



Alarms

This chapter provides information on Serviceability Alarms and contains the following topics:

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- [Alarm Filters, page 7-4](#)
- [Viewing Alarm Information, page 7-6](#)
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Understanding Alarms

Cisco CallManager Serviceability Alarms provides a web-based interface that configures alarms and events and provides alarm message definitions. Both functions assist the system administrator and support personnel in troubleshooting Cisco CallManager problems.

You use Alarms to provide run-time status and state of the Cisco CallManager system and to take corrective action for problem resolution; for example, to determine whether phones are registered and working. Alarms contain

information such as explanation and recommended action. Alarm information includes application name, machine name, and cluster name to help you perform troubleshooting, even for problems that are not on your local Cisco CallManager.

You configure the Alarm interface to send alarm information to multiple destinations, and each destination can have its own alarm event level (from debug to emergency).

You can forward alarms to a Serviceability Trace file. An administrator configures Alarms and Trace parameters and provides the information to a Cisco TAC engineer. You can direct Alarms to the Win2000 Event Log, Syslog, an SDI trace log file, an SDL trace log file (for Cisco CallManager and CTIManager only), or to all destinations. Use Trace to collect and analyze the alarms.

When a service issues an alarm, the alarm interface sends the alarm to the chosen monitors (for example, SDI trace). The monitor forwards the alarm or writes it to its final destination (such as a log file).

**Note**

To log alarms in the SDI trace log file, check two check boxes in Trace configuration and one check box in Alarm configuration: the Trace on check box in Trace configuration, the Enable trace file log check box in Trace configuration, and the SDI alarm destination check box in Alarm configuration.

Alarm definitions describe alarm messages: what they mean and how to recover from them.

You search the Alarm definitions database for alarm information. When you click on any service-specific alarm, a description of the alarm information and a recommended action display.

Alarm Configuration

You configure alarm information that will be used for Trace and troubleshooting. You can configure alarms for Cisco CallManager servers that are in a cluster and services for each server, such as Cisco CallManager, Cisco TFTP, and Cisco CTIManager.

Alarm Monitors

The alarm interface supports up to five alarm destinations, or monitors. The following monitors receive alarms:

- Event Log
- SDI trace (can be viewed in text or XML format)
- SDL trace (can be viewed in text or XML format)
- Syslog
- Cisco RIS Data Collector

See [Table 7-1](#) for a description of the alarm monitors.

Table 7-1 Alarm Destinations

Name	Destination description
Enable Alarm for Event Viewer	Windows 2000 Event Viewer program. The program logs Cisco CallManager errors in the Application Logs within Event Viewer and provides a description of the alarm and a recommended action.
Enable Alarm for SDI Trace	The SDI trace library. Ensure this alarm destination is configured in Trace configuration of Cisco CallManager Serviceability.
Enable Alarm for Syslog	The Syslog file. Check this check box to enable the Syslog messages and configure the Syslog server name. If this destination is enabled and no server name is specified, Cisco CallManager sends Syslog messages to the local host. Default leaves this check box unchecked.

Table 7-1 Alarm Destinations (continued)

Name	Destination description
Enable Alarm for SDL Trace	The SDL trace library. This destination applies only to Cisco CallManager and CTIManager services. Configure this alarm destination by using Trace SDL configuration. Refer to the <i>Cisco CallManager Serviceability Administration Guide</i> .
Enable Cisco RIS Data Collector for Event Viewer, Syslog Trace, and SDI Trace	Check these check boxes to enable alarms for errors in the application logs within Event Viewer, the Syslog file, and SDI trace library.

Alarm Filters

Filtering of alarm information occurs based on the alarm event level that was configured for an individual service and the monitor destination. Filtering accomplishes two tasks: helps the administrator narrow the types of alarms that Cisco CallManager collects and prevents the event log, Syslog, and trace files from becoming overloaded. See [Table 7-2](#) for a description of alarm levels.

Table 7-2 Alarm Event Levels

Name	Description
Emergency	This level designates system as unusable.
Alert	This level indicates that immediate action is needed.
Critical	Cisco CallManager detects a critical condition.
Error	This level signifies that an error condition exists.
Warning	This level indicates that a warning condition is detected.

Table 7-2 Alarm Event Levels (continued)

Name	Description
Notice	This level designates normal but significant condition.
Informational	This level designates information messages only.
Debug	This level designates detailed event information that Cisco TAC engineers use for debugging.

Viewing Alarm Information

You view alarm information to determine whether Cisco CallManager problems exist. Use the Event Viewer program to view alarm information that is sent to the Event Log. You can view alarm information that is sent to the SDI or SDL trace log file in text or XML format. Use Trace to view the SDI or SDL log files in XML format or use a text editor to view the SDI or SDL log files in text format. (Trace supports text format as well.) Use CiscoWorks2000 report viewer to view Syslog messages.

Microsoft Windows 2000 documentation provides detailed information about Event Viewer and Microsoft text editors.

Alarm Definitions

Cisco CallManager stores alarm definitions and recommended actions in a standard query language (SQL) server database. The system administrator can search the database for definitions of all the alarms. The definitions include the alarm name, description, explanation, recommended action, severity, parameters, and monitors. This information aids the administrator in troubleshooting problems that Cisco CallManager encounters. See [Table 7-3](#) for a description of alarm catalogs.

Table 7-3 Alarm Definition Catalogs

Name	Description
CallManager	All Cisco CallManager alarm definitions
CEFAAlarmCatalog	All Cisco Extended Functions alarm (CEFA) definitions
CMIAAlarmCatalog	All Cisco messaging interface alarm (CMIA) definitions
CTIManagerAlarmCatalog	All Cisco computer telephony integration (CTI) manager alarm definitions
DBAlarmCatalog	All Cisco database (Aupair) alarm definitions

Table 7-3 Alarm Definition Catalogs (continued)

Name	Description
GenericAlarmCatalog	All generic alarm definitions that all applications share
IpVmsAlarmCatalog	All IP voice media streaming (VMS) applications alarm definitions
JavaApplications	<p>All Cisco CallManager Java Applications alarm definitions</p> <p>Note You cannot configure JavaApplications alarms by using the alarm configuration windows. These alarms generally get configured to go to the Event Logs and to generate SNMP traps to integrate with CiscoWorks2000. Use the registry editor that is provided with your operating system to view or change alarm definitions and parameters. If you change your registry entry, you need to restart JavaApplications for the configuration to take effect.</p> <p>Tip Cisco recommends that you do not change SNMP traps and Catalog configurations.</p>
TCDSRVA Alarm Catalog	All Cisco telephony call dispatcher service (TCDSRV) alarm definitions
TFTPAlarmCatalog	All Cisco TFTP alarm definitions

See the following sections for more information related to alarm definitions:

- [Applications Using Registry-Based Alarm Interfaces, page 7-8](#)
- [Editing an Alarm Definition, page 7-8](#)
- [Alarm Definition Example, page 7-8](#)

Applications Using Registry-Based Alarm Interfaces

The alarm interface library uses the database to get configuration information. A user changes and views configuration parameters and alarm definitions via Cisco CallManager administration configuration; therefore, only applications that have database access use the alarm interface library to generate alarms. However, applications that use registry-based alarm interfaces, such as all Java-based applications, do not require a separate user interface to allow the user to change the configuration parameters and to view alarm definitions. Instead, users can use the standard XML registry editor that is provided with their operating system to view and change the registry entries. Refer to your online OS documentation for more information on using the registry editor.

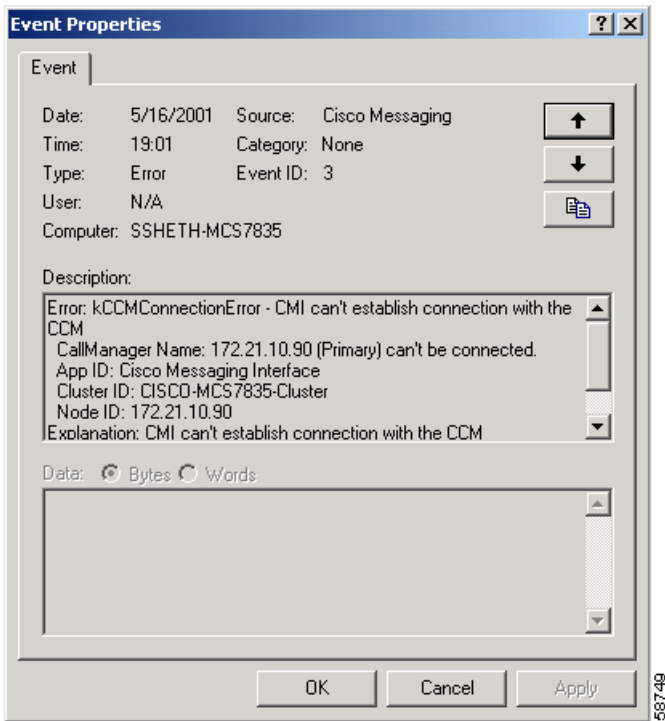
Editing an Alarm Definition

Serviceability Alarm Definitions allow administrators to add additional explanation or recommendations for an alarm. All administrators have access to the added information. Administrators directly enter information into the User Defined Text box that displays in the Alarm Details window. Standard horizontal and vertical scroll bars support scrolling. Cisco CallManager Serviceability adds the information to the database.

Alarm Definition Example

[Figure 7-1](#) illustrates an alarm that is sent to the Windows 2000 Event Viewer and how that information correlates to Alarm Definitions ([Figure 7-2](#)).

Figure 7-1 Event Properties Window



Alarm Definition Example

Figure 7-2 Alarm Definitions Window

The screenshot displays the Cisco CallManager Serviceability interface within a Microsoft Internet Explorer browser window. The browser's address bar shows the URL `http://10.89.73.70/CCMService/alarmdetails.asp`. The page title is "Cisco CallManager 3.3 Serviceability -- Microsoft: Internet Explorer".

The main content area is titled "Alarm Details" and features a navigation menu at the top with options: Alarm, Trace, Tools, Application, and Help. The Cisco Systems logo is visible in the top right corner.

The alarm status is shown as "Ready" in red text. A link labeled "Back to Find/List Alarms" is located to the right of the status. Below the status is an "Update" button.

The following table summarizes the alarm details:

Catalog	CMIAlarmCatalog
Name	kCCMConnectionError
Description	No CMI connection with Cisco CallManager.
Severity	ERROR_ALARM
Explanation	CMI cannot establish connection with Cisco CallManager.
Recommended Action	Check the address/status of Cisco CallManager and the network.
Routing List	Event Log SDI Sys Log
Parameter(s)	CallManager Name(String)

At the bottom of the page, there is a "User Defined Text" field with a text input area.

The browser's status bar at the bottom shows "Done" and "Internet". A vertical timestamp "7:37:16" is visible on the right side of the browser window.

Alarm Configuration Checklist

Table 7-4 provides an overview of the steps for configuring alarms.

Table 7-4 Alarm Configuration Checklist

Configuration Steps	Related Procedures and Topics
Step 1 Choose the server and service for which you want the alarm information.	Understanding Alarms, page 7-1 Configuring or Updating an Alarm for a Service, Cisco CallManager Serviceability Administration Guide
Step 2 Choose the destination of the alarm: <ul style="list-style-type: none"> • All services can go to the SDI log (but must be configured in Trace also). • All services can go to the Microsoft Event Viewer. • If you are using CiscoWorks2000, check the Syslog destination and specify a host name. • Only Cisco CallManager and Cisco CTIManager use the SDL log. 	Alarm Monitors, page 7-3 Configuring or Updating an Alarm for a Service, Cisco CallManager Serviceability Administration Guide Alarm Destination Settings, Cisco CallManager Serviceability Administration Guide
Step 3 Choose the alarm event level.	Alarm Filters, page 7-4 Configuring or Updating an Alarm for a Service, Cisco CallManager Serviceability Administration Guide Alarm Event Level Settings, Cisco CallManager Serviceability Administration Guide

Alarm Definition Configuration Checklist

Table 7-5 provides an overview of the steps for configuring alarm definitions.

Table 7-5 Alarm Definition Configuration Checklist

Configuration Steps		Related Procedures and Topics
Step 1	Choose an alarm from the Event Viewer.	Viewing Alarm Information in Text Format , <i>Cisco CallManager Serviceability Administration Guide</i>
Step 2	Look for the corresponding alarm definition for the description and recommended action.	Searching for and Viewing an Alarm Definition , <i>Cisco CallManager Serviceability Administration Guide</i>

Where to Find More Information

Related Topics

- [Configuring or Updating an Alarm for a Service](#), *Cisco CallManager Serviceability Administration Guide*
- [Applying an Alarm Configuration to All Nodes in a Cluster](#), *Cisco CallManager Serviceability Administration Guide*
- [Searching for and Viewing an Alarm Definition](#), page 3-2, *Cisco CallManager Serviceability Administration Guide*
- [Creating User-Defined Description in the Alarm Definition](#), *Cisco CallManager Serviceability Administration Guide*
- [Alarm Definition Catalog Descriptions](#), *Cisco CallManager Serviceability Administration Guide*
- [Viewing Alarm Information in Text Format](#), *Cisco CallManager Serviceability Administration Guide*
- [Viewing Alarm Information in XML Format](#), *Cisco CallManager Serviceability Administration Guide*

Additional Cisco Documentation

- *Troubleshooting Guide for Cisco CallManager*

■ Where to Find More Information