



Cisco TelePresence System Message Overview

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Contents

This guide describes system messages for the Cisco TelePresence System (CTS). Administrators can find these messages in the System Operation (sysop) log. Administrators can also use the Simple Network Management Protocol (SNMP) Management Information Base (MIB) CISCO-SYSLOG-MIB to retrieve messages.



Note

Not all system messages indicate problems with your system. Some are purely informational, and others may help diagnose issues with your hardware, or system software, or internal or external network.

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Audience

The *Cisco TelePresence System Message Guide* is for the following Cisco TelePresence users:

- CTS administrators who can access these types of messages:
 - Sysop log messages via the Administration interface Troubleshooting > Log Files window.
 - SNMP messages via SNMP traps that send the messages to a management station.
- CTS-Manager administrators who view system messages in the Troubleshoot > System Messages window.
- Cisco TelePresence Multipoint Switch administrators who can view CTMS system messages in one of two ways:

- Click **System Messages** under **Troubleshoot** in the left navigation.
- From the **System Status** at the bottom of the left navigation, click the icon for **Warnings** or **Errors**.

How This Guide Is Organized

This document contains the following chapters:

- [Chapter 2, “Cisco TelePresence System Operation \(Sysop\) Log Messages”](#)
- [Chapter 8, “Cisco TelePresence System Operation \(Sysop\) Log Messages by Type”](#)
- [Chapter 6, “Cisco TelePresence System Syslog Messages”](#)
- [Chapter 9, “SNMP Trap Messages for Cisco TelePresence MIB Files”](#)

Understanding System Message Types

This guide provides a number of CTS system message types:

- [System Operations \(sysop\) Log Messages, page 2](#)
- [SNMP Trap Messages, page 4](#)

System Operations (sysop) Log Messages

Sysop log messages describe system activities related to TelePresence meetings, such as video or audio activities. These messages can help you identify and resolve system operation problems.

The CTS stores these messages in up to 20 files. After the 20th file is full, the system overwrites the contents of the 1st file, then the 2nd file, and so on.

The most recent messages display in the Administration interface as shown in [Figure 1](#). To access these messages, choose Troubleshooting > Log Files from the left navigation panel of the Administration interface.

Figure 1 CTS Sysop Log Messages

The screenshot shows the Cisco TelePresence System Administration web interface. The top navigation bar includes the Cisco logo, the title 'Cisco TelePresence System Administration', and user options: 'admin | Logout | Help | About'. The left sidebar contains a navigation menu with categories like 'Device Information', 'Configuration', 'Troubleshooting', and 'Monitoring'. The main content area is titled 'Troubleshooting > Log Files' and has tabs for 'Sysop Log', 'Log Files', and 'SIP Messages'. The 'Sysop Log' tab is active, displaying a list of log entries with timestamps and severity levels (WARN, ERROR, INFO). A 'Download Sysop Files' button is located at the bottom of the log display area. On the right edge of the screenshot, there is a vertical timestamp '2010-07-19 17:58:36'.

For information on downloading the sysop files from the Sysop Files page, see the appropriate version of the *Cisco TelePresence System Administration Guide*, which you can access at http://www.cisco.com/en/US/products/ps8332/prod_maintenance_guides_list.html.

You can also access sysop log messages using the **file view log** command in the CTS command-line interface (CLI). For example, to view the messages in the `sysop00000.log` file, enter the following command:

```
admin: file view log /sysop/sysop00000.log
```

For information on accessing the CTS CLI and using the commands, see the *Cisco TelePresence System Command-Line Interface Reference Guide*, which you can access at http://www.cisco.com/en/US/products/ps8332/prod_command_reference_list.html.

For a description of each sysop log message, including a recommended action, if one is appropriate, see [Chapter 2, “Cisco TelePresence System Operation \(Sysop\) Log Messages.”](#)



Note

Sysop log messages are often confused with System Log (syslog) messages. Syslog messages are debugging logs that are collected from your system and used by Cisco technical response to diagnose and resolve issues. Syslog messages are not displayed in the Administration interface.

SNMP Trap Messages

Simple Network Management Protocol (SNMP) traps enable an agent to notify the management station of significant events by way of an unsolicited SNMP message. Managers responsible for large numbers of devices that have many objects assigned are notified by each agent on the managed device by trap messages of system events.

After the manager receives the event, the manager displays it and can choose to take an action based on the event. For instance, the manager can poll the agent directly, or poll other associated device agents to get a better understanding of the event.

Trap-directed notification can result in substantial savings of network and agent resources by eliminating the need for frivolous SNMP requests. However, it is not possible to totally eliminate SNMP polling. SNMP requests are required for discovery and topology changes. In addition, a managed device agent can not send a trap, if the device has had a catastrophic outage.

SNMP messages are found in [Chapter 9, “SNMP Trap Messages for Cisco TelePresence MIB Files.”](#)

Understanding 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
```

Understanding Jitter and Defining Jitter Thresholds

Jitter is defined as the difference between the time the video frame is expected to arrive at the endpoint, and the actual time that it arrives. There are two types of jitter: packet jitter, and video frame jitter. The video frames are enclosed in packets.

For packet jitter, you should follow the guidelines in the [“Network Infrastructure”](#) section of the *Cisco Collaboration Systems 10.x Solution Reference Network Designs (SRND)*. Currently the jitter level at the packet level is set at a maximum of 100 milliseconds (ms).

You should measure jitter at the video frame level (application layer) for Cisco TelePresence systems, rather than the packet level (network layer). A network with 0 ms of packet frame jitter can still have jitter at the video frame level if the RX buffer of the codec is overwhelmed with a large number of packets. Therefore, you should measure the arrival time of the entire video frame vs. the expected arrival time of that frame, based on the 33ms clock rate of video frame intervals. Use the information in [Table 1](#) as the guideline for jitter in your network.

Measure jitter from the Ethernet port of the system codec on the far end to the Ethernet port of the system codec on the near end.

Table 1 *Jitter Value*

Metric	Target	Thresholds			
		1st	2nd	3rd	4th
Video Jitter	50 ms	85 ms	125 ms	165 ms	245 ms

Your system monitors jitter in the following ways:

- During a call, you can view the jitter information on the Touch device by tapping **More > Status > Call Status** and viewing the Jitter field. If the jitter value is Good, the jitter rate is lower than 125 ms. A value of Marginal represents jitter rates between 125 and 165 ms. A value of Poor represents jitter rates above 165 ms.
- You can monitor the jitter rate for your system by logging into the CTS Administration Console for your system and navigating to **Monitoring > Call Statistics**, then clicking the **Audio/Video Call: Video Stream Statistics** check box and checking the jitter rates in both the Transmit and Receive areas.

The jitter rates are color-coded. Jitter rates that are less than 125 ms is marked in green. Jitter rates between 125 and 165 ms are marked in yellow, and rates above 165 ms are marked in red.

Although no system actions are performed when jitter levels are exceeded, jitter at the video frame level is closely related to dropped video frames. If the RX buffer is exceeded, the system starts dropping frames. The Cisco TelePresence system changes the call quality based on the number of dropped frames.

- You can use the status bars on the TelePresence system screen to monitor packet drop, which is closely related to jitter. The “[Call Connection Status Bars](#)” section of the *Cisco TelePresence System User Guide, Software Release TX 6* shows you the actions that are taken when packets are dropped.



Note The status bars are not shown on calls that use a Cisco TelePresence Server; however, the same steps are taken, whether or not the bars are shown.

How Your CTS or TX System Measures Jitter

The CTS measures jitter upon the arrival of each frame and reports the jitter based on per 10-second and per call averages. The jitter period report provides the jitter measurement for the last 10-second period. The jitter call report shows the average jitter measurement per call. You can access both reports in the Monitoring > Call Statistics page in the CTS Administration interface.



Note The CTS measures jitter between video frames and not packet frames, which applies to network devices. A video frame is a compressed picture that is used to update the screen.

The CTS calculates jitter as the sum of the maximum deviation (both late and early packets) from the expected arrival time as given by the frame period. (A late packet is a packet delivered after the picture has been reassembled and sent to the display. These packets are not lost but have the same impact as lost packets because they cannot be used by the video decoder.) The CTS computes frame jitter based on the arrival time of the last packet of a frame.

For example, for a 30 fps video stream with a measurement period of 165 ms or 5 frames (instead of 10 seconds and 300 frames), the CTS performs 5 jitter calculations. The Jitter (Period) would be reported as 5 ms (or 1 ms per frame [5 ms/5 frames = 1 ms jitter per frame]).

```
Frame Actual Arrival Time(ms) = 0 33 70 99 131
Frame Expected Arrival Time(ms) = 0 33 66 99 132
Offset = 0 0 +4 0 -1
Max Late = 4ms (absolute value)
Min Late = 1ms (absolute value)
Jitter/Period = 5ms (for this 165ms period)
```

If there were only 2 jitter periods in this call, the first period jitter measurement would be 5 msec and the second period jitter measurement would be 10 msec. The Jitter/Call would be reported as 7.5 msec.

```
Jitter/Call = (((PerCallJitter * (NumMeasurementIntervals - 1)) + CurrentJitter) /
(NumMeasurementIntervals)
Where: PerCallJitter = 5msecs
NumMeasurementIntervals = 2 (1-relative)
CurrentJitter = 10 msecs
Jitter/Call = 7.5msecs = (((5msecs * (2-1)) + 10msecs) / 2
```

System Messages for CTS-Manager and CTMS

For information about system messages found in the Cisco TelePresence Manager and Cisco TelePresence Multipoint Switch administration interfaces, see the following:

- Troubleshooting Cisco TelePresence Manager chapter of the [Cisco TelePresence Manager Administration and Installation Guide](#) for your release.
- Troubleshooting and Monitoring chapter of the [Cisco TelePresence MultiPoint Switch Administration Guide](#) for your release.

Obtaining Technical Assistance

When the recommended action of a sysop log message advises that you contact Cisco technical support, open a case with the Cisco Technical Assistance Center (TAC). Read the following methods to obtain additional information.

Cisco.com

Cisco.com is a starting point for all technical assistance. Customers and partners can obtain documentation, troubleshooting tips, and sample configurations from online tools. For Cisco.com registered users, additional troubleshooting tools are available from the TAC website.

Cisco.com is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information and resources at any time, from anywhere in the world. This highly integrated Internet application is a powerful, easy-to-use tool for doing business with Cisco.

Cisco.com provides a broad range of features and services to help customers and partners streamline business processes and improve productivity. Through Cisco.com, you can find information about Cisco and our networking solutions, services, and programs. In addition, you can resolve technical issues with online technical support, download and test software packages, and order Cisco learning materials and merchandise. Valuable online skill assessment, training, and certification programs are also available.

Customers and partners can self-register on Cisco.com to obtain additional personalized information and services. Registered users can order products, check on the status of an order, access technical support, and view benefits specific to their relationships with Cisco.

To access Cisco.com, go to the following website:

<http://www.cisco.com>

Technical Assistance Center

The Cisco TAC website is available to all customers who need technical assistance with a Cisco product or technology that is under warranty or covered by a maintenance contract.

Contacting TAC by Using the Cisco TAC Website

If you have a priority level 3 (P3) or priority level 4 (P4) problem, contact TAC by going to the TAC website:

<http://www.cisco.com/en/US/customer/support/index.html>

P3 and P4 level problems are defined as follows:

- P3—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- P4—You need information or assistance on Cisco product capabilities, product installation, or basic product configuration.

In each of the above cases, use the Cisco TAC website to quickly find answers to your questions.

To register for Cisco.com, go to the following website:

<https://tools.cisco.com/RPF/register/register.do>

If you cannot resolve your technical issue by using the TAC online resources, Cisco.com registered users can open a case online by using the TAC Case Open tool at the following website:

<http://tools.cisco.com/ServiceRequestTool/create/>

Contacting TAC by Telephone

If you have a priority level 1 (P1) or priority level 2 (P2) problem, contact TAC by telephone and immediately open a case. To obtain a directory of toll-free numbers for your country, go to the following website:

http://www.cisco.com/en/US/support/tsd_cisco_worldwide_contacts.html

P1 and P2 level problems are defined as follows:

- P1—Your production network is down, causing a critical impact to business operations if service is not restored quickly. No workaround is available.
- P2—Your production network is severely degraded, affecting significant aspects of your business operations. No workaround is available.

