

17. ERROR RECOVERY AND KNOWN PROBLEMS

NoteCards on the Sun Workstation has an error handling system which includes:

- The break window error system
- A diagnostic program, URAID, which handles emulator errors

Occasionally, you may encounter SunOS error messages. Refer to your Sun documentation set for recovery procedures when these errors occur.

Known problems with the NoteCards system are discussed at the end of this chapter.

System Status, Aborting Operations, and Spawning a New Mouse

NoteCards provides a number of keyboard combinations for enquiring about system status and aborting operations.

System Status

Typing CONTROL-T prints status information on the type-in process. The type-in process is the process which has the flashing caret cursor. This is of minimal usefulness as the type-in process is usually just sitting waiting for you to type characters in, and the messages are aimed at people extending the NoteCards system. However, if you need to know whether the system is still active, type CONTROL-T to force the system to give you the status on one process.

Aborting Operations

Pressing the STOP key will frequently abort the process you want it to. However, as the system runs multiple processes, the process which receives the stop command may not be the one you intended to receive it.

To see a list of all the currently running processes, in menu format (as shown in Figure 17-1), type CONTROL-G.

```
Interrupt which process?
[Spawn Mouse]
OLDMOUSE *run
TEdit *tty
MOUSE
TEdit#3
DIGI-CLOCK
DIRECTORY CONNECTOR
TEDIT-KILLER#2
ERIS#LEAF
\10MBWATCHER#2
\NSGATELISTENER
\PUPGATELISTENER
\TIMER.PROCESS
BACKGROUND
```

Figure 17-1. **Interrupt Which Process?** Menu Showing All Processes Currently Running

Selecting one of these processes will cause a break to occur in that process. You can then uparrow, ^, out of the break to abort the process. If you decide you have broken the wrong process, you can type **ok** to have the process resume where it left off.

```
INTERRUPT
Interrupt below \TEDIT,HARDCOPY,DISPLAYLINE,
OLDMOUSE/118(debug)ok
```

Figure 17-2. Break caused by CONTROL-G (OLDMOUSE process Resumed with **ok** Command)

Because there can be so many processes, TEdit processes in particular (there is one TEdit process for every TEdit window including the expanded-menu command windows), it is important to know which process you want to break to abort an operation. Generally, if you start an operation with the mouse, it either runs under the MOUSE or OLDMOUSE process, which is deleted the moment the operation finishes. If you see an OLDMOUSE process, this is usually the process you want to break.

There are exceptions to the OLDMOUSE rule. Performing operations from the FileBrowser causes a process with an "FB-" prefix to be spawned. All operations on the TEdit expanded menus are run in the main TEdit process associated with that edit window. If you have one TEdit window open on your screen and one TEdit expanded menu open, you will have two TEdit processes running: TEdit, which is the process associated with the main TEdit window, and TEdit#2, which is the process associated with the expanded menu.

Killing the wrong process can cause you to lose information. USE WITH CAUTION!

Spawning a New Mouse

If by some chance you do manage to kill your mouse process off, it is easy to start a new one. Type CONTROL-G and choose the **[Spawn Mouse]** option on the "Interrupt which process?" Menu. **[Spawn Mouse]** is always the very top option. If you create several new mouse processes, the system removes all but one mouse process.

Break Windows

Occasionally, when performing certain operations like accessing a file which has been moved to another directory, deleted, or renamed, or trying to create a font which does not exist, NoteCards enters a break. When this happens, NoteCards provides you with information about what caused the break, and asks you what to do (Figure 17-3).

```
INTERLISP-ERROR
In ERROR:
FONT NOT FOUND (coerced to)
(HELVETICA 33 (BOLD REGULAR REGULAR
) 0 DISPLAY)
103: ↑
```

Figure 17-3. Break Window Caused by a Font-Not-Found Error

In cases like this, you should first determine if the cause of the break is a simple error. In Figure 17-3, for instance, there is no Helvetica 33 bold font. There is, however, a Helvetica 32. The appropriate action in this case would be to up arrow out of the break window by typing a ^, and reexecuting the operation with the correct font.

Another possibility is that the font directories may have been moved and the system may be looking in the wrong place for the fonts. Here again, you would up arrow out of the break window by typing a ^, edit the initialization file (see Appendix E, Initialization Files) to insert the correct values for DISPLAYFONTDIRECTORIES, load the initialization file, and then retry the operation.

If the break is caused by a missing file, you should up arrow out of the break window by typing a ^, find the current location of the file, and retry the operation with the new path and file name.

If you are unable to uparrow out of a break, or the system is behaving strangely, you should save all your work by closing your notefiles, and saving your TEdit and Sketch files, perform a **Flush image & Exit**, and reload your system. **Flush image & Exit** is a submenu off **Logout** on the background menu.

Lisp Errors

Errors While Running NoteCards

The following errors may occur running NoteCards on the Sun Workstation.

ERROR MESSAGE	CAUSE
File access timed out	Occurs when you try to access a file on a remotely mounted file system or NFS service that is down.
File too large	Self-explanatory.
Too-Many-Files-Open	Occurs when you exceed one of the following: • SunOS open file limit (see Chapter 4, System Use Issues) • System file resources while writing a sysout (using the Logout command from the background menu)
Nonexistent directory	Occurs when you try to connect to a nonexistent directory.
No-Such-Directory	Occurs when you try to connect to a nonexistent directory.
Connection timed out	Self-explanatory.
Bad Host Name	Self-explanatory.

Xerox Workstation-Specific Errors

These Xerox workstation-specific errors may occur if certain functions are inadvertently used on the Sun Workstation.

ERROR MESSAGE	CAUSE
Floppy: No floppy drive on this machine.	Self-explanatory.

Device error: {FLOPPY}	Occurs when you try to access a floppy device while running on the Sun Workstation.
Wrong machinetype	Occurs when functions controlling Xerox disk drive device-specific behavior are entered when running on a Sun.

Virtual Memory Errors

ERROR MESSAGE	FUNCTION RESPONSIBLE
File-System-Resources-Exceeded	Logout, Save image & Exit, Save VM
Protection-Violation	Logout, Save image & Exit, Save VM
File-Wont-Open	Logout, Save image & Exit, Save VM

URAIID ---

The NoteCards system normally operates as a self-contained environment. In some unusual circumstances NoteCards may encounter a situation from which it cannot recover. In this case, when an unrecoverable emulator error is encountered, the emulator halts and enters into a small debugger called URAID. URAID allows you to inspect memory, or to look inside the sysout file, and attempt to recover from the error.

If you produce the same type of error condition in NoteCards on a Xerox workstation as you did on a Sun Workstation, you get an MP error instead of a URAID error.

Entering URAID

Normally, the emulator automatically enters URAID when an unrecoverable emulator error occurs. If the system freezes and will not let you regain control, you can throw the system into URAID by simultaneously holding down the SHIFT, CONTROL and DELETE (L10) keys or the SHIFT, CONTROL, and NEXT (ALTERNATE) keys.

URAIID Commands

URAIID has a few simple commands which you can use to attempt error recovery. All URAID commands are case sensitive.

- h** Hard Reset. Attempts to recover by resetting the Lisp stack. Quits URAID and causes NoteCards to resume execution. This command should not be used unless you are sure that execution can be resumed.
- e** Exit to SunOS. NoteCards will end. If you are going to call Customer Support, call *before* you give this command. After giving this command, nothing is recoverable.
- q** Quits URAID and returns to NoteCards.

Note: An error may occur while the NoteCards system is running uninterruptably. The following message signals this error:

```
Error in uninterruptable system code -- ^N to continue into
error handler
```

Disregard the ^N command; it is not supported by URAID. Use the **q** command to continue.

Other Fatal Error Conditions

Occasionally, other emulator, operating system, or system administration errors may occur from which the URAID program cannot recover. Such error conditions include a process dying, the emulator going into an infinite loop, the keyboard being lost, or the system freezing up.

If any of these emulator errors occur, use the UNIX kill command to kill the `lde` process.

System Error Conditions

The following are error messages generated by SunOS. For complete information on these error messages, see the *SunOS Reference Manual*, Intro(2).

ERROR MESSAGE	DESCRIPTION
:0 Unused	
:1 EPERM	Not owner
:2 ENOENT	No such file or directory
:3 ESRCH	No such process
:4 EINTR	Interrupted system call
:5 EIO	I/O error
:6 ENXIO	No such device or address
:7 E2BIG	Arg list too long
:8 ENOEXEC	Exec format error
:9 EBADF	Bad file number
:10 ECHILD	No children
:11 EAGAIN	No more processes
:12 ENOMEM	Not enough core
:13 EACCES	Permission denied
:14 EFAULT	Bad address
:15 ENOTBLK	Block device required
:16 EBUSY	Mount device busy
:17 EEXIST	File exists
:18 EXDEV	Cross-device link
:19 ENODEV	No such device
:20 ENODIR	Not a directory
:21 EISDIR	Is a directory
:22 EINVAL	Invalid argument
:23 ENFILE	File table overflow
:24 EMFILE	Too many open files
:25 ENOTTY	Not a typewriter
:26 Unused	
:27 EFBIG	File too large
:28 ENOSPC	No space left on device
:29 ESPIPE	Illegal seek
:30 EROFS	Read-only file system
:31 EMLINK	Too many links
:32 EPIPE	Broken pipe
:33 EDOM	Math argument
:34 ERANGE	Result too large
:35 EWOULDBLOCK	Operation would block
:36 EINPROGRESS	Operation now in progress
:37 EALREADY	Operation already in progress
:38 ENOTSOK	Socket operation on non-socket

:39 EDESTADDRREQ Destination address required

ERROR MESSAGE	DESCRIPTION
:40 EMSGSIZE	Message too long
:41 EPROTOTYPE	Protocol wrong type for socket
:42 ENOPROTOPT	Bad protocol option
:43 EPROTONOSUPPORT	Protocol not supported
:44 ESOCKTNOSUPPORT	Socket not supported
:45 EOPNOTSUPP	Operation not supported on socket
:46 EPFNOSUPPORT	Protocol family not supported
:47 EAFNOSUPPORT	Address family not supported by protocol family
:48 EADDRINUSE	Address already in use
:49 EADDRNOTAVAIL	Can't assign requested address
:50 ENETDOWN	Network is down
:51 ENETUNREACH	Network is unreadable
:52 ENETRESET	Network dropped connection on reset
:53 ECONNABORTED	Software caused connection abort
:54 ECONNRESET	Connection reset by peer
:55 ENOBUFS	No buffer space available
:56 EISCONN	Socket is already connected
:57 ENOTCONN	Socket is not connected
:58 ESHUTDOWN	Can't send after socket shutdown
:59 Unused	
:60 ETIMEDOUT	Connection timed out
:61 ECONNREFUSED	Connection refused
:62 ELOOP	Too many levels of symbolic link
:63 ENAMETOOLONG	File name is too long
:64 EHOSTDOWN	Host is down
:65 EHOSTUNREACH	No route to host
:66 ENOTEMPTY	Directory not empty
:67 Unused	
:68 Unused	
:69 EDQUOT	Disc quota exceeded
:70 ESTALE	Stale NFS file handle
:71 EREMOTE	Too many levels of remote in path
:72 ENOSTR	Not a stream device
:73 ETIME	Timer expired
:74 ENOSR	Out of stream resources
:75 ENOMSG	No message of desired type
:76 EBADMSG	Not a data message
:77 EIDRM	Identifier removed

Known Problems

Printing Browsers

Printing Browsers which contain dashed lines may cause your printer to hang.

Notefile Indicator Window

Occasionally, after you have reshaped a card, a piece of the text in the notefile indicator window will be garbled or broken. To redisplay the text in this window, place the point of the mouse cursor in the notefile indicator window, hold down the right mouse button, and select the **Redisplay** option from the window menu which pops up.

Fonts

The PostScript Zapfchancery font does not work at this point in time.

TEdit

When a TEdit window is positioned such that part of the display region of the window is off the screen, TEdit will display some lines of text in a garbled fashion. Simply move the window so that the entire extent of the window is on the screen or redisplay the window using the **Redisplay** option on the title-bar right-button mouse menu.

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