



System Error Messages for Cisco IOS Release 12.2 S

This document lists and describes the system error messages for Cisco IOS software Release 12.2 S, up to and including 12.2(25)S. 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, and others may help diagnose problems with communications lines, internal hardware, or the system software.

This document lists only error messages for Cisco IOS software Release 12.2 S that differ from the error messages that appear in Cisco IOS software Release 12.2 and Cisco IOS software release 12.3. For additional system error messages that are in Release 12.2 S, refer to the *Cisco IOS Software System Error Messages* manual for Cisco IOS Release 12.2 at

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122sup/122sems/index.htm> and the *Cisco IOS Software System Error Messages* manual for Cisco IOS Release 12.3 at <http://www.cisco.com/univercd/cc/td/doc/product/software/ios123/123sup/123sems/index.htm>.

How to Read System Error Messages

System messages begin with a percent sign (%) and are structured as follows. The text in bold are required elements of the System Message, the text in italics are optional elements of the System Message.

%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.

SUBFACILITY is used only for Cisco Catalyst 6000 series switches that are operating in a distributed system. The subfacility can consist of one code, or two codes that are divided by a hyphen, and describes the part of the distributed system from where the message is coming. For example, the %DIAG-SP-STDBY-6-RUN_MINIMUM system message is the %DIAG-6-RUN_MINIMUM message coming from the switch processor (SP) that is in redundant or standby (STDBY) mode.

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 document.

Table 1 System Error Message Facility Codes

Code	Facility
AAA	Authentication, authorization, and accounting
AAA_CACHE	Authentication, authorization, and accounting cache
AAAA	TACACS+ authentication, authorization, and accounting security
AC	Attachment circuit
ACCESS_IE	Access information element
ACLMERGE	Access control list merge
ACLMGR	ACL Manager
ADAPTER	CMCC adapter task
ADJ	Adjacency subsystem
AESOP_AIM	Service engine advanced interface module
AICMGMT	Alarm interface controller management
AIM	Advanced Interface Module (AIM)
AIP	ATM Interface Processor
ALARM	Telco chassis alarm related
ALC	ATM RP driver
ALCDLX	ATM Deluxe
ALC_MQC	ATM MQC RP driver
ALIGN	Memory optimization in Reduced Instruction Set Computer (RISC) processor

Table 1 System Error Message Facility Codes (continued)

Code	Facility
ALPS	Airline Protocol Support
AMD79C971_FE	Am79C971 Fast Ethernet device driver
AMDP2_FE	AMDP2 Ethernet and Fast Ethernet
AP	Authentication Proxy (AP)
ARAP	Apple Remote Access Protocol (ARAP)
ARCHIVE_CONFIG	Archive configuration-related
ARCHIVE_DIFF	Archive diff and rollback-related
AS5400	Cisco AS5400 platform
AS5400_ENVM	Cisco AS5400 environmental monitor
ASPP	Asynchronous Security Protocol (ASPP)
AT	AppleTalk (AT)
ATM	Asynchronous Transfer Mode
ATM_AIM	ATM advanced module
ATMCES	ATM access concentrator PCI port adapter driver
ATMCORE	ATM core
ATMOC3	ATM OC-3 network module
ATMPA	ATM port adapter
ATMSIG	ATM signaling subsystem
ATMSSCOP	ATM Service Specific Connection Oriented Protocol (SSCOP)
ATOM_TRANS	Layer 2 Transport over MPLS
AUDIT	Audit feature
AUTORP	PIMv2 AUTORP
AUTOSEC	AutoSecure
BAP	PPP Bandwidth Allocation Protocol (BAP)
BCM	BCM controller
BCM3220	Cable modem MAC controller interface
BCM56XX	BCM56XX control layer
BFRP_LB	BFRP link bundling
BGP	Border Gateway Protocol
BGP_MPLS	MPLS with BGP Label Distribution Protocol
BIT	Dynamic bit list
BM	FPGA buffer manager
BOOMERANG	Boomerang distributed reverse proxy server
BRI	ISDN Basic Rate Interface
BRIMUX	Cisco AS5200 BRIMUX board
BSC	Binary Synchronous Communications protocol

Table 1 System Error Message Facility Codes (continued)

Code	Facility
BSQ	Buffer status queue processing
BSTUN	Block serial tunneling (BSTUN)
BUNDLES	Bundle
C1400_PCI	Protocol control information (PCI) bus for Cisco 1400 platform
C1600	Cisco 1600 platform
C1700	Cisco 1700 platform
C1700_EM	Cisco 1700 VPN module hardware accelerator for IP security
C2600	Cisco 2600 platform
C2600_MAINBOARD_ASYNC_PQUICC	MPC860 quad integrated communications controller for the Cisco 2600 platform
C2950_MONITOR	Calhoun ROM Monitor emulation
C29ATM	Catalyst 2900XL ATM module
C2KATM	Catalyst 2820 ATM module
C3600	Cisco 3600 platform
C4GWY_DSPRM	DSP Resource Manager
C4K_IOSINTF	Cisco IOS initialization messages for the Catalyst 4000 platform
C4K_IOSSYS	Cisco Catalyst 4000 system-related
C4K_REDUNDANCY	Cisco Catalyst 4000 redundancy
C542	Voice driver for modular access routers
C5421	Voice over IP
C54x	VoIP DSP driver
C54X	VoIP driver
C5RSP	Cisco Catalyst 5000 platform
C6KENV	Cisco Catalyst 6000 environmental system
C6KPWR	Cisco Catalyst 6000 power control system
C6MSFC	C6MSFC (Draco)
C6SUP	C6SUP-specific
C7200_TDM	Cisco 7200 midplane TDM bus
C950	Cisco 950
CAIM	Compression Advanced Interface Module (CAIM)
CALL_CONTROL	Call control
CALL_MGMT	Call management subsystem
CALLPROG	Call progress notification subsystem
CALLRECORD	Modem Call Record
CALLTREAT	Call treatment
CALLTRKR	Call Tracker subsystem

Table 1 System Error Message Facility Codes (continued)

Code	Facility
Camr	CAMR
Camr_Access	Cisco C10720 24FE access card
Camr_COIL	CAMR coil global status
CAMR_ETHERCHANNEL_GENERAL	CAMR EtherChannel
CAMR_POS_OC48	CAMR PoS RP driver
CAMR_QOS_GENERAL	CAMR QoS
CAMR_QUEUE_CFG_GENERAL	CAMR PXF queueing configuration
Camr_SRP_OC48	CAMR SRP OC48
camr_TOASTER	CAMR Toaster
Camr_VA	Cisco CAMR Van Allen
CARRIER	DFC carrier
CASA	Cisco Appliance and Services Architecture (CASA)
CBUS	ciscoBus controller
CBUS_ATTN	CMCC CIP for Cisco bus controller statistics routine
CBUS_WRITE	CMCC CIP for Cisco bus controller write support
CCA	CMCC CIP for channel card adapter
CCH323	Call Control for H323
CCPROXY	H323 proxy
CDM	Cable Data Modem subsystem
CDNLD_CLIENT	Client NRP2 configuration download
CDNLD_SERVER	Server NSP configuration download
CDP	Cisco Discovery Protocol (CDP)
CDSX_MODULE	
CE3	CE3 port adapter (CE3)
CERF	Cache Error Recovery Function (CERF)
CES	Circuit Emulation Service (CES)
CES_CLIENT	Client circuit emulation service (CESt)
CES_CONN	TDM connection
CFGMGR	Configuration Manager
CHARLOTTE	PA-POS-2OC3 Packet-over-SONET (PoS) port adapter
CHOPIN	Versatile Interface Processor (VIP) Multi-channel Port Adapter
CHOPIN_MAINBOARD_ASYNC_PQII	Chopin Main Board Asynchronous driver

Table 1 System Error Message Facility Codes (continued)

Code	Facility
CI	Cisco 7500 platform chassis interface
CIOS	CMCC channel adapter Cisco IOS wrapper
CIP	Channel Interface Processor (CIP)
CIPDUMP	CIP core dump
CIRRUS	CD2430 asynchronous controller
CIRRUS_PM	Slow-speed asynchronous/synchronous port module
CLAW	CMCC CIP for Common Link Access for Workstations (CLAW) facility
CLEAR	Clear facility
CLIENT_CLOCK_SYNC	Clock synchronization server
CLNS	OSI Connectionless Network Service
CLOCKSW	Cisco 6400 network clocking
CLS	Cisco link services (CNS)
CLSDR	Cisco link services (CNS) driver
CM622_CM155	ATM OC12 and QOC3 line card driver
CMD_REPLAY	command replay
CM_DSPRM	Digital Signal Processor Resource Manager (DSPRM)
CM_MONITOR	UBR900 Cable Access Router Personal Monitor
CMAPP	Call Manager application
CMP	Cluster Membership Protocol (CMP) module
CMPCTG	CMCC Logical Link Control Transmission Group
CNS	Cisco Networking Services (CNS)
CNS_AGENT_CFGCHG	Cisco Network Service (CNS) Configuration Change Agent
CNSES	Cisco Network Services Event Service client
COBALT	COBALT
COMMON_FIB	CEF address family independent
CONST_DIAG	Constellation Online Diagnostic
COMP	Point-to-point compression
CONFIG	CMCC Channel Interface Processor (CIP) messages for the configuration processing facility
CONTROLLER	Controller
COPTMONMIB	Cisco Optical Monitoring MIB
COT	Continuity test (COT)
CPAD	Compression service adapter (CSA)
CPE_MMI	Customer Premises Equipment Modem Management Interface
CPM	Combo Port Module (CPM) device driver
CRYPTO	Encryption

Table 1 System Error Message Facility Codes (continued)

Code	Facility
CSM	Call switching module
CSM_VOICE	Call switching mode (CSM) voice subsystem
CT3	Channelized T3 (CT3) port adapter
CTA	CMCC CIP for the channel transport architecture device task/mapper
CTRC	Cisco Transaction Connection
CWAN_ATM	Constellation WAN ATM
CWANLC	Constellation WAN line card
CWANLC_ATM	Constellation WAN ATM Route Processor driver
CWAN_RP	Constellation WAN ATM Route Processor driver
CWPA	Route Processor for Constellation Supervisor router module
CWRMP	Wireless radio point-to-multipoint driver
CWRSU	Wireless radio point-to-multipoint subscriber unit (SU)
CWRTEST	Wireless radio point-to-multipoint test driver
CWTLC	Optical Services Module (OSM) line card
CWTLC_ATM	ATM line card for Constellation Supervisor router module
DAS_ENV	RSC environmental monitor subsystem
DBCONN	Database Connection
DBUS	Data bus
DCU	ATM access concentrator PCI port adapter
DEBUGGER	Debug mode
DEC21140	DEC21140 Fast Ethernet controller
DFC	Dial feature card
DFC_CARRIER	Dial feature card carrier
DHCPD	Dynamic Host Configuration Protocol (DHCP) server
DHCP_SNOOPING	Dynamic Host Configuration Protocol snooping
DHCP_SNOOPING_CAT3550	Cisco Catalyst 3550 platform DHCP snooping
DHCPV6C	DHCPv6 client
DHCPV6S	DHCPv6 server
DIAG	Diagnostic
DIAG_C10K	Online Offline Diagnostics (OOD) C10K subsystem
DIALER	Dial-on-demand routing
DIALPEER_DB	Dial peer configuration
DIALSHELF	Dial shelf messages
DIRECTOR	Director server
DISKMIRROR	NSP disk mirror

Table 1 System Error Message Facility Codes (continued)

Code	Facility
DLC	Data-link control
DLSWC	Data-link switching (DLSw)
DLSWMasterSlave	Data-link switching (DLSw) core
DLSWP	Data-link switching (DLSw) peer module
DMA	Direct memory access
DMLPGRP	BFR DMLP/DMFR
DMTDSL	Digital/discrete multitone digital subscriber line (DMTDSL)
DNET	DECnet
DNSSERVER	Domain Name System (DNS) server
DOT1Q_TUNNELLING	801.1Q tunnelling
DPM	AS5200 T1 BRIMUX
DRIP	Duplicate Ring Protocol
DRP	Director Response Protocol
DRVGRP	Interface driver
DSA	Delayed stop accounting
DSC	Dial shelf controller (DSC)
DSC_ENV	Cisco AS5800 environment monitor
DSCC4	DSCC4 driver
DSCCLOCK	Dial shelf controller (DSC) clock
DSCEXTCLK	Dial shelf controller (DSC) clock
DSCREDCLK	Dial shelf controller (DSC) redundancy clock
DS_MODEM	FB modem card
DS_TDM	Dial shelf time-division multiplexing
DSC_REDUNDANCY	Cisco AS5800 dial shelf controller (DSC) redundancy
DSI	Cisco AS5800 dial shelf interconnect board
DSIP	Distributed system interconnect protocol
DSIPPF	Nitro Interconnect Protocol
DSLARS	DSL segmentation and reassembly
DSM	DSP Stream Manager
DSP_CONN	TDM connections
DSPDD	Digital Signal Processor Device Driver (DSPDD)
DSPDUMP	Digital Signal Processor crash dump facility
DSPFARM	DSP resource management
DSPRM	Digital Signal Processor Device Driver (DSPDD)
DSPU	Downstream physical unit

Table 1 System Error Message Facility Codes (continued)

Code	Facility
DSX0	CT1 RBS time slot status
DSX1	Channelized E1 (Europe) and T1(US) telephony standard
DSXPNM	TE3 network module
DTP	Dynamic Trunking Protocol filtering
DUAL	Enhanced Interior Gateway Routing Protocol
DVMRP	Distance Vector Multicast Routing Protocol
E1T1_MODULE	E1T1 module
E4ATOM	E4/E4+ Any Transport over MPLS (AToM)
E4LC	E4 line card
E6LC	Engine 6 line card mtrie memory manager
E6_RX192	E6 RX SBE/MBE error interrupt
EC	Port Aggregation Protocol
ECC	Single bit errors in ECC
EGP	Exterior Gateway Protocol
EE48	Internet Router OC48 ISE line card
EELC	Internet Router edge engine line card
EENULL	MPLS encapsulation of explicit null application
EERP	Internet Router edge engine RP
EHSA	Cisco 6400 Enhanced High System Availability (EHSA)
EIO	Engine 6 line card Elastic I/O (EIO) error interrupt
ENSP	Enhanced Network Services Provider (ENSP)
ENT_API	Entity MIB API
ENV_MON	Cisco 12000 series Internet Router environmental monitor
ENVM	Environmental monitor
EOS	Eos FPGA (used on some Hyperion-based WAN interface line cards)
EPAD	Encryption port adapter driver (EPAD)
ESCON	Hamptons ESCON line card-related
ESWILP_FLTMG	ESWILP fault management
ESWITCH	Ethernet switch port adapter
ETHERNET	Ethernet for the C1000 series
EVENT	Event MIB
EVENT_TRACE	Event trace subsystem
EXFREE	External memory manager
EXPRESSION	Expression MIB
EXPRESS_SETUP	Express Setup
FABRIC	Fabric Interface ASIC (FIA)

Table 1 System Error Message Facility Codes (continued)

Code	Facility
FALLBACK	VoIP fallback
FAN	Fan
FASTBLK	Fast Block
FB	Cisco AS5800 feature board
FB_COREDUMP	Feature board core dump
FBINFO	Cisco AS5800 feature board crash information subsystem
FDDI	Fiber Distributed Data Interface (FDDI)
FECPM	Fast Ethernet (FE) Combination Port Module (CPM) device driver
FIB	IP Cisco Express Forwarding (CEF) radix tree
FILESYS	File system
FLASH	Flash nonvolatile memory
FM	Feature Manager (FM)
FPD_MGMT	FPD Management Subsystem
FPGA	LS1010 chip-specific
FR	Frame Relay
FR_ADJ	Frame Relay Adjacency
FR_ELMI	Frame Relay enhanced Local Management Interface
FR_FRAG	Frame Relay Fragmentation
FR_LMI	Frame Relay Local Management Interface
FRR_OCE	FRR OCE Infrastructure
FR_RP	Frame Relay RP
FR_VCB	Frame Relay VC
FR_VIP	Frame Relay VIP
FRATM	Frame Relay ATM
FREEDM	CT3 trunk card Freedm
FS_IPHC	Fast IP Header Compression
FTC_TRUNK	Cisco 3801 platform
FTPSERVER	FTP server processes
FTSP	Fax Telephony Service Provider subsystem
FW	Inspection subsystem
FX1000	FX1000 Gigabit Ethernet controller
GBIC_SECURITY	GBIC security
GBIC_SECURITY_CRYPT	GBIC security serial EEPROM verification
GBIC_SECURITY_UNIQUE	GBIC security uniqueness verification
GE	Gigabit Ethernet subsystem

Table 1 System Error Message Facility Codes (continued)

Code	Facility
GE4_DM	GE4 DM
GE4_L2_TCAM	GE4 Layer 2 TCAM
GE4_L2_VMR	GE4 Layer 2 VMR
GE4_VLAN	GE4 VLAN
GEFC	Gigabit Ethernet/Fibre Channel
GENERAL	Zenith route processor
GENERIC_SUBBLOCK	Generic subblock
GET_DATA	CMCC CIP for allocating transfer elements
GK	GK-H.323 Gatekeeper
GK_OSP	H.323 Gatekeeper OSP
GLBP	Gateway Load Balancing Protocol
GPRSFLTMG	Global Packet Radio Service Fault Management
GPRSMIB	Global Packet Radio Service MIB
GRIP	Xerox Network Systems (XNS) Routing Protocol
GRP	Gigabit Route Processor
GRP_C10K_CH_DS3	C10K-CH-DS3 RP driver
GRP_C10K_SRP	SRP subsystem
GRP_CHOCX	CHOCX RP driver
GRPCT3	Gigabit Route Processor (GRP) CT3 port adapter driver
GRP_DS3	Gigabit Route Processor (GRP) DS3 port adapter driver
GRP_E3	Gigabit Route Processor (GRP) Channelized E3 driver
GRPFE	Gigabit Route Processor (GRP) Fast Ethernet driver
GRPGE	Gigabit Route Processor (GRP) Gigabit Ethernet driver
GRP_OC12_CH_DS3	Gigabit Route Processor (GRP) driver
GRPPOS	POS Route Processor
GRP_UTIL	Gigabit Route Processor (RP) card
GSHDSL	G.Symetric High DSL
GSI	G.Symetric high bit rate DSL
GSR_ENV	Internet router environment monitor
GSRIPC	Internet router IPC service routines
GT64010	GT64010 DMA controller driver
GT96100	GT96100 DMA Controller Driver
GT96K_FE	Cisco 3700 series and Cisco 3631 systems controller
GT96K_FEWAN	Cisco 3700 series and Cisco 3631 systems controller for WAN
GT96K_TDM	Cisco 37xx, Cisco 2691, and Cisco 3631 TDM subsystem
GTP	GPRS Tunnel Protocol

Table 1 System Error Message Facility Codes (continued)

Code	Facility
HA	High Availability (HA)
HA_EM	Embedded Event Manager (EEM)
HAL	Halcyon
HARDWARE	Hardware resources
HAWKEYE	Token Ring PCI port adapter
HD	HD64570 serial controller
HDV	High Density Voice (HDV) driver
HDX	Half-duplex (HDX) finite state machines (FSM)
HEARTBEAT	Heartbeat
HERA	HERA
HIFN79XX	Hifn 79xx
HLFM	Forwarding Manager
HMM_ASYNC	Hex modem network module asynchronous driver
HOOD	LAN controller 100VG-AnyLAN interface
HP100VG	100VG-AnyLAN port adapter driver
HPI	Host Port Interface
HSRP	Hot Standby Router Protocol (HSRP)
HTSP	Analog voice hardware adaptation layer software
HTTP	Hypertext Transfer Protocol (HTTP)
HTTTPC	HTTP client
HUB	Cisco Ethernet hub
HW_VPN	Encryption Advanced Interface Module (EAIM)
I82543	Intel 82543 Ethernet/Fast Ethernet/Gigabit Ethernet controller
I82559FE	Intel 82559 Fast Ethernet Controller
IAD2420_VOICPORT	IAD2420 Voice Port
IBM2692	IBM Token Ring chipset
ICC	Inter-Card Communication
IDBINDEXT_SYNC	Interface Descriptor Block (IDB) index synchronization
IDMGR	ID manager
IDNLD	NSP IDNLD
IDS	IP datagram subsystem (IDS)
IDTATM25	IDT ATM25 network module
IF	Interface
IFINDEX	SNMP IF_MIB persistence
IFS	Cisco IOS file system
IGRP	Interior Gateway Routing Protocol

Table 1 System Error Message Facility Codes (continued)

Code	Facility
ILACC	ILACC driver
IMA	Inverse multiplexing over ATM (IMA)
IMAGEMGR	Archive Download Module
INDXOBJ	Index object
INT	CIP for the interrupt handler interface
INTERFACE_API	Binary API for the interface descriptor block
IOCARD	I/O card-specific
IP	Internet Protocol
IPA	Intelligent port adapter
IPACCESS	IP security
IPC	Interprocess communication
IPC_DRVR	CMCC interprocess communication driver
IPC_RPM	Interprocess communication (IPC)
IPC_RSP_CBUS	Interprocess communication ciscoBus (CBUS)
IPC_URM	Interprocess communication universal router module
IPCGRP	Route Processor (RP) interprocess communication (IPC)
IPDCAPP	Internet Protocol Device Control application
IPFAST	IP fast switching
IPFLOW	IP flow
IPM_C54X	Voice over IP (VoIP) driver
IPMCAST_LIB	IP Multicast library
IPM_DSPRM	Digital Signal Processor (DSP) Resource Manager
IPM_NV_EEPROM	Integrated port module NVRAM driver
IPMOBILE	IP Mobility
IPP	CMCC encryption feature
IPRT	IP routing
IP_SNMP	Simple Network Management Protocol (SNMP)
IPV6	IP Version 6
IPV6FIB	IP Version 6 forwarding-based on destination IP addresses
IP_VRF	VRF common
IPX	Novelle Internetwork Packet Exchange Protocol (IPX)
IRONBUS	Iron bus
ISA	Integrated Services Adapter (ISA)
ISDN	Integrated Services Digital Network (ISDN)
ISRHOG	Interrupt Service Routine Hog
ISSU	In-service software upgrade or downgrade

Table 1 System Error Message Facility Codes (continued)

Code	Facility
ISSU_CS	ISSU configuration synchronization
ISSU_CS_DL_MESSAGES	ISSU configuration synchronization diff-list related
ISSU_PROCESS	ISSU process
IUA	ISDN User Adaptation Layer
IVR	Interactive Voice Response (IVR)
IVR_MSB	Media Stream module
KERBEROS	Voice over IP (VoIP) for Cisco AS5800
KEYMAN	Keystring encryption
KINEPAK	Voice over IP (VoIP) for Cisco AS5800
L2CAC	Layer 2 CAC
L2_MGR	Layer 2 manager
L2R	L2RLY
L2_THROTTLE	Layer 2 throttle
L2TM	Layer 2 TCAM
L3_MGR	Layer 3 manager
L3TCAM	Layer3 TCAM Manager
LANCE	Local Area Network Controller Ethernet
LANE	LAN Emulation
LANMGR	IBM LAN Network Manager
LAPB	X.25 Link Access Procedure, Balanced
LAPP_OFF	Fax offramp calls
LAPP_ON_MSGS	Fax onramp calls
LAT	DEC local-area transport
LB	Generic link bundling
LC	line card
LC_10G	Hamptons 10G trunk card-related
LC_2P5G	Hamptons 2.6G trunk card-related
LCB	Line Control Block (LCB) event process
LCCEF	ATM Cisco Express Forwarding (CEF) adjacency
LCCOREDUMP	Line card core dump subsystems
LCINFO	Line card crash information subsystem
LCLOG	Internet router line card logger subsystem
LC_SSRP	Internet Router SSRP line card
LDP	Label Distribution Protocol (LDP)
LES_FDDI	LAN Emulation Server/Fiber Distributed Data Interface
LEX	LAN extension

Table 1 System Error Message Facility Codes (continued)

Code	Facility
LFD	MFI Label Switching Database (LFD)
LIBT2F	Text to fax library
LIBTIFF	Tagged Image File Format (TIFF) library
LINECARD	Node Route Processor (NRP) line card
LINEPROTO	Line Protocol
LINK	Data link
LLC	Logical Link Control (LLC), type 2
LLIST	Linked list facility
LNMC	LAN network manager
LOADER	CIP for relocating loader facility
LOGIN	Login
LOVE	Statistics from the CIP to the router
LPD	Line printer daemon
LRE_CPE	LRE CPE initialization
LRE_LINK	LRE link
LRE_LOG	LRE log
LRE_UPGRADE	LRE upgrade
LSD	MFI MPLS Forwarding Infrastructure (MFI) Label Switching Database (LSD)
LSD_CLIENT	MFI MPLS Forwarding Infrastructure (MFI) Label Switching Database (LSD) client
LSD_HA	MFI MPLS Forwarding Infrastructure (MFI) Label Switching Database (LFD) High Availability (HA)
M32X	M32X Basic Rate Interface trunk card
MACL	MPLS access list
MAILBOX	ChipCom mailbox support
MARS_NETCLK	Network clock system
MBRI	Multi-BRI port modules
MBUF	CMCC memory buffer
MBUS	CMCC maintenance bus (Mbus)
MBUS_SYS	Maintenance bus (Mbus) system
MC3810_DSX1	MC3810 DSX1 subsystem
MCAST	Layer 2 multicast
MCX	Voice port adapter
MDS	Multicast distributed switching
MDT	PIM MDT
MDX	MDX messages for the Cisco 12000 series Internet Router

Table 1 System Error Message Facility Codes (continued)

Code	Facility
MEMD	CMCC CIP related to the memory device facility
MEM_ECC	Single and multiple bit and CPU write parity errors that have been detected by ECC control
MEMPOOL	enhanced memory pool MIB
MEMSCAN	Memory scan
METOPT	Cisco Optical Networking Systems (ONS) 15540 Extended Services Platform (ESP)
METOPT_DI	Cisco Optical Networking Systems (ONS) 15540 Extended Services Platform (ESP) Converged Data Link (CDL) Defect Indication (DI)
METOPT_DRV	Cisco Optical Networking Systems (ONS) 15540 Extended Services Platform (ESP) driver
MFI	MPLS Forwarding Infrastructure (MFI)
MFIB	Multicast Forwarding Information Base (MFIB)
MFIB_STATS	Multicast Forwarding Information Base (MFIB) statistics
MGCP	Media Gateway Control Protocol
MGCP_APP	Media Gateway Control Protocol application-specific
MHA_MODE	Marvel high availability
MICA	Modem ISDN Channel Aggregation (MICA)
MIF68840	PCI MC68840 FDDI port adapter
MIMIC	MCOM integrated modem network modules
MISA	Multiple Crypto Engine subsystem
MISTRAL	Mistral ASIC
MK5	MK5025 serial controller
MLD_PROT	Multicast Listener Discovery (MLD)
MMODEM	Integrated modem network module
MODEM	Router shelf modem management
MODEM_HIST	Router shelf modem history and tracing
MODEM_NV	Modem NVRAM
MODEMCALL RECORD	Modem Call Record
MONITOR	Cisco IOS software ROM monitor
MPA68360	VIP Multi-channel Port Adapter
MPC	Multipath Channel Protocol
MPLS_ATM_TRANS	ATM Transport over MPLS
MPLS_IPRM	MPLS IP rewrite manager (IPRM)
MPLS_LBL_CHKPT_ MGR	MPLS HA messages for label binding checkpoint manager
MPLSMFISTATIC	MPLS MFI MPLS Forwarding Infrastructure (MFI) static application

Table 1 System Error Message Facility Codes (continued)

Code	Facility
MPLS_PACKET	MPLS packet
MPLS_TE	Label Switch Path (LSP) tunnel
MPLS_TE_PCALC	MPLS TE path calculation facility
MPLS_VPN_HA	MPLS HA messages for checkpointing label bindings
MPOA	Multiprotocol over ATM (MPOA)
MRIB	Multicast Routing Information Base (MRIB)
MRIB_API	Multicast Routing Information Base (MRIB) proxy
MRIB_PROXY	Multicast Routing Information Base (MRIB) client API
MROUTE	Multicast route
MSC100_SPA_CC	7304 SPA Carrier Card
MSDP	Multicast Source Discovery Protocol
MSG802	CMCC CIP 802 for IEE 802.2cx LLC Protocol
MSPI	Mail Service Provider
MTRIE	Mtrie
MUESLIX	Mx serial application-specific integrated circuit (ASIC)
MXT_FREEDM	8PRI/4T board
NATMIB_HELPER	NAT MIB helper
NBAR	Network-based application recognition (NBAR)
NET_SERV	Networking Services
NETWORK_CLOCK_SYNCHRONIZATION	Network clock synchronization
NEVADA	CMCC CIP interrupt controller
NHRP	Next Hop Resolution Protocol
NIM	Network interface module
NP	NextPort (NP)
NP_BS	NextPort (NP) Bootstrap and Crash Monitor
NP_DDSDM	NextPort (NP) Digital Data Services Manager
NP_DSPLIB	NextPort (NP) DSPLIB
NP_EST	NextPort (NP) error, status, and trace
NP_MD	NextPort (NP) modem driver
NP_MM	NextPort (NP) module manager
NP_SIGLIB	NextPort (NP) signaling library
NP_SPE_DS	NextPort (NP) Dial Shelf Service Processing Element (SPE) Manager
NP_SSM	NextPort (NP) Session and Service Manager
NP_VPD	NextPort (NP) Voice Packet Driver
NP_VSM	NextPort (NP) Voice Service Manager

Table 1 System Error Message Facility Codes (continued)

Code	Facility
NRP	Network Routing Processor (NRP)
NRP2	Network Route Processor, type 2
NRP2_NVMANAGE	Network Route Processor, type 2 NVRAM management
NRP2_SE64	SE64 upper and lower layer device driver
NRP2EHSA	NRP2 EHSA
NSE	Network services engine
NSE100	Network services engine
NSP	Network Switch Processor (NSP)
NSP_APS	Cisco 6400 node switch processor (NSP)
NSP_DISK	NSP disk
NSP_OIR	Cisco 6400 online insertion and removal (OIR)
NSPINT	Network switch processor (NSP) interrupt infrastructure
NTP	NTP
OCE	OCE infrastructure
OIR	Online insertion and removal (OIR)
ON_DIAG	Online diagnostics subsystem
ONS15530	ONS15530
OOBP	Out-of-band port (OOBP)
OPTICAL_MONITOR	Optical monitoring
OSPF	Open Shortest Path First (OSPF)
OSPFv3	Open Shortest Path First Version 3
OUNIC	Optical User Network Interface Client-side
P2IPC	Fast IPC event
P2IPC_TRACE	Fast IPC trace
PA	Port adapter
PACKET	Packet manager
PACC	Cisco Content Engine 7300 Port Adapter Carrier Card (PACC)
PACC2	Cisco 7300 series Port Adapter Carrier Card (PACC) slot 2
PACC3	Cisco 7300 series Port Adapter Carrier Card (PACC) slot 3
PACC4	Cisco 7300 series Port Adapter Carrier Card (PACC) slot 4
PACC5	Cisco 7300 series Port Adapter Carrier Card (PACC) slot 5
PACC_IPC	Port Adapter Carrier Card (PACC) Interprocess Communication
PACKET	Packet Manager
PAD	X.25 packet assembler/disassembler
PAMMBOX	Platform-independent PAM mailbox serial interface
PARSE_RC	Parser return code

Table 1 System Error Message Facility Codes (continued)

Code	Facility
PARSER	Parser
PATCH	Patch
PBR	Policy-Based Routing (PBR)
PCMCIAFS	PCMCIA disk
PERSEUS	Catalyst 6000 ACL-lookup chip
PERUSER	PPP per-user configuration
PF	Protocol filtering
PFINIT	Platform initialization
PFREDUN	Platform redundancy
PGM	Pragmatic General Multicast (PGM)
PGMHOST	Pragmatic General Multicast (PGM) host module
PHY	PHY
PIF	RSC PIF
PIM	Protocol Independent Multicast
PIM_PROT	Protocol Independent Multicast (PIM)
PIM_REG_TUN	Protocol Independent Multicast (PIM) register tunnel
PLATFORM	Platform-specific
PLATFORM_CAPABILITY	Platform Capability Subsystem
PLATFORM_CAT2950	ASIC driver messages specific to the Catalyst 2950
PLATFORM_CAT3550	Low-level platform
PLATFORM_CATALYST2940	Calhoun uplink-related
PLATFORM_CATALYST2950	Low-level platform
PLATFORM_CATALYST2955	Calhoun port-related
PLATFORM_FBM	Platform-specific fallback bridging
PLATFORM_IPC	Platform IPC
PLATFORM_PBR	Policy-Based Routing (PBR)
PLATFORM_PM	Platform-specific Port Manager
PLATFORM_RPC	Platform RPC
PLATFORM_SPAN	SPAN platform
PLATFORM_UCAST	Platform Unicast Routing
PLATFORM_VLAN	Platform-specific VLAN
PLUGGABLE_TRANSCEIVER	Pluggable transceiver module Online Insertion and Removal (OIR)

Table 1 System Error Message Facility Codes (continued)

Code	Facility
PM	Port Manager
PM3386	PM 3386
PM622	8xOC3 Enhanced ATM LC driver
PM_MODEM_HIST	Modem history and tracing
PM_MODEM_MAINT	Modem maintenance
PM_SCP	Port Manager SCP
PMSN	Port State Machine
PNNI	Private Network-Network Interface
POLARIS	Polaris ASIC
POLICY_MANAGER	Policy Manager
PORT	Port Management
PORT_SECURITY	Port Security
POS	Packet over SONET subsystem
POSDW	Packet over SONET double-wide PCI port adapter driver
POSLC	Packet over SONET line card
POT1E1	Versatile Interface Processor (VIP) multichannel port adapter
POTS	Plain old telephone service (POTS)
PPP	Point-to-Point Protocol (PPP)
PQII	MPC860 quad integrated communications controller
PQUICC	MPC860 quad integrated communications controller
PQUICC_ASYNC	Asynchronous MPC860 quad integrated communications controller
PQUICC_ASYNC_NOMEM	Integrated Port Module Asynchronous Driver
PQUICC_ETHER	Ethernet MPC860 quad integrated communications controller
PQUICC_ETHERNET	Ethernet MPC860 quad integrated communications controller
PQUICC_FE	Fast Ethernet MPC860 quad integrated communications controller
PQUICC_SERIAL	Serial MPC860 quad integrated communications controller
PRBS	Manhattan PRBS-related
PS	Power supply
PSACL	PSA ACL
PSABYPASS	PSA bypass
PV	Private VLAN
PWD_SYNC	RF subsystem password synchronization
PW_WATCHER	Portware Watcher
PXF	Parallel eXpress Forwarding
PXF_ACL	Parallel eXpress Forwarding (PXF) ACL-specific

Table 1 System Error Message Facility Codes (continued)

Code	Facility
PXFAPI	Parallel eXpress Forwarding (PXF) API-related
PXF_FIB	Parallel eXpress Forwarding (PXF) Forwarding Information Base (FIB)
PXF_FLOW	PXF Netflow
PXF_GRE	Parallel eXpress Forwarding (PXF) Generic Routing Encapsulation (GRE)
PXF_MPLS_TE	Parallel eXpress Forwarding (PXF) MPLS TE
PXF_NAT	Parallel eXpress Forwarding (PXF) Network Address Translator (NAT)
PXF_QOS	Parallel eXpress Forwarding (PXF) Quality of Service (QoS)
PXF_VRFS	Parallel eXpress Forwarding (PXF) VRF Select (VRFS)
PXF_QOS	Parallel eXpress Forwarding (PXF) Quality of Service (QoS)-related
QA	Queue and accumulator
QEM	QEM driver
QLLC	Qualified Logical Link Control
QM	Quality of service
QOSMGR	Quality of Service (QoS) Manager
QUICC	MC68360 quad integrated communications controller
QUICC_ASYNC	Asynchronous MC68360 quad integrated communications controller
QUICC_ETHER	Ethernet MC68360 quad integrated communications controller
QUICC_SERIAL	Serial MC68360 quad integrated communications controller
RAC	Ring Access Controller
RADIO	Radio driver
RADIO_DRIVER	Radio driver
RADIUS	RADIUS
RADIX	Radix
RAIKO	RAIKO-based feature board
RANDOM	Utility
RBCP	Router Blade Control Protocol
RCMD	Remote command
Regen	Cisco optical regenerator
Regen_MAINBOARD_ASYNC_PQUICC	Asynchronous MPC860 quad integrated communications controller for the Cisco optical regenerator
REGISTRY	Registry
RESOURCE_MON	Resource monitor subsystem
RESYNCH	Route Processor Module (RPM) resynchronization process
RIP	IP Routing Information Protocol (RIP)
RITE	IP traffic export
RLM	Redundant Link Manager (RLM)

Table 1 System Error Message Facility Codes (continued)

Code	Facility
RM	Resource Manager
RMON	Remote Monitoring Protocol
ROUTEMAP	Route map
ROUTEMAP_IPC	Route map interprocess communication (IPC)
RPA	Resource Pool Allocation (RPA)
RPC	Remote Procedure Call
RPM	Route Processor Module (RPM)
RP_MLP	Distributed Point-to-Point Protocol (PPP) Multilink
RPM_BULK	RPM-specific bulk file
RPM_CONFIG_COPY	RPM config copy feature
RPM_RED	RPM redundancy
RPM_VIRTUAL_PORT	RPM virtual port
RPMXF	RPMXF card level
RPMXF_QOS_GENERAL	RPMXF Quality of Service
RPMXF_QUEUE_CFG_GENERAL	RPMXF queuing configuration
RPMXF_TOASTER	RPMXF Toaster
RPMXFEVENTMGR	RPMXF event manager subsystem
RPS	Redundant power system
RS_TDM	Router shelf time-division multiplexing
RSC	Route Switch Controller (RSC)
RSC_CF	Compact flash error
RSCPB	RSC push button
RSP	Route Switch Processor
RSRB	Remote source-route bridging
RSVP	RSVP protocol
RTT	Round trip time monitor
RUDP	Reliable User Datagram Protocol
RUNCFGSYNC	Auto-Running Configuration Synchronization
RW_TOO_LONG	MPLS rewrite
S4T68360	Four-port synchronous serial adapter based on the 68360 processor
SARMGR	Segmentation and reassembly (SARMGR)
SBETH	MAC controller
SCCP	Signaling connection control part
SCHED	Scheduler

Table 1 System Error Message Facility Codes (continued)

Code	Facility
SCP	Downstream physical unit (DSPU)
SDLC	Synchronous Data Link Control
SDLLC	Synchronous Data Logical Link Control (SDLLC) Logical Link Control Type 2 (LLC2) translation
SDM	SDM template
SDP	Session Description Protocol
SDLC	GSHDSL
SEC	IP security
SEC_LOGIN	Secure Login
SERVER_CLOCK_SYNC	Clock synchronization service
SERVICE_MODULE	Service module
SERVICEMODULE	Service module monitor
SFP	SFP
SFP_SECURITY	SFP security check
SGBP	Stack Group Bidding Protocol
SGCP	Simple Gateway Control Protocol (SGCP)
SGCP_APP	Simple Gateway Control Protocol (SGCP) application-related
SHELF	Router shelf
SIGNATURE	Signature
SIGSM	Signaling Service Manager
SIP	Session Initiation Protocol
SKINNYSERVER	Skinny server
SLB	Server load balancing
SLB_DFP	Server Load Balancing Dynamic Feedback Protocol agent
SLIP	Serial Line Internet Protocol
SLOTDUMP	Slot dump
SM	State machine (SM)
SMF	Software MAC Filter
SMRP	Simple Multicast Routing Protocol
SNAPSHOT	Snapshot dial-on-demand routing
SNASW	Systems Network Architecture (SNA) Switching Services
SNMP	Simple Network Management Protocol (SNMP)
SNMP_BULKSTAT	Simple Network Management Protocol (SNMP) bulk data collection
SNMP_ION	ION-specific Simple Network Management Protocol (SNMP)
SNMP_MGR	Simple Network Management Protocol (SNMP) proxy
SOI	Simple Network Management Protocol (SNMP) over interprocess communication (IPC)

Table 1 System Error Message Facility Codes (continued)

Code	Facility
SONET	Synchronous Optical Network
SONETMIB	Synchronous Optical Network Management Information Base
SONICT	SONIC Ethernet interface-related
SPA	Shared Port Adapter (SPA)
SPA_CONSOLE	Shared Port Adapter (SPA) virtual console
SPA_DATABUS	Shared Port Adapter (SPA) data bus interface
SPA_ETHER	4-port 10/100, 2-Port 10/100/1000 Ethernet Shared Port Adapter (SPA)
SPAN	Spanning Tree Protocol
SPANTREE	Spanning Tree
SPANTREE_FAST	Spanning Tree Fast Convergence
SPANTREE_VLAN_SW	Spanning Tree VLAN switch
SPA_OIR	Shared Port Adaptor (SPA) Online Insertion and Removal (OIR)
SPARC	3800 SPARC coprocessor subsystem
SPE	Service Processing Element (SPE)
SPE4X155	PMC SPE4X155 driver
SRCP_APP	Simple Resource Coordination Protocol (SRCP) application
SRP	Spatial Reuse Protocol (SRP)
SRPMIB	SRP MIB messages for the Cisco 12000 series Internet Router
SSE	Silicon switching engine
SSG	Service Selection Gateway
SSH	Secure Shell (SSH) Protocol
SSI	SSI event
SSRP	SONET/SDH based SRP Double Wide PCI port adapter driver
SSSMGR	Subscriber Service Switching (SSS) Manager
STACKMGR	Stack Manager Controller
STANDBY	Hot Standby Router Protocol (HSRP)
STORM_CONTROL	Storm control
STUN	Serial tunneling
SUBSYS	Software subsystems
SUPERVISOR	Supervisor
SUPQ	Supervisor queue
SW56	Switch 56K
SW_DAI	Dynamic ARP Inspection (DAI)
SWITCH	Switch interface
SWITCH_IF	Switch interface subsystem
SWITCHOVER	Line card switchover-related

Table 1 System Error Message Facility Codes (continued)

Code	Facility
SWITCH_QOS_TB	Trusted boundary
SW_MGR	Segment switch manager
SW_VLAN	Virtual LAN (VLAN) manager
SYS	Operating system
SYSCTLR	System controller subsystem
SYSLOG_SERVER	Syslog-server file system routines
SYSMGT_RPC	System management
SYSTEM_HM	System health monitor
T1E1SUNI	PAM port driver
TAC	Terminal Access Controller Access Control System
TAGCON	Tag distribution and control
TAGCOS	Tag switching class of service
TBRIDGE	Transparent bridging
TCAM	General TCAM
TCAM_MGR	TCAM manager
TCAMMGR	TCAM manager
TCATM	ATM TAG control
TCMSP	Call control for telephony-style hardware interfaces
TCP	Transmission Control Protocol
TDM	Time-division multiplexing (TDM)
TDM_CLOCK_SYNCHRONIZATION	Time-division multiplexing (TDM) frame clock
TDM_CONN	TDM connections
TDP	Tag Distribution Protocol
TENGIGE_LC	10 Gigabit Ethernet line card
TESTPA	TestPA port adapter
TFIB	Tag Forwarding Information Base
TI1570	PCI/TI1570-based ATM port adapter
TIB	Tag Information Base
TIGER	Error-correcting code (ECC) and parity-related
TLV	EEPROM
TMQ	Inbound terminal port queuing
TN	Telnet
TN3270	TN3270 protocol
TOASTER	Toaster
TOASTER_IPC	Toaster interprocess communication

Table 1 System Error Message Facility Codes (continued)

Code	Facility
TPLUS	TACACS Protocol
TR	Token Ring
TRAFFENG	Traffic engineering routing
TRANGE	Time-range
TRUNK	E1/T1 trunk card
TRUNK_CLOCK	AS5400 clocking
TRUNK_DFC	Trunk dial feature card
TRUNK_SERIAL	Trunk serial device
TSP	Tag-switched path (TSP)
TSP_TUNNEL	Tag-switched path (TSP) tunneling
TTY	Tty-related for all platforms
TTYDRIVER	Router shelf asynchronous driver
TUN	Tunnel
TUNSS	Tunnel security
TURBORSC	Platform-specific RSC
TWO_GIGE	Two Gigabit Ethernet subsystem
TUN	Tunnel
TX192	Tx 192
TXCONN	Cisco Transaction Connection (CTRC)
UBR7200	Cable modem termination system
UCODE	Microcode
UDLD	UniDirectional Link Detection (UDLD) protocol
UNIX	UNIX
UPS	Uninterruptible power supply
URLF	URL filtering subsystem
UTIL	Utility
VFC	Voice over IP (VoIP)
VINES	Banyan VINES
VIP	Versatile Interface Processor
VIPMLP	Multilink PPP
VOA	Hamptons VOA subcard-related
VOICE_FSM	MC3810 voice FSM subsystem
VOICE_IEC	Voice internal error code (IEC)
VOICE_RC	MC3810 voice resource subsystem
VOICE_UTIL	Voice call control utilities
VOIPAAA	VoIP AAA

Table 1 System Error Message Facility Codes (continued)

Code	Facility
VOIPFIB	VoIP FIB
VOLANT	Content engine NM
VPA	Voice port adapter
VPD	ATM CES (Voice Processor Deck) driver
VPDN	Virtual Private Dialup Networking
VPN_HW	VPN hardware accelerator
VRM	Voice Resource Management
VRRP	Virtual Router Redundancy Protocol
VSI_M	Virtual Switch Interface (VSI) master
VSTATS	Voice statistics push data
VTSP	Voice Telephony security parameter index (SPI)
WCCP	Web Cache Communication Protocol (WCCP)
WS_ALARM	Alarm-related
X25	X.25
XCCTSP_VOICE	External Call Control Telephony Service Provider
XCPA	Mainframe Channel Port Adapter
XCVR	Transponder-related
XDR	XDR
XDSLWIC	Cisco 2600 series and 3600 series xDSL drivers
XTAGATM	Extended Tag ATM (XTagATM)

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

Message severity levels correspond to the keywords assigned by the **logging console** and **logging monitor** global configuration commands that define where and at what level these messages appear. In general, the default is to log messages from level 0 (emergencies) to level 7 (debugging). However, the

default level varies by platform. For more information, see the system configuration chapter and descriptions of the **logging console** and **logging monitor** commands 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, 10.10.2.16)
[int]	Integer number
[ipv6_addr]	IP version 6 (IPv6) address
[node]	Address or node name
[p]	IPv6 packet
[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 Cisco technical support representative.

The following sample message includes traceback information:

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