CHAPTER 1

System Message Format

This chapter describes the Cisco IOS system message structure and error message traceback report.

This chapter contains the following sections:

Message Structure

The message includes the following information:

- Facility code
- Severity level
- Mnemonic code
- Description field

System error messages are structured as follows:

FACILITY-SEVERITY-MNEMONIC: Message-text

Facility Code

The facility code consists of at least two 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 1-1 lists the system facility codes.

Table 1-1 Facility Codes

Code	Facility
ACL	Access control list
ACLSNOOPMAN	ACL Snooping
ARPSNOOPINGMAN	ARP Snooping
BUFFERMANAGER	Memory buffer management
CHASSIS	Chassis
COMMONHWACLMAN	Common hardware ACL management

Table 1-1 Facility Codes (continued)

Code	Facility
COMMONSTUBMAN	ASIC-specific messages
DHCP_SNOOPING	DHCP snooping messages
DOT1X	802.1X-related port-based authentication
DTP	Dynamic Trunking Protocol
EBM	Ethernet bridge management
EC	EtherChannel
FLASH	Flash memory
GBICMAN	Gigabit Interface Converter (GBIC) manager
HW	Hardware
HWACLMAN	Hardware ACL management
HWL2MAN	Layer 2 hardware management
HWNETFLOWMAN	NetFlow management
HWPORTMAN	Hardware port management
IDBMAN	Interface descriptor block management
ILCPROTOCOLERROR	ILC protocol
IOSACLMAN	Cisco IOS ACL management
IOSDIAGMAN	Cisco IOS Diagnostic Manager
IOSDHCPSNOOPMAN	Cisco IOS DHCP snoop management
IOSIGMPSNOOPMAN	Cisco IOS IGMP snoop management
IOSINTF	Catalyst 4500 IOS interface operation
IOSIPROUTEMAN	Cisco IOS IP Route Manager
IOSL2MAN	Cisco IOS Layer 2 Manager
IOSL3MAN	Cisco IOS Layer 3 Manager
IOSMODPORTMAN	Cisco IOS module Port Manager
IOSREDUNDANCYMAN	Cisco IOS redundancy manager
IOSSYS	Catalyst 4500 IOS system
IOSSYSMAN	Catalyst 4500 IOS system management
IPROUTEMAN	Catalyst 4500 IOS IP routing management
L2MAN	Layer 2 hardware management
L3HWFORWARDING	Layer 3 hardware forwarding
LINECARDMGMTPROTOCOL	Line Card Management Protocol
LOGGING_REDIRECT	Logging Redirect ISSU
LPIPMAN	LAN Port IP (LPIP) dynamic host policies
PKTPROCESSING	Packet processing
PM	Port manager
PORTFANOUTASIC4X1000MAN	Port fan-out ASIC 4x1000 management

Table 1-1 Facility Codes (continued)

Code	Facility
PORTFANOUTASIC8X1000HW	Port fan-out ASIC 8x1000 hardware
PORTFANOUTASIC8X100MAN	Port fan-out ASIC 8x100 management
QOS	Quality of Service
REDUNDANCY	Redundant supervisor
S2W	Calendar
SPD	SPD
SFF8472	Floating-point subsystem (SFF8472)
SPANTREE	Spanning Tree Protocol
SPANTREE_VLAN_SW	Spanning Tree VLAN switch management
STORM_CONTROL	Broadcast storm control
STORE	Memory
SUPERVISOR	Supervisor
SWITCH-QOS-TB	Switch QoS management
SW_DAI	Dynamic ARP inspection
SW-VLAN	Switch VLAN management
SWITCHINGENGINEMAN	Switching engine management
SWITCHMANAGER	Switch management
SWNETFLOWMAN	Software NetFlow management
SYSMAN	System management
TRANSCIEVER	TRANSCEIVER subsystem
UFAST	UplinkFast
VQPCLIENT	VLAN query protocol client
WATCHDOG	Watchdog timer

SEVERITY Level

The severity level 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 1-2 lists the message severity levels.

Table 1-2 Message Severity Levels

Severity Level	Description
0	Emergency—System is unusable
1	Alert—Immediate action required
2	Critical—Critical condition
3	Error—Error condition
4	Warning—Warning condition

Table 1-2 Message Severity Levels (continued)

Severity Level	Description
5	Notification—Normal but significant condition
6	Informational—Informational message only
7	Debugging—Message that appears during debugging only

MNEMONIC Code

The MNEMONIC code uniquely identifies the error message. All mnemonics are all uppercase character strings.

Message Text

Message text is a text string that describes the error condition. The text string may contain detailed information about the event, including terminal port numbers, network addresses, or addresses that correspond to locations in the system memory address space. Because variable fields change from message to message, they are represented here by short strings that are enclosed in square brackets ([ ]). A decimal number, for example, is represented as [*dec*]. Table 1-3 lists the variable fields in messages.

Table 1-3 Representation of Variable Fields in Messages

Representation	Type of Information
[*dec*]	Decimal
[*chars*] or [*char*]	Character string
[*hex*]	Hexadecimal integer
[*num*]	Number

Sample System Error Messages

The following is an example of a system error message:

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 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.
- *MSG* is a mnemonic indicating that 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).

Error Message Traceback Reports

Some messages describe internal errors and contain traceback information, which provides the stack trace of the function calls that resulted in the message. This trace helps the engineers track down the problem that is indicated in the message. You should include this information when you report a problem to your technical support representative.

The traceback report includes the following sample information:

-Process= "Exec", level= 0, pid= 17

-Traceback= 1A82 1AB4 6378 A072 1054 1860

The numbers that are printed in the message indicate which lines of code caused the message to occur.