



Troubleshooting Overview

This section provides the necessary background information and available resources to troubleshoot the Cisco Unified CallManager.

The section covers following topics:

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Cisco Unified CallManager Serviceability

Cisco Unified CallManager Serviceability, a web-based troubleshooting tool for Cisco Unified CallManager, provides the following functionality to assist administrators troubleshoot system problems:

- Saves Cisco Unified CallManager services alarms and events for troubleshooting and provides alarm message definitions.
- Saves Cisco Unified CallManager services trace information to various log files for troubleshooting. Administrators can configure, collect, and view trace information.
- Monitors real-time behavior of the components in a Cisco Unified CallManager cluster through the real-time monitoring tool (RTMT).
- Generates reports for Quality of Service, traffic, and billing information through Cisco Unified CallManager CDR Analysis and Reporting (CAR).
- Provides feature services that you can activate, deactivate, and view through the Service Activation window.
- Provides an interface for starting and stopping feature and network services.
- Archives reports that are associated with Cisco Unified CallManager Serviceability tools.
- Allows Cisco Unified CallManager to work as a managed device for SNMP remote management and troubleshooting.
- Monitors the disk usage of the log partition on a server (or all servers in the cluster).

Access Cisco Unified CallManager Serviceability from the Cisco Unified CallManager Administration window by choosing Cisco Unified CallManager Serviceability from the Navigation drop-down list box. Installing the Cisco Unified CallManager software automatically installs Cisco Unified CallManager Serviceability and makes it available.

Refer to the *Cisco Unified CallManager Serviceability Administration Guide* and the *Cisco Unified CallManager Serviceability System Guide* for detailed information and configuration procedures on the serviceability tools.

Cisco Unified Communications Operating System Administration

Cisco Unified Communications Operating System Administration allows you to perform the following tasks to configure and manage the Cisco Unified Communications Operating System:

- Check software and hardware status.
- Check and update IP addresses.
- Ping other network devices.
- Manage Network Time Protocol servers.
- Upgrade system software and options.
- Restart the system.

Refer to the *Cisco Unified Communications Operating System Administration Guide* for detailed information and configuration procedures on the serviceability tools.

General Model of Problem Solving

When troubleshooting a telephony or IP network environment, define the specific symptoms, identify all potential problems that could be causing the symptoms, and then systematically eliminate each potential problem (from most likely to least likely) until the symptoms disappear.

The following steps provide guidelines to use in the problem-solving process.

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| Step 1 | Analyze the network problem and create a clear problem statement. Define symptoms and potential causes. |
| Step 2 | Gather the facts that you need to help isolate possible causes. |
| Step 3 | Consider possible causes based on the facts that you gathered. |
| Step 4 | Create an action plan based on those causes. Begin with the most likely problem and devise a plan in which you manipulate only one variable. |
| Step 5 | Implement the action plan; perform each step carefully while testing to see whether the symptom disappears. |
| Step 6 | Analyze the results to determine whether the problem has been resolved. If the problem was resolved, consider the process complete. |

- Step 7** If the problem has not been resolved, create an action plan based on the next most probable cause on your list. Return to [Step 4](#) and repeat the process until the problem is solved.
- Make sure that you undo anything that you changed while implementing your action plan. Remember that you want to change only one variable at a time.

**Note**

If you exhaust all the common causes and actions (either those outlined in this document or others that you have identified in your environment), contact Cisco TAC.

Network Failure Preparation

You can always recover more easily from a network failure if you are prepared ahead of time. To determine if you are prepared for a network failure, answer the following questions:

- Do you have an accurate physical and logical map of your internetwork that outlines the physical location of all of the devices on the network and how they are connected as well as a logical map of network addresses, network numbers, and subnetworks?
- Do you have a list of all network protocols that are implemented in your network for each of the protocols implemented and a list of the network numbers, subnetworks, zones, and areas that are associated with them?
- Do you know which protocols are being routed and the correct, up-to-date configuration information for each protocol?
- Do you know which protocols are being bridged? Are any filters configured in any of these bridges, and do you have a copy of these configurations? Is this applicable to Cisco Unified CallManager?
- Do you know all the points of contact to external networks, including any connections to the Internet? For each external network connection, do you know what routing protocol is being used?
- Has your organization documented normal network behavior and performance, so you can compare current problems with a baseline?

If you can answer yes to these questions, faster recovery from a failure results.

Where to Find More Information

Use the following links for information on various IP telephony topics:

- For further information about related Cisco IP telephony applications and products, refer to the *Cisco Unified CallManager Documentation Guide*. The following URL shows an example of the path to the documentation guide:
http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/<release #>/doc_gd/index.htm
- For documentation related to Cisco Unity, refer to the following URL:
http://www.cisco.com/en/US/products/sw/voicesw/ps2237/tsd_products_support_series_home.html
- For documentation related to Cisco Emergency Responder, refer to the following URL:
<http://www.cisco.com/univercd/cc/td/doc/product/voice/respond/index.htm>

- For documentation related to Cisco Unified IP phones, refer to the following URL:
http://www.cisco.com/univercd/cc/td/doc/product/voice/c_ipphon/index.htm.
- For information on designing and troubleshooting IP telephony networks, refer to the *Cisco IP Telephony Solution Reference Network Design Guides* that are available at www.cisco.com/go/srnd.