one loaded with regular paper and one loaded with special screens.

ENTER PORT ADDRESSES FOR SOURCE DEVICE LIST (0-31):

These fields are used to specify the source device list. The current port number must appear in the source device list. You can enter one or more of the values from 0 to 31. If you enter more than one address, separate addresses with commas (,). For example, you could enter:

0,5,10,15

to assign the printer to addresses 0, 5, 10, and 15. To deny a device access to a printer, do not specify the corresponding port address of the device.

ITF Display Logical Unit Characteristics

After you have specified Administrative and Transport Facility characteristics and printer matrix characteristics, you must specify LU characteristics. An LU can be Type 1, Type 2, or Type 3. Type 2 LUs are the LUs for keyboard and display devices (VIP or WST) attached to the ITF. Types 1 and 3 LUs are the LUs for printers attached to the facility.

You specify display LUs by filling in the ITF Display Logical Unit Configuration screen (Figure 5-13), as described below.

```
                    ITF DISPLAY LOGICAL UNIT CONFIGURATION
NEXT ?:NEXT                   MODE:

LU ADDRESS:02        LU TYPE:2        LU CLASS:0
LU NAME:________
 IF CLASS IS 1 OR 2 ENTER BOUND UNIT PATHNAME


ENTER LOGON INFORMATION:
        ____________________________________________
ENTER LOGOFF INFORMATION:
        ____________________________________________
```

Figure 5-13. ITF Display Logical Unit Configuration Screen

LU ADDRESS:

The LU address is a two-digit number in the range from 02 to 33. LU addresses correspond to values of the LOCADDR operand of the LU macrocalls at the host. Printer LU addresses correspond to port addresses in PRINTER keywords plus 2. You must specify LU addresses in ascending order. The Configurator pre-fills this field with ascending addresses. If you skip an address, the Configurator duplicates your specification for the previous LU(s).

LU TYPE:

The default value is 2 when the LU address does not equal a port address plus 2.

LU CLASS:

The LU class can be 0 (display only), 1 (display with application program), or 2 (application only terminal). The default value is 0.

LU NAME:

This is the eight-character alphanumeric name of the LU. If you duplicate LUs, you will duplicate this value as well.

IF CLASS IS 1 OR 2 ENTER BOUND UNIT PATHNAME

If you specify an LU class of 1 or 2, you must specify a bound unit pathname, of up to 58 characters, for the application program.

ENTER LOGON INFORMATION:

If you specify logon information the string is used in automatic logon to the host application. You can enter a maximum of 65 characters.

The logon string can be LOGON APPLID(name) and/or LOGMODE(name) and/or DATA(userdata). For further information, see the appropriate IBM reference manual for the application to which you wish to connect.

ENTER LOGOFF INFORMATION:

You can enter the strings APPLID(name) and/or TYPE(COND|UNCOND) and/or HOLD(YES|NO). For further information see the appropriate IBM reference manual for the application to which you wish to connect. If you specify both logon and logoff information, the logoff string is used for automatic logoff when the ITF user returns a terminal to the MOD 400 Listener.

ITF Printer Logical Unit Characteristics

For each printer attached to the ITF, you must specify a Type 1 or 3 LU, by filling out the ITF Printer Logical Unit Configuration screen (Figure 5-14), as described below.

```
              ITF PRINTER LOGICAL UNIT CONFIGURATION

LU TYPE 1 OR 3 INFORMATION

NEXT ?:NEXT         MODE:
LU ADDRESS:03       LU TYPE:3       LU CLASS:3

ENTER PRINTER PATHNAME:

          !LPT00
```

Figure 5-14. ITF Printer Logical Unit Configuration Screen

LU ADDRESS:

The LU address is a two-digit number in the range from 03 to 33. The values correspond to values of the LOCADDR operand of the LU macrocalls at the host. LU addresses correspond to printer port addresses plus 2. The configurator pre-fills this field with the current available address. You must specify LU addresses in ascending order.

LU TYPE:

The allowable values here are 1 and 3. The default value is 3.

LU CLASS:

You must specify 3 for printer LUs.

ENTER PRINTER PATHNAME:

The printer pathname is from 1 to 58 characters in length. The pathname can refer to a physical or a logical device. The default value is !LPT00. If you duplicate LUs, you will duplicate this value as well, thus implementing printer sharing.

CONFIGURING THE SNA FILE TRANSFER FACILITY

The SNA File Transfer Facility (SFT) allows host users, in an SNA network, to transfer files to and from a DPS 6. In addition to file transfer, SFT includes some file management and control functions. For information about operating the SFT, see the SNA File Transfer Facility User's Guide. This section describes configuration of the DPS 6 resident portion of the facility, hereafter referred to as SFT-6.

Appendix D of this manual describes acceptable binds for the SFT.

To create a configuration file for the SFT, you specify:

- Administrative and Transport Facility characteristics (node name, author name, journal file name, line name, line configuration, timer, and retry characteristics)
- PU characteristics (address, request unit size, number of logical units, chain size, operation mode)
- LU characteristics (address, request unit size).

You configure the SFT by filling in three screens:

1. File Transfer Link Protocol Configuration (Figure 5-16)
2. File Transfer Physical Unit Configuration (Figure 5-17)
3. File Transfer Logical Unit Configuration (Figure 5-18).

You may need to fill in multiple LU screens.

If you invoke the Configurator from the Interactive Mode Configurator menu, your entry point will be the SFT Interactive Mode Configurator screen (Figure 5-15):

```
          SFT INTERACTIVE MODE CONFIGURATOR

    Enter logical node name:  ________
```

Figure 5-15. SFT Interactive Mode Configurator Screen

If you wish to create a node or update an existing node, enter the node name in the first field.

SFT Administrative and Transport Facility Characteristics

The File Transfer Link Protocol Configuration screen is shown in Figure 5-16 and described below. This screen is your entry point if you invoke the Configurator from a command line to configure SFT.

```
                FILE TRANSFER LINK PROTOCOL CONFIGURATION
NEXT ?:NEXT       MODE:
ENTER NODE NAME (1-8 CHARACTERS):SFTNODE1 CREATION DATE:YYYY/MM/DD
AUTHOR'S NAME IS:________                 DATE LAST UPDATED:YYYY/MM/DD
ENTER JOURNAL PATH NAME:
      ____________________________________________________________
HOST CONNECTION (LINE) INFORMATION:
ENTER LINE NAME:LINE01   ENTER LINE CONFIGURATION (SW OR NONSW):NONSW
IF LINE IS SWITCHED ENTER 12 CHARACTER XID:
PHYSICAL LINE DISCONNECT (Y OR N):Y
STATE TIMER VALUE (1-254):010        ENTER FRAME TIMER VALUE (1-99):99
ENTER MAX FRAME SIZE:256             ENTER SEND LIMIT (1-7):7
ENTER MAX NUMBER OF RETRIES (1-15):03
```

Figure 5-16. File Transfer Link Protocol Configuration Screen

ENTER NODE NAME (1-8 CHARACTERS):

The node name is from one to eight alphanumeric characters. If you entered a node name in the previous screen, that name appears here. To create a node, enter the node name. To update a node, change the other fields as required. The default value is SFTNODE1.

CREATION DATE:

The creation date is included purely for documentation. The default value is YYYY/MM/DD.

AUTHOR'S NAME IS:

The author name, if entered, must consist of from one to eight alphanumeric characters.

DATE LAST UPDATED:

The last update date is included purely for documentation. The default value is YYYY/MM/DD.

ENTER JOURNAL PATH NAME:

The journal pathname specifies a file to which messages and error reports from the SFT are written.

ENTER LINE NAME:

The line name must be one of the line names you specified when configuring SNA Operator Control (see "Configuring SNA Operator Control," earlier in this section). The line name must also be specified in a DEVICE directive when the MOD 400 system is built (see Section 3). The line name is from one to six alphanumeric characters. The default value is LINE01.

ENTER LINE CONFIGURATION (SW OR NONSW):

The line configuration can be either switched (SW) or nonswitched (NONSW). This prompt corresponds to the DIAL operand on the GROUP macrocall at the host. If the value of DIAL is YES, enter SW; if the value of DIAL is NO, enter NONSW. the default value is NONSW.

IF LINE IS SWITCHED ENTER 12 CHARACTER XID:

If the line is switched, you must specify an exchange station identifier (XID). The XID is 12 digits, as illustrated below. The XID corresponds to four operands on the PU (switched) statement in the host VTAM definition. Digit 2 of XID corresponds to the PUTYPE=2 operand; digits 5 through 7 of XID correspond to the IDBLK=013 operand; digits 8 through 12 of XID correspond to the IDNUM= value.

Digit	1	2	3	4	5	6	7	8	9	10	11	12
Value	0	2	0	0	0	1	3					

Physical unit type (PUTYPE)

Block Number (IDBLK)

Unique terminal ID (IDNUM)

For example, if the terminal identification is X'00B' and if the PU address is X'C1', then the XID is:

020001300BC1

ENTER STATE TIMER VALUE (1-254):

The state timer value specifies the number of seconds to wait for a poll frame at the secondary node (SFT node) before counting an error retry (see the description of the ENTER MAX NUMBER OF RETRIES prompt, below). The value must be in the range from 001 to 254 seconds; the default value is 010.

ENTER FRAME TIMER VALUE (1-99):

The frame timer value specifies the maximum number of seconds that an information frame (I-frame) that is to be sent is allowed to remain on the output queue before the I-frame is purged. This time can be large without affecting information transfer, but values much smaller than 10 can result in insufficient time to send a frame or to resend a frame in case of error. The value must be two digits between 01 and 99 seconds. The default value is 99.

ENTER MAX FRAME SIZE:

The frame size is the maximum number of characters allowed in an I-frame excluding FCS, flag bits, and headers. This value must be greater than or equal to the values you select for the maximum RU size in subsequent physical and logical unit definition screens for this facility. This value must be either 256 or 512 (characters). The default value is 256.

ENTER SEND LIMIT (1-7):

The send limit is a Transport Control argument specifying the number of I-frames that can be sent before an acknowledgement is received. The DPS 6 automatically stops sending I-frames when this limit is reached and automatically starts sending I-frames once one or more I-frames are acknowledged. This value must be in the range from 1 to 7. The default value is 7.

ENTER MAX NUMBER OF RETRIES (1-15):

This value is the maximum number of error retries allowed before a retry error is reported. Any error that causes the loss of an I-frame results in a retry error. See also the description of state timer value. This value must be in the range 01 to 15. The default value is 03.

SFT Physical Unit Characteristics

Once you have specified Administrative and Transport Facility characteristics, you characterize the PU by filling in the File Transfer Physical Unit Configuration screen (Figure 5-17), as described below.

```
               FILE TRANSFER PHYSICAL UNIT CONFIGURATION
NEXT ?:NEXT                MODE:
ENTER PU ADDRESS:01               ENTER MAX RU SIZE (256 OR 512):0256

ENTER NUMBER OF LU'S TO BE CONFIGURED (1-6):6
```

Figure 5-17. The File Transfer Physical Unit Configuration Screen

ENTER PU ADDRESS:

The PU address is two hexadecimal digits in the range from 01 to FE. This must be a previously configured value at the host. This value corresponds to the ADDR= value on the PU macrocall at the host. If you specified an XID when you specified Administrative and Transport Facility characteristics, this must be the same value as the last two digits of the XID. For example, if you specified an XID of 020001300BC1, you must specify C1 here. The default value is 01.

ENTER MAX RU SIZE (256 OR 512):

This is the maximum size of a RU. This value must be less than or equal to the maximum frame size you selected when specifying Administrative and Transport Facility characteristics for this facility in a previous screen. This value must be either 256 or 512 (characters). The default value is 0256.

ENTER NUMBER OF LU'S TO BE CONFIGURED (1-6):

The number of LUs is one decimal digit in the range from 1 to 6. The LU's value should be the same as the count of the LU macrocalls specified at the host; this value corresponds to the MAXLU= value for a switched line. The default value is 6.

Specifying Logical Unit Characteristics

After you have specified Administrative and Transport Facility characteristics, and after you have specified PU characteristics, you must specify LU characteristics. You can describe from one to six LUs. For each LU, you are presented the File Transfer Logical Unit Configuration screen (Figure 5-18), as described below.

```
                  FILE TRANSFER LOGICAL UNIT CONFIGURATION
NEXT ?:NEXT            MODE:

LU ADDRESS:1

ENTER RU SIZE (256 OR 512)256
```

Figure 5-18. SFT Logical Unit Configuration Screen

LU ADDRESS:

The LU address is a decimal digit between 1 and 6. The values correspond to the LOCADDR operand values of LU macrocalls at the host. The Configurator pre-fills this field with ascending addresses. If you skip an address, the Configurator duplicates your specification for the previous LU(s).

ENTER RU SIZE (256 OR 512)

The RU size is determined by the host. The RU size must be either 256 or 512 (characters). The RU size must not be greater than the maximum RU size you specified when you configured the PU. This value must be less than or equal to the maximum frame size you selected when specifying Administrative and Transport Facility characteristics for this facility in a previous screen. The default value is 256.

CONFIGURING THE APPLICATION INTERFACE FACILITY

The Application Interface Facility (AIF) permits the DPS 6 programmer to write COBOL or assembler transaction programs which interact with an application running under Customer Information Control System (CICS) or Information Management System (IMS) at an IBM host.

AIF supports an application to application session. Since CICS and IMS recognize that these applications are not devices, no device-specific formatting is done at the host. The host transaction processing systems simply pass the data to the DPS 6 application to be used as needed.

For information about the operation of AIF, see the SNA Application Developer's Guide.

Appendix D of this manual describes the acceptable binds for AIF.

To create a configuration file for AIF, you must specify the following types of information:

- Administrative and Transport Facility characteristics (node name, author, journal pathname, line name, line configuration, state timer, information frame (I-frame) characteristics, send limit, retry information)
- PU characteristics (address, number of LUs, session type descriptors and pre-established session groups)
- Session Type Descriptors (STDs) (STD name, session type, destination LU type)
- Pre-established Session Group Characteristics (name of host LU, name of associated STD, number of LUs in group)
- LU characteristics (LU address, STD name, host LU name, and LU type.)

You configure the Application Interface by filling in the following screens:

1. AIF Link Protocol Configuration (Figure 5-20)
2. AIF Physical Unit Configuration (Figure 5-21)
3. AIF Session Type Descriptors Unit (Figure 5-22)
4. AIF Preestablished Session Group Configuration (Figure 5-23)
5. AIF Logical Unit Configuration (Figure 5-24)

If you are configuring more than one session-type descriptor, preestablished session group or LU, you may need to fill in multiple STD, pre-establish session group, or LU screens.

After you have created a configuration file for AIF, you can modify the file using the UPDATE directive and appropriate update subfunctions.

If you invoke the Interactive Mode Configurator, you are presented with the AIF Interactive Mode Configurator Screen (Figure 5-19).

```
                    AIF INTERACTIVE MODE CONFIGURATOR

Enter logical node name: ________
```

Figure 5-19. AIF Interactive Mode Configurator Screen

If you wish to create a node or update an existing node, enter the node name in the first field.

AIF Administrative and Transport Facility Characteristics

The AIF Link Protocol Configuration screen is shown in Figure 5-20 and described below. This screen is your entry point if you invoke the configurator from a command line.

```
                       AIF LINK PROTOCOL CONFIGURATION
NEXT ?:NEXT            MODE:
ENTER NODE NAME (1-8 CHARACTERS):AIFNODE1 CREATION DATE:YYYY/MM/DD
AUTHOR'S NAME IS:________                 DATE LAST UPDATED:YYYY/MM/DD
ENTER JOURNAL PATH NAME:
        ____________________________________________________________
HOST CONNECTION (LINE) INFORMATION:
ENTER LINE NAME:LINE01    ENTER LINE CONFIGURATION (SW OR NONSW):NONSW
IF LINE IS SWITCHED ENTER 12 CHARACTER XID:____________
STATE TIMER VALUE (1-254):010         ENTER FRAME TIMER VALUE (1-99):99
ENTER MAX FRAME SIZE:256              ENTER SEND LIMIT (1-7):7
ENTER MAX NUMBER OF RETRIES (1-15):03
```

Figure 5-20. AIF Link Protocol Configuration Screen

ENTER NODE NAME (1-8 CHARACTERS):

The node name is from one to eight alphanumeric characters. If you entered a node name in the previous screen, that name appears here. To create a node, enter the node name. To update a node, change the other fields as required. The default value is AIFNODE1.

CREATION DATE:

The creation date is included purely for documentation. The default value is YYYY/MM/DD.

AUTHOR'S NAME IS:

The author name, if entered, must consist of from one to eight alphanumeric characters.

DATE LAST UPDATED:

The last update date is included purely for documentation. The default value is YYYY/MM/DD.

ENTER JOURNAL PATH NAME:

The journal pathname specifies a file to which messages and error reports from the AIF are written. Each AIF node can have its own journal file.

ENTER LINE NAME:

The line name must be one of the line names you specified when configuring SOPR (see "Configuring SNA Operator Control," earlier in this section). The line name must also be specified in a DEVICE directive when the MOD 400 system is built (see Section 3). The line name is from one to six alphanumeric characters. The default value is LINE01.

ENTER LINE CONFIGURATION (SW OR NONSW):

The line configuration can be either switched (SW) or nonswitched (NONSW). This prompt corresponds to the DIAL operand on the GROUP macrocall at the host. If the value of DIAL is YES, enter SW; if the value of DIAL is NO, enter NONSW. The default value is NONSW.

IF LINE IS SWITCHED ENTER 12 CHARACTER XID:

If the line is switched, you must specify an exchange station identifier (XID). The XID is 12 digits, as illustrated below. The XID corresponds to four operands on the PU (switched) statement in the host VTAM definition. Digit 2 of XID corresponds to the PUTYPE=2 operand; digits 5 through 7 of XID correspond to the IDBLK=017 operand; digits 8 through 12 of XID correspond to the IDNUM= value.

Digit	1	2	3	4	5	6	7	8	9	10	11	12
Value	0	2	0	0	0	1	7					

Physical unit type (PUTYPE)

Block Number (IDBLK)

Unique terminal ID (IDNUM)

For example, assume that the terminal identification is X'00BC1'; you must specify:

020001700BC1

ENTER STATE TIMER VALUE (1-254):

The state timer value specifies the number of seconds to wait for a poll frame at the secondary node (AIF node) before counting an error retry (see the description of the ENTER MAX NUMBER OF RETRIES prompt, below). The value must be in the range 001 to 254 seconds; the default value is 010.

ENTER FRAME TIMER VALUE (1-99):

The frame timer value specifies the maximum number of seconds that an information frame (I-frame) that is to be sent is allowed to remain on the output queue before the I-frame is purged. This time can be large without affecting information transfer, but values much smaller than 10 can result in insufficient time to send a frame or to resend a frame in case of error. The value must be two digits between 01 and 99 seconds. The default value is 99.

ENTER MAX FRAME SIZE:

The frame size is the maximum number of characters allowed in an I-frame excluding FCS, flag bits, and headers. The only allowable value here is 256.

ENTER SEND LIMIT (1-7):

The send limit is a Transport Control argument specifying the number of I-frames that can be sent before an acknowledgement is received. The DPS 6 automatically stops sending I-frames when this limit is reached and automatically starts sending I-frames once one or more I-frames are acknowledged. This value must be in the range from 1 to 7. The default value is 7.

ENTER MAX NUMBER OF RETRIES (1-15):

This value is the maximum number of error retries allowed before a retry error is reported. Any error that causes the loss of an I-frame results in a retry error. See also the description of state timer value. This value must be in the range from 01 to 15. The default value is 03.

AIF Physical Unit Characteristics

After you have specified Administrative and Transport Facility characteristics, you specify information to characterize the physical unit by filling in the AIF Physical Unit Configuration screen (Figure 5-21), as described below.

```
                    AIF PHYSICAL UNIT CONFIGURATION
NEXT ?:NEXT              MODE:
ENTER PU ADDRESS:01                 ENTER MAX RU SIZE (256-1024):0256
ENTER NUMBER OF LU'S TO BE CONFIGURED (1-227):006
ENTER MINIMUM LU ADDRESS (1-227):001
NUMBER OF SESSION TYPE DESCRIPTORS: 000
NUMBER OF PREESTABLISHED SESSION GROUPS:000
```

Figure 5-21. AIF Physical Unit Configuration Screen

ENTER PU ADDRESS:

The PU address is two hexadecimal digits in the range from 01 to FE. This must be a previously configured value at the host. This value corresponds to the ADDR= value on the PU macrocall at the host.

ENTER MAX RU SIZE (256-1024):

This is the maximum size of a request unit (RU) that can flow on the SSCP-PU session. This value must be within the range of from 256 to 1024 (characters). The default value is 256.

ENTER NUMBER OF LU'S TO BE CONFIGURED (1-227):

The number of logical units is from 1 to 227.

ENTER MINIMUM LU ADDRESS

The minimum LU address is a number from 1 to 227. This number must be chosen such that the sum of the number of LUs to be configured and the minimum LU address does not exceed 227. This value is assigned to the first LU; the rest are assigned numbers in ascending order.

NUMBER OF SESSION TYPE DESCRIPTORS

This number (1-999) represents the total number of session-type descriptors configured. The number of STDs to be configured cannot exceed 999 including deleted entries. This value is system-supplied and is displayed for information only.

NUMBER OF PREESTABLISHED SESSION GROUPS

This number (0-125) represents the total number of preestablished session groups configured. This value is system supplied and is displayed for information only.

<u>AIF Session-Type Descriptor Characteristics</u>

After you have specified AIF PU characteristics, you specify session-type descriptor information. The AIF Session Type Descriptor Configuration Screen appears in Figure 5-22 and is described on the following pages. To complete STD configuration, type STDEND in the NEXT ? field.

```
                 AIF SESSION TYPE DESCRIPTORS UNIT
NEXT ?:NEXT           MODE:
STD NAME (TWO ALPHANUMERIC CHARACTERS):__
MODE NAME (1-8 CHARACTERS):AIFMODE1          SESSION TYPE (0):0
DESTINATION LU TYPE (CICS OR IMS):CICS
RELEASE ON ABNORMAL TERM (HOLD OR IMMEDIATE OR N): HOLD
```

Figure 5-22. AIF Session-Type Descriptors Configuration Screen

STD_NAME

A unique two alphanumeric character name assigned to this session-type descriptor.

MODE NAME

An ASCII string of up to eight characters in length that is used to identify various session parameters such as class of service. This parameter allows the host to pick the proper BIND image.

SESSION TYPE=0

No other options available.

DESTINATION_LU_TYPE

This parameter specifies the type of LU in the host, either CICS or IMS. If the session type was specified above, then the destination LU type is also necessary to determine which protocol handler is to be used. The default, if this parameter is not specified, is CICS.

RELEASE ON ABNORMAL TERMINATION

This parameter specifies whether the session will be released immediately on abnormal termination or hold it for restart. The default value is HOLD.

AIF Preestablished Session Group Characteristics

After you have specified PU information and session-type descriptor information, you must provide pre-established session group information. The AIF Preestablished Session Group Configuration Screen appears in Figure 5-23 and is described on the following pages.

```
        AIF PREESTABLISHED SESSION GROUP CONFIGURATION
NEXT ?:NEXT         MODE:
PREESTABLISHED SESSION GROUP NUMBER (1-125):001
HOST LU NAME (8 ALPHANUMERIC CHAR):________
STD NAME (2 ALPHANUMERIC CHAR):__
NO IN GROUP (1-227):001
```

Figure 5-23. AIF Preestablished Session Group Configuration Screen

PREESTABLISHED SESSION GROUP NUMBER (1-125)

The number assigned to the pre-established session group. The numbering of these groups begins with 1 and increases by 1 until the last preestablished group is assigned.

HOST LU NAME (8 ALPHANUMERIC CHAR)

The name of the host LU that will be the preestablished session partner.

STD NAME (2 ALPHANUMERIC CHAR)

A unique two-character alphanumeric name assigned to the session-type descriptor associated with this group.

NO IN GROUP (1-227):001

The number of LUs to be associated with this pre-established session group.

AIF Logical Unit Configuration

After you have configured AIF PUs, session-type descriptors, and pre-established session groups, you must supply LU information. The AIF Logical Unit Configuration Screen appears in Figure 5-24 and is described below.

```
                      AIF LOGICAL UNIT CONFIGURATION
NEXT ?:NEXT
MODE:
LU ADDRESS (1-227):001      LU TYPE (0):0
RESERVED (Y OR N):N         PREESTABLISHED (Y OR N):N
STD NAME (2 ALPHANUMERIC CHAR):__
HOST LU NAME (8 ALPHANUMERIC CHAR):________
```

Figure 5-24. AIF Logical Unit Configuration Screen

LU ADDRESS (1-227)

The LU address is a decimal digit between 1 and 6. The Configurator pre-fills this field with ascending addresses. If you skip an address, the Configurator duplicates your specification for the previous LU(s).

LU TYPE (0)

The LU type for the AIF is preconfigured to be type 0. No other value will be accepted.

RESERVED (Y OR N)

An LU can be reserved, or used only for a particular task if you indicate Y (Yes) on this parameter.

PREESTABLISHED (Y OR N)

If this LU is reserved, it can be assigned to a preestablished session partner.

STD NAME

A unique two-alphanumeric-character name assigned to this session-type descriptor. If this LU is reserved, the STD name must be specified.

HOST LU NAME (8 ALPHANUMERIC CHAR)

The eight-character alphanumeric name of the host LU with which the session is to be pre-established. This field must be specified if this LU is reserved and pre-established.

SUMMARY OF CONFIGURATION CORRESPONDENCES

The following paragraphs summarize the correspondences between MOD 400 configuration, DPS 6 SNA configuration, and host configuration.

The name of the SNA line (default value: LINE01) must match the device_name field in the MOD 400 CLM DEVICE directive defining the DPS 6 host link.

The frame size defined in the SOPR configuration file must be greater than or equal to the largest frame size specified in every facility configuration table. For the ITF, the frame size must match the value of the host NCP MAXDATA macrocall, minus nine characters.

PU and LU addresses must always agree between the host NCP generation and the DPS 6 SNA configuration files.

The line type you specify in the configuration files must match the host NCP DIAL macrocall value (NO for nonswitched lines and YES for switched lines). The host default value is nonswitched (NO).

If you are using a switched line, the XID must match the IDNUM and the IDBLK VTAM's GEN configuration.

The DPS 6 multiline controller does not provide for NRZI support, so the host NRZI macro call value must be NO.

For the RJE Facility, the RU size must match the host NCP MAXDATA macrocall value, minus nine characters for SDLC header information for the appropriate physical unit. The RU size you specify in an ITF configuration file must match the RUSIZE value for the host CICS Terminal Control Table. The RU size you specify in an RJE configuration file should be less than or equal to the value of the host BUFSIZE macrocall in the JES2 remote station definition.

There is no distinction made between SNA remote printers and terminals in the host NCP generation. (Specification of these units is made in the CICS Terminal Control Table.)

The ITF only supports character-coded logons to VTAM; therefore, the SSCPFM parameter must be specified as USSSCS.

For the AIF, the correspondence is made during session initiation when you provide the STD name.

PRINTING CONFIGURATION INFORMATION

One of the available selections on the Configuration Mode Menu is "Print." This selection allows you to print information about one or more logical nodes, for a specified SNA service or facility or all SNA services and facilities.

Figure 5-3 illustrates the output of this function.

If you select Print from the Configuration Mode menu, the Print Mode Configurator menu shown in Figure 5-25 is displayed.

```
                    PRINT MODE CONFIGURATOR

  (AD)   SNA Administrator
  (CF)   Configurator
  (SF)   SNA File Transfer Facility
  (IT)   Interactive terminal facility
  (RJ)   Remote Job Entry Facility
  (AI)   Application Interface Facility
  (AL)   All

                          SELECTION:________
```

Figure 5-25. Print Mode Configurator Menu

Printing Administrative and Transport Facility Information

If you select "SNA Administrator" from the Print Mode Configuration menu, the SOPR Print Mode Configurator screen (Figure 5-26) is displayed.

```
                  SOPR PRINT MODE CONFIGURATOR

  Logical node name: SOPR

  List pathname:

  __________________________________________________________
```

Figure 5-26. SOPR Print Mode Configurator Screen

List pathname:

This is the pathname (device or file) to which you wish to send the listing information. The pathname can be no more than 58 characters in length. The default is to send listing information to your terminal.

Printing SNA Configurator Configuration Information

If you select "Configurator" from the Print Mode Configuration menu, the CONF Print Mode Configurator screen (Figure 5-27) is displayed.

```
                    CONF PRINT MODE CONFIGURATOR

    Logical node name: CONF

    List pathname:

    __________________________________________________________
```

Figure 5-27. CONF Print Mode Configurator Screen

List pathname:

This is the pathname (device or file) to which you wish to send the listing information. The pathname can be no more than 58 characters in length. The default is to send listing information to your terminal.

Printing SNA File Transfer Facility Configuration Information

If you select "SNA File Transfer Facility" from the Print Mode Configuration menu, the SFT Print Mode Configurator screen (Figure 5-28) is displayed.

```
                    SFT PRINT MODE CONFIGURATOR

    Enter logical node name: ________

    List pathname:

    __________________________________________________________
```

Figure 5-28. SFT Print Mode Configurator Screen

Enter logical node name:

If you wish information about a specific SFT node, enter a node name here. If you leave this field blank, the configurator displays information about all SFT nodes.

List pathname:

This is the pathname (device or file) to which you wish to send the listing information. The pathname can be no more than 58 characters in length. The default is to send listing information to your terminal.

Printing Interactive Terminal Facility Configuration Information

If you select "Interactive terminal facility" from the Print Mode Configuration menu, the ITF Print Mode Configurator screen (Figure 5-29) is displayed.

```
                ITF PRINT MODE CONFIGURATOR

Enter logical node name: ________

List pathname:

__________________________________________________________
```

Figure 5-29. ITF Print Mode Configurator Screen

Enter logical node name:

If you wish information about a specific ITF node, enter a node name here. If you leave this field blank, the Configurator displays information about all ITF nodes.

List pathname:

This is the pathname (device or file) to which you wish to send the listing information. The pathname can be no more than 58 characters in length. The default is to send listing information to your terminal.

Printing SNA Remote Job Entry Facility Configuration Information

If you select "Remote Job Entry Facility" from the Print Mode Configuration menu, the RJEF Print Mode Configurator screen (Figure 5-30) is displayed.

```
                  RJEF PRINT MODE CONFIGURATOR

    Enter logical node name: ________

    List pathname:

    __________________________________________________________
```

Figure 5-30. RJEF Print Mode Configurator Screen

Enter logical node name:

If you wish information about a specific RJE node, enter a node name here. If you leave this field blank, the Configurator displays information about all RJE nodes.

List pathname:

This is the pathname (device or file) to which you wish to send the listing information. The pathname can be no more than 58 characters in length. The default is to send listing information to your terminal.

Printing Application Interface Facility Configuration Information

If you select "Application Interface" from the Print Mode Configuration menu, the AIF Print Mode Configurator screen (Figure 5-31) is displayed.

```
                  AIF PRINT MODE CONFIGURATOR

 Enter logical node name: ________

 List pathname:

 __________________________________________________________
```

Figure 5-31. AIF Print Mode Configurator Screen

Enter logical node name:

If you wish information about a specific AIF node, enter a node name here. If you leave this field blank, the Configurator displays information about all AIF nodes.

List pathname:

This is the pathname (device or file) to which you wish to send the listing information. The pathname can be no more than 58 characters in length. The default is to send listing information to your terminal.

Printing All SNA Configuration Information

If you select "All" from the Print Mode Configuration menu, the SNA Facilities Print Mode Configurator screen (Figure 5-32) is displayed.

```
              SNA FACILITIES PRINT MODE CONFIGURATOR


    List pathname:

    ___________________________________________________________
```

Figure 5-32. SNA Facilities Print Mode Configurator Screen

List pathname:

This is the pathname (device or file) to which you wish to send the listing information. The pathname can be no more than 58 characters in length. The default is to send listing information to your terminal.

INVOKING BATCH-MODE CONFIGURATION FROM A MENU

One of the available selections on the Configuration Mode menu is "Batch." This selection allows you to start batch-mode configuration from the menu subsystem. In batch-mode configuration, the Configurator processes input configuration files that you have prepared by hand. Section 5 describes batch-mode input files.

If you select "Batch" from the Configuration Mode menu, the Batch Mode Configurator screen (Figure 5-33) is displayed.

BATCH MODE CONFIGURATOR

Batch pathname:

List pathname:
!LPT00

Figure 5-33. Batch Mode Configurator Screen

Batch pathname:

This is the pathname of the primary input file. The pathname can be no more than 58 characters in length. If you skip this field, the Configurator looks for the file name you specified in the BATCH_PATH keyword when you configured the Configurator.

List pathname:

This is the pathname (device or file) to which Configurator listing information and error messages are sent. The pathname can be no more than 58 characters in length. The default value is !LPT00. If you blank out this field, the Configurator sends information to the pathname you specified in the LIST_PATH keyword when you configured the Configurator.

UPDATING YOUR CONFIGURATION

If you wish to update your SNA configuration, you must first determine whether or not you will have to change the basic MOD 400 configuration as well. If so, you must change the Configuration Load Manager (CLM) file. For information about configuring MOD 400 for SNA, see Section 2. For information about MOD 400 system building, refer to the MOD 400 System Building manual.

To update your SNA configuration, you can use the interactive mode or the batch mode. Both modes allow you to modify, add to, or reduce your configuration.

Updating in Interactive Mode

Interactive-mode updating involves either re-invoking the relevant screens or using the NEXT? prompt and changing those fields representing configuration aspects you want to update. Leave the other fields unchanged.

The NEXT? prompt at the top of each screen allows you to fill in the name of the screen you wish to see next. You can either indicate the name of a component or the name of another program product.

1. The following are valid entries at any point during the configuration of any of the SNA program products:

   a. CONF - goes to the start of the configurator configuration

   b. SOPR - goes to the start of the SNA operator configuration

   c. QUIT - assumes the default for the remaining display, completes the configuration and terminates the configurator

   d. name or program product (ITF, RJE, SFT, AIF) - goes to the start of the product's configuration screens.

2. In addition to those listed in group 1, above, the following are valid entries if you are configuring RJE, ITF, SFT, or AIF.

   a. LINK - goes to the link protocol display
   b. PU - goes to the PU display
   c. LUnn - goes to the nth LU screen.

3. In addition to those listed in groups 1 and 2, the following are valid entries if you are updating the ITF, RJE, or SFT:

   a. LUInn - inserts an LU directly before the one named by nn

   b. LUAnn - appends an additional LU after the one named by nn

4. In addition to those listed in groups 1, 2, and 3, the following is a valid entry if you are configuring ITF:

   PMn - goes to the nth printer matrix screen, where n is the port number.

5. In addition to groups 1 and 2, the following are valid entries if you are configuring the AIF:

   a. STDEND - completes the session-type descriptor configuration process

   b. STDNCL - adds STDs, using the previous contents of the STD entry

   c. STDCLR - adds STDs, clearing the bind parameters of the previous entry to blanks

   c. STDab - goes to the session-type descriptor entry named ab

   e. PSGn - goes to the nth preestablished session group

   f. PSGADD - adds a preestablished session group after the current PSG

   g PSGEND - finishes the preestablished session group configuration process.

Updating in Batch Mode

Batch-mode updating involves preparing separate update files for each service or facility. This method is somewhat more direct and rapid than interactive-mode updating. However, batch-mode updating requires familiarity with batch-mode configuration. Refer to Section 6 for information on updating your SNA configuration in batch mode.

DELETING NODES INTERACTIVELY

To delete configuration files for one or more nodes using menus, select DL (delete) from the Configuration Mode menu. The Delete Mode Configurator menu (Figure 5-34) will be displayed.

```
                    DELETE MODE CONFIGURATOR

   (AD)  SNA Administrator

   (CF)  Configurator

   (SF)  SNA File Transfer Facility

   (IT)  Interactive terminal facility

   (RJ)  Remote Job Entry Facility

   (AI)  Application Interface Facility

   (AL)  All

                      SELECTION: ________
```

Figure 5-34. Delete Mode Configurator Menu

The consequences of taking each of these selections is described below.

If you select AD (SNA Administrator), configuration files for SNA Operator Control are deleted.

If you select CF (Configurator), configuration files for the SNA Configurator are deleted.

If you select SF (SNA File Transfer Facility), the SFT Delete Mode Configurator menu is displayed:

```
                    SFT DELETE MODE CONFIGURATOR

    Enter logical node name:  ________
```

If you enter a node name, configuration files for that SFT node are deleted. If you leave the field blank, all SFT configuration files are deleted.

If you select IT (Interactive terminal facility), the following screen is displayed:

```
                    ITF DELETE MODE CONFIGURATOR

    Enter logical node name:  ________
```

If you enter a node name, configuration files for that ITF node are deleted. If you leave the field blank, all ITF configuration files are deleted.

If you take the "RJ" (Remote Job Entry Facility) selection, you are presented this screen:

RJE DELETE MODE CONFIGURATOR

Enter logical node name: ________

If you enter a node name, configuration files for that RJE node are deleted. If you leave the field blank, all RJE configuration files are deleted.

If you select AI (Application Interface Facility), the following screen is displayed:

AIF DELETE MODE CONFIGURATOR

Enter logical node name: ________

If you enter a node name, configuration files for that AIF node are deleted. If you leave the field blank, all AIF configuration files are deleted.

If you select AL (All), all SNA configuration files are deleted.

Section 6
BATCH CONFIGURATION OF DPS 6 SNA

Each DPS 6 SNA support service or facility requires a configuration file. The configuration file is used to tailor a support service or facility to your system environment. You use the DPS 6 SNA Configurator to create, update, delete, or print the configuration files. You can perform these operations interactively, using menus and additional screens, or in batch mode by creating and processing input files.

You can create configuration files for any of the SNA components:

COMPONENT CONFIGURATION DICTIONARY DIRECTORY

All configuration files reside in the directory CCD (Component Configuration Dictionary). The files that the SNA Configurator creates in CCD are relative files, with an alternate index for each component entry. The directory CCD is included with the DPS 6 SNA software. All other directories and files in CCD are created by the SNA Configurator. Figure 6-1 illustrates the structure of CCD.

INTERACTIVE AND BATCH MODE CONFIGURATION

To configure one of the components, you create an input file containing SNA Configurator keywords and keyword values, and invoke the Configurator. To configure several components, you need several files.

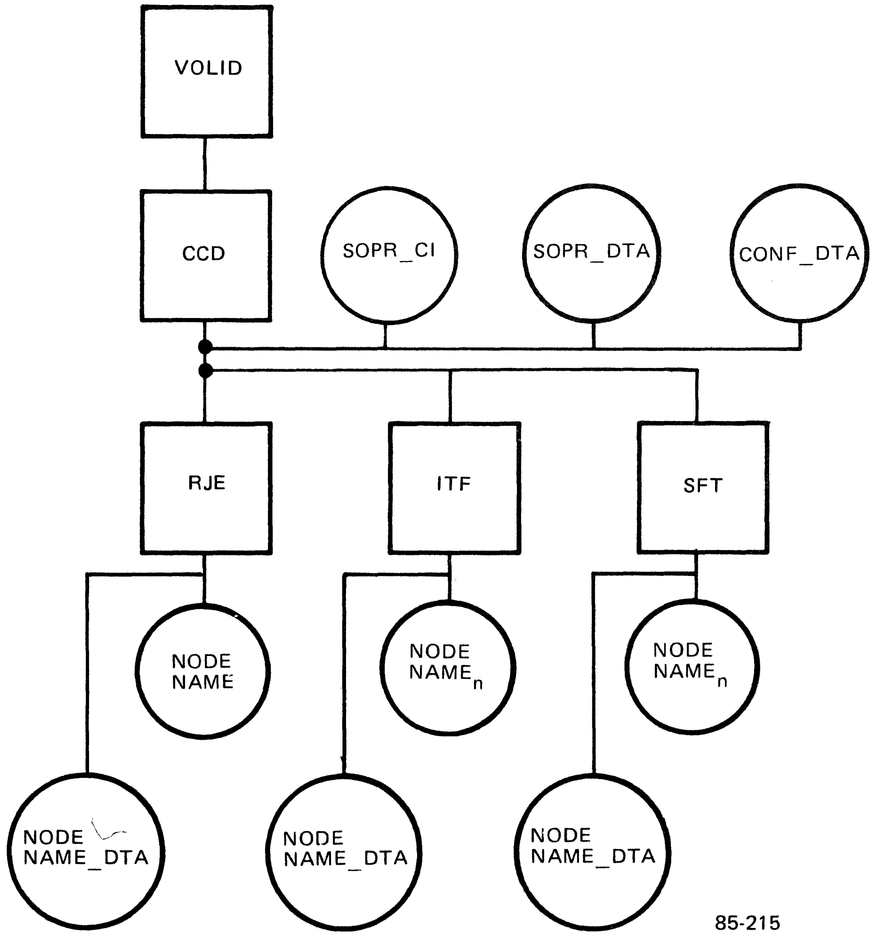

Figure 6-1. Directory CCD

You can create these files interactively, using a screen-driven interface to SNA, or in batch mode, creating the keyword files directly with an editor. The two methods produce identical results.

This subsection describes the configuration process in general and the individual configuration procedures of the SNA Configurator, SOPR, and each of the SNA program products.

INVOKING THE SNA CONFIGURATOR

To invoke the Configurator in batch mode, enter this command:

SNA?CONF [ctl_arg]

ARGUMENTS:

[ctl_arg]

One or more of the following control arguments. The batch, delete, and print options are mutually exclusive.

NOTE

Interactive mode control arguments are described in Section 5.

$$\left\{\begin{matrix}\text{-BATCH\_PATH}\\ \text{-BATCH}\\ \text{-BA}\\ \text{-B}\end{matrix}\right\}$$ [pathname]

Invoke the Configurator in batch mode. Input is read from: (1) the file whose pathname is specified as pathname; or 2) the filename specified in the BATCH_PATH keyword of the primary input file.

-PL

Display or print the configuration files of all SNA services and facilities.

-PC

Display or print the configuration file of the SNA Configurator.

-PA

Display or print the configuration files of SOPR.

-PR [node_name]

Display or print the configuration files of the RJE Facility. If a node name is supplied, display only the files for that node.

-PT [node_name]

Display or print the configuration files of the Interactive Terminal Facility (ITF). If a node name is supplied, display only the files for that node.

-PF [node_name]

Display or print the configuration files of the SNA File Transfer Facility. If a node name is supplied, display only the files for that node.

-PS [node_name]

Display or print the configuration files of the Application Interface Facility. If a node name is supplied, display only the files for that node.

{ -LIST_PATH } [pathname]
{ -LIST }
{ -LS }
{ -L }

Send the Configurator output and any diagnostic messages to the file pathname (see "Configuring the SNA Configurator," later in this section). If the pathname refers to a logical device, a sequential file with a logical record size of 132 characters must exist there. If pathname is not specified, the Configurator sends messages to the file specified as LIST_PATH when the Configurator is configured. -LIST appends output if the file being written to was previously opened. This argument applies to batch mode configuration only.

DESCRIPTION:

SNA?CONF invokes the SNA Configurator. The SNA Configurator processes the input from user-prepared input files, or creates configuration files for all of the DPS 6 SNA facilities, including SOPR and the SNA Configurator itself.

Example 1:

    SNA?CONF -BATCH ^SNA>BATCH_INPUT -LIST !LPT00

Invoke the SNA Configurator, which reads input from the user-prepared file BATCH_INPUT on volume SNA. The SNA Configurator lists the input, along with any diagnostic messages, on line printer LPT00.

Example 2:

```
SNA?CONF -PT !LPT00
```

Invoke the SNA Configurator and display the configuration files for the ITF Facility. Data will be written to a line printer.

SNA CONFIGURATOR INPUT FILES

Input for the SNA Configurator consists of one or more input files. An input file contains one or more Configurator directives and argument values that characterize the SNA support services and/or facilities. You must create the input file(s) before invoking the Configurator.

An input file is either a primary file or a secondary file. A primary input file contains either:

- All of the information required to create a configuration file for one of the support services or one of the facilities; or

- One or more FILE directives, which direct the Configurator to search for the information in a secondary file.

A secondary file contains the input necessary to configure one support service or one facility. A secondary file must not contain any FILE directives. Figure 6-2 contains an example of input with one primary file and several secondary files.

If you wish to configure one support service or one facility, create a primary input file for that service or facility. If you wish to configure more than one component (for example, SOPR and two RJE nodes) at the same time, you must create a primary file and several secondary ones. In this case, the primary file contains several FILE directives. Each FILE directive specifies the pathname of a secondary file. The secondary file contains all of the input necessary to configure one support service or facility. Figure 6-3 contains a list of the Configurator directives.

NOTE

> If you plan to create a new configuration file for SOPR, it is recommended that you delete SOPR_DTA from directory >>CCD.

```
PRIMARY INPUT FILE

^SNA>BATCH_INPUT
  FILE=^SNA>CONF_INPUT.
  FILE=^SNA>SOPR_INPUT.
  FILE=^SNA>RJE1_INPUT.
  FILE=^SNA>RJE2_INPUT.
  FILE=^SNA>ITF_INPUT.
  FILE=^SNA>SFT_INPUT.
  FILE=^SNA>AIF_INPUT.
  BYE.

  SECONDARY INPUT FILES
```

```
^SNA>CONF_INPUT
    CREATE=CONF.
    AUTHOR=JDOE
    JOURNAL_PATH=>JNL>CONF
    LIST_PATH=!LPT00
    RJE=Y
    ITF=Y
    SFT=Y.

^SNA>RJE1_INPUT
    CREATE=RJE.
    NODE_NAME=RJENODE1
    AUTHOR=JDOE
    JOURNAL_PATH=>JNL>RJE1
    LINE_NAME=LINE01
    LINE_CONFIG=NONSW.
    PU_ADDR=03
    NO_LUS=2.
    LU_ADDR=1.
    LU_ADDR=2.

^SNA>ITF_INPUT
    CREATE=ITF.
    NODE_NAME=ITFNODE
    LINE_NAME=LINE01
    LINE_CONFIG=NONSW.
    PU_ADDR=02
    NO_LUS=02
    RES_SIBS=02
    NO_PRINTERS=00.
    LU_TYPE=2
    LU_CLASS=0
    LU_NAME=TERM1.
    LU_ADDR=03
    LU_TYPE=02
    LU_CLASS=0
    LU_NAME=TERM2.
```

```
^SNA>SOPR_INPUT
    CREATE=SOPR.
    AUTHOR=JDOE
    JOURNAL_PATH=>JNL>SOPR
    USERS=2
    NO_LINES=1
    LINE_NAME1=LINE01
    MAX_FRAME_SIZE1=0256.

^SNA>RJE2_INPUT
    CREATE=RJE.
    NODE_NAME=RJENODE2
    AUTHOR=JDOE
    JOURNAL_PATH=>JNL>RJE2
    LINE_NAME=LINE01
    LINE_CONFIG=SW.
    XID=020001300BF0.
    PU_ADDR=F0
    NO_LUS=1.
    LU_ADDR=1.

^SNA>SFT_INPUT
    CREATE=SFT.
    NODE_NAME=SFTNODE
    JOURNAL_PATH=>JNL>SFT
    LINE_NAME=LINE01
    LINE_CONFIG=NONSW.
    PU_ADDR=04
    NO_LUS=01.
    LU_ADDR=01.

^SNA>AIF_INPUT
    CREATE=AIF.
    NODE_NAME=AIFNODE1
    AUTHOR=RYAN
    JOURNAL_PATH=>>CCD>AIF_JRNL
    STATE_TIMER=010
    FRAME_TIMER=99
    FRAME_SIZE=256
    SEND_LIMIT=7
    MAX_RETRY=04.
    PU_ADDR=01
    MAX_RU=256
    NO_LUS=12
    MIN_LU_ADDR=10
    NO_STDS=3
    NO_PSGS=2.
    STD_NAME=AA
    MODE_NAME=AIFTEST1
    SESSION_TYPE=0
    DESTINATION_LU_TYPE=CICS
    RELEASE_ON_ABNORMAL_TERM=HOLD
    PSG_NUM=01
    HOST_LU_NAME=CICS
    STD_NAME=AB
    NO_IN_GROUP=2.
    LU_ADDR=010
    RESERVED=YES
    STD_NAME=AA
    PREESTAB=N
```

Figure 6-2. Example of Primary and Secondary Input Files

```
FILE=pathname.

CREATE={CONF|SOPR|RJE|ITF|SFT|AIF}.

UPDATE={CONF|SOPR|RJE|ITF|SFT|AIF}.

DELETE={CONF|SOPR|RJE|ITF|SFT|AIF}.

BYE.
```

Figure 6-3. Configuration Directives

NOTE

Each directive <u>must</u> end with a period (.).

CONFIGURATION DIRECTIVES

The configuration directives are described on the following pages in the order in which they must appear in a configuration file.

FILE Directive

The format of a FILE directive is:

```
FILE=pathname.
```

where pathname is the pathname of a file containing either the input for <u>one</u> support service (CONF or SOPR) or the input to configure <u>one</u> logical node (RJE Facility, ITF, SFT, or AIF).

A primary input file can contain more than one FILE directive. Each FILE directive must be terminated with a period (.). A secondary file must not contain a FILE directive. See Figure 6-2 for examples of FILE directives. FILE directives, if present, must be first in the primary input file. Multiple FILE directives must be together.

CREATE Directive

The format of a CREATE directive is:

$$\text{CREATE=}\left\{\begin{matrix}\text{CONF}\\ \text{SOPR}\\ \text{RJE}\\ \text{ITF}\\ \text{SFT}\\ \text{AIF}\end{matrix}\right\}$$

You use this directive to create configuration file entries for the SNA Configurator, SOPR, or any of the SNA facilities. For example, to create a configuration file for SOPR, specify:

```
CREATE=SOPR.
```

followed by the necessary CREATE information. CREATE information consists of items of the form:

```
KEYWORD=argument_value
```

Each support service or facility has its own set of keywords, some of which are required and some of which are optional. SNA Configurator and SOPR configuration keywords are described in this section. Configuration keywords for the RJE, ITF, and SFT are described in the sections of this manual dealing with each facility.

UPDATE Directive

The format of an UPDATE directive is:

$$\text{UPDATE=}\left\{\begin{array}{l}\text{CONF}\\\text{SOPR}\\\text{RJE}\\\text{ITF}\\\text{SFT}\\\text{AIF}\end{array}\right\}$$

You use this directive to modify configuration files for an already configured facility or support service. The information required after the UPDATE directive depends upon the facility being updated. Updating the SNA Configurator and SOPR is described in this section. Updating the configuration files for the other SNA facilities is described in the section devoted to that facility.

DELETE Directive

The format of a DELETE directive is:

$$\text{DELETE=}\left\{\begin{array}{l}\text{ALL}\\\text{CONF}\\\text{SOPR}\\\text{RJE}\\\text{ITF}\\\text{SFT}\\\text{AIF}\end{array}\right\}$$

You use this directive to delete the node file node_name in the directory CCD. Follow this directive with a NODE_NAME directive to specify a single node; otherwise, all facility nodes are deleted. For example, if you created the system described in Figure 6-2 (which has two RJE nodes) and now wish to delete the second RJE node, specify:

```
DELETE=RJE.
NODE_NAME=RJENODE2.
```

To delete all SFT nodes, specify:

```
DELETE=SFT.
```

To delete all configured nodes, specify:

```
DELETE=ALL.
```

PRINT Directive

The format of a PRINT directive is:

$$\text{PRINT=} \left\{ \begin{array}{l} \text{ALL} \\ \text{CONF} \\ \text{SOPR} \\ \text{RJE} \\ \text{ITF} \\ \text{SFT} \\ \text{AIF} \end{array} \right\}$$

You use this directive to print configuration information about any or all of the SNA services or program products. For example, if you wish to print information about your ITF configuration, specify:

```
PRINT=ITF.
```

To print information about all existing configurations, specify:

```
PRINT=ALL.
```

BYE Directive

The format of the BYE directive is:

```
BYE.
```

You use this directive to terminate the Configurator. This directive is optional; if you do not include a BYE directive, the Configurator terminates when it reaches the end of input.

DUPLICATING AN EXISTING LOGICAL UNIT

To ease the process of defining multiple LUs for a node, the Configurator allows you to skip over the specification of LUs. If you skip an address, the Configurator uses the set of specifications you enter to define the skipped LU(s) of the same type.

For example, suppose you are configuring multiple ITF printers and terminals. The logical unit addresses are:

Logical Unit Address	Device Type
2	Terminal
3	Printer
4	Terminal
5	Printer
6	Terminal
7	Printer
8	Terminal
9	Printer
10	Terminal
11	Terminal
12	Terminal
13	Terminal

If all the terminals are to have the same characteristics, you can specify an address of 13 for the first LU, and the Configurator will duplicate that set of specifications for all terminals on this node. Similarly, you could specify 9 as the first printer address, and the Configurator will duplicate that set of specifications for all printers on this node. If the terminals at addresses 10, 11, 12, and 13 are to have different characteristics, you could specify 8 for the first address to define terminals at addresses 2 through 8, and specify 13 for the next address, to define terminals at 10 through 13.

Note that the duplication extends to all elements of the LU specification. In the ITF example above, duplicating an LU would result in duplication of LU type, class, logon information, and logoff information; only the address would be different. If you intend to refer to ITF devices by LU name, do not duplicate LUs using this method. Also, note that duplicating logical nodes might result in your specifying LUs out of address sequence, which is in this case allowable.

Except for the situation mentioned above, you will probably duplicate LUs often, since it is much faster than specifying each one individually.

CONFIGURING THE SNA CONFIGURATOR

The SNA Configurator is the only support service or facility that does not require a configuration file. However, you can create a configuration file for the the Configurator to specify default pathnames for the primary batch input file and the batch listing file, to specify a journal pathname, or to restrict the configuration of any of the SNA facilities.

To create a configuration file for the Configurator itself, you can use configuration keywords to specify the following information in an input file:

1. Name of the configuration file author
2. Pathname of a journal file
3. Pathname for the configuration file listing
4. Pathname of a batch input file
5. Whether the other facilities can be configured.

Once you have created a configuration file for the SNA Configurator, you can modify the file using an UPDATE directive.

Creating the Configurator's Configuration File

To create the SNA Configurator's configuration file, you must first specify:

CREATE=CONF.

to configure the SNA Configurator. Then, follow the CREATE directive with keywords, as follows:

[NODE_NAME=CONF]

Included for documentation purposes.

[AUTHOR=author_name]

One to eight alphanumeric characters.

[JOURNAL_PATH=pathname]

File to which messages and error reports from the configurator are written. Up to 58 characters.

[LIST_PATH=pathname]

The file (or device) used by the configurator for listing batch input and diagnostic messages; up to 58 characters.

[BATCH_PATH=pathname]

The default file from which the configurator reads batch input; up to 58 characters in length.

[RJE={Y|N}]
[ITF={Y|N}]
[SFT={Y|N}]
[AIF={Y|N}].

Specifies whether each of the facilities is to be configured.

You can enter keywords after CREATE in any order. Keywords enclosed in brackets ([...]) are optional. The last keyword must be terminated with a period (.).

Modifying the Configurator's Configuration File

To modify the SNA Configurator's configuration file, you must first specify:

UPDATE=CONF.

Then you follow the UPDATE directive with a list of keyword arguments to be modified. You can enter keywords in any order after UPDATE. You can update any of the keywords specified after CREATE=CONF.

The following example changes the author name and makes it possible to configure ITF:

```
UPDATE=CONF.
AUTHOR=NEWAUTH
ITF=Y.
```

Re-invoke the Configurator to use the changed configuration.

CONFIGURING SNA OPERATOR CONTROL

You must create a configuration file for SOPR before you can invoke any of the SNA facilities. To configure SOPR, you can specify the following information:

1. Journal pathname
2. Number of users of SOPR
3. Number of lines (one to four)
4. One to four corresponding line names.

Once you have created a configuration file for SOPR, you can modify the file using an UPDATE directive.

Creating the SOPR Configuration File

To create the SOPR configuration file, you must first specify:

CREATE=SOPR.

Then, follow the CREATE directive with keywords, as follows:

[NODE_NAME=SOPR]

Included for documentation.

[AUTHOR=author_name]

One to eight alphanumeric characters.

JOURNAL_PATH=pathname

File to which messages and error reports from the support services and facilities are written.

[SOPR_DEVICE=device_pathname]

Physical device pathmane of the SOPR console, 1 to 13 characters in length. Default is !CONSOLE.

[USERS=n]

Number of users (one to six) of SOPR. The default value is 2.

NO_LINES=n

Number of SDLC lines (one to four). For each line (1 to n), you must specify a line name, as follows:

LINE_NAMEn=line_namen

One to six characters (n=1 to 4). Must have corresponding value in CLM DEVICE directive. The default value is LINE01-LINE04.

MAX_FRAME_SIZEn=frame_sizen

Either 256 or 512. Must be greater than or equal to largest frame size specified for any of the program products.

[PHYSICAL_DISCONNECT_LINEn={Y/N}]

Indicates whether the line is to be disconnected when SNA terminates. The default value is N.

You can enter the keywords after CREATE in any order. Keywords enclosed in brackets ([...]) are optional. The last keyword must be terminated with a period (.).

SUMMARY OF CONFIGURATION CORRESPONDENCES

The following paragraphs summarize the correspondences between MOD 400 configuration, DPS 6 SNA configuration, and host configuration.

The name of the SNA line (default value: LINE01) must match the device_name field in the MOD 400 CLM DEVICE directive defining the DPS 6 host link.

The frame size defined in the SOPR configuration file must be greater than or equal to the largest frame size specified in every facility configuration table.

The DPS 6 multiline controller does not provide for NRZI support, so the host NRZI macrocall value must be NO.

Updating the SOPR Configuration File

To update the SOPR configuration file, you first specify:

```
UPDATE=SOPR.
```

Follow the UPDATE directive with a list of keyword arguments to be modified. You can update any of the keywords specified after CREATE=SOPR. The following example changes the number of lines specified for SOPR in Figure 6-2 from 1 to 2:

```
UPDATE=SOPR.
NO_LINES=2
LINE_NAME2=LINE02
MAX_FRAME_SIZE2=0512
PHYSICAL_DISCONNECT_LINEn=Y.
```

To use the changed service(s), rebootstrap the system.

BATCH CONFIGURATION OF THE SNA RJE FACILITY

The SNA RJE Facility allows a DPS 6 system to emulate many of the functions of an IBM 3777 Model 3 controller and its attached devices in an SNA environment. More than one invocation of the RJE Facility can reside on the same DPS 6 system. Each invocation of the facility supports up to six LUs. Data can reside on any appropriate DPS 6 device; data can also be directed to any appropriate DPS 6 device. For information about the operation of the facility, see the SNA Remote Job Entry Facility User's Guide.

Appendix D of this manual describes acceptable binds for the RJE Facility.

To create a configuration file for the RJE Facility, you specify the following types of information:

- Administrative and Transport Facility characteristics (node name, author name, journal file name, line name, line configuration, timer, and retry characteristics)
- PU characteristics (address, request unit size, number of LUs, chain size, operation mode)
- LU characteristics (address, request unit size).

Once you have created a configuration file for the RJE Facility, you can modify the file using an UPDATE directive and appropriate keywords.

CREATING A CONFIGURATION FILE FOR THE RJE FACILITY

Prepare SNA Configurator input file(s) containing all of the information necessary to configure the RJE Facility. First, specify:

CREATE=RJE.

to create an RJE Facility configuration file. Then, specify configuration information in the following order:

1. Administrative and Transport Facility characteristics
2. PU characteristics
3. LU characteristics.

When you create the input file(s), make sure you include all required arguments and provide values for any arguments whose default values are not appropriate for your installation. Note that if you take all the LU defaults, you need not enter any LU information.

Specifying Administrative and Transport Facility Characteristics

The first step in creating a configuration file for RJE is to specify Administrative and Transport Facility characteristics. You can enter the keywords after CREATE in any order. Keywords enclosed in brackets ([...]) are optional. The last keyword must be terminated with a period (.).

NODE_NAME=node_name

One to eight alphanumeric characters.

[AUTHOR=author_name]

One to eight alphanumeric characters.

[JOURNAL_PATH=pathname]

Journal file for RJE-specific messages (1 to 58 characters).

LINE_NAME=line_name

One of those you specified in SOPR (1 to 6 characters).

LINE_CONFIG={SW|NONSW}

Corresponds to the DIAL operand on the GROUP macrocall at the host. If the value of DIAL is YES, specify SW.

[XID=hhhhhhhhhhhh]

Exchange station identifier. Must be specified if LINE CONFIG=SW. Twelve digits in length, digit 2 of XID corresponds to the PUTYPE=2 operand; digits 5 through 7 of XID correspond to the IDBLK=013 operand; digits 8 through 12 of XID correspond to the IDNUM= value.

[STATE_TIMER=nnn]

The number of seconds (1 to 254) to wait for a poll frame at the secondary node (RJEF node) before counting an error retry. The default is 10 seconds.

[FRAME_TIMER=nn]

Maximum number of seconds (1 to 99) that an information frame (I-frame) is allowed to remain on the output queue before the I-frame is purged. This time can be large without affecting information transfer, but values smaller than 10 can result in insufficient time to send a frame in case of error. The default is 99 seconds.

[FRAME_SIZE={256|512}]

The frame size is the maximum number of characters (256 or 512) allowed in an I-frame excluding FCS, flag bits, and headers. The default value is 256.

[SEND_LIMIT=n]

Number of I-frames (one to seven) that can be sent before an acknowledgement is received. The default value is 7.

[MAX_RETRY=nn].

Number of error retries (1-15) allowed before a retry error is reported. Any error that causes the loss of an I-frame results in a retry error. The default value is 3.

Specifying Physical Unit Characteristics

Once you have specified Administrative and Transport Facility characteristics, you characterize the PU, using this set of keywords. You can enter the keywords in any order. Keywords enclosed in brackets ([...]) are optional. The last keyword must be terminated with a period (.).

PU_ADDR=hh

Two hexadecimal digits in the range from 01 to FE. PU ADDR corresponds to the ADDR= value on the PU macrocall at the host.

[MAX_RU={256|512}]

The maximum size of an RU (either 256 or 512 characters). This value must be less than or equal to the maximum frame size you selected when specifying Administrative and Transport Facility characteristics. The default value is 256.

NO_LUS=n

The number of LUs (one to six) to be configured. This value corresponds to the MAXLU= value for a switched line.

[RUS_PER CHAIN=nnn]

The maximum number of RUs in a chain (1-254). The default value is 254.

[MULTI_SIGNAL_INT={Y|N}]

Multiple Signal interrupts are required for certain IBM RJE subsystems. In particular, specify Y for JES2 and N for POWER. Consult the configuration documentation for the subsystem you are using. The default value is N.

[OP_MODE={ATTENDED|UNATTENDED}]

Mode of operation. The default value is ATTENDED.

Specifying Logical Unit Characteristics

After you have specified the Administrative and Transport Facility characteristics and the PU characteristics, you must specify LU characteristics. You can describe from one to six LUs. For each LU, you can specify the following information.

You can list the keywords in any order. Keywords enclosed in brackets ([...]) are optional. The last keyword must be terminated with a period (.). If you specify more than one LU and do not use default LU addresses, arrange the lists of keywords so that the LU addresses start with 1 and increase in consecutive order.

[LU_ADDR=n]

A decimal digit between 1 and 6. The values of LU_ADDR correspond to the LOCADDR operand values of LU macrocalls at the host. If you do not specify an LU address, the SNA Configurator takes as a default the next address in the sequence.

[RU_SIZE={256|512}].

The RU size (256 or 512), is determined by the host. This value must not be greater than the maximum RU size you specified when you configured the PU. The default is 256 characters.

BATCH CONFIGURATION OF THE SNA INTERACTIVE TERMINAL FACILITY

The SNA ITF permits DPS 6 VIP7200, VIP7801, VIP7301, WST7200, and WST7801 terminals to appear to an IBM host as IBM 3277/78 terminals attached to an IBM 3274 terminal controller operating in an SNA environment. The ITF allows DPS 6 matrix and line printers to appear as IBM 3287 printers. DPS 6 terminal users can interact with one or more IBM host application systems. The ITF also provides a User Exit Facility that permits user-written programs to be executed before and/or after keyboard activity for each terminal. Information is passed between ITF and user applications using a Screen Image Buffer (SIB). For information about the operation of the ITF, see the SNA Interactive Terminal Facility User's Guide.

Appendix D of this manual describes the acceptable binds for ITF.

To create a configuration file for ITF, specify the following types of information:

- Administrative and Transport Facility characteristics (node name, author, journal pathname, line name, line configuration, state timer, information frame (I-frame) characteristics, send limit, retry information)

- PU characteristics (address, number of LUs, number of printers, and SIB characteristics)

- Printer characteristics (port address, matrix mode, class, source device list)

- LU characteristics (address, type, class, name, bound unit pathname, logon, logoff, printer pathname).

After you have created a configuration file for the ITF, you can modify the file using the UPDATE directive and appropriate update subfunctions.

CREATING A CONFIGURATION FILE FOR ITF

To prepare SNA Configurator input file(s) containing all of the information necessary to configure the ITF Facility, you first specify:

CREATE=ITF.

to create an ITF configuration file. Then you specify configuration information in the following order:

1. Administrative and Transport Facility characteristics
2. PU characteristics
3. Printer characteristics
4. LU characteristics.

When you create the input file(s), make sure you include all required arguments and provide values for any arguments whose default values are not appropriate for your installation. Note that if you take all the LU defaults, you need not enter any LU information.

Specifying Administrative and Transport Facility Characteristics

The first step in creating a configuration file for the ITF is to specify Administrative and Transport Facility characteristics. You can enter the keywords after CREATE in any order. Keywords enclosed in brackets ([...]) are optional. The last keyword must be terminated with a period (.).

NODE_NAME=node_name

One to eight alphanumeric characters.

[AUTHOR=author_name]

One to eight alphanumeric characters.

[JOURNAL_PATH=pathname]

Journal file for ITF-specific messages (1 to 58 characters).

LINE_NAME=line_name

One of those you specified in SOPR (one to six characters).

LINE_CONFIG={SW|NONSW}

Corresponds to the DIAL operand on the GROUP macrocall at the host. If the value of DIAL is YES, specify SW.

[XID=hhhhhhhhhhhh]

Exchange station identifier. Must be specified if LINE_CONFIG=SW. Twelve digits in length, digit 2 of XID corresponds to the PUTYPE=2 operand; digits 5 through 7 of XID correspond to the IDBLK=013 operand; digits 8 through 12 of XID correspond to the IDNUM= value.

[STATE_TIMER=nnn]

The number of seconds (1 to 254) to wait for a poll frame at the secondary node (ITF node) before counting an error retry. The default value is 10 seconds.

[FRAME_TIMER=nn]

Maximum number of seconds (1 to 99) that an information frame (I-frame) is allowed to remain on the output queue before the I-frame is purged. This time can be large without affecting information transfer, but values smaller than 10 can result in insufficient time to send a frame in case of error. The default value is 99 seconds.

[FRAME_SIZE={256|512}]

The frame size is the maximum number of characters (256 or 512) allowed in an I-frame excluding FCS, flag bits, and headers. The default value is 256.

[SEND_LIMIT=n]

Number of I-frames (one to seven) that can be sent before and acknowledgement is received. The default value is 7.

[MAX_RETRY=nn].

Number of error retries (1 to 15) allowed before a retry error is reported. Any error that causes the loss of an I-frame results in a retry error. The default value is 3.

Specifying Physical Unit Characteristics

After you have specified Administrative and Transport Facility characteristics, you specify information to characterize the PU using this set of keywords. You can list the keywords in any order. Keywords enclosed in brackets ([...]) are optional. The last keyword must be terminated with a period (.).

PU_ADDR=hh

Two hexadecimal digits in the range from 01 to FE. PU ADDR corresponds to the ADDR= value on the PU macrocall at the host.

[MAX_RU={256|512|768|1024}]

The maximum size of an RU. This value must be less than or equal to the maximum frame size you selected when specifying Administrative and Transport Facility characteristics. The default value is 256.

NO_LUS=n

The number of LUs (one to six) to be configured. This value corresponds to the MAXLU= value for a switched line.

NO_PRINTERS=nn

Two decimal digits in the range 00 to 31.

RES_SIBS

The number of resident SIBs (2 to 32). If the value of RES_SIBS is greater than the value of NO_LUS, RES_SIBS is automatically set equal to NO_LUS. If RES_SIBS is equal to NO_LUS, each LU has a 2K character SIB dedicated in memory for its exclusive use. If RES_SIBS is less than NO_LUS, the LUs share SIBs; screen data is swapped between memory and the file specified by SIB_PATH, as required. For minimum response time, set the two values equal.

[SIB_PATH=pathname].

Up to 58 characters in length. If you want a SIB file, you must create the file using the following command <u>before</u> you invoke ITF:

```
CR path -F_REL -REC_SIZE 2048
```

Specifying Printer Matrix Characteristics

After you specify Administrative and Transport Facility characteristics, and after you specify PU characteristics, you specify printer information. You must include one printer statement for each printer attached to the ITF. You can specify up to 31 printer statements. The format of a printer statement is:

PRINTER=AAMCCCCCCCCCCCCCCCCSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS

The first two characters of the statement (AA) specify a port address. The port address is two decimal digits in the range from 01 to 31. Arrange PRINTER statements in order of ascending port addresses. Port addresses do not have to be consecutive numbers.

The third character of the statement (M) is a one-character matrix mode. M can be 0 (system printer used by the host only), 1 (local printer only), or 2 (printer shared by host and displays).

The fourth through nineteenth characters (Cs) of the statement are used to specify the class of the device. The Cs can only take on the values 0 and 1. Class is an integer value from 70 to 85. To assign the device to class 70, specify 1 for the first value of C. To assign the device to class 71, specify 1 for the second value of C. To assign the device to class 85, specify 1 for the last (16th) value of C.

The remaining 32 characters (characters 20 through 52) of the statement (Ss) are used to specify the source device list. Each of the last 32 characters in the printer statement corresponds to a printer port address: the first S (position 20 in the statement) corresponds to port address 0; the second S corresponds to port address 1, etc.; the last S (position 52) corresponds to port address 31. To give the device with port address 0 (LU address 02) access to a printer, specify 1 for the first S. In general, to give the device with port address N (LU address N + 2) access to a printer, specify 1 for the nth S. To deny a device access to a printer, specify 0 for the S that corresponds to the port address of the device.

Terminate the last PRINTER statement with a period (.).

Specifying Logical Unit Characteristics

After you have specified Administrative and Transport Facility characteristics, PU characteristics, and printer characteristics, you must specify LU characteristics. An LU may be type 1, type 2, or type 3. Type 2 LUs are the LUs for keyboard and display devices (VIP or WST7300, 7200, 7801, 7802) attached to the ITF. Types 1 and 3 LUs are the LUs for printers attached to the facility.

SPECIFYING DISPLAY LOGICAL UNIT CHARACTERISTICS (TYPE 2)

You must specify a Type 2 LU corresponding to each display terminal, as follows. You can list the keywords in any order. Keywords enclosed in brackets ([...]) are optional. The last keyword must be terminated with a period (.).

[LU_ADDR=nn]

Two-digit number (02 to 33) which corresponds to value of the LOCADDR operand of the LU macrocalls at the host. Printer LU addresses correspond to port addresses in PRINTER keywords plus 2. If you do not specify an LU address, the SNA configurator defaults to the next one in sequence.

[LU_TYPE=2]

The default when the logical unit address does not equal a port address plus 2.

[LU_CLASS={0|1|2}]

LU class can be 0 (display only), 1 (display with application program), or 2 (application only terminal). The default is LU_CLASS=0.

[LU_NAME=lu_name]

The eight character alphanumeric name of the LU.

[BU_PATH=pathname]

Pathname for the application program, must be specify for LU_CLASS=1 or LU_CLASS=2.

[LOGON=logon_line]
[LOGOFF=logoff_line].

Maximum of 65 characters. If the line contains spaces, you must enclose the line in quotation marks ("). A LOGON keyword is required if you specify LU_CLASS=2.

The LOGON keyword can be followed by LOGON APPLID(name) and/or LOGMODE(name) and/or DATA(userdata). For further information, see the appropriate IBM reference manual for the application to which you wish to connect. If you specify LOGON, the LOGON string is the string used in automatic logon to the host application.

LOGOFF= must be followed by LOGOFF (the default). LOGOFF=LOGOFF can optionally be followed by APPLID(name) and/or TYPE(COND|UNCOND) and/or HOLD(YES|NO). For further information see the appropriate IBM reference manual for the application to which you wish to connect. If LOGON and LOGOFF are both specified, the LOGOFF string is used for automatic logoff when the ITF user returns a terminal to the MOD 400 Listener.

SPECIFYING PRINTER LOGICAL UNIT CHARACTERISTICS (TYPES 1 AND 3)

For each printer attached to the ITF, you must specify a Type 1 or Type 3 LU, as follows. You can list the keywords in any order. The last keyword must be terminated with a period (.).

[LU_ADDR=nn]

Two-digit number in the range from 03 to 33, corresponds to values of the LOCADDR operand of the LU macro calls at the host. LU addresses correspond to port addresses in PRINTER keywords plus 2. You must specify LU addresses in ascending order.

[LU_TYPE={1|3}]

The LU type is either 1 or 3. The default value is 3.

[LU_CLASS=3]

You must specify LU_CLASS=3 for printer LUs.

PRINTER_PATH=pathname.

Up to 58 characters in length. The pathname can refer to a physical or a logical device.

BATCH CONFIGURATION OF THE SNA FILE TRANSFER FACILITY

The SNA File Transfer Facility (SFT) allows host users, in an SNA network, to transfer files to and from a DPS 6. In addition to file transfer, SFT includes some file management and control functions. For information about operating the SNA File Transfer Facility, see the SNA File Transfer Facility User's Guide. This section describes configuration of the DPS 6-resident portion of the facility, hereafter referred to as the SFT-6.

Appendix D of this manual describes acceptable binds for SFT.

To create a configuration file for the SFT, you specify:

- Administrative and Transport Facility characteristics (node name, author name, journal file name, line name, line configuration, timer, and retry characteristics)

- PU characteristics (address, RU size, number of LUs, chain size, operation mode)

- LU characteristics (address, RU size).

Once you have created a configuration file for SFT-6, you can modify the file using an UPDATE directive and appropriate UPDATE subfunctions.

CREATING A CONFIGURATION FILE FOR SFT-6

Prepare an SNA Configurator input file containing all of the information necessary to configure the SFT-6. First specify:

    CREATE=SFT.

to create an SFT-6 configuration file. Then specify configuration information in the following order:

1. Administrative and Transport Facility characteristics
2. PU characteristics
3. LU characteristics.

When you create the input file(s), make sure you include all required keywords and provide values for any keywords whose default values are not appropriate for your installation. Note that if you take all the LU defaults, you need not enter any LU information.

Specifying Administrative and Transport Facility Characteristics

The first step in creating a configuration file for SFT is to specify Administrative and Transport Facility characteristics. You can enter the keywords after CREATE in any order. Keywords enclosed in brackets ([...]) are optional. The last keyword must be terminated with a period (.).

NODE_NAME=node_name

One to eight alphanumeric characters.

[AUTHOR=author_name]

One to eight alphanumeric characters.

[JOURNAL_PATH=pathname]

Journal file for SFT-specific messages (1 to 58 characters).

LINE_NAME=line_name

One of those you specified in SOPR (one to six characters).

LINE_CONFIG={SW|NONSW}

Corresponds to the DIAL operand on the GROUP macrocall at the host. If the value of DIAL is YES, specify SW.

[XID=hhhhhhhhhhhh]

Exchange station identifier. Must be specified if LINE_CONFIG=SW. Twelve digits in length, digit 2 of XID corresponds to the PUTYPE=2 operand; digits 5 through 7 of XID correspond to the IDBLK=013 operand; digits 8 through 12 of XID correspond to the IDNUM= value.

[STATE_TIMER=nnn]

The number of seconds (1 to 254) to wait for a poll frame at the secondary node (SFT node) before counting an error retry. The default is 10 seconds.

[FRAME_TIMER=nn]

Maximum number of seconds (1 to 99) that an information frame (I-frame) is allowed to remain on the output queue before the I-frame is purged. This time can be large without affecting information transfer, but values smaller than 10 can result in insufficient time to send a frame in case of error. The default is 99 seconds.

[FRAME_SIZE={256|512}]

The frame size is the maximum number of characters (256 or 512) allowed in an I-frame excluding FCS, flag bits, and headers. The default value is 256.

[SEND_LIMIT=n]

Number of I-frames (one to seven) that can be sent before an acknowledgement is received. The default value is 7.

[MAX_RETRY=nn].

Number of error retries (1 to 15) allowed before a retry error is reported. Any error that causes the loss of an I-frame results in a retry error. The default value is 3.

Specifying Physical Unit Characteristics

After you have specified Administrative and Transport Facility characteristics, you specify information to characterize the PU, using this set of keywords. You can list the keywords in any order. Keywords enclosed in brackets ([...]) are optional. The last keyword must be terminated with a period (.).

PU_ADDR=hh

> Two hexadecimal digits in the range from 01 to FE. PU ADDR corresponds to the ADDR= value on the PU macrocall at the host.

[MAX_RU={256|512}]

> The maximum size of an RU (either 256 or 512 characters). This value must be less than or equal to the maximum frame size you selected when specifying Administrative and Transport Facility characteristics. The default value is 256.

NO_LUS=n

> The number of LUs (one to six) to be configured. This value corresponds to the MAXLU= value for a switched line.

Specifying Logical Unit Characteristics

After you have specified Administrative and Transport Facility characteristics, and after you have specified PU characteristics, specify LU characteristics. You can describe up to six LUs, using the following set of keywords. Keywords enclosed in brackets ([...]) are optional. The last keyword must be terminated with a period (.).

[LU_ADDR=n]

> Value between 1 and 6 which corresponds to the LOCADDR operand value of the LU macro call at the host.

[RU_SIZE={256|512}].

> The RU size (256 or 512), is determined by the host. This value must not be greater than the maximum RU size you specified when you configured the PU. The default is 256 characters.

BATCH CONFIGURATION OF THE APPLICATION INTERFACE FACILITY

The SNA Program Interface Facility (AIF) permits the DPS 6 programmer to write COBOL or assembler transaction programs which interact with an application running under CICS or IMS at an IBM host.

AIF supports an application to application session. Since CICS and IMS recognize that these applications are not devices, no device-specific formatting is done at the host. The host transaction processing systems simply pass the data to the DPS 6 application to be used as needed.

For information about the operation of AIF, see the SNA Application Programmer's Guide.

Appendix D of this manual describes the acceptable binds for AIF.

To create a configuration file for AIF, you must specify the following types of information:

- Administrative and Transport Facility characteristics (node name, author, journal pathname, line name, line configuration, state timer, information frame (I-frame) characteristics, send limit, retry information)
- PU characteristics (address, number of LUs, session type descriptors and preestablished session groups)
- Session Type Descriptors (STDs) (STD name, session type, destination LU type)
- Preestablished session group characteristics (number name of host LU, name of associated STD, number of LUs in a group)
- LU characteristics (LU address, STD name, host LU name and LU type.)

After you have created a configuration file for AIF, you can modify the file using the UPDATE directive and appropriate update subfunctions.

CREATING A CONFIGURATION FILE FOR AIF

To prepare SNA Configurator input file(s) containing all the information necessary to configure the Programming Interface Facility, you must first specify:

```
CREATE=AIF.
```

to create the AIF configuration file. Then you specify configuration information in the following order:

1. Administrative and Transport Facility characteristics.
2. PU characteristics
3. Session-type descriptors
4. Pre-established session group characteristics
5. LU characteristics.

When you create the input file(s), make sure you include all required arguments and provide values for any arguments whose default values are not appropriate for your installation. Note that if you take all the LU defaults, you need not enter any LU information.

<u>Specifying Administrative and Transport Facility Characteristics</u>

The first step in creating a configuration file for AIF is to specify Administrative and Transport Facility characteristics. You can enter the keywords after CREATE in any order. Keywords enclosed in brackets ([...]) are optional. The last keyword must be terminated with a period (.).

NODE_NAME=node_name

One to eight alphanumeric characters.

[AUTHOR=author_name]

One to eight alphanumeric characters.

[JOURNAL_PATH=pathname]

Journal file for AIF-specific messages (1 to 58 characters).

LINE_NAME=line_name

One of those you specified in SOPR (one to six characters).

LINE_CONFIG={SW|NONSW}

Corresponds to the DIAL operand on the GROUP macrocall at the host. If the value of DIAL is YES, specify SW.

[XID=hhhhhhhhhhhh]

Exchange station identifier. Must be specified if LINE_CONFIG=SW. Twelve digits in length, digit 2 of XID corresponds to the PUTYPE=2 operand; digits 5 through 7 of XID correspond to the IDBLK=013 operand; digits 8 through 12 of XID correspond to the IDNUM= value.

[STATE_TIMER=nnn]

The number of seconds (1 to 254) to wait for a poll frame at the secondary node (AIF node) before counting an error retry. The default is 10 seconds.

[FRAME_TIMER=nn]

Maximum number of seconds (1 to 99) that an information frame (I-frame) is allowed to remain on the output queue before the I-frame is purged. This time can be large without affecting information transfer, but values smaller than 10 can result in insufficient time to send a frame in case of error. The default is 99 seconds.

[FRAME_SIZE={256|512}]

The frame size is the maximum number of characters (256 or 512) allowed in an I-frame excluding FCS, flag bits, and headers. The default value is 256.

[SEND_LIMIT=n]

Number of I-frames (one to seven) that can be sent before an acknowledgement is received. The default value is 7.

[MAX_RETRY=nn].

Number of error retries (1 to 15) allowed before a retry error is reported. Any error that causes the loss of an I-frame results in a retry error. The default value is 3.

Specifying Physical Unit Characteristics

After you have specified Administrative and Transport Facility characteristics, you specify information to characterize the PU, using this set of keywords. You can list the keywords in any order. Keywords enclosed in brackets ([...]) are optional. The last keyword must be terminated with a period (.).

PU_ADDR=hh

Two hexadecimal digits in the range from 01 to FE. PU_ADDR corresponds to the ADDR= value on the PU macro-call at the host.

[MAX_RU={256|512|768|1024}]

The maximum size of a RU that can flow on the SSCP_PU session. This value must be less than or equal to the maximum frame size you selected when specifying Administrative and Transport Facility characteristics. The default value is 256.

NO_LUS=n

The number of LUs (1 to 227) to be configured.

MIN_LU_ADDR=nnn

The first LU's address. The LUs are numbered in sequence beginning with this one. This address is a number in the range of 1 to 227 such that the sum of NO_LUs plus MIN_LU ADDR is not greater than 227.

[NO_STDS=nnn]

This number (1 to 999) represents the total number of session-type descriptors configured. The number of STDs to be configured cannot exceed 999 including deleted entries. This value is system supplied and is displayed for information only.

[NO_PSGS=nnn]

This number (0 to 125) represents the total number of preestablished session groups configured. This value is system supplied and is displayed for information only.

Specifying Session-Type Descriptors

After you have specified the PU characteristics, you must specify session-type descriptors. You can list the keywords in any order. Keywords enclosed in brackets ([...]) are optional. The last keyword must be terminated with a period (.).

STD_NAME=aa

A unique two-character alphanumeric name assigned to this session-type descriptor.

MODE_NAME=n

An ASCII string of up to eight chartacters in length that is used to identify various session parameters such as class of service. This parameter allows the host to pick the proper BIND image.

[SESSION_TYPE=0]

No other options available.

[DESTINATION_LU_TYPE={CICS|IMS}]

Specifies the type of LU in the host. If the session type was specified above, then the destination LU type is also necessary to determine which protocol handler is to be used. The default is CICS.

[RELEASE_ON_ABNORMAL_TERM={IMMEDIATE|HOLD}]

This parameter specifies whether the session will be released immediately on abnormal termination or hold it for restart. The default value is HOLD.

AIF Preestablished Session Group Characteristics

After you have specified physical unit information and session type descriptor information, you must provide preestablished session group information.

[PSG_NUM=nnn]

The number (1-125) assigned to the preestablished session group. The numbering of these groups begins with 1 and increases by 1 until the last preestablished group is assigned.

HOST_LU_NAME=

The eight-character alphanumeric name of the host LU that will be the preestablished session partner.

STD_NAME=aa

A unique two-character alphanumeric name assigned to the session type descriptor which is associated with this group.

NO_IN_GROUP=nnn

The number of LUs (1 to 227) to be associated with this pre-established session group.

AIF Logical Unit Configuration

After you have configured AIF PUs, session-type descriptors, and pre-established session groups, you must supply LU information.

LU_ADDR=nnn

The LU address is a decimal digit between 1 and 6.

[LU_TYPE=0]

The LU type for the AIF is preconfigured to be type 0. No other value will be accepted.

RESERVED={Y|N}

An LU can be reserved or used only for a particular task if you indicate Y (Yes) on this parameter.

[PREESTABLISHED={Y|N}]

If this LU is reserved, it can be assigned to a pre-established session partner.

STD_NAME=aa

A unique two-character alphanumeric name assigned to this session-type descriptor. If this LU is reserved, this name must be specified.

HOST_LU_NAME=aaaaaaaa

The eight-character alphanumeric name of the host LU which will be the pre-established session partner. This field must be specified if this LU is reserved and pre-established.

SUMMARY OF CONFIGURATION CORRESPONDENCES

The following paragraphs summarize the correspondences between MOD 400 configuration, DPS 6 SNA configuration, and host configuration.

The name of the SNA line (default value: LINE01) must match the device_name field in the MOD 400 CLM DEVICE directive defining the DPS 6 host link.

The frame size defined in the SOPR configuration file must be greater than or equal to the largest frame size specified in every facility configuration table. For the ITF, the frame size must match the value of the host NCP MAXDATA macrocall, minus nine characters.

PU and LU addresses must always agree between the host NCP generation and the DPS 6 SNA configuration files.

The line type you specify in the configuration files must match the host NCP DIAL macrocall value (NO for nonswitched lines and YES for switched lines). The host default value is nonswitched (NO).

If you are using a switched line, the XID must match the IDNUM and IDBLK from the PU in VTAM's GEN configuration.

The DPS 6 multiline controller does not provide for NRZI support, so the host NRZI macrocall value must be NO.

For the RJE Facility, the RU size must match the host NCP MAXDATA macro call value, minus nine characters for SDLC header information for the appropriate PU. The RU size you specify in an ITF configuration file must match the RUSIZE value for the host CICS Terminal Control Table. The RU size you specify in an RJE configuration file should be less than or equal to the value of the host BUFSIZE macrocall in the JES2 remote station definition.

There is no distinction made between SNA remote printers and terminals in the host NCP generation. (Specification of these units is made in the CICS Terminal Control Table.)

The ITF only supports character-coded logons to VTAM; therefore, the SSCPFM parameter must be specified as USSSCS.

For the AIF, the correspondence is made during session initiation when you provide the STD name.

UPDATING CONFIGURATION FILES

You can modify an already created Configuration file for any of the SNA program products by creating a Configurator input file that contains the UPDATE directive and a list of UPDATE subfunctions.

First specify:

$$\text{UPDATE=}\left\{\begin{array}{c}\text{RJE}\\ \text{ITF}\\ \text{SFT}\\ \text{AIF}\end{array}\right\}$$

Next, specify:

NODE_NAME=node_name.

where node_name is the one- to eight-character name of the node that you wish to modify. The node name must be followed by a period (.). (See Figure 6-2.) You follow NODE_NAME with one or more update subfunctions in logical sequence.

Table 6-1 contains a summary of the UPDATE subfunctions for the SNA program products. The basic subfunction actions are MOD (to modify information), ADD (to add devices), and DEL (to delete devices). The subfunction objects that are available to all of the SNA program products are Administrative and Control Services (ACS), PUs, and LUs. A subfunction object that is specific to the ITF is printer matrixes (PMXs); those specific to the AIF are STDs and Pre-established Session Groups (PSGs).

Each subfunction must be followed by the keywords to be modified. Every subfunction must be terminated with a period (.). ADD must be followed by all of the keywords required to describe the item being added. Specify UPDATE subfunctions in the following order:

1. MOD=ACS.
2. MOD=PU.
3. {ADD|MOD|DEL}=PMXnn. (ITF only)
4. {ADD|MOD|DEL}=STDaa. (AIF only)
5. {ADD|MOD|DEL}=PSGnnn. (AIF only)
6. {ADD=LU|MOD=LUn|DEL=LUn}.

Table 6-1. Update Subfunctions

Actions	Objects					
	ACS	PU	PMX[a]	LU	STD	PSG[b]
ADD			X	X	X	X
MOD	X	X	X	x	x	x
DEL			X	X	X	X

[a] ITF only
[b] AIFF only

To modify Administrative and Transport Facility characteristics, specify:

```
UPDATE=program_product.
NODE_NAME=node_name.
MOD=ACS.
```

You follow MOD=ACS. with all of the arguments to be changed, using the same format that you used to create the original configuration file.

To modify PU characteristics, specify

```
UPDATE=program_product.
NODE_NAME=node_name.
MOD=PU.
```

You follow MOD=PU. with all of the arguments to be changed, using the same format that you used to create the original program file.

Printer matrix characteristics are specified for the ITF only. You update printer characteristics in ascending port address order.

To modify printer characteristics, specify

```
UPDATE=ITF.
NODE_NAME=node_name.
MOD=PMXport_addr.
```

where port_addr is the two-hexadecimal character port address of the printer to be modified. You follow MOD=PMXport_addr. with the modified PRINTER statement.

To add a printer, you specify:

```
UPDATE=ITF
NODE_NAME=node_name.
ADD=PMXport_addr.
```

where port_addr is the two-character port address of the printer to be added. You follow ADD=PMXport_addr. with a PRINTER statement for the added printer.

To delete a printer, you specify:

```
UPDATE=ITF.
NODE_NAME=node_name.
DEL=PMXport_addr.
```

where port_addr is the two character port address of the printer to be deleted.

STDs are configured for the AIF only. You update STD characteristics in any order.

To modify STD entries, specify:

```
UPDATE=AIF.
NODE_NAME=node_name.
MOD=STDaa.
```

where aa is the two-character alphanumeric STD name. Follow MOD=STDaa. with all of the arguments to be changed, using the same format that you used to create the original configuration file.

To add STD entries, specify:

```
UPDATE=AIF.
NODE_NAME=node_name.
ADD=STDaa.
```

where aa is the two-character alphanumeric STD name. Follow ADD=STDaa. with all of the arguments required to create an STD entry, using the same format as when an STD is created.

To delete STD entries, specify:

```
UPDATE=AIFF
NODE_NAME=node_name.
DELETE=STDaa.
```

where aa is the two-character alphanumeric STD name.

Pre-established session groups are configured for the AIF only. Pre-established session groups must be updated in ascending order.

To modify pre-established session groups, specify:

```
UPDATE=AIF.
NODE_NAME=node_name.
MOD=PSGnnn.
```

where nnn is the number (1 to 125) of the pre-established session group to be modified. Follow MOD=PSGnnn. with all of the arguments to be changed, using the same format that you used to create the original configuration file.

To add pre-established session groups, specify:

```
UPDATE=AIF.
NODE_NAME=node_name.
ADD=PSGnnn.
```

where nnn is the number (1 to 125) of the pre-established session group to be added. Pre-established session groups must be numbered such that the number of the group to be added (PSGnnn) is the first available number after all modifications and deletions. Follow ADD=PSGnnn. with all of the arguments to be required to create a pre-established session group, using the same format as when a pre-established session group is created.

To delete preestablished session groups, specify:

```
UPDATE=AIF.
NODE_NAME=node_name.
DELETE=PSGnnn.
```

where nnn is the number (1 to 125) of the pre-established session group to be deleted.

Update LUs in ascending LU address order.

To modify LU characteristics, specify:

```
UPDATE=program_product.
NODE_NAME=node_name.
MOD=LUnn.
```

where nn is the two-digit number of the LU to be modified. Follow MOD=LUnn. with all of the keywords to be changed, using the same format as when you created the original configuration file for the program product.

To add an LU, specify:

```
UPDATE=program_product.
NODE_NAME=node_name.
ADD=LU.
```

Follow ADD=LU. with all of the arguments required to describe the added LU, using the same format as when an LU is created. You can add LUs <u>only</u> at the end of a list of subfunctions. The LU address of the added LU must be the first available address after all modifications and deletions have occurred. If you add one or more LUs, you must modify the NO_LUS keyword in the PU description.

To delete an LU, specify

```
UPDATE=program_product.
NODE_NAME=node_name.
DEL=LUnn.
```

where nn is the two-digit number of the LU that you wish to delete.

When you delete LUs, the Configurator does not automatically adjust LU addresses so that the addresses are arranged in ascending order. You must appropriately modify the NO_LUS keyword in the PU description, unless you have paired every DEL=LU with an ADD=LU.

You must delete LUs in descending order. For example, if you have five LUs and want to delete two of them, you must change the NO_LUS keyword from 5 to 3, and then delete LUs 5 and 4 in that order.

The example in Figure 6-4 changes the author name, deletes LU03, and adjusts the number of LUsfor the ITF node that was originally configured in Figure 6-2.

```
UPDATE=ITF.
NODE_NAME=ITFNODE.
MOD=ACS.
AUTHOR=MROE.
MOD=PU.
NO_LUS=01.
DEL=LU03.
```

Figure 6-4. Example of UPDATE Subfunctions for ITF

To use the changed node, shut down and restart the program product.

Section 7
SNA JOURNALS AND MAINTENANCE UTILITIES

The SNA Transport Facility allows you to keep a journal file containing an operational history of commands processed and statistical information. SNA Maintenance utilities help you to locate network problems.

JOURNAL OPERATION

A journal file contains the chronological history of the operation of a support service (SOPR or SNA Configurator) or program product. A journal file consists of all commands processed by the service or facility and all messages displayed by the service or facility. If a journal pathname is specified for any support service or facility when it is configured, the system automatically records significant events for that service or facility. A journal file is required for SOPR; other journal files are optional.

If you do not create any of the journal files specified in configuration files, the system creates them automatically.

Each facility or support service reserves its journal file with the attributes READ SHARE, WRITE EXCLUSIVE; therefore, you can print the journal file while it is still in use.

Each journal file is opened in PRESERVE mode; therefore, a journal file can grow without limit. Writing always starts at the logical end of the file.

There are two SOPR menus and commands that help in the maintenance of the SOPR journal file only; they are ASSIGN and CLOSE. They are described in this section. They cannot be used with any other journal files.

There are two types of messages: status and informational. Status messages specify errors that affect either the invocation or processing of the SNA program products. Status messages are written both to the facility journal file and to the SOPR journal file. Status messages are also written to the error-out files for both the facility and SOPR. (The error-out file is usually a terminal.)

Informational messages are messages that may or may not require a response (for example, messages from the host are informational messages). Informational messages are written both to the facility journal file and to the user-out file for the facility.

Status and informational messages have different formats. The format of status messages is

    task_gp_id comp_id buname (status) text

where task_gp_id is the two-character task group identifier of the task group reporting the error, and comp_id is the component and routine identifiers of the reporting module.

The remaining components of the message (buname, status, and text) are in the standard MOD 400 format. For example, if the system cannot invoke the RJE, ITF, or SFT because no Logical Resource Number (LRN) is available, the following message is generated:

    L0 A6 SNA: (5B0830) 2B NO LRN AVAILABLE

The format of informational messages is

    task_gp_id text

where task_gp_id is the two-character task group identifier of the task group reporting the message, and text is the message text.

For example, assume that a device specified for the Configurator was not configured as an ATD device. The following message is generated:

    L0 SNA: (5B5B74) WARNING: DEVICE ERROR OR ATD NOT CONF

Messages written to journal files have a time and date attached to them; messages that are displayed on terminals do not. For example, the status message illustrated above could appear in a journal file as:

1982/01/29 0855:14.950 LO A6 SNA: (5B0830) 2B NO LRN AVAILABLE

This means that the error message was written to the journal file on January 29, 1982, at 14.950 seconds after 8:55 AM. Time is recorded in military format.

Meanings of messages are discussed in either the appropriate facility user's or operator's guide or in Appendixes A, B, or D of this manual.

SNA MAINTENANCE UTILITIES

Utility programs are provided to help maintain network operation and locate problems. These utilities include:

- Endpoint Tracing Facility
- DARTS
- SNAMAP
- SNEDIT.

Endpoint Tracing Facility menus and commands are described earlier in this section. DARTS, designed for use in conjunction with the Endpoint Tracing Facility, is described in the DARTS User's Guide.

SNAMAP is an ECL-only command. It is not available as a menu selection, and cannot be invoked from the system task group. It is a diagnostic tool to display SNA tables and data structures from any group that is not running in a swappool. SNAMAP output should be directed to a hard-copy device though prior use of a File Output (FO) command.

SNEDIT is also an ECL-only command. It is not available as a menu selection, and cannot be invoked from the system task group. It is designed to display SNA journal files interactively through the use of prompts and commands.

SNAMAP Utility

The format of the SNAMAP command is:

```
SNAMAP [ctl_arg]
```

ARGUMENTS:

ctl_arg

You can specify any combination of the following control arguments:

-T

Display all Transport Facility internal data structures, including:

- LRN-LNT tables
- Logical node tables
- Half-session control blocks
- Station tables
- Receive channel tables
- Transmit channel tables.

-R

Display the SNA root vector table.

-P

Display all SNA facility internal data structures, including:

- Associated logical node control block
- Administrative and Control Services control table
- Link Control control table
- PU control table
- PU control block
- LU control table
- LU control block.

-L

Set the display line length to 132 characters (suitable for a line printer). The default value is 80 characters (suitable for a display screen), if you are filing out to a terminal or 132 characters if you are filing out to a printer.

-S

Scroll the display output. SNAMAP prints 22 lines of output at a time, then pauses. To continue the output, touch the RETURN key.

-?

List the available ECL arguments.

DESCRIPTION:

SNAMAP displays SNA tables and data structures, listed by function.

After processing the SNAMAP command, the system responds with:

    READY

A partial sample of SNAMAP output is shown in Figure 7-1.

SNEDIT Utility

The SNEDIT utility allows the user to examine SNA journal files interactively through the use of prompts and commands. SNEDIT is a program which allows you to enter commands to specify parameters to define which journals you wish to display. This utility also allows you to access or dump a file that is being used by another source.

The SNAEDIT utility bound unit is located in the directory >>SYSLIB2 and must be invoked as a standard MOD 400 program. To invoke SNEDIT, type

    SNEDIT

A partial sample of SNEDIT output is shown in Figure 7-2.

SNEDIT FILES

The SNEDIT utility uses the standard MOD 400 user-in, user-out, and error-out files for accepting and displaying journal file records. If the user-out file is a terminal, only the first 80 bytes of the journal record are displayed. (SNEDIT supports two commands, IN and UN, that allow the window to be moved.) If the user-out file is a printer, then the entire 128-byte record is written. If the user-out file is a disk file, the entire record is copied.

SNEDIT COMMANDS

The SNEDIT utility supports two classes of commands.

Class 1 commands get executed immediately when they are entered. These commands effect the environment and processing of SNEDIT.

Class 2 commands are queued for processing. These commands enter the parameters used to display the journal files, and are not processed until you give the GO command to start processing.

The following pages describe the commands that are used with the SNEDIT utility.

```
SNA ROOT VECTOR: 26011
---------------
  ZXSCB : 001B5   ZXGCB : 004B6   ZXDQ   : 02471   ZXPOST: 029C4   ZXD_PR: 02513
  ZXVPST: 02E5A   ZXSPRQ: 02CB0   ZXSRCT: 027B6   ZXSWT : 02E86   ZNATIM: 15A43
  ZUERS : 01FC6   ZMGETL: 01799   ZMGETH: 017A0   ZMRTRN: 017BF   ZNBGET: 15C26
  ZNBRTN: 15C53   ZNBGTS: 15B60   ZNBRTS: 15BCB   ZM_GSY: 15A55   ZM_RSY: 15A57
  ZM_STS: 15A59   ZNBTRB: 381EA   ZXC_SI: 0227E   ZXD_TK: 03155   ZXTEST: 15A61
  ZXREQ : 02C89   ZNSTAK: 252C0   ZNTSLN: 361E2   ZNALNT: 37CE3   ZNBMC4: 379A0
  ZNBTCB: 1599E   ZNLRN :  034    ZNSM00: 02B0F   ZNSM01: 15AAF   ZNBBIN: 15D17
  ZNBBAT: 15AE6   ZNBBDT: 15B1C   ZNBBSL: 15B5B   ZNBBGB: 15B8E   ZNBBRB: 15BA2
  ZNBBDQ: 15BDF   ZNBBAC: 26242   ZNB3DE: 263DC   ZNBBRS: 267AB   ZNBBRL: 26857
  ZNBBID: 26102   ZNBBCT: 2633A   ZNBTSC: 2BC7B   ZQEDEQ: 18958   ZQEXIT: 17C3C
  ZQPLRT: 17BF5   ZQELRT: 169F9   ZQEBUG: 189C2   ZQMDSK: 177E9   ZQMRET: 1796C
  ZQEPUC: 18AEC   ZQELCP: 18AAB   ZNBTRX: 28C14   ZNLSPL: 27907   ZNLSSP: 27837
  ZNLSFC: 27896   ZNLSEB: 27881   ZNLSDB: 278BE   ZNLLDT: 37303   ZNPCON: 2659C
  ZNPRCV: 2740A   ZNPDIS: 265D3   ZNPGON: 27659   ZNBBUP: 2672E   ZNLRNL: 37783
  ZNUMQU: 00000   ZNRUM : 7EEBB   ZQEASD: 18934   ZQEASX: 18932   ZQMULW: 17A43


LRN-LNT TABLE: 37783
-------------
  LRN      : 010
  LNT      : 353A3
  NEXT LNT: 00000


  LOGICAL NODE TABLE FOR LRN 010
  ------------------------
    LNDPID: LN      LNNDID: FLNODE      LNTYPE: IN       LNRCTP: 19BA3
    LNLCTP: 19DC6   LNLNTP: 00000       LNMILU: 01       LNMXLU: 02
    LNDART: 0300    LNFLAG: 0001        LNATSB: 00000    LNDTSB: 00000
    LN_RFU: 0000    LNRUSZ: 256         LNLRN : 010      LNACLN: 00000
    LNSESS: 00      LNNRSP: 0003        LNTRQS: 00000000
    LNTRQR: 00000000
    LNT PU HSCB INFORMATION:
    ---------------------
    LNNAUI: 0040    LNLUHB: 355E3
    LNT LU 01 -> 02 HSCB INFORMATION:
    ------------------------------
    LNNAUI: 0140    LNLUHB: 35363
    LNNAUI: 0240    LNLUHB: 358E3


  HALF SESSION CONTROL BLOCK: 355E3
  ------------------------
    HSCBID: HSCB    HSLNTP: 353A3    HSSLTS: 37483    HSLLTS: 3748B
    HSFSMW: 0000    HSSCID: 0000     HSSESW: 0040     HSEFST: 00000
    HSPQLN: 0000    HSPQHD: 00000    HSPQTL: 00000    HSSQLN: 0000
    HSNFSQ: 00000   HSRQLN: 0000     HSRQHD: 00000    HSRQTL: 00000
    HSPCRP: 00000   HSPCCP: 00000    HSPCSA: 0000     HSPCSN: 0570
    HSPCSF: 8000    HSPCSB: 00000    HSPCSR: 0017     HSPCST: 00000
    HSPHBS: 001D    HSPCPH: 35E43    HSIFSN: 0000     HSIFRN: 0000
    HSIFRT: 44361   HSIFWT: 00000    HSTRQS: 0000     HSTRQR: 0000
    HSTPRS:         HSTNRS: 0000     HSTPRR: 0000     HSTNRR: 0000
    HSTCHS: 00000000
    HSTCHR: 00000000
    HSTSRT: 025AE7DF7F7A
  SSCP -> LU TS PROFILE: 37483
  --------------------
5453 5046 0001 0000 0000 0000 0000 0000
```

Figure 7-1. Information Displayed by SNAMAP

```
SNEDIT
(AA)COMMAND?
?
(AA)
(AA)
(AA)COMMANDS: TD (TARGET DIRECTORY) JN (JOURNAL NAME) SD (START DATE)
(AA)          ST (START TIME)  ED (END DATE)  ET (END TIME)  IN (INDENT)
(AA)          UN (UNDENT)  ? (LIST SNEDIT COMMANDS) AC (ALL COMMANDS)
(AA)          LD (LIST COMMANDS & USER PARAMETERS)  E (ESCAPE PROCESS)
(AA)          GP (GROUP ID) SC (SCROLL) GO (PROCESS COMMANDS) QT (QUIT)
(AA)          BREAK KEY (**BREAK** = UW / PI)
(AA)
(AA)COMMAND?
TD >>CCD
(AA)COMMAND?
JN SOPR_JRNL
(AA)COMMAND?
SD 1985/01/11
(AA)COMMAND?
ST 1308
(AA)COMMAND?
ED 1985/01/18
(AA)COMMAND?
ET 1355
(AA)COMMAND?
GO
(AA)A
(AA)ATARGET DIRECTORY:
(AA)A  >>CCD
(AA)AJOURNAL NAME:
(AA)A  SOPR_JRNL
(AA)ASTART DATE:
(AA)A  1985/01/11
(AA)ASTART TIME:
(AA)A  1308
(AA)AEND DATE:
(AA)A  1985/01/18
(AA)AEND TIME:
(AA)A  1355
(AA)AGROUP ID:
(AA)A
(AA)AINDENT VALUE:
(AA)A
(AA)A
(AA)A1985/01/11 1308:33.250$A S2*READY
(AA)A1985/01/11 1314:53.700$A S3SHUTDOWN
(AA)A1985/01/11 1314:54.300$A S2*READY
(AA)A1985/01/11 1321:06.850$A S2*READY
(AA)A1985/01/11 1323:19.050$A S1  NODE=SPI501   , SOURCE=LINK CTL, EVENT=01, STATE/ERROR=0003
(AA)A1985/01/11 1324:28.650$A S1  NODE=SPI501   , SOURCE=LINK CTL, EVENT=01, STATE/ERROR=0006
(AA)A1985/01/11 1324:29.850$A S1  NODE=SPI501   , SOURCE=LINK CTL, EVENT=0A, STATE/ERROR=0000
(AA)A1985/01/18 1327:02.100$A S2*READY
(AA)A1985/01/18 1332:29.750MP SNA: 5B 5B25 (34)  WARNING: NO SECONDARY USER LOGON VIA THIS TERMINAL
(AA)A1985/01/18 1332:34.950$A S1  NODE=JOHN_ITF, SOURCE=LINK CTL, EVENT=01, STATE/ERROR=0003
(AA)A1985/01/18 1335:41.000$A S1  NODE=JOHN_ITF, SOURCE=LINK CTL, EVENT=01, STATE/ERROR=0006
(AA)A1985/01/18 1335:43.150MP IO SNA: 5B 5B50 (34)  ACTIVE NODE RECEIVED
(AA)A1985/01/18 1336:01.150$A S1  NODE=JOHN_ITF, SOURCE=PATH CTL, EVENT=01, STATE/ERROR=8004
(AA)A1985/01/18 1336:01.850$A S1000002962D000004014FEF9000800400000D000000000000000000000
(AA)A1985/01/18 1353:25.150$A S2*READY
(AA)A1985/01/18 1353:30.300$A S1  NODE=JOHN_ITF, SOURCE=LINK CTL, EVENT=01, STATE/ERROR=0003
(AA)A1985/01/18 1353:32.200$A S1  NODE=JOHN_ITF, SOURCE=LINK CTL, EVENT=01, STATE/ERROR=0006
(AA)A1985/01/18 1353:33.050LO IO SNA: 5B 5B50 (37)  ACTIVE NODE RECEIVED
(AA)A1985/01/18 1355:40.200$A S1  NODE=JOHN_ITF, SOURCE=LINK CTL, EVENT=01, STATE/ERROR=0004
(AA)COMMAND?
QT
(AA)RDY:
```

Figure 7-2. Information Displayed by SNEDIT

?

FORMAT:

?

CLASS: 1

ARGUMENTS:

There are no arguments associated with this command.

DESCRIPTION:

Displays a list of all of the SNEDIT commands.

TD (Target Directory)

FORMAT:

TD pathname

CLASS: 2

ARGUMENTS:

pathname

The directory containing the journal files.

DESCRIPTION:

This optional command is used to set your working directory to the directory containing the journal file(s) you wish to display. If the TD command is not specified, the current working directory is assumed.

EXAMPLE:

TD >>CCD

JN (Journal Name)

FORMAT

JN journal name

CLASS: 2

ARGUMENT:

journal name

The name of the journal file to be displayed.

DESCRIPTION:

This required command specifies the name of the journal to be displayed.

EXAMPLE:

JN RJEP3L6

SD (Start Date)

FORMAT:

SD [yyyy/mm/dd]

CLASS: 1,2

ARGUMENT:

yyyy/mm/dd

The date of the first journal record to be displayed.

DESCRIPTION:

This optional parameter indicates the date of the first record in the journal file you wish to display. If you enter the SD command without specifying a date, you cancel a previously set start date, or set the starting date to the date of the first record in the journal file.

NOTE

If you choose to enter a date, you must enter an exact date. If a record for that date is not found, no records are displayed and you get an error message.

EXAMPLE:

SD 1984/01/25

ST (Start Time)

FORMAT:

ST [hhmm]

CLASS: 1,2

ARGUMENT:

hhmm

The time of the first journal record to be displayed. Time is entered as military time.

DESCRIPTION:

This optional parameter indicates the time of the first record in the journal file you wish to display. If you enter the ST command without specifying a time, you cancel a previously set start time, or set the starting time to the time of the first record in the journal file.

NOTE

If the starting time you enter does not exist for the starting date, records beginning with the next greater time are displayed.

EXAMPLE:

ST 1015

ED (End Date)

FORMAT:

ED [yyyy/mm/dd]

CLASS: 1,2

ARGUMENT:

yyyy/mm/dd

The date of the last journal record to be displayed.

DESCRIPTION:

This optional parameter indicates the date of the last record in the journal file you wish to display. If you enter the ED command without specifying a date, you cancel a previously set end date, and set the ending date to the date of the last record in the journal file.

NOTE

If you enter a date for which there are no records, that date is considered to be the ending date and no records for that date are displayed.

EXAMPLE:

ED 1984/01/25

ET (End Time)

FORMAT:

ET [hhmm]

CLASS: 1,2

ARGUMENT:

hhmm

The time of the last journal record to be displayed. Time is entered as military time.

DESCRIPTION:

This optional parameter indicates the time of the last record in the journal file you wish to display. If you enter the ET command without specifying a time, you cancel a previously set end time, or set the ending time to the time of the last record in the journal file.

NOTE

If you enter an ending time for which there is no record, then the next greater time is used.

EXAMPLE:

ET 2304

GP (Group ID)

FORMAT:

GP [group id]

CLASS: 1,2

ARGUMENT:

group id

The group id of the records to be displayed.

DESCRIPTION:

This optional command specifies the group id for which records are displayed. If left null, the GP command cancels the previously specified group id.

EXAMPLE:

GP AA

Specifies that you wish to display records for group AA.

IN (Indent)

FORMAT:

IN [indent value]

CLASS: 1,2

ARGUMENT:

indent value

The number of spaces you wish to move the window to the right.

DESCRIPTION:

This optional command allows you to move the window the specified number of spaces to the right. The indent value is cumulative. If you indent 5 spaces, then indent 10 spaces, the window will be at 15. This value does not reset until you either undent (UN) an equal number of spaces or give the IN command without specifying an indent value. This value is also self-limiting. You cannot indent the window more than 128 characters.

UN (Undent)

FORMAT:

UN [Undent value]

CLASS: 1,2

ARGUMENT:

Undent value

The number of spaces you wish to move the window to the left.

DESCRIPTION:

This optional command allows you to move the window the specified number of spaces to the left. The undent value is cumulative. If you undent 5 spaces, then undent 10 spaces, the window will be 15 to the left of where you started (but not below 0). This value is self-limiting. You cannot undent the window beyond space 0.

LS (List Command Parameters)

FORMAT:

LS

CLASS: 1

ARGUMENTS:

There are no arguments associated with this command.

DESCRIPTION:

This command displays a listing of the current parameter settings for the following SNEDIT commands:

TD (target date)
JN (journal name)
SD (start date)
ST (start time)
ED (end date)
ET (end time)
GP (group id)
IN (indent)

AC (All Commands)

FORMAT:

AC

CLASS: 1

ARGUMENTS:

There are no arguments associated with this command.

DESCRIPTION:

This command brings up a series of SNEDIT commands (TD, JN, SD, ST, ED, ET, GP, and IN). You are prompted to enter the parameters associated with the individual commands. Pressing RETURN in response to a prompt cancels the previous value of that parameter. After all of the prompts have been displayed, you will be returned to command line.

GO (Process Input Commands)

FORMAT:

GO

CLASS: 1

ARGUMENTS:

There are no arguments associated with this command.

DESCRIPTION:

Displays a listing of SNEDIT parameters followed by a listing of the journal records which those parameters specify. Any errors encountered are written to the error-out file. When all of the records have been displayed, the display is terminated and the COMMAND? prompt is displayed.

E (Escape Process)

FORMAT:

E ecl command

CLASS: 1

ARGUMENTS:

ecl command

The ECL command to be processed by the EC processor.

DESCRIPTION:

Allows you to temporarily escape from SNEDIT in order to process an ECL command. When the EC processor has executed the command you entered, you are automatically returned to SNEDIT and the COMMAND? prompt is displayed.

EXAMPLE:

E LWD

QT (Quit)

FORMAT:

QT

CLASS: 1

ARGUMENTS:

There are no arguments associated with this command.

DESCRIPTION:

This command terminates SNEDIT. QT closes all files, returns all memory, and sets the working directory to the directory you were in when you invoked SNEDIT.

NOTE

This command can only be executed when you are scrolling or when the COMMAND? prompt is displayed on your terminal.

BREAK (Break Process)

FORMAT:

Press BREAK Key

CLASS: 1

ARGUMENTS:

There are no arguments associated with this command.

DESCRIPTION:

Temporarily interrupts the currently executing task. The **BREAK** message is displayed on your terminal. To resume processing, SNEDIT supports the following MOD 400 features:

PI (PROGRAM INTERRUPT) - continues processing
UW (UNWIND) - terminates SNEDIT
NEW_PROC (NEW PROCESS) - restarts the group

SC (Scroll)

FORMAT:

SC

CLASS: 1

ARGUMENTS:

There are no arguments associated with this command.

DESCRIPTION:

Displays 24 lines at a time on your terminal. Press the RETURN key to advance to the next 24 lines. To quit scrolling, type in QT and the COMMAND? prompt will be displayed on your terminal.

Appendix A
SNA TRANSPORT FACILITY MESSAGES

The SNA Transport Facility generates three types of messages:

1. Messages associated with the execution of SNA Operator Control (SOPR)

2. Messages generated by the Unsolicted Message Processor (UMP)

3. Messages generated by the Transport Facility executing in an SNA network.

SNA OPERATOR CONTROL MESSAGES

The following messages are generated by the Transport Facility and are related to the execution of SOPR:

05BC0 INVALID NUMBER OF OPERATORS IN CONFIGURATION

Cause: The number of SOPR operators (specified when SOPR was configured) is not a number between 1 and 6.

Effect: SOPR is not invoked.

Action: Correct the USERS keyword in the SNA Configurator input for SOPR, create the new configuration file, and invoke SOPR again.

05BC1 UNABLE TO LOCATE OR RELEASE SNA GLOBAL SEMAPHORE

Cause: A non-SNA task has defined a semaphore with identifier SN.

Effect: SOPR cannot initialize and, therefore, cannot execute.

Action: Make sure that no non-SNA tasks define semaphores with identifiers SN, and reinvoke SOPR.

05BC2 ATTEMPT TO ACTIVATE DUPLICATE NODE OR LU

Cause: A node with the same name or an LU with the same identifier as the one you are trying to activate is already active.

Effect: The new node or LU is not activated.

Action: Verify the correct node name or LU identifier and retry. Use the STATUS command to list the node name or LU identifier.

05BC3 COMMAND NOT RECOGNIZED

Cause: The SOPR command entered is either misspelled or not supported.

Effect: The command is not executed.

Action: Check Section 2 for a list of supported commands and their proper spelling and retry.

05BC4 NON-NUMERIC DATA ENTERED IN NUMERIC ARGUMENT

Cause: Nonnumeric characters were specified in a command argument that requires a numeric argument.

Effect: The command is not executed.

Action: Check the allowed values for the argument (see Section 2), correct the argument value, and retry.

05BC5 MISSING OR INVALID COMMAND ARGUMENTS

Cause: A required argument is missing, an invalid combination of arguments is specified, an argument is specified incorrectly, or a specified argument is not supported by the command.

Effect: The command is not executed.

Action: Check Section 2 for the correct command syntax, valid arguments, and valid argument combinations; retry the corrected command.

05BC6 LOGON REJECTED - MAXIMUM OPERATORS LOGGED ON

Cause: The maximum number of SOPR operators is already logged on.

Effect: Log-on as a SOPR operator cannot take place until one of the operators currently logged on logs off.

Action: Wait until at least one SOPR operator logs off; then log on. If the number of SOPR operators is not large enough, change the value of USERS in the SOPR configuration file.

05BC7 REQUESTED LINE NOT ACTIVE

Cause: The line name specified in the command refers to a line that has no active nodes connected to it.

Effect: The command is not executed.

Action: Check the spelling of the line name in the MOD 400 CLM file; submit the command with the correct line name.

05BC8 REQUESTED LOGICAL UNIT NOT ACTIVE

Cause: The LU identifier specified in the command refers to an LU that is not active.

Effect: SOPR cannot collect any information about an inactive LU; the command is not executed.

Action: Check that you specified the correct LU identifer, or wait until the LU is active before you retry the command.

05BC9 COMMAND REJECTED - TRANSPORT FACILITY NOT ACTIVE

Cause: The SNA Transport Facility has not been activated; this command cannot be entered until the Transport Facility is activated.

Effect: The command cannot be executed.

Action: Wait until the Transport Facility is activated; then enter the command. (The Transport Facility is automatically activated when either the ITF or RJE is invoked.)

05BCA LOGON REJECTED - INUSE TABLE CORRUPTED

Cause: An internal error has occurred within an SOPR internal table.

Effect: You cannot log on to SOPR.

Action: Contact your service representative; if possible, dump the $A task group to aid in problem determination.

05BCB REQUESTED NODE OR TASK GROUP NOT ACTIVE

Cause: The node or task group specified in the command is not active.

Effect: The command is not executed.

Action: Check that you specifed the node or task group correctly (use the STATUS command to list the node or task group, if necessary) and resubmit the command.

05BCC $A TASK GROUP CAN NOT BE PURGED

Cause: The $A task group (the SOPR task group) is not eligible to be purged.

Effect: The $A group is not purged.

Action: Wait until $A is eligible to be purged.

05BCD NODE NAME MUST BE ENTERED

Cause: A node name was not specified.

Effect: The command is not executed.

Action: Check the syntax of the command in Section 2; specify the node name and retry the command.

05BCE -ON ARGUMENT MUST SPECIFY 'ON' OR 'OFF'

Cause: An argument other than ON or OFF was specified after the -ON control argument.

Effect: The command is not executed.

Action: Specify the correct value after -ON and retry the command.

05BCF INVALID ARGUMENT PARAMETER

Cause: One of the arguments specified in the SOPR command has an invalid value. Common causes of this error are a value longer than the allowed value, a value specified when none is allowed, or no value entered when one is required.

Effect: The command is not executed.

Action: Check the syntax of the command (Section 2), correct the command, and retry it.

05BD0 LOGOFF CAN ONLY BE ENTERED FROM LISTENER TERMINAL

Cause: A LOGOFF command was issued from the device specified as the SOPR_DEVICE, which is not connected to the Listener.

Effect: The LOGOFF is not processed.

Action: None required.

05BD1 REQUIRED ARGUMENT PARAMETER MISSING

Cause: A required value for an argument to an SOPR command is missing.

Effect: The command is not executed.

Action: Check the syntax of the command (Section 2), and retry the command.

05BD2 ACTIVATE FAILED DUE TO DUPLICATE LINK ADDRESS

Cause: An attempt was made to activate a node using the same PU link address as that of another, already active, node.

Effect: The node is not activated.

Action: Either stop the already active node or change the link address of the nonactive node, and retry the command.

UNSOLICITED MESSAGE PROCESSOR MESSAGES

The Transport Facility displays messages received from the UMP. UMP messages can be either diagnostic messages or informational messages. All UMP messages have the following format:

```
$A rt_id NODE=node, SOURCE=src, EVENT=code, STATE/ERROR=state
```

rt_id

Identifier of the Transport Facility routine reporting the message.

node

One- to eight-character name of the node associated with the error.

src

Name of the Transport Facility component generating the message. src is one of the following four names:

BASELINE
LINK CTL
PATH CTL
TRAN CTL

code

Two-digit event code of the message.

state

State or error code for the message.

For example, the following message might be generated by the Administrative and Transport Facility:

$A S1 NODE=NODE1, SOURCE=LINK CTL, EVENT=01 STATE/ERROR=0003

The UMP messages are arranged according to source name (BASELINE, LINK CTL, PATH CTL, and TRAN CTL).

Table A-1 contains a list of EVENT and STATE/ERROR codes for SOURCE=BASELINE. Table A-2 contains EVENT and STATE/ERROR codes for SOURCE=LINK CTL. Table A-3 contains error coees for events 02 through 07. Table A-4 contains EVENT and STATE/ERROR codes for SOURCE=PATH CTL. Table A-5 contains EVENT and STATE/ERROR Codes for SOURCE=TRAN CTL.

Table A-1. EVENT and STATE/ERROR Codes for SOURCE=BASELINE

EVENT	STATE/ ERROR	Meaning
01	01	Host link has timed out waiting for host response. Recovery is in progress; no action is required. Increase the timeout value (STATE_TIMER) specified in the configuration file for this node.
02	02	Inbound message has timed out waiting to be sent to host. Retry is in progress; no action is required. Increase the time limit (FRAME_TIMER) in the configuration file for this node.
01-11	03-11	Logic error exists and affected session has been suspended. No recovery is possible for that terminal.

Table A-2. EVENT and STATE/ERROR Codes With SOURCE=LINK CTL

EVENT	STATE/ ERROR	Meaning
01	0000	Inert state. No corrective action possible; rebootstrap the DPS 6.
01	0001	Link disconnected state. No corrective action possible.

Table A-2 (cont). EVENT and STATE/ERROR Codes With SOURCE=LINK CTL

EVENT	STATE/ ERROR	Meaning
01	0002	Disconnect required state.
01	0003	Host link physical connection complete. No response is required.
01	0004	Disable state.
01	0005	Link timed out waiting for host SNRM. Link will continue to await SNRM. Informational message; no corrective action required.
01	0006	Host link communication successfully established. Informational message; no corrective action required.
02	Table A-3	Protocol error. No corrective action possible.
03	Table A-3	Retries exceeded. No corrective action required; recovery in progress.
04	Table A-3	No path. Reestablish telephone connection.
05	Table A-3	Maximum bus NAKs received. No corrective action required.
06	Table A-3	Free memory exhausted. No corrective action required.
07	Table A-3	Procedure error. No corrective action required.
08	0000	XID received. Informational message; no corrective action required.
09	0000	TEST command received. Informational message; no corrective action required.
0A	0000	SNRM received in ITS state. Informational message; no corrective action required.

Table A-3. Error Codes for Events 02 Through 07 (SOURCE=LINK CTL)

Error Code	Meaning
00	Hardware error.
0002	Free memory exhausted. Increase $$ memory pool in CLM or modify pacing values at host NCP.
0004	Unexpected DM frame received.
0008	Unsolicted final bit received.
0010	No path to destination: physical connection to host has been lost.
0020	Non-zero residual range.
0040	Maximum number of retrys exceeded.
0080	Maximum number of bus NAKs occurred. Hardware error.
0100	Invalid frame type received.
0200	Long record received or attempted to be sent.
0400	Frame cannot contain text.
0800	N(R) error occurred.
1000	Error occurred in receive station.
2000	FRMR received.
4000	Not using extended IORB format.
8000	IORB queued for wrong interface mode.

Table A-4. EVENT and STATE/ERROR Codes With SOURCE=PATH CTL

EVENT	STATE/ ERROR	Meaning
01	Sense Data	Refer to Appendix C for sense data.
02	Sense Data	Refer to Appendix C for sense data.
02	0001	No BEGIN segment (segment error). This is an SNA protocol violation. No corrective action required. Some data may have been lost.
02	0002	SNF not the same (segment error). This is an SNA protocol violation. No corrective action required. Some data may have been lost.
05	0001	Internal error; no recovery possible.
05	0002	Frame sent, OAF out of range.
05	0003	Frame sent, PHB pointer destroyed.
05	0004	Frame sent, chain pointer destroyed.
05	0005	No transmission buffer exists.

Table A-5. EVENT and STATE/ERROR Codes With SOURCE=TRAN CTL

EVENT	STATE/ ERROR	Meaning
01	Sense Data	Refer to Appendix C for sense data.
02	Sense Data	Refer to Appendix C for sense data.
02	0001	Unexpected response (RQR) received. This is an SNA protocol error. No corrective action required.
02	0003	Unexpected RU received while processing clear. Informational message; no corrective action required.
03	0001	Unexpected pacing RQ received. Informational message; no corrective action required.
03	0002	Unexpected pacing RSP received. Informational message; no corrective action required.
04	0001	SC_RU not expedited. Informational message; no corrective action required.
04	0002	PAC_Q not cleared. Informational message; no corrective action required.
04	0003	RCV_Q not cleared. Informational message; no corrective action required.
04	0004	NF_SEND_Q not cleared. Informational message; no corrective action required.
04	0005	READ_TSRB not cleared. Informational message; no corrective action required.
04	0006	WRITE_TSRB not cleared. Informational message; no corrective action required.

SNA NETWORK MESSAGES

The following messages are generated by the Transport Facility; they may occur during the execution of the facilities and describe network status:

05B20 ENTRY POINT NOT SPECIFIED (COMMAND LINE)

Cause: Program product not specified when invoking from command line.

Effect: Invocation terminates.

Action: Repeat invocation, specifying name of program product.

05B21 LEVEL 1 C-F COMPONENT ID VERIFICATION ERROR

Cause: An attempt was made to invoke a program product with wrong type of configuration file.

Effect: Displays error and terminates.

Action: Respecify correct invocation file.

05B22 SOPR LOAD/INITIALIZATION TIME EXCEEDED

Cause: The $A group did not activate within the 2-minute time delay.

Effect: Displays error and terminates.

Action: If reason is slow system, repeat invocation. If reason is problem in invocation, check for traps reported in >>CCD>SOPR_CI.AO.

05B23 DEVICE AND/OR DRIVER VERIFICATION ERROR

Cause: An attempt has been made to invoke interactive configurator or ITF from synchronous terminal.

Effect: Displays error and READY prompt.

Action: Log out and retry from asynchronous terminal or specify ATD terminal in CLM and reboot.

05B25 WARNING: NO SECONDARY USER LOGIN VIA THIS TERMINAL

Cause: You are invoking ITF and cannot log on as USER from this terminal.

Effect: Displays warning and brings up ITF.

Action: Informational message only.

05B26 CONFIGURATION FILE NOT SPECIFIED (COMMAND LINE)

Cause: Node name not specified when invoking from command line.

Effect: Reports error and group terminates.

Action: Specify node name and retry.

05B27 LUCT NOT FOUND

Cause: Program product requests an LU that has not been configured

Effect: Reports error and keeps running.

Action: Informational message.

05B28 NO SOPR CONFIGURATION FILE

Cause: No SOPR configuration file can be found in directory >>CCD.

Effect: Reports error and terminates.

Action: Configure SOPR configuration file and reinvoke.

05B29 SOPR INVALID GROUP ID (MUST BE $A)

Cause: An attempt was made to invoke SOPR from a group other than $A.

Effect: Reports error and terminates.

Action: Configure SOPR configuration file and reinvoke.

05B2A MAX FRAME SIZE TOO LARGE

Cause: MAX FRAME SIZE configured for SOPR is less than that for program product.

Effect: Reports error and terminates.

Action: Reconfigure line or program product.

05B2B SOPR ALREADY ACTIVE

Cause: An attempt was made to invoke SOPR while it is already active.

Effect: Reports error.

Action: Informational message only.

05B2C INVALID STRING INDEX

Cause: Internal error.

Effect: Reports error. Command is not processed.

Action: Informational message only. Document what you were doing and report error to you service representative.

05B3A FATAL ERROR

Cause: Abnormal termination during SFT session.

Effect: Current session is terminated.

Action: No action possible. Document what you were doing and send console or terminal printout to your service representative.

05B3C FILE SENT TO HOST filename

Cause: DPS 6 file has been sent to host.

Effect: Displays information message.

Action: Informational message only. Can be patched if user does not wish to see this message.

05B3D FILE RECEIVED FROM HOST

Cause: DPS 6 file has been received by host.

Effect: Displays information message.

Action: Informational message only. Can be patched if user does not wish to see this message.

05B3E SESSION STARTING

Cause: A session has been started between DPS 6 and the host.

Effect: Displays information message.

Action: Informational message only.

05B3F SESSION ENDED

Cause: A session between DPS 6 and the host has ended.

Effect: Displays information message.

Action: Informational message only.

05BD3 NETWORK SHUTDOWN IN PROGRESS

Cause: An attempt has been made to invoke a program product while network shutdown is taking place.

Effect: Invocation of program product is rejected.

Action: Wait for shutdown to complete and retry.

05BD4 LOGON REJECTED - NETWORK SHUTDOWN IN PROGRESS

Cause: An attempt has been made to logon as secondary user while network shutdown is taking place.

Effect: Logon is rejected.

Action: Wait for shutdown to complete and retry.

05BE0 LOGICAL NODE ALREADY ATTACHED

Cause: Software problem in program product.

Effect: Processing cannot continue.

Action: None possible. Notify your service representative.

05BE1 NO NODES ATTACHED OR NODE NOT FOUND

Cause: Software problem in program product.

Effect: Processing cannot continue.

Action: None possible. Notify your service representative.

05BE2 SIGNALLED NODE NOT ATTACHED

Cause: Software problem in program product.

Effect: Processing cannot continue.

Action: None possible. Notify your service representative.

05BE3 INVALID LU ID

Cause: Software problem in program product.

Effect: Processing cannot continue.

Action: None possible. Notify your service representative.

05BE4 NO PATH FROM TSRB TO HSCB

Cause: Software problem in program product.

Effect: Processing cannot continue.

Action: None possible. Notify your service representative.

05BE5 SNDM STILL PENDING WHEN DEACTIVATE ISSUED

Cause: Software problem in program product.

Effect: Processing cannot continue.

Action: None possible. Notify your service representative.

05BE6 ATTEMPT TO DEACTIVATE AN LRN NOT ACTIVATED

Cause: Software problem in program product.

Effect: Processing cannot continue.

Action: None possible. Notify your service representative.

05BE7 NO STATIONS AVAILABLE TO RESERVE

Cause: Software problem in program product.

Effect: Processing cannot continue.

Action: None possible. Notify your service representative.

05BE8 ATTEMPT TO RELEASE A STATION NOT RESERVED

Cause: Software problem in program product.

Effect: Processing cannot continue.

Action: None possible. Notify your service representative.

05BF6 UNABLE TO BUILD LINK CONTROL BUFFER POOL

Cause: There is less than 5 percent of system memory available.

Effect: Processing cannot continue.

Action: Reconfigure system pool to include more memory.

05BF7 UNABLE TO RETURN BUFFER TO LINK CONTROL BUFFER POOL

Cause: Internal error. Buffer pool has been corrupted.

Effect: Processing cannot continue.

Action: None possible. Take a dump and notify your service representative.

05BF8 INVALID BUFFER BEING RETURNED

Cause: Internal error.

Effect: Processing cannot continue.

Action: None possible. Take a dump and notify your service representative.

074E6 INVALID MCH CODE FOR PUGS

Cause: Internal Error.

Effect: AIF aborts. Processing cannot continue.

Action: None possible. Take a dump, if possible, and notify your service representative.

074E7 R.C. ERROR FOR $STERM SESSION CALL

Cause: Internal Error. LU cannot terminate.

Effect: Processing cannot continue.

Action: None possible. Take a dump, if possible, and notify your service representative.

074E8 PU CODE LOGIC ERROR, GET A DUMP

Cause: Internal Error.

Effect: AIF aborts. Processing cannot continue.

Action: None possible. Take a dump, if possible, and notify your service representative.

074E9 INVALID OP. CODE FROM SOPR (PU)

Cause: Internal error has caused unrecognizable SOPR command to AIF.

Effect: AIF attempts to continue processing.

Action: None possible. Take a dump, if possible, and notify your service representative.

074EB INVALID SESSION ID FROM SOPR

Cause: User has entered an SOPR command with invalid session ID.

Effect: Displays message.

Action: Retry SOPR command with correct session ID.

074EC ERROR EXECUTING $RPMSG

Cause: Internal Error.

Effect: AIF aborts. Processing cannot continue.

Action: None possible. Take a dump, if possible, and notify your service representative.

074ED ERROR EXECUTING $CMDLN

Cause: Internal Error.

Effect: Processing cannot continue.

Action: None possible. Take a dump, if possible, and notify your service representative.

074EE ERROR SPAWNING EMERGENCY DUMP TASK

Cause: Internal Error.

Effect: AIF aborts. Processing cannot continue.

Action: None possible. Notify your service representative.

074EF MAX NO OF EMERG. DUMPS HAS BEEN REACHED

Cause: The error that has caused the dumps to be taken continues to occur. AIF cannot handle this session.

Effect: This LU discontinues processing with current user and becomes available for reassignment.

Action: Informational message only.

074F0 PRINT EMERGENCY DUMPFILE:>>CCD>AIF_DUMP FOR GROUP XX, LU_XXX

Cause: An error has occurred which prevents LU XXX from processing.

Effect: An AIF_DUMP is executed, then the effected LU becomes available to another user. Processing for other LUs continues uninterrupted.

Action: Information message only.

074F2 AIF NODE ACTIVE

Cause: Internal processing between IBM and DPS 6 is complete. The node is now active.

Effect: Displays message.

Action: Information message only.

074F3 ERROR REQUESTING THE PUGS (PU)

Cause: Internal Error.

Effect: AIF aborts. Processing cannot continue.

Action: None possible. Take a dump, if possible, and notify your service representative.

074F4 ERROR CANCELLING A SEMAPHORE REQUEST (PU)

Cause: Internal Error.

Effect: AIF aborts. Processing cannot continue.

Action: None possible. Take a dump, if possible, and notify your service representative.

074F6 ERROR DELETING A SEMAPHORE

Cause: Internal Error.

Effect: Processing cannot continue.

Action: None possible. Take a dump, if possible, and notify your service representative.

074F7 ERROR RELEASING AI SEMAPHORE (PU)

Cause: Internal Error.

Effect: AIF attempts to continue processing.

Action: None possible. Notify your service representative.

074F8 INVALID MESSAGE CODE FROM LU (PU)

Cause: Internal Error.

Effect: AIF attempts to continue processing.

Action: None possible. Take a dump, if possible, and notify your service representative.

074F9 INVALID LU ADDR. FROM SOPR

Cause: User has entered an SOPR command with invalid LU address.

Effect: Displays message.

Action: Retry SOPR command with correct LU address.

074FA LU TASK HAS NOT STARTED, NO LP SRB

Cause: Internal Error.

Effect: AIF attempts to continue processing.

Action: None possible. Take a dump, if possible, and notify your service representative.

074FB CANNOT ACTIVE NODE: (SNA ERROR)

Cause: Internal Error.

Effect: AIF attempts to continue processing.

Action: None possible. Take a dump, if possible, and notify your service representative.

074FD UNRECOG. OP CODE IN ASRB BY PU

Cause: Internal Error.

Effect: AIF attempts to abort.

Action: None possible. Take a dump, if possible, and notify your service representative.

074FE INVALID AI SEMAPHORE CODE

Cause: Internal Error.

Effect: AIF attempts to abort.

Action: None possible. Take a dump, if possible, and notify your service representative.

074FF NO AVAILABLE LU TO ASSIGN

Cause: An application has requested a session, but there are no LUs available. Either not enough LUs are configured or sessions are not being terminated by the application.

Effect: All LUs are in use. The application requesting an LU receives an appropriate return code. Processing continues.

Action: Information message only.

The following error messages correspond to UMP messages with SOURCE=BASELINE. For a description of the messages, see the corresponding UMP messages already described in this appendix. Table A-6 shows the EVENT that corresponds to each message.

05BE9	TSRB PURGED
05BEA	OUT OF INFORMATION TRANSFER STATE
05BEB	TIME OUT
05BEC	DATA TRAFFIC INACTIVE
05BED	RH CATEGORY ERROR
05BEE	EXPEDITED FLOW CONTROL ERROR
05BEF	PACING QUEUE FULL
05BF0	RU SIZE TOO BIG
05BF1	NOT SC SUPPORTED COMMAND
05BF2	SC SEND STATE ERROR
05BF3	RESOURCES NOT AVAILABLE-WRITE REQUEST REJECTED
05BF4	SYSTEM MEMORY LOW, LESS THAN 15% AVAILABLE
05BF5	DUMP READ PURGED DUE TO SHUTDOWN REQUEST

Table A-6. Correspondence of Messages 05BE9 Through 05BF3 With UMP Messages With SOURCE=BASELINE

Message Number	Corresponding EVENT
05BE9	00
05BEA	01
05BEB	02
05BEC	03
05BED	04
05BEE	05
05BEF	06
05BF0	07
05BF1	08
05BF2	09
05BF3	0A

Appendix B
SNA CONFIGURATOR MESSAGES

The following is a list of all of the error messages generated by the SNA Configurator. These messages appear during either interactive configuration or batch configuration.

During interactive configuration, the messages appear at the bottom of configuration forms. In general, the effect is that the form is not processed, and the corrective action is to locate the erroneous field (marked with one or more question marks), maneuver the cursor into it, and correct the entry.

During batch configuration, the messages appear together. In general, the effect is that the file is not processed; and the corrective action is to edit the configuration input files, correcting erroneous entries, and then to reinvoke the Configurator.

05B01 UNKNOWN KEYWORD

Cause: A keyword was not specified correctly or was specified in the wrong place in an input file (batch mode only).

Effect: The SNA Configurator cannot process the keyword or statement.

Action: Correct the keyword and resubmit the file to the SNA Configurator. If the keyword is not a required keyword, accept the default.

05B02 DUPLICATE KEYWORD

Cause: A keyword was specified more than once in a context in which the keyword cannot be repeated (batch mode only).

Effect: The SNA Configurator ignores the duplicate keyword.

Action: Delete the repetition of the keyword, if necessary.

05B03 UPDATE SUBFUNCTION NOT FOUND

Cause: An attempt to update an ITF, RJE, or SFT facility was made without specifying an update subfunction (batch mode only).

Effect: The SNA Configurator cannot process the file.

Action: Specify an update subfunction, and resubmit the file.

05B04 OUTPUT MEDIA OUT OF SEQUENCE

Cause: When configuring the output medium pool for the RJE Facility, the devices were not specified in the order Punch (C), Exchange (E), and Print (P) (batch mode only).

Effect: The input is ignored.

Action: Either correct the order in which devices are specified or assign devices using RJE Facility commands.

05B06 PROCESSING INPUT:

Cause: The SNA Configurator has read a block of information up to a period (.). Each input keyword follows as it is processed, along with any diagnostic messages.

Effect: Indicates that the SNA Configurator is processing input.

Action: Information only; none required.

05B07 DUPLICATE PARAMETER VALUE

Cause: A keyword value has been specified more than once (batch mode only).

Effect: The SNA Configurator ignores the input.

Action: Specify the value only once and resubmit the file.

05B08 INVALID PARAMETER VALUE

Cause: An invalid keyword value, either too short or too long, was specified.

Effect: The SNA Configurator cannot process the form or file.

Action: Check the allowed values for the keyword and correct it. Interactive--Retransmit the form. Batch--Resubmit the file, or, if the keyword is not required, accept the default value.

05B09 LU_ADDR OUT OF SEQUENCE - ADDR FORCED

Cause: LU_ADDRs are not in ascending order and in sequence (batch mode only).

Effect: The SNA Configurator changes the LU address to be the next available one in sequence.

Action: None required.

05B0A ERROR DELETING FILE

Cause: An error occurred when the SNA Configurator was trying to delete a file as a result of a DELETE directive in a successful update of a configuration.

Effect: The file is not deleted.

Action: Retry the command or delete the file using a MOD 400 command.

05B0B UPDATE SUBFUNCTION VALUE ERROR

Cause: A value was specified incorrectly in an update subfunction (batch mode only).

Effect: The SNA Configurator cannot perform the update.

Action: Correct the value and resubmit the file.

05B0C UPDATE SUBFUNCTION SEQUENCE ERROR

Cause: An update subfunction was specified out of order (batch mode only)

Effect: The update is not performed.

Action: Put the subfunctions in the proper order, and resubmit the file.

05B0D CONFIGURATION INCOMPLETE

Cause: The SNA Configurator was unable to complete a configuration due to missing required arguments, invalid argument combinations, or undefined LUs.

Effect: No configuration file was created.

Action: Correct the input as indicated by error messages; reinvoke the Configurator.

05B0E MISSING NODE_NAME

Cause: NODE_NAME was not specified in a statement.

Effect: The SNA Configurator cannot process the form/file.

Action: Interactive--specify a node name and retransmit the form. Batch--correct the input file and resubmit it.

05B0F MISSING REQUIRED PARAMETER

Cause: A required keyword was omitted (batch mode only).

Effect: The SNA Configurator cannot process the file.

Action: Supply the missing keyword and resubmit the input file.

05B10 INVALID PARAMETER COMBINATION

Cause: Contradictory keyword values were specified.

Effect: The SNA Configurator cannot process the form/file.

Action: Interactive -- resolve the contradictory responses and retransmit the form. Batch -- correct the keyword value and resubmit the file.

05B11 PRINTER MATRIX INPUT ERROR

Cause: Printer matrix information (specified in PRINTER statements in an ITF configuration) conflicts with the number of printers specified in the physical unit characteristics.

Effect: The SNA Configurator cannot process the form/file.

Action: Correct the printer specifications or the number of printer specified and resubmit the file.

05B12 FATAL ERROR FOR FILE PROCESSING

Cause: A secondary input file cannot be opened or contains an unrecoverable error.

Effect: The SNA Configurator cannot process the input file. Previous and subsequent input files are processed normally. The unprocessed file is identified by another message.

Action: Correct the pathname or contents of the file and resubmit the job.

05B13 MISSING SYNTAX

Cause: A required period is missing (after a keyword, after a subfunction, before end of file) (batch mode only).

Effect: The SNA Configurator cannot process the input file.

Action: Correct the syntax, and resubmit the file.

05B14 CONFIGURATOR ERROR

Cause: The SNA Configurator was not able to process input.

Effect: No configuration information is created.

Action: Contact your support representative.

05B15 INVALID DIRECTIVE VALUE

Cause: An invalid keyword value was specified.

Effect: The SNA Configurator cannot process the form/file.

Action: Interactive--correct the value and retransmit the form. Batch--correct the value and resubmit the input.

05B16 DIRECTIVE ERROR

Cause: A keyword was specified incorrectly (batch mode only).

Effect: The SNA Configurator cannot process the file.

Action: Correct the keyword and resubmit the input file.

05B17 NO CONFIGURATION OPTION

Cause: No arguments were specified in the SNA?CONF command.

Effect: The SNA Configurator terminates.

Action: Supply appropriate arguments and reinvoke the command.

05B18 PRINTER MODE - ACCESS DESCREPANCY AT PORT-ADDRESS nn

Cause: Batch--A port address is missing or invalid.

Effect: The SNA Configurator cannot process the file.

Action: Correct the port address and resubmit the file.

05B19 COMMAND LINE ERROR

Cause: The SNA?CONF command line was typed incorrectly.

Effect: The SNA Configurator terminates.

Action: Type the command line as specified in Section 6.

05B1A INVALID COMMAND LINE ARGUMENT

Cause: One of the keywords of the SNA?CONF command was specified incorrectly.

Effect: The SNA Configurator terminates.

Action: Correct the keyword and reissue the command.

05B1B DUPLICATE COMMAND LINE ARGUMENT

Cause: A control argument in the SNA?CONF command is repeated.

Effect: The SNA Configurator terminates.

Action: Retype the command line with no duplicate control arguments.

05B1C NO DEFAULT PATH FOR COMMAND LINE ARGUMENT

Cause: There is no default pathname for -BATCH or -LIST.

Effect: The SNA Configurator cannot process the input file if a batch pathname is missing. The SNA Configurator cannot create a listing file if a listing pathname is not specified.

Action: Either specify the pathname explicitly in the SNA?CONF command or specify default pathnames when configuring the SNA Configurator.

05B1D BATCH PRIMARY INPUT FILE NOT DEFINED

Cause: The -BATCH control argument was specified, but there is no explicit or default pathname available for the primary input file (batch mode only).

Effect: The SNA Configurator terminates.

Action: Reenter the command, specifying a primary input file pathname in the -BATCH argument.

05B1E LU TYPE MISMATCHES STD SESSION TYPE

Cause: The LU type is not the same as the previously entered STD session type.

Effect: Interactive--the Configurator cannot process the form. Batch--the Configurator cannot process the input file.

Action: Interactive--change the LU type and retransmit the form. Batch--correct either value and resubmit the file.

05B2A LINE MAX I-FRAME SIZE LESS THAN PU I-FRAME SIZE

Cause: The maximum frame size specified for an SNA line is less than the request unit size specified for a PU.

Effect: Interactive--the Configurator cannot process the form. Batch--the Configurator cannot process the input file.

Action: Interactive--change the request unit size and retransmit the form. Batch--correct either value and resubmit the file.

05B5B NODE_NAME MUST BE [CONF|SOPR]

Cause: A NODE_NAME keyword for the SNA Configurator or SNA Operator control did not have the required value.

Effect: The Configurator cannot process the form/file.

Action: Interactive--specify the correct node name and retransmit the form. Batch--correct the erroneous keyword and reinvoke the Configurator.

05B5C ONLY [Y|N|AT|UA] IS VALID FOR THIS ENTRY

Cause: A keyword was given an inappropriate value; i.e., not Y, N, AT (attended), or UA (unattended).

Effect: Interactive--the Configurator cannot process this form. Batch--the keyword is skipped, processing continues with the next keyword.

Action: Interactive--supply an appropriate value and retransmit the form. Batch--correct the erroneous keyword and reinvoke the Configurator.

05B5D THE VALID RANGE FOR THIS ENTRY IS [n-m]

Cause: A keyword included a numeric value outside the allowable range (batch only).

Effect: The keyword is skipped, and processing continues with the next keyword.

Action: Correct the erroneous keyword and reinvoke the Configurator.

05B5E LINE NAME IS MISSING

Cause: Interactive--a line was defined without a name. Batch--a line is being defined without a LINE_NAME keyword.

Effect: Interactive--the Configurator cannot process the form. Batch--the line is not configured.

Action: Interactive--enter a line name and retransmit the form. Batch--add the required keyword and reinvoke the Configurator.

05B5F MAX FRAME SIZE IS MISSING

Cause: A maximum frame size value is missing or valueless.

Effect: Interactive--the Configurator cannot process the form. Batch--the line is not configured.

Action: Interactive--enter a valid frame size and retransmit the form. Batch--add the required keyword and reinvoke the Configurator.

05B60 [LU TYPE|MAX FRAME SIZE|MAX RU SIZE] IS INVALID

Cause: An invalid value was supplied for a LU type, a maximum frame size, or a maximum RU size. Valid LU types are 1, 2, or 3; valid frame and RU sizes are 256 or 512.

Effect: Interactive--the Configurator cannot process the form. Batch--the keyword is skipped; processing continues with the next keyword.

05B60 [LU TYPE|MAX FRAME SIZE|MAX RU SIZE] IS INVALID (cont.)

Action: Correct the erroneous value and retransmit the form (interactive) or reinvoke the Configurator (batch).

05B61 NODE NAME CANNOT BE CHANGED

Cause: An existing node-name value cannot be changed during updating.

Effect: The Configurator cannot process the form/file.

Action: Correct the erroneous value and retransmit the form (interactive) or reinvoke the Configurator (batch).

05B62 ONLY SW OR NONSW IS VALID FOR THIS ENTRY

Cause: Only SW (switched) or NOSW (nonswitched) are valid entries for the prompt/keyword.

Effect: The Configurator cannot process the form/file.

Action: Correct the erroneous value and retransmit the form (interactive) or reinvoke the Configurator (batch).

05B63 THE FIRST 4 CHARACTERS OF XID MUST BE 0200

Cause: The first four characters of the XID must be 0200.

Effect: The Configurator cannot process the form/file.

Action: Correct the erroneous value and retransmit the form (interactive) or reinvoke the Configurator (batch).

05B64 THE NUMBER OF [PRINTERS|RES SIBS] EXCEEDS NUMBER OF LUS

Cause: The number of printers or resident SIBs specified exceeds the number of LUs specified.

Effect: The Configurator cannot process the form/file.

Action: Correct the erroneous value and retransmit the form (interactive) or reinvoke the Configurator (batch).

05B65 RES SIBS IS LESS THAN NUMBER OF LUS

Cause: The number of LUs specified was greater than the number of SIBs specified, and no SIB file pathname(s) were supplied.

Effect: The Configurator cannot process the form/file.

Action: Correct the erroneous value or supply SIB pathnames and retransmit the form (interactive) or reinvoke the Configurator (batch).

05B66 [lu_addr|port_number] MUST BE IN ASCENDING ORDER

Cause: A series of LUs or port numbers was specified with addresses out of sequence. LU address and printer port numbers must be in ascending order.

Effect: The Configurator cannot process the form/file.

Action: Correct the erroneous value and retransmit the form (interactive) or reinvoke the Configurator (batch).

05B67 [LU_ADDRESS|PORT NUMBER] EXCEEDS NUMBER OF LUS

Cause: A printer port number is larger than the number of LU specified for this node; or the LU address specified is beyond the range allowable for the number of LUs specified.

Effect: The Configurator cannot process the form/file.

Action: Correct the erroneous value and retransmit the form (interactive) or reinvoke the Configurator (batch).

05B68 PORT ADDRESS IS MISSING

Cause: A printer port address is either required or missing.

Effect: The Configurator cannot process the form/file.

Action: Correct the erroneous value and retransmit the form (interactive) or reinvoke the Configurator (batch).

05B69 REQUIRED PATHNAME MISSING OR INVALID

Cause: A required pathname was not specified or is invalid.

Effect: The Configurator cannot process the form/file.

Action: Correct the erroneous value and retransmit the form (interactive) or reinvoke the Configurator (batch).

05B6A RU SIZE IS INCONSISTENT WITH FRAME SIZE

Cause: The maximum RU size value contradicts values specified for the PU.

Effect: The Configurator cannot process the form/file.

Action: Correct the erroneous value and retransmit the form (interactive) or reinvoke the Configurator (batch).

05B6B ENTRY IS NOT FACILITY OR SUBCOMPONENT

Cause: Incorrect entry in "Next?: " field.

Effect: The Configurator waits for a valid "Next?: " instruction before processing this form.

Action: Correct this entry and re-try.

05B6C KEY IS NOT SUPPORTED. CONTINUES NORMALLY.

Cause: During interactive configuration, an unsupported key was touched.

Effect: The key is ignored.

Action: None. This message is for information only.

Appendix C
SNA SENSE DATA

This appendix contains four tables summarizing SNA-generated sense data. Table C-1 summarizes sense data for major code (Sense Byte 0) X'80'. Table C-2 summarizes sense data for major code X'20'. Table C-3 summarizes sense data for major code X'10'. Table C-4 summarizes sense data for major code X'08'. For further information on sense data, see the appropriate IBM reference manual.

Table C-1. Modifiers for Major Code X'80' (Path Error)

Value	Meaning
X'04'	Unrecognized Destination Address Field (DAF). DAF is <u>not</u> X'0' for a PU or X'01'-X'33' for an LU.
X'05'	No session. Origin Address Field (OAF) on a received request is different from the OAF on the BIND command for the session.
X'07'	Segmenting error. The MPF field in TH-0 is set to B'10' on the request received.
X'08'	PU not active. The PU has not been activated.
X'09'	LU not active. The request was destined for a session that has not been activated with an ACTLU.

Table C-2. Modifiers for Major Code X'20' (State Error)

Value	Meaning
X'01'	Sequence error. A received normal flow requests Sequence Number Field (SNF) does not compare with the sync counter maintained by each session.
X'02'	Chaining error. A Begin Chain (BC) FM data request is received while the session is currently "processing a chain;" or if something other than a BCI request is received, when <u>not</u> "processing a chain".
X'05'	Data traffic state reset. A Data Flow Control (DFC) or FM data request is received for a session prior to receipt of START DATA TRAFFIC or after Data Traffic Active has been reset (for example, CLEAR received).

Table C-3. Modifiers for Major Code X'10' (Request Error)

Value	Meaning
X'01'	RU data error. An RU containing compacted data was received prior to the receipt of a valid Type 3 FM header containing a compaction table.
X'02'	RU length error. Either a Session Control or DFC request with no RU field was received or an RU field of size > 256 or > 512 was received on a session bound for max outbound RU size of 256 (RU-11 $\leq$ X'85') or 512 (RU-11 $\leq$ X'86'), respectively.
X'03'	Function not supported. Either a Session Control or DFC request is received that is not specified as having outbound support by the remote terminal; or a BIND was received specifying CRYPTO and the CRYPTO adapter has not been installed; or in response to an NS request (REQMS), if RU0-RU4 is not equal to X'4103040000'.
X'05'	Argument error. Invalid sequence detected.
X'07'	Category not supported. Returned to a Network Control request that is received or to any Network Services request on the SSCP-PU session other than Request Maintenance Statistics.
X'08'	Invalid FM Header. Returned for following conditions: begin or resume destination selection is specified when currently processing a destination selection; End, Abort, or Suspend selection specified when not currently processing a destination selection; resume destination selection specified when there is no destination selection suspended; suspend destination selection is specified when there is already one destination selection suspended; when destination is suspended and this destination is not for the console; the type 1 count is not equal to X'06'; the type is not X'01' or X'03'; type = X'03' and function not equal to X'02'; the compaction table spans RUs (number of master characters must be $\geq$ 3); DCS is specified (inbound support only); an unsupported medium is specified; or the ERCL field for card or exchange media is greater than the maximum for the designated physical device.

Table C-4. Modifiers for Major Code X'08' (Request Reject Error)

Value	Meaning
X'02'	Intervention required. An output device was not ready for a period of 1 to 99 while in attended mode. The associated LU returns LUSTAT when device is again ready if the primary logical unit has kept the destination active.
X'08'	Bracket race. The remote terminal is between brackets, and the received FM data request does not have the BBI set.
X'0C'	Procedure not supported. Returned to REQMS when the type code is not supported.
X'12'	Insufficient resources. Returned to a session if the outbound pacing value (RU-9) is larger than the currently available number of buffers in the remote terminal.
X'13'	Bid reject - no RTR. The session is currently in brackets and either a BID request or an FM data request with BBI set is received.
X'15'	Function active. A bind was received for a LU that is already bound.
X'1B'	Receiver in transmit mode. Returned to an FM data request received for a session that is currently allocated to a HOSTIN operation. If the session exits send mode without transmitting any data. LUSTAT (RU=0400010000) is sent to indicate session is now available.
X'1C'	Function not executable. The current output device being used by the session has intervention required and the terminal is unattended.
X'21'	Invalid session parameters. Returned to bind request if any unacceptable arguments are detected in the bind request.
X'25'	Component not available. The specified medium/subaddress in the received FM header is either undefined during unattended mode or the associated device is being used in another operation or the device has encountered a permanent failure.

Appendix D
BINDS FOR RJEF, ITF, AND AIF

This appendix describes all binds acceptable for the Remote Job Entry, Interactive Terminal, and SNA File Transfer Facilities.

Table D-1 describes acceptable binds for the RJE Facility. Only those fields that are required for RJE are described in detail. The value "Any" means that the RJE Facility will accept any valid value for that byte or bit.

Table D-1. Acceptable Binds for RJE

Byte	Bit	Value	Meaning
0		X'31'	Request code.
1		X'01'	Activation type.
2		X'03'	FM profile 3.
3		X'03'	TS profile 3.
4	0	1	RJE Facility can send single- or multiple-element chains.
	1	0	Immediate request mode.

Table D-1 (cont). Acceptable Binds for RJE

Byte	Bit	Value	Meaning
4 (cont)	2&3	10	Definite response mode.
		or	
		11	Definite or exception response mode.
	4-7	Any	
5	0	1	RJE Facility can send single- or multiple-element chains.
	1	0	Immediate request mode.
	2&3	10	Definite response mode
		or	
		11	Definite or exception response mode.
	4-7	Any	
6		X'70'	FM headers allowed, brackets will be used, bracket termination is controlled by type of response requested by CPU; EBCDIC used on line.
7		X'80'	Half-duplex, flip-flop host recovery responsibility; 3770 is first speaker, 3770 speaks first in data traffic state.
8		Any	
9		Any	
10		85 or 86	Maximum inbound RU size; value is encoded (mantissa and exponent).
11		85 or 86	Maximum outbound RU size; value is encoded (mantissa and exponent).
12		Any	
13		Any	
14		X'01'	LU profile 1

Table D-1 (cont). Acceptable Binds for RJE

Byte	Bit	Value	Meaning
15		X'10'	FM header subset 1; FMHls have no data set name field, restricted header, and data combinations.
16		Any	
17		Any	
18		Any	
19		Any	
20	0	Any	
	1	Any	
	2	Any	
	3	0	Disk data management not allowed.
	4	0	Extended card format not allowed.
	5	0	Extended document format not allowed.
	6	0	Secondary half session is not forced to send CD every EDS.
	7	Any	
21		Any	
22		Any	
23		Any	
24		Any	
25	0	0	Document format will not be sent
	1	Any	
	2	Any	
	3	0	Disk data management will not be sent.

Table D-1 (cont). Acceptable Binds for RJE

Byte	Bit	Value	Meaning
25 (cont)	4	0	Extended card format will not be sent.
	5	0	Extended document format is not allowed.
	6	Any	
	7	Any	
26		X'00'	Not a CRYPTO session.

Figure D-1 contains acceptable binds for the ITF. Nonrequired spaces are added to enhance readability.

<u>Acceptable Bind Request Unit for Logical Unit Type 1</u>

```
X'31 01 03 03 B1 B0 30 80 00 00 87 00 00 00 01 00 00 00 00
        00 18 50 18 50 7F'
```

<u>Acceptable Bind Request Unit for Logical Unit Type 2</u>

```
X'31 01 03 03 B1 B0 30 80 00 00 87 00 00 00 02 00 00 00 00
        00 18 50 18 50 7F'
```

<u>Acceptable Bind Request Unit for Logical Unit Type 3</u>

```
X'31 01 03 03 B1 B0 30 80 00 00 87 00 00 00 03 00 00 00 00
        00 18 50 18 50 7F'
```

Figure D-1. Acceptable Binds for the ITF

Table D-2 describes all binds acceptable for the SFT. Only fields that are required are described in detail.

Table D-2. Acceptable Binds for SFT

Byte	Bit	Value	Meaning
0		X'31'	Request code.
1		X'01'	Activation type (nonnegotiable).
2		X'03'	FM profile 3.
3		X'03'	TS profile 3.
4	0	1	Host can send single- or multiple-element chains.
		0	Host can send only single-element chains.
	1	0	Immediate request mode.
	2&3	01	Exception response mode.
	4&5	00	Reserved.
	6	0	Outbound data will not be compressed.
		1	Outbound data will be compressed.
	7	1	Host may send End Bracket (EB).
5	0	1	DPS 6 can send single- or multiple-element chains.
	1	0	Immediate request mode.
	2&3	01	Exception response mode.
	4&5	00	Reserved.
	6	0	Inbound data will not be compressed.
		1	Inbound data will be compressed.
	7	0	DPS 6 may not send EB.
6	0	0	Reserved.
	1	0	FM headers not used.

Table D-2 (cont). Acceptable Binds for SFT

Byte	Bit	Value	Meaning
6 (cont)	2	1	Bracket protocol is used.
	3	1	Bracket termination rule 1 is used (conditional termination).
	4	0	No alternate code is used.
	5-7	000	Reserved.
7	0&1	10	Half-duplex, flip-flop protocol.
	2	0	Host recovery responsibility.
	3	0	DPS 6 is the contention winner.
	4-7	000	Reserved.
8	0&1	00	Reserved.
	2-7		Outbound pacing value.
10		85,86, C6 or 87	Maximum inbound RU size, value is encoded (mantissa and exponent). Host supplied.
11		85,86, C6 or 87	Maximum outbound RU size, value is encoded (mantissa and exponent). Host supplied.
12		X'00'	Not checked.
13		X'00'	Not checked.
14		X'01'	LU profile 1
15		Any	Not checked.
16		Any	Not checked.
17		Any	Not checked.
18		Any	Not checked.
19		Any	Not checked.

Table D-2 (cont). Acceptable Binds for SFT

Byte	Bit	Value	Meaning
20		Any	Not checked.
21		Any	Not checked.
22		Any	Not checked.
23		Any	Not checked.
24		Any	Not checked.
25		Any	Not checked.
26		Any	Not checked.

Table D-3 contains all acceptable binds for the AIF. Only fields that are required are described in detail.

Table D-3. Acceptable Binds for AIF

Byte	Bit	Value	Meaning
0		X'31'	Request code.
1	0-3	0000	
	4-7	0000 0001	Negotiable Nonnegotiable
2			FM profile
3			TS profile
4	0	0 1	Only single-RU chains allowed. Multiple-RU chains allowed.
	1	0 1	Immediate request mode. Delayed Request mode.
	2-3	00 01 10 11	No response requested. Exception response requested. Definite response requested. Definite or exception response requested.
	4	 0 1	Reserved if sync-point protocol not used. Two-phase commit not supported. Two-phase commit supported.
	5		Reserved.
	6	0 1	Inbound data will not be compressed. Inbound data can be compressed.
	7	0 1	Host will send End Bracket (EB) indicator. Host may send EB indicator.

Table D-3 (cont). Acceptable Binds for AIF

Byte	Bit	Value	Meaning
5	0	0	Only single-RU chains allowed from DPS 6.
		1	Multiple-RU chains allowed from DPS 6.
	1	0	Immediate request mode.
		1	Delayed request mode.
	2-3	00	No response requested.
		01	Exception response requested.
		10	Definite response requested.
		11	Definite or exception response requested.
	4		Reserved if sync point not used.
		0	Two-phase commit not supported.
		1	Two-phase commit supported.
	5	00	Reserved.
	6	0	Inbound data will not be compressed.
		1	Inbound data can be compressed.
	7	0	DPS 6 will not send EB indicator.
		1	DPS 6 may send EB indicator.
6	0	0	Reserved.
	1	0	FM headers not allowed.
		1	FM Headers allowed.
	2	0	Brackets not used if EB indicators not sent.
		1	Bracket protocol is used.
	3		Reserved if brackets not used.
		0	Rule 2 (unconditional termination) will be used during this session.
		1	Rule 1 (conditional termination) used during this session.
	4	0	Alternate code set will not be used.
		1	Alternate code set can be used.

Table D-3 (cont). Acceptable Binds for AIF

Byte	Bit	Value	Meaning
6 (cont)	5	0	Sequence numbers not available for resynchronization.
		1	Sequence numbers available for resynchronization.
	6		Reserved if sync protocol not used.
		0	BIS not sent.
		1	BIS sent.
	7		Reserved.
7	0-1		Send/receive mode:
		00	Full-duplex.
		01	half-duplex contention.
		10	Half-duplex flip-flop.
		11	Reserved.
	2	0	Contention loser recovery responsibility.
		1	Symmetric responsibility for recovery.
	3	0	DPS 6 is the contention winner and host is the contention loser.
		1	Host is the contention winner and DPS 6 is the contention loser.
	4-6	000	Reserved.
	7	0	HDX-FF reset state is RECEIVE for Host and SEND for DPS 6.
		1	HDX-FF reset state is SEND for Host and RECEIVE for DPS 6.
8	0	0	Pacing in this direction occurs in one stage.
		1	Pacing in this direction occurs in two stages.
	1	0	Reserved.
	2-7		DPS 6's send window size: 0 means no pacing of requests from DPS 6.
9	0-1	00	Reserved.
	2-7		DPS 6's receive window size: 0 means no pacing of messages.

Table D-3 (cont). Acceptable Binds for AIF

Byte	Bit	Value	Meaning
10	0	0	No maximum RU size (from DPS 6) specified.
	1-7		Not checked.
	0	1	Maximum RU size (from DPS 6) specified.
	1-7		Maximum RU size. Value is encoded. (mantissa and exponent). Host supplied.
11	0	0	No maximum RU size (from host) specified.
	1-7		Not checked.
	0	1	Maximum RU size (from host) specified.
	1-7		Maximum RU size. Value is encoded. (mantissa and exponent). Host supplied.
12	0	0	Pacing in this direction occurs in one stage.
		1	Pacing in this directrion occurs in two stages.
	1		Reserved.
	2-7		Not checked.
13	0-1		Reserved.
	2-7		Not checked.
14	0	0	Basic format.
		1	Reserved.
	1-7		Session type.
15-25		Any	PS characteristics. Not checked.

Table D-3 (cont). Acceptable Binds for AIF

Byte	Bit	Value	Meaning
26	0-1	00	No private cryptography supported.
		01	Private cryptography supported.
	2-3	00	No session-level cryptography supported.
		01	Selective session-level cryptography supported.
		10	Reserved.
		11	Session-level mandatory cryptography supported.
	4-7	x'0'	No session-level cryptography specified.
			For unstructured user data.
		m+3-n	Remainder of unstructured user data.
			For structured user data.
		m+3-n	Structured subfields.
		n+1	Length of user request correlation.
		n+2-p	URC: end user defined identifier.
		p+1	Length of secondary LU network name.
		p+2-r	Secondary LU network name.

Appendix E
SNA CONFIGURATION SAMPLES

This appendix gives sample SNA configurations, in both the interactive display and batch input file format. These samples are syntactically valid, and are operable given the necessary hardware. However, these samples are not meant to be universally applicable.

For sample host configurations, see the SNA Host Programmer's Configuration Guide.

SNA CONFIGURATOR SAMPLE CONFIGURATION

Figure E-1 shows an interactive-mode display of an SNA Configurator configuration. Figure E-2 lists an SNA Configurator batch configuration input file.

```
                    SNA CONFIGURATOR CONFIGURATION

NODE INFORMATION

NODE NAME IS: CONF                  CREATION DATE  1983/08/10

AUTHOR'S NAME IS: DKJ               DATE LAST UPDATED 1985/03/24

JOURNAL PATH NAME: >>CCD>CONF_JNL

LIST PATH NAME:

BATCH PATH NAME:

IS RJE TO BE CONFIGURED?: YES

IS ITF TO BE CONFIGURED?: YES

IS SFT TO BE CONFIGURED?: NO

IS AIF TO BE CONFIGURED?: YES
```

Figure E-1. SNA Configurator Configuration Sample (Interactive)

```
CREATE=CONF.
AUTHOR=DKJ
JOURNAL_PATH=>>CCD>CONF_JNL
SFT=N.
```

Figure E-2. SNA Configurator Configuration Sample (Batch)

SNA OPERATOR CONTROL SAMPLE CONFIGURATION

Figure E-3 shows an interactive mode display of an SNA Operator Control configuration. Figure E-4 lists an SNA Configurator batch configuration input file.

```
                         SOPR CONFIGURATION
NODE INFORMATION
NODE NAME IS: SOPR                  CREATION DATE  1983/08/10
AUTHOR'S NAME IS: DKJ               DATE LAST UPDATED 1985/03/24
JOURNAL PATH NAME: >>CCD>SOPR_JNL
SOPR DEVICE NAME IS: !CONSOLE
MAXIMUM NUMBER OF SOPR USERS IS: 1
NUMBER OF LINES IS: 1
HOST CONNECT (LINE) INFORMATION:
:LINE #:LINE NAME:MAX FRAME SIZE:PHYSICAL DISCONNECT:AUTO DIAL:
:   1  : LINE01  :     0256     :         Y         :   N     :
```

Figure E-3. SNA Operator Control Configuration Sample (Interactive)

```
CREATE=SOPR.
AUTHOR=DKJ
JOURNAL_PATH=>>CCD>SOPR_JNL
```

Figure E-4. SNA Operator Control Configuration Sample (Batch)

REMOTE JOB ENTRY FACILITY SAMPLE CONFIGURATION

Figure E-5 shows an interactive mode display of an SNA Remote Job Entry Facility configuration. Figure E-6 lists an SNA Remote Job Entry Facility batch configuration input file.

```
                    RJEF LINK PROTOCOL CONFIGURATION

NODE INFORMATION

NODE NAME IS: RJEB                      CREATION DATE  1983/08/10

AUTHOR'S NAME IS: DKJ                   DATE LAST UPDATED 1985/03/24

JOURNAL PATH NAME: >>CCD>RJEB_JRNL

HOST CONNECT (LINE) INFORMATION:

  LINE NAME IS: LINE01

  LINE CONFIGURATION IS NONSW

  STATE TIMER VALUE: 010                 FRAME TIMER VALUE: 99

  MAX FRAME SIZE: 256                    SEND LIMIT: 7

  MAX NUMBER OF RETRIES: 03

                    RJEF PHYSICAL UNIT CONFIGURATION

PU ADDRESS: 04              MAX RU SIZE: 0256

NUMBER OF LU'S CONFIGURED: 3

NUMBER OF RU'S PER CHAIN: 254

IS MULTIPLE SIGNAL INTERRUPT TO BE USED?: NO

OPERATION MODE: ATTENDED

                    RJEF LOGICAL UNIT CONFIGURATION

LU ADDRESS: 1           RU SIZE: 256


LU ADDRESS: 2           RU SIZE: 256


LU ADDRESS: 3           RU SIZE: 256
```

Figure E-5. Remote Job Entry Facility Configuration Sample (Interactive)

```
CREATE=RJE.
AUTHOR=DKJ
JOURNAL_PATH=>>CCD>RJEB_JRNL
STATE_TIMER=010
FRAME_TIMER=99
FRAME_SIZE=256
SEND_LIMIT=7
MAX_RETRY=03.
PU_ADDR=04
NO_LUS=3
RUS_PER_CHAIN=254
MULTI_SIGNAL_INT=N
OP_MODE=ATTENDED.
```

Figure E-6. Remote Job Entry Facility Configuration Sample (Batch)

INTERACTIVE TERMINAL FACILITY SAMPLE CONFIGURATION

Figure E-7 shows an interactive mode display of an SNA Interactive Terminal Facility configuration. Figure E-8 lists an SNA Interactive Terminal Facility batch configuration input file.

```
                ITF LINK PROTOCOL CONFIGURATION

NODE INFORMATION

NODE NAME IS: ITFB                  CREATION DATE  1983/08/10

AUTHOR'S NAME IS: DKJ               DATE LAST UPDATED 1985/03/24

JOURNAL PATH NAME: >>CCD>ITFB_JRNL

HOST CONNECT (LINE) INFORMATION:

  LINE NAME IS: LINE01

  LINE CONFIGURATION IS NONSW

  STATE TIMER VALUE: 010             FRAME TIMER VALUE: 99

  MAX FRAME SIZE: 256                SEND LIMIT: 7

  MAX NUMBER OF RETRIES: 03

                ITF PHYSICAL UNIT CONFIGURATION

PU ADDRESS: 04            MAX RU SIZE: 0256

NUMBER OF LU'S CONFIGURED: 4

NUMBER OF PRINTERS CONFIGURED: 00

NUMBER OF MEMORY RESIDENT SIBS CONFIGURED: 4

                 ITF LOGICAL UNIT CONFIGURATION

LU ADDRESS: 2          LU TYPE: 2          LU CLASS: 0

LU ADDRESS: 3          LU TYPE: 2          LU CLASS: 0

LU ADDRESS: 4          LU TYPE: 2          LU CLASS: 0

LU ADDRESS: 5          LU TYPE: 2          LU CLASS: 0
```

Figure E-7. Interactive Terminal Facility Configuration Sample (Interactive)

```
CREATE=ITF.
AUTHOR=DKJ
JOURNAL_PATH=>>CCD>ITFB_JRNL
STATE_TIMER=010
FRAME_TIMER=99
FRAME_SIZE=256
SEND_LIMIT=7
MAX_RETRY=03.
PU_ADDR=04
NO_LUS=4
NO_PRINTERS=0
RES_SIBS=4.
LU_ADDR=2
LU_TYPE=2
LU_CLASS=0.
LU_ADDR=3
LU_TYPE=2
LU_CLASS=0.
LU_ADDR=4
LU_TYPE=2
LU_CLASS=0.
LU_ADDR=5
LU_TYPE=2
LU_CLASS=0.
```

Figure E-8. Interactive Terminal Facility Configuration Sample (Batch)

SNA FILE TRANSFER FACILITY SAMPLE CONFIGURATION

Figure E-9 shows an interactive mode display of an SNA File Transfer Facility configuration. Figure E-10 lists an SNA File Transfer Facility batch configuration input file.

```
                    SFT LINK PROTOCOL CONFIGURATION

NODE INFORMATION

NODE NAME IS: SFTC                      CREATION DATE  1983/08/10

AUTHOR'S NAME IS: DKJ                   DATE LAST UPDATED 1983/10/24

JOURNAL PATH NAME: >>CCD>SFTC_JRNL

HOST CONNECT (LINE) INFORMATION:

  LINE NAME IS: LINE01

  LINE CONFIGURATION IS NONSW

  STATE TIMER VALUE: 010                 FRAME TIMER VALUE: 99

  MAX FRAME SIZE: 256                    SEND LIMIT: 7

  MAX NUMBER OF RETRIES: 03

                    SFT PHYSICAL UNIT CONFIGURATION

PU ADDRESS: 04              MAX RU SIZE: 0256

NUMBER OF LU'S CONFIGURED: 1

OPERATION MODE: ATTENDED

                    SFT LOGICAL UNIT CONFIGURATION

LU ADDRESS: 1            RU SIZE: 256
```

Figure E-9. File Transfer Facility Configuration Sample (Interactive)

```
CREATE=SFT.
AUTHOR=DKJ
JOURNAL_PATH=>>CCD>SFTC_JRNL
LINE_NAME=LINE01
LINE_CONFIG=NONSW
STATE_TIMER=010
FRAME_TIMER=99
FRAME_SIZE=256
SEND_LIMIT=7
MAX_RETRY=03.
PU_ADDR=04
NO_LUS=1
OP_MODE=ATTENDED.
```

Figure E-10. File Transfer Facility Configuration Sample (Batch)

APPLICATION INTERFACE FACILITY CONFIGURATION

Figure E-11 shows an interactive mode display of an Application Interface Facility configuration. Figure E-12 lists an Application Interface Facility batch configuration input file.

```
                    AIF LINK PROTOCOL CONFIGURATION
NODE INFORMATION
NODE NAME IS: AIF501                      CREATION DATE  1985/03/24
AUTHOR'S NAME IS: RYAN
JOURNAL PATH NAME: >>CCD>AIF_JRNL
HOST CONNECTION (LINE) INFORMATION
    LINE NAME IS: LINE01
    LINE CONFIGURATION IS NONSW
    STATE TIMER VALUE: 010                FRAME TIMER VALUE: 99
    MAX FRAME SIZE: 256                   SEND LIMIT: 7
    MAX NUMBER OF RETRIES: 04
                    AIF PHYSICAL UNIT CONFIGURATION
PU ADDRESS: 01                  MAX RU SIZE: 0256
NUMBER OF LU'S CONFIGURED: 012
MINIMUM LU ADDRESS: 010
NUMBER OF SESSION TYPE DESCRIPTORS CONFIGURED: 003
NUMBER OF PREESTABLISHED SESSION GROUPS CONFIGURED: 002
                 SESSION TYPE DESCRIPTORS CONFIGURATION
STD NAME: AA    MODE NAME: AIFTEST1        SESSION TYPE: 0
RELEASE ON ABNORMAL TERMINATION: HOLD   DESTINATION LU TYPE: CICS
```

Figure E-11. Application Interface Facility Configuration Sample (Interactive)

```
CREATE=AIF.
NODE_NAME=AIF501
AUTHOR=RYAN
JOURNAL_PATH=>>CCD>AIF_JRNL
STATE_TIMER=010
FRAME_TIMER=99
FRAME_SIZE=256
SEND_LIMIT=7
MAX_RETRY=04.
PU_ADDR=01
MAX_RU=256
NO_LUS=12
MIN_LU_ADDR=10
NO_STDS=3
NO_PSGS=2.
STD_NAME=AA
MODE_NAME=AIFTEST1
SESSION_TYPE=0
DESTINATION_LU_TYPE=CICS
RELEASE_ON_ABNORMAL_TERM=HOLD
PSG_NUM=01
HOST_LU_NAME=CICS
STD_NAME=AB
NO_IN_GROUP=2.
LU_ADDR=010
RESERVED=YES
STD_NAME=AA
PREESTAB=N
```

Figure E-12. Application Interface Configuration Sample (Batch)

GLOSSARY

configuration services

One of the types of network services in the system services control point (SSCP) and in the physical unit (PU); configuration services activate, deactivate, and maintain the status of PUs, links, and link stations.

data flow control (DFC)

A request/response unit (RU) category used for requests and responses exchanged between the data flow control layer in the session partner.

end user

The ultimate source or destination of application dataflowing through an SNA network. An end user can be an application program or a terminal operator.

function management (fm) header

One or more headers, optionally present in the leading RUs of an RU chain, that provides information to: (1) select a destination at the session partner, (2) control the way that end-user data is handled at the destination, (3) change the characteristics of the data during the session, and (4) transmit status or user information about the destination (for example, a program or device).

half-session

A component that provides FMD services, data flow control, and transmission control for one of the sessions of a network addressable unit (NAU).

host node

A subarea node that contains a system services control point (SSCP); for example, a system/370 computer with OS/VS2 and ACF/TCAM.

link

The combination of the link connection and the link stations joining network nodes; for example, (1) a system/370 channel and its associated protocols, (2) a serial-by-bit connection under the control of synchronous data link control (SDLC).

link connections

The physical equipment providing two-way communication between one link station and one or more other link stations; for example, a communication line and data circuit terminating equipment (DCE).

link station

The combination of hardware and software that allows a node to attach to and provide control for a link.

logical unit (LU)

A port through which an end user accesses the SNA network; the functions provided by System Services Control Points (SSCPs). An LU is capable of supporting at least two sessions--one with an SSCP and one with another LU--and may be capable of supporting many sessions with other LUs.

network addressable unit (NAU)

A LU, a PU, or a SSCP. It is the origin or the destination of information transmitted by the path control network.

node

An endpoint of a link or a junction common to two or more links in a network. Nodes can be distributed processors, host processors, communication controllers, cluster controllers, or terminals. Nodes can vary in routing and other functional capbilities.

physical unit (PU)

The component that manages and monitors the resources of a node, as requested by an SSCP via an SSCP-PU session. Each node of an SNA network contains a physical unit.

protocol

The meaning of, and the sequencing rules for, requests and responses used for managing the network, transferring data, and synchronizing the states of network components.

request header (RH)

A request unit (ru) header preceding a request unit.

request unit (RU)

A message unit that contains control information such as a request code of FM header, end-user data, or both.

request/response header (RH)

Control information, preceding a request/response unit (RU), that specifies the type of RU (request unit or response unit) and contains control in formation associated with that RU.

request/response unit (RU)

A generic term for a request unit or a response unit.

response

(1) A message unit that acknowledges receipt of request; a response consists of a response header (RH), a response unit (RU), or both. (2) in SDLC, the control information sent from the secondary station to the primary station.

response header (RH)

A header, optionally followed by a response unit (RU), that indicates whether the response is positive or negative and that may contain a pacing response.

response unit (RU)

A message unit that acknowledges a request unit; it may contain prefix information received in a request unit. If positive, the response unit may contain additional information (such as session parameters in response to bind session), or if negative, contains sense data defining the exception condition.

SDLC

Synchronous Data Link Control.

session

A logical connection between two Network Addressable Units (NAUs) that can be activated, tailored to provide various protocols, and deactivated, as requested. The session activation request and response can determine options relating to such things as the rate and concurrency of data exchange, the control of contention and error recovery, and the characteristics of the data stream. Sessions compete for network resources such as the links within the path control network.

SNA network

The part of a user-application network that conforms to the formats and protocols of Systems Network Architecture (SNA). It enables reliable transfer of data among end users and provides protocols for controlling the resources of various network configurations. The SNA network consists of network addressable units, boundary function components, and the path control network.

SNA node

A node that supports SNA protocols

SSCP

System services control point

Synchronous Data Link Control (SDLC)

A discipline for managing synchronous, code-transparent, serial-by-bit information transfer over a link connection. Transmission exchanges can be duplex or half-duplex over switched or nonswitched links. The configuration of the link connection can be point to point, multipoint, or loop.

System Services Control Point (SSCP)

A focal point within an SNA network for managing the configuration, coordinating network operator and problem determination requests, and providing directory support and other session services for end users of the network. Multiple SSCPs cooperating as peers with one another, can divide the network into domains of control, with each SSCP having a hierarchical control relationship to the physical units and logical units within its own domain.

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