

Cisco IOS XR System Error Message Reference Guide

Cisco IOS XR System Error Messages Reference Guide

This document provides links to files containing Cisco IOS XR System Error Messages (SEM) for all Cisco IOS XR platforms.

Supported platforms running Cisco IOS XR are:

- Cisco ASR 9000 Series Aggregation Service Routers
- Cisco CRS Routers
- Cisco IOS XRv 9000 Routers
- Cisco 8000 Series Routers
- Cisco Network Convergence System 4000 Series Routers
- Cisco Network Convergence System 6000 Series Routers
- Cisco Network Convergence System 5000 Series Routers
- Cisco Network Convergence System 5500 Series Routers
- Cisco Network Convergence System 540 Routers
- Cisco Network Convergence System 560 Routers

SEM for the supported platforms are made available for each release of the software in SEM spreadsheet files, one for each release:

- [SEM for Cisco IOS XR Software Release 7.3.15](#)
- [SEM for Cisco IOS XR Software Release 7.3.1](#)
- [SEM for Cisco IOS XR Software Release 7.2.2](#)
- [SEM for Cisco IOS XR Software Release 7.2.1](#)
- [SEM for Cisco IOS XR Software Release 7.1.2](#)
- [SEM for Cisco IOS XR Software Release 7.1.15](#)
- [SEM for Cisco IOS XR Software Release 7.1.1](#)
- [SEM for Cisco IOS XR Software Release 7.0.2](#)
- [SEM for Cisco IOS XR Software Release 7.0.14](#)
- [SEM for Cisco IOS XR Software Release 7.0.12](#)

- [SEM for Cisco IOS XR Software Release 7.0.1](#)
- [SEM for Cisco IOS XR Software Release 6.7.4](#)
- [SEM for Cisco IOS XR Software Release 6.7.2](#)
- [SEM for Cisco IOS XR Software Release 6.7.1](#)
- [SEM for Cisco IOS XR Software Release 6.6.3](#)
- [SEM for Cisco IOS XR Software Release 6.5.3](#)
- [SEM for Cisco IOS XR Software Release 6.5.2](#)
- [SEM for Cisco IOS XR Software Release 6.5.1](#)
- [SEM for Cisco IOS XR Software Release 6.4.2](#)
- [SEM for Cisco IOS XR Software Release 6.4.1](#)

Revision History

This table lists the changes made to this document since it was first published.

Date	Change Summary
February 2014	Initial publication of this document.
March 2018	Republished with documentation updates for Cisco IOS XR Release 6.4.1
July 2018	Republished with documentation updates for Cisco IOS XR Release 6.4.2
January 2019	Republished with documentation updates for Cisco IOS XR Release 6.5.2
April 2019	Republished with documentation updates for Cisco IOS XR Release 6.5.3
August 2019	Republished with documentation updates for Cisco IOS XR Release 7.0.1
December 2019	Republished with documentation updates for Cisco IOS XR Release 6.6.3
February 2020	Republished with documentation updates for Cisco IOS XR Release 6.7.1
February 2020	Republished with documentation updates for Cisco IOS XR Release 7.1.1
March 2020	Republished with documentation updates for Cisco IOS XR Release 7.0.12
March 2020	Republished with documentation updates for Cisco IOS XR Release 7.0.2
May 2020	Republished with additional documentation updates for Cisco IOS XR Release 7.1.1
May 2020	Republished with documentation updates for Cisco IOS XR Release 7.1.15
August 2020	Republished with documentation updates for Cisco IOS XR Release 7.2.1
September 2020	Republished with documentation updates for Cisco IOS XR Release 7.0.14

Date	Change Summary
September 2020	Republished with documentation updates for Cisco IOS XR Release 7.1.2
September 2020	Republished with documentation updates for Cisco IOS XR Release 6.7.2
February 2021	Republished with documentation updates for Cisco IOS XR Release 6.7.4
February 2021	Republished with documentation updates for Cisco IOS XR Release 7.2.2
March 2021	Republished with documentation updates for Cisco IOS XR Release 7.3.1
June 2021	Republished with documentation updates for Cisco IOS XR Release 7.3.15

How to Read System Messages

The system software sends system error messages to the console (and, optionally, to a logging server on another system) during operation and when the system crashes. 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.

The messages are organized according to the particular system category that produces the messages. The category sections appear in alphabetical order, and within each category section, messages are listed alphabetically by group code. Each message is followed by an explanation and a recommended action.

For alphabetizing purposes, lowercase and uppercase letters are treated the same.

System Error Message Format

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

%CATEGORY-GROUP-SEVERITY-MNEMONIC: Message-text

CATEGORY is a code consisting of two or more uppercase letters that indicate the category to which the message refers. [Table 1: Category Codes](#) lists the system category codes for the Cisco Routers.

GROUP is a code consisting of two or more uppercase letters that indicate the group to which the message refers. A group can be a hardware device, a protocol, or a module of the system software.

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: Error Message Severity Levels](#) 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: Representation of Variable Fields in Messages](#) lists the representations of variable fields and the type of information in them.

The following is a sample system error message:

```
%ACL-IP_ACL_PARSE-2-ALLOC Unable to allocate memory for [chars]
```

Table 1: Category Codes

Code	Description of Category
ACL	All Access Control List (ACL) related messages.
APP_INFRA	All Application infrastructure related messages.
DIAG	All Diagnostic related messages.
FABRIC	All Fabric (HW and SW both) related messages.
FORWARDING	All CEF and FIB related messages.
HA	All High Availability (HA) related messages.
INSTALL	All Installation related messages.
IP	All Internet Protocol (IP) related messages.
L1	All Layer 1 (L1) related messages.
L2	All Layer 2 (L2) related messages, for instance ethernet drivers, PoS, SONET, PLIMS, and so forth.
L3	All Layer 3 (L3) related messages.
LIBRARY	All Library related messages.
LICENSE	All License related messages.
MEDIA	All Media related messages, including disk, nvram, flash, and so forth.
MGBL	All Management Plane and Manageability related messages, for instance, config, cli, sml, pm, and so forth.
OS	All Operating System (OS) and OS infrastructure related messages.
PKT_INFRA	All Packet Infrastructure related messages, such as ifmgr, tunnels, bundlemgr, pakman, and so forth.
PLATFORM	All Platform related commands, for instance, shelf mgr, chassis, env ctrl, and so forth.
QOS	All Quality of Service (QoS) related messages.
ROUTING	All routing related messages, such as MPLS, OSPF, BGP, Multicast, MRIB, RIB, and so forth.
SECURITY	All security related messages, such as AAA, IPSec and related protocols, and so forth.
SERVICES	All service related messages, such as RSPP, and SD.
SNMP	All Simple Network Management Protocol (SNMP) related messages, such as BGP MIB, CONFIG MIB, SNMP agent. MIB location does not matter.

Code	Description of Category
SYSDDB	All system database related messages.

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.

Level 4 severity messages should be monitored and if the warning affects your router, investigate and take the necessary action. Levels 5 to 7 are only informational and TAC should not be contacted.

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 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, 10.0.2.16)

Representation	Type of Information
[int]	Integer
[ipv6_addr]	IP version 6 (IPv6) address
[node]	Address or node name
[p]	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)

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
```

Obtaining Technical Assistance

When the recommended action of an error message advises that you contact Cisco technical support, submit a Cisco Technical Assistance Center (TAC) service request.

Before contacting TAC, you should perform the following tasks to assist TAC in troubleshooting your service request:

- Capture system logs for the past two days.
- Execute the **show tech-support** command.
- Obtain crash dumps from the router.

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

All printed copies and duplicate soft copies of this document are considered uncontrolled. See the current online version for the latest version.

Cisco has more than 200 offices worldwide. Addresses and phone numbers are listed on the Cisco website at www.cisco.com/go/offices.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: <https://www.cisco.com/c/en/us/about/legal/trademarks.html>. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1721R)

© 2018 Cisco Systems, Inc. All rights reserved.