



System Error Messages Overview

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 CMCC 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 “CMCC System Error Messages” chapter provides descriptions of error messages related to the CMCC product family, which includes the Channel Interface Processor (CIP) and the Channel Port Adapter (CPA). The format of CMCC error messages differs from the format of other system error messages. For more information on CMCC message format, see the “CMCC System Error Messages” chapter.
- The “System Failure Error Messages” chapter provides descriptions of error messages that appear when the system image crashes.

For alphabetizing purposes, lowercase and uppercase letters are treated the same and underscores (_) are ignored.

The index of error messages is alphabetized as follows:

1. Facility code
2. Mnemonic
3. 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 facility codes.

`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 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 3](#) lists the representations of variable fields and the type of information in them.

The following is a sample system error message:

`%LINK-2-BADVCALL: Interface [chars], undefined entry point`

Some error messages also indicate the card and slot reporting the error. These error messages begin with a percent sign (`%`) and are structured as follows:

`%CARD-SEVERITY-MSG:SLOT %FACILITY-SEVERITY-MNEMONIC: Message-text`

`CARD` is a code that describes the type of card reporting the error. `VIP` and `FEIP` are possible card types.

`MSG` is a mnemonic that indicates this is a message. It is always shown as `MSG`.

`SLOT` indicates the slot number of the card reporting the error. It is shown as `SLOT` followed by a number. (For example, `SLOT5`.)



Note

The prepended portion of the error message (`%CARD-SEVERITY-MSG:SLOT`) is not shown in the error message listings in this manual.

Table 1 Facility Codes

Code	Facility
AAA	TACACS+ Authentication, Authorization, and Accounting security
ADJ	Adjacency subsystem
AIP	ATM Interface Processor
ALIGN	Memory optimization in Reduced Instruction-Set Computer (RISC) processor
ALPS	Airline Protocol Support
AMDP2	AMDP2 Ethernet and Fast Ethernet
APPN	Advanced Peer-to-Peer Networking
ARAP	Apple Remote Access Protocol
ASPP	Asynchronous Security Protocol
AT	AppleTalk
ATM	Asynchronous Transfer Mode

Table 1 Facility Codes (continued)

Code	Facility
ATMCES	ATM access concentrator PCI port adapter driver
ATMCORE	ATM core
ATMPA	ATM port adapter
ATMSIG	ATM signaling subsystem
ATMSSCOP	Service Specific Connection Oriented Protocol (SSCOP)
AUTORP	PIMv2 AUTORP
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
C2KATM	Catalyst 2820 ATM module
C3600	Cisco 3600 platform
C542	Voice driver for modular access routers
C5RSP	Cisco Catalyst 5000 platform
C7200	Cisco 7200 platform
CALL_MGMT	Call management subsystem
CBUS	ciscoBus controller
CDM	Cable Data Modem subsystem
CI	Cisco 7500 platform chassis interface
CIPDUMP	CIP core dump
CIRRUS	CD2430 asynchronous controller
CIRRUS_PM	Slow speed asynchronous/synchronous port module
CLEAR	Clear facility
CLNS	OSI Connectionless Network Service
CLS	Cisco Link Services
CLSDR	Cisco Link Services Driver
CM622	ATM line card driver
CMCC	Cisco Mainframe Channel Connection interfaces
COMP	Point-to-point compression
CONTROLLER	Controller
CPAD	Compression service adapter
CPM	Combo Port Module device driver

Table 1 Facility Codes (continued)

Code	Facility
CRYPTO	Encryption
CSC2	CSC2/CSC3 CPU cards
CSM	Call switching module
CT3	Channelized T3 port adapter
DBCONN	Database Connection
DBUS	Data bus
DCU	ATM access concentrator PCI port adapter
DEC21140	DEC21140 Fast Ethernet controller
DIALER	Dial-on-demand routing
DIALSHELF	Dial shelf messages
DLC	Data-link control
DLSw	Data-link switching
DMA	Direct memory access
DNET	DECnet
DRIP	Duplicate RIng Protocol
DRP	Director Response Protocol
DRVGRP	Interface driver
DSCCLOCK	Dial shelf controller clock
DSC_ENV	Cisco AS5800 environment monitor
DSCEXTCLOCK	Dial shelf controller clock
DSI	Cisco AS5800 dial shelf interconnect board
DSPU	Downstream physical unit
DSX0	CT1 RBS timeslot status
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
ENV_MON	Cisco 12000 environmental monitor
EPAD	Encryption port adapter driver
ESWITCH	Ethernet switch port adapter
ETHERNET	Ethernet for the C1000 series
EXPRESSION	Expression MIB
FB	Cisco AS5800 feature board

Table 1 Facility Codes (continued)

Code	Facility
FBINFO	Cisco 5800 feature board crash information subsystem
FDDI	Fiber Distributed Data Interface
FILESYS	File system
FLASH	Flash nonvolatile memory
FPGA	LS1010 chip-specific
FR	Frame Relay
FR_ELMI	Frame Relay enhanced Local Management Interface
FR_LMI	Frame Relay Local Management Interface
FTC_TRUNK	Cisco 3801 platform
FTPSERVER	FTP server processes
FW	Inspection subsystem
GRIP	Xerox Network Systems (XNS) Routing Protocol
GRP	Gigabit route processor
GRPPOS	POS route processor
GSR_ENV	Gigabit Switch Router environment monitor
GSRIPC	Gigabit Switch Router IPC service routines
GT64010	GT64010 DMA controller driver
HAWKEYE	Token Ring PCI port adapter
HD	HD64570 serial controller
HMM_ASYNC	Hex modem network module asynchronous driver
HOOD	LAN controller 100VG-AnyLAN interface
HP100VG	100VG-AnyLAN PA driver
HUB	Cisco Ethernet hub
IBM2692	IBM Token Ring chip set
IDTATM25	IDT ATM25 network module
IFS	IOS File System
IGRP	Interior Gateway Routing Protocol
ILACC	ILACC driver
INTERFACE_API	Binary API for the interface descriptor block
IP	Internet Protocol
IPACCESS	IP security
IPC	Interprocess communication
IPCGRP	RP interprocess communication
IPCLC	Gigabit Switch Router line card interprocess communication
IPC_RSP_CBUS	Interprocess communication

Table 1 Facility Codes (continued)

Code	Facility
IPFAST	IP fast switching
IPFLOW	IP flow
IPMCAST	Gigabit Switch Router line card IP multicast
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
LCCEF	ATM Cisco Express Forwarding (CEF) adjacency
LES_FDDI	LAN Emulation Server/Fiber Distributed Data Interface
LEX	LAN extension
LINEPROTO	Line Protocol
LINK	Data link
LLC2	Logical Link Control type 2
LLIST	Linked list facility
LNMC	LAN network manager
LPD	Line printer daemon
M32X	M32X Basic Rate Interface trunk card
MAILBOX	ChipCom mailbox support
MBRI	Multi-BRI port module
MBUS	Maintenance bus
MBUS_SYS	MBUS system
MCI	Multiport Communications Interface
MICA	Modem ISDN Channel Aggregation modem
MIF68840	PCI MC68840 FDDI port adapter
MIMIC	MCOM integrated modem network modules
MK5	MK5025 serial controller
MMODEM	Integrated modem network module
MODEM	Router shelf modem management
MODEM_HIST	Router shelf modem history/tracing
MODEM_NV	Modem NVRAM

Table 1 Facility Codes (continued)

Code	Facility
MPA68360	VIP Multi-channel Port Adapter
MROUTE	Multicast route
MUESLIX	Mx serial application-specific integrated circuit (ASIC)
NETWORK_CLOCK	Network clock synchronization
NHRP	Next Hop Resolution Protocol
NIC100	NIC100 driver
NIM	Network interface module
OIR	Online insertion and removal
OOBP	Out of band port
OSPF	Open Shortest Path First
PA	Port adapter
PAD	X.25 packet assembler/disassembler
PARSER	Parser
PERUSER	PPP per-user configuration
PIM	Protocol-independent multicast
PNNI	Private Network-Network Interface
POSDW	Packet over SONET double wide PCI port adapter driver
PPP	Point-to-Point Protocol
PQUICC	MPC860 quad integrated communications controller
PS	Power Supply
QA	Queue and accumulator
QEM	QEM driver
QLLC	Qualified Logical Link Control
QUICC	MC68360 quad integrated communications controller
QUICC_ASYNC	Asynchronous MC68360 quad integrated communications controller
QUICC_Ethernet	Ethernet MC68360 quad integrated communications controller
QUICC_SERIAL	Serial 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

Table 1 Facility Codes (continued)

Code	Facility
RPS	Redundant power supply
RSP	Route Switch Processor
RSRB	Remote source-route bridging
RTT	Round trip time monitor
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
SGBP	Stack Group Bidding Protocol
SHELF	Router shelf
SLIP	Serial Line Internet Protocol
SLOTDUMP	Slot dump
SMF	Software MAC Filter
SMRP	Simple Multicast Routing Protocol
SNAPSHOT	Snapshot dial-on-demand routing
SNMP	Simple Network Management Protocol
SNMP_MGR	SNMP Proxy
SONET	Synchronous Optical Network
SONETMIB	Synchronous Optical Network Management Information Base
SPARC	3800 SPARC coprocessor subsystem
SSE	Silicon switching engine
STANDBY	Hot Standby Router Protocol (HSRP)
STUN	Serial tunneling
SUBSYS	Software subsystems
SUPERVISOR	Supervisor subsystem
SW56	Switch 56K
SWITCH	Switch interface
SYS	Operating system
SYSCTLR	System controller subsystem
SYSLOG_SERVER	Syslog-server file system routines
SYSMGT	System management

Table 1 Facility Codes (continued)

Code	Facility
TAC	Terminal Access Controller Protocol Access Control System
TAGCON	Tag distribution and control
TBRIDGE	Transparent bridging
TCATM	ATM TAG control
TCP	Transmission Control Protocol
TDM	Time-division multiplexing
TDP	Tag Distribution Protocol
TE_LDPB	Traffic engineering loop prevention
TFIB	Tag Forwarding Information Base
TI1570	PCI/TI1570-based ATM port adapter
TIB	Tag Information Base
TMQ	Inbound terminal port queuing
TN	Telnet
TN3270	TN3270 protocol
TR	Token Ring
TRAFFENG	Traffic engineering
TRUNK	E1/T1 trunk card
TSP_TUNNEL	Tag switch path (TSP) tunnel
TUN	Tunnel
TTYDRIVER	Router shelf asynchronous driver
UBR7200	Cable modem termination system
UCODE	Microcode
UNIX	UNIX
UTIL	Utility
VINES	Banyan VINES
VIP	Versatile Interface Processor
VOICE_FSM	MC3810 voice FSM subsystem
VOICE_RC	MC3810 voice resource subsystem
VPDN	Virtual Private Dialup Networking
VPM	Voice port module
VPN	Virtual Private Dialup Network
X25	X.25
XCPA	Mainframe Channel Port Adapter

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 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 3 *Representation of Variable Fields in Error Messages*

Representation	Type of Information
[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
```

