ULTRIX

digital

Kernel Messages Reference Manual

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ULTRIX

Kernel Messages Reference Manual

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Contents

About This Manual

This manual documents panic messages produced by the files in the ULTRIX kernel.

Audience

This manual is written for programmers experienced in using the ULTRIX operating system. DIGITAL field service and software support personnel will also find this manual useful when responding to customer's system problems. The messages documented here serve as a starting point for resolving hardware-detected and software-detected problems that are reported through the ULTRIX kernel software.

Users of this manual are expected to have access to the ULTRIX source code for this version of the operating system.

Organization

This manual contains two chapters and one appendix.

- Chapter 1, Introduction

  Defines the kernel, introduces the kernel messages, and describes the format of the panic messages.

- Chapter 2, Kernel Panic Messages

  Describes the panics in the ULTRIX kernel in alphabetical order.

- Appendix A, Kernel Files

  Lists the files in the ULTRIX kernel in a directory tree format.

Related Documents

The *Guide to the Error Logger System* manual describes the setup and administration of an ULTRIX system. You should study the manual's discussion of the error logging facility, particularly in regard to:

- Using `uerf`, the error report formatter, to extract reports about errors from the kernel errorlog file
- Maintaining the error logging facility with the `eli` command
- Configuring error logging for a system with the `elscd.conf` file
- Administering error logging and reporting between local and remote systems

Conventions

The following conventions are used in this manual:

`special`	In text, this type indicates the exact name of a command, variable, option, partition, pathname, directory, or file. This type is also used to indicate output, to the console subsystem log or to the user, that is associated with some messages.
`<0Xd>`	A hexadecimal number in output associated with the kernel messages.
`<0d>`	An octal number in output associated with the kernel messages.
`<d>`	A decimal number in output associated with the kernel messages.
`<"string">`	An ASCII string in output associated with the kernel messages.
`user input`	This bold typeface is used in interactive examples to indicate typed user input.

Kernel Messages 1

This chapter introduces the kernel messages by defining the ULTRIX kernel, describing how messages are classified, produced, and reported, and showing the format of error messages.

1.1 The ULTRIX Kernel

Routines in the ULTRIX kernel produce kernel messages. In this manual, the kernel is defined as the set of files shipped as the base ULTRIX operating system for the Version 4.2 software release. Appendix A shows these files outlined in a directory tree format.

This manual does not include messages from optional products, even though some optional products, when installed on the ULTRIX base system, add files to the kernel. For example, when the optional product DECnet/ULTRIX is installed on an ULTRIX base system, the kernel is rebuilt and some DECnet/ULTRIX files become part of the new kernel. These DECnet/ULTRIX files, and the messages they may produce, are not included here.

1.2 Kernel Messages

Kernel messages result from software-detected situations that report problems with and provide information about the operating environment of the system. The following sections discuss how ULTRIX classifies, produces, and reports messages.

1.2.1 How Kernel Messages Are Classified

Messages are grouped into three levels based on their severity. The messages associated with the severity levels are called error messages or panics, warning messages, and informational messages. All conditions causing the messages are evaluated and reported by the kernel software. All errors are logged by the kernel software to the kernel errorlog buffer.

This manual does not include warning messages or informational messages, except in the extremely rare case when an informational message is tied to a kernel panic message. Thus, in almost all cases, only error messages (see Section 1.3) are listed in Chapter 2 .

1.2.1.1 Errors – An error results when a software-detected problem causes the software in the kernel to:

- Initiate (or not initiate) hardware recovery procedures
- Bring down (crash) the operating system
- Flag the hardware to reboot the operating system

Data may be lost when a software-detected error occurs.

The ULTRIX *System Management Guide* contains information about procedures to follow for system crash recovery.

1.2.1.2 Warnings

Warnings – Warnings show some situation or potential problem that the individual user, field service person, or system administrator should examine and perhaps resolve to keep a system operating with integrity.

Warnings may prevent the operating system from continuing operations, although they typically result in an error only when the problem they represent is not resolved.

1.2.1.3 Information

Information – Informational messages are for all user levels. The ULTRIX operating system seldom produces informational messages from kernel files, although drivers may note operator information such as whether a device is off line or write-protected. Generally, informational messages are produced by utilities and shells.

1.2.2 How Kernel Messages Are Produced

When a kernel file detects an error or other event that requires a message, it calls the appropriate routine in the kernel file `/usr/src/sys/sys/subr_prf.c`. The routines in this file format the message and send it to the console subsystem or to the user. The routines do other things too, from basic housekeeping to rebooting the system.

In the ULTRIX operating system, ''hard-errors'' (for example, corruption or machine-irrecoverable errors) are called panics because the messages produced by the kernel files are effected through a call to the `panic.c` routine in one of the following kernel files:

```
/usr/src/sys/machine/vax/panic.c
/usr/src/sys/machine/mips/panic.c.
```

The routine does the following:

- Sends the message to the console (or console subsystem, depending on the processor), errorlog buffer, or both
- Calls the appropriate panic device and displays it
- Halts the appropriate processors
- Saves the state of the machine
- Flags the hardware to reboot the system, and determines the setup to reboot
- Saves the core and dumps it to swap space

1.2.3 How Kernel Messages Are Reported

Kernel messages are always reported to the console subsystem. When the ULTRIX error logging facility is active, the messages are also reported to the ULTRIX errorlog buffer. What happens to messages after they are reported to the errorlog buffer depends on how the error logging facility is defined and administered.

Depending on how reporting is enabled, the logical console, the console subsystem to which errors are reported, can be on the local system or at a remote system in a network.

Depending on how the error logging facility is defined, the reporting of errors can be extracted locally or remotely from the local system's kernel errorlog buffer.

1.3 Panic Messages Format

Chapter 2 contains descriptions of all the panics in the ULTRIX kernel, presented alphabetically. All panics have the same format: ''panic:'' followed by a brief message. The format for representing the message and its related information is:

message string

File	Name
Routine	Name
Problem	A brief description of the cause of the message
Output	Additional information associated with the panic message
Action	Any appropriate action that a user can take to resolve the panic

The message string reproduces the message generated by the call to the `panic.c` routine, minus the ''panic:'' that precedes it. The file name gives the name of the directory and source file containing the routine that detected the problem. The routine name is the function in the source file that detected the problem and then issued the call to the `panic.c` routine. The problem section describes the situation that caused the panic. The output section gives the meaning of associated messages sent to the console log and some or all of the console output. The following example shows typical output in each of the first four categories:

getegnode: free gnode isnt

File `/sys/gfs/gfs_bio.c`

Routine `getegnode`

Problem A gnode on the free list is still active.

This routine gets a gnode from the free list. When it does so, the routine checks the gnode's reference count, which is zero when a gnode is not active. In this case, the routine detected the reference count was not zero, indicating the gnode was still active.

Output Indicates the routine and the gnode address and number. The format is:

```
getegnode: gp <0Xd> (<d>)
```

1.4 Resolving Panic Message Problems

Only in rare cases does this manual provide specific information concerning the procedures necessary for you to resolve a particular panic. If you are unable to solve a problem that caused a panic, consult an ULTRIX Software Support Group. If this is not a viable solution, submit a software problem report (SPR), including a listing of the console terminal output, and machine-readable copies of the following files:

- The system configuration file
- The system error log file
- The `vmunix` and `vmcore` files created by `/etc/savecore` when the system dumps core

Kernel Panic Messages 2

accept

File /sys/sys/uipc_syscalls.c

Routine accept

Problem A socket connect queue is empty when sockets should be connected to it.

The socket variable so_qlen indicated there were socket connects on the socket connect queue so_q, but the routine detected the socket connect queue was empty.

aiodone: Infinite loop

File /sys/vm/vm_swp.c

Routine aiodone

Problem The aiodone routine was checking endlessly on the status of a busy process.

alloc: bad size

File /sys/fs/ufs/ufs_alloc.c

Routine alloc

Problem A file system block being allocated is the wrong size.

When this routine receives a block size, it checks the size of the block before allocating it. In this case, the routine detected the block was either greater than the file system block size or not a multiple of the file system fragment size.

Output Identifies the device from which the block was allocated, the file system block size, the size requested, and the file system. The format is:

```
dev = <0Xd> bsize =<d> size = <d> fs = <"string">
```

alloccgblk: can't find blk in cyl

File `/sys/fs/ufs/ufs_alloc.c`

Routine `alloccgblk`

Problem A free block is not in the free block bit map.

The routine found a free block in both the cylinder group table and the file system positional table but could not find the block in the free block bit map.

Output Identifies the position of the block in the file system positional table, its index, and the file system. The format is:

```
pos = <d> i = <d> fs = <"string">
```

alloccgblk: cyl groups corrupted

File `/sys/fs/ufs/ufs_alloc.c`

Routine `alloccgblk`

Problem A free block is not in the file system positional table.

The routine found a free block in the cylinder group table but could not find the same free block in the file system positional table.

Output Identifies the position of the block in the file system positional table, its index, and the file system. The format is:

```
pos = <d> i = <d> fs = <"string">
```

alloccg: block not in map

File `/sys/fs/ufs/ufs_alloc.c`

Routine `mapsearch`

Problem A cylinder group's free map contains no free blocks.

When allocating a block, the routine searched the file cylinder group summary and found cylinder groups that contain free blocks. However, the search through the free map for one of these cylinder groups detected it contained no free blocks.

Output Identifies the block number and the file system. The format is:

```
bno = <d>  fs = <"string">
```

alloccg: map corrupted

File	`/sys/fs/ufs/ufs_alloc.c`
Routine	`mapsearch`
Problem	The cylinder group contains no free fragments. This routine determines whether a requested fragment can be allocated. In this case, the routine searches the free map list and finds a byte that contains free fragments. However, when searching the bits of the byte map to determine which fragment was free, the routine detected there was no free fragment in the cylinder group.
Output	Identifies the starting boundary for the fragment, its length, and the file system. The format is: `start = <d> len = <d> fs = <"string">`

alloc_vaxmap: allocate failed

File	`/sys/machine/mips/kn5800.c`
Routine	`alloc_vaxmap`
Problem	The system could not allocate kseg0 space (physical memory space) for VAX page table entries (ptes). These ptes are needed for devices that require VAX virtual memory support.

arp Bresolve: no free entry

File	`/sys/net/netinet/if_ether.c`
Routine	`arpresolve`
Problem	There are no free entries in the `arp` table and all the entries there are permanent.

arpresolve: no free entry

File	`/sys/net/netinet/if_ether.c`
Routine	`arpresolve`
Problem	The `arpresolve` routine maps Internet Protocol (IP) addresses to ethernet addresses. First, it checks the address resolution display and control (ARP) table. If the corresponding IP address is not there, the routine sends out an ARP broadcast message requesting the missing IP address. When the IP address is returned, the routine enters it in the ARP table. In this instance, the `arpresolve` routine could not allocate a location in the ARP table for the IP address.

Async vector memory exception

File	`/sys/machine/vax/locore.s`
Routine	`Xprotflt`
Problem	A memory exception occurred that the operating system could not handle.

auditlog

File	`/sys/sys/kern_auditlog.c`
Routine	`initaud`
Problem	`Kmalloc` of space for audit buffer failed.

badaddr

File	`/sys/machine/mips/locore.s`
Routine	`badaddr`
Problem	Bad bus address. The routine detected a bus error on a read access to a particular address.

bad c_page

File	`/sys/vm/vm_page.c`
Routine	`checkpage`
Problem	A page frame number does not match the page frame number of the clock. When checking for pages to page out, the routine detected that the page frame number of the page currently being checked does not correspond to the `cmap` entry.

bad mem alloc

File	`/sys/vm/vm_mem.c`
Routine	`memall`
Problem	A free memory segment is beyond the bounds of configured physical memory. This routine allocates physical memory that is represented by core map (cmap) entries. In this case, the routine detected the address of a free memory segment from a cmap entry was beyond the bounds of the configured physical memory of the system.

bad mem free

File	`/sys/vm/vm_mem.c`
Routine	`memfree`
Problem	A page frame number is beyond the bounds of configured physical memory.

This routine frees memory. In this case, the routine detected a page table entry page frame number was beyond the bounds of configured physical memory.

bad nofault

File	`/sys/machine/mips/trap.c`
Routine	`trap`
Problem	An exception occurred while the system was processing a previous exception.

The system experienced an exception condition (trap) while processing a prior exception and had no way of processing the current exception.

bad rmfree

File	`/sys/sys/subr_rmap.c`
Routine	`rmfree`
Problem	A resource address or size parameter is invalid.

This routine frees space from a resource map. Before doing so, the routine checks address and size parameters to ensure they do not overlap and are within bounds. The routine detected one of the parameters was invalid because it was out of bounds or overlapped by the other parameter.

big push

File	`/sys/vm/vm_swp.c`
Routine	`swap`
Problem	The number of bytes being swapped is greater than the bytes in a software page.

The routine detected the number of bytes it was swapping was greater than the number of bytes in a software page, and the routine was invoked as a consequence of pageout rather than swapout.

binstailbusy

File	`/sys/h/buf.h`
Routine	`binstailbusy` (macro)
Problem	The system detected that a buf struct it was attempting to add to the busy list did not have a busy status (B_BUSY).

blkdev

File	`/sys/fs/gfs/gfs_bio.c`
Routine	`getblk`
Problem	The major device number for a block is invalid. This routine assigns buffers to blocks. Before making the assignment, the routine checks the device number of the device for the block. The routine detected the major device number was out of bounds.

bninit: km_alloc bufhash

File	`/sys/sys/init_main.c`
Routine	`bhinit`
Problem	The `bhinit` routine, which allocates kernel memory for the buffer hash list at system startup, could not allocate any kernel memory for the buffer hash list.

branch_target

File	`/sys/machine/mips/trap.c`
Routine	`branch_target`
Problem	The instruction passed as a parameter to the `branch_target` routine was not among the expected instruction types.

breada

File	`/sys/fs/gfs/gfs_bio.c`
Routine	`breada`
Problem	A block is greater than the size of its input buffer. Before it transfers a block for a buffered read ahead operation, the routine checks the size of the block. The routine detected the size was greater than the input buffer size.

bread

File	`/sys/fs/gfs/gfs_bio.c`
Routine	`bread`
Problem	A block is greater than the size of its input buffer. Before it transfers a block for a buffered read operation, the routine checks the size of the block. The routine detected the size of the block was greater than the input buffer size.

breadrabp

File	`/sys/fs/gfs/gfs_bio.c`
Routine	`breada`
Problem	A block is greater than the size of its input buffer. Before it transfers a block for a buffered read ahead operation, the routine checks the size of the block. The routine detected the size was greater than the input buffer size.

bread: size 0

File	`/sys/fs/gfs/gfs_bio.c`
Routine	`bread`
Problem	The size of a block is zero. Before it transfers a block for a buffered read operation, the routine checks the size of the block. The routine detected the size was zero.

brealloc

File	`/sys/fs/gfs/gfs_bio.c`
Routine	`brealloc`
Problem	The space being allocated for a buffer is locked in memory. While allocating space for a buffer, the routine detected the `B_LOCKED` flag of the buffer was set. When this flag is set, the space for the buffer is locked in memory and cannot be allocated.

brelse: freelist

File `/sys/fs/gfs/gfs_bio.c`

Routine `brelse`

Problem A buffer being freed is already free.

Before releasing a buffer to the free list, the routine checks the flag field of the buffer. If this field indicates that the buffer was already marked free, the system prints out a `brelse: freelist` error message and crashes.

Output The routine issues a message that indicates the buffer pointer, the device, and the gnode pointer and number in the following format:

```
brelse: bp <0Xd> dev <0Xd> gp <0Xd> (<d>) already on list
```

brembusy

File `/sys/h/buf.h`

Routine `brembusy` (macro)

Problem The system detected that a buf struct it was attempting to remove from the busy list did not have a busy status (B_BUSY).

bsc_control

File `/sys/net/netbsc/bsc_pcb.c`

Routine `bsc_control`

Problem A pointer to the network interface structure is invalid.

This routine controls bsc operations. In this case, an internet request was received, but the routine detected the request contained a null pointer to the network interface structure.

bsc_usrreq

File `/sys/net/netbsc/bsc_usrreq.c`

Routine `bsc_usrreq`

Problem A user request for a bsc operation is invalid.

This routine processes bsc user requests. In this case, the routine received the request but could not recognize the type code of the request.

buffer header allocation failure

File	`/sys/machine/mips/startup.c`
Routine	`mapinit`
Problem	The `mapinit` routine, which sizes and configures system memory, detected that the ratio of buf structures to the number of page klusters was incorrectly set for the number of CPUs on the system. For uniprocessor systems, the ratio should be 1:1; for multiprocessor systems, the ratio should be 1:2.

bufflush pte not valid

File	`/sys/machine/mips/cache.c`
Routine	`bufflush`
Problem	Bad page table entry (PTE).
	While flushing a page from the cache, the routine detected that the page table entry was invalid.

bus timeout

File	`/sys/machine/mips/trap.c`
Routine	`trap`
Problem	Bus timeout.
	The hardware detected a memory bus error in kernel mode. This panic typically indicates a memory board problem.

Bus write error

File	`/sys/machine/mips/kn210.c`
Routine	`kn210harderrintr`
Problem	The `kn210harderrintr` routine, which is called in response to hard error interrupts to log appropriate diagnostic information to the error logger, detected a write error when writing to the I/O address space.

bvpdriver: Attempt to open path

File	`/sys/io/bi/bvp_serv.c`
Routine	`uq_open_path`
Problem	The bvp port driver attempted to open a communications path.
	The bvp port driver received a request to open a communications path. The driver, however, does not support initiating such connections.

bvp_log_err: Invalid port type

File `/sys/io/bi/bvp_subr.c`

Routine `bvp_log_err`

Problem The system attempted to log an error on a hardware port type not supported by the ULTRIX operating system.

bvp_qtrans: Invalid queue

File `/sys/io/bi/bvp_subr.c`

Routine `bvp_qtrans`

Problem After a message is queued to a port, the `bvp_qtrans` routine sets a flag indicating which queue the message was put on. The routine then determines which queue with a message on it has the highest priority and passes this information to the bvp port. In this instance, the `bvp_qtrans` routine detected that a message was placed on a nonexistent queue.

bvpsspdriver: invoked with illegal path crash reason

File `/sys/io/bi/bvp_serv.c`

Routine `bvp_crash_path`

Problem The `bvp_crash_path` routine, which terminates a port driver path, detected that the port failure reason code was out of bounds.

bwrite

File `/sys/fs/gfs/gfs_bio.c`

Routine `bwrite`

Problem A block is greater than the size of its output buffer.

Before it transfers a block for a buffered write operation, the routine checks the size of the block. The routine detected the block size was greater than the output buffer size.

cbhung

File `/sys/io/mba/vax/mba.c`

Routine `mbintr`

Problem The control bus is hung.

The routine cannot process an interrupt from the MASSBUS adapter because the control bus is hung. (This panic is for VAX11/750 processors only.)

Output Identifies the MASSBUS adapter number. The format is:

```
mba <d>: control bus hung
```

Character queue overflow

File	`/sys/sys/kern_clock.c`
Routine	`chrqueue`
Problem	The `chrqueue` routine, which processes the console character queue, detected that the queue is full.

checkpage: cmap entry already locked

File	`sys/vm/vm_page.c`
Routine	`checkpage`
Problem	A page has changed from unlocked to locked state while the pageout daemon was running. This violates the scheduling protocol required by pageout.

checkpage: invalid swap index

File	`vm/vm_page.c`
Routine	`checkpage`
Problem	When checking for pages to page out, checkpage detected the size computed for the segment was greater than the size in the dmap structure of that segment.

checkpage: NULL dmap

File	`vm/vm_page.c`
Routine	`checkpage`
Problem	NULL pointer to dmap information. When attempting to allocate swap space during page out, the `checkpage` routine detected that the segment had a NULL pointer to dmap information.

chkiq

File	`/sys/fs/gfs/gfs_quota.c`
Routine	`chkiq`
Problem	The device is not mounted. Before determining the gnode quota for a mounted device, the routine checks that the device is mounted. The routine detected the device was not mounted.

CHM? in kernel

File	`/sys/machine/vax/locore.s`
Routine	`kspnotval`
Problem	A change access mode instruction is invalid.

When the processor detects an instruction that attempts to change access mode from kernel mode to a less privileged mode, it issues an exception and dispatches the exception to this routine. In this case, the routine serviced the exception by producing this panic.

ci - attempting to load unnecessary microcode

File	`/sys/io/ci/ci_init.c`
Routines	`ci7b_load, cibca_aa_load`
Problem	The CI port possesses onboard functional microcode.

There are two routines that can issue this panic. The `ci7b_load` routine loads CI7B family functional microcode (CI750/CI780/CIBCI). The `cibca_aa_load` routine loads CIBCA-AA functional microcode.

While performing its function, one of the routines determined that the CI port possessed functional microcode and issued this panic.

ci - attempting to map/unmap already mapped/unmapped adapter

File	`/sys/io/ci/ci_error.c`
Routines	`ci_map_port` `ci_unmap_port`
Problem	The CI port is already mapped/unmapped.

There are two routines that issue this panic. The `ci_map_port` routine maps CI ports. The `ci_unmap_port` routine unmaps them.

While performing its function, one of the routines determined that either the CI port was already mapped or it was already unmapped.

ci - invalid pccb fork block

File	See Table 2-1.
Routine	See Table 2-1.
Problem	The necessary pccb data structure is interlocked to prevent use.

There are several CI routines that can issue this panic. These routines perform the various functions that are briefly described in Table 2-1.

Table 2-1: pccb Fork Block Routines

File	Routine	Description
`/sys/io/ci/ci_error.c`	`ci_cleanup_port`	Cleans up CI ports.
`/sys/io/ci/ci_init.c`	`ci_init_port`	Initializes CI ports. This routine issues a panic when either the data structure necessary for scheduling its asynchronous execution was not interlocked to prevent use or the data structure necessary for scheduling a consecutive asynchronous port initialization attempt is interlocked to prevent use.
	`ci_probe`	Probes newly discovered CI ports.
`/sys/io/ci/ci_isr.c`	`ci_unmapped_isr`	Services interrupts for unmapped CI ports.
`/sys/io/ci/ci_lpmaint.c`	`ci_crash_lport`	Crashes CI ports.
`/sys/io/ci/cippd_error.c`	`cippd_clean_fpb`	Cleans up formative paths.
`/sys/io/ci/cippd_event.c`	`cippd_stop`	Cleans up paths associated with failed ports.
`/sys/io/ci/cippd_pmaint.c`	`cippd_remove_pb`	Removes and disposes of path blocks from the Systems Communication Architecture Subsystem database.

ci - invalid unmapping of local port

File	`/sys/io/ci/ci_isr.c`
Routine	`ci_unmapped_isr`
Problem	A CI port should not be unmapped.

This routine services interrupts for unmapped CI ports. While processing an interrupt, the routine determined that the port is functional, has power, and should be mapped.

ci - no invalidate translation cache command packet

File	`/sys/io/ci/ci_subr.c`
Routine	`ci_inv_cache`
Problem	The reserved port command buffer is absent.

This function invalidates CI port translation caches. Specially reserved port command buffers are used by the routine for invalidating caches as it terminates specific established paths. While performing such an invalidation, the routine discovered the absence of the reserved port command buffer.

ci - no set circuit off command packet

File	`/sys/io/ci/ci_subr.c`
Routine	`ci_set_circuit`
Problem	The reserved port command buffer is absent.

This function sets virtual circuits on or off. Specially reserved port command buffers are used by the routine for setting to off circuits associated with specific paths. While setting such a circuit to off, the routine discovered that the reserved port command buffer was absent.

ci - panic requested on all local port failures

File	`/sys/io/ci/ci_lpmaint.c`
Routine	`ci_crash_lport`
Problem	A panic was issued based on the setting of the configuration variable `ci_lpc_panic`.

This routine crashes CI ports. While crashing a port, the routine determined that the setting of the CI configuration variable `ci_lpc_panic` (located in `../data/ci_data.c`) required that a system panic be issued.

ci ppd - broken traffic interval timer

File	`/sys/io/ci/cippd_protocol.c`
Routines	`cippd_start_tmr` `cippd_stop_tmr`
Problem	The CI PPD traffic interval timer is already started or stopped.

There are two routines that can issue this panic. The `cippd_start_tmr` routine starts the CI PPD traffic interval timer and the `cippd_stop_tmr` routine stops the timer. While performing its function, the routine determined that the timer was previously started or stopped.

ci ppd - invalid path state

File	See Table 2-2.
Routine	See Table 2-2.
Problem	The CI path is in an invalid state.

The CI routines that can issue this panic are briefly described in Table 2-2.

Table 2-2: Invalid Path Checks

File	Routine	Description
`/sys/io/ci/cippd_event.c`	`cippd_stop`	Cleans up paths associated with failed ports.
`/sys/io/ci/cippd_protocol.c`	`cippd_dispatch`	Action dispatcher for the CI PPD, finite state machine.
	`cippd_enter_db`	Enters path blocks into the Systems Communication Architecture Subsystem database.
	`cippd_path_schd`	Schedules asynchronous cleanup of paths.
	`cippd_ppderror`	Processes CI PPD protocol violations.
	`cippd_rrestart`	Processes remote CI PPD path restart requests.

ci ppd - invalid pb fork block

File	See Table 2-3.
Routine	See Table 2-3.
Problem	The data structure necessary for scheduling asynchronous execution was not interlocked to prevent use.

There are several routines that can issue this panic. All of these routines deal with the cleaning up of pb paths (see Table 2-3 for a brief description).

Table 2-3: Invalid pb Fork Block Routines

File	Routine	Description
`/sys/io/ci/cippd_error.c`	`cippd_clean_fpb` `cippd_clean_pb`	Cleans up formative paths. Cleans up established paths.
`/sys/io/ci/cippd_event.c`	`cippd_stop`	Cleans up paths associated with failed ports.
`/sys/io/ci/cippd_protocol.c`	`cippd_path_schd`	Schedules asynchronous cleanup of paths.

ci ppd - invalid pccb fork block

File See Table 2-4.

Routine See Table 2-4.

Problem The necessary ppd data structure is interlocked to prevent use.

There are several CI routines that can issue this panic. These routines perform the various functions that are briefly described in Table 2-4.

Table 2-4: Invalid ppd Fork Block Routines

File	Routine	Description
`/sys/io/ci/cippd_error.c`	`cippd_clean_fpb`	Cleans up formative paths.
`/sys/io/ci/cippd_event.c`	`cippd_stop`	Cleans up paths associated with failed ports.
`/sys/io/ci/cippd_pmaint.c`	`cippd_remove_pb`	Removes and disposes of path blocks from the Systems Communication Architecture Subsystem database.

ci ppd - invalid state or event combination encountered

File `/sys/io/ci/cippd_protocol.c`

Routine `cippd_panic`

Problem An unexpected or illegal path state or event combination.

This routine contains unexpected and illegal path state and event combinations. These combinations should never occur in the CI PPD finite state machine.

ci ppd - invalid/unknown path crash reason

File	`/sys/io/ci/cippd_protocol.c`
Routine	`cippd_pcreason`
Problem	The CI path-crash event code is unknown. This routine maps a specific path-crash event code into a more general reason for path failure. While mapping such an event code, the routine determined that the event is unknown.

ci ppd - panic requested on all path failures

File	`/sys/io/ci/cippd_pmaint.c`
Routine	`cippd_crash_pb`
Problem	The CI PPD configuration variable `cippd_pc_panic` was set. This function crashes CI PPD paths. While crashing a path, the routine determined that the setting of the PPD configuration variable `cippd_pc_panic` (located in `../data/cippd_data.c`) required that a system panic be issued.

ci ppd - path is already enabled

File	`/sys/io/ci/cippd_protocol.c`
Routine	`cippd_enab_path`
Problem	The CI PPD path is already enabled. This function enables CI PPD paths during their establishment. While enabling a path, the routine determined it is already enabled.

ci ppd - removing unremovable path

File	`/sys/io/ci/cippd_pmaint.c`
Routine	`cippd_remove_pb`
Problem	The ppd path block cannot be removed from the Systems Communication Architecture Subsystem database. This routine removes and disposes of path blocks from the Systems Communication Architecture Subsystem database. While processing a path block, the routine determined that the block is not in any condition to be removed.

ci ppd - unknown console logging formatting code

File	`/sys/io/ci/cippd_error.c`
Routine	`cippd_conlog`
Problem	The CI PPD variable class is unknown.

This routine optionally logs CI PPD events to the console terminal. While logging an event, the routine determined the class of variable information to be logged is unknown.

ci ppd - unknown finite state machine event

File	`/sys/io/ci/cippd_protocol.c`
Routine	`cippd_dispatch`
Problem	Unknown finite state machine event

This function is the action dispatcher for the CI PPD finite state machine. While processing an event, it determined that the event is unknown.

ci ppd - unknown/invalid event code

File	`/sys/io/ci/cippd_error.c`
Routine	`cippd_conlog`
Problem	The CI PPD event code is unknown or invalid.

This routine optionally logs CI PPD events to the console terminal. While logging an event, the routine determined the following:

- The event type is unknown.
- The event severity level is invalid.
- The event is unknown.
- The event should not be logged by the CI Port, Port driver.

ci ppd - unknown/invalid system-level event

File	`/sys/io/ci/cippd_error.c`
Routine	`cippd_csyslev`
Problem	The PPD, common system-level event is unknown or invalid.

This routine processes CI PPD common system-level events. While processing such an event, the routine determined that it was unknown.

ci ppd - unretrievable path

File	`/sys/io/ci/cippd_protocol.c`
Routine	`cippd_enter_db`
Problem	Unable to retrieve a path block for the Systems Communication Architecture Subsystem database.

This function enters path blocks into the Systems Communication Architecture Subsystem database. When the routine is unable to retrieve a block, it issues this panic.

ci - unknown cable status check requested

File	`/sys/io/ci/ci_subr.c`
Routine	`ci_update_cable`
Problem	The CI cable-transition check type is unknown.

This routine checks for the existence of a specified type of CI cable transition. While processing a cable, the routine determined that the type of check is unknown.

ci - unknown console logging formatting code

File	`/sys/io/ci/ci_error.c`
Routine	`ci_console_log`
Problem	The class of variable information for CI events is unknown.

This routine optionally logs CI events to the console terminal. While logging an event, the routine determined that the class of variable information to be logged is unknown.

ci - unknown interconnect type

File	See Table 2-5.
Routine	See Table 2-5.
Problem	The CI interconnect type is unknown.

There are several CI routines that can issue this panic. These routines log CI device attention events, map CI ports, and probe newly discovered ports. Table 2-5 briefly explains each of these routines.

Table 2-5: CI Interconnect Routines

File	Routine	Description
`/sys/io/ci/ci_error.c`	`ci_log_dev_attn`	Logs CI device attention events.
	`ci_map_port`	Maps CI ports.
`/sys/io/ci/ci_init.c`	`ci_probe`	Probes newly discovered CI ports.

ci - unknown/invalid event code

File	`/sys/io/ci/ci_error.c`
Routines	`ci_console_log, ci_log_initerr`
Problem	Unknown or invalid CI event code.

There are two routines that can issue this panic. The `ci_console_log` routine logs CI events to the console terminal. While attempting to log an event, the `ci_console_log` routine determined one of the following:

- The event type is unknown.
- The event severity level is invalid or unknown.
- The event is not supposed to be logged by the CI port driver.

The routine `ci_log_initerr` logs CI device attention events that occurred while probing new CI ports. While logging such an event, `ci_log_initerr` determined the event is unknown.

ci - unknown/invalid hardware port type

File	See Table 2-6.
Routine	See Table 2-6.
Problem	The CI port type is unknown.

There are several CI routines that can issue this panic. These routines handle CI events, interrupts, and various CI port functions. The following table briefly explains each of these routines.

Table 2-6: Port Checks

File	Routine	Description
`/sys/io/ci/ci_error.c`	`ci_console_log`	Logs CI events to the console terminal.
	`ci_log_dev_attn`	Logs CI device attention events.
	`ci7b_disable`	Completely disables CI7B family ports (CI750, CI780, and CIBCI).
	`cibx_disable`	Completely disables CIBX family ports (CIBCA).

Table 2-6: (continued)

File	Routine	Description
/sys/io/ci/ci_init.c	ci_probe	Probes newly discovered CI ports.
	ci_test_port	Checks for the presence of CI ports.
	cibx_start	Starts CIBX family ports (CIBCA).
	ci_unmapped_isr	Services interrupts for unmapped CI ports.

ci - unknown local port crash reason

File	`/sys/io/ci/ci_lpmaint.c`
Routine	`ci_crash_lport`
Problem	The CI port is being crashed for an unknown reason.

This routine crashes CI ports. While crashing a CI port, the routine determines the reason for crashing the port is unknown.

cleanup center

File	`/sys/vm/vm_page.c`
Routine	`checkpage`
Problem	There is more than one page kluster associated with a pageout buffer.

While checking a page, the routine detected there was more than one page kluster associated with a pageout buffer.

cleanup CSYS

File	`/sys/vm/vm_page.c`
Routine	`checkpage`
Problem	A system page is being paged out.

The routine detected a pageout operation was being performed on a system page. Pageouts must not occur on system pages.

clget: null client

File	`/sys/fs/nfs/nfs_subr.c`
Routine	`clget`
Problem	An NFS client structure being allocated cannot be allocated.

This routine sets up client structures for the NFS file system. While doing so, it allocates the structure. In this case, the routine was unable to allocate the structure.

clntkudp_create: kmem_alloc returns 0

File	`/sys/net/rpc/clnt_kudp.c`
Routine	`clntkudp_create`
Problem	The system ran out of memory attempting to create a remote procedure call (rpc) handle.

clntkudp_create: kmem_alloc returns 0 for p->cku_outbuf

File	`/sys/net/rpc/clnt_kudp.c`
Routine	`clntkudp_create`
Problem	The system ran out of memory attempting to create a remote procedure call (rpc) handle.

closedq: dq should not be locked

File	`/sys/fs/gfs/gfs_kernquota.c`
Routine	`closedq`
Problem	The `closedq` routine detected that a disk quota structure that was being removed was locked. When a disk quota structure is being removed from a file system, the disk quota structure should not be locked.

closedq: stray dquot

File	`/sys/fs/gfs/gfs_kernquota.c`
Routine	`closedq`
Problem	A disk quota structure being removed from a queue is not released. Before removing a disk quota structure from a file system queue, the reference count of the structure is set to zero to show it is released. When removing a disk quota structure from the file system queue, the routine detected the reference count of the structure was not zero.

clrblock

File	`/sys/fs/ufs/ufs_subr.c`
Routine	`clrblock`
Problem	A free block has an invalid number of fragments. This routine clears a block fragment from the free block map for a cylinder. When it finds a free block, the routine checks the block for the number of file system fragments it contains. In this case, the routine detected the free block had an invalid number of fragments. The number of fragments per block can be only 8, 4, 2, or 1.

coprocessor unusable

File	`/sys/machine/mips/trap.c`
Routine	`trap`
Problem	One of the DECstation coprocessors is not functioning properly. DECstation systems have more than one coprocessor. The kernel generates this panic if one of these coprocessors is not working properly.

could sleep holding spin lock

File	`/sys/sys/kern_lock.c`
Routine	`sleep_check`
Problem	It is not legal for a process to be rescheduled while it is holding a spin lock. This is not allowed to avoid a deadlock condition on the spin lock.

could sleep on interrupt stack

File	`/sys/sys/kern_lock.c`
Routine	`sleep_check`
Problem	It is not legal to sleep in an interrupt routine. This is a check to verify that a CPU is in a state where it can reschedule.

CPU read bus timeout

File	`machine/mips/kn02.c`
Routine	`kn02trap_error`
Problem	The CPU attempted to read from nonexistent memory or a non-existent I/O address. In most cases, this problem is caused by a broken memory controller or a broken I/O device.

CPU write timeout

File	`machine/mips/kn02.c`
Routine	`kn02errintr`
Problem	The CPU attempted to write to nonexistent memory or a nonexistent I/O address. In most cases, this problem is caused by a broken memory controller or a broken I/O device.

crfree: cred ref count decremented to minus value

File	`/sys/sys/kern_prot.c`
Routine	`crfree`
Problem	The `crfree` routine detected that a reference to a user credential structure was being released when there were no outstanding references, that is `cr_ref` was already equal to zero.

crhold: cred ref list about to wrap around

File	`/sys/sys/kern_prot.c`
Routine	`crhold`
Problem	The credentials reference count for a particular credential structure was about to increment to over 3000. The `crhold` routine locks a credentials structure and then checks to see if the number of references to this structure has been exceeded.

DBE not on load or store

File	`/sys/machine/mips/trap.c`
Routine	`trap`
Problem	A data bus error (DBE) occurred that was not a load or store to memory. A DBE occurred on an instruction that was not performing a read or write operation to memory.

dequeuing non-free text

File	`/sys/h/text.h`
Routine	`X_DQFREE` (macro)
Problem	There is an attempt to allocate a text structure that has already been allocated. This routine dequeues the text structure from the free list.

Dequeuing non-free text

File	`/sys/h/text.h`
Routine	`X_DQFREE` (macro)
Problem	The system tried to free a text table entry that was not marked free.

deuna xmit in progress

File	`/sys/io/netif/if_de.c`
Routine	`destart`
Problem	A deuna entry to be transmitted is already being transmitted.

Before transmitting an entry from a transmit buffer queue, the routine first checks the status flag of the entry and then sets the flag to indicate the entry is being transmitted. In this case, the routine checked the flag and discovered it already was set.

dirtysm: no SMS

File	`/sys/vm/vax/pt_machdep.c`
Routine	`dirtysm`
Problem	A shared memory segment is not found in a process structure linked to it.

This routine checks for modified (dirty) page table entries in shared memory space. When it receives a specific shared memory segment, the routine checks for that segment in a process structure linked to it. In this case, the routine could not find the segment in the process structure.

dirtysm: no SMS #2

File	`/sys/vm/vax/pt_machdep.c`
Routine	`dirtysm`
Problem	A shared memory segment is not found in the process structures linked to it.

This routine checks for modified (dirty) page table entries in shared memory space. When it receives a specific shared memory segment, the routine checks for that segment in the process structures linked to it. In this case, the routine could not find the segment in any process structure linked to it.

dirtysm: p_sm1

File	`/sys/vm/vax/pt_machdep.c`
Routine	`dirtysm`
Problem	The processes's pointer to the shared memory element linked list (`p_sm`) was NULL.

dirtysm: p_sm2

File	`/sys/vm/vax/pt_machdep.c`
Routine	`dirtysm`
Problem	The processes's pointer to the shared memory element linked list (`p_sm`) was NULL.

dirtysm: p_sm#

File	`/sys/vm/vax/pt_machdep.c`
Routine	`dirtysm`
Problem	The routine detected a process that indicated it had attached shared memory, but the process has a NULL pointer to shared memory information in the process (proc) structure.

dirtysm: smp

File	`/sys/vm/vax/pt_machdep.c`
Routine	`dirtysm`
Problem	An offset into a shared memory segment is not a multiple of CLSIZE.

This routine checks for modified (dirty) page table entries in shared memory space. When it receives an offset into a shared memory segment, the routine checks the offset to ensure it is a multiple of the system CLSIZE. In this case, the offset parameter was not a multiple of CLSIZE.

discquota

File	`/sys/fs/gfs/gfs_kernquota.c`
Routine	`dqalloc`
Problem	A disk quota structure on the free list is not free.

When a disk quota structure is written to the free list, the `DQ_MOD` flag of the structure is cleared to show that the structure is available for reallocation and any modifications to it have been written to disk. While reallocating the disk quota structure, the routine detected the `DQ_MOD` flag was set, indicating the disk quota structure was not free.

distmpte: p_sm1

File	`/sys/vm/vax/pt_machdep.c`
Routine	`distsmpte`
Problem	While updating the page tables of a process with shared memory segments, the `distsmpte` routine detected that the proc structure pointer (`p_sm`) to the shared memory elements linked list was NULL.

distmpte: p_sm2

File	`/sys/vm/vax/pt_machdep.c`
Routine	`distsmpte`
Problem	While updating the page tables of a process with shared memory segments, the `distsmpte` routine detected that the proc structure pointer (`p_sm`) to the shared memory elements linked list was NULL.

distsmpte

File	`/sys/vm/vax/pt_machdep.c`
Routine	`distsmpte`
Problem	A shared memory segment is not found in the process structures linked to it. This routine updates all the page tables of all processes linked to a shared memory segment. When it receives a specific shared memory segment, the routine checks for that segment in the process structures linked to it. In this case, the routine could not find the segment in the process structures linked to it.

distsmpte #2

File	`/sys/vm/vax/pt_machdep.c`
Routine	`distsmpte`
Problem	A shared memory segment is not found in a process structure linked to it. This routine updates all the page table entries of the processes linked to a shared memory segment. When it receives a specific shared memory segment, the routine checks for that segment in a process structure linked to it. In this case, the routine could not find the segment in the process structure.

distsmpte: PG_V && PG_FOD

File	`/sys/vm/vax/pt_machdep.c`
Routine	`distsmpte`
Problem	While updating a processes's page table entry (PTE) of a shared memory segment, the `distsmpte` routine detected that the PTE was marked valid while the shared memory page was marked fill on demand.

dli_bind: eaddr_reserved:

File	`/usr/src/sys/dli/dli_bind.c`
Routine	`dli_bind`
Problem	Corrupted DLI line table entry. While checking for Ethernet address reservations during a bind operation, DLI detected a corruption in one of its line table entries.

dli_bind: osi_ena_802pi:

File	`/usr/src/sys/dli/dli_subr.c`
Routine	`dli_bind`
Problem	Corrupted DLI line table entry. DLI detected a corruption in one of its line table entries while attempting to enable a subnetwork access protocol (SNAP) service access point (SAP) protocol ID.

dli_bind: socket gone!

File	`dli_bind.c`
Routine	`dli_bind`
Problem	The socket is temporarily unlocked so that the DLI line table entry can be locked. Before relocking the socket, a check is made to make sure that the socket is there. If the socket is not there, the system prints out a `dli_bind: socket gone!` error message and crashes.

dli_close

File	`/sys/net/dli/dli_close.c`
Routine	`dli_close`
Problem	Corrupted DLI line table entry. While performing a close operation, DLI detected a corruption in one of its line table entries.

dli, found_user2

File	`/usr/src/sys/dli/dli_input.c`
Routine	`dli`
Problem	Invalid link type. DLI has found a recipient for a packet, but the link type specified by the calling routine is invalid.

dli_ifoutput

File	`/usr/src/sys/dli/dli_if.c`
Routine	`dli_ifoutput`
Problem	Unknown value in the address structure. While outputting a packet, DLI detected an unknown value in the address structure passed to it by an Ethernet driver.

dli_input: forward_to_user

File	`/usr/src/sys/dli/dli_input.c`
Routine	`dli_input`
Problem	Corrupted DLI line table entry. While searching for the recipient of a packet, DLI detected a corruption in one of its line table entries.

dli_input, found_user1

File	`/usr/src/sys/dli/dli_input.c`
Routine	`dli_input`
Problem	Corrupted DLI line table entry. DLI found a recipient for a packet, but the user's socket pointer is NULL.

dli_input, found_user2: bad socket

File	`/usr/projects/wp/sys/net/dli/dli_input.c`
Routine	`found_user`
Problem	A socket pointer set to -1 was incorrectly passed to this routine.

dmalloc: bad segsize

File	`vm/vm_pt.c`
Routine	`dmalloc`
Problem	An invalid segment size is specified. The routine detected the segment size specified was either less than zero or greater than the system-specified limit.

dmalloc: bad swap fragment size

File	`vm/vm_pt.c`
Routine	`dmalloc`
Problem	Invalid swap fragment value. The global variable that contains the swap fragment value was corrupted as the routine detected a value less than or equal to zero.

dmalloc: illegal segtype

File	`/sys/vm/vm_swalloc.c`
Routine	`dmalloc`
Problem	The system attempted to allocate an invalid segment type. The `/sys/vm/vm_swalloc.c` routine allocates an array to hold swap blocks. The only valid block types are text, shared memory, data, and stack.

DMA memory error

File	`/usr/sys/machine/kn220.c`
Routine	`kn220_qbus_memerr`
Problem	The system attempted to read nonexistent Qbus memory.

DMA overrun

File	`machine/mips/kn02.c`
Routine	`kn02errintr`
Problem	The TURBOchannel reached its limit of 128 words per Device Memory Access (DMA). This problem is caused by a TURBOchannel device requesting too much DMA.

dmapinit: bad swap fragment size

File	`/sys/vm/vm_swalloc.c`
Routine	`dmapinit`
Problem	The system specified an illegal `swapfrag` size when initializing the `dmap` structure.

Before the `/sys/vm/vm_swalloc.c` routine initializes the dmap structure, it checks to make sure that the `swapfrag` size is greater than zero.

dmc rcv

File	`/sys/io/netif/if_dmc.c`
Routine	`dmcxint`
Problem	There are no buffers available for a DMC11 or DMR11 read operation.

This routine handles interrupts from the DMC11/DMR11 interfaces. When a read interrupt occurs, the routine checks for errors and then notifies the appropriate protocol of the interrupt. In this case, the routine could not find the location of the read buffers in the `dmcuba` structure associated with the interrupt.

dmexpand: bad number of elements

File	`vm/vm_pt.c`
Routine	`dmexpand`
Problem	An invalid segment size is specified. The segment size specified was either less than zero or greater than the system-specified limit for that segment.

dmexpand: NULL dmap

File	`vm/vm_pt.c`
Routine	`dmexpand`
Problem	NULL pointer to a dmap structure. Before attempting to expand or contract the dmap structure of a segment, the routine found the segment has a NULL pointer to the dmap information.

dmfree: Illegal segtype

File	`vm/vm_pt.c`
Routine	`dmfree`
Problem	The segment type cannot be classified as text, data, stack, or shared memory.

dmv# rcv

File	`/sys/io/netif`
Routine	`dmvxint`
Problem	When processing a receive interrupt from a dmv device (a synchronous communications device), the `dmvxint` routine searches the receive buffer list looking for the number of the buffer that the dmv device returned. In this instance, the `dmvxint` routine detected that the number of the buffer was greater than the number of buffers allocated to the device.

dnlc_init

File	`/sys/fs/nfs/vfs_dnlc.c`
Routine	`dnlc_init`
Problem	A NULL pointer was returned during the allocation of kernel memory.
	The `dnlc_init` routine could not allocate any kernel memory for the Network File System (NFS) directory entry cache or for NFS directory entry hash chains.

dnlc_purge: zero vp

File	`/sys/fs/nfs/vfs_dnlc.c`
Routine	`dnlc_purge`
Problem	An entry in the name lookup cache is not associated with a gnode.
	The routine detected an entry in the name lookup cache was not associated with a gnode.

dpvread - no mbufs available

File	`/sys/io/netif/if_dpv.c`
Routine	`dpvread`
Problem	There are no memory buffers available for a DPV11 read operation.
	This routine handles input from the DPV11. While getting a memory buffer to hold the input, the routine detected there were no memory buffers available.

DS5500 I/O Board is missing

File	`/sys/machine/mips/kn220.c`
Routine	`kn220conf`
Problem	Very early in the configuring routine, the system checked for the DECStation 5500 I/O board and did not find it. The board could be missing or broken.

dup biodone

File	`/sys/fs/gfs/gfs_bio.c`
Routine	`biodone`
Problem	The `biodone` routine detected that an I/O operation on a buffer it was attempting to mark as done was already marked as done.

dup mem alloc

File	`/sys/vm/vm_mem.c`
Routine	`memall`
Problem	A page on the free list is not free. This routine allocates physical memory by core map (cmap) entries. While doing so, the routine checks the cmap entry to ensure it is marked free. The routine detected a page on the free list was not marked free.

dup mem free

File	`/sys/vm/vm_mem.c`
Routine	`memfree`
Problem	A page kluster being freed is already free. This routine frees physical memory by core map (cmap) entries. While doing so, the routine checks the cmap entry to ensure it is not already free. The routine detected a page kluster that was already marked free.

evl_usrreq

File	`/usr/src/decnet/evl/evl_krtns.c`
Routine	`evl_usrreq`
Problem	Illegal user request on an event logger (EVL) socket.

exec: EFAULT

File	`/sys/sys/kern_exec.c`
Routine	`execve`
Problem	There is an argument error while executing a child process. This routine executes a new process on top of itself. To do so, the routine copies the calling process's arguments to temporary storage. Later, these arguments are copied back to user address space. While copying the arguments back, the routine detected there was an argument error or some discrepancy between the arguments received and those copied back.

exit

File `/sys/sys/kern_exit.c`

Routine `exit`

Problem A process structure is not in the pid hash table.

This routine terminates processes. To do so, the routine locates the process structure for the process in the process identification (pid) hash table. In this case, the routine did not find the process structure for the process in the hash table.

expand

File `/sys/vm/vm_proc.c`

Routine `smexpand`

Problem A request to resize P0 space to map or unmap a shared memory segment is not a multiple of CLSIZE.

This routine changes the size of P0 space to map/unmap a shared memory segment for a process. Before doing so, the routine checks the size to ensure it is a multiple of CLSIZE. The routine detected the request was not a multiple of CLSIZE.

fhandle and lockhandle-id are not the same size!

File `/sys/fs/nfs/nfs_vnodeops.c`

Routine `nfs_rlock`

Problem An inconsistency has been detected in the Network File System (NFS) file locking.

fifo_open: KM_ALLOC

File `/sys/fs/specfs/fifo_gnodeops.c`

Routine `fifo_open`

Problem The system ran out of memory attempting to allocate space for a fifo structure.

This routine is called to open both pipes (fifos) and named pipes. It attempts to allocate space for a fifo structure that hangs off the fifo's gnode.

flushpte: !isasms

File `/sys/machine/mips/vm_machdep.c`

Routine `flushpte`

Problem Shared memory data structure could not be located.

While flushing the translation lookaside buffer (tlb) of the passed-in shared memory pages, the routine could not locate the associated per-process shared memory data structure for one of the virtual pages of the faulting process.

flushpte: smindex == -1

File `/sys/machine/mips/vm_machdep.c`

Routine `flushpte`

Problem Shared memory data structure could not be located

While flushing the translation lookaside buffer (tlb) of the passed-in shared memory pages, the routine could not locate the associated per-process shared memory data structure for one of the attached sharing processes.

fodkluster

File `/sys/vm/vm_page.c`

Routine `fodkluster`

Problem There is not enough memory to allocate for a page kluster.

This routine finds adjacent pages for pagein and pageout operations. When it finds the pages, the routine checks that it has enough free memory to allocate a page kluster, prior to allocating them. However, the `memall` routine returned indicating that there is not enough memory.

free: bad size

File `/sys/fs/ufs/ufs_alloc.c`

Routine `free`

Problem A block being freed is the wrong size.

This routine receives the size of a block or fragment to free. While attempting to free the block or fragment, the routine detected it was either greater than the file system block size or not a multiple of the file system fragment size.

Output Identifies the device from which the block was freed, the file system block size, the size requested, and the file system. The format is:

```
dev = <0Xd> bsize = <d> size = <d> fs = <"string">
```

free_cpu: invalid cause

File	`/sys/sys/kern_cpu.c`
Routine	`free_cpu`
Problem	An undefined reason to restart a CPU was sent to the routine.

free: freeing free block

File	`/sys/fs/ufs/ufs_alloc.c`
Routine	`free`
Problem	A block being freed is already free. This routine receives the block number of a block or fragment to free. While attempting to free the block or fragment, the routine detected it was already in the free block map.
Output	Identifies the device from which the block was freed, the block number, and the file system. The format is: `dev = <0Xd> block = <d> fs = <"string">`

free: freeing free frag

File	`/sys/fs/ufs/ufs_alloc.c`
Routine	`free`
Problem	A fragment being freed is already free. This routine receives the block number of a fragment to free. While attempting to free the fragment, the routine detected it was already in the free block map.
Output	Identifies the device that contains the block, the block number, and the file system. The format is: `dev = <0Xd> block = <d> fs = <"string">`

freegnode: freeing active gnode

File	`/sys/fs/gfs/gfs_gnodeops.c`
Routine	`freegnode`
Problem	A gnode being freed is active. This routine frees gnodes when they are no longer active. While doing so, the routine detected the reference count for the gnode was not zero, indicating it was still active.
Output	Identifies the routine and the gnode address and number. The format is: `freegnode: gp <0Xd> (<d>)`

freegnode: freeing locked gnode

File `/sys/fs/gfs/gfs_gnode.c`

Routine `freegnode`

Problem The `freegnode` routine detected that a gnode it was attempting to add to the free list was locked (gr_lk). Only active or referenced gnodes can be locked.

Output A message is printed on the console listing the routine name, the hex gnode pointer, and the associated device number. The format of the message is:

```
freegnode: gp <gnode pointer> <device number>
```

freegnode: not a gnode

File `/sys/fs/gfs/gfs_gnode.c`

Routine `freegnode`

Problem The `freegnode` routine, which adds gnodes to the free list, detected that a pointer to a gnode was not in the range of the start and end address of the gnode table.

Freeing free text

File `/sys/h/text.h`

Routine `X_QFREE` (macro)

Problem There is an attempt to free a text structure that has already been freed.

freeing gnode already on free list

File `/sys/fs/gfs/gfs_gnodeops.c`

Routine `freegnode`

Problem A gnode being freed is already free.

This routine frees gnodes. In this case, the routine checked the gnode free list and detected the gnode was already free.

Output Identifies that NFS is inactive and the gnode address and number. The format is:

```
nfs_inactive: gp <0Xd> (<d>)
```

fstat

File	`/sys/fs/gfs/gfs_descrip.c`
Routine	`fstat`
Problem	The file type field of a file descriptor is invalid.

This routine checks the status of a file. While doing so, the routine detected the descriptor's file type field was invalid because it did not equal the value for the `inode`, `socket`, or `port` variable.

gap_accept

File	`/usr/src/sys/ccitt/gap_usrreq.c`
Routine	`gap_usrreq`
Problem	Missing pointer to the sockaddr structure.

A server has passed a sockaddr structure to the kernel and the structure was corrupted.

gap_send

File	`/usr/src/sys/ccitt/gap_usrreq.c`
Routine	`gap_usrreq`
Problem	Missing control block of the connected socket.

When a connection between the gap server and the application is established, a control block exists for each socket of the socket pair. However, this control block is missing when an application attempts a send call.

gap_sendoob

File	`/usr/src/sys/ccitt/gap_usrreq.c`
Routine	`gap_usrreq`
Problem	Missing control block of the connected socket.

When a connection between the gap server and the application is established, a control block exists for each socket of the socket pair. However this control block is missing when an application attempts a send call for `oob` data.

ga_vm_hook

File	`/sys/io/tc/ga.c`
Routine	`ga_vm_hook`
Problem	A bad command type was passed into the `gm_vm_hook` routine.
Output	`ga_vm_hook: bad cmd 0x%x`

getcpudata: KM_ALLOC could not allocate cpudata

File	`/sys/sys/kern_cpu.c`
Routine	`getcpudata`
Problem	The `getcpudata` routine was unable to allocate kernel memory for the CPU data structure at system startup.

geteblk: zero length buffer

File	`/sys/fs/gfs/gfs_bio.c`
Routine	`geteblk`
Problem	A block's size is zero. This routine gets empty blocks for later assignment to devices. In this case, the routine detected the block it obtained was invalid because its size was zero.

getegnode: free gnode isnt

File	`/sys/fs/gfs/gfs_gnodeops.c`
Routine	`getegnode`
Problem	A gnode on the free list is still active. This routine gets a gnode from the free list and checks the gnode's reference count, which is zero when a gnode is not active. In this case, the routine detected the reference count was not zero, indicating the gnode was still active.
Output	Identifies the routine and the gnode address and number. The format is:

```
getegnode: gp <0Xd> (<d>)
```

getegnode: locked gnode on freelist

File	`/sys/fs/gfs/gfs_gnode.c`
Routine	`getegnode`
Problem	The `getegnode` routine detected that a gnode it was attempting to remove from the free list was locked (gr_lk). Only active or referenced gnodes can be locked.
Output	A message is printed on the console giving the routine name and the hex gnode pointer. The format is:

```
getegnode: free gnode locked <gnode pointer>
```

gfs_lock: locking unrefed gnode

File	`/sys/h/gnode.h`
Routine	`gfs_lock`
Problem	An attempt was made to lock an unreferenced gnode.

The `gfs_lock` macro, which checks to ensure that the reference count is at least one before locking a gnode, detected a count of less than one.

gfs_lock: unlocking unrefed gnode

File	`/sys/h/gnode.h`
Routine	`gfs_unlock`
Problem	An attempt was made to unlock an unreferenced gnode.

The `gfs_unlock` macro, which checks to ensure that the reference count is at least one before unlocking a gnode, detected a count of less than one.

gfs_unlock: locked gnode, no unlock routine

File	`/sys/fs/gfs/gfs_gnode.c`
Routine	`gfs_unlock`
Problem	There is no unlocking routine for a locked gnode.

This routine unlocks gnodes. Some gnodes do not have an unlocking routine and, therefore, should never be locked. In this case, the routine checked the type of the locked gnode and detected there was no unlocking routine for it.

gfs_unlock: unlocked gnode

File	`/sys/fs/gfs/gfs_gnode.c`
Routine	`gfs_unlock`
Problem	A gnode being unlocked is already unlocked.

This routine unlocks gnodes. Before unlocking a gnode, the routine checks the gnode structure. While doing so, the routine detected the gnode was already unlocked.

Output: Identifies the routine, the gnode address and number, and the device. The format is:

```
gfs_unlock: gp <0Xd> (<d>) dev <0Xd>
```

gfs_unlock: unlocking unlocked gnode

File	`/sys/fs/gfs/gfs_gnode.c`
Routine	`gfs_unlock`
Problem	The `gfs_unlock` routine detected that the gnode it was attempting to unlock was already unlocked.

gfs_unlock: unlocking unrefed gnode

File	`/sys/fs/gfs/gfs_gnode.c`
Routine	`gfs_unlock`
Problem	The `gfs_unlock` routine detected that the gnode it was attempting to unlock was not in use, that is the reference count was zero.

ggrab: active unreferenced gnode

File	`/sys/fs/gfs/gfs_gnode.c`
Routine	`ggrab`
Problem	When fetching a file system gnode, the `ggrab` routine checks the gnode to see if it is the requested type and initializes it, if necessary. In this instance, the gnode was free but was marked active.

gnode is inactive

File	`/sys/fs/gfs/gfs_gnode.c`
Routine	`gactive`
Problem	The gnode is initialized by a specific file system initialization routine. The gnode is then tested to ensure that it is active. If it has a zero reference count, the system prints out a `gnode is inactive` error message and crashes.

gno_lock

File	`/sys/fs/gfs/gfs_gnodeops.c`
Routine	`gno_lock`
Problem	A gnode is not released from a shared or an exclusive lock.

This routine places an advisory lock on a gnode. Before it can do so, any shared or exclusive locks on the gnode must be released. When the routine discovers a gnode that has such a lock, it sleeps until the gnode is released. In this case, the routine detected the shared or advisory lock, slept, woke up, and then detected the gnode was still locked.

gno_unlock: EXLOCK

File `/sys/fs/gfs/gfs_gnodeops.c`

Routine `gno_unlock`

Problem The lock type of the file is exclusive but the gnode is not exclusive.

This routine unlocks files. Before it does so, the routine checks the file lock type and the file's gnode flags. In this case, the routine detected the file lock type was exclusive, but the gnode flags indicated the file was not locked exclusive.

gno_unlock: SHLOCK

File `/sys/fs/gfs/gfs_gnodeops.c`

Routine `gno_unlock`

Problem The lock type of a file is shared but the gnode is not shared.

This routine unlocks files. Before it does so, the routine checks the file lock type and the file's gnode flags. In this case, the routine detected the file lock type was shared, but the gnode flags indicated the gnode was not shared.

got bad quota uid

File `/sys/fs/gfs/gfs_kernquota.c`

Routine `getquota`

Problem The disk quota for a user id has no match in its disk quota structure.

After receiving a user id, the routine compares the user id's quota against the same user id's quota in the disk quota structure. The routine detected the values did not match.

gput g_count < 1!

File `/sys/fs/gfs/gfs_gnode.c`

Routine `gput`

Problem The reference count of a gnode structure is invalid.

While trying to decrement the reference count of a gnode structure, the routine detected the reference count was invalid because it was less than one.

Output Identifies the routine, the gnode address, the device address, and gnode number. The format is:

```
gput: gp <0Xd> g_dev <0Xd> number <d>
```

gq_config

File `/sys/io/tc/gq.c`

Routine `gq_config`

Problem The `gq_config` routine, which probes for and initializes the 3D graphics accelerator, found a 2D graphics accelerator instead.

Output A message is displayed on the console giving the the module type. The format is:

```
gq_config: not 3DA, STIC modtype = ###
```

gq_vm_hook

File `/sys/io/tc/gq.c`

Routine `gq_vm_hook`

Problem The `gq_vm_hook` routine, which processes graphics accelerator maintenance mode commands, detected that illegal command code was passed to it.

Output The hex value of the bad command is displayed on the console. The format is:

```
gq_vm_hook: bad cmd ###
```

grele: gp count bad

File `/sys/fs/gfs/gfs_gnode.c`

Routine `grele`

Problem The `grele` routine tried to release a gnode that was not referenced.

gvp - illegal buffer name

File `/sys/io/gvp/gvp_block.c`

Routine `gvp_unmap_buf`

Problem The VAXport buffer descriptor is either invalid or it cannot be authenticated.

gx_howManyPlanes: bad VDAC ID 0x%x, id

See **gx_howManyPlanes(buf)**

gx_howManyPlanes(buf)

File	`/sys/io/tc/gx.c`
Routine	`gx_howManyPlanes`
Problem	The `gx_howManyPlanes` routine was asked to determine the number of bit-planes in an invalid buffer. Only buffers 0-3 are valid for the PXG-TURBO option; 0-2 for the PXG option; and 0-1 for the PX option.

At boot time, the system determines how many bit-planes are present for buffer 0 (the onscreen buffer) by checking the number of Video Digital/Analogue Converter (VDAC) identifiers that are present. The VDAC converts 8 bits each of red, green, and blue digital values into analogue output for the video monitor.

If the VDAC identifiers are not recognizable, the system first prints out a `gx_howManyPlanes(buf)` panic message; then a `gx_howManyPlanes: bad VDAC ID #` informational message, listing what was read back from the VDAC; and finally a `VDAC ID` panic message, and crashes.

In all likelihood, the VDACs have gone bad and need to be replaced.

gx_init(nplanes)

File	`/sys/io/tc/gx.c`
Routine	`gx_init`
Problem	The system did not determine the number of onscreen bit-planes before calling the `gx_init` routine.

gx_init_vdac: _gx_vdacReset

File	`/sys/io/tc/gx.c`
Routine	`gx_init_vdac`
Problem	The variable `_gx_vdacReset`, which should contain a value, is NULL.

gxioctl: gx_info_get(QIOCADDR)

File	`/sys/io/tc/gx.c`
Routine	`gxioctl`
Problem	The `gx` driver has lost track of server process.

gxioctl - QIOCGINFO

File	`/sys/io/tc/gx.c`
Routine	`gxioctl`
Problem	The `gx` driver has lost track of the server process.

gx_load_cursor: # retries exceeded

File	`/sys/io/tc/gx.c`
Routine	`gx_load_cursor`
Problem	The Bt459 cursor pattern may not be loaded properly. The cursor is loaded and checked for accuracy and reloaded if necessary. After a constant number of retries, the `gx` driver gives up and prints out a `gx_load_cursor: # retries exceeded` error message.

_gx_* required linkage not initialized!

File	`/sys/io/tc/gx.c`
Routine	`gx_panic`
Problem	The linkage variable or variables (between the `ga/gq` modules and the `gx` module) are not set up properly.

hardclock: p_sm

File	`/sys/sys/kern_clock.c`
Routine	`hardclock`
Problem	The routine detected a process that indicated it had attached shared memory, but the process has a NULL pointer to shared memory information in the process (proc) structure.

Hard error

File	`/sys/machine/vax/ka6400.c`
Routine	`ka6400harderr`
Problem	A VAX 6400 series system encountered a fatal hard error interrupt.
Output	Relevant system registers are printed out on the console before the system crashes. If the system dumps core successfully, the relevant system registers are also logged in the `errlog` file.

hard IO err in swap

File	`/sys/vm/vm_swp.c`
Routine	`swap`
Problem	There is a hard I/O error during a swap out request. The routine detected there was a hard I/O error while it was performing a swap I/O operation. This error usually indicates a hardware problem.

hold_cpu: invalid cause

File	`/sys/sys/kern_cpu.c`
Routine	`hold_cpu`
Problem	An undefined reason to idle a CPU was sent to the routine.

hold_cpu: on primary

File	`/sys/sys/kern_cpu.c`
Routine	`hold_cpu`
Problem	Boot CPU cannot be put into an idle state.

holding lock on syscall exit

File	`/sys/machine/mips/trap.c`
Routine	`syscall`
Problem	Process is still holding an SMP lock trying to return to user mode. This indicates a missed unlock in the kernel.

holding lock on trap exit

File	`/sys/machine/vax/trap.c`
Routine	`trap`
Problem	Process is still holding an SMP lock trying to return to user mode. This indicates a missed unlock in the kernel.

hold lock after switch

File	`/sys/sys/kern_subr.c`
Routine	`switch_affinity`
Problem	A process is holding locks immediately after the process switches to a new processor, as specified in the affinity mask. The affinity mask contains a list of processors that the process can run on.

hpsize: invalid partition table

File	`/sys/io/mba/vax/hp.c`
Routine	`hpsize`
Problem	The disk's partition table is invalid.

Before determining the size in blocks of a partition, the routine checks the disk's partition table. While checking the partition table, the routine detected it was invalid.

hpstrategy: invalid partition table

File	`/sys/io/mba/vax/hp.c`
Routine	`hpstrategy`
Problem	The disk's partition table is invalid.

Before it queues a disk read or write request, the routine first checks the disk's partition table and then retrieves a block number. While checking the partition table, the routine detected it was invalid.

ialloccg: block not in map

File	`/sys/fs/ufs/ufs_alloc.c`
Routine	`ialloccg`
Problem	There is a free gnode in a cylinder, but none in the gnode map.

This routine determines whether a requested gnode can be allocated. In this case, the routine determines the requested gnode is not available and checks each cylinder in the cylinder group for an unused gnode. When it finds a cylinder that indicates it has an unused gnode, the routine finds the location for that gnode by searching the used gnode map for that cylinder. The routine detected the used gnode map did not contain an unused gnode for the cylinder.

Output Identifies the file system. The format is:

```
fs = <"string">
```

ialloccg: map corrupted

File	`/sys/fs/ufs/ufs_alloc.c`
Routine	`ialloccg`
Problem	There are free gnodes in the cylinder group, but none in the gnode map.

This routine determines whether a requested gnode can be allocated. In this case, the routine determines the requested gnode is not available, but the free gnode count for the cylinder group indicates there are other gnodes available. Next, the routine attempts to locate the next unused gnode in the cylinder group by scanning the used gnode map for the cylinder group. The routine detected there were no available gnodes in the used gnode map, but the free gnode count for the cylinder group indicated there were unused gnodes available.

icmp_error

File	`/sys/net/netinet/ip_icmp.c`
Routine	`icmp_error`
Problem	A message type code in an impc header is invalid.

The routine detected the message type code in an impc header did not match one of the predefined types.

icmp len

File	`/sys/net/netinet/ip_icmp.c`
Routine	`icmp_error`
Problem	Bad internet control message protocol (icmp) packet.

The packet exceeded the size of the memory buffer (mbuf), or the packet got corrupted while it was being examined.

idcsize: invalid partition table

File	`/sys/io/uba/idc.c`
Routine	`idcsize`
Problem	The disk's partition table is invalid.

Before it determines the size (in blocks) of a partition, the routine first checks the disk's partition table. While checking the partition table, the routine detected it was invalid.

idcstrategy: invalid partition table

File	`/sys/io/uba/idc.c`
Routine	`idcstrategy`
Problem	The disk's partition table is invalid.

Before it queues a disk read or write request, the routine first checks the disk's partition table and then retrieves a block number. While checking the partition table, the routine detected it was invalid.

idle proc not back on the correct secondary

File	`/usr/sys/machine/mips/machdep.c`
Routine	`init_idleproc`
Problem	Internal system data structures have been corrupted.

in_control

File	`/sys/net/netinet/in.c`
Routine	`in_control`
Problem	A pointer to the network interface structure is invalid.

This routine handles internet control operations. In this case, the routine received a request but the request included a null pointer to the network interface structure.

init died

File	`/sys/sys/kern_exit.c`
Routine	`exit`
Problem	The `init` process is being terminated.

This routine terminates processes. Before doing so, it locates the process structure for the exiting process in the process identification (pid) hash table. In this case, the routine detected the pid for the process was that of the init process.

initializing ready gnode

File	`/sys/fs/gfs/gfs_gnode.c`
Routine	`ginitialize`
Problem	The `ginitialize` routine detected that a gnode it was attempting to initialize was already initialized.

init_idleproc: not found in child queue

File	`/usr/sys/machine/mips/machdep.c`
Routine	`init_idleproc`
Problem	Internal system data structures have been corrupted.

init_main: can't alloc pt space

File	`/sys/sys/init_main.c`
Routine	`main`
Problem	While creating the `init` process, the `main` routine could not allocate virtual memory and swap space to expand the process size.

init_main: cdir == NULL

File	`/sys/sys/init_main.c`
Routine	`main`
Problem	The gnode of the current directory is lost. This routine retrieves the gnode of the current directory. In this case, a NULL pointer was returned to the routine, instead of the gnode pointer.

init_main: rootdir == NULL

File	`/sys/sys/init_main.c`
Routine	`main`
Problem	The gnode of the root directory is lost. This routine retrieves the gnode of the root directory. In this case, the routine received a NULL pointer instead of the gnode pointer.

inoquota

File	`/sys/fs/gfs/gfs_quota.c`
Routine	`inoquota`
Problem	The device is not mounted. The routine receives a gnode pointer. Because there is no in-memory disk quota structure associated with this gnode pointer, the routine attempts to look up a matching gnode variable in the mount structure. The routine detected there was not a valid device associated with the gnode structure, so the device was not mounted.

in_pcballoc not lock owner

File	`/sys/net/netinet/in_pcb.c`
Routine	`in_pcballoc`
Problem	The `in_pcballoc` routine, which allocates a protocol control block, detected that a required SMP lock was not held.

in_pcbbind not lock owner

File	`/sys/net/netinet/in_pcb.c`
Routine	`in_pcbbind`
Problem	The `in_pcbbind` routine, which binds to a socket, detected that a required SMP lock was not held.

in_pcbconnect not lock owner

File	`/sys/net/netinet/in_pcb.c`
Routine	`in_pcconnect`
Problem	The `in_pcconnect` routine, which connects to a socket at a specified address, detected that a required SMP lock was not held.

in_pcbdetach not lock owner

File	`/sys/net/netinet/in_pcb.c`
Routine	`in_pcdetach`
Problem	The `in_pcdetach` routine, which detaches from a socket, detected that a required SMP lock was not held.

in_pcbdisconnect not lock owner

File	`/sys/net/netinet/in_pcb.c`
Routine	`in_pcdisconnect`
Problem	The `in_pcdisconnect` routine, which disconnects from a socket, detected that a required SMP lock was not held.

install_bp2

File	`/sys/machine/mips/trap.c`
Routine	`install_bp`
Problem	The `install_bp` routine, which is called to install a breakpoint into the instruction stream to enable single stepping, detected that a breakpoint was already set.

intrpt_cpu: invalid cpu

File	`/sys/sys/kern_cpu.c`
Routine	`intrpt_cpu`
Problem	A processor tried to send an interprocessor interrupt to a CPU that does not exist.

invalid cylinder

File	`/sys/io/uba/sdc.c`
Routine	`sdstart`
Problem	The disk cylinder number is invalid. After calculating the disk cylinder number, the routine detected it was greater than the number of cylinders on the disk.
Output	Identifies the device, the device unit number, and the invalid cylinder number. The format is: `device:<d> unit:<d> :HARD ERROR: Invalid cylinder:<d>`

invalid head

File	`/sys/io/uba/sdc.c`
Routine	`sdstart`
Problem	A disk head number is invalid. After calculating the disk head number, the routine detected it was greater than the number of heads on the disk.
Output	Identifies the device, the device unit number and the invalid head number. The format is: `device:<d> unit:<d> :HARD ERROR: Invalid head:<d>`

invalid xmi address

File	`/sys/io/xmi/xmiinit.c`
Routine	`xmisst`
Problem	The address passed to the `xmisst` routine was not within the valid range of XMI bus addresses.

IO err in push

File	`/sys/vm/vm_swp.c`
Routine	`swdone`
Problem	A hard I/O error occurs as a page kluster is being transferred.

The routine detected a hard I/O error had occurred as a page kluster was being transferred. This error typically indicates a hardware problem.

ip_freef no lock owner

File	`/sys/net/netinet/ip_input.c`
Routine	`ip_freef`
Problem	The `ip_freef` routine, which frees a fragment reassembly header and all associated fragments, detected that a required SMP lock was not held.

ip_init

File	`/sys/net/netinet/ip_input.c`
Routine	`ip_init`
Problem	An entry for a protocol family cannot be put into the protocol switch table.

This routine puts entries for protocol families into the internet protocol switch table. In this case, the routine was unable to put an entry for a protocol family into the switch table.

isblock

File	`/sys/fs/ufs/ufs_subr.c`
Routine	`isblock`
Problem	A free block has an invalid number of fragments.

When it finds a free block, the routine checks the block for the number of fragments it contains. Then, the routine compares that number to the number of fragments allowed by the file system. In this case, the routine detected the free block had an invalid number of fragments. The number of fragments per block can be only 8, 4, 2, or 1.

ka420 Cache Tag Parity error

File	`/sys/machine/vax/ka420.c`
Routine	`ka420crderr`
Problem	The system hardware detected an error in the parity logic of the second-level cache memory tag. Such an error is normally handled by logging an error and disabling the cache, unless the cache is already disabled. If the cache is already disabled and a cache tag parity error is detected, the system prints out a `panic: ka420 Cache Tag Parity error` error message and crashes.

ka650 Cache Tag Parity error

File	`/usr/projects/wp/sys/machine/vax/ka650.c`
Routine	`ka650crderr`
Problem	The system hardware detected an error in the parity logic of the second-level cache memory tag. Such an error is normally handled by logging an error and disabling the cache, unless the cache is already disabled. If the cache is already disabled and a cache tag parity error is detected, the system prints out a `panic: ka650 Cache Tag Parity error` error message and crashes.

kern_audit: no mem

File	`/sys/sys/kern_audit.c`
Routine	`audit_rec_build`
Problem	Kmalloc of space for audit buffer failed.

kernel used coprocessor

File	`/sys/machine/mips/locore.s`
Routine	`tbs`
Problem	A floating point operation was attempted in kernel mode.

kluster

File	`/sys/vm/vm_page.c`
Routine	`kluster`
Problem	There is not enough free memory to allocate a page kluster. This routine finds adjacent pages for pagein and pageout operations. Prior to allocating memory for the kluster, the routine checks to ensure that there is enough free memory. However, the `memall` routine returns indicating that there is not enough free memory.

KM_ALLOC: bucket corruption

File	`/sys/vm/vm_kmalloc.c`
Routine	`KM_ALLOC` (macro)
Problem	The address of the next piece of memory to be allocated is outside the virtual address space controlled by the kernel memory allocator.

km_alloc: bucket corruption

File	`/sys/vm/vm_kmalloc.c`
Routine	`km_alloc`
Problem	The address of the next piece of memory to be allocated is outside the virtual address space controlled by the kernel memory allocator.

km_alloc_mem: no wired map

File	`/sys/vm/vm_kmalloc.c`
Routine	`km_alloc_mem`
Problem	The `km_alloc_mem` routine could not allocate memory from the kernel memory map.

KM_FREE: bad addr

File	`/sys/vm/vm_kmalloc.c`
Routine	`KM_FREE` (macro)
Problem	The address passed into KM_FREE is not a system address.

km_free: bad addr

File	`/sys/vm/vm_mem.c`
Routine	`km_free`
Problem	An address passed into the `KM_FREE` routine is outside the virtual address space controlled by the kernel memory allocator.

km_free: bad index

File	`/sys/vm/vm_kmalloc.c`
Routine	`km_free`
Problem	The segment being freed has a resource list index that is out of bounds.

km_free: bad reference count

File	`/sys/vm/vm_kmalloc.c`
Routine	`km_free`
Problem	The `km_free` routine tried to free a bucket which was not being used, that is the reference count was already zero.

KM_FREE: multiple frees

File	`/sys/h/kmalloc.h`
Routine	`KM_FREE` (macro)
Problem	The number of references to the segment being freed has been decremented to a negative value, or the number of segments available has been incremented above the number possible.

km_free: multiple frees

File	`/sys/vm/vm_mem.c`
Routine	`km_free`
Problem	The number of references to a segment being freed has been decremented to a negative value, or the number of segments available has been incremented above the number possible.

km_memdup not a kluster

File	`/sys/vm/vm_kmalloc.c`
Routine	`km_memdup`
Problem	An illegal operation attempted to raise the reference count of segments smaller than a page kluster.

kn5800_conf called, wrong system

File /sys/machine/mips/kn5800.c

Routine kn5800_conf

Problem A system other than a DECsystem 5800 entered a routine that must only be executed by a DECsystem 5800.

Action Try to boot the generic kernel, genvmunix, or a backup kernel to singleuser mode. Once the machine is up, run the /usr/etc/sizer command with the -c option to determine if the system sees itself as a DECsystem 5800. However, before running the /usr/etc/sizer command, you must first check the file system by running the fsck command with the -p option and then mount the /usr partition by issuing the following commands:

```
# fsck -p
# mount /usr
```

kpteseg

File /sys/machine/mips/trap.c

Routine tlbmiss

Problem The virtual address is not in user space.

While servicing a virtual address in KPTESEG space, the routine detected that the virtual address was not in user space as expected, but in kernel space.

kpteseg miss outside utlbmiss

File /sys/machine/mips/trap.c

Routine tlbmiss

Problem Table missing

While servicing a virtual address in KPTESEG space, the routine determined that the routine was not entered as a result of a utlbmiss.

Output The following output indicates the program counter at the time of the exception (epc) and the faulting virtual address that is being serviced (vaddr). Note that epc must be within the utlbmiss handler.

```
epc= 0x0, vaddr= 0x0
```

kseg0_alloc: bad size

File	`/sys/machine/mips/vm_machdep.c`
Routine	`kseg0_alloc`
Problem	The `kseg0_alloc` routine tried allocate an illegal amount of memory (<=0) from `kseg0` (kernel memory space).

KSP not valid

File	`/sys/machine/vax/locore.s`
Routine	`kspnotval`
Problem	The kernel stack pointer is invalid. When the processor detects the kernel stack pointer is outside the bounds of the kernel stack, it issues an exception and dispatches the error to this routine. In this case, the routine serviced the exception by producing this panic.

lat_usrreq

File	`/sys/net/lat/lat_usrreq.c`
Routine	`lat_usrreq`
Problem	A user request for a lat operation is invalid. This routine processes lat user requests. In this case, the routine received the request but could not recognize the type code of the request.

ldctx

File	`/sys/machine/vax/locore.s`
Routine	`_Resume`
Problem	The process context cannot be restored. This routine restores context for a process that had been blocked. In this case, the routine attempted to restore the context but failed to do so.

longjump

File	`/sys/machine/vax/locore.s`
Routine	`_Longjump`
Problem	The kernel stack frame pointer is invalid. This routine saves various parameters, and then checks them prior to a jump operation. In this case, the routine detected the stack frame pointer it had saved was not the same as the current stack frame pointer.

lost quota file

File	`/sys/fs/gfs/gfs_kernquota.c`
Routine	`putdq`
Problem	There is no valid quota file pointer in the mount structure. When there are quotas on a file system, there is a pointer to the quota file in the file system mount structure. While attempting to update or free a disk quota, the routine detected there was no valid quota file pointer in the mount structure.

lost shared memory

File	`/sys/vm/vm_smem.c`
Routine	`smunlink`
Problem	A process sharing a memory segment is not in the list of sharing processes for that segment. This routine removes processes from a list of processes sharing a shared memory segment. While doing so, the routine could not find the process in the list of processes sharing the memory segment.

lost text

File	`/sys/vm/vm_text.c`
Routine	`xunlink`
Problem	A process sharing a text segment is not in the segment's list of processes. This routine removes a process from the list of those processes sharing a text segment. While doing so, the routine detected the address of the process was not in the shared text segment's list of processes.

main: can't allocate dmap

File	`/sys/sys/init_main.c`
Routine	`main`
Problem	When creating the init process, the `main` routine could not allocate memory for mapping the data space.

main: can't allocate smap

File	`/sys/sys/init_main.c`
Routine	`main`
Problem	When creating the init process, the `main` routine could not allocate memory for mapping the stack.

maknode: dquot

File	`/sys/fs/ufs/ufs_syscalls.c`
Routine	`maknode`
Problem	A free gnode is not free.

After it receives a free gnode for a new file, the routine checks the gnode's disk quota pointer. When the pointer is zero, the gnode is not associated with a disk quota structure and is free. In this case, the routine detected the gnode's disk quota pointer was not zero. The gnode was associated with a disk quota structure and was not free.

mapin

File	`/sys/machine/mips/vm_machdep.c`
Routine	`mapin`
Problem	The page table entry (PTE) does not reside in KSEG2 space.

While dropping a page table entry into the translation lookaside buffer (tlb), the routine detected that the virtual address the pte maps does not reside in KSEG2 space.

maunhash ecmap

File	`/sys/vm/vm_mem.c`
Routine	`maunhash`
Problem	Memory hash chain corruption.

The routine failed to find the core map entry, even though the calling routine validated that the entry exists. This error usually indicates a memory hash chain corruption.

maunhash: mfind

File	`/sys/vm/vm_mem.c`
Routine	`maunhash`
Problem	The routine detected a second instance of a hashed core map (cmap) entry.

A cmap entry can appear only once among the text memory hash chains.

maunhash: unhashing non text page

File	`/sys/vm/vm_mem.c`
Routine	`maunhash`
Problem	The cmap entry to be unhashed has been discovered to have a type that is not CTEXT.

mba, zero entry

File	`/sys/io/mba/vax/mba.c`
Routine	`mbasetup`
Problem	A page table contains invalid entries. The routine sets up MASSBUS adapter map registers from page table entries. The delimiter for the page table is a page table entry that contains a zero in its page frame bits. While searching the page table, the routine detected a page table entry with zero in its page frame bits before it found the delimiter for the page table.

mbintr

File	`/sys/io/mba/vax/mba.c`
Routine	`mbintr`
Problem	The device driver returns an invalid instruction. This routine receives an interrupt from the MASSBUS adapter and determines the interrupt is a nondata transfer operation. Then, the routine calls the device driver to process the operation. After the driver returned an instruction, the routine detected it was invalid.

Mbus I/O Error

File	`/sys/machine/vax/ka60.c`
Routine	`ka60memerr`
Problem	A VAX 3500 series system detected a fatal memory error.

mbustart

File	`/sys/io/mba/vax/mba.c`
Routine	`mbustart`
Problem	The device driver returns an invalid status code or instruction. This routine calls the unit start routine for a MASSBUS device. The device driver then returns a status code or an instruction. The routine detected the status code or instruction returned from the driver is invalid.

mchk

File	See Table 2-7.
Routine	See Table 2-7.
Problem	The operating system cannot recover from a machine check.

There are several routines that handle machine checks issued by processors. These routines determine whether the operating system can recover from the machine check issued. Table 2-7 contains the routines that handle machine checks.

Output: Identifies the machine check type code and other diagnostic information. See the *Guide to System Crash Recovery* for more information.

Table 2-7: Machine Checks

File	Routine	Processors
`/sys/machine/vax/ka610.c`	`ka610machcheck`	MicroVAX I
`/sys/machine/vax/ka6200.c`	`ka620machcheck`	VAX 62xx or VAX 63xx series
`/sys/machine/vax/ka630.c`	`ka630machckeck`	MicroVAX II
`/sys/machine/vax/ka6400.c`	`ka6400machcheck`	VAX 8400 series
`/sys/machine/vax/ka730.c`	`ka730machckeck`	VAX 730
`/sys/machine/vax/ka750.c`	`ka750machcheck`	VAX 750
`/sys/machine/vax/ka780.c`	`ka780machcheck`	VAX 780/785
`/sys/machine/vax/ka8200.c`	`ka8200machcheck`	VAX 8200/8300/8250/8350
`/sys/machine/vax/ka8600.c`	`ka8600machcheck`	VAX 8600/8650
`/sys/machine/vax/ka8800.c`	`ka8800machcheck`	VAX 8500/8550/8700/88xx series

mcldup has bad m_cltype

File	`/sys/sys/uipc_mbuf.c`
Routine	`mcldup`
Problem	A memory buffer being duplicated has an invalid kluster type.

This routine duplicates memory buffers according to the kluster type associated with them. In this case, the routine checked the kluster type and detected it was invalid because it was an unknown type.

m_copy1

File	`/sys/sys/uipc_mbuf.c`
Routine	`m_copy`
Problem	A memory buffer has a negative length or offset parameter. This routine is passed several parameters that it uses to copy memory buffers for use with sockets. In this case, the routine discovered that either the length or offset parameter passed to it was less than zero.

m_copy2

File	`/sys/sys/uipc_mbuf.c`
Routine	`m_copy`
Problem	A memory buffer pointer points to the end of the memory buffer chain. This routine is passed several parameters that it uses to copy memory buffers for use with sockets. The routine detected the memory buffer pointer parameter passed to it was a null pointer.

m_copy2 got a bad mbuf

File	`/sys/net/rpc/subr_kudp.c`
Routine	`m_copy2`
Problem	The type code of a memory buffer in a chain is invalid. This routine detected a memory buffer in a chain had a type code other than 2, or the offset into the buffer was greater than the buffer size.

m_copy3

File	`/sys/sys/uipc_mbuf.c`
Routine	`m_copy`
Problem	The copy operation for a memory buffer is invalid. This routine is passed several parameters that it uses to copy memory. The routine detected the length parameter passed to it did not equal a `copyall` operation, which is the only valid operation when the memory buffer pointer value is zero.

mda0: zero pfn in pte

File	`/sys/machine/vax/md.c`
Routine	`mdstrategy`
Problem	A page table contains invalid entries. This routine maps memory from page table entries. The delimiter for the page table is a page table entry that contains zero in its page frame bits. While searching the page table, the routine detected a page table entry containing zero in its page frame bits before the delimiter for the page table.

memall

File	`/sys/vm/vm_mem.c`
Routine	`memall`
Problem	The size of the memory being allocated is not a multiple of CLSIZE. This routine allocates physical memory. After it receives the size of the memory it is to allocate, the routine checks its size to ensure it is a multiple of CLSIZE. The routine detected the size of the memory it was allocating was not a multiple of CLSIZE.

memall intrans|want

File	`/sys/vm/vm_mem.c`
Routine	`memall`
Problem	A free kluster is marked as in-transit or wanted by another process. This routine allocates physical memory. While doing so, the routine gets free page klusters from core map (cmap) entries and checks the cmap flags to ensure the flag settings match the kluster state. In this case, the routine detected the in-transit or wanted flags were set in the cmap. The kluster is not free.

memerr

File	`/sys/machine/vax/ka8800.c`
Routine	`ka8800memerr`
Problem	A VAX 8800 memory error. This routine determines whether memory errors detected by the KA-8800 processor are recoverable. In this case, the routine decided it was not possible to recover from the memory error.
Output	Identifies the problem. The format is:

```
VAX 8800 memory error
```

memfree

File	`/sys/vm/vm_mem.c`
Routine	`memfree`
Problem	The size of memory being freed is not a multiple of CLSIZE.

This routine frees physical memory. While doing so, the routine detected the size of the memory being freed was not a multiple of CLSIZE.

memfree: freeing intrans|want page

File	`sys/vm/vm_mem.c`
Routine	`memfree`
Problem	The system has detected that a page being freed is in use by some other thread of execution.

memintr, memory failure

File	`/sys/machine/mips/trap.c`
Routine	`trap`
Problem	A write to a valid physical memory address failed.

This error indicates a hardware failure.

memintr, write timeout

File	`/sys/machine/mips/trap.c`
Routine	`trap`
Problem	The system tried to write to an invalid (nonexistent) address.

This error could indicate either a hardware or a software failure.

Memory Error

File	`/usr/sys/machine/kn210.c`
Routine	`kn210harderrintr`
Problem	The system attempted a Direct Memory Access (DMA) transfer to a nonexistent main memory location.

memory error

File	`/sys/machine/mips/kn5800.c`
Routine	`kn5800_memerr`
Problem	A fatal XMI bus or DAL bus error occurred.
Output	This panic will be proceeded with a message declaring a fatal error on some processor (which is identified). In addition, the values of the following registers are printed out on the console and logged in the error logger, `uerf`:

csr1
csr2
xbe
fadr
dtype

Memory multi bit parity error

File	`/usr/sys/machine/kn220.c`
Routine	`kn220memerr`
Problem	A multi-bit Error Correction Code (ECC) error occurred. The hardware can only correct benign single-bit errors.

memory parity error in kernel mode

File	`/sys/machine/mips/trap.c`
Routine	`trap`
Problem	A memory parity error occurred while the system was running in kernel mode.

The system has no way to recover from this error and consequently shuts down.

memory parity error in shared page

File	`/sys/machine/mips/trap.c`
Routine	`trap`
Problem	A memory parity error occurred while the system was running in shared mode.

A memory parity error occurred in a shared page while the system was running in user mode. The system does not have enough information to terminate all processes that were sharing the page and consequently shuts down.

memory read error in kernel_mode

Files	`/usr/sys/machine/kn210.c` `/usr/sys/machine/kn220.c`
Routines	`kn210trap_error` `kn220trap_error`
Problem	The system detected a memory parity error while in kernel mode.
Action	Reboot your system. Memory parity errors may be spurious or intermittent. However, if the `memory read error in kernel_mode` error occurs frequently, in all likelihood the memory is bad and needs to be replaced.

memory read error in shared page

File	`/usr/sys/machine/kn210.c`
Routine	`kn210trap_error`
Problem	The system detected a memory parity error while in a shared text segment.
Action	Reboot your system. Memory parity errors may be spurious or intermittent. However, if the `memory read error in shared page` error occurs frequently, in all likelihood the memory is bad and needs to be replaced.

Memory write error

File	`/sys/machine/mips/kn210.c`
Routine	`kn210harderrintr`
Problem	The `kn210harderrintr` routine is called in response to hard error interrupts and is used to log appropriate diagnostic information to the error logger. If a write error occurs when the routine is writing to main memory, the system prints out a `Memory`write error message and crashes.

mfind: trying to find non text on hash

File	`/sys/vm/vm_mem.c`
Routine	`mfind`
Problem	A core map (cmap) entry on a hash chain has been discovered to have a type that is not CTEXT.

m_free has bad m_cltype

File	`/sys/h/mbuf.h`
Routine	`mbuf`
Problem	An illegal or corrupted memory (mbuf) has been freed.

This panic usually indicates that a process has overwritten the control part of a memory buffer. When the mbuf is freed, the routine found that this type of mbuf is not valid.

mhash: no mp

File	`/sys/vm/vm_mem.c`
Routine	`mhash`
Problem	There is no mount point for the specified device.

This routine adds physical text pages from a specified device to the hash chain. In this case, the routine detected there was no mount point for the specified device.

missed ttwakeup in ttypend

File	`/sys/sys/tty.c`
Routine	`ttypend`
Problem	The `ttypend` routine, which reinputs pending characters after state switch, detected a missed wakeup.

mkdir: blksize

File	`/sys/fs/ufs/ufs_syscalls.c`
Routine	`ufs_mkdir`
Problem	The DIRBLKSIZ system parameter is greater than the file system fragment size.

This routine checks critical system parameters, such as DIRBLKSIZ, to monitor their size. While monitoring the DIRBLKSIZ system parameter, the routine detected its size was greater than the file system fragment size.

mkdir: dquot

File	`/sys/fs/ufs/ufs_syscalls.c`
Routine	`mkdir`
Problem	A free gnode is not free.

After it receives a free gnode for a new directory, this routine checks the gnode's disk quota pointer. When the pointer is zero, the gnode is not associated with a disk quota structure and is free. In this case, the routine detected the gnode's disk quota pointer was not zero. The gnode was associated with a disk quota structure and was not free.

mmrw

File	`/sys/machine/vax/mem.c`
Routine	`mmrw`
Problem	There is memory left to read or write, but the I/O count is zero.

This routine processes memory addresses for reads or writes to physical or virtual memory. As a read or write operation is completed, the routine decrements the I/O count. When the I/O vector count is zero, the routine compares it against the residual memory count variable. The routine detected the I/O count was zero, but the residual memory count was greater than zero.

mount_root: can't km_alloc fs_data

File	`/sys/data/gfs_data.c`
Routine	`mount_root`
Problem	While mounting a file system, the `mount_root` routine could not allocate memory to contain the `fs_data` data structure for the mount data structure.

mount_root: can't kmem_alloc. . .

File	`/sys/data/gfs_data.c`
Routine	`mount_root`
Problem	While mounting a file system, the `mount_root` routine could not allocate memory to contain the mount pathname.

mountrpc: cannot NFS mount file

File	`/sys/fs/nfs/nfs_vfsops.c`
Routine	`mountrpc`
Problem	Client did not receive a valid response from server. The mount deamon (mountd) on the server did not respond successfully for the mount request of the client root device.

mscp_alloc_msg: double msg buffer allocation

File	`/sys/io/sysap/mscp_subr.c`
Routine	`mscp_alloc_msg`
Problem	An attempt was made to allocate an MSCP message buffer for a request that already holds one.

mscp_alloc_rspid: double RSPID allocatio

File	`/sys/io/sysap/mscp_subr.c`
Routine	`mscp_alloc_rspid`
Problem	An attempt was made to allocate a response ID (RSPID) for a request that already holds one.

mscp_bbr_force: no BBR work area allocated

File	`/sys/io/sysap/mscp_bbr.c`
Routine	`mscp_bbr_force`
Problem	The bbr work area pointer in the connection block is zero. This bbr work area pointer is filled in by the `mscp_bbr_init` routine. The connection block or the request block has been corrupted.

mscp_bbr_lock: no BBR work area allocated

File	`/sys/io/sysap/mscp_bbr.c`
Routine	`mscp_bbr_lock`
Problem	The bbr work area pointer in the connection block is zero. This bbr work area pointer is filled in by the `mscp_bbr_init` routine. The connection block is corrupted or the request block has been corrupted.

mscp_concleanup: disconnect failed

File	`/sys/io/sysap/mscp_conpol.c`
Routine	`mscp_concleanup`
Problem	The `scs_disconnect` routine returned a connection busy error.

mscp_concomplete: connect to an active server

File	`/sys/io/sysap/mscp_conpol.c`
Routine	`mscp_concomplete`
Problem	A connect was issued to an already connected server. This error indicates an error in the connection management finite state machine.

mscp_concomplete: unrecognized status

File	`/sys/io/sysap/mscp_conpol.c`
Routine	`mscp_concomplete`
Problem	The `scs_connect` routine returned an unrecognized completion status.

mscp_conqrestart: duplicate sequence numbers

File	`/sys/io/sysap/mscp_conpol.c`
Routine	`mscp_conqrestart`
Problem	Two requests with the same sequence number were queued to the connection restart queue, or the same request was queued twice.

mscp_conresynch: scs_reset failed

File	`/sys/io/sysap/mscp_conpol.c`
Routine	`mscp_conresynch`
Problem	Either the `scs_reset` routine found the port in an unexpected state, or it could not allocate the resources needed to restart the port.

mscp_conresynch: scs_restart failed

File	`/sys/io/sysap/mscp_conpol.c`
Routine	`mscp_conresynch`
Problem	Either the `scs_restart` routine found the port in an unexpected state, or it could not allocate the resources needed to restart the port.

mscp_constconem: no credit available

File `/sys/io/sysap/mscp_conpol.c`

Routine `mscp_constconem`

Problem No controller credits available.

Insufficient credits were available for the class driver to send a set controller characteristics message.

mscp_control: unexpected connection management event

File `/sys/io/sysap/mscp_subr.c`

Routine `mscp_control`

Problem SCS called the class driver with an unrecognized event code.

mscp_dealloc_msg: bad connection state or ID

File `/sys/io/sysap/mscp_subr.c`

Routine `mscp_dealloc_msg`

Problem Either the SCS connection was in an improper state to process the deallocate request (for example, when disconnect has been completed) or the connection ID passed to SCS was invalid.

mscp_dealloc_rspid: sequence number mismatch

File `/sys/io/sysap/mscp_subr.c`

Routine `mscp_dealloc_rspid`

Problem The sequence number portion of the response ID did not match the sequence number in the RSPID table.

mscp_invevent: fatal mscp error

File `/sys/io/sysap/mscp_subr.c`

Routine `mscp_invevent`

Problem Invalid event.

One of the finite state machines used in processing requests detected an event that was not valid in the current state. This panic is preceded by a message that identifies the event, the state, and the address of the request block in error in the following format:

Output
```
mscp_invevent:  invalid event <d> in state <d>, reqb <x>
```

mscp_map_buffer: double buffer handle allocation

File	`/sys/io/sysap/mscp_subr.c`
Routine	`mscp_map_buffer`
Problem	An attempt was made to allocate an MSCP buffer handle for a request that already holds one.

mscp_message: invalid rspid

File	`/sys/io/sysap/mscp_subr.c`
Routine	`mscp_message`
Problem	Response ID in the MSCP end message did not match the RSPID in the corresponding request block. This panic is preceded by a message that displays the mismatching RSPIDs in the following format:
Output	`mscp_message: end msg rspid <x> != rp rspid <x>`

mscp_message: scs_dealloc_msg failed

File	`/sys/io/sysap/mscp_subr.c`
Routine	`mscp_message`
Problem	The `scs_dealloc_msg` routine returned an error indicating that the connection was in an inappropriate state or that the connection ID was invalid.

mscp_recycle_rspid: sequence number mismatch

File	`/sys/io/sysap/mscp_subr.c`
Routine	`mscp_recycle_rspid`
Problem	The sequence number portion of the response ID did not match the sequence number in the RSPID table.

mscp_size: invalid partition table

File	`/sys/io/sysap/mscp_disk.c`
Routine	`mscp_size`
Problem	The specified partition has been opened, but the partition table information for the device is not valid.

mscp_strategy: invalid partition table

File	`/sys/io/sysap/mscp_disk.c`
Routine	`mscp_strategy`
Problem	The specified partition has been opened, but the partition table information for the device is not valid.

mscp_unmap_buffer: bad connection state or ID

File	`/sys/io/sysap/mscp_subr.c`
Routine	`mscp_unmap_buffer`
Problem	Either the SCS connection was in an improper state to process the unmap request (for example, when disconnect has been completed), or the connection ID passed to SCS was invalid.

MSG_UNLOCK

File	`/sys/h/msg.h`
Routine	`MSG_UNLOCK` (macro)
Problem	This routine was called on an unlocked message (msg) queue data structure.

msi - broken transmit fork process timer

File	`/sys/io/msi/msi_isr.c`
Routine	`msi_xfp_timer`
Problem	This routine delays transmission of specific packets under specific circumstances from local MSI ports. During the process of delaying specific packet transmissions, the routine determined its interval timer is broken.

msi - invalid pccb fork block

File	See Table 2-8.
Routine	See Table 2-8.
Problem	There are several routines that can issue this panic. These routines perform the functions that are briefly described in Table 2-8.

Table 2-8: Invalid pccb Fork Block Routines

File	Routine	Description
`/sys/io/msi/msi_error.c`	`msi_clean_port`	Cleans up local MSI ports following their failure. While cleaning up of a specific local MSI port, the `msi_clean_port` routine discovers irregularities in the scheduling of its clean up.
`/sys/io/msi/msi_init.c`	`msi_init_port`	Initializes local MSI ports. While initializing a specific local MSI port, the `msi_init_port` routine discovers irregularities in the scheduling of its initialization.
	`msi_probe`	Probes newly discovered local MSI ports. While probing a newly discovered local MSI port, the `msi_probe` routine discovers irregularities preventing the scheduling of port initialization.
`/sys/io/msi/msi_lpmaint.c`	`msi_crash_lport`	Crashes local MSI ports. While crashing a local MSI port, the `msi_crash_lport` routine discovers irregularities preventing the scheduling of port clean up.

msi - invalid receive fork process fork block

File	`/sys/io/msi/msi_isr.c`
Routine	`msi_rfp`
Problem	Processes all packets received by local MSI ports. While processing packets received by a specific local MSI port, the routine found irregularities in the scheduling of packet processing.

msi - invalid transmit fork process fork block

File	`/sys/io/msi/msi_isr.c`
Routine	`msi_xfp`
Problem	Processes all packets transmitted from local MSI ports. While processing packets transmitted from a specific local MSI port, the routine found irregularities in the scheduling of packet processing.

msi - invalid transmit fork process retdat packet

File	`/sys/io/msi/msi_isr.c`
Routine	`msi_xfp`
Problem	Processes all packets transmitted from local MSI ports. While processing a packet transmitted from a specific local MSI port, the routine found irregularities in the internal driver processing of a write request.

msi - panic requested on all local port failures

File	`/sys/io/msi/msi_lpmaint.c`
Routine	`msi_crash_lport`
Problem	Crashes local MSI ports. While crashing a specific local MSI port, the routine determined that the setting of the MSI configuration variable `msi_lpc_panic` (located in `../data/msi_data.c`) required that a system panic be issued.

msi - unknown console logging formatting code

File	`/sys/io/msi/msi_error.c`
Routine	`msi_console_log`
Problem	Optionally logs MSI events to the console terminal. While logging an event, the routine determined that the class of variable information to be logged is unknown.

msi - unknown/invalid event code

File	See Table 2-9.
Routine	See Table 2-9.
Problem	There are several routines that can issue this panic. These routines perform the functions that are briefly described in Table 2-9.

Table 2-9: Unknown or Invalid Event Code Routines

File	Routine	Description
`/sys/io/msi/msi_error.c`	`msi_console_log`	Optionally logs MSI events to the console terminal. While logging an event, the `msi_console_log` routine determined one of the following: the event type is unknown, the event is an MSI-specific event, the event severity level is invalid, the event is unknown to the MSI port driver, or the event is not supposed to be logged by the MSI port driver.

Table 2-9: (continued)

File	Routine	Description
	msi_log_initerr	Logs those MSI device attention events occurring during probing of new local MSI ports. While logging an event, the msi_log_initerr routine determined the event is unknown to the MSI port driver.

msi - unknown/invalid local port crash reason

File	/sys/io/msi/msi_lpmaint.c
Routine	msi_crash_lport
Problem	Crashes local MSI ports. While crashing a local MSI port, the routine determined that the port being crashed is either unknown or invalid.

muhash: unhashing non text page 2

File	/sys/vm/vm_mem.c
Routine	munhash
Problem	A core map (cmap) entry on a hash chain has been discovered to have a type that is not CTEXT.

multibit ECC error reported on nonexistent memory module

File	machine/mips/kn02.c
Routine	kn02trap_error
Problem	The system detected a memory error on a nonexistent memory module of more than one bit. The system can recover from a memory error on a nonexistent memory module if the nonexistent memory module is one bit.

multibit memory ECC error

File	machine/mips/kn02.c
Routine	kn02trap_error
Problem	The system detected a memory error of more than one bit. The system can recover from a memory error of exactly one bit.

multibit memory ECC error in shared page

File	`machine/mips/kn02.c`
Routine	`kn02trap_error`
Problem	While running either in user or kernel mode, the system detected a a memory error in a shared page of more than one bit. The system can recover from a memory error in a shared page that is exactly one bit.

munhash

File	`/sys/vm/vm_mem.c`
Routine	`munhash`
Problem	A core map (cmap) entry cannot be found in the hash chain. This routine removes cmap entries for specified devices and block numbers from hash chains and is called only if the `mfind` routine determined that the entry resides on the hash chains. In this case, the routine could not find a cmap entry on the hash chains.

munhash: ecmap

File	`/sys/vm/vm_mem.c`
Routine	`munhash`
Problem	A core map (cmap) entry cannot be found in the hash chains. This routine removes cmap entries for specified devices and block numbers from hash chains. In this case, the routine could not find the cmap entry in the hash chains.

munhash mfind

File	`/sys/vm/vm_mem.c`
Routine	`munhash`
Problem	A core map (cmap) entry removed from the hash chain is still on the chain. This routine removes cmap entries for specified devices and block numbers from the hash chains. After it removes the entries, the routine rechecks the hash chains. In this case, the routine detected an additional entry which indicates hash list corruption.

munhash: unhashing non text page

File	`/sys/vm/vm_mem.c`
Routine	`munhash`
Problem	A core map (cmap) entry on a hash chain has been discovered to have a type that is not CTEXT.

MUNLOCK: dup page unlock

File	`/sys/h/vmmac.h`
Routine	`MUNLOCK` (macro)
Problem	The core map (cmap) entry is already unlocked. This routine unlocks cmap entries. This panic is issued when the routine is called to unlock an entry that is already unlocked.

newproc: alloc p_sm

File	`/sys/sys/kern_fork.c`
Routine	`newproc`
Problem	The kernel memory allocator failed to allocate memory for the shared memory information of the child process (a `km_alloc` problem).

newproc: parent has smem, smseg == 0

File	`/sys/sys/kern_fork.c`
Routine	`newproc`
Problem	The parent process in a fork has non-NULL shared memory information, although the system was configured without shared memory. This panic usually indicates process structure corruption.

newproc vfork

File	`/sys/sys/kern_fork.c`
Routine	`newproc`
Problem	A child process is swapped out when its parent is awakened. This routine creates child processes. After it creates the child process, the routine waits until the child completes processing before waking the parent process. This panic is issued when the routine detects the child process is swapped out when the parent awakens. This prevents the parent from being able to reclaim its resources.

nfs_badop

File	`/sys/fs/nfs/nfs_vnodeops.c`
Routine	`nfs_badop`
Problem	The generic file system (GFS) has performed an erroneous file system call.

NFS biod (pid %d) exiting on signal %d

File	`fs/nfs/nfs_vnodeops.c`
Routine	`nfs_biod`
Problem	The NFS asynchronous I/O daemon (`pid %d`) was interrupted while blocked on an I/O request. The I/O request was aborted and the daemon process exited. Note that the interrupting signal (signal %d) is included in the error message. This error message is not logged when an idle daemon is interrupted.

nfsd holding lock

File	`/sys/fs/nfs/nfs_server.c`
Routine	`rfs_dispatch`
Problem	Before returning, the `rfs_dispatch` routine detected that an SMP lock was still being held by the CPU. The `rfs_dispatch` routine validates the credentials of a Network File System (NFS) service request before dispatching that request to the proper service routine, such as `get/set file attributes`, `read/write`, or `create/delete directory`. Before the `rfs_dispatch` routine returns, no SMP locks should be held by the CPU.

nfs_lock: unrefed gnode

File	`/sys/fs/nfs/nfs_gfsops.c`
Routine	`nfs_lock`
Problem	The reference count of a gnode structure is invalid. This routine unlocks a gnode. When it receives the gnode, the routine checks the reference count in the gnode structure. In this case, the routine detected the reference count in the gnode structure was invalid because it was equal to or less than zero.

nfs_mountrpc cannot get port for mount service

File	`/sys/fs/nfs/nfs_vfsops.c`
Routine	`mountrpc`
Problem	Client could not connect to the mountd of the server. This routine calls the mount deamon (mountd) of the server to verify and return a file handle for the mount point on the server. When the client attempted to obtain the port number the mountd of the server is listening on, an error occurred. The requested mount point was the root device or the client.

nfs_rele: zero count

File	`/sys/fs/nfs/nfs_gfsops.c`
Routine	`nfs_rele`
Problem	The reference count for a gnode is invalid. This routine releases gnodes. While doing so, the routine checks the gnode reference count. In this case, the routine detected the reference count for the gnode was invalid because it was less than or equal to zero.

nfs_unlock: locked gnode isn't

File	`/sys/fs/nfs/nfs_gfsops.c`
Routine	`nfs_unlock`
Problem	The `nfs_unlock` routine which, before unlocking a gnode checks the gnode structure, detected that a gnode it was about to unlock was already unlocked.

nfs zero uentry

File	`/sys/fs/nfs/nfs_vnodeops.c`
Routine	`nfs_strategy`
Problem	While copying the user Network File System (NFS) buffer from user space to kernel space, the `nfs_strategy` routine detected that a page frame number for a page table entry (PTE) was 0.

nmi fault

File	`/sys/machine/vax/ka8800.c`
Routine	`ka8800nmifault`
Problem	A VAX 8800 NMI fault results in a fatal adapter error. This routine detects nbia/nbib adapter errors that result from a VAX 8800 NMI (Nautilus memory interconnect) fault. Then, the routine decides whether it is possible to recover from the adapter errors. In this case, the routine decided it was not possible to recover from the adapter error.

nml_ifioctl

File	`/usr/src/decnet/k_nml/nml_ifioctl.c`
Routine	`nml_ifioctl`
Problem	This routine was passed an invalid pointer to the interface of a network driver.

no access to shared text

File	`/usr/src/sys/vax/trap.c`
Routine	`trap`
Problem	A page table entry (PTE) for shared text (executable image) does not permit read access.

no bus data

File	`/sys/io/xmi/xmiinit.c`
Routine	`get_xmi`
Problem	The linked list of XMI data structures has been corrupted.

No cachenbl routine configured

File	`/sys/machine/vax/machdep.c`
Routine	`cachenbl`
Problem	The cache-enabling function cannot be found during configuration.

During configuration, processor-specific functions are enabled through the `cpusw` data structure in the `cpuconf.c` file. Among these functions is one to enable the cache of the processor. When calling a routine to enable the cache, the routine detected an invalid return. Either the wrong processor routine is called or the cache-enabling routine is not configured.

no CCA

File	`/sys/machine/vax/cvax.c`
Routine	`cca_setup`
Problem	No console communication area was found.

No configuration routine configured

File	`sys/machine/mips/machdep.c`
Routine	`configure`
Problem	The processor-specific routine to handle I/O configuration cannot be found through the cpusw structure.

During configuration, processor-specific functions are enabled through the cpusw data structure in the `cpuconfig.c` file. Among these functions is one to configure I/O devices. When calling through the cpusw structure to the I/O configuration routine, the routine detected an invalid return. Either the wrong processor routine is called, or the processor routine to handle I/O configuration is not configured.

No cons_putc routine configured

File	`/sys/machine/vax/machdep.c`
Routine	`cons_putc`
Problem	The logical console routine cannot be found during configuration.

During configuration, processor-specific functions are enabled through the `cupsw` data structure in the `cpuconf.c` file. Among these functions is one to enable the processor routine for sending instructions to the logical console. While calling a routine to enable instructions to the logical console, the routine detected an invalid return. Either the wrong processor routine is called, or the logical console routine of the processor is not configured.

No harderr_intr handler configured

File	`/sys/machine/vax/errlog.c`
Routine	`logsbi`
Problem	The `harderr_intr` handler function cannot be found during configuration.

During configuration, processor-specific functions are enabled through the cpusw data structure in the `cpuconfig.c` file. Among these functions is one to enable error handlers for bus errors. When calling a routine to handle a bus error, the routine detected an invalid return. Either the wrong processor routine was called or the processor bus error handler routine is not configured.

no hard error interrupt routine configured

File	`/sys/machine/mips/trap.c`
Routine	`memintr`
Problem	When a hardware error occurs when accessing memory, the `memintr` routine calls a system specific error handling routine to report the error to the error logger and to perform any necessary recovery actions. If there is no system specific error handling routine configured, the system prints out a `no hard error interrupt routine configured` error message and crashes.

no idle proc set up

File	`/sys/machine/mips/swtch.c`
Routine	`start_idleproc`
Problem	When the system is idle and there are no user processes in the runable state, a system process called the idle process is executed to keep the processor active. To start the idle process, the operating system must have a number of parameters initially configured. If these parameters are not configured, the system prints out a `no idle proc set up` error message and crashes.

No initialization routine configured

File	`/usr/sys/machine/mips/machdep.c`
Routine	`cpu_initialize`
Problem	There is no CPU initialization routine specified in the CPU switch for this processor type.
Action	Verify that the file `/usr/sys/machine/common/cpuconf.c` has not been changed.

No machine check handler configured

File	`/sys/machine/vax/machdep.c`
Routine	`machinecheck`
Problem	The machine check handler function cannot be found during configuration. During configuration, processor-specific functions are enabled through the `cpusq` data structure in the `cpuconf.c` file. Among these functions is one to enable the processor machine check handler. When calling a routine to enable the processor machine check handler, the routine detected an invalid return. Either the wrong processor routine is called or the processor machine check handler is not configured.

no mbufs available

File	`/sys/io/netif/if_dup.c`
Routine	`dupread`
Problem	There are no memory buffers available for a DUP11 read operation. This routine handles input from the DUP11. While getting a memory buffer to hold the input, the routine detected there were no memory buffers available.

no mem for probe i/o

File	`/sys/machine/vax/autoconf.c`
Routine	`unifind`
Problem	There is not enough memory to probe UNIBUS I/O space. When the system is bootstrapped, the UNIBUS is probed for existing devices. Part of the probe is to allocate the first page of UNIBUS I/O space to the first page of memory. The routine detected there was not enough memory available to allocate the first page of UNIBUS I/O space.

no mem for unifind

File	`/sys/machine/vax/autoconf.c`
Routine	`unifind`
Problem	There is not enough memory to map UNIBUS I/O space. The routine allocates memory for UNIBUS I/O space. While allocating memory, the routine detected there was not enough memory available for the memory map.

no memory

File	`/usr/sys/machine/mips/startup.c`
Routine	`mapinit`
Problem	There is insufficient memory for the mapped system data structures.
Action	Verify that the machine has at least the minimum amount of memory as specified in the ULTRIX Software Product Description (SPD).

no memory (A)

File	`/sys/machine/vax/machdep.c`
Routine	`mapinit`
Problem	No memory for user mode processes. At system startup time, the routine allocates space for all the kernel data structures. After performing these allocations, the routine discovered there is no memory space available to start any user mode processes.

no memory (B)

File	`/sys/machine/vax/machdep.c`
Routine	`mapinit`
Problem	No memory for user mode processes. At system startup time, the routine allocates space for all the kernel data structures. After performing these allocations, the routine discovered there is no memory space available to start any user mode processes.

No memory sizing routine configured

File	`/usr/sys/machine/mips/startup.c`
Routine	`mapinit`
Problem	There is no memory sizing routine specified in the CPU switch for this processor type.
Action	Verify that the file `/usr/sys/machine/common/cpuconf.c` has not been changed.

No microdelay routine configured

File	`/usr/sys/machine/vax/machdep.c`
Routine	`microdelay`
Problem	There is no microdelay routine specified in the CPU switch for this processor type.
Action	Verify that the file `/usr/sys/machine/common/cpuconf.c` has not been changed.

noncontig alloc in qe

File	`/sys/io/netif/if_qe.c`
Routine	`qeprobe`
Problem	No contiguous memory found while probing the device. This error can be caused by lack of system memory or by an unsupported device added to the Q-BUS that used up all the available memory.

non-existent memory access

File	`/usr/sys/machine/kn220.c`
Routine	`kn220memerr`
Problem	The system attempted to write to a nonexistent memory location.

no procs

File	`/sys/sys/kern_fork.c`
Routine	`newproc`
Problem	There are no free process slots for a new process.

The `newproc` routine creates a new process. After the `fork` routine, which calls the `newproc` routine, determined that there was a free process slot, the `newproc` routine detected that there was no free process slot.

No read TOD routine configured

File	`sys/machine/mips/machdep.c`
Routine	`read_todclk`
Problem	The processor-specific routine to read the TOD clock cannot be found through the cpusw structure.

During configuration, processor-specific functions are enabled through the cpusw data structure in the `cpuconfig.c` file. Among these functions is one to read the TOD clock. When calling through the cpusw structure to read the TOD, the routine detected an invalid return. Either the wrong processor routine is called, or the processor routine to read the TOD clock is not configured.

No setcache routine configured

File	`/sys/machine/vax/machdep.c`
Routine	`setcache`
Problem	The function to set the state of the cache cannot be found during configuration.

During configuration, processor-specific functions are enabled through the `cpusw` data structure in the `cpuconf.c` file. Among these functions is one to set the state of the cache of the processor. While calling a routine to set the processor cache, the routine detected an invalid return. Either the wrong processor routine is called, or the processor routine to set the cache is not configured.

No softerr_intr handler configured

File	`/sys/machine/vax/machdep.c`
Routine	`memerr`
Problem	The memory error-handling function cannot be found during configuration.

During configuration, processor-specific functions are enabled through the `cpusw` data structure in the `cpuconf.c` file. Among these functions is one to enable the processor memory error handler. While calling a routine to enable the handler, the routine detected an invalid return. Either the wrong processor routine is called or the processor memory error handler is not configured.

No start clock routine configured

File	`sys/machine/mips/machdep.c`
Routine	`startrtclock`
Problem	The processor-specific routine to start the TOD clock cannot be found through the cpusw structure.

During configuration, processor-specific functions are enabled through the cpusw data structure in the `cpuconf.c` file. Among these functions is one to start the TOD clock. When calling through the cpusw structure to start the TOD clock, the routine detected an invalid return. Either the wrong processor routine is called or the processor start clock routine is not configured.

No start cpu routine configured

File	`/sys/sys/kern_cpu.c`
Routine	`start_one_cpu`
Problem	The system received an improper return value from the system-specific `start_one_cpu` routine. Note that this should not occur on a properly configured system.

No stop clock routine configured

File	`sys/machine/mips/machdep.c`
Routine	`stopclocks`
Problem	The processor-specific routine to stop the TOD clock cannot be found through the cpusw structure.

During configuration, processor-specific functions are enabled through the cpusw data structure in the `cpuconf.c` file. Among these functions is one to stop the TOD clock. When calling through the cpusw structure to stop the TOD clock, the routine detected an invalid return. Either the wrong processor routine is called or the processor stop clock routine is not configured.

No stop cpu routine configured

File	`/sys/sys/kern_cpu.c`
Routine	`stop_cpu_now`
Problem	The system received an improper return value from the system-specific `stop_cpu_now` routine. Note that this should not occur on a properly configured system.

not bootcpu

File	`/sys/sys/kern_clock.c`
Routines	`chrqueue` `intqueue`
Problem	A non-boot processor tried to run code that is only to be used by the boot processor for console character handling.

No timer_action routine configured

File	`/sys/machine/vax/machdep.c`
Routine	`memenable`
Problem	The memory controller function for CRD errors cannot be found during configuration. During configuration, processor-specific functions are enabled through the `cpusw` data structure in the `cpuconf.c` file. Among these functions is one to report corrected data errors (CRD errors) from memory controllers. When calling a routine to enable memory controller CRD error reporting, the routine detected an invalid return. Either the wrong processor routine is called or the processor controller error-reporting routine is not configured.

no trap error routine configured

File	`sys/machine/mips/trap.c`
Routine	`trap`
Problem	The processor-specific routine to handle an error cannot be found through the cpusw structure. During configuration, processor-specific functions are enabled through the cpusw data structure in the `cpuconf.c` file. Among these functions is one to handle trap errors. When calling through the cpusw structure to the trap error handler, the `trap` routine did not find a trap error handler routine.

no vector

File	`/sys/io/xmi/xmiinit.c`
Routine	`xmisetvec`
Problem	No error vector was created for an XMI bus that was in the system configuration file.

No write TOD routine configured

File	`sys/machine/mips/machdep.c`
Routine	`write_todclk`
Problem	The processor-specific routine to write the TOD clock cannot be found through the cpusw structure. During configuration, processor-specific functions are enabled through the cpusw data structure in the `cpuconf.c` file. Among these functions is one to write the TOD clock. When calling through the cpusw structure to write the TOD, the routine detected an invalid return. Either the wrong processor routine is called or the processor routine to write the TOD clock is not configured.

obreak: p_sm

File	`/sys/sys/kern_mman.c`
Routine	`obreak`
Problem	The routine detected a process that indicated it had attached shared memory, but the process has a NULL pointer to shared memory information in the proc structure.

pagein: Attempt to pagein kernel/user shared memory page

File	`/sys/vm/vm_page.c`
Routine	`pagein`
Problem	An attempt was made to page-in a shared memory page that is currently being shared between a user process and the system. Because physical pages reside in system space that should be locked, this panic is fatal.

pagein: bn = -1

File	`/sys/vm/vm_page.c`
Routine	`pagein`
Problem	While handling a page fault to bring a page back in from disk, the `pagein` routine detected that the page table entry (PTE) did not reference a valid disk block.

pagein: bncache=-1

File	`vm/vm_page.c`
Routine	`pagein`
Problem	This routine handles page faults. Before attempting to load the page from swap disk, the routine found that the swap space was not allocated for that page.

pagein c_page chgd

File	`/sys/vm/vm_page.c`
Routine	`pagein`
Problem	A core map (cmap) entry page number does not match the formatting page number. This routine handles page faults. In this case, the routine compares the page number, retrieved from the memory hash chains, with the page number derived from the retrieved cmap entry. The routine detected that the pages did not match. This error indicates a memory hash list corruption.

pagein: intrans

File	`/sys/vm/vm_page.c`
Routine	`pagein`
Problem	Upon completing a pagein, the pages in the kluster are unlocked. The `pagein` routine detected that a page being unlocked was still in transit, that is, it was still being filled in from an earlier page fault.

pagein intrans|want

File	`/sys/vm/vm_page.c`
Routine	`pagein`
Problem	A free text page is marked as in-transit or wanted by another process. This routine handles page faults. While handling a fault for a text page, the routine retrieves the core map (cmap) entry from the memory hash chains and checks the cmap flags to ensure the flag settings match the text page state. In this case, the routine detected the in-transit or wanted flags were set in the cmap and the text page was not free.

pagein mfind

File	`/sys/vm/vm_page.c`
Routine	`pagein`
Problem	A text page being reclaimed is not free.

This routine handles page faults. While handling a fault, the routine retrieves a text page from the free list and verifies that the page it receives is free. This panic is issued when the routine detects that the page is owned by some other process, the page is not free, or the page is not a text page.

pagein: no process in context

File	`sys/vm/vm_page.c`
Routine	`pagein`
Problem	A page fault has occurred when no user process is in context. Since the page fault handler can only resolve user addresses, this is a fatal error.

pagein: pfnum = 0

File	`/sys/vm/vm_page.c`
Routine	`pagein`
Problem	The page frame number is not allocated.

This routine handles page faults. By this point in processing, the physical page should have been allocated and the page frame number inserted in the page table entry. However, the routine found that the page frame number field in the page table entry is null.

pagein pfnum

File	`/sys/vm/vm_page.c`
Routine	`pagein`
Problem	A page table entry (PTE) has a pointer to a page frame number.

This routine handles page faults. In this case, the routine requires a page that is not a fill-on-demand page and that a page frame is not currently assigned to that pte.

Subsequently, the routine checks the original state of the page to ensure it does not contain a page frame number. During this check, the routine detected the original page table entry contained a page frame number and therefore was either a fill-on-demand page in memory or a reclaimable page that should have been validated at this point.

pagein pg_fileno

File	`/sys/vm/vm_page.c`
Routine	`pagein`
Problem	A fill-on-demand page has an unknown type code.

This routine handles page faults. While handling a fill-on-demand fault, the routine receives a file number and checks the page table to ensure that the page is a fill-on-demand page (one fetched through the TEXT map). This panic is issued when the routine detects the page had an unknown type code (for example, CTEXT, CDATA, CSTACK, and CSMEM).

pagein PG_FTEXT

File	`/sys/vm/vm_page.c`
Routine	`pagein`
Problem	A file is mapped but its text structure is missing.

This routine handles page faults. In this case, the routine receives a file number indicating a fill-on-demand page is mapped from the `a.out` file. However, the routine cannot find the associated text structure.

pagein: SHMEM fodkluster

File	`/sys/vm/vm_page.c`
Routine	`pagein`
Problem	A page fault is attempting to fill-on-demand kluster a shared memory page.

This routine handles page faults. While doing so, the routine detected a request to kluster a fill-on-demand page from a shared memory segment. Shared memory segments are exclusively zero fill-on-demand.

pagein SMEM

File	`/sys/vm/vm_page.c`
Routine	`pagein`
Problem	A shared memory table entry cannot be found for the given virtual address.

This routine handles page faults. While handling a page fault in shared memory, the routine searches for the shared memory segment structure that contains the page. During this search, the routine failed to find the applicable data structure.

pagein vread

File	`/sys/vm/vm_page.c`
Routine	`pagein`
Problem	The page fault option is not supported by the operating system. After a page fault has occurred, the routine detected an association between a page table entry and a file descriptor. This association is not supported by the ULTRIX operating system.

pagein: vtod

File	`vm/vm_page.c`
Routine	`pagein`
Problem	The page is not in swap device. This routine handles page faults. This case specifies, load the page from swap space. However, the routine found that the swap space was not allocated for that page.

pagemove

File	`/sys/machine/vax/vm_machdep.c`
Routine	`pagemove`
Problem	The size of the data being moved is not a multiple of the page kluster size. While attempting to move data from one virtual address to another, the routine detected the size of the data was not a multiple of the ULTRIX page kluster size (1024 bytes).

pageout: checkpage

File	`/sys/vm/vm_page.c`
Routine	`checkpage`
Problem	A valid page table entry (PTE) does not contain a valid page frame number (pfnum). While checking a page to page out, the routine found a pte with the valid bit set and a zero pfnum.

pageout klsize

File	`/sys/vm/vm_page.c`
Routine	`checkpage`
Problem	A page has a kluster size less than zero. While checking a page, the routine detected the kluster size of the page was less than zero.

pageout: not boot cpu

File	`/sys/vm/vm_page.c`
Routine	`pageout`
Problem	On an SMP machine, a CPU other than the boot CPU was running the pageout daemon code.

pagin: p_sm

File	`/sys/vm/vm_page.c`
Routine	`pagein`
Problem	NULL pointer to shared memory information. The routine detected a process that indicated it had attached shared memory, but the process has a NULL pointer to shared memory information in the process (proc) structure.

pagin SMEM

File	`/sys/vm/vm_drum.c`
Routine	`vtod`
Problem	A shared memory segment cannot be found. This routine converts virtual page numbers to disk block numbers. While doing so, the routine failed to find a shared memory segment for a specified shared memory virtual address.

pfalloc: bad mem alloc

File	`/sys/vm/vm_mem.c`
Routine	`pfalloc`
Problem	A free memory segment is beyond the bounds of configured physical memory. This routine allocates page klusters from core map (cmap) entries. In this case, the routine detected the index into a cmap was greater than the size of configured physical memory.

pfalloc: dup mem alloc

File	`/sys/vm/vm_mem.c`
Routine	`pfalloc`
Problem	A page on the free list is not free. This routine allocates physical memory for kernel use. While allocating a physical page, the routine checks the newly allocated core map entries to ensure they are marked free. The routine detected a page on the free list that was not marked free.

pfalloc: intrans|want

File	`/sys/vm/vm_mem.c`
Routine	`pfalloc`
Problem	A free page kluster is marked in-transit or wanted by another process.

This routine allocates physical memory for use by the kernel. To do so, the routine allocates physical memory by the core map (cmap) entries and checks the cmap flags to ensure the flag settings match the kluster state. In this case, the routine detected that the in-transit or wanted flags were set in the cmap. Therefore, the kluster is not free.

pfalloc: type

File	`/sys/vm/vm_mem.c`
Routine	`pfalloc`
Problem	A page kluster being allocated has an invalid type code.

This routine allocates physical memory for use by the kernel. While doing so, the routine validates that the input parameter type is equal to the constant `CSYS`. This panic is issued when these values are not equal.

pffree: bad mem free

File	`/sys/vm/vm_mem.c`
Routine	`pffree`
Problem	A page frame number is beyond the bounds of configured memory.

This routine frees physical page klusters by placing them on the cmap free list. While doing so, the routine detected that the first page frame number was either equal to 1, or that a page frame number was out of the range of configured physical memory.

pffree: dup mem free

File	`/sys/vm/vm_mem.c`
Routine	`pffree`
Problem	A page kluster being freed is already free.

This routine frees physical page klusters by placing them on the core map free list. While doing so, the routine detected a physical page was already marked as free.

PfiltAllocatePacket

File	`/sys/net/net/pfilt.c`
Routine	`PfiltAllocatePacket`
Problem	While attempting to allocate an Ethernet packet from the free list, the list was found to be empty.

pfilt_attach: not enough memory

File	`/sys/net/net/pfilt.c`
Routine	`pfilt_attach`
Problem	While attempting to attach to the packet filter, a call to allocate kernel memory for descriptor buffers failed.

PfiltDeallocatePacket: refcount != 0

File	`/sys/net/net/pfilt.c`
Routine	`PfiltDeallocatePacket`
Problem	While attempting to place a deallocated Ethernet packet back onto the free packet queue, the reference count was found to be non-zero.

PfiltDeWaitQueue

File	`/sys/net/net/pfilt.c`
Routine	`PfiltDeWaitQueue`
Problem	While attempting to remove an Ethernet packet from the wait queue, the queue was found to be empty.

pfilt_newaddress: bad unit number

File	`/sys/net/net/pfilt.c`
Routine	`pfilt_newaddress`
Problem	While attempting to change the Ethernet hardware address, an invalid interface unit number was specified.

Pfiltwmove: uio_iovcnt < 0 while uio_resid > 0

File	`/sys/net/net/pfilt.c`
Routine	`Pfiltwmove`
Problem	While attempting to transfer the contents of a user buffer into kernel mbufs, a size mismatch was discovered.

probe i/o space not at bus virtual address 0

File	`/sys/machine/vax/autoconf.c`
Routine	`unifind`
Problem	The first page of UNIBUS I/O space is mapped to physical address zero (0).

When the system is bootstrapped, this routine allocates and initializes the UBA map registers and buffered data paths. Part of this process is to allocate the first page of UNIBUS I/O space to the first available page of memory. The routine detected the first page of UNIBUS I/O space had been mapped to physical address zero and not to the first available page.

proc_del: bad ref

File	`/sys/sys/kern_psubr.c`
Routine	`proc_del`
Problem	Once a process is in the P_DYING state, the code waits for all outstanding references to this process to be cleared before proceeding. This panic indicates that the reference count is not zero after waiting.

proc_del: not alive state

File	`/sys/sys/kern_psubr.c`
Routine	`proc_del`
Problem	A process is not in P_ALIVE state when trying to move to P_DYING state. This indicates a bug in the process exit code.

processor type not configured

Files	`sys/machine/vax/machdep.c` `sys/machine/mips/startup/c`
Routine	`cpuswitch_entry`
Problem	The cpuswitch table is searched for the processor type at boot time. A global pointer to the cpuswitch entry for this processor type is set up to allow a fast index into the cpuswitch table. If a cpuswitch entry cannot be found in the cpuswitch table for this processor type, the kernel cannot continue to run.

Boot the generic kernel (genvmunix) and determine if this processor type is in the configuration file used to build the kernel that panicked. If the processor type for this system is not in the configuration file for this kernel, add this processor type to the configuration file.

proc_exit: holding a lock

File	`/sys/sys/kern_psubr.c`
Routine	`proc_exit`
Problem	A process has completed exit, but still holds an SMP lock.

proc_exit: not dying state

File	`/sys/sys/kern_psubr.c`
Routine	`proc_exit`
Problem	A process is not in P_DYING state when trying to move to P_DEAD state. This indicates a bug in process exit code.

proc_rele: bad ref

File	`/sys/sys/kern_psubr.c`
Routine	`proc_rele`
Problem	A process reference count went negative. This indicates that a process was released twice.

proc_rele_hold: bad ref

File	`kern_lmf.c`
Routine	`proc_rele_hold`
Problem	The system detected an error in process reference counting. A process structure reference count became negative while the structure was being released in the `proc_rele_hold` routine.

proc_rele_hold: invalid exist

File	`kern_lmf.c`
Routine	`proc_rele_hold`
Problem	An unexpected value was found in a process structure while it was being released in the `proc_rele_hold` routine. This indicates that there was a violation of assumptions made in the routine design. Note that this panic can only occur when SMP debugging is enabled.

proc_wait: child alive state

File	`/sys/sys/kern_psubr.c`
Routine	`proc_wait`
Problem	The routine proc_wait should only be called when waiting for a process to go from the P_DYING state to the P_DEAD state.

proc_wait: waiting on live process

File	`/sys/sys/kern_psubr.c`
Routine	`proc_wait`
Problem	A process was exiting and in the zombie state (p_stat == SZOMB) but was still marked as alive (p_exist == P_ALIVE).

psig action

File	`/sys/sys/kern_sig.c`
Routine	`psig`
Problem	A process requests a signal action, but the action is to ignore the signal. This routine processes an action specified by a signal. In this case, the action specified is to ignore the signal, which should have been intercepted before being passed to this routine.

psig

File	`/sys/sys/kern_sig.c`
Routine	`psig`
Problem	A process has a signal, but no signal flag. This routine performs signal actions passed to it by processes that have signals. In this case, the routine was called by a process to perform the action, but detected the process did not have a signal flagged in its signal bits.

ptable fault

File	`/sys/machine/vax/trap.c`
Routine	`trap`
Problem	A page table fault results in a processor trap. This routine detects and handles traps issued by processors. In this case, the routine detected a processor trap caused by a page fault on a page-mapping page table. The ULTRIX operating system does not support paging page tables.

ptcmp: No matching ioctl address in block device table

File	`/sys/fs/ufs/ufs_xxx.c`
Routine	`ptcmp`
Problem	A matching `ioctl` address for a raw device cannot be found.

This routine matches `ioctl` addresses for raw devices by searching the block device table. In this case, the routine traversed the table but could not find an `ioctl` block device to match the raw device.

ptcwrite

File	`/sys/sys/tty_pty.c`
Routine	`ptcwrite`
Problem	There is data to write (to a pseudoterminal), but no I/O vectors contain data.

The I/O count in the I/O structure indicated there were no vectors holding data, but the I/O structure of the user contained a value that indicated there was more data to be written.

ptexpand

File	`/sys/vm/vax/pt_machdep.c`
Routine	`ptexpand`
Problem	A request to expand a page table is not a multiple of CLSIZE.

This routine expands a page table. In this case, the routine detected the request to expand the page table was not a multiple of CLSIZE or was less than or equal to zero.

ptrace regmap botch

File	`/sys/sys/sys_process.c`
Routine	`procxmt`
Problem	Illegal register width.

The data structure that contains the width of the register was corrupted as the routine detected a value other than 1, 2, or 4.

pulloobxti no m->m_next

File	`/sys/net/netinet.tcp_input.c`
Routine	`tcp_pulloobxti`
Problem	The `tcp_pulloobxti` routine, which processes out-of-band data, received fewer mbufs than it was expecting.

Q22 bus error

File	`/sys/machine/mips/kn210.c`
Routine	`kn210harderrintr`
Problem	The `kn210harderrintr` routine is called in response to hard error interrupts and is used to log appropriate diagnostic information to the error logger. If a Q22 bus parity error or write cycle timeout occurs, the system will print a `Q22 bus error` error message and crash.

Q22 Bus Grant Timeout

File	`/sys/machine/mips/kn220.c`
Routine	`kn220_qbus_memerr`
Problem	The CQBIC chip reported a QBUS error. A Direct Memory Access (DMA) request did not receive a bus grant within the timeout period for a CPU read or write cycle.

Q22 bus memory parity error

File	`/usr/sys/machine/kn220.c`
Routine	`kn220_qbus_memerr`
Problem	The system detected a Qbus memory parity error.
Action	Reboot your system. Memory parity errors may be spurious or intermittent. However, if the `Q22 bus memory parity error` error occurs frequently, in all likelihood the memory is bad and needs to be replaced.

Qbus Adapter Dump Error

File	`sys/machine/vax/ka60.c`
Routine	`ka60memerr`
Problem	An error occurred while a QBUS device was writing to main memory. Part or all of the data that was written by the QBUS device did not make it to main memory.

Qbus Memory error

File	`/sys/machine/mips/kn220.c`
Routine	`kn220_qbus_memerr`
Problem	The CQBIC chip reported a QBUS error which could not be further identified.

qe: chained packet

File	`/sys/io/netif/if_qe.c`
Routine	`qerint`
Problem	An input packet is being chained. The routine detected an input packet was being chained.

qe: Non existent memory interrupt

File	`/sys/io/netif/if_qe.c`
Routine	`qeintr`
Problem	An Ethernet interrupt occurs, but the memory for it does not exist. This routine processes Ethernet interrupts. When it receives an interrupt, the routine checks the control and status flags of the register. The routine detected the flag for nonexistent memory was set.

que_unlock: lock not held

File	`/sys/machine/mips/interlock.c`
Routine	`que_unlock`
Problem	When the operating system makes a call to gain entrance to a queue, the queue is locked to prevent other processes from accessing it. When the process exits, the queue is unlocked so that other processes can once again access it. If a call is made to unlock a queue that is not locked, the system prints out a `que_unlock: lock not held` error message and crashes.

raw_usrreq

File	`/sys/net/net/raw_usrreq.c`
Routine	`raw_usrreq`
Problem	The protocol type code of a user request is invalid. The routine receives a user request. In this case, the request was invalid because the routine detected the protocol type code of the request was not one of the predefined types in the raw protocol switch table.

Read bus timeout

File	`/usr/sys/machine/kn220.c`
Routine	`kn220_qbus_memerr`
Problem	A timeout occurred while the system was attempting to read Qbus memory. In most cases, when this error occurs the system is attempting a read to a nonexistent location.

read bus timeout

File `/usr/sys/machine/kn210.c`

Routine `kn210trap_error`

Problem The bus timed out on a read, which usually indicates that the system attempted a read from a nonexistent location.

realloccg: bad bprev

File `/sys/fs/ufs/ufs_alloc.c`

Routine `realloccg`

Problem The block being reallocated is physical block zero, the boot block.

When reallocating a fragment to a larger size, the routine detects it had been passed a physical block number equal to zero. Physical block number zero is the boot block and cannot be reallocated.

Output Identifies the device, the block size, the physical block number, and the file system. The format is:

```
dev = <0Xd> bsize = <d> bprev = <d> fs = <"string">
```

realloccg: bad optim

File `/sys/fs/ufs/ufs_alloc.c`

Routine `realloccg`

Problem The optimization preference of the file is invalid.

This routine extends allocated fragments to a larger size. Before extending the fragment, the routine checks the optimization preference of the file. The valid preferences are for optimized space or optimized time. In this case, the routine detected the value of the optimization preference was neither space nor time and was therefore invalid.

Output Identifies the device, the optimization preference, and the file system. The format is:

```
dev =<0Xd>  optim = <d> fs = <"string">
```

realloccg: bad size

File	`/sys/fs/ufs/ufs_alloc.c`
Routine	`realloccg`
Problem	A fragment being reallocated is the wrong size.

When it receives a fragment size, the routine checks it before reallocating the fragment to a larger size. In this case, the routine detected the old or new fragment size was greater than the file system block size or not a multiple of the file system fragment size.

Output: Identifies the device, the block size, the old size, the new size requested, and the file system. The format is:

```
dev= <0Xd> bsize= <d> osize= <d> nsize= <d> fs= <"string">
```

receive 1

File	`/sys/sys/uipc_socket.c`
Routine	`soreceive`
Problem	The routine received a null list.

The routine was called, but there was nothing for the routine to do and no memory buffer (mbuf) to process.

receive 1a

File	`/sys/sys/uipc_socket.c`
Routine	`soreceive`
Problem	The input memory buffer name for a socket accept is invalid.

This routine receives input memory buffers for use with sockets. In this case, the routine received an input memory buffer name that was invalid because it was not a socket buffer or because the routine could not obtain a valid buffer for it.

receive 2a

File	`/sys/sys/uipc_socket.c`
Routine	`soreceive`
Problem	A memory buffer structure does not contain access rights data.

While operating in raw or datagram protocol mode, the routine determines there are two memory buffer (mbuf) structures holding data. However, the routine detected the second mbuf structure did not contain access rights data.

receive 3

File	`/sys/sys/uipc_socket.c`
Routine	`soreceive`
Problem	A memory buffer structure does not contain access rights data.

While operating in raw or datagram mode, the routine determines there are three memory buffer (mbuf) structures holding data. However, the routine detected the pointer from the second mbuf structure to the third mbuf structure was zero, indicating the third mbuf structure did not contain access rights data and was therefore invalid.

release_tlbpid: no pid

File	`/sys/machine/mips/swtch.c`
Routine	`release_tlbpid`
Problem	The translation lookaside buffer (tlb) identifier is invalid.

While attempting to invalidate or release the tlb identifier associated with this process, the routine detected that the identifier was already invalid.

release_tlbpid: not inuse

File	`/sys/machine/mips/swtch.c`
Routine	`release_tlbpid`
Problem	The translation lookaside buffer (tlb) identifier is marked as ''not in use.''

While attempting to invalidate or release the tlb identifier associated with this process, the routine cross-checks to ensure that the identifier is marked as ''in use'' (presumably by this process). During this check, the routine detected that the tlb identifier was marked as ''not in use.''

release_tlbpid: not owner

File	`/sys/machine/mips/swtch.c`
Routine	`release_tlbpid`
Problem	The translation lookaside buffer (tlb) identifier is owned by another process.

While attempting to invalidate or release the tlb identifier associated with a process, the routine detected that the tlb identifier was marked as owned by another process.

_Remrq

File `/sys/machine/vax/locore.s`

Routine `remrq`

Problem A process is being removed from an empty run queue.

This routine removes processes from the run queue. In this case, the routine detected it was attempting to remove a process from the run queue, but the run queue was empty.

rename: linked directory

File `/sys/fs/ufs/ufs_syscalls.c`

Routine `ufs_rename`

Problem A directory being renamed is not empty.

Before a directory can be renamed to another subdirectory of the same name, the destination directory must be empty. The routine first checks whether the link count is greater than two. If it is, the destination directory is not empty. The routine passes the diagnostic `ENOTEMPTY` to the calling routine. Subsequently, the routine made another check of the link count and detected it was still greater than two.

rename: lost dir entry

File `/sys/fs/ufs/ufs_syscalls.c`

Routine `ufs_rename`

Problem The source directory for a directory being renamed is lost.

After successfully renaming a directory, the routine removes the links to the source directory. In this case, the routine had entered the new name for the directory and set up the appropriate links, but detected the source directory was lost before it could complete the operation.

resolvfh: cannot resolve file handle

File `/sys/fs/nfs/nfs_vfsops.c`

Routine `nfs_resolvefh`

Problem Client did not receive a valid root device file handle.

The client made a request to the mount deamon (mountd) of the server, and the server failed to return a valid file handle.

rfscall: NULL cred

File	`/sys/fs/nfs/nfs_subr.c`
Routine	`rfscall`
Problem	While processing a remote file system call for the Network File System (NFS), the `rfscall` routine detected that the pointer to the credentials was NULL.

rip_output not lock owner

File	`/sys/net/netinet/raw_ip.c`
Routine	`rip_output`
Problem	The `rip_output` routine, which generates internet protocol headers, detected that a required SMP lock was not held.

rksize: invalid partition table

File	`/sys/io/uba/rk.c`
Routine	`rksize`
Problem	The partition table of the disk is invalid. Before determining the size (in blocks) of a partition, the routine checks the partition table. While checking the partition table, the routine detected it was invalid.

rkstrategy: invalid partition table

File	`/sys/io/uba/rk.c`
Routine	`rkstrategy`
Problem	The partition table of the disk is invalid. Before it queues a disk read or write request, the routine first checks the partition table, then retrieves a block number. While checking the partition table, the routine detected it was invalid.

rlsize: invalid partition table

File	`/sys/io/uba/rl.c`
Routine	`rlsize`
Problem	The partition table of the disk is invalid. Before determining the size (in blocks) of a partition, the routine checks the partition table. While checking the partition table, the routine detected it was invalid.

rlstrategy: invalid partition table

File	`/sys/io/uba/rl.c`
Routine	`rlstrategy`
Problem	The partition table of the disk is invalid.

Before it queues a disk read or write request, the routine first checks the partition table and then retrieves a block number. While checking the partition table, the routine detected it was invalid.

rmalloc

File	`/sys/sys/subr_rmap.c`
Routine	`rmalloc`
Problem	The requested size is invalid.

This routine allocates a variety of kernel resources. While doing so, the routine detected that the resource request has a zero size or, if the resource is SWAPMAP, the size is greater than the configured granularity (dmmax).

rmalloc swapmap

File	`/sys/sys/subr_rmap.c`
Routine	`rmalloc`
Problem	A swap area resource address being allocated is not a multiple of CLSIZE.

rmget

File	`/sys/sys/subr_rmap.c`
Routine	`rmget`
Problem	A memory resource request has a zero size.

The routine is passed size and resource map parameters that it uses to obtain some resource. The routine detected the size parameter passed to it had a zero size.

rtfree

File	`/sys/net/net/route.c`
Routine	`rtfree`
Problem	The pointer to a network routing structure is invalid.

While attempting to free a network routing structure, the routine discovered the pointer to the structure being freed was zero.

rwgp

File	`/sys/fs/gfs/gfs_gnodeops.c`
Routine	`rwgp`
Problem	The command for a gnode operation is invalid.

This routine reads and writes gnodes. When the routine is passed a command to read and write a gnode, the routine determines whether the command is valid. In this case, the routine detected the command was invalid.

rwsp

File	`/sys/fs/specfs/spec_vnodeops.c`
Routine	`spec_rwgp`
Problem	The read/write routine was called without specifying the type of request.

This routine controls read and write requests for special files. Several arguments are passed to it; one of these is the type of request. The request parameter was not equal to read or write.

rwvp: zero size

File	`/sys/fs/nfs/nfs_vnodeops.c`
Routine	`rwvp`
Problem	A block being moved has an invalid size.

This routine checks the size of blocks being moved.. In this case, the routine detected the block being moved had an invalid size of zero.

rzsize: invalid partition table

File	`/sys/io/scsi/scsi_disk.c`
Routine	`rzsize`
Problem	The partition table for the disk is invalid.

This routine determines the partition size of a disk (in blocks). Before determining the size of a partition, the routine checks the partition table of the disk. While checking the partition table, the routine detected it was invalid.

rzstrategy: invalid partition table

File	`/sys/io/scsi/scsi_disk.c`
Routine	`rzstrategy`
Problem	The partition table for the disk is invalid.

This routine queues read and write request for disks. Before it queues a disk read or write request, the routine checks the partition table of a disk and retrieves a block number. While checking the partition table, the routine detected it was invalid.

saccept

File	`/sys/sys/uipc_syssocket.c`
Routine	`saccept`
Problem	A socket connect queue is empty when sockets should be connected to it.

The socket variable, `so_qlen`, indicated there were socket connects on the socket connect queue `so_q`, but the routine detected the socket connect queue was empty.

sbappendrights

File	`/sys/sys/uipc_socket2.c`
Routine	`sbappendrights`
Problem	A memory buffer is not available for the operation.

This routine appends additional data (access rights) to a socket buffer. Before appending the access rights, the routine receives a pointer to a memory buffer to use for the operation. The routine detected the value of the pointer returned was zero, indicating there was no memory buffer available for the operation or the value of the access rights was zero.

sbdrop

File	`/sys/sys/uipc_socket2.c`
Routine	`sbdrop`
Problem	There are characters in a memory buffer, but no pointer to this data.

This routine drops memory buffers from a socket buffer chain. Before doing so, the routine checks the socket buffer character count and the memory buffer pointer to memory buffer data. The routine detected there was a socket buffer character count but there was no memory buffer pointer to this data.

sbflush

File	`/sys/sys/uipc_socket2.c`
Routine	`sbflush`
Problem	A memory buffer being freed is locked for a receive.

While freeing a memory buffer in a socket buffer chain, the routine detected the buffer was locked for a receive.

sbflush 2

File	`/sys/sys/uipc_socket2.c`
Routine	`sbflush`
Problem	Freed memory buffers still contain characters.

This routine frees memory buffers in a socket buffer chain. Then, the routine checks for character and memory buffer counts in the socket buffer variables. Next, it checks links in the memory buffer chain pointer. The routine detected at least one of these variables was not zero.

sbi0alert

File	`sys/machine/vax/locore.s`
Routine	`sbi0alert`
Problem	The processor detects an SBI0 alert.

When a processor detects an SBI0 alert, it issues an exception and dispatches the error to this routine. In this case, the routine serviced the error by logging it and producing this panic.

sbi0fail

File	`/sys/machine/vax/locore.s`
Routine	`sbi0fail`
Problem	A processor detects an SBI0 failure.

When a processor detects an SBI0 failure, it issues an exception and dispatches the failure to this routine. In this case, the routine serviced the failure by logging it and producing this panic.

sbi0flt

File	`/sys/machine/vax/locore.s`
Routine	`sbi0flt`
Problem	A processor detects an SBI0 fault.

When a processor detects an SBI0 fault, it issues an exception and dispatches the fault to this routine. In this case, the routine serviced the fault by logging it and producing this panic.

sbi1alert

File	`/sys/machine/vax/locore.s`
Routine	`sbi1alert`
Problem	A VAX 8600 detects an SBI1 alert.

When a VAX 8600 detects an SBI1 alert, it issues an exception and dispatches the alert to this routine. In this case, the routine serviced the alert by logging it and producing this panic.

sbi1error

File	`/sys/machine/vax/locore.s`
Routine	`sbi1error`
Problem	A VAX 8600 detects an SBI1 error.

When a VAX 8600 detects an SBI1 error, it issues an exception and dispatches the error to this routine. In this case, the routine serviced the error by logging it and producing this panic.

sbi1fail

File	`/sys/machine/vax/locore.s`
Routine	`sbi1fail`
Problem	A VAX 8600 detects an SBI1 failure.

When the VAX 8600 detects an SBI1 failure, it issues an exception and dispatches the failure to this routine. In this case the routine serviced the failure by logging it and producing this panic.

sbi1flt

File	`/sys/machine/vax/locore.s`
Routine	`sbi1flt`
Problem	A VAX 8600 detects an SBI1 fault.

When a VAX 8600 detects an SBI1 fault, it issues an exception and dispatches the fault to this routine. In this case, the routine serviced the fault by logging it and producing this panic.

sbia0error

File	`/sys/machine/vax/locore.s`
Routine	`wtime`
Problem	A VAX 8600 detects an SBIA0 error.

When the VAX 8600 detects an SBIA0 error, it issues an exception and dispatches the error to this routine. In this case, the routine serviced the exception by producing this panic.

scs - bad connid seen during connection abortion

File	`/sys/io/scs/scs_protocol.c`
Routine	`scs_abort_conn`
Problem	The connection block identification number is invalid.

scs - broken sanity timer

File	See Table 2-10.
Routine	See Table 2-10.
Problem	The Systems Communications Subsystem (SCS) sanity timer is either already disabled, or it was not previously enabled.

The routines that can issue this panic are briefly described in Table 2-10.

Table 2-10: Sanity Timer Checks

File	Routine	Description
`/sys/io/scs/scs_protocol.c`	`scs_receive`	Receives SCS sequenced messages
	`scs_request`	Transmits SCS requests
	`scs_timer`	Oversees SCS timer-related functions

scs - corrupted listening sysap queue

Files	`/sys/io/scs/scs_event.c` `/sys/io/scs/scs_protocol.c`
Routines	`scs_new_path` `scs_receive`
Problem	The listening connection is in an invalid state.

Two routines can issue this panic. The `scs_new_path` routine processes new path notifications and the `scs_receive` routine receives System Communications Subsystem (SCS) sequenced messages.

While performing their respective tasks, one of the routines determined that the listening connection is in an invalid state.

scs - corrupted sca configuration database

File	`/sys/io/scs/scs_event.c`
Routine	`scs_path_crash`
Problem	Unable to retrieve the connection block.

This routine processes path failure notifications. While cleaning up a connection, the routine discovers it is unable to retrieve the connection block.

scs - invalid asynchronous event on connection

File	`/sys/io/scs/scs_subr.c`
Routine	`scs_init_cmsb`
Problem	The SYSAP event is invalid.

This routine prepares interface data structures for asynchronous event SYSAP notifications. While preparing for an event notification, the routine determined that the event is invalid.

scs - invalid connection state

Files	`/sys/io/scs/scs_conn.c` `/sys/io/scs/scs_event.c`
Routines	`scs_disconnect` `scs_path_crash`
Problem	The System Communication Subsystem (SCS) connection is illegal.

Two routines can issue this panic. The `scs_disconnect` routine terminates SCS connections and the `scs_path_crash` routine processes path failure notifications.

While performing its tasks, one of these routines determined that the SCS connection is illegal.

scsi zero uentry

File	`/sys/io/scsi/mips/scsi.c`
Routine	`sz_start`
Problem	While mapping the user's page tables to copy data from the device controller data buffer, the `sz_start` routine detected a zero page table entry (PTE) before the expected end of the page table.

scsnet - ACCEPT Failed

File	`/usr/src/sys/if_scs.c`
Routine	`scsnet_control`
Problem	The SCS network driver return status failed. The SCS network driver attempted to accept a connection request from a remote system, but the return status was a failure. It is likely the connection was in an invalid state.

scsnet: block transfer dup

File	`/usr/src/sys/if_scs.c`
Routine	`scsnet_msgevent`
Problem	The local scsnet driver was notified for the second time by the remote system that a block transfer has completed.

scs_net - conn recv, too many systems

File	`/usr/src/sys/if_scs.c`
Routine	`scsnet_control`
Problem	Unable to allocate resources for the connection. A connect attempt from a remote system was accepted, but the driver was unable to allocate local resources for the connection. There should be enough available resources for the number of nodes specified by the parameter SCSNET_MAXHOSTS.

scsnet - control

File	`/usr/src/sys/if_scs.c`
Routine	`scsnet_control`
Problem	The SCS network driver attempted to accept a connection request from a remote system. Before it could do so, the driver tried to obtain information about the remote system from the local SCS database. There was no information in the local database, which implies that the local system has not heard from the remote system at all.

scsnet_event - unknown proto

File	`/usr/src/sys/if_scs.c`
Routine	`scsnet_control`, scsnet_dgevent
Problem	The local driver received a block or datagram from the remote system. The protocol type field of transfer contained an invalid protocol type. Only Internet protocols are supported.

scsnet: NO ROOM for tail mbuf

File	`/sys/io/sysap/if_scs.c`
Routine	`scsnet_output`
Problem	The `scsnet_output` routine, which assembles message buffers for block transfers, first builds the header and then begins adding data. As the data is being moved to the message buffer by remapping pages, the last bit of data that cannot be remapped must be copied. In this instance, the routine detected that the size of the data to be copied was greater than the space allocated for it.

scsnet: NO ROOM in tail mbuf

File	`/usr/src/sys/if_scs.c`
Routine	`scsnet_output`
Problem	Overflowed the local driver buffer. This panic occurred while copying an output packet to a local driver buffer that was not large enough for the packet.

scs_net: - no space for new system

File	`/usr/src/sys/if_scs.c`
Routine	`scsnet_control`
Problem	Unable to allocate resources for the new connection. The SCS network driver was notified of a new path to a remote system but was unable to allocate resources for the new connection. There should be enough resources for all possible connections through a star coupler.

SCSNET: proto header to long

File `/sys/io/sysap/if_scs.c`

Routine `scsnet_output`

Problem The system was assembling a message buffer for a block transfer. After the protocol header was copied into the buffer, the `scsnet_output` routine detected that the size of the buffer was greater than the maximum size allowed for an application sequenced message.

scsnet - reject

File `/usr/src/sys/if_scs.c`

Routine `scsnet_control`

Problem The SCS network driver attempted to reject a connection request from a remote system.

The reject was issued to the SCS subsystem, but the return status was failure.

scsnet - REJECT Failed

File `/usr/src/sys/if_scs.c`

Routine `scsnet_control`

Problem The SCS network driver attempted to reject a connection request from a remote system.

The reject was issued to the SCS subsystem, but the return status was failure. This failure typically indicates that the connection was in an invalid state for the reject to succeed.

scs_net - SCS Disconnect Failed

File `/usr/src/sys/if_scs.c`

Routine `scsnet_control`

Problem Path to the remote system failed.

The connection to the remote system was terminated for one of the following reasons: the remote system requested that the connection be terminated; a connection was previously established to the remote system; local memory resources were not available to establish a connection.

scsnet: too many systems

File `/sys/io/sysap/if_scs.c`

Routine `scsnet_init`

Problem The `scsnet_init` routine was attempting to connect to more than the allowed number of hosts on the CI (the CI supports a maximum of 32 hosts).

scs - unexpected connection abortion occurred

File `/sys/io/scs/scs_protocol.c`

Routine `scs_abort_conn`

Problem The Systems Communication Subsystem (SCS) connection state is invalid.

This routine completes SCS connection establishment abortions. While completing the termination of a connection, the routine determined the following:

- The connection state is inappropriate.
- The connection should not be aborted at this time.

scs - unknown console logging formatting code

File `/sys/io/scs/scs_error.c`

Routine `scs_console_log`

Problem This routine optionally logs SCS events to the console terminal. While logging an event, the routine determined that the class of variable information to be logged is unknown.

scs - unknown/invalid event code

File `/sys/io/scs/scs_error.c`

Routine `scs_console_log`

Problem This routine optionally logs SCS events to the console terminal. While logging an event, the routine determined one of the following:

- The event type is unknown.
- The event is not an SCS-specific event.
- The event severity level is invalid.
- The event is unknown to SCS.
- The event is not supposed to be logged by SCS.

scs - unknown scs message type requested

File	`/sys/io/scs/scs_protocol.c`
Routines	`scs_request` `scs_response`
Problem	The System Communications Subsystem (SCS) response type is unknown. Two routines can issue this panic. The `scs_request` routine transmits SCS requests and the `scs_response` routine transmits SCS responses. While performing its function, one of these routines determined that the response type is unknown.

sdc: zero pfn in pte

File	`/sys/io/uba/sdc.c`
Routine	`sdustart`
Problem	A page table contains invalid entries. The routine maps memory from page table entries. The delimiter for the page table is a page table entry containing zero in its page frame bits. While searching the page table, the routine detected a page table entry containing zero in its page frame bits before the delimiter for the page table.

sdsize: invalid partition table

File	`/sys/io/uba/sdc.c`
Routine	`sdsize`
Problem	The partition table of the disk is invalid. Before determining the size (in blocks) of a partition, the routine checks the partition table. While checking the partition table, the routine detected it was invalid.

sdstrategy: invalid partition table

File	`/usr/sys/io/uba/sdc.c`
Routine	`sdstrategy`
Problem	The disk partition table of the accessed disk is corrupt.
Action	Use the `chpt`(8) command with the `-d` option to set the partition table to the default. Note that all file systems on the disk may have to be rebuilt if the previous partition table had a nonstandard layout.

secondary cpu requested

File	`/sys/sys/kern_cpu.c`
Routine	`start_one_cpu`
Problem	A non-boot processor requested the boot processor to panic the system.

secondary halted

File	`/sys/machine/vax/cvax.c`
Routine	`cca_decode_message`
Problem	An unexpected `cca error` halt message was received by the boot processor from a secondary CPU in an SMP machine.

setblock

File	`/sys/fs/ufs/ufs_subr.c`
Routine	`setblock`
Problem	A free block has an invalid number of fragments.

This routine adds a fragment to the free block map for a cylinder. When it finds a free block, the routine checks the block for the number of fragments it contains. Then, the routine compares that number to the number of fragments allowed by the file system. In this case, the routine detected the free block had an invalid number of fragments. The number of fragments per block can be only 8, 4, 2, or 1.

setdlim

File	`/sys/fs/gfs/gfs_sysquota.c`
Routine	`setdlim`
Problem	The uid values in a disk quota and its disk quota structure do not match.

When a disk quota is allocated and linked to its disk quota structure, the uid values in both structures are set to the same value to show they have the same owner. While setting disk quota limits, the routine detected these uid values did not match.

setduse

File	`/sys/fs/gfs/gfs_sysquota.c`
Routine	`setduse`
Problem	The uid values in a disk quota and its disk quota structure do not match.

When a disk quota is allocated and linked to its disk quota structure, the uid values in both structures are set to the same value to show they have the same owner. While setting disk usage limits, the routine detected these uid values did not match.

setrq

File	`/sys/machine/vax/locore.s`
Routine	`_Setrq`
Problem	A process on the run queue is not in the run state.

This routine puts processes on the run queue. While doing so, the routine checks the state of the processes. In this case, the routine detected the process it was putting on the run queue was not in the run state.

setrq p_rlink

File	`/sys/machine/mips/swtch.c`
Routine	`setrq`
Problem	A process is already linked to run the queue.

The system attempted to place on the run queue a process that was already linked to the run queue.

setrun

File	`/sys/sys/kern_synch.c`
Routine	`setrun`
Problem	The system tried to set the state of a process to running when the prior state of the process was wait, run, or zombie.

setwarn

File	`/sys/fs/gfs/gfs_sysquota.c`
Routine	`setwarn`
Problem	The uid values in a disk quota and its disk quota structure do not match. When a disk quota is allocated and linked to its disk quota structure, the uid values of both structures are set to the same value to show they have the same owner. While setting disk quota warning levels, the routine detected these uid values did not match.

sg: zero pfn in pte

File	`/usr/sys/io/uba/sg.c`
Routine	`sg_strategy`
Problem	The page table entry of the buffer passed to the `sgstrategy` routine was invalid.

sleep

File	`/sys/sys/kern_synch.c`
Routine	`sleep`
Problem	A user process cannot be put to sleep. This routine puts user processes to sleep. In this case, the routine was called to put a process to sleep, but could not do so.

smat: alloc p_sm

File	`/sys/sys/uipc_smem.c`
Routine	`smat`
Problem	The kernel memory allocator (`km_alloc`) failed to allocate memory for the shared memory information of the process (a `km_alloc` problem).

smat: smbeg

File	`/sys/sys/uipc_smem.c`
Routine	`smat`
Problem	NULL pointer to shared memory information. The routine detected a process that indicated it had attached shared memory, but the process has a NULL pointer to shared memory information in the process (proc) structure.

sm_attach: out of segments 2

File	`/sys/vm/mips/sm_machdep.c`
Routine	`sm_attach`
Problem	No per-process shared memory data structures were found for the segment. While attempting to attach a shared memory segment to the process, the routine did not find any per-process shared memory data structures for segment use. This occurs when the user does not specify an attach address.

sm_attach: out of segments

File	`/sys/vm/mips/pt_machdep.c`
Routine	`sm_attach`
Problem	No per-process shared memory data structures were found for the segment. While attempting to attach a shared memory segment to the process, the routine did not find any per-process shared memory data structures for segment use. This occurs when the user does not specify an attach address.

smccdec: rssize

File	`/sys/vm/vm_smem.c`
Routine	`smccdec`
Problem	The physical memory of a shared memory segment has been released but its resident set size is not zero. This routine decrements the usage count for memory-resident shared memory segments. When the count reaches zero, the associated shared memory is released. In this case, the routine released the shared memory segment but detected the resource set size for the segment was not zero.

smccdec: smseg

File	`/sys/vm/vm_smem.c`
Routine	`smccdec`
Problem	A shared memory segment is not found in the process structures linked to it. This routine decrements the usage count for memory-resident shared data segments. When it receives a specific shared memory segment, the routine checks that the segment has a process linked to it. In this case, the routine did not find the segment in any process structures linked to it.

smclean: p_sm

File	`/sys/vm/vm_smem.c`
Routine	`smclean`
Problem	NULL pointer to shared memory information.

The routine detected a process that indicated it had attached shared memory, but the process has a NULL pointer to shared memory information in the process (proc) structure.

sm_clear_dev_tlbs: missing proc-to-shm pointer

File	`/sys/vm/mips/sm_machdep.c`
Routine	`sm_clear_dev_tlbs`
Problem	The valid bit of a shared memory page table entry (PTE) was being cleared while the processes's pointer to the shared memory elements linked list (`sm_p`) was NULL.

sm_del_psm: smcount

File	`/sys/vm/vm_smem.c`
Routine	`sm_del_psm`
Problem	Negative shared segment count for the attached process.

While detaching a shared memory segment from the virtual address space of a process, the routine detected a negative shared segment count for the attached process.

smdt: p_sm

File	`/sys/sys/uipc_smem.c`
Routine	`smdt`
Problem	NULL pointer to shared memory information.

The routine detected a process that indicated it had attached shared memory, but the process has a NULL pointer to shared memory information in the process (proc) structure.

smfork: cpsmp

File	`/sys/vm/vm_smem.c`
Routine	`smfork`
Problem	NULL pointer to shared memory information.

A child process, while attempting to copy shared memory information from its parent, has a NULL pointer to shared memory information in the process structure.

smfork: ppsmp

File	`/sys/vm/vm_smem.c`
Routine	`smfork`
Problem	NULL pointer to shared memory information. A child process, while attempting to copy shared memory information from its parent, has a NULL pointer to shared memory information in the process structure.

smfree: rssize

File	`/sys/vm/vm_smem.c`
Routine	`smfree`
Problem	The `smfree` routine released the physical memory associated with a shared memory segment, but the resident set size of the shared memory segment was not zero.

sm_ins_psm

File	`/sys/vm/vm_smem.c`
Routine	`sm_ins_psm`
Problem	Shared segment count has exceeded the system limit. While attaching a shared memory segment to the virtual address space of a process, the routine detected that the count of shared segments to which the process is currently attached has exceeded the system-imposed limit.

sm_ins_psm: p_smcount >= sminfo.smseg

File	`/sys/vm/vm_smem.c`
Routine	`sm_ins_psm`
Problem	The shared segment count exceeded the system limit. While attaching a shared memory segment to the virtual address space of a process, the `sm_ins_psm` routine detected that the count of shared segments that the process was attached to exceeded the system limit.

sm_ins_psm: too many segments per process

File	`/sys/vm/vm_smem.c`
Routine	`sm_ins_psm`
Problem	Array overflow in the per-process shared memory data structure.

While attaching a shared memory segment to the virtual address space of a process, the routine detected that an array overflow occurred in the shared memory data structure of the process.

smlink

File	`/sys/vm/vm_smem.c`
Routine	`smlink`
Problem	A shared memory segment is not found in the process structures linked to it.

This routine adds a process to the list of processes already sharing a memory segment. In this case, the routine did not find the segment in the process structure.

smlink: p->p_sm

File	`/sys/vm/vm_smem.c`
Routine	`smunlink`
Problem	NULL pointer to shared memory information.

While attempting to link a process to a shared memory segment, the routine detects that the process has a NULL pointer to shared memory information in the process structure.

smlink: p_sm

File	`/sys/vm/vm_smem.c`
Routine	`smlink`
Problem	NULL pointer to shared memory information.

While attempting to link a process to a shared memory segment, the routine detects that the process has a NULL pointer to shared memory information in the process structure.

smlink: q->p_sm

File	`/sys/vm/vm_smem.c`
Routine	`smunlink`
Problem	NULL pointer to shared memory information. While attempting to unlink a process from a shared memory segment, the routine detected a process that has a NULL pointer to shared memory information.

smp_lock_long: beyond max wait count

File	`/sys/sys/kern_lock.c`
Routine	`smp_lock_long`
Problem	A processor has timed out waiting to assert a lock. This is usually an indication that another processor has hung holding an SMP lock.

smp_lock_long: beyond sleep count

File	`/sys/sys/kern_lock.c`
Routine	`smp_lock_long`
Problem	The `smp_lock_long` routine determined that the sleep/wakeup limit on a lock had been exceeded.

smp_lock_long: beyond spin count

File	`/sys/sys/kern_lock.c`
Routine	`smp_lock_long`
Problem	The SMP lock spin count limit was exceeded. The `smp_lock_long` routine detected that a process had requested a spin lock, but the lock was not granted within a predetermined number of spins.

smp_lock_long: beyond time wait

File	`/sys/sys/kern_lock.c`
Routine	`smp_lock_long`
Problem	The SMP lock was not granted before the lock timeout expired. The `smp_lock_long` routine detected that a process had requested a lock, but did not receive it within the timeout period.

smp_lock_long: invalid lock type

File	`/sys/sys/kern_lock.c`
Routine	`check_lock`
Problem	The lock structure contains an undefined lock type. This can be caused by an uninitialized lock or one that has been written over.

smp_lock_long: lock owner

File	`/sys/sys/kern_lock.c`
Routine	`smp_lock_long`
Problem	A processor already owns the lock it is trying to acquire.

smp_lock_long: lock position messup

File	`/sys/sys/kern_lock.c`
Routine	`check_lock`
Problem	A processor is attempting to acquire a lock in an incorrect order. Locks must be asserted in decreasing position number.

smp_lock_long: non-smp spin on spinlock

File	`/sys/sys/kern_lock.c`
Routine	`smp_lock_long`
Problem	The `smp_lock_long` routine detected that a machine that is not an SMP machine attempted to take out a spin lock.

smp_lock_long: wrong ipl

File	`/sys/sys/kern_lock.c`
Routine	`check_lock`
Problem	A processor is attempting to acquire an SMP lock at a system priority level that is below the minimum level.

smp_lock_long: wrong spl

File	`/sys/sys/kern_lock.c`
Routine	`smp_lock_long`
Problem	During lock checking, the `smp_lock_long` routine detected that a lock was granted at the wrong software priority level (spl).

smp_unlock: lock not held

File	`/sys/machine/vax/lock.s`
Routine	`Smp_unlock`
Problem	A processor tried to unlock an SMP lock that it did not have locked. This indicates a locking problem in the kernel.

smp_unlock_long: invalid lock address

File	`/sys/sys/kern_lock.c`
Routine	`smp_unlock_long`
Problem	The lock structure contains an undefined lock type. This can be caused by an uninitialized lock or one that has been written over.

smp_unlock_long: no process woken

File	`/sys/sys/kern_lock.c`
Routine	`smp_unlock_long`
Problem	An SMP sleep lock had a non-zero wanted field, but no process was waiting for the lock.

smp_unlock_long: not lock owner

File	`/sys/sys/kern_lock.c`
Routine	`smp_unlock_long`
Problem	A processor tried to unlock an SMP lock that it did not have locked. This indicates a locking problem in the kernel.

smp_unlock: no process woken

File	`/sys/machine/vax/lock.s`
Routine	`Smp_unlock`
Problem	An SMP sleep lock had a non-zero wanted field, but no process was waiting for the lock.

sm_retrieve_sa: Could not find SMS in proc

File	`sys/vm/vm_smem.c`
Routine	`sm_retrieve_sa`
Problem	A shared memory segment is not found in the process structures linked to it.

sm_retrieve_sa: p_sm == (struct p_sm *) NULL

File `sys/vm/vm_smem.c`

Routine `sm_retrieve_sa`

Problem Attempting to retrieve the starting address of a shared memory segment, the routine detects that the process has a NULL pointer to the shared memory segment.

smunlink #1

File `/sys/vm/vm_smem.c`

Routine `smunlink`

Problem A shared memory segment is not found in the process structure linked to it.

This routine removes a process from the list of processes sharing a memory segment. In this case, the routine did not find the segment in the process structure.

smunlink #2

File `/sys/vm/vm_smem.c`

Routine `smunlink`

Problem A shared memory segment is not found in the process structure linked to it.

This routine removes a process from the list of processes sharing a memory segment. In this case, the routine could not find the segment in the process structure linked to it.

smunlink: lost shared memory

File `/sys/vm/vm_smem.c`

Routine `smunlink`

Problem While unlinking a process from the linked list of processes sharing a shared memory segment, the `smunlink` routine detected that the process was not know to another process sharing the same segment.

Note that this panic may also indicate that the process being unlinked had more shared memory segments than allowed by the system.

smunlink: p->p_sm

File `/sys/vm/vm_smem.c`

Routine `swapin`

Problem While unlinking a process from shared memory, the `swapin` routine detected a NULL pointer to a shared memory segment.

smunlink: q->p_sm

File	`/sys/vm/vm_smem.c`
Routine	`swapin`
Problem	While unlinking a process from shared memory, the `swapin` routine detected a NULL pointer to a shared memory segment.

SM_UNLOCK: shared memory not locked

File	`sys/h/vmmac.h`
Routine	`SM_UNLOCK` (macro)
Problem	The system has detected that a shared memory segment that it is unlocking is not locked. This violates the locking conventions for shared memory segments.

soaccept: !NOFDREF

File	`/sys/sys/uipc_socket.c`
Routine	`soaccept`
Problem	A socket being accepted is already open. While accepting a socket, the routine checks and then clears the `NOFDREF` socket state bit to ensure there is a file table reference to the open socket. However, when checking the socket state bit, the routine detected it was already clear.

soaccept not lock owner

File	`/sys/sys/uipc_socket.c`
Routine	`soaccept`
Problem	The `soaccept` routine, which processes socket `accept` calls, detected that a required SMP lock was not held.

soclose 1 not lock owner

File	`/sys/sys/uipc_socket.c`
Routine	`soclose`
Problem	The `soclose` routine, which closes a socket, detected that a required SMP lock was not held.

soclose 2 not lock owner

File	`/sys/sys/uipc_socket.c`
Routine	`soclose`
Problem	The `soclose` routine, which closes a socket, detected that a required SMP lock was not held.

soclose 3 not lock owner

File	`/sys/sys/uipc_socket.c`
Routine	`soclose`
Problem	The `soclose` routine, which closes a socket, detected that a required SMP lock was not held.

soclose: NOFDREF

File	`/sys/sys/uipc_socket.c`
Routine	`soclose`
Problem	A socket being closed is already closed. While closing a socket, the routine checks and then sets the `NOFDREF` socket state bit to ensure there is no longer a file table reference to the closed socket. However, when checking the socket state bit, the routine detected it was already set.

soclose should not lock

File	`/sys/sys/uipc_socket.c`
Routine	`soclose`
Problem	The `soclose` routine, which closes a socket, detected that a socket was still the owner of an SMP socket lock, even though the lock was freed.

soconnect not lock owner

File	`/sys/sys/uipc_socket.c`
Routine	`soconnect`
Problem	The `soconnect` routine, which processes connects to a socket, detected that a required SMP lock was not held.

sodisconnect not lock owner

File	`/sys/sys/uipc_socket.c`
Routine	`sodisconnect`
Problem	The `sodisconnect` routine, which processes disconnects from a socket, detected that a required SMP lock was not held.

sofree dq

File	`/sys/sys/uipc_socket.c`
Routine	`sofree`
Problem	There is a pointer to a socket entry, but there are no entries in the socket accept queues.

Before freeing a socket, the routine discovers the `so_head` pointer was pointing to an accept socket entry. However, the routine then checked the two socket accept queues for an accept_socket entry and found none.

sofree not lock owner

File	`/sys/sys/uipc_socket.c`
Routine	`sofree`
Problem	The `sofree` routine, which frees a socket, detected that a required SMP lock was not held.

softclock: invalid affinity

File	`/sys/sys/kern_clock.c`
Routine	`softclock`
Problem	A processor had a timeout on its queue that did not belong to it.

soisconnected

File	`/sys/sys/uipc_socket2.c`
Routine	`soisconnected`
Problem	A socket being connected is not in the partial connect queue.

This routine moves sockets from the partial connect queue to the connect queue. The routine determines a socket is connected and has a `so_head` pointer to an accept socket entry. While moving the socket to the connect queue, the routine could not find the socket in the partial connect queue.

sorecv not lock owner

File	`/sys/sys/uipc_socket.c`
Routine	`sorecv`
Problem	The `sorecv` routine, which receives data on a socket, detected that a required SMP lock was not held.

sorflush not lock owner

File	`/sys/sys/uipc_socket.c`
Routine	`sorflush`
Problem	The `sorflush` routine, which flushes a socket, detected that a required SMP lock was not held.

sosend not lock owner

File	`/sys/sys/uipc_socket.c`
Routine	`sosend`
Problem	The `sosend` routine, which sends data on a socket, detected that a required SMP lock was not held.

spec_badops

File	`/sys/fs/specfs/spec_vnodeops.c`
Routine	`spec_badop`
Problem	The system detected an erroneous file system call.

spec_select

File	`/sys/fs/specfs/spec_vnodeops.c`
Routine	`spec_select`
Problem	The generic node (gnode) type was not equal to a character device. This routine is called by the select system call for all character special devices. However, the routine detected a block device that should have been processed at a higher level.

st0: zero pfn in pte

File	`/sys/io/uba/stc.c`
Routine	`st_start`
Problem	A page table contains invalid entries. The routine maps memory from page table entries. The delimiter for the page table is a page table entry that contains zero in its page frame bits. While searching the page table, the routine detected an entry with zero in its page frame bits before the delimiter for valid page table entries.

start_proc

File	`/sys/machine/mips/swtch.c`
Routine	`start_proc`
Problem	The `start_proc` routine tried to start a process that was not in a runable state.

swalloc_vtod: Can not classify page

File	`vm/vm_drum.c`
Routine	`swalloc_vtod`
Problem	The user virtual page cannot be classified as text, data, stack, or shared memory. While attempting to convert a virtual page number to disk block number, the routine could not classify the page as text, data, stack, or shared memory

swalloc_vtod: SMEM

File	`/sys/vm/vm_drum.c`
Routine	`swalloc_vtod`
Problem	While trying to allocate swap space, the `swalloc_vtod` routine could not find a shared memory table entry for the given virtual address.

swap bad pte

File	`/sys/vm/vm_swp.c`
Routine	`swap`
Problem	Modified (dirty) pages cannot be written because a page table entry is invalid. This routine determines there are modified (dirty) pages that must be written to disk (paged out). After doing so, the routine detected the page table entry contained invalid data, preventing the modified pages from being swapped.

swapconf: Cannot open swap device

File	`/sys/machine/mips/swtch.c`
Routine	`swapconf`
Problem	While configuring the swap devices, the kernel could not access a swap device.

swapconf: km_alloc swapmap

File	`/sys/sys/init_main.c`
Routine	`swapconf`
Problem	The kernel memory allocator failed to allocate memory for the swapmap (a km_alloc problem).

swapconf: SWAP DEVICE NOT CONFIGURED

File `/sys/sys/init_main.c`

Routine `swapconf`

Problem At boot time, the `/sys/sys/init_main.c` routine counts swap devices and adjusts the total swap space that is configured for the operating system. If no swap devices are found, the system prints out a `swapconf: SWAP DEVICE NOT CONFIGURED` error message and crashes. When the `/sys/sys/init_main.c` routine finds that no swap device is configured, either there is a bad entry in the system configuration file or the swap device will not come online. In most cases, the cause for this problem is as follows:

- The system configuration file has just been edited and the entry for the swap device has been inadvertently changed.
- You are attempting to boot an alternate kernel that was built with `root` and primary swap configured for a drive that is not online.

Action Boot a backup kernel or `genvmunix`. When the system comes up, check the system configuration file to make sure that a swap device is configured correctly. Then rebuild your kernel by following the directions in Chapter 2 of the *Guide to Configuration File Maintenance.*

swapin

File `/sys/vm/vm_swap.c`

Routine `swapin`

Problem The user area (uarea) page table entries (PTE) are corrupted.

This routine swaps a process into main memory. After swapping the pte supporting the user area, the routine has detected that the uarea page table entries have been corrupted.

swapin: p_sm2

File	`/sys/vm/vm_swap.c`
Routine	`swapin`
Problem	The `swapin` routine detected a process that indicated it had shared memory, but the pointer to the shared memory segment was NULL.

swapin: p_sm3

File	`/sys/vm/vm_swap.c`
Routine	`swapin`
Problem	The `swapin` routine detected a process that indicated it had shared memory, but the pointer to the shared memory segment was NULL.

swapin: p_sm#

File	`/sys/vm/vm_swap.c`
Routine	`swapin`
Problem	The `swapin` routine detected a process that indicated it had shared memory, but the pointer to the shared memory segment was NULL.

swapout

File	`/sys/vm/vm_swap.c`
Routine	`swapout`
Problem	A process being swapped out is not marked as swapped out and is either not runable or not currently running. This routine swaps out a process from main memory to disk. After swapping out the process, the routine checks the process state. During this check, the routine found the state inconsistent.

swapout: attempt to swap self

File	`/sys/vm/vm_swap.c`
Routine	`swapout`
Problem	The `swapout` routine, which swaps processes out to disk, detected that it was attempting to swap itself out to disk.

swapout: p_sm

File	`/sys/vm/vm_swap.c`
Routine	`swapout`
Problem	NULL pointer to shared memory information. The routine detected a process that indicated it had attached shared memory, but the process has a NULL pointer to shared memory information in the process (proc) structure.

swapout rssize

File	`/sys/vm/vm_swap.c`
Routine	`swapout`
Problem	A process is swapped out, but its resident set size is not equal to zero.

This routine swaps out a process from main memory to disk. After doing so, the routine checks the resident set size for the process. In this case, the routine detected the resident set size for the process was not equal to zero.

swdspt: data

File	`/sys/vm/vm_swap.c`
Routine	`swdspt`
Problem	The page table entries are not clear.

This routine swaps out data and stack page tables from main memory to disk and clears the page table entries that map those page tables. During this function, the routine detected that the page table entries are not clear for the data.

swdspt

File	`/sys/vm/vm_swap.c`
Routine	`swdspt`
Problem	A page table entry (PTE) is corrupted.

While swapping the user page tables, the routine detected that a pte was corrupted.

swdspt: stack

File	`/sys/vm/vm_swap.c`
Routine	`swdspt`
Problem	The page table entries are not clear.

This routine swaps out data and stack page tables from main memory to disk and clears the page table entries that map those page tables. During this function, the routine detected that the page table entries are not clear for the stack.

swfree

File	`/sys/vm/vm_sw.c`
Routine	`swfree`
Problem	The number of blocks being freed is greater than the number of swap blocks.

This routine frees blocks from the swap map. While doing so, the routine detected that the number of blocks to be freed on the swap map was greater than the total number of swap blocks.

swfree: no swapmap

File	`/sys/vm/vm_sw.c`
Routine	`swfree`
Problem	No swapmap allocated.

When the routine attempts to initialize a swapmap, it detected that no swapmap was allocated

swstrategy

File	`/sys/vm/vm_sw.c`
Routine	`swstrategy`
Problem	A page kluster is being swapped out to an invalid device.

This routine locates the swap device strategy routine to use for swapping paging. The routine calculated the device number, but the result was zero. The device was invalid.

swtch

File	`/sys/machine/vax/locore.s`
Routine	`_Swtch`
Problem	A process run queue or process argument is invalid.

This routine saves context for processes as they are switched on and off the run queue. While switching a process, the routine detected an element of the run queue or a process argument was invalid.

swtch holds not just rq

File	`/sys/sys/kern_lock.c`
Routine	`swtch_check`
Problem	When a processor enters the switch code, it should not be holding any locks except for the run queue lock. If the processor is holding a lock other than the run queue lock, the system prints out a `swtch holds not just rq` error message and crashes.

swtch holds spin lock

File	`/sys/sys/kern_lock.c`
Routine	`swtch_check`
Problem	A processor attempted to reschedule holding a spin lock. This is not allowed because it could cause the system to deadlock.

syscall

File	`/sys/machine/vax/trap.c`
Routine	`syscall`
Problem	A system call is issued from kernel mode. This routine checks all system calls and detects whether they are issued from user mode or kernel mode. In this case, the routine detected the system call was made from kernel mode. System calls must be issued from user mode.

sys pt too small

File	`/sys/machine/vax/machdep.c`
Routine	`startup`
Problem	The system page table is too small for the configured physical memory. The routine detects the system page table is too small. Then, the routine reduces the size of physical memory to the minimum required for configuration. After memory has been reconfigured, the routine detected the system page table was still too small.
Output	Identifies the problem and shows the amount of physical memory now available. The format is:

```
System page table too small, reducing memory to <0> meg
```

System does not have a console configured

File	`/sys/machine/mips/cons_sw.c`
Routine	`cninit`
Problem	The MIPS console is configured so that the ULTRIX driver can be used instead of the MIPS firmware routines to print messages. The `cninit` routine, which searches the console switch table for the ID of the CPU, could not find an entry for the CPU in the console switch table.

szstart: v

File	`/sys/b.mips/mips/scsi.c`
Routine	`szstart`
Problem	Data transfer value is zero. When the routine checks the user area address for data input or output, the beginning transfer value is zero.

sz_start: zero pfn in pte

File	`/sys/io/scsi/scsi.c`
Routine	`sz_start`
Problem	An SCSI driver page table contains invalid entries. The routine maps memory from page table entries in order to copy data to or from the buffers of the users. The delimiter for the page table is a page table entry that contains zero in its page frame bits. While searching the page table, the routine detected an entry with zero in its page frame bits, before the delimiter for valid page table entries.

tcp_closekeepinp not lock owner

File	`tcp_subr.c`
Routine	`tcp_closekeepinp`
Problem	The socket referenced by a tcp control block is not locked.

tcp_close not lock owner

File	`/sys/net/netinet/tcp_subr.c`
Routine	`tcp_close`
Problem	The `tcp_close` routine, which closes a TCP connection, detected that a required SMP lock was not held.

tcp_drop not lock owner

File	`/sys/net/netinet/tcp_subr.c`
Routine	`tcp_drop`
Problem	The `tcp_drop` routine, which drops a TCP connection, detected that a required SMP lock was not held.

tcp_newtcpcb not lock owner

File	`/sys/net/netinet/tcp_subr.c`
Routine	`tcp_newtcpcb`
Problem	The `tcp_newtcpcb` routine, which creates a new TCP control block, detected that a required SMP lock was not held.

tcp_output

File	`/sys/net/netinet/tcp_output.c`
Routine	`tcp_output`
Problem	There is a NULL pointer to an output buffer containing data. This routine sends data packets. In this case, the routine had data to send, but detected a NULL pointer to the output buffer containing the data.

tcp_output REXMT

File	`/sys/net/netinet/tcp_output.c`
Routine	`tcp_setpersist`
Problem	A retransmit timer is set when it should be cleared. Before the routine is entered, the retransmit (REXMT) timer in the `tcp` control block structure is cleared. Then, the routine checks the REXMT timer before resetting it. In this case, the routine detected the REXMT timer was still set.

tcp_pulloobxti no m0

File	`tcp_input.c`
Routine	`tcp_pulloobxti`
Problem	The pointer to out-of-band data is NULL.

tcp_pulloobxti no m->m_next

File	`tcp_input.c`
Routine	`tcp_pulloobxti`
Problem	The pointer to out-of-band data is NULL.

tcp_pulloutofband

File	`/sys/net/netinet/tcp_input.c`
Routine	`tcp_pulloutofband`
Problem	There is a request to process urgent data but no urgent data is present.

This routine handles requests to process urgent data. The routine receives the request and checks the `urgent_count` variable in the `tcpiphdr` structure. In this case, the routine found no urgent data was present in the structure.

tcp_template not lock owner

File	`/sys/net/netinet/tcp_subr.c`
Routine	`tcp_template`
Problem	The `tcp_template` routine, which creates a template to be used to send tcp packets on a connection, detected that a required SMP lock was not held.

tcp_timers not lock owner

File	`/sys/net/netinet/tcp_timer.c`
Routine	`tcp_close`
Problem	The tcp_close routine, which does TCP timer processing, detected that a required SMP lock was not held.

Text Corruption gp != x_gptr

File	`/sys/vm/vm_text.c`
Routine	`xalloc`
Problem	A text pointer and its associated gnode pointer do not match the gnode pointer passed in.

This routine adds processes to a list of processes sharing a text segment. As it was adding a process to the list, the routine detected the text pointer and the associated gnode pointer did not match the gnode pointer that it was passed.

text rssize

File	`/sys/vm/vm_text.c`
Routine	`xccdec`
Problem	The physical memory of a shared text segment has been released, but its resident set size is not zero.

This routine decrements the usage count for memory-resident shared text segments. When the count reaches zero, the routine releases the physical memory of the associated shared text segment. In this case, the routine released the physical memory but detected the resident set size for the segment was not zero.

timeout table overflow

File	`/sys/sys/kern_clock.c`
Routine	`timout`
Problem	A timeout table overflow prevents a function from being rescheduled.

This routine schedules a function call at a specified time. While it was loading the timeout table, the routine detected the timeout table overflowed. The overflow prevented the function call from being rescheduled.

tlbmiss no tlbpid assigned

File	`/sys/machine/mips/trap.c`
Routine	`tlbmiss`
Problem	The translation lookaside buffer (tlb) identifier has not been assigned.

While servicing a virtual address in user space, the routine detected that a tlb identifier has not been assigned.

tlbmiss on invalid kernel page

File	`/sys/machine/mips/trap.c`
Routine	`tlbmiss`
Problem	While servicing a virtual address in KSEG2 space (mapped system address space), the routine detected that the associated page table entry was invalid.

tlbmiss page table not valid

File	`/sys/machine/mips/trap.c`
Routine	`tlbmiss`
Problem	Invalid page table entry (PTE). While servicing a virtual address in KPTESEG space, the routine detected that the associated pte was invalid.

tlbmod on invalid pte

File	`/sys/machine/mips/trap.c`
Routine	`tlbmod`
Problem	Invalid page table entry (PTE). While attempting to set the dirty flag in the pte, the routine detected that the associated pte was invalid.

Too many BI errors

File	`/sys/io/bi/biinit.c`
Routine	`bierrors`
Problem	The number of BI errors exceeds 65536. The routine checks the number of BI errors during the boot process. While checking the number of BI errors, the routine detected they number more than 65536. BI errors are not counted after the boot process is complete.

Too many EBOX errors to recover...

File	`/sys/machine/vax/ka8600.c`
Routine	`eboxserv`
Problem	The VAX 8600 issues three EBOX errors within 10 milliseconds. This routine counts the number and proximity of EBOX errors from the VAX 8600 processor. EBOX errors are recoverable unless three of them occur within 10 milliseconds. In this case, the routine detected three EBOX errors within 10 milliseconds.
Output	Identifies the machine check type code and other diagnostic information. See the *Guide to the Error Logger System* for more information.

Too many generic machine checks to recover

File	`/sys/machine/vax/ka8600.c`
Routine	`genericserv`
Problem	The VAX 8600 issues two MBOX 1D errors within 10 milliseconds.
	This routine counts the number and proximity of MBOX 1D errors issued by the VAX 8600 processor. MBOX 1D errors are recoverable unless two occur within 10 milliseconds. In this case, the routine detected two MBOX 1D errors within 10 milliseconds.
Output	Identifies the machine check type code and other diagnostic information. See the *Guide to the Error Logger System* for more information.

Too many IBOX errors to recover...

File	`/sys/machine/vax/ka8600.c`
Routine	`iboxserv`
Problem	The VAX 8600 issues three IBOX errors within 10 milliseconds.
	This routine counts the number and proximity of IBOX errors issued by the VAX 8600 processor. IBOX errors are recoverable unless three of them are issued within 10 milliseconds. In this case, the routine detected three IBOX errors within 10 milliseconds.
Output	Identifies the machine check type code and other diagnostic information. See the *Guide to the Error Logger System* for more information.

Too many machine check errors to recover...

File	`/sys/machine/vax/ka8600.c`
Routine	`ka8600machcheck`
Problem	More than two VAX 8600 machine checks.
	This routine counts machine checks issued by the VAX 8600 processor. The routine detected more than two machine checks had been issued by the KA-8600 processor.
Output	Identifies the machine check type codes and other diagnostic information. See the *Guide to the Error Logger System* for more information.

Too many MBOX errors to recover...

File	`/sys/machine/vax/ka8600.c`
Routine	`mboxserv`
Problem	An MBOX error results in a fatal VAX 8600 machine check. This routine detects machine checks issued by the VAX 8600 processor. When the routine detects an MBOX error, no recovery is possible.
Output	Identifies the machine check type code and other diagnostic information. See the *Guide to the Error Logger System* for more information.

Too many VAXBI errors

File	`/sys/io/bi/biinit.c`
Routine	`vaxbierrors`
Problem	An excessive number of VAXBI hardware errors were reported.

trap

File `/sys/machine/vax/trap.c`

Routine `trap`

Problem A processor-detected trap is either not recoverable or an unknown type.

This routine handles processor-detected traps and determines whether they are recoverable. There are several trap types that are not recoverable. See Table 2-11 for a list of each trap type and the panic string printed when the routine handles these traps.

A type constant indicates the trap type detected by the processor. For arithmetic traps and compatibility mode faults (trap types 6 and 11, respectively), trap type codes are also significant.

The routine handles an unknown trap type code by calling `panic` and passing `trap` as the argument. All other traps that cause a call to panic include the panic string shown in Table 2-11. for the trap detected.

Output Identifies the trap type, the trap type code, and the program counter address. The format is:

```
trap type <d>, code = <0Xd>, pc = <0Xd>
```

Other output is generated through the error logging facility. For more information, see the *Guide to the Error Logger System*

Table 2-11: Trap Types and Panics

Type	Trap Panic String (and Type Code)
0	Reserved addressing mode
1	Privileged instruction
2	Reserved operand
3	Breakpoint
4	Xfc trap
5	Syscall trap
6	Arithmetic fault
	1 = integer overflow trap
	2 = integer divide-by-zero trap
	3 = floating point overflow trap
	4 = floating point/decimal divide by zero trap
	5 = floating point underflow trap
	6 = decimal overflow trap
	7 = subscript range trap
	8 = floating point overflow fault
	9 = floating point divide-by-zero fault
	A = floating point underflow fault
7	AST trap
8	Segmentation fault
9	Protection fault
10	Trace trap
11	Compatibility mode trap
	0 = reserved instruction
	1 = BPT instruction
	2 = IOT instruction
	3 = EMT instruction
	4 = TRAP instruction
	5 = invalid instruction
	6 = odd address abort
12	Page fault
13	Page table fault
14	Protection fault on read

trap_nofault

File	`/sys/machine/mips/trap.c`
Routine	`trap_nofault`
Problem	During system initialization, an exception occurred that the `trap_nofault` routine could not handle. Essentially, the exception code passed to the `trap_nofault` routine was other than Data Bus Error (DBE) for a data load or store. The `trap_nofault` routine handles exceptions early on in system initialization before `trap` is available for use.
Action	Reboot the system. If the error message persists, there is a hardware problem.

tsintr

File	`/sys/io/uba/ts.c`
Routine	`tsintr`
Problem	An interrupt operation is invalid. After completing an interrupt operation, the routine first checks the type of interrupt operation and then updates the block number to show what operation caused the interrupt. While checking the type of interrupt operation, the routine detected it was unknown.

ttrstrt

File	`/sys/sys/tty.c`
Routine	`ttrstrt`
Problem	A tty structure is needed, but cannot be found. The routine receives a pointer to a tty structure from the `timeout` routine. The routine detected the pointer was zero, indicating there was no tty structure.

ttwrite

File	`/sys/sys/tty.c`
Routine	`ttwrite`
Problem	There is data to write to a terminal, but no I/O vectors contain data. The I/O count in the I/O structure indicated there were no vectors holding data, but the I/O structure of the user indicated there was more data to be written.

ttyrub

File	`/sys/sys/tty.c`
Routine	`ttyrub`
Problem	An input character being deleted cannot be deleted. This routine deletes (rubs out) input characters. To do so, the routine checks the `partab` data structure to determine the operation to be performed on the character. The routine detected the value of the character did not match one of the cases defined in the partab structure.

tty struct not locked

File	`/sys/h/tty.h`
Routine	`TTY_ASSERT` (macro)
Problem	The symmetric `tty` driver failed to lock the `tty` structure.

uba crazy

File	`/sys/io/uba/uba.c`
Routine	`ubaerror`
Problem	The UNIBUS adapter has been reset 500 times.
Output	The routine counts the number of times a UNIBUS adapter is reset since the system was rebooted. While checking the count, the routine detected it has reached 500. Reboot the system to reinitialize the counter.

uba zero uentry

File	`/sys/io/uba/uba.c`
Routine	`ubasetup`
Problem	A page table contains invalid entries.
	The routine sets up the UNIBUS adapter map registers from page table entries. The delimiter for the page table is a page table entry containing zero in its page frame bits. While searching the page table, the routine detected a page table entry containing zero in its page frame bits before the delimiter for valid page table entries.

ufs_galloc: dup alloc

File	`/sys/fs/ufs/ufs_alloc.c`
Routine	`ufs_galloc`
Problem	A gnode being allocated is not free.
	When a gnode is freed, its mode bits are cleared. While attempting to allocate a free gnode from one of the cylinder groups, the routine detected the gnode was not free because its mode bits were set.
Output	Identifies the gnode mode bits, the gnode number, and the file system. The format is:

```
mode = <0Xd> inum = <d> fs = <"string">
```

ufs_galloc: gget returned wrong fs type

File	`/sys/fs/ufs/ufs_alloc.c`
Routine	`ufs_galloc`
Problem	The file system type code for a gnode was invalid
	The `ufs_galloc` routine, which allocates ULTRIX File System (UFS) gnodes, detected a file system type other than UFS.

ufs_galloc: ufs_gget returned wrong fs type

File	`/sys/fs/ufs/ufs_alloc.c`
Routine	`ufs_galloc`
Problem	A gnode being allocated has the wrong file system type code.

Before this routine allocates a gnode for a file system, it checks the file system type code associated with the gnode. In this case, the routine received the type code and detected it was the wrong type for the gnode.

ufs_gfree

File	`/sys/fs/ufs/ufs_alloc.c`
Routine	`ufs_gfree`
Problem	The mode bits of a free gnode indicate the gnode is not free.

When a gnode is freed, its mode bits are cleared. This routine puts freed gnodes on the free list. Before doing so, the routine checks the gnode mode bits. In this case, the routine detected the gnode was not free because its mode bits were still set.

Output: Identifies the gnode address and the gnode mode bits. The format is:

```
ufs_gfree: gp <0Xd> mode <0d> should be 0
```

ufs_gfree: freeing free gnode

File	`/sys/fs/ufs/ufs_alloc.c`
Routine	`ufs_gfree`
Problem	A gnode being freed is already free.

Before freeing a gnode, the routine checks the used gnode map to determine whether it is free or used. The routine detected the gnode was already marked free.

Output: Identifies the device, the gnode number, the file system, and the block. The format is:

```
dev = <0Xd> gno = <d>  fs = <"string"> block <d>
```

ufs_gfree: range

File `/sys/fs/ufs/ufs_alloc.c`

Routine `ufs_gfree`

Problem A gnode being freed has an invalid gnode number.

Before freeing a gnode, the routine checks the value of the gnode number passed to it to determine whether the gnode number is valid.

In this case, the routine detected the gnode number was out of range. Its value was greater than or equal to the number of gnodes per cylinder multiplied by the number of cylinder groups.

Output Identifies the device, the gnode number, and the file system. The format is:

```
dev = <0Xd> gno = <d> fs = <"string">
```

ufs_glock: gp type not GT_ULTRIX

File `/sys/fs/ufs/ufs_gnode.c`

Routine `ufs_glock`

Problem The file system type code of a gnode is invalid.

Before it unlocks a gnode, this routine checks the file system type code of the specified gnode. In this case, the routine detected the file system type code of the specified gnode was invalid because it was not GT_ULTRIX.

Output Identifies the routine, the gnode address, and the file system type code. The format is:

```
ufs_glock: gp <0Xd> type <d>
```

ufs_grele: gp count bad

File `/sys/fs/ufs/ufs_gnode.c`

Routine `ufs_grele`

Problem A gnode being released is already released.

Before releasing a gnode, the routine checks and then clears the reference count of the gnode. While checking the reference count of the gnode, the routine detected it was less than 1. The gnode had already been released.

Output Identifies the routine name, the gnode address, and the gnode number. The format is:

```
ufs_grele: gp <0Xd> (<d>)
```

ufs_gtrunc1

File `/sys/fs/ufs/ufs_gnode.c`

Routine `ufs_gtrunc`

Problem The indirect block information in an inode does not match that for the gnode.

Before truncating a gnode, this routine matches the indirect block information in the on-disk inode with that in the gnode. The routine detected the indirect block information did not match.

ufs_gtrunc2

File `/sys/fs/ufs/ufs_gnode.c`

Routine `ufs_gtrunc`

Problem The direct block information in an inode does not match that for the gnode.

Before truncating a gnode, this routine matches the direct block information in the on-disk inode with that in the gnode. The routine detected the inode direct block information did not match.

ufs_gtrunc: newspace

File `/sys/fs/ufs/ufs_gnode.c`

Routine `ufs_gtrunc`

Problem No space is returned when a gnode is truncated.

This routine determines the size of the returned space when a gnode is truncated. While doing so, the routine detected that the size of the space returned was zero.

ufs_gulock: gp type not GT_ULTRIX

File `/sys/fs/ufs/ufs_gnode.c`

Routine `ufs_gunlock`

Problem The file system type code of a gnode was invalid.

The `ufs_gunlock` routine which, before it unlocks a gnode checks the file system type of the specified gnode, detected that the file system type was invalid.

ufs_gunlock

File	`/sys/fs/ufs/ufs_gnode.c`
Routine	`ufs_gunlock`
Problem	A gnode being unlocked is already unlocked. Before this routine unlocks a gnode, it checks whether the gnode is already unlocked. In this case, the routine detected the gnode was already unlocked.
Output	Identifies the routine, the gnode state, the gnode device, and the gnode number. The format is:

```
ufs_gunlock: gp unlocked, dev <0Xd> gno <d>
```

ufs_gunlock: gp type not GT_ULTRIX

File	`/sys/fs/ufs/ufs_gnode.c`
Routine	`ufs_gunlock`
Problem	The file system type code of a gnode is invalid. Before it unlocks a gnode, this routine checks the file system type code of the specified gnode. The routine detected the file system type code of the gnode was invalid because it was not GT_ULTRIX.
Output	Identifies the routine, the gnode address, and the file system type code. The format is:

```
ufs_gunlock: gp <0Xd> type <d>
```

ufs_mount: cannot find root inode

File	`/sys/fs/ufs/ufs_mount.c`
Routine	`ufs_mount`
Problem	A file system cannot be mounted because the root gnode cannot be found. This routine mounts a file system. The routine calls the `ufs_gget` routine to locate the root gnode for the file system. In this case, the routine detects the return from that call is NULL, indicating the `ufs_gget` routine could not locate the root gnode.

ufs_namei: duplicating cache

File	`/sys/fs/ufs/ufs_namei.c`
Routine	`ufs_namei`
Problem	A free slot in the namei cache is not free. While attempting to put a pathname into a namei cache slot, the routine detected the slot was already in use.

ufs_namei: null cache ino

File `/sys/fs/ufs/ufs_namei.c`

Routine `ufs_namei`

Problem An inode in the namei cache has a NULL pointer.

While searching the namei cache for a pathname, the routine detected an inode had a NULL pointer.

ufs_namei: Null root mp

File `/sys/fs/ufs/ufs_namei.c`

Routine `ufs_namei`

Problem While revalidating the gnode pointer, the `ufs_namei` routine, which performs name to inode conversion, detected that the number of links to the file was zero.

ufs_rwgp: illegal text reuse

File `/sys/fs/ufs/ufs_gnodeops.c`

Routine `ufs_rwgp`

Problem The reference count for a gnode text structure is invalid.

This routine reads and writes gnodes, while keeping track of the reference count for the text structure. The routine detected the reference count for the text structure was invalid because its value was greater than one.

Output Identifies the text address and the gnode address. The format is:

```
textp = <0Xd> gp = <0Xd>
```

ufs_rwgp: messed up gp, xp

File `/sys/fs/ufs/ufs_gnodeops.c`

Routine `ufs_rwgp`

Problem A text pointer and gnode pointer pair no longer point to each other.

This routine reads or writes gnodes, while keeping track of the text pointer (to the gnode) and the gnode pointer (to the text). At some point, the routine detected that the pointers no longer point to each other.

Output Identifies the routine, the problem, and the pointers to the gnode and text addresses. The format is:

```
ufs_rwgp: messed up gp, xp
gp <0Xd> xp <0Xd>
```

uipc 1

File	`/sys/sys/uipc_usrreq.c`
Routine	`uipc_usrreq`
Problem	The socket type of a user request for socket data is invalid.

The UNIX communications domain supports two types of sockets, stream and datagram. A user request for data received from a socket is supported only for stream sockets, although a user request for data to send to a socket is supported for both stream and datagram socket types. In this case, the routine detected the socket type of a user request for received data was datagram, not stream.

uipc 2

File	`/sys/sys/uipc_usrreq.c`
Routine	`uipc_usrreq`
Problem	The socket type of a user request for socket data is invalid.

The UNIX communications domain supports two types of sockets, stream and datagram. In this case, the routine detected that a user request for data received from a socket was invalid because it was neither the stream nor the datagram type.

uipc 3

File	`/sys/sys/uipc_usrreq.c`
Routine	`uipc_usrreq`
Problem	A stream socket is not connected to another socket or to a file.

A user request for data to send to a stream socket requires the socket to be connected to another socket or a file before the data can be sent. In this case, the routine checked the `unpcb` structure for the required connection, but discovered none.

uipc 4

File	`/sys/sys/uipc_usrreq.c`
Routine	`uipc_usrreq`
Problem	The socket type of a user request for socket data is invalid.

While processing a user request to send data to a stream or datagram socket, the routine detected the socket type was neither stream nor datagram.

uipc 5

File	`/sys/sys/uipc_usrreq.c`
Routine	`uipc_usrreq`
Problem	Out-of-band data cannot be sent to a stream socket, because the socket is not connected to a file or another socket. This routine handles user requests to send out-of-band data to a stream socket. Before the data can be sent, the socket must be connected to a file or to another socket. In this case, the routine detected the socket was not connected to a file or another socket.

unaligned access

File	`/sys/machine/mips/trap.c`
Routine	`trap`
Problem	While running in kernel mode, the system encountered a data access that was not properly aligned. This is a software problem.

unexpected exception

File	`/sys/machine/mips/locore.s`
Routine	`VEC_unexp`
Problem	Undefined exception. The routine received an exception that it does not know how to handle.

uninitialized gnode

File	`/sys/fs/gfs/gfs_gnode.c`
Routine	`gactive`
Problem	The gnode is initialized by a specific file system initialization routine. The gnode is then tested to ensure that it is active. If `g_init` is not marked as initialized (READY_GNODE) the system prints out a `uninitialized gnode` error message and crashes.

Unknown branch instruction

File	`/sys/machine/mips/trap.c`
Routine	`emulate_branch`
Problem	The system cannot emulate a branch instruction. The system called the routine with a nonbranch instruction or an instruction it does not know how to emulate.

Unknown bus timeout

File	`/sys/machine/mips/kn02.c`
Routine	`kn02trap_error`
Problem	The `kn02trap_error` routine is called in response to all trap errors and is used to log appropriate diagnostic information to the error logger. When an instruction bus error occurs, the error subcode is examined for error logging. If this error subcode is not among the list of expected values, the system prints out an `Unknown bus timeout` error message and crashes.

Unknown memory error interrupt

File	`machine/mips/kn02.c`
Routine	`kn02errintr`
Problem	The system detected a memory error which has no known cause. This problem should never occur. If it does occur, the system is in a very corrupt state.

Unknown memory management trap

File	`/sys/machine/vax/locore.s`
Routine	`Xprotflt`
Problem	In attempting to resolve a memory exception, the operating system detected that the memory management fault parameter had one or more of the DIGITAL reserved fields set.

unknown vba adapter type

File	`/usr/sys/io/vme/vba_errors.c`
Routine	`vbaerrors`
Problem	An attempt was made to log an error for an unsupported VME bus adapter.
Action	Verify that the VME bus adapter being used is supported by Digital.

unlocked gnode should be locked

File	`/sys/include/sys/gnode.h`
Routine	`gassert`
Problem	A gnode was marked as unlocked when it should have been locked. The `gassert` macro, which is called to check the lock status on a gnode, detected a gnode that should have been locked but was not.

unp_connect2

File	`/sys/sys/uipc_usrreq.c`
Routine	`unp_connect2`
Problem	A user request to connect a socket has an invalid socket type.

While attempting to connect a socket in the UNIX communications domain, the routine detected the socket type was neither stream nor datagram.

unp_disconnect

File	`/sys/sys/uipc_usrreq.c`
Routine	`unp_disconnect`
Problem	A socket being disconnected is not in the `unpcb` data structure.

Before disconnecting a datagram socket, the routine checks the `unpcb` structure for a pointer to this connected socket. In this case, the routine did not find a pointer to the socket in the `unpcb` structure.

unp_externalize

File	`/sys/sys/uipc_usrreq.c`
Routine	`unp_externalize`
Problem	There are no file descriptors available for a socket operation.

This routine obtains file descriptors for a datagram type socket with access rights data. While doing so, the routine detected there were no file descriptors available for the operation.

update: Read only file system

File	`/sys/fs/gfs/gfs_mount.c`
Routine	`update`
Problem	The file system being updated is a read-only file system.

While updating the mount tables for a file system, the routine detected the file system has been mounted as a read-only file system.

Output: Identifies the name of the file system. The format is:

```
fs= <"string"
```

uqdriver: Attempt to open path

File	`/sys/io/uba/uqserv.c`
Routine	`uq_open_path`
Problem	The UQ driver attempted to open a communications path.
	This error occurs if the UQ port driver receives a request to open a path. UQ ports do not support initiating connections.

uqdriver: Command ring in invalid state

File	`/sys/io/uba/uqserv.c`
Routine	`uq_ins_cring`
Problem	Command ring in invalid state.
	The UQ port driver attempted to place a command in the port command ring and detected that the current command ring entry is in an invalid state.

uqdriver: invoked with illegal path crash reason

File	`/sys/io/uba/uqserv.c`
Routine	`uq_crash_path`
Problem	The `uq_crash_path` routine, which terminates a port driver path, detected that the port failure reason code was out of bounds.

UQSSP controller failed to reinit

File	`/sys/io/uba/uda.c`
Routine	`ud_timer`
Problem	An MSCP disk controller is not reset during hardware initialization.
	During a successful hardware initialization sequence, MSCP disk controllers are reset. While checking the software timer for the controller (the UQSSP timer), the routine detected the initialization sequence was unsuccessful because the controller was not reset.

ureadc

File	`/sys/sys/kern_subr.c`
Routine	`ureadc`
Problem	There remains data to send, but the I/O count is zero.
	The I/O count in the `iovec` structure contains the number of buffers holding data to be sent to or received from a user. The I/O count cannot be zero when data remains to be sent or received. While sending a character to a user, the routine detected that the I/O count was zero.

uwritec

File `/sys/sys/kern_subr.c`

Routine `uwritec`

Problem The residual data count and the I/O vector count do not match.

The I/O count in the `iovec` structure contains the number of buffers holding data to be sent to or received from a user. The I/O count cannot be zero when there remains data to be sent or received. While receiving a character from a user, the routine detected that the I/O count was zero or the `uio_resid` value was zero.

VAXBI error

File `/sys/io/bi/biinit.c`

Routine `bierrors`

Problem Two VAXBI errors occurred within two seconds.

The routine checks the proximity of VAXBI errors while the system is running. While checking the proximity of VAXBI errors, the routine detected two errors within two seconds.

Output Identifies the name and number of the VAXBI, the node and the error bits for the BI, and the control and status register. The format is:

```
hard error
<"string"> at node <d> error <0Xd> cr <0Xd>
```

VAX state lost...not recoverable

File `/sys/machine/vax/ka8600.c`

Routine `ka8600machcheck`

Problem An instruction interrupted by a VAX 8600 machine check cannot be restarted.

After a machine check occurs and the hardware recovers from it, the routine checks the EBOX Control Store register to determine whether the hardware restarted or aborted the interrupted instruction. The routine detected the hardware did not restart the instruction, because the abort bits in the EBOX Control Store register were set. The processor state is lost.

Output Identifies the machine check type code and other related diagnostic information. See the *Guide to the Error Logger System* for more information.

vba: Invalid DMA map register

File	`/usr/sys/io/vme/vba.c`
Routine	`vbarelse`
Problem	An attempt was made to release a page map register that was not allocated. This is most likely caused by an incorrect address parameter passed to the `vbarelse` routine.
Action	If the device driver sources are available, verify the parameters in calls to `vbarelse`. If the device driver sources are not available, contact the device driver supplier.

vba: Invalid VME Address Space

File	`/usr/sys/io/vme/vba.c`
Routine	`vbasetup`
Problem	A device driver requested that a buffer be mapped to an invalid VME bus address space. The probable cause for this error is an incorrect flags parameter being passed to the `vbasetup` or `vballoc` call in the device driver.
Action	If the device driver sources are available, verify the flags parameter in calls to `vbasetup` or `vballoc`. If the device driver sources are not available, contact the device driver supplier.

vba: no adapter error vector

File	`/usr/sys/io/vme/vbainit.c`
Routine	`probevba`
Problem	There is no error handling routine for this VME bus adapter, a situation caused by the use of an unsupported VME bus adapter.
Action	Verify that the VME bus adapter being used is supported by Digital.

vba: no vba_hd

File	`/usr/sys/io/vme/vbainit.c`
Routine	`get_vba`
Problem	There is an inconsistency in the internal data structures of the VME bus support code.

vba: zero page frame number

File	`/usr/sys/io/vme/vba.c`
Routine	`vbasetup`
Problem	The page table or hard mapping of the buffer passed to the `vbasetup` or `vballoc` routine is invalid.

VBOX abort

File	`/sys/machine/vax/ka9000.c`
Routine	`ka9000machcheck`
Problem	A vector processor error was detected from which the SPU could not recover. The error is passed up to the operating system, which tries to recover by disabling the vector processor. If successful, any process running on the vector processor is killed. If unsuccessful, the system panics.

VBOX register parity error

File	`/sys/machine/vax/ka9000.c`
Routine	`ka9000machcheck`
Problem	A vector processor error was detected from which the SPU could not recover. The error is passed up to the operating system, which tries to recover by disabling the vector processor. If successful, any process running on the vector processor is killed. If unsuccessful, the system panics.

vcleanu

File	`/sys/vm/vm_mem.c`
Routine	`vcleanu`
Problem	There are no user-list core map (cmap) entries to put on the free list. This routine puts cmap entries from the user process list on the free list. When the routine is called, there must be cmap entries on the user list. The routine issues this panic when it is called and there are no cmap entries on the user list.

VDAC ID

See **gx_howManyPlanes(buf)**

vgetpt

File	`/sys/vm/vax/pt_machdep.c`
Routine	`vgetpt`
Problem	A page table for a process is invalid because its size is zero. This routine gets the page tables for a process. The routine detected the size of the page table was invalid because its size was zero.

vgetsmpt

File	`/sys/vm/vm_smem.c`
Routine	`vgetsmpt`
Problem	A shared memory segment is invalid because its size is zero.

This routine gets page tables a process needs for a shared memory segment. In this case, the routine detected the size of a shared memory segment was invalid because its size was zero.

vgetsw

File	`/sys/vm/vm_swalloc.c`
Routine	`vgetsw`
Problem	The `vgetsw` routine, which allocates swap space, attempted to allocate swap space already allocated to another process.

vgetswu: bad data pt

File	`/sys/vm/vm_swalloc.c`
Routine	`vgetswu`
Problem	The `vgetswu` routine, which allocates swap space for data, stack, and u areas, attempted to allocate data area swap space that was already allocated to another process.

vgetswu: bad stack pt

File	`/sys/vm/vm_swalloc.c`
Routine	`vgetswu`
Problem	The `vgetswu` routine, which allocates swap space for data, stack, and u areas, attempted to allocate stack area swap space that was already allocated to another process.

vgetu bad upage

File	`/sys/vm/mips/pt_machdep.c`
Routine	`vgetu`
Problem	A user area pointer does not belong to the process currently in context.

While forking a process, the kernel attempted to copy the user area from the parent to the child process. During this attempt, the routine detected that the passed-in-parent, user area pointer does not belong to the process currently in context.

vgetu

File	`/sys/vm/vax/pt_machdep.c`
Routine	`vgetu`
Problem	The data swapped into a user area is invalid. This routine swaps in data to a user area. The routine detected the data was invalid.

vinitpt: text pt swap addr 0

File	`vm/mips/pt_machdep.c`
Routine	`vinitpt`
Problem	While trying to load the text page table entries from swap disk, vinitpt found that the swap disk address of the page tables in text dmap structure was NULL.

vinitsmpt

File	`/sys/vm/vax/pt_machdep.c`
Routine	`vinitsmpt`
Problem	A shared memory structure is not found in the process structure linked to it. This routine initializes the shared memory portion of the page table of the process. The routine did not find the segment in the process structure linked to it.

vinitsmpt: p_sm

File	`/sys/vm/vax/pt_machdep.c`
Routine	`vinitsmpt`
Problem	NULL pointer to shared memory. The process argument to this routine has a NULL pointer to shared memory information. The routine initializes process page tables for shared memory using information pointed to by the process structure. However, this information does not exist.

vmdup: parent pte not found

File	`/sys/vm/vm_proc.c`
Routine	`vmdup`
Problem	When copying the memory of a parent process to a child process, the `vmdup` routine detected a NULL page table entry (PTE) for the parent process while there was still memory to copy. The `vmdup` routine duplicates the address space of a parent process for a child process.

VME bus adapter error

File	`/usr/sys/io/vme/vba_errors.c`
Routine	`vbaerrors`
Problem	The system encountered a fatal VME bus error.
Action	Using the `uerf`(8) command with the `-R` option, examine the error log file to determine which VME bus adapter error caused the system to panic.

vmemall size

File	`/sys/vm/vm_mem.c`
Routine	`vmemall`
Problem	The memory being allocated has a zero size or is greater than the maximum memory allowed. This routine allocates physical memory. After it receives the size of the memory it is to allocate, the routine does a bounds check on the size. In this case, the routine detected the memory size was either zero or greater than the maximum memory allowed for the process.

vmemfree

File	`/sys/vm/vm_mem.c`
Routine	`vmemfree`
Problem	The size of memory being freed is not a multiple of CLSIZE. This routine frees physical memory. While doing so, the routine detected the size of the memory being freed was not a multiple of CLSIZE

vmemfree: intrans

File	`/sys/vm`
Routine	`vmemfree`
Problem	While releasing memory for an exiting process, the operating system detected that a page of that process's memory was still in transit, that is, it was still being filled in from an earlier page fault.
Action	Reboot the machine.

vmemfree vread

File	`/sys/vm/vm_mem.c`
Routine	`vmemfree`
Problem	The vread command is not supported by the operating system. While freeing a memory page, the routine detected an association between a `fpte` and a file descriptor. The association indicated an attempt to execute a `vread` command, which is not supported by the operating system.

vm_system_smget: invalid SMS

File	`/sys/vm/vax/sm_machdep.c`
Routine	`vm_system_smget`
Problem	Failure to find the segment data structure. While the routine was creating or locating a user/system shared memory segment, the routine call to `smget` succeeded, but its subsequent call to `smconv` failed to find the segment data structure.

vpassvm: alloc q->p_sm

File	`/sys/vm/vm_proc.c`
Routine	`vpassvm`
Problem	The kernel memory allocator failed to allocate memory for the shared memory information of a process (a `km_alloc`problem).

vpassvm: parent has smem, smseg == 0

File	`/sys/vm/vm_proc.c`
Routine	`vpassvm`
Problem	A process in a vfork has non-NULL shared memory information, but the system is configured without shared memory.

vrelsw

File	`/sys/vm/vm_swalloc.c`
Routine	`vrelsw`
Problem	The `vrelsw` routine, which frees allocated swap space, detected that the system attempted to free swap space that was not allocated.

vrelswu: bad data pt

File	`/sys/vm/vm_swalloc.c`
Routine	`vrelswu`
Problem	The `vrelswu` routine, which deallocates data, stack and u area swap space, detected an attempt to deallocate data area swap space that was not allocated.

vrelswu: bad stack pt

File	`/sys/vm/vm_swalloc.c`
Routine	`vrelswu`
Problem	The `vrelswu` routine, which deallocates data, stack, and u area swap space, detected an attempt to deallocate data area swap space that was not allocated.

vrelvm: p_sm

File	`/sys/vm/vm_proc.c`
Routine	`vrelvm`
Problem	NULL pointer to shared memory information. The routine detected a process that indicated it had attached shared memory, but the process has a NULL pointer to shared memory information in the process (proc) structure.

vrelvm rss

File `/sys/vm/vm_proc.c`

Routine `vrelvm`

Problem The physical memory resources for a process are released, but the resident set size is not zero.

This routine releases the virtual memory resources associated with a process, such as shared segments and text, data, and stack pages. Then, the routine checks the resident set size for the data and stack of the process to ensure it is zero. In this case, the resident set size for the process was not zero.

Output Identifies the process id, the current resident set size, the text size, and the size of the resident set before the operation began. The format is:

```
p = <0Xd>, p_rssize = <d>, p_textp = <0Xd>, prss_orig = <d>
```

vsalloc: NULL dmap

File `vm/vm_pt.c`

Routine `vsalloc`

Problem NULL pointer to dmap structure. Before attempting to allocate swap space for a segment, the routine found a NULL pointer to the dmap information.

vs_bufctl: active pointer null

File `/sys/io/uba/uba.c`

Routine `vs_bufctl`

Problem A tape or system disk controller allocated a shared I/O buffer, but the `vs_active` routine was not set before the appropriate tape or disk driver was called.

The `vs_bufctl` routine is the locking mechanism that allows the tape and the system disk controllers on a VAXstation 2000 system or MicroVAX 2000 system to share a common I/O buffer.

vs_bufctl: illegal VS_ALLOC returned

File `/sys/io/uba/uba.c`

Routine `vs_bufctl`

Problem Illegal VS_ALLOC returned.

The VAXstation 2000 and MicroVAX 2000 systems have 16kb of RAM in I/O space that is used for direct memory access between I/O devices. The disk and tape drivers must share exclusive ownership of this hardware RAM buffer. The routine allows an action parameter to be passed both when it is called and when it is returned. The routine issues this panic when it receives the `VS_ALLOC` parameter as a return value.

vs_bufctl: unknown action

File `/sys/io/uba/uba.c`

Routine `vs_bufctl`

Problem The VAXstation 2000 and MicroVAX 2000 systems have 16KB of RAM in I/O space that is used for direct memory access between I/O devices. The disk and tape drivers must share exclusive ownership of this hardware RAM buffer. The routine issues this panic when it has been called with an invalid parameter, or it was returned an invalid parameter.

vs_bufctl: VS_DEALLOC: no owner

File `/sys/io/uba/uba.c`

Routine `vs_bufctl`

Problem Neither the tape nor the system disk controller claimed ownership of a shared I/O buffer that was being deallocated.

The `vs_bufctl` routine is the locking mechanism that allows the tape and the system disk controllers on a VAXstation 2000 system or MicroVAX 2000 system to share a common I/O buffer.

vs_bufctl: VS_DEALLOC: wanted by owner

File `/sys/io/uba/uba.c`

Routine `vs_bufctl`

Problem The tape or system disk controller that was deallocating a shared I/O buffer also had an outstanding request to hold the buffer.

The `vs_bufctl` routine is the locking mechanism that allows the tape and the system disk controllers on a VAXstation 2000 system or uVAX2000 system to share a common I/O buffer. The common I/0 buffer was being deallocated by the same controller that had an outstanding request to hold it.

vs_bufctl: VS_WANTBACK: not active

File	`/sys/io/uba/uba.c`
Routine	`vs_bufctl`
Problem	A tape or system disk controller, which did not own the shared I/O buffer it was requesting, specified the `VS_WANTBACK` flag and requested that the buffer be returned to it. The `vs_bufctl` routine is the locking mechanism that allows the tape the system disk controllers on a VAXstation 2000 system or MicroVAX 2000 system to share a common I/O buffer.

VS_DEALLOC: no owner

File	`/sys/io/uba/uba.c`
Routine	`vs_bufctl`
Problem	No I/O RAM buffer owner. The VAXstation 2000 and MicroVAX 2000 systems have 16KB of RAM in I/O space that is used for direct memory access between I/O devices. The disk and tape drivers must share exclusive ownership of this hardware RAM buffer. There has been a request from either the disk or tape driver to deallocate ownership of the I/O RAM buffer despite the fact that the buffer is not owned.

VS_DEALLOC: wanted by owner

File	`/sys/io/uba/uba.c`
Routine	`vs_bufctl`
Problem	I/O RAM buffer owner is queued to be called back. The VAXstation 2000 and MicroVAX 2000 systems have 16KB of RAM in I/O space that is used for direct memory access between I/O devices. The disk and tape drivers must share exclusive ownership of this hardware RAM buffer. If the I/O RAM buffer is in use when requested, the request is queued. When the current owner relinquishes ownership of the RAM buffer, the queued driver is called back. This panic results if the driver that is deallocating the I/O RAM buffer is also queued to be called back.

vsfree: Invalid count

File	`vm/vm_pt.c`
Routine	`vsfree`
Problem	This routine releases all the swap space allocated for the segment. After freeing the swap space of the segment, the routine found that either it has released more swap space than allocated or it has more swap space yet to be released.

vsfree: Invalid no. of elems

File	`vm/vm_pt.c`
Routine	`vsfree`
Problem	The disk map information is not correct. Before attempting to free the swap space of a segment, the routine found the information about the size of the segment in the dmap structure was not correct.

vsfree: NULL dmap

File	`vm/vm_pt.c`
Routine	`vsfree`
Problem	NULL pointer to dmap structure. Before attempting to free the swap space of a segment, the routine found a NULL pointer to the dmap information.

vsptalloc: bad size

File	`/sys/vm/vm_swalloc.c`
Routine	`vsptalloc`
Problem	The `vsptalloc` routine, which allocates array and swap space for page table entries, detected that the number of elements needed for page table entries was zero or less.

vssmalloc: NULL dmap

File	`vm/vm_drum.c`
Routine	`vssmalloc`
Problem	NULL pointer to shared memory dmap structure. Before attempting to allocate swap space for the shared memory segment, the routine found the shared memory structure has a NULL pointer to the shared memory dmap information.

vssmfree: NULL dmap

File	`vm/vm_drum.c`
Routine	`vssmfree`
Problem	NULL pointer to shared memory dmap structure. Before attempting to free swap space of the shared memory segment, the `vssmalloc` routine found the shared memory structure has a NULL pointer to the shared memory dmap information.

vsswap

File	`/sys/vm/vm_drum.c`
Routine	`vsswap`
Problem	The number of memory pages being swapped out is not a multiple of CLSIZE. This routine swaps out segments of virtual memory. After it receives the number of virtual memory pages it is to swap out, the routine checks the number to ensure it is a multiple of CLSIZE. In this case, the number of virtual memory segments was not a multiple of CLSIZE.

vstodb

File	`/sys/vm/vm_drum.c`
Routine	`vstodb`
Problem	The size of a virtual memory block is invalid. This routine locates contiguous blocks on a disk for a swap out operation. Before the operation, the routine receives several parameters to check. Among these parameters are the base and size for the virtual swap area of the process. The routine detected the base and size parameters were invalid because one of them was less than zero or the size computed for the virtual swap area was greater than the size in the dmap structure associated with the process.

vstodb exceeding nswap

File	`vm/vm_drum.c`
Routine	`vstodb`
Problem	This routine locates disk blocks for a swap out operation. When it finds a fit for the swap out operation, the routine checks the swap address and the size of the contiguous blocks area to ensure they do not exceed the amount of swap space in the system. In this case, the routine detected the contiguous block area was greater than the amount of swap space in the system.

vsunlock: invalid PTE

File	`/sys/vm/vm_mem.c`
Routine	`vsunlock`
Problem	When the `vsunlock` routine attempted to unlock a page table entry (PTE) that was previously locked, it discovered that the pte did not have the valid bit set.

VS_WANTBACK: not active

File	`/sys/io/uba/uba.c`
Routine	`vs_bufctl`
Problem	No I/O RAM buffer owner.

The VAXstation 2000 and MicroVAX 2000 systems have 16KB of RAM in I/O space that is used for direct memory access between I/O devices. The disk and tape drivers must share exclusive ownership of this hardware RAM buffer. When a driver finishes an I/O request, it needs to allow the other driver access to the I/O RAM buffer.

If the driver that is relinquishing ownership of the I/O RAM buffer still has more I/O requests, it will relinquish the I/O RAM buffer with the intention of being requeued on the buffer. This panic results when a driver tries to relinquish a buffer that it does not own.

vsxalloc: NULL dmap

File	`vm/vm_drum.c`
Routine	`vsxalloc`
Problem	NULL pointer to text dmap structure. Before attempting to allocate swap space for the text segment, the routine found the text structure has a NULL pointer to the dmap information.

vsxfree: NULL dmap

File	`vm/vm_drum.c`
Routine	`vsxfree`
Problem	NULL pointer to text dmap structure. Before attempting to free swap space of the text segment, the routine found the text structure has a NULL pointer to the dmap information.

vtod: Can not classify page

File	`/sys/vm/vm_drum.c`
Routine	`vtod`
Problem	The user virtual page cannot be classified as text, data, stack, or shared memory.

While attempting to convert a user virtual page number to a disk block number, the routine could not classify the page as text, data, stack, or shared memory.

vtod: shmem

File	`vm/vm_drum.c`
Routine	`vtod`
Problem	The size of the shared virtual memory segment is invalid. This routine detected the size computed for the virtual swap area (shared memory segment) was greater than the size in the dmap structure associated with the shared memory segment.

vtod: text

File	`vm/vm_drum.c`
Routine	`vtod`
Problem	The size of the text virtual memory segment is invalid. This routine detected the size computed for the virtual swap area (text segment) was greater than the size in the dmap structure associated with the text segment.

vtopte: p_sm

File	`/sys/vm/vm_subr.c`
Routine	`vtopte`
Problem	NULL pointer to shared memory information. While attempting to link a process to a shared memory segment, the routine detected the process has a NULL pointer to shared memory information in the process (proc) structure

vtopte SMEM

File	`/sys/vm/vm_subr.c`
Routine	`vtopte`
Problem	A shared memory segment cannot be found at a specified memory address. This routine converts virtual page numbers to page table entry addresses. While searching for a shared memory segment at a specified memory address, the routine could not find the segment.

wakeup

File	`/sys/sys/kern_synch.c`
Routine	`wakeup_type`
Problem	The `wakeup_type` routine tried to send a wakeup signal to a process that was not sleeping or stopped.

wbaddaddr

File	`/sys/machine/mips/locore.s`
Routine	`wbadaddr`
Problem	Bad address length. The system called the routine with a bad word length. The length is in bytes and can be only 1, 2, or 4.

wdir: blksize

File	`/sys/fs/ufs/ufs_namei.c`
Routine	`direnter`
Problem	The DIRBLKSIZ system parameter is greater than the file system fragment size. This routine checks critical system parameters, such as DIRBLKSIZ, to monitor their size. While monitoring the DIRBLKSIZ system parameter, the routine detected it was greater than the file system fragment size.

wdir: compact1

File	`/sys/fs/ufs/ufs_namei.c`
Routine	`direnter`
Problem	There is not enough space for a new directory entry. Before the routine writes a directory entry, it receives the directory, the gnode to the directory, and space needed for the directory entry. In this case, the routine calculates the current free space and the directory size. Then, the routine detected the entry was the first in a directory block and there was not enough space for it.

wdir: compact2

File	`/sys/fs/ufs/ufs_namei.c`
Routine	`direnter`
Problem	There is not enough space for a new directory entry. Before the routine writes a directory entry, it receives the directory, the gnode to the directory, and space needed for the directory entry. In this case, the routine calculates the size of the current free space and the directory. Then, the routine detected the entry was the second (or subsequent) in a directory block and there was not enough space for it.

wdir: newblk

File	`/sys/fs/ufs/ufs_namei.c`
Routine	`direnter`
Problem	The offset for a directory entry is not on a block boundary. Before the routine writes a directory entry, it receives the directory, the gnode to the directory, and space needed for the directory entry. In addition, the routine uses the count and offset variables stored in the user structure. In this case, the routine detects the count variable is zero, indicating there is no space in the directory. Whenever this happens, the routine then checks the offset variable, which should be on a block boundary. The routine detected the offset variable was not on a block boundary.

wrong ipl

File	`/sys/h/tty.h`
Routine	`TTY_ASSERT` (macro)
Problem	The system detected that a nonsymmetric driver was at an interrupt priority level (ipl) of less than 15. A nonsymmetric `tty` driver must be at an ipl of 15 or higher.

wtimo

File	`/sys/machine/vax/locore.s`
Routine	`wtime`
Problem	A processor detects an SBIA0 error. When the processor detects an SBIA0 error caused by a write timeout, it issues an exception and dispatches the error to this routine. In this case, the routine serviced the error by logging it and producing this panic.
Output	Identifies the problem at the console subsystem. The format is: `write timeout`

xbi error

File	`/sys/io/xmi/xbi.c`
Routine	`xbi_check_errs`
Problem	A nonrecoverable XBI error was detected.

xccdec: text pt swap addr 0

File	`vm/vm_text.c`
Routine	`xccdec`
Problem	While trying to save the text page table entries to swap disk, the routine found that the swap disk address of the page tables in text dmap structure was NULL.

xcleanup rssize

File	`vm/vm_text.c`
Routine	`xcleanup`
Problem	The physical memory of a shared text segment is released, but its resident set size is not zero.

The routine releases a process use of a shared text segment. After releasing the physical memory of the shared text segment, the routine checks the resident set size to be sure it is zero. The routine detected the resident text size was not zero.

xflush_remote_hash: g_hcount != NULL

File	`/sys/vm/vm_text.c`
Routine	`xflush_remote_hash`
Problem	Nonzero final hash count.

The routine has detected an inconsistency in the count of remote text pages that were hashed for a text structure. This routine unhashes these pages, decrementing the count as it handles each page. The final is nonzero.

xflush_remote_hash: x_hcmap == NULL

File	`/sys/vm/vm_text.c`
Routine	`xflush_remote_hash`
Problem	NULL pointer to array of remote text hashed pages.

The routine has detected a NULL pointer to an array of remote text hashed pages. Because this routine is called only for remote text, the pointer must be non-NULL.

xfree

File	`/sys/vm/vm_text.c`
Routine	`xfree`
Problem	Negative shared text segment.

While attempting to relinquish the use of a shared text segment by a process, the count of processes using the segment is negative.

Output: The routine returns the count in the following format:

```
xfree: text 0x0 count bad
```

XMI I/O adapter at wrong address

File	`/sys/io/xmi/xmiinit.c`
Routine	`xmi_io_space`
Problem	An MI I/O adapter is at the wrong address.

xrele

File	`/sys/vm/vm_text.c`
Routine	`xrele`
Problem	A text pointer in a process does not point to a gnode.

This routine removes a shared text segment from the text table. While doing so, the routine detected the process had a text pointer that did not point to a gnode.

xrepl: lost text

File	`/sys/vm/vm_text.c`
Routine	`xrepl`
Problem	Lost process.

During vfork, while replacing one process with either the parent or child process attached to the shared text, the original process cannot be found.

X_RST_HCMAP: hcmap == 0

File	`/sys/h/gnode.h`
Routine	`G_RST_HCMAP` (macro)
Problem	Hash list corruption.

This routine clears the array element associated with the given page number that is currently being unhashed (used in munhash and maunhash). It has detected that the element has already been cleared.

X_RST_HCMAP: page number too large

File	`/sys/h/gnode.h`
Routine	`G_RST_HCMAP` (macro)
Problem	Hash list corruption.

This routine has detected that the page number contained within the coremap (cmap) entry would place the page beyond the end of the text segment.

X_SET_HCMAP: hcmap != 0

File	`/sys/h/gnode.h`
Routine	`G_SET_HCMAP` (macro)
Problem	Hash list corruption.

This routine fills the array element associated with the given page number that is currently being hashed (used in mhash). It has detected that the element has already been filled.

X_SET_HCMAP: page number too large

File	`/sys/h/gnode.h`
Routine	`G_SET_HCMAP` (macro)
Problem	Hash list corruption.

The system detected that the page number contained in the coremap (cmap) entry would place the page beyond the end of the text segment.

xtiin_pcbunbind not lock owner

File	`in_pcb.c`
Routine	`xtiin_pcbunbind`
Problem	The socket referenced by an inpcb control block is not locked.

xunlink no text page tables

File	`/sys/vm/vm_text.c`
Routine	`xunlink`
Problem	Segment page tables are not found.

When the last process unlinks from the shared text segment, the page tables for that segment are deallocated. This panic is issued when the routine does not find these page tables.

xunlink x_caddr !NULL

File	`/sys/vm/vm_text.c`
Routine	`xunlink`
Problem	Process link list for the segment is not NULL. When the last process unlinks from the shared text segment, the routine checks to ensure that process link list for this segment is NULL. The routine issues this panic if it finds a process pointer.

X_UNLOCK: text not locked

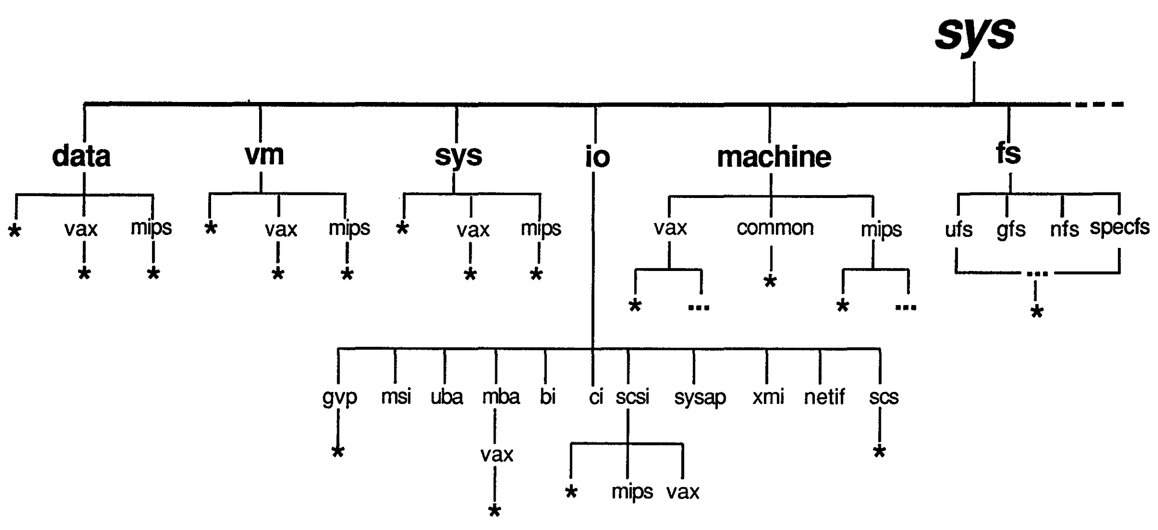
File	`sys/h/vmmac.h`
Routine	`X_UNLOCK` (macro)
Problem	The system has detected that a text segment that it is unlocking is not locked. This violates the locking conventions for text segments.

zero affinity

File	`/sys/sys/kern_subr.c`
Routine	`switch_affinity`
Problem	The affinity mask passed into the `switch_affinity` routine was zero. The affinity mask should contain a list of processors that the process can run on.

ULTRIX Kernel Files A

The figure on the next two pages illustrates the directories in the ULTRIX kernel. An asterisk (*) indicates source files at this level.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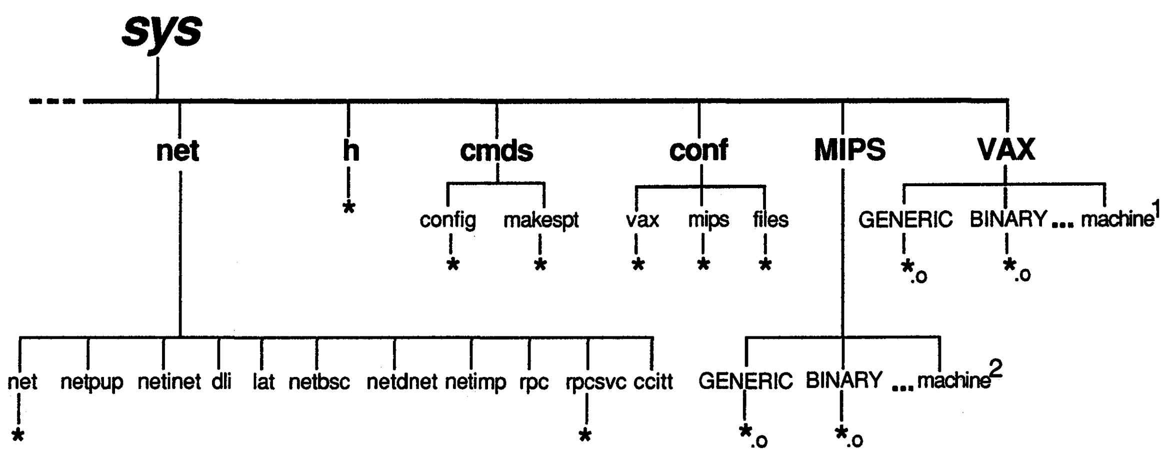

* indicates source files at this level

1 indicates symbolic link to machine/VAX

2 indicates symbolic link to machine/MIPS

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