Introduction

This publication lists and describes system error messages for the router, communication server, and protocol translator products. The system software sends these error messages to the console (and, optionally, to a logging server on another system) during operation. Not all system error messages indicate problems with your system. Some are purely informational, while others may help to diagnose problems with communications lines, internal hardware, or the system software.

Note The last section of this publication, "Other Error Messages," covers certain error messages that cannot be categorized as system error messages, because they result when the system image crashes. (In contrast, system error messages appear only when the system remains operational.)

How to Read System Error Messages

System error messages begin with a percent sign and are structured as follows:

```
%FACILITY-SEVERITY-MNEMONIC: Message-text
```

`FACILITY` is a code consisting of two or more uppercase letters that indicate the facility to which the message refers. A facility can be a hardware device, a protocol, or a module of the system software. Table 1 lists the codes for all of the system facilities.

`SEVERITY` is a single-digit code from 0 to 7 that reflects the severity of the condition. The lower the number, the more serious the situation. Table 2 lists the severity levels.

`MNEMONIC` is a code consisting of uppercase letters that uniquely identifies the error message.

`Message-text` is a text string describing the condition. This portion of the message sometimes contains detailed information about the event being reported, including terminal port numbers, network addresses, or addresses that correspond to locations in the system memory address space. Because the information in these variable fields changes from message to message, it is represented here by short strings enclosed in square brackets (`[ ]`). A decimal number, for example, is represented as `[dec]`. Table 3 lists the representations of variable fields and the type of information contained in them.

The following is a sample system error message:

```
%LINK-2-BADVCALL: Ints. TDR=[dec]
```

Each section of this publication describes the error messages produced by a different system facility. Messages are listed alphabetically by mnemonic. If several error messages share the same explanation and recommended action, the messages are presented as a group followed by the common explanation and recommended action. A quick index is also provided at the end of this publication.

Table 1 Facility Codes

Code	Facility
AT	AppleTalk
BGP	Border Gateway Protocol
CBUS	ciscoBus Controller
CLNS	OSI Connectionless Network Services
CSC2	CSC2/CSC3 CPU Cards
DBUS	dBus
DNET	DECnet
EGP	Exterior Gateway Protocol
ENV	Environmental Monitor Card for AGS+
ENVM	Environmental Monitor for Cisco 7000 Series
FDDI	Fiber Distributed Data Interface
FDDISTAT	FDDI State
FR	Frame Relay
GRIP	XNS Routing Protocol
HD	HD64570 Serial Controller
IGRP	Interior Gateway Routing Protocol
IP	Internet Protocol
IPRT	IP Routing
IPX	IPX Protocol
LANCE	STS-10X or IGS Ethernet Interface
LANMGR	IBM LAN Network Manager
LAPB	X.25 Link Access Protocol
LAT	DEC LAT (Local Area Transport)
LINEPROTO	Line Protocol
LINK	Data Link
MAILBOX	ChipCom Mailbox Support
MCI	Multiport Communications Interface
MK5	MK5025 Serial Controller

Code	Facility
NIM	Network Interface Module
OIR	Online Insertion and Removal
OSPF	Open Shortest Path First
PARSER	Parser
PAD	X.25 Packet Assembler/Disassembler
PPP	Point-to-Point Protocol
REGEXP	Regular Expression Parser
RIP	BSD IP Routing Information Protocol
RSRB	Remote Source-Routing Bridge
SBE	SBE Serial Interface
SDLC	Synchronous Data Link Control
SEC	IP Security
SLIP	Serial Link IP
SNMP	Simple Network Management Protocol
STUN	Serial Tunneling
SUBSYS	Software Subsystems
SYS	Operating System
TAC	Terminal Access Control Protocol
TCP	Transmission Control Protocol
TMQ/TMZ	Inbound Terminal Port Queuing
TN	Telnet
TR	Token Ring
TUN	Tunnel
UCODE	Microcode
VINES	Banyan VINES
X25	X.25
XNS	Xerox Network Services

Table 2 Error Message Severity Levels

Level	Description
0 – emergency	System unusable
1 – alert	Immediate action needed
2 – critical	Critical condition
3 – error	Error condition
4 – warning	Warning condition
5 – notification	Normal but significant condition
6 – informational	Informational message only
7 – debugging	Appears during debugging only

Error message severity levels correspond to the keywords assigned by the logging global configuration commands to define where and at what level these messages will appear. The default is to log messages to the console at the debugging level (7). See the system configuration chapter and descriptions of the logging command in the appropriate Configuration Guide and Command Reference publications for more information.

Table 3 Representation of Variable Fields in Error Messages

Representation	Type of Information
[dec]	Decimal number
[hex]	Hexadecimal number
[char]	Single character
[chars]	Character string
[node]	Address or node name
[atalk_address]	AppleTalk address
[atalk_net]	AppleTalk network, either 600 or 600-601
[enet]	Ethernet address (for example, 0000.DEAD.00C0)
[inet]	Internet address (for example, 12.128.2.16)
[t-line]	Terminal line number in octal (or decimal if the decimal-TTY service is enabled)
[v-name]	VINES name; or number (hex or decimal)

Each error message is followed by an explanation and a recommended action. If any error messages recur after you take the recommended action, call your technical support representative.

Error Message Traceback Reports

Some messages describe internal errors and contain traceback information. This information is very important and should be included when you report a problem to your technical support representative.

The following sample message includes traceback information:

```
-Process= ”Exec”, level= 0, pid= 17
-Traceback= 1A82 1AB4 6378 A072 1054 1860
```