



CHAPTER 3

Cisco Unified Communications Manager System Issues

This section covers solutions for the following most common issues that relates to a Cisco Unified Communications Manager system.

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Cisco Unified Communications Manager System Not Responding

This section covers the following issues for a Cisco Unified Communications Manager system that is not responding:

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Cisco Unified Communications Manager System Stops Responding

Symptom

The Cisco Unified Communications Manager system does not respond.

When the Cisco CallManager service stops responding, the following message displays in the System Event log:

```
The Cisco CallManager service terminated unexpectedly.  
It has done this 1 time. The following corrective action  
will be taken in 60000 ms. Restart the service.
```

Other messages you may see in this situation:

```
Timeout 3000 milliseconds waiting for  
Cisco CallManager service to connect.
```

The Cisco Communications Manager failed to start due to the following error:

```
The service did not respond to the start or control request in a timely fashion.
```

At this time, when devices such as the Cisco Unified IP Phones and gateways unregister from the Cisco Unified Communications Manager, users receive delayed dial tone, and/or the Cisco Unified Communications Manager server freezes due to high CPU usage. For event log messages that are not included here, view the Cisco Unified Communications Manager Event Logs.

Possible Cause

The Cisco CallManager service can stop responding because the service does not have enough resources such as CPU or memory to function. Generally, the CPU utilization in the server is 100 percent at that time.

Recommended Action

Depending on what type of interruption you experience, you will need to gather different data that will help determine the root cause of the interruption.

Use the following procedure if a lack of resources interruption occurs.

Procedure

-
- Step 1** Collect Cisco CallManager traces 15 minutes before and after the interruption.
 - Step 2** Collect SDL traces 15 minutes before and after the interruption.
 - Step 3** Collect perfmon traces if available.
 - Step 4** If the traces are not available, start collecting the perfmon traces and track memory and CPU usage for each process that is running on the server. These will help in the event of another lack of resources interruption.
-

Cisco Unified Communications Manager Administration Does Not Display

Symptom

Cisco Unified Communications Manager Administration does not display.

Possible Cause

The Cisco CallManager service stopped.

Recommended Action

Verify that the Cisco CallManager service is active and running on the server, as described in “[Verify Cisco Unified Communications Manager Services Are Running](#)” section on page 2-14 or in the *Cisco Unified Serviceability Administration Guide*.

Error When Attempting to Access Cisco Unified Communications Manager Administration

Symptom

One of the following messages displays when you are trying to access Cisco Unified Communications Manager Administration.

- Internet Explorer—The page cannot be displayed.
- Netscape—Warning box displays: There was no response. The server could be down or is not responding.

Possible Cause

The services did not start automatically as expected. One of the services stopping represents the most frequent reason for Cisco Unified Communications Manager Administration not displaying.

Recommended Action

Try starting the other services.

Error When Attempting to Access Cisco Unified Communications Manager Administration on a Subsequent Node

Symptom

One of the following error messages displays when you are trying to access the Cisco Unified Communications Manager Administration.

Possible Cause

If the IP address of the first Cisco Unified Communications Manager node gets changed while a subsequent node is offline, you may not be able to log in to Cisco Unified Communications Manager Administration on the subsequent node.

Recommended Action

If this occurs, follow the procedure for changing the IP address on a subsequent Cisco Unified Communications Manager node in the *Cisco Unified Communications Operating System Administration Guide*.

You Are Not Authorized to View

Symptom

When accessing the Cisco Unified Communications Manager Administration, one of the following messages displays.

- You Are Not Authorized to View This Page
- You do not have permission to view this directory or page using the credentials you supplied.
- Server Application Error. The server has encountered an error while loading an application during the processing of your request. Please refer to the event log for more detailed information. Please contact the server administrator for assistance.
- Error: Access is Denied.

Possible Cause

Unknown

Recommended Action

Contact TAC for further assistance.

Problems Displaying or Adding Users with Cisco Unified Communications Manager

Symptom

You cannot add a user or conduct a search in Cisco Unified Communications Manager Administration.

Possible Cause

You may encounter the following problems if you are working with Cisco Unified Communications Manager that is installed on a server that has a special character (such as an underscore) in its hostname or Microsoft Internet Explorer 5.5 with SP2 and a Q313675 patch or above.

- When you conduct a basic search and hit submit, the same page redisplay.
- When you try to insert a new user, the following message displays.

```
The following error occurred while trying to execute the command.  
Sorry, your session object has timed out.  
Click here to Begin a New Search
```

Recommended Action

You may not be able to add a user or do a search on Cisco Unified Communications Manager Administration, if your Cisco Unified Communications Manager hostname contains any special characters such as underscore or period (for example, Call_Manager). Domain Name System (DNS)-supported characters include all letters (A-Z, a-z), numbers (0-9), and hyphen (-); any special characters are not allowed. If the Q313675 patch is installed on your browser, make sure that the URL does not contain any non-DNS supported characters.

For more information about the Q313675 patch, refer to MS01-058: File Vulnerability Patch for Internet Explorer 5.5 and Internet Explorer 6.

To resolve this problem, you have the following options:

- Access Cisco Unified Communications Manager Administration by using the IP address of the server.
- Do not use non-DNS characters in the Server Name.
- Use the localhost or IP address in the URL.

Name to Address Resolution Failing

Symptom

One of the following messages displays when you try to access the following URL:

`http://your-cm-server-name/ccmadmin`

- Internet Explorer—This page cannot be displayed
- Netscape—Not Found. The requested URL /ccmadmin was not found on this server.

If you try to access the same URL by using the Cisco Communications Manager IP address (`http://10.48.23.2/ccmadmin`) instead of the name, the window displays.

Possible Cause

The name that you entered as “your-cm-server-name” maps to the wrong IP address in DNS or hosts file.

Recommended Action

If you have configured the use of DNS, check in the DNS to see whether the entry for the *your-cm-server-name* has the correct IP address of the Cisco Unified Communications Manager server. If it is not correct, change it.

If you are not using DNS, your local machine will check in the “hosts” file to see whether an entry exists for the *your-cm-server-name* and an IP address that is associated to it. Open the file and add the Cisco Unified Communications Manager server name and the IP address. You can find the “hosts” file at `C:\WINNT\system32\drivers\etc\hosts`.

Port 80 Blocked Between Your Browser and the Cisco Unified Communications Manager Server

Symptom

One of the following messages displays when a firewall blocks the port that is used by the web server or the http traffic:

- Internet Explorer—This page cannot be displayed
- Netscape—There was no response. The server could be down or is not responding

Possible Cause

For security reasons, the system blocked the http access from your local network to the server network.

Recommended Action

1. Verify whether other types of traffic to the Cisco Unified Communications Manager server, such as ping or Telnet, are allowed. If any are successful, it will show that http access to the Cisco Unified Communications Manager web server has been blocked from your remote network.
2. Check the security policies with your network administrator.
3. Try again from the same network where the server is located.

Improper Network Setting Exists in the Remote Machine

Symptom

No connectivity exists, or no connectivity exists to other devices in the same network as the Cisco Unified Communications Manager.

When you attempt the same action from other remote machines, Cisco Unified Communications Manager Administration displays.

Possible Cause

Improper network configuration settings on a station or on the default gateway can cause a web page not to display because partial or no connectivity to that network exists.

Recommended Action

1. Try pinging the IP address of the Cisco Unified Communications Manager server and other devices to confirm that you cannot connect.
2. If the connectivity to any other device out of your local network is failing, check the network setting on your station, as well as the cable and connector integrity. Refer to the appropriate hardware documentation for detailed information.

If you are using TCP-IP over a LAN to connect, continue with the following steps to verify the network settings on the remote station.

3. Choose **Start > Setting > Network and Dial-up connections**.
4. Choose **Local Area Connection**, then **Properties**.
The list of communication protocols displays as checked.
5. Choose **Internet Protocol (TCP-IP)** and click **Properties** again.
6. Depending on your network, choose either **Obtain an ip address automatically** or **set manually your address, mask and default Gateway**.

The possibility exists that a browser-specific setting could be improperly configured.

7. Choose the Internet Explorer browser **Tools > Internet Options**.
8. Choose the **Connections** tab and then verify the LAN settings or the dial-up settings.
By default, the LAN settings and the dial-up settings do not get configured. The generic network setting from Windows gets used.
9. If the connectivity is failing only to the Cisco Unified Communications Manager network, a routing issue probably exists in the network. Contact the network administrator to verify the routing that is configured in your default gateway.

**Note**

If you cannot browse from the remote server after following this procedure, contact TAC to have the issue investigated in more detail.

Database Replication

This section covers the following database replication issues for a Cisco Unified Communications Manager system:

- [Replication Fails Between the Publisher and the Subscriber, page 3-7](#)
- [Database Replication Does Not Occur When Connectivity Is Restored on Lost Node, page 3-10](#)
- [Database Tables Out of Sync Do Not Trigger Alert, page 3-11](#)
- [Resetting Database Replication When Reverting to an Older Product Release, page 3-11](#)

Replication Fails Between the Publisher and the Subscriber

Replicating the database represents a core function of Cisco Unified Communications Manager clusters. The server with the master copy of the database acts as the publisher (first node), while the servers that replicate the database comprise subscribers (subsequent nodes).

**Tip**

Before you install Cisco Unified Communications Manager on the subscriber server, you must add the subscriber to the Server Configuration window in Cisco Unified Communications Manager Administration to ensure that the subscriber replicates the database that exists on the publisher database server. After you add the subscriber server to the Server Configuration window and then install Cisco Unified Communications Manager on the subscriber, the subscriber receives a copy of the database that exists on the publisher server.

Symptom

Changes that are made on the publisher server do not get reflected on phones that are registered with the subscriber server.

Possible Cause

Replication fails between the publisher and subscriber servers.

Recommended Action

Verify and, if necessary, repair database replication, as described in the following procedure:

Procedure

- Step 1** Verify database replication. You can use the CLI, Cisco Unified Reporting, or RTMT to verify database replication.
- To verify using the CLI, see [Step 2](#).

- To verify using Cisco Unified Reporting, see [Step 3](#).
- To verify using RTMT, see [Step 4](#).

Step 2 To verify database replication using the CLI, access the CLI and issue the following command to check replication on each node. You will need to run this CLI command on each node to check its replication status. Also, after a subscriber is installed, depending on the number of subscribers, it may take a considerable amount of time to achieve a status of 2.:

```
admin: show perf query class "Number of Replicates Created and State of Replication"
==>query class :

    - Perf class (Number of Replicates Created and State of Replication)
has instances and values:
  ReplicateCount -> Number of Replicates Created    = 344
  ReplicateCount -> Replicate_State                 = 2
```

Be aware that the Replicate_State object shows a value of 2 in this case. The following list shows the possible values for Replicate_State:

- 0—This value indicates that replication did not start. Either no subsequent nodes (subscribers) exist, or the Cisco Database Layer Monitor service is not running and has not been running since the subscriber was installed.
- 1—This value indicates that replicates have been created, but their count is incorrect.
- 2—This value indicates that replication is good.
- 3—This value indicates that replication is bad in the cluster.
- 4—This value indicates that replication setup did not succeed.

Step 3 To verify database replication using Cisco Unified Reporting, perform the following tasks.

- From the Navigation drop-down list box in the upper, right corner in Cisco Unified Communications Manager Administration, choose Cisco Unified Reporting.
- After Cisco Unified Reporting displays, click **System Reports**.
- Generate and view the **Unified CM Database Status** report, which provides debugging information for database replication.

Once you have generated the report, open it and look at the **Unified CM Database Status**. It gives the RTMT replication counters for all servers in the cluster. All servers should have a replicate state of 2, and all servers should have the same number of replicates created.

If you see any servers whose replicate states are not equal to 2 in the above status check, inspect the “Replication Server List” on this report. It shows which servers are connected and communicating with each node. Each server should show itself as local (in its list) and the other servers as active connected. If you see any servers as dropped, it usually means there is a communication problem between the nodes.

- If you want to do so, generate and view the **Unified CM Database Status** report, which provides a snapshot of the health of the Cisco Unified Communications Manager database.

Step 4 To verify database replication using RTMT, perform the following tasks:

- Open the Cisco Unified Real-Time Monitoring Tool (RTMT).
- Click the **CallManager** tab.
- Click **Database Summary**. The Replication Status pane displays.

The following list shows the possible values for the Replication Status pane:

- 0—This value indicates that replication has not started. Either no subsequent nodes (subscribers) exist, or the Cisco Database Layer Monitor service is not running and has not been running since the subscriber was installed.
 - 1—This value indicates that replicates have been created, but their count is incorrect.
 - 2—This value indicates that replication is good.
 - 3—This value indicates that replication is bad in the cluster.
 - 4—This value indicates that replication setup did not succeed.
- d. To view the Replicate_State performance monitoring counter, choose **System > Performance > Open Performance Monitoring**. Double-click the publisher database server (first node) to expand the performance monitors. Click **Number of Replicates Created and State of Replication**. Double-click **Replicate_State**. Click **ReplicateCount** from the Object Instances window and click **Add**.



Tip To view the definition of the counter, right click the counter name and choose **Counter Description**.

Step 5 If all the servers have a good RTMT status, but you suspect the databases are not in sync, you can run the CLI command **utils dbreplication status**

(If any of the servers showed an RTMT status of 4, proceed to [Step 6](#))

This status command can be run on all servers by using **utils dbreplication status all** or on one subscriber by using **utils dbreplication status <hostname>**

The status report will tell you if any tables are suspect. If there are suspect tables, you will want to do a replication repair CLI command to sync the data from the publisher server to the subscriber servers.

The replication repair can be done on all subscriber servers (using the **all** parameter) or on just one subscriber server by using the following:

```
utils dbreplication repair usage:utils dbreplication repair [nodename]|all
```

After running the replication repair, which can take several minutes, you can run another status command to verify that all tables are now in sync.

If tables are in sync after running the repair, you are successful in fixing replication.



Note Only do [Step 6](#) if one of the servers showed an RTMT status of 4, or had a status of 0 for more than four hours.

Step 6 Generate and view the **Unified CM Database Status** report, which provides debugging information for database replication. For each subscriber server that has a bad RTMT status, check that the hosts, rhosts, sqlhosts, and services files have the appropriate information.

Generate and view the **Unified CM Cluster Overview** report. Verify that the subscriber servers have the same version, verify that connectivity is good, and verify that time delay is within tolerances.

If the preceding conditions are acceptable, do the following to reset replication on that subscriber server:

- a. At the subscriber server, perform the CLI command **utils dbreplication stop**
Do this for all subscriber servers that have an RTMT value of 4
- b. At the publisher server, perform the CLI command **utils dbreplication stop**
- c. At the publisher server, perform the CLI command **utils dbreplication reset <hostname>**
where *<hostname>* is the hostname of the subscriber server that needs to be reset. If all subscriber servers need to be reset, use command **utils dbreplication reset all**

For More Information

- *Cisco Unified Real-Time Monitoring Tool Administration Guide*
- *Cisco Unified Reporting Administration Guide*
- *Command Line Interface Reference Guide for Cisco Unified Solutions*

Database Replication Does Not Occur When Connectivity Is Restored on Lost Node

Symptom

Database replication does not occur when connectivity is restored on lost node recovery. You can verify the state of replication by using the methods given in the topic [Replication Fails Between the Publisher and the Subscriber, page 3-7](#). Only use the following procedure if you have already tried to reset replication on the node, and have been unsuccessful.

Possible Cause

The CDR check remains stuck in a loop, due to a delete on device table.

Recommended Action

- Step 1** Run **utils dbreplication stop** on the affected subscribers. You can run them all at once.
- Step 2** Wait until [Step 1](#) completes, then, run **utils dbreplication stop** on the affected publisher server.
- Step 3** Run **utils dbreplication clusterreset** from the affected publisher server. When you run the command, the log name gets listed in the log file. Watch this file to monitor the process status. The path to the file is:
/var/log/active/cm/trace/dbl/sdi
- Step 4** From the affected publisher, run **utils dbreplication reset all**.
- Step 5** Stop and restart all the services on all the subscriber servers [or restart/reboot all the systems (subscriber servers)] in the cluster to get the service changes. Do this only after **utils dbreplication status** shows Status 2.

Database Tables Out of Sync Do Not Trigger Alert

**Note**

“Out of sync” means that two servers in the cluster do not contain the same information in a specific database table.

Symptom

On Cisco Unified Communications Manager Version 6.x or later, the symptoms include unexpected call processing behaviors. Calls do get not routed or handled as expected. The symptoms may occur on either the publisher or on the subscriber servers.

On Cisco Unified Communications Manager Version 5.x, the symptoms include unexpected call processing behaviors. Calls do not get routed or handled as expected but only when the publisher server is offline.

If you see this symptom and you run **utils dbreplication status** at the CLI, it reports `Out of sync`. If `Out of sync` does not display, be aware that this is not the problem.

Possible Cause

Database tables remain out of sync between nodes. Replication alerts only indicate failure in the replication process and do not indicate when database tables are out of sync. Normally, if replication is working, tables should remain in sync. Instances can occur in which replication appears to be working, but database tables are “Out of sync”.

Recommended Action

Step 1 Reset cluster replication by using CLI commands. Ensure servers in the cluster are online with full IP connectivity for this to work. Confirm that all servers in the cluster are online by using platform CLIs and Cisco Unified Reporting.

Step 2 If the servers are in Replication State 2, run the following command on the publisher server:
utils dbreplication repair *server name*

If the servers are not in Replication State 2, run the following command on all subscriber servers:
utils dbreplication stop

Then, run the following commands on the publisher server:
utils dbreplication stop
then
utils dbreplication reset all

Resetting Database Replication When Reverting to an Older Product Release

If you revert the servers in a cluster to run an older product release, you must manually reset database replication within the cluster. To reset database replication after you revert all the cluster servers to the older product release, enter the CLI command **utils dbreplication reset all** on the publisher server.

When you switch versions by using Cisco Unified Communications Operating System Administration or the CLI, you get a message reminding you about the requirement to reset database replication if you are reverting to an older product release.

utils dbreplication clusterreset

This command resets database replication on an entire cluster.

Command Syntax

utils dbreplication clusterreset

Usage Guidelines

Before you run this command, run the command `utils dbreplication stop` first on all subscribers servers, and then on the publisher server.

Requirements

Command privilege level: 0

Allowed during upgrade: Yes

utils dbreplication dropadmindb

This command drops the Informix syscdr database on any server in the cluster.

Command Syntax

utils dbreplication dropadmindb

Usage Guidelines

You should run this command only if database replication reset or cluster reset fails and replication cannot be restarted.

Requirements

Command privilege level: 0

Allowed during upgrade: Yes

Slow Server Response

This section addresses a problem that relates to a slow response from the server due to mismatched duplex port settings.

Symptom

Slow response from the server occurs.

Possible Cause

Slow response could result if the duplex setting of the switch does not match the duplex port setting on the Cisco Unified Communications Manager server.

Recommended Action

1. For optimal performance, set both switch and server to **100/Full**.
Cisco does not recommend using the Auto setting on either the switch or the server.
2. You must restart the Cisco Unified Communications Manager server for this change to take effect.

JTAPI Subsystem Startup Problems

The JTAPI (Java Telephony API) subsystem represents a very important component of the Cisco Customer Response Solutions (CRS) platform. JTAPI communicates with the Cisco Unified Communications Manager and has responsibility for telephony call control. The CRS platform hosts telephony applications, such as Cisco Unified Auto-Attendant, Cisco IP ICD, and Cisco Unified IP-IVR. Although this section is not specific to any of these applications, keep in mind that the JTAPI subsystem is an underlying component that all of them use.

Before starting the troubleshooting process, ensure that the software versions that you are using are compatible. To verify compatibility, read the Cisco Unified Communications Manager Release Notes for the version of Cisco Unified Communications Manager that you are using.

To check the version of CRS, log in to the AppAdmin page by entering `http://servername/appadmin`, where *servername* specifies the name of the server on which CRS is installed. Find the current version in the lower-right corner of the main menu.

JTAPI Subsystem is OUT_OF_SERVICE

Symptom

The JTAPI subsystem does not start.

Possible Cause

One of the following exceptions displays in the trace file:

- [MIVR-SS_TEL-4-ModuleRunTimeFailure](#)
- [MIVR-SS_TEL-1-ModuleRunTimeFailure](#)

MIVR-SS_TEL-4-ModuleRunTimeFailure

Search for the `MIVR-SS_TEL-1-ModuleRunTimeFailure` string in the trace file. At the end of the line, an exception reason displays.

The following list gives the most common errors:

- [Unable to create provider—bad login or password](#)
- [Unable to create provider—Connection refused](#)
- [Unable to create provider—login=](#)
- [Unable to create provider—hostname](#)
- [Unable to create provider—Operation timed out](#)
- [Unable to create provider—null](#)

Unable to create provider—bad login or password**Possible Cause**

Administrator entered an incorrect user name or password in the JTAPI configuration.

Full Text of Error Message

```
%MIVR-SS_TEL-4-ModuleRunTimeFailure:Real-time
failure in JTAPI subsystem: Module=JTAPI
Subsystem,Failure Cause=7,Failure
Module=JTAPI_PROVIDER_INIT,
Exception=com.cisco.jtapi.PlatformExceptionImpl:
Unable to create provider -- bad login or password.
%MIVR-SS_TEL-7-
EXCEPTION:com.cisco.jtapi.PlatformExceptionImpl:
Unable to create provider -- bad login or password.
```

Recommended Action

Verify that the user name and password are correct. Try logging into the Cisco Unified CM User window (<http://servername/ccmuser>) on the Cisco Unified Communications Manager to ensure that the Cisco Unified Communications Manager cannot authenticate correctly.

Unable to create provider—Connection refused**Possible Cause**

The Cisco Unified Communications Manager refused the JTAPI connection to the Cisco Unified Communications Manager.

Full Text of Error Message

```
%MIVR-SS_TEL-4-ModuleRunTimeFailure:Real-time
failure in JTAPI subsystem: Module=JTAPI Subsystem,
Failure Cause=7,Failure Module=JTAPI_PROVIDER_INIT,
Exception=com.cisco.jtapi.PlatformExceptionImpl: Unable
to create provider -- Connection refused
%MIVR-SS_TEL-7-EXCEPTION:com.cisco.jtapi.PlatformExceptionImpl:
Unable to create provider -- Connection refused
```

Recommended Action

Verify that the CTI Manager service is running in the Cisco Unified Serviceability Control Center.

Unable to create provider—login=**Possible Cause**

Nothing has been configured in the JTAPI configuration window.

Full Text of Error Message

```
%MIVR-SS_TEL-4-ModuleRunTimeFailure:Real-time
failure in JTAPI subsystem: Module=JTAPI Subsystem,
Failure Cause=7,Failure Module=JTAPI_PROVIDER_INIT,
Exception=com.cisco.jtapi.PlatformExceptionImpl:
Unable to create provider -- login=
%MIVR-SS_TEL-7-EXCEPTION:com.cisco.jtapi.PlatformExceptionImpl:
Unable to create provider -- login=
```

Recommended Action

Configure a JTAPI provider in the JTAPI configuration window on the CRS server.

Unable to create provider—hostname**Possible Cause**

The CRS engine cannot resolve the host name of the Cisco Unified Communications Manager.

Full Text of Error Message

```
%M%MIVR-SS_TEL-4-ModuleRunTimeFailure:Real-time
failure in JTAPI subsystem: Module=JTAPI Subsystem,
Failure Cause=7,Failure Module=JTAPI_PROVIDER_INIT,
Exception=com.cisco.jtapi.PlatformExceptionImpl:
Unable to create provider -- dgrant-mcs7835.cisco.com
%MIVR-SS_TEL-7-EXCEPTION:com.cisco.jtapi.PlatformExceptionImpl:
Unable to create provider -- dgrant-mcs7835.cisco.com
```

Recommended Action

Verify that DNS resolution is working correctly from the CRS engine. Try using an IP address instead of the DNS name.

Unable to create provider—Operation timed out**Possible Cause**

The CRS engine does not have IP connectivity with the Cisco Unified Communications Manager.

Full Text of Error Message

```
101: Mar 24 11:37:42.153 PST
%MIVR-SS_TEL-4-ModuleRunTimeFailure:Real-time
failure in JTAPI subsystem: Module=JTAPI Subsystem,
Failure Cause=7,Failure Module=JTAPI_PROVIDER_INIT,
Exception=com.cisco.jtapi.PlatformExceptionImpl:
Unable to create provider -- Operation timed out
102: Mar 24 11:37:42.168 PST %MIVR-SS_TEL-7-EXCEPTION:
com.cisco.jtapi.PlatformExceptionImpl:
Unable to create provider -- Operation timed out
```

Recommended Action

Check the IP address that is configured for the JTAPI provider on the CRS server. Check the default gateway configuration on the CRS server and the Cisco Unified Communications Manager. Make sure no IP routing problems exist. Test connectivity by pinging the Cisco Unified Communications Manager from the CRS server.

Unable to create provider—null**Possible Cause**

No JTAPI provider IP address or host name get configured, or the JTAPI client is not using the correct version.

Full Text of Error Message

```
%MIVR-SS_TEL-4-ModuleRunTimeFailure:Real-time
failure in JTAPI subsystem: Module=JTAPI Subsystem,
Failure Cause=7,Failure Module=JTAPI_PROVIDER_INIT,
```

```
Exception=com.cisco.jtapi.PlatformExceptionImpl:
Unable to create provider -- null
```

Recommended Action

Verify that a host name or IP address is configured in the JTAPI configuration. If the JTAPI version is incorrect, download the JTAPI client from the Cisco Unified Communications Manager Plugins window and install it on the CRS server.

MIVR-SS_TEL-1-ModuleRunTimeFailure

Symptom

This exception usually occurs when the JTAPI subsystem cannot initialize any ports.

Possible Cause

The CRS server can communicate with the Cisco Unified Communications Manager, but cannot initialize any CTI ports or CTI route points through JTAPI. This error occurs if the CTI ports and CTI route points are not associated with the JTAPI user.

Full Text of Error Message

```
255: Mar 23 10:05:35.271 PST %MIVR-SS_TEL-1-ModuleRunTimeFailure:
Real-time failure in JTAPI subsystem: Module=JTAPI Subsystem,
Failure Cause=7,Failure Module=JTAPI_SS,Exception=null
```

Recommended Action

Check the JTAPI user on the Cisco Unified Communications Manager and verify that CTI ports and CTI route points that are configured on the CRS server associate with the user.

JTAPI Subsystem is in PARTIAL_SERVICE

Symptom

The following exception displays in the trace file:

```
MIVR-SS_TEL-3-UNABLE_REGISTER_CTIPORT
```

Possible Cause

The JTAPI subsystem cannot initialize one or more CTI ports or route points.

Full Text of Error Message

```
1683: Mar 24 11:27:51.716 PST
%MIVR-SS_TEL-3-UNABLE_REGISTER_CTIPORT:
Unable to register CTI Port: CTI Port=4503,
Exception=com.cisco.jtapi.InvalidArgumentExceptionImpl:
Address 4503 is not in provider's domain.
1684: Mar 24 11:27:51.716 PST %MIVR-SS_TEL-7-EXCEPTION:
com.cisco.jtapi.InvalidArgumentExceptionImpl:
Address 4503 is not in provider's domain.
```

Recommended Action

The message in the trace tells you which CTI port or route point cannot be initialized. Verify that this device exists in the Cisco Unified Communications Manager configuration and also associates with the JTAPI user on the Cisco Unified Communications Manager.

Security Issues

This section provides information about security-related measurements and general guidelines for troubleshooting security-related problems. This section contains information on the following topics:

- [Security Alarms, page 3-17](#)
- [Security Performance Monitor Counters, page 3-17](#)
- [Reviewing Security Log and Trace Files, page 3-18](#)
- [Troubleshooting Certificates, page 3-19](#)
- [Troubleshooting CTL Security Tokens, page 3-19](#)
- [Troubleshooting CAPF, page 3-20](#)
- [Troubleshooting Encryption for Phones and Cisco IOS MGCP Gateways, page 3-21](#)

**Note**

This section does not describe how to reset the Cisco Unified IP Phone if it has been corrupted by bad loads, security bugs, and so on. For information on resetting the phone, refer to the *Cisco Unified IP Phone Administration Guide for Cisco Unified Communications Manager* that matches the model of the phone.

For information about how to delete the CTL file from Cisco Unified IP Phone models 7970, 7960, and 7940 only, see the *Cisco Unified Communications Manager Security Guide* or the *Cisco Unified IP Phone Administration Guide for Cisco Unified Communications Manager* that matches the model of the phone.

Security Alarms

Cisco Unified Serviceability generates security-related alarms for X.509 name mismatches, authentication errors, and encryption errors. The Serviceability GUI provides the alarm definitions.

Alarms may get generated on the phone for TFTP server and CTL file errors. For alarms that get generated on the phone, refer to the *Cisco Unified IP Phone Administration Guide for Cisco Unified Communications Manager* for your phone model and type (SCCP or SIP).

Security Performance Monitor Counters

Performance monitor counters monitor the number of authenticated phones that register with Cisco Unified Communications Manager, the number of authenticated calls that are completed, and the number of authenticated calls that are active at any time.

Table 3-1 lists the performance counters that apply to security features.

Table 3-1 Security Performance Counters

Object	Counters
Cisco Unified Communications Manager	AuthenticatedCallsActive AuthenticatedCallsCompleted AuthenticatedPartiallyRegisteredPhone AuthenticatedRegisteredPhones EncryptedCallsActive EncryptedCallsCompleted EncryptedPartiallyRegisteredPhones EncryptedRegisteredPhones SIPLineServerAuthorizationChallenges SIPLineServerAuthorizationFailures SIPTrunkServerAuthenticationChallenges SIPTrunkServerAuthenticationFailures SIPTrunkApplicationAuthorization SIPTrunkApplicationAuthorizationFailures TLSConnectedSIPTrunk
SIP Stack	StatusCodes4xxIns StatusCodes4xxOuts For example: 401 Unauthorized (HTTP authentication required) 403 Forbidden 405 Method Not Allowed 407 Proxy Authentication Required
TFTP Server	BuildSignCount EncryptCount

Refer to the *Cisco Unified Real-Time Monitoring Tool Administration Guide* for accessing performance monitors in RTMT, configuring perfmon logs, and for more details about counters.

The CLI command **show perf** displays performance monitoring information. For information about using the CLI interface, refer to the *Command Line Interface Reference Guide for Cisco Unified Solutions*.

Reviewing Security Log and Trace Files

Cisco Unified Communications Manager stores log and trace files in multiple directories (cm/log, cm/trace, tomcat/logs, tomcat/logs/security, and so on).

**Note**

For devices that support encryption, the SRTP keying material does not display in the trace file.

You can use the trace collection feature of Cisco Unified Real-Time Monitoring Tool or CLI commands to find, view, and manipulate log and trace files.

Troubleshooting Certificates

The certificate management tool in Cisco Unified Communications Platform Administration allows you to display certificates, delete and regenerate certificates, monitor certificate expirations, and download and upload certificates and CTL files (for example, to upload updated CTL files to Unity). The CLI allows you to list and view self-signed and trusted certificates and to regenerate self-signed certificates.

The CLI commands **show cert**, **show web-security**, **set cert regen**, and **set web-security** allow you to manage certificates at the CLI interface; for example, **set cert regen tomcat**. For information about how to use the GUI or CLI to manage certificates, refer to *Cisco Unified Communications Operating System Administration Guide* and the *Command Line Interface Reference Guide for Cisco Unified Solutions*.

Troubleshooting CTL Security Tokens

The section contains information on the following topics:

- [Troubleshooting a Locked Security Token After You Consecutively Enter an Incorrect Security Token Password, page 3-19](#)
- [Troubleshooting If You Lose One Security Token \(Etoken\), page 3-20](#)

If you lose all security tokens (etokens), contact Cisco TAC for further assistance.

Troubleshooting a Locked Security Token After You Consecutively Enter an Incorrect Security Token Password

Each security token contains a retry counter, which specifies the number of consecutive attempts to log in to the etoken Password window. The retry counter value for the security token equals 15. If the number of consecutive attempts exceeds the counter value, that is, 16 unsuccessful consecutive attempts occur, a message indicates that the security token is locked and unusable. You cannot re-enable a locked security token.

Obtain additional security token(s) and configure the CTL file, as described in the *Cisco Unified Communications Manager Security Guide*. If necessary, purchase new security token(s) to configure the file.

**Tip**

After you successfully enter the password, the counter resets to zero.

Troubleshooting If You Lose One Security Token (Etoken)

If you lose one security token, perform the following procedure:

Procedure

- Step 1** Purchase a new security token.
- Step 2** Using a token that signed the CTL file, update the CTL file by performing the following tasks:
- Add the new token to the CTL file.
 - Delete the lost token from the CTL file.

For more information on how to perform these tasks, see the *Cisco Unified Communications Manager Security Guide*.

- Step 3** Reset all phones, as described in the *Cisco Unified Communications Manager Security Guide*.
-

Troubleshooting CAPF

This section contains information on the following topics:

- [Troubleshooting the Authentication String on the Phone, page 3-20](#)
- [Troubleshooting If the Locally Significant Certificate Validation Fails, page 3-21](#)
- [Verifying That the CAPF Certificate Installed on All Servers in the Cluster, page 3-21](#)
- [Verifying That a Locally Significant Certificate Exists on the Phone, page 3-21](#)
- [Verifying That a Manufacture-Installed Certificate \(MIC\) Exists in the Phone, page 3-21](#)
- [CAPF Error Codes, page 3-22](#)

Troubleshooting the Authentication String on the Phone

If you incorrectly enter the authentication string on the phone, a message displays on the phone. Enter the correct authentication string on the phone.



Tip

Verify that the phone is registered to the Cisco Unified Communications Manager. If the phone is not registered to the Cisco Unified Communications Manager, you cannot enter the authentication string on the phone.

Verify that the device security mode for the phone equals nonsecure.

Verify authentication mode in the security profile that is applied to the phone is set to By Authentication String.

CAPF limits the number of consecutive attempts in which you can enter the authentication string on the phone. If you have not entered the correct authentication string after 10 attempts, wait at least 10 minutes before you attempt to enter the correct string again.

Troubleshooting If the Locally Significant Certificate Validation Fails

On the phone, the locally significant certificate validation may fail if the certificate is not the version that CAPF issued, the certificate has expired, the CAPF certificate does not exist on all servers in the cluster, the CAPF certificate does not exist in the CAPF directory, the phone is not registered to Cisco Unified Communications Manager, and so on. If the locally significant certificate validation fails, review the SDL trace files and the CAPF trace files for errors.

Verifying That the CAPF Certificate Installed on All Servers in the Cluster

After you activate the Cisco Certificate Authority Proxy Function service, CAPF automatically generates a key pair and certificate that is specific for CAPF. The CAPF certificate, which the Cisco CTL client copies to all servers in the cluster, uses the .0 extension. To verify that the CAPF certificate exists, display the CAPF certificate at the Cisco Unified Communications platform GUI or use the CLI:

- In DER encoded format—CAPF.cer
- In PEM encoded format—.0 extension file that contains the same common name string as the CAPF.cer

Verifying That a Locally Significant Certificate Exists on the Phone

You can verify that the locally significant certificate is installed on the phone at the **Model Information** or **Security Configuration** phone menus and by viewing the LSC setting. Refer to the *Cisco Unified IP Phone Administration Guide* for your phone model and type (SCCP or SIP) for additional information.

Verifying That a Manufacture-Installed Certificate (MIC) Exists in the Phone

You can verify that a MIC exists in the phone at the **Model Information** or **Security Configuration** phone menus and by viewing the MIC setting. Refer to the *Cisco Unified IP Phone Administration Guide* for your phone model and type (SCCP or SIP) for additional information.

Troubleshooting Encryption for Phones and Cisco IOS MGCP Gateways

This section contains information on the following topics:

- [Using Packet Capturing, page 3-21](#)

Using Packet Capturing

Because third-party troubleshooting tools that sniff media and TCP packets do not work after you enable SRTP encryption, you must use Cisco Unified Communications Manager Administration to perform the following tasks if a problem occurs:

- Analyze packets for messages that are exchanged between Cisco Unified Communications Manager and the device [Cisco Unified IP Phone (SCCP and SIP), Cisco IOS MGCP gateway, H.323 gateway, H.323/H.245/H.225 trunk, or SIP trunk].



Note

SIP trunks do not support SRTP.

- Capture the SRTP packets between the devices.

- Extract the media encryption key material from messages and decrypt the media between the devices.

For information about using or configuring packet capturing and about analyzing captured packets for SRTP-encrypted calls (and for all other call types), see the [“Packet Capture” section on page 2-5](#).

**Tip**

Performing this task for several devices at the same time may cause high CPU usage and call-processing interruptions. Cisco strongly recommends that you perform this task when you can minimize call-processing interruptions.

By using the Bulk Administration Tool that is compatible with this Cisco Unified Communications Manager release, you can configure the packet capture mode for phones. For information about how to perform this task, refer to the *Cisco Unified Communications Manager Bulk Administration Guide*.

**Tip**

Performing this task in Cisco Unified Communications Manager Bulk Administration may cause high CPU usage and call-processing interruptions. Cisco strongly recommends that you perform this task when you can minimize call-processing interruptions.

CAPF Error Codes

The following table contains CAPF error codes that may appear in CAPF log files and the corresponding corrective actions for those codes:

Table 3-2 CAPF Error Codes

Error Code	Description	Corrective Action
0	CAPF_OP_SUCCESS /*Success */	No correction action required.
1	CAPF_FETCH_SUCCESS_BUT_NO_CERT /* Fetch is successful; however there is no cert */	Install a certificate on the phone. For more information, refer to the <i>Cisco Unified Communications Manager Security Guide</i> .
2	CAPF_OP_FAIL /* Fail */	No corrective action available.
3	CAPF_OP_FAIL_INVALID_AUTH_STR /* Invalid Authentication string */	Enter the correct authentication string on phone. For more information, refer to the <i>Cisco Unified Communications Manager Security Guide</i> .
4	CAPF_OP_FAIL_INVALID_LSC /* Invalid LSC */	Update the locally significant certificate (LSC) on the phone. For more information, refer to the <i>Cisco Unified Communications Manager Security Guide</i> .

Table 3-2 CAPF Error Codes (continued)

Error Code	Description	Corrective Action
5	CAPF_OP_FAIL_INVALID_MIC, /* Invalid MIC */	This code indicates that the manufacture-installed certificate (MIC) has been invalidated. You must install a LSC. For more information, refer to the <i>Cisco Unified Communications Manager Security Guide</i> .
6	CAPF_OP_FAIL_INVALID_CREDENTIALS, /* Invalid credential */	Enter correct credentials.
7	CAPF_OP_FAIL_PHONE_COMM_ERROR, /* Phone Communication Failure*/	No corrective action available.
8	CAPF_OP_FAIL_OP_TIMED_OUT, /* Operation timeout */	Reschedule the operation.
11	CAPF_OP_FAIL_LATE_REQUEST /* User Initiated Request Late */	Reschedule the CAPF operation.

Rebuilding RAID Drives

A RAID drive may fail and may require manual intervention to rebuild one of the physical drives in a logical pair during normal operation.

RAIDed disks, also termed RAID arrays, get arranged in logical pairs. A single logical pair comprises two physical drives. The system keeps the pair of drives in sync with the same data in real time to provide redundancy ultimately for data integrity and assurance. When one physical drive fails to synchronize or begins to experience read or write failures, you may need to rebuild the drive. Many things can cause the failure, but the main concern remains whether the data in a logical drive pair is compromised due to failures in one of the physical drives.

Monitoring software usually detects RAID failures, and failures get reported as a failed drive or a loss of drive redundancy. The procedure for rebuilding a failing drive follows and applies to all Cisco MCS model 7825, 7835, and 7845 servers.

First, check the status of the RAID array by using the CLI **show hardware** command and verify whether the Status field reads Ok or Okay. An example follows:

```
admin:show hardware
HW Platform      : 7835I
Processors       : 1
Type             : Intel(R) Xeon(TM) CPU 3.06GHz
CPU Speed        : 3066
Memory           : 2048 MBytes
Object ID        : 1.3.6.1.4.1.9.1.585
OS Version       : UCOS 2.0.1.0-37
RAID Details     :
Found 1 IBM ServeRAID controller(s).
Read configuration has been initiated for controller 1...
-----
Logical drive information
-----
Logical drive number 1
```

```

Status of logical drive      : Okay (OKAY)
RAID level                   : 1
Size (in MB)                : 70006
Write cache status          : Temporary write through (TWT)
Number of chunks             : 2
Stripe-unit size            : 8 KB
Access blocked               : No
Part of array                : A
Array A stripe order (Channel/SCSI ID) : 1,0 1,1 Command completed successfully.

```

If the RAID array status field does not read Ok or Okay (for example, shows Degraded or Critical), perform the following steps:

Procedure

Step 1 Log in to console and enter the CLI command, **utils system shutdown**.

Step 2 Power off the server (press power off button).

Step 3 Extract the failed disk drive.

Step 4 Power up the server (press power on button).

If the server is an IBM server (for example, a 7825I, 7835I, or 7845I), the following menu will display during system reboot:

```

1:ServeRAID-5i Slot 2, Logical drv=1, Firmware=7.12.07, Status=Fail
1 Drive(s) not responding or found at new location(s)
Press F2 Detailed information
      F4 Retry the command
      F5 Change the configuration and set the drive(s) defunct
      F10 Continue without changing the configuration

```

Step 5 Press **F5**.

Step 6 After the login prompt displays in the console window, log in and check the status of the RAID array by using the CLI **show hardware** command; the Status field should read Degraded or Critical.

Step 7 Insert the failed disk drive into the original slot; be sure to lock it properly in place.

Step 8 Check the status of the RAID array by using the CLI **show hardware** command; the Status field will read Rebuilding or Critical.

Step 9 After an hour, recheck the status of the RAID array by using the CLI **show hardware** command and verify that the Status field reads Ok or Okay.

If the status does not read Ok or Okay, you may need to replace the physical drive.

Hard Drive Reports Media Errors

Symptom

Operations get impacted after a single disk failure on a system with redundant disks.

Possible Cause

The affected disks contain bad blocks.

Recommended Action

Configure the system to perform an automatic weekly procedure that runs at low-volume times (weekly at 4 a.m.). This procedure checks the disks and maps away bad blocks.

Procedure

Enter the following CLI commands to configure the system to perform the automatic weekly procedure:

- To perform the procedure, enter
utils raid disk maintenance enable
- To see whether the system is configured to perform the procedure, enter
utils raid disk maintenance status
- To stop the system from performing the procedure, enter
utils raid disk maintenance disable

