

# About This Manual

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This publication lists and describes Cisco IOS system error messages. 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 diagnose problems with communications lines, internal hardware, or the system software.

This manual also includes error messages that appear when the system crashes.

## How This Manual Is Organized

This manual contains three main chapters.

- The “System Error Messages” chapter provides descriptions of error messages related to the Cisco IOS software, except for the CIP facility. The messages are organized according to the particular system facility that produces the messages. The facility sections appear in alphabetical order, and within each facility section, messages are listed alphabetically by mnemonic. Each error message is followed by an explanation and a recommended action.
- The “CIP System Error Messages” chapter provides descriptions of error messages related to the CIP facility. The messages are organized according to the particular system subfacility that produces the messages. The subfacility sections appear in alphabetical order, and within each system subfacility section, messages are listed alphabetically by mnemonic. Each error message is followed by an explanation and a recommended action.
- The last chapter, “System Failure Error Messages,” covers error messages that appear when the system image crashes.

The index of error messages is alphabetized as follows:

- 1 Facility code
- 2 Subfacility code (if applicable)
- 3 Mnemonic
- 4 Severity level

## How to Read System Error Messages

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

```
%FACILITY-SUBFACILITY-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 system facilities codes.

SUBFACILITY is a code that is relevant only in Channel Interface Processor (CIP) error messages. Table 2 lists the CIP subfacility codes. For more information on CIP message format, see the “CIP System Error Messages” chapter.

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 3 lists the severity levels.

MNEMONIC is a code 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, 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 4 lists the representations of variable fields and the type of information in them.

The following is a sample system error message:

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

**Table 1 Facility Codes**

Code	Facility
AAA	TACACS+ Authentication, Authorization, and Accounting security
AIP	ATM Interface Processor
ALIGN	Memory optimization in Reduced Instruction-Set Computer (RISC) processor
AMDP2	Presidio Ethernet & Laguna Fast Ethernet
APPN	Advanced Peer-to-Peer Networking
ARAP	Apple Remote Access Protocol
ASPP	Asynchronous Security Protocol
AT	AppleTalk
ATM	Asynchronous Transfer Mode
BAP	PPP Bandwidth Allocation Protocol (BAP)
BGP	Border Gateway Protocol
BRI	Integrated Services Digital Network (ISDN) Basic Rate Interface
BRIMUX	AS5200 BRIMUX board
BSC	Binary Synchronous Communications mode
BSTUN	Block serial tunneling
C1600	Cisco 1600 platform

**Table 1 Facility Codes (Continued)**

<b>Code</b>	<b>Facility</b>
C3600	Cisco 3600 platform
C5RSP	Cisco Catalyst 5000 platform
CBUS	ciscoBus controller
CDM	Cable Data Modem subsystem
CI	75xx platform chassis interface
CIP facility	Channel Interface Processor (see Table 2 for CIP subfacility codes)
CIRRUS_PM	Slow speed async/sync port module
CLEAR	Clear facility
CLNS	OSI Connectionless Network Service
CLS	Cisco Link Services
CLSDR	Cisco Link Services Driver
COMP	Point-to-point compression
CONTROLLER	Controller
CPAD	Compression service adapter
CPM	Combo Port Module device driver
CSC2	CSC2/CSC3 CPU cards
CT3	Channelized T3 port adapter
DBUS	Data bus
DIALER	Dial-on-demand routing
DLC	Data-link control
DLSw	Data-link switching
DMA	Direct memory access
DNET	DECnet
DRP	Director Response Protocol
DSPU	Downstream physical unit
DSX1	Channelized E1 (Europe) and T1(US) telephony standard
DUAL	Enhanced Interior Gateway Routing Protocol
DVMRP	Distance Vector Multicast Routing Protocol
EGP	Exterior Gateway Protocol
ENT_API	Entity MIB API
ENV	Environmental monitor card
ETHERNET	Ethernet for the C1000 series
FDDI	Fiber Distributed Data Interface
FLASH	Flash nonvolatile memory
FR	Frame Relay
FTC_TRUNK	Cisco 3801 platform
GRIP	Xerox Network Systems (XNS) Routing Protocol

**Table 1 Facility Codes (Continued)**

<b>Code</b>	<b>Facility</b>
HD	HD64570 serial controller
HOOD	LAN controller 100VG-AnyLAN interface
HP100VG	100VG-AnyLAN PA driver
HUB	Cisco Ethernet hub
IBM2692	IBM Token Ring chip set
IFS	IOS File System
IGRP	Interior Gateway Routing Protocol
ILACC	ILACC driver
INTERFACE_API	Binary API for the interface descriptor block
IP	Internet Protocol
IPC	Interprocess Communication
IPFAST	IP fast switching
IPRT	Internet Protocol routing
IPX	Internetwork Packet Exchange Protocol
IP-SNMP	Simple Network Management Protocol specific to IP
ISDN	Integrated Services Digital Network
LANCE	Local Area Network Controller Ethernet
LANE	LAN Emulation
LANMGR	IBM LAN Network Manager
LAPB	X.25 Link Access Procedure, Balanced
LAT	DEC Local Area Transport
LEX	LAN extension
LINEPROTO	Line Protocol
LINK	Data link
LLC2	Logical Link Control type 2
LNMC	LAN network manager
LPD	Line printer daemon
MAILBOX	ChipCom mailbox support
MBRI	Multi-BRI port module
MCI	Multiport Communications Interface
MK5	MK5025 serial controller
MPA68360	VIP Multi-channel Port Adapter
MROUTE	Multicast route
MUESLIX	Mx serial application-specific integrated circuit (ASIC)
NIC100	NIC100 driver
NIM	Network interface module
OSPF	Open Shortest Path First
PA	Port adapter

**Table 1 Facility Codes (Continued)**

<b>Code</b>	<b>Facility</b>
PAD	X.25 packet assembler/disassembler
PARSER	Parser
PIM	Protocol-independent multicast
PPP	Point-to-Point Protocol
QA	Queue and accumulator
QLLC	Qualified Logical Link Control
QUICC	MC68360 Quad Integrated Communications Controller
RADIUS	Remote Access Dial-In User Service (RADIUS) facility
RADIX	Radix facility
RCMD	Remote commands
RIP	IP Routing Information Protocol
RSP	Route Switch Processor
RSRB	Remote source-route bridging
S4T68360	Four port synchronous serial adapter based on the 68360 processor
SCHED	Scheduler
SDLC	Synchronous Data Link Control
SDLLC	SDLC/Logical Link Control type 2 (LLC2) translation
SEC	IP security
SERVICE_MODULE	Service Module
SLIP	Serial Line Internet Protocol
SMRP	Simple Multicast Routing Protocol
SNAPSHOT	Snapshot dial-on-demand routing
SNMP	Simple Network Management Protocol
SNMP_MGR	SNMP Proxy
SSE	Silicon switching engine
STANDBY	Hot Standby Router Protocol (HSRP)
STUN	Serial tunneling
SUBSYS	Software subsystems
SWITCH	Switch interface
SYS	Operating system
SYSMGT	System management
TAC	Terminal Access Controller Protocol Access Control System
TBRIDGE	Transparent bridging
TCP	Transmission Control Protocol
TMQ	Inbound terminal port queuing
TN	Telnet
TN3270	TN3270 protocol

**Table 1 Facility Codes (Continued)**

<b>Code</b>	<b>Facility</b>
TR	Token Ring
TUN	Tunnel
UCODE	Microcode
UNIX	UNIX
UTIL	Utility
VINES	Banyan VINES
VIP	Versatile Interface Processor
VPN	Virtual Private Dialup Network
X25	X.25

**Table 2 CIP Subfacility Codes**

<b>Code</b>	<b>Facility</b>
ADAPTER	Adapter processing
BSQ	Buffer status queue processing
CBUS_ATT	ciscoBus controller statistics
CBUS_WRITE	ciscoBus controller write support
CCA	Channel card adapter
CIOS	Channel adapter IOS wrappers
CLAW	Common Link Access for Workstations
CMPTG	LLC Transmission Group
CONFIG	Configuration processing
CTA	Channel transport architecture
DEBUGGER	Messages issued when nonrecoverable errors occur
DIAG	Diagnostic processing
DMA	Direct memory access
GET_DATA	Internal routine for allocating transfer elements
INT	Interrupt handler
IPC	Interprocess Communication
IPC_CBUS	IPC CIP CBUS system
LOADER	Relocating loader
LOVE	CIP-to-router statistics
MBUF	Message buffer
MEMD	Memory device
MPC	MultiPath Channel protocol
MSG802	IEEE 802.2cx Logical Link Control (LLC) protocol stack
NEVADA	Internal controller
OFFL	Offload protocol

**Table 2 CIP Subfacility Codes (Continued)**

<b>Code</b>	<b>Facility</b>
SCB	Storage control block
SCHED	Multitasking scheduler
SLC	Serial link controller
SLCI	SLC interface
SSI802	Common Service System Service Interface (SSI)
SUBSYS	Software subsystem
SYS	CIP operating system
SYSMGT	Network management processing for system management remote procedure calls
TN3270	TN3270 server terminal emulation
UTIL	Channel adapter utilities

**Table 3 Error Message Severity Levels**

<b>Level</b>	<b>Description</b>
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 that define where and at what level these messages appear. The default is to log messages to the console at the debugging level (7). For more information, see the system configuration chapter and descriptions of the **logging** command in the appropriate Cisco IOS configuration guide and command reference publications.

**Table 4 Representation of Variable Fields in Error Messages**

<b>Representation</b>	<b>Type of Information</b>
[atalk_address]	AppleTalk address
[atalk_net]	AppleTalk network, either 600 or 600-601
[char]	Single character
[chars]	Character string
[dec]	Decimal number
[enet]	Ethernet address (for example, 0000.FEED.00C0)
[hex]	Hexadecimal number
[inet]	Internet address (for example, 12.128.2.16)
[int]	Integer number
[node]	Address or node name
[sci_notation]	Scientific notation
[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)

## 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
```