



## **Cisco Customer Response Solutions Servicing and Troubleshooting Guide**

Cisco Unified Contact Center Express, Cisco Unified IP IVR, and Cisco Unified  
Queue Manager,  
Release 5.0(1)

June 2007

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# CONTENTS

<b>Preface</b>	<b>i</b>
Purpose	i
Audience	i
Organization	i
Related Documents	ii
Conventions	ii
Obtaining Documentation	iii
Cisco.com	iii
Product Documentation DVD	iii
Ordering Documentation	iv
Documentation Feedback	iv
Cisco Product Security Overview	iv
Reporting Security Problems in Cisco Products	iv
Product Alerts and Field Notices	v
Obtaining Technical Assistance	v
Cisco Support Website	v
Submitting a Service Request	vi
Definitions of Service Request Severity	vii
Obtaining Additional Publications and Information	vii

---

**PART I**

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**Serviceability**

---

**CHAPTER 1**

<b>About Serviceability</b>	<b>1-1</b>
About CRS Serviceability	1-1
Serviceability Support	1-1
CiscoWorks Support	1-2
Syslog Support	1-3
Remote Serviceability	1-3
Unified CCX Call Statistics, Recording, and Monitoring Server Serviceability Support	1-4

---

**CHAPTER 2**

<b>Simple Network Management Protocol Support</b>	<b>2-1</b>
About Simple Network Management Protocol (SNMP)	2-1
SNMP Basics	2-1

- SNMP Agent and Subagents 2-2
- SNMP Management Information Base (MIB) 2-2
- SYSAPPL-MIB 2-2
- CISCO-VOICE-APPS-MIB 2-6
- CISCO-CDP-MIB 2-6
- SNMP Traps 2-6
- SNMP Trap Messages 2-6
  - Failover Traps 2-7
- Setting up SNMP Traps 2-7
  - Setting the SNMP Trap Receiver 2-7
  - Setting the SNMP Community Names 2-8
  - Starting, Stopping, and Confirming the SNMP Service 2-9
  - Snapshot of Traps During Startup 2-9
  - Snapshot of Traps During Shutdown 2-10

**CHAPTER 3**

**Alarm Service 3-1**

- About Alarms 3-1
- Cisco CRS Alarm Service 3-1
  - Starting and Confirming the Alarm Service 3-2
  - Configuring the Alarm Service 3-3
- Viewing Alarm Messages 3-3
- Viewing Alarm Messages Sent to a Syslog Server 3-3
- Viewing Alarm Messages Sent to an SNMP Trap Receiver 3-5
  - Viewing Alarm Messages Sent to a Windows Event Log 3-5
- Alarm Definitions 3-5
  - Finding Information About an Alarm 3-5

**CHAPTER 4**

**Trace 4-1**

- About Trace Files 4-1
- The Component Trace File 4-2
  - Configuring the Component Trace File 4-2
- Trace Level Options 4-3
  - Setting Trace Level Options 4-7
- Viewing and Interpreting the Trace Files 4-8
  - Displaying a Trace File 4-8
- Interpreting a Trace File 4-8
- The Thread Dump Trace File 4-8

Writing to the Thread Dump Trace file	4-9
Displaying the Thread Dump Trace File	4-9
The CRS Log Files	4-9
Cisco Desktop Product Suite Installation Logs	4-11
CRS Log Collection Tool	4-11

**CHAPTER 5****Cisco Discovery Protocol Support** 5-1

About the Cisco Discovery Protocol (CDP)	5-1
Using the CDP Driver	5-2
Accessing CDP Driver Control	5-2
Installing the CDP Protocol Driver	5-2
Starting the CDP Protocol Driver	5-2
Enabling the CDP Protocol Driver	5-3
Showing the CDP Protocol Driver Properties	5-3
Updating an IP Address for the CDP Protocol Driver	5-3
Locating Updated CDP Driver and Interface Files	5-4
Default CDP Settings	5-4

**CHAPTER 6****Cisco Support Tools** 6-1

About Cisco Support Tools with Cisco CRS	6-1
Accessing Cisco Support Tools	6-1

**PART II****Troubleshooting****CHAPTER 7****Diagnosing and Correcting Cisco CRS Problems** 7-1

General Troubleshooting Steps	7-1
-------------------------------	-----

**CHAPTER 8****Troubleshooting Tips** 8-1

Installation Problems	8-2
One node on a CRS 5.0 two-node cluster crashes beyond repair	8-2
Backup, Restore, and Update Problems	8-2
Backup, Restore, and Upgrade cannot be started from a client desktop	8-3
During Backup, Restore, or Upgrade, an exception is seen in UI	8-3
Backup failed for a One or Two-Node system	8-4
CRS 4.5 profile name is missing	8-4
Page Not Found message is displayed during Restore or Upgrade	8-4
Restore fails due to a file not being found	8-5
Restore failed for a one-node system	8-5

Restore failed on a two-node system that had run before the Restore	8-6
Restore failed on a two-node system that was re-imaged	8-7
Some RmCm configuration is missing after Upgrade	8-8
CME Telephony subsystem problems	8-8
A functional routing point stopped working or the CME Telephony subsystem is in partial service	8-8
Cisco Unified Communications Manager Automated Attendant problems	8-9
Dial by name does not find the specified server	8-9
Automated Attendant prompt is not played	8-9
Cisco Unified Communications Manager Express Problems	8-10
Agent cannot log in on shared line	8-10
Agent cannot log in on restricted line	8-10
When agent drops from conference, all parties on conference are dropped	8-10
Cisco Unified CCX Problems	8-10
RmCm subsystem is out of service	8-11
RmCm subsystem remains INITIALIZING	8-11
RmCm remains in Initializing state	8-12
Agents, Supervisors, or Teams are out of synch	8-12
Agent or CSQ does not appear in Cisco Desktop Administrator (CDA)	8-12
Agents do not appear in the Resources area in the Unified CCX Configuration web page	8-13
You cannot select the order of agents	8-13
Agent does not go to Work state after handling a call	8-13
A media step causes a Could not create PlayPromptDialog Object exception	8-14
Unable to make any Unified CCX configuration changes	8-14
Some resource selection criteria are missing	8-14
Unable to record an agent	8-15
Sometimes the supervisor can monitor and record an agent and sometimes he cannot	8-15
Calls to Unified CCX route points are disconnected	8-15
Calls are not routed to agents	8-15
Agents do not show in a CSQ	8-16
Caller gets dropped when an attempt is made to recall a Unified CCX agent extension after the agent previously parked the call	8-16
Updating a NIC driver disables silent monitoring and recording	8-16
Cisco Unified IP IVR Problems	8-17
Cisco Unified IP IVR drops callers when transferring to an extension	8-17
Prompts play in language	8-17
Some prompts do not play	8-18
Some prompts in a script play in the language specified and other prompts play in English	8-18
A prompt plays phrases in the wrong order	8-18

CRS Administration Problems	8-18
The CRS Administration Authentication web page is not available	8-19
Uploading a license file can result in a warning message	8-20
User cannot log in to the CRS web page	8-20
Refreshing subflow script does not update parent scripts	8-20
Unified Communications Manager users display in random order	8-20
CRS Supervisor web page cannot be viewed from CRS Server	8-21
Database table fields used by wallboard store data in milliseconds	8-21
Management pages display error message when selected	8-21
Zip file does not auto unzip on Document Management page	8-22
Invalid files message displays while uploading a zip file of prompts	8-22
A Component Manager goes into partial service when uploading a zip file	8-23
High call rejection rate under heavy load	8-23
CRS Admin Utility Problems	8-23
The cluster is not in synchronization	8-24
CRS Admin Utility exits or does not come up after login.	8-24
The CRS Admin Utility fails due to data corruption	8-24
The CRS Admin Utility will not run on a none bootstrap node	8-25
The CRS Admin Utility will not run since the Node Manager hung	8-25
CRS Database Problems	8-25
Cannot configure Application or System parameters from their pages in CRS Administration	8-26
HR client login error	8-26
Cannot activate DB components on HA node	8-26
CRS Databases are not purged as expected	8-26
Historical Database db_cra is full	8-27
E-mail notification of database purging activities is not sent	8-27
Syslog or SNMP trap notification of database purging activities is not sent	8-28
CRS Editor Problems	8-28
Change a string variable to an integer	8-28
Accept step error during active debug	8-28
Error occurs with Reactive Debugging Tool	8-29
CRS Engine Problems	8-29
Agent cannot go Ready after logging in	8-30
Voice Browser step throws an exception	8-30
CRS Engine does not start and an RMI port in use error appears	8-30
Attempting to start the Cisco CRS Node Manager service causes an error 1067	8-31
Attempting to start the Cisco CRS Node Manager service causes an error 1069	8-31
Application subsystem is in partial service	8-31
CRS Engine is running but calls are not answered	8-32

Changing the time on CRS machines results in agents getting logged off	8-32
An error message plays when calling a CTI route point	8-33
Changes to applications do not register	8-33
Call drops during transfer over gateway	8-34
H.323 client DTMF digits not detected	8-34
Redirected call is disconnected	8-34
The CRS server runs out of disk space	8-35
CRS Server runs at 100% capacity or is very slow	8-35
Database Subsystem goes into partial service	8-36
JTAPI subsystem is in partial service	8-37
Unable to connect to JTAPI provider	8-37
The Simple Recognition step takes the unsuccessful branch	8-38
Calling party and CRS do not have common codec	8-38
Prompts with incorrect codec being played out	8-38
Prompt Exception in CRS Engine log file	8-39
CRS Engine does not start	8-39
Application subsystem in partial service and application running for an unexpectedly long time	8-39
CRS Server and Active Directory integration results in some services being unregistered	8-40
CRS Real-Time Reporting Problems	8-40
Attempting to run a real-time report causes an error	8-40
After installing JRE, the user receives a message from real-time reporting saying to install JRE	8-41
CRS Historical Reporting Problems	8-41
Exported PDF report does not print in landscape orientation	8-42
User login missing in Windows XP after installing HR client	8-42
Client and Server security policies do not match	8-43
Charts do not appear properly in MS Excel format	8-43
Columns of data missing in report in MS Excel format	8-43
Records truncated in report in MS Excel format	8-43
Agent names overwritten on charts	8-44
RTF Report containing charts has tabular report headings	8-44
Scheduler icon does not appear on Terminal Services client	8-44
Reports do not execute at scheduled times	8-44
Search dialog box and Preview tab appear in English on Windows system with locale set to German	8-45
Dialog box does not appear as expected when report is exported	8-45
Error when choosing an option from the Historical Reporting web page	8-45
Truncated report description in Historical Reports client	8-46
Scheduled Historical Reports do not run	8-46
The SQL Command Failed dialog box appears when you try to generate a historical report	8-46
Some information appears in English on a German system	8-47



The Historical Reports client computer cannot connect to the CRS server	8-47
A Database Connection Error 5051 error appears	8-47
Export file name does not appear in Export dialog box	8-48
Cannot point to local applications from the Database Server Configuration page	8-48
Attempt to log in to the CRS Server from the Historical Reporting client fails and an error message is returned	8-49
Only three report templates available for Unified CCX Standard	8-49
Discrepancy in number of ACD calls shown on custom reports	8-50
Priority Summary Activity Report chart prints only partly in color	8-50
Scheduled Historical Reports do not run and message appears in CiscoSch.log file	8-50
Historical Reporting Client window shows nothing in user drop-down menu	8-51
Historical Reporting Client stops working; attempt to log in again results in error messages	8-51
Scheduler DOS exception error received when running a custom report	8-52
Columns displaced in Excel spreadsheet when exporting a report	8-52
Scheduler icon does not appear in Windows status bar	8-52
Error message appears indicating connection with database is broken	8-53
Automatic Speech Recognition (ASR) Problems	8-53
Names are not recognized	8-53
Recognition never times out	8-54
Alternate pronunciations and nicknames are not recognized	8-54
Reduced call completion rate under heavy load while using an MRCP ASR Group	8-54
MRCP ASR subsystem is out of service	8-55
Changes, additions, or deletions to MRCP ASR Providers, MRCP Servers, or Groups do not take effect	8-55
Calling a route point with an MRCP ASR Dialog Group results in default treatment	8-56
Outbound Problems	8-56
Agent does skip or skip-close but does not stay reserved	8-57
Agent is not getting callbacks	8-57
Agent is ready but does not get an Outbound call for up to Two minutes	8-57
Errors placing Outbound calls	8-58
Not all contacts get imported	8-58
On the Campaigns Configuration web page, the available CSQs list is empty even though there are CSQs configured under the RmCm subsystem	8-58
Outbound buttons do not show up on CAD	8-58
Outbound buttons show up but are disabled on CAD	8-59
Outbound calls are not getting dialed	8-59
Outbound call volume is low	8-59
Outbound System Service is not in service	8-60
RTR Outbound reports do not show all possible reclassification	8-60
Text-to-Speech (TTS) Problems	8-60

Provider becomes IN_SERVICE immediately	8-61
A TTS Prompt will not play	8-61
A TTS prompt is not recognizable	8-62
MRCP TTS subsystem is out of service	8-62
Long TTS prompts consume significant memory on CRS Server	8-62
Non-UTF-8 characters needed for some languages	8-63
A .wav file prompt playback is garbled when played by a TTS server	8-63
Changes, additions, or deletions to MRCP TTS Providers, MRCP Servers, locales, or genders do not take effect	8-64
Serviceability Problems	8-64
SNMP-based network management tools cannot monitor CRS components	8-65
File Manager in partial service	8-65
SNMP traps do not arrive at the trap receiver	8-65
Syslog messages not received by receiver	8-66
The Alarm Service does not start	8-67
Serviceability does not uninstall completely	8-67
Updating Data with the Serviceability Tool on One Node Does Not Update Other Nodes	8-67
Virus Scan software slows Call Completion Rate	8-68
CRS Internationalization Problems	8-68
Results not as expected for first name and last name in Chinese, Japanese, and Korean	8-68
Language specified is not accepted or played	8-69
VXML Problems	8-69
Voice Browser Step troubleshooting steps	8-69
Timeout attribute for non-input does not work	8-70
Menu Choice DTMF does not work	8-70
High Availability and Bootstrap	8-71
Transaction Manager cannot start	8-71
Have an exception on startup with a message like "unable to recover transaction" or an error message related to reading or modifying the "Tx.per" file.	8-71
High Availability and Failover	8-72
Previously configured log file size is not preserved after system upgrade	8-72
Conflicts in Datastore Control Center history	8-73
Cannot make configuration changes in HA cluster	8-73
Cannot make configuration changes in RmCm Subsystem	8-73
Service constantly shows Invalid	8-74
CRS server keeps rebooting due to CRS Node Manager failure	8-74
Cluster is in partial service	8-74
Server is in partial service	8-75
CRS does not accept call or function properly	8-75
Service Master/Slave status is not shown on CRS Administration Control Center	8-75

Cluster time synch fails	8-76
CRS Servers respond slowly in HA environment	8-76
Multilple failovers with high CPU usage	8-76
VoIP Monitor Problems	8-76
VoIP monitor does does not work correctly	8-77
CRS fails to start	8-77

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**INDEX**





## Preface

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### Purpose

The **Cisco CRS Servicing and Troubleshooting Guide** provides instructions for using the CRS Serviceability tools and helps you resolve any problems you might experience with the CRS system.

### Audience

The **Cisco CRS Servicing and Troubleshooting Guide** is written for administrators and others who are responsible for managing and troubleshooting the Cisco CRS system.

### Organization

Part/Chapter	Title	Description
<b>Part 1</b>	<b>Serviceability</b>	
Chapter 1	<a href="#">About Serviceability</a>	Provides an overview of the Cisco CRS serviceability support and the support provided when an expansion server is used.
Chapter 2	<a href="#">Simple Network Management Protocol Support</a>	Describes how you can use SNMP to monitor and manage your CRS system.
Chapter 3	<a href="#">Alarm Service</a>	Describes how to configure the Cisco CRS Alarm Service and view alarm messages.
Chapter 4	<a href="#">Trace</a>	Describes how to configure the component trace file, set trace level options, and collect, view, and interpret trace log files.
Chapter 5	<a href="#">Cisco Discovery Protocol Support</a>	Describes how to use the CDP Driver, view the CDP Driver properties, and locate the CDP Driver and interface files.
Chapter 6	<a href="#">Cisco Support Tools</a>	Provides an overview of Cisco Support Tools that are supported by Cisco CRS.

Part/Chapter	Title	Description
<b>Part 2</b>	<b>Troubleshooting</b>	
Chapter 7	<a href="#">Diagnosing and Correcting Cisco CRS Problems</a>	Provides steps that can help you troubleshoot most problems with your Cisco CRS system.
Chapter 8	<a href="#">Troubleshooting Tips</a>	Provides troubleshooting tips for the various elements of the CRS system. Each tip contains the symptom of a problem, the possible cause of the problem, and the corrective action for the problem. The tips are grouped by category.

## Related Documents

You might also need the following documents:

- **Cisco CRS Administration Guide**
- **Cisco CAD Service Information Guide**
- **Cisco CRS Database Schema**
- **Cisco CRS Getting Started with Scripts**
- **Cisco CRS Editor Step Reference**
- **Cisco CRS Historical Reports User Guide**
- **Cisco IPCC Gateway Deployment Guide**

## Conventions

This manual uses the following conventions.

Convention	Description
<b>boldface</b> font	Boldface font is used to indicate commands, such as user entries, keys, buttons, and folder and submenu names. For example: <ul style="list-style-type: none"> <li>• Choose <b>Edit &gt; Find</b>.</li> <li>• Click <b>Finish</b>.</li> </ul>
<i>italic</i> font	Italic font is used to indicate the following: <ul style="list-style-type: none"> <li>• To introduce a new term. Example: A <i>skill group</i> is a collection of agents who share similar skills.</li> <li>• For emphasis. Example: <i>Do not</i> use the numerical naming convention.</li> <li>• A syntax value that the user must replace. Example: IF (<i>condition, true-value, false-value</i>)</li> <li>• A book title. Example: See the <i>Cisco CRS Installation Guide</i>.</li> </ul>

Convention	Description
<i>window font</i>	Window font, such as Courier, is used for the following: <ul style="list-style-type: none"> <li>Text as it appears in code or that the window displays. Example: <code>&lt;html&gt;&lt;title&gt;Cisco Systems,Inc. &lt;/title&gt;&lt;/html&gt;</code></li> </ul>
< >	Angle brackets are used to indicate the following: <ul style="list-style-type: none"> <li>For arguments where the context does not allow italic, such as ASCII output.</li> <li>A character string that the user enters but that does not appear on the window such as a password.</li> </ul>

## Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. This section explains the product documentation resources that Cisco offers.

### Cisco.com

You can access the most current Cisco documentation at this URL:

<http://www.cisco.com/techsupport>

You can access the Cisco website at this URL:

<http://www.cisco.com>

You can access international Cisco websites at this URL:

[http://www.cisco.com/public/countries\\_languages.shtml](http://www.cisco.com/public/countries_languages.shtml)

### Product Documentation DVD

The Product Documentation DVD is a library of technical product documentation on a portable medium. The DVD enables you to access installation, configuration, and command guides for Cisco hardware and software products. With the DVD, you have access to the HTML documentation and some of the PDF files found on the Cisco website at this URL:

<http://www.cisco.com/univercd/home/home.htm>

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## Ordering Documentation

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If you do not have a user ID or password, you can register at this URL:

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

## Documentation Feedback

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## Cisco Product Security Overview

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[http://www.cisco.com/en/US/products/products\\_security\\_vulnerability\\_policy.html](http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html)

From this site, you will find information about how to do the following:

- Report security vulnerabilities in Cisco products
- Obtain assistance with security incidents that involve Cisco products
- Register to receive security information from Cisco

A current list of security advisories, security notices, and security responses for Cisco products is available at this URL:

<http://www.cisco.com/go/psirt>

To see security advisories, security notices, and security responses as they are updated in real time, you can subscribe to the Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed. Information about how to subscribe to the PSIRT RSS feed is found at this URL:

[http://www.cisco.com/en/US/products/products\\_psirt\\_rss\\_feed.html](http://www.cisco.com/en/US/products/products_psirt_rss_feed.html)

## Reporting Security Problems in Cisco Products

Cisco is committed to delivering secure products. We test our products internally before we release them, and we strive to correct all vulnerabilities quickly. If you think that you have identified a vulnerability in a Cisco product, contact PSIRT:

- For emergencies only — [security-alert@cisco.com](mailto:security-alert@cisco.com)

An emergency is either a condition in which a system is under active attack or a condition for which a severe and urgent security vulnerability should be reported. All other conditions are considered nonemergencies.

- For nonemergencies — [psirt@cisco.com](mailto:psirt@cisco.com)

In an emergency, you can also reach PSIRT by telephone:

- 1 877 228-7302



- 1 408 525-6532

**Tip**

We encourage you to use Pretty Good Privacy (PGP) or a compatible product (for example, GnuPG) to encrypt any sensitive information that you send to Cisco. PSIRT can work with information that has been encrypted with PGP versions 2.x through 9.x.

Never use a revoked encryption key or an expired encryption key. The correct public key to use in your correspondence with PSIRT is the one linked in the Contact Summary section of the Security Vulnerability Policy page at this URL:

[http://www.cisco.com/en/US/products/products\\_security\\_vulnerability\\_policy.html](http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html)

The link on this page has the current PGP key ID in use.

If you do not have or use PGP, contact PSIRT to find other means of encrypting the data before sending any sensitive material.

## Product Alerts and Field Notices

Modifications to or updates about Cisco products are announced in Cisco Product Alerts and Cisco Field Notices. You can receive these announcements by using the Product Alert Tool on Cisco.com. This tool enables you to create a profile and choose those products for which you want to receive information.

To access the Product Alert Tool, you must be a registered Cisco.com user. Registered users can access the tool at this URL:

<http://tools.cisco.com/Support/PAT/do/ViewMyProfiles.do?local=en>

To register as a Cisco.com user, go to this URL:

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

## Obtaining Technical Assistance

Cisco Technical Support provides 24-hour-a-day award-winning technical assistance. The Cisco Support website on Cisco.com features extensive online support resources. In addition, if you have a valid Cisco service contract, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not have a valid Cisco service contract, contact your reseller.

## Cisco Support Website

The Cisco Support website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day at this URL:

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

Access to all tools on the Cisco Support website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

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

**Note**

Before you submit a request for service online or by phone, use the **Cisco Product Identification Tool** to locate your product serial number. You can access this tool from the Cisco Support website by clicking the **Get Tools & Resources** link, clicking the **All Tools (A-Z)** tab, and then choosing **Cisco Product Identification Tool** from the alphabetical list. This tool offers three search options: by product ID or model name; by tree view; or, for certain products, by copying and pasting **show** command output. Search results show an illustration of your product with the serial number label location highlighted. Locate the serial number label on your product and record the information before placing a service call.

**Tip****Displaying and Searching on Cisco.com**

If you suspect that the browser is not refreshing a web page, force the browser to update the web page by holding down the Ctrl key while pressing **F5**.

To find technical information, narrow your search to look in technical documentation, not the entire Cisco.com website. After using the Search box on the Cisco.com home page, click the **Advanced Search** link next to the Search box on the resulting page and then click the **Technical Support & Documentation** radio button.

To provide feedback about the Cisco.com website or a particular technical document, click **Contacts & Feedback** at the top of any Cisco.com web page.

## Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool provides recommended solutions. If your issue is not resolved using the recommended resources, your service request is assigned to a Cisco engineer. The TAC Service Request Tool is located at this URL:

<http://www.cisco.com/techsupport/servicerequest>

For S1 or S2 service requests, or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411

Australia: 1 800 805 227

EMEA: +32 2 704 55 55

USA: 1 800 553 2447

For a complete list of Cisco TAC contacts, go to this URL:

<http://www.cisco.com/techsupport/contacts>

## Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)—An existing network is “down” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Severity 2 (S2)—Operation of an existing network is severely degraded, or significant aspects of your business operations are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Severity 3 (S3)—Operational performance of the network is impaired while most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Severity 4 (S4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

## Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- The Cisco Online Subscription Center is the website where you can sign up for a variety of Cisco e-mail newsletters and other communications. Create a profile and then select the subscriptions that you would like to receive. To visit the Cisco Online Subscription Center, go to this URL:  
<http://www.cisco.com/offer/subscribe>
- The *Cisco Product Quick Reference Guide* is a handy, compact reference tool that includes brief product overviews, key features, sample part numbers, and abbreviated technical specifications for many Cisco products that are sold through channel partners. It is updated twice a year and includes the latest Cisco channel product offerings. To order and find out more about the *Cisco Product Quick Reference Guide*, go to this URL:  
<http://www.cisco.com/go/guide>
- Cisco Marketplace provides a variety of Cisco books, reference guides, documentation, and logo merchandise. Visit Cisco Marketplace, the company store, at this URL:  
<http://www.cisco.com/go/marketplace/>
- Cisco Press publishes a wide range of general networking, training, and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press at this URL:  
<http://www.ciscopress.com>
- *Internet Protocol Journal* is a quarterly journal published by Cisco for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the *Internet Protocol Journal* at this URL:  
<http://www.cisco.com/ipj>
- Networking products offered by Cisco, as well as customer support services, can be obtained at this URL:  
<http://www.cisco.com/en/US/products/index.html>

- Networking Professionals Connection is an interactive website where networking professionals share questions, suggestions, and information about networking products and technologies with Cisco experts and other networking professionals. Join a discussion at this URL:  
<http://www.cisco.com/discuss/networking>
- “What’s New in Cisco Documentation” is an online publication that provides information about the latest documentation releases for Cisco products. Updated monthly, this online publication is organized by product category to direct you quickly to the documentation for your products. You can view the latest release of “What’s New in Cisco Documentation” at this URL:  
<http://www.cisco.com/univercd/cc/td/doc/abtunicd/136957.htm>
- World-class networking training is available from Cisco. You can view current offerings at this URL:  
<http://www.cisco.com/en/US/learning/index.html>



## **PART I**

### **Serviceability**





# CHAPTER 1

## About Serviceability

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Cisco Customer Response Solutions (CRS) Serviceability enables remote network management support for the Cisco CRS system. Serviceability enables this support through CiscoWorks and through any third-party network management system (NMS) that uses standard protocols. These protocols include Syslog, Simple Network Management Protocol (SNMP), XML, and HTTP.

This section contains the following topics:

- [About CRS Serviceability, page 1-1](#)
- [Serviceability Support, page 1-1](#)
- [CiscoWorks Support, page 1-2](#)
- [Syslog Support, page 1-3](#)
- [Remote Serviceability, page 1-3](#)
- [Unified CCX Call Statistics, Recording, and Monitoring Server Serviceability Support, page 1-4](#)

## About CRS Serviceability

Cisco Customer Response Solutions (CRS) Serviceability enables remote network management support for the Cisco CRS system. Serviceability enables this support through CiscoWorks and through any third-party network management system (NMS) that uses standard protocols. These protocols include Syslog, Simple Network Management Protocol (SNMP), XML, and HTTP.

## Serviceability Support

Serviceability allows you to monitor and discover the status of the installed components of your Cisco CRS system, its subsystems, and its services from any NMS. You can use the information that you obtain through serviceability to troubleshoot system problems. (For additional troubleshooting information, refer to Part 2 of this guide.)

Serviceability support includes:

- **SNMP Support**—Provides integration with CiscoWorks or another SNMP-based network management system (NMS). SNMP agents provide monitoring of network devices through MIBs (Management Information Bases). For more information, see [CiscoWorks Support, page 1-2](#) and [Simple Network Management Protocol Support, page 2-1](#).
- **SNMP Traps**—Provides notification messages of high-severity Cisco CRS Engine errors. For more information, see [Simple Network Management Protocol Support, page 2-1](#)

- Alarms—Use Alarms to obtain the run-time status and state of the Cisco CRS system and to take corrective action to fix detected problems. You can forward alarms to a Syslog server, to an SNMP trap subagent, or to a Windows Event Log. For more information, see [Alarm Service, page 3-1](#).
- Trace—Provides specific, detailed Cisco CRS information for troubleshooting system problems. You can also send alarms to a trace file for further analysis and you can specify what level of event information is sent to the trace file. For more information, see [Trace, page 4-1](#).
- Cisco Discovery Protocol (CDP) Support—Sends messages containing system information to a designated multicast address. For more information, see [Cisco Discovery Protocol Support, page 5-1](#).
- Syslog Support—Sends common event logging messages in standard Syslog format to any third-party Syslog server. For more information, see [Alarm Service, page 3-1](#).
- Cisco Support Tools—The Node Agent utility of Cisco Support Tools helps you collect log information and troubleshoot Cisco CRS servers. For more information, see [Cisco Support Tools, page 6-1](#).

You can obtain additional system troubleshooting information using the following tools:

- CiscoWorks—Provides a suite of web-based applications for managing Cisco devices. For more information, see [CiscoWorks Support, page 1-2](#).
- Third-Party Network Management Systems—Provide Simple Network Management Protocol-based browser, Syslog support, and other system management tools.
- Microsoft Windows 2003 Performance Monitoring—Allows you to monitor the performance of the Cisco CRS system. For more information, refer to your Microsoft Windows documentation.
- Microsoft Windows 2003 Terminal Service—Provides remote systems with access to Windows-based applications through terminal emulation. Windows 2003 Server Terminal Services are integrated with the Windows 2003 operating system. For more information, refer to your Microsoft Windows documentation.

## CiscoWorks Support

CiscoWorks, available as a separate package, provides a suite of web-based applications for managing Cisco devices. It is the network management system (NMS) of choice for the Cisco CRS system and for other Cisco devices.

The Cisco CRS system integrates with these CiscoWorks applications:

- Cisco Unified Operations Manager (Operations Manager)—Operations Manager tracks the health of Cisco Unified Communications environments by proactively monitoring Cisco voice elements in the network to alert operations personnel to potential problems and to help minimize Unified Communications service downtime.
- Resource Management Essentials (RME)—Provides tools for collecting Syslog messages from multiple sources for system-level fault monitoring and analysis.
- Campus Manager—Provides network topology services, user tracking, and path analysis. Campus Manager Topology Services can display a map of your network and it can display a variety of information about each device on the network. It provides version, run-time status, and URLs of the applications on the devices and it provides filtering to display only specified devices. User Tracking provides a tool that tracks IP telephones on a Voice over IP (VoIP) network. Path Analysis provides a diagnostic application that traces connectivity between two specified points on a network and analyzes physical and logical paths.



For more information about CiscoWorks, refer to the documentation available at this URL:  
[http://www.cisco.com/en/US/products/sw/cscowork/ps3996/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/sw/cscowork/ps3996/tsd_products_support_series_home.html)

## Syslog Support

In addition to writing information to a trace file, the Cisco CRS system sends standard event logging messages to a Syslog server through the Alarm Service. These messages contain information about the activities of the Cisco CRS Engine and its subsystems. You can use any Syslog server to analyze these messages.

For analyzing Syslog messages, the Cisco CRS system integrates with CiscoWorks Resource Management Essentials (RME). The RME Cisco Syslog Analyzer controls and displays all event messages so that they can easily be read, interpreted, filtered, and used for system maintenance and troubleshooting. In the Syslog Analyzer, these reports are available under WorkFlow Report. You can also adapt Syslog output from the Cisco CRS system for use with other network management systems that have standard Syslog receiving capability.

For information about configuring a Syslog server, see [Configuring the Alarm Service, page 3-3](#).

For more information about CiscoWorks, refer to the documentation available at this URL:  
[http://www.cisco.com/en/US/products/sw/cscowork/ps3996/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/sw/cscowork/ps3996/tsd_products_support_series_home.html)

## Remote Serviceability

Many of the serviceability tools can be used by a Cisco Service Engineer (CSE) to assist you with the management and administration of your Cisco CRS system. These tools allow CSEs to remotely gather system and debugging information if you require help with troubleshooting or system diagnostics.

With your permission, CSEs can log on to a Cisco CRS server and obtain a desktop or shell that allows them to perform any function that could be performed locally.

Tools that assist with remote serviceability include:

- CiscoWorks—Provides remote management capabilities for the Cisco CRS system and Cisco CRS network. For more information, see [CiscoWorks Support, page 1-2](#).
- Microsoft Windows 2003 Performance Monitoring—Allows monitoring the performance counters of the Cisco CRS system from local or from remote systems. For more information, refer to your Microsoft Windows documentation.
- Microsoft Windows 2003 Terminal Services—Provides remote systems with access to Windows-based applications through terminal emulation. Windows 2003 Server Terminal Services are integrated with the Windows 2003 operating system.
- Virtual Network Computing (VNC) is a desktop protocol to remotely control another computer. It transmits the keyboard presses and mouse clicks from one computer to another, relaying the screen updates back in the other direction, over a network. There are many variants of freeware VNC available today.

# Unified CCX Call Statistics, Recording, and Monitoring Server Serviceability Support

You can set up a dedicated server for monitoring, recording, and maintaining Unified CCX statistics. Such a server is called a Unified CCX Call Statistics, Recording, and Monitoring Server. You can also set up a dedicated server or servers for monitoring. These servers are called Unified CCX Call Monitoring Servers. The CRS installation process automatically sets up and configures serviceability on these dedicated servers.

Serviceability enables CiscoWorks support and third-party NMS support for the servers and includes:

- Cisco Discover Protocol (CDP) support, which enables the Media Convergence Server (MCS) to be discovered automatically by CiscoWorks.
- CISCO-CDP-MIB support.
- SYSAPPL-MIB support, which provides run-time status, version information, and application discovery for voice recording and monitoring services.
- Standard third-party MIB support.
- EMBLEM support for CiscoWorks.



## CHAPTER 2

# Simple Network Management Protocol Support

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This section contains the following topics:

- [About Simple Network Management Protocol \(SNMP\), page 2-1](#)
- [SNMP Basics, page 2-1](#)
- [SNMP Agent and Subagents, page 2-2](#)
- [SNMP Management Information Base \(MIB\), page 2-2](#)
- [SYSAPPL-MIB, page 2-2](#)
- [CISCO-VOICE-APPS-MIB, page 2-6](#)
- [CISCO-CDP-MIB, page 2-6](#)
- [SNMP Traps, page 2-6](#)
- [SNMP Trap Messages, page 2-6](#)
- [Setting up SNMP Traps, page 2-7](#)

## About Simple Network Management Protocol (SNMP)

Simple Network Management Protocol (SNMP) is an industry-standard interface for exchanging management information between network devices. SNMP and its components provide you with information about your Cisco CRS system. You can refer to this information to monitor and manage the status of the Cisco CRS system, its subsystems, and its related installed components. You can also use this information to troubleshoot problems, if they arise.

You can set up SNMP traps to automatically notify you of high-severity messages and errors that are generated by the Cisco CRS system.

## SNMP Basics

A network management system (NMS) uses SNMP to exchange management information between devices on a network. An SNMP-managed network is made up of the following main components:

- **Managed devices**—Network nodes, each containing an SNMP agent. Managed devices collect and store information and make this information available using SNMP.
- **Agents**—Network management software that resides on a managed device. An agent contains local knowledge of management information and translates the information into a form that is compatible with SNMP.

- Management stations—Computers on which the NMS is installed and from which system administrators can retrieve and evaluate information from managed devices.

## SNMP Agent and Subagents

The Microsoft Windows SNMP service (referred to as the SNMP Service) provides a framework for SNMP and provides the SNMP agent that interfaces with SNMP subagents.

SNMP Service starts automatically when the system starts. You can restart or stop the SNMP Service if a problem occurs or if it did not start automatically.

For more information, see [Starting, Stopping, and Confirming the SNMP Service, page 2-9](#).

For information on configuring SNMP Service, see [SNMP Traps, page 2-6](#).

## SNMP Management Information Base (MIB)

A Management Information Base (MIB) designates a collection of information that is organized hierarchically. You access MIBs with SNMP. MIBs are made up of managed objects, which are identified by object identifiers. Managed objects are made up of one or more object instances, which are essentially variables. MIBs provide status monitoring, provisioning and notification.

The Cisco CRS system supports these MIBs:

- SYSAPPL-MIB—Provides system information, such as installed applications, application components, product version, processes that are running, and process start time. For more information, see [SYSAPPL-MIB, page 2-2](#).
- CISCO-VOICE-APPS-MIB—Contains information about supported SNMP traps. For more information, see [CISCO-VOICE-APPS-MIB, page 2-6](#).
- CISCO-CDP-MIB—Provides information about device identifications, CDP (Cisco Discovery Protocol) running status, CDP transmitting frequency, and the time for the receiving device to hold CDP messages (time to live). For more information, see [Cisco Discovery Protocol Support, page 5-1](#).

Standard third-party MIBs, including:

- Standard Microsoft MIBs, such as MIB II
- Compaq Insight Agent MIBs for Compaq MCS 78xx platforms
- IBM UM MIB for IBM 3xx MCS platforms

SNMP Community Names authenticate access to MIB objects and serve as passwords for SNMP information. A system can exchange SNMP information only with systems in the same community. For more information on setting up communities, see [Setting the SNMP Trap Receiver, page 2-7](#).

For additional information about MIBs, refer to this URL:

<http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml>

## SYSAPPL-MIB

The SYSAPPL-MIB provides system information about installed packages, including product name, product version, URL of the Cisco CRS Administration page, run-time status, application start time, and currently running processes.

The SYSAPPL-MIB allows you to use CiscoWorks or a third-party NMS browser to remotely access information about the Cisco CRS components including:

- Cisco CRS Administration
- Cisco CRS Node Manager
- Cisco CRS Engine
- Cisco CRS Repository Datastore
- Cisco CRS Historical Datastore
- Cisco CRS Config Datastore
- Cisco CRS Agent Datastore
- Cisco Recording
- Cisco Monitoring

The SYSAPPL-MIB also provides access to the Cisco CRS Services, including:

- Cisco CRS Cluster View Daemon

including but not limited to:

- Manager Manager
- Log Manager
- Config Manager
- Executor Manager
- Cluster Manager
- Node Manager
- Socket Manager

- Cisco CRS Administration

including but not limited to:

- Manager Manager
- Log Manager
- Config Manager
- Executor Manager
- Cluster Manager
- Node Manager
- File Manager
- Prompt Manager
- Grammar Manager
- Document Manager
- Resource Manager
- Script Manager
- Expression Manager
- Socket Manager

- Cisco CRS Engine

including but not limited to:

- Manager Manager
  - Log Manager
  - Config Manager
  - Executor Manager
  - Cluster Manager
  - Node Manager
  - File Manager
  - Prompt Manager
  - Grammar Manager
  - Document Manager
  - Resource Manager
  - Script Manager
  - Expression Manager
  - Socket Manager
  - RTP Port Manager
  - Contact Manager
  - Channel Manager
  - Session Manager
  - ICM Subsystem
  - JTAPI Subsystem
  - CMT Subsystem
  - MRCP ASR Subsystem
  - MRCP TTS Subsystem
  - eMail Subsystem
  - RmCm Subsystem
  - Voice Browser Subsystem
  - Core Real-Time Reporting Subsystem
  - Enterprise Server Data Subsystem
  - Database Subsystem
  - VoIP Monitor Subsystem
  - HTTP Subsystem
  - Outbound Subsystem
  - SIP Subsystem
  - *<Other Custom Subsystem>*
- Cisco Desktop License and Resource Manager
  - Cisco Desktop Call and Chat Service
  - Cisco Desktop Enterprise Service

- Cisco Desktop IP Phone Agent Service
- Cisco Desktop Recording and Statistics Service
- Cisco Desktop VoIP Monitor Service
- Cisco Desktop Recording Service
- Cisco Desktop LDAP Monitor Service
- CRS SQL Server--Repository
- CRS SQL Server--Historical
- CRS SQL Server--Config
- CRS SQL Server--Agent
- Microsoft SQL Agent
- Microsoft Distributed Transaction Coordinator

The SYSAPPL-MIB also allows you to use CiscoWorks or a third-party Network Management System (NMS) to remotely access information about these Unified CCX Standard and Unified CCX Enhanced packages:

- Cisco CRS Recording and Statistics (RAS) Server
- Cisco CRS Telephony Agent Interface (TAI) Server




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**Note** The TAI Server is also called the Cisco Desktop IP Phone Agent Service.

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- Cisco CRS Enterprise Server
- Cisco CRS VoIP Monitor Server
- Cisco CRS Chat Server

The SYSAPPL-MIB also allows you to use CiscoWorks or a third-party NMS to remotely access information about these services on an Unified CCX Call Statistics, Recording, and Monitoring Server, or on an Unified CCX Call Monitoring Server:

- Cisco CRS Recording and Statistics (RAS) Server
- Cisco CRS VoIP Monitor Server

The SYSAPPL-MIB also allows you to use CiscoWorks or a third-party NMS to remotely access information about the status of the SQL services MSSQLService and SQLServerAgent. For a standalone CRS server (a server on which CRS but not Cisco Unified Communications Manager is installed), and for a Database Expansion Server, this information appears as "Cisco CRS Database."

The SYSAPPL-MIB uses SNMP to organize and distribute the information that it gathers from your network. The Cisco CRS system supports these SYSAPPL-MIB tables:

- SysAppInstallPkgTable—Provides installed application information, including manufacturer, product name, product version, date installed, and location, which is a partial URL for accessing the associated Cisco CRS Administration web page (when applicable)
- SysAppRunTable—Describes the application starting time and run-time status
- SysAppInstallElmtTable—Describes the individual application elements or the associated executables that make up the applications defined in the SysAppInstallPkgTable
- SysAppElmtRunTable—Describes the processes that are currently running on the host system, similar to the processes that the Windows Task Manager displays

For more information about the SYSAPPL-MIB, refer to this URL:

<ftp://ftp.cisco.com/pub/mibs/v2/SYSAPPL-MIB.my>

## CISCO-VOICE-APPS-MIB

The CISCO-VOICE-APPS-MIB provides information about supported SNMP traps. For more information about the CISCO-VOICE-APPS-MIB, refer to this URL:

<ftp://ftp.cisco.com/pub/mibs/v2/CISCO-VOICE-APPS-MIB.my>

## CISCO-CDP-MIB

The CISCO-CDP-MIB provides information about device identifications, CDP running status, CDP transmitting frequency, and the time for the receiving device to hold CDP messages (time to live). This MIB stores information in a table called cdpGlobalInfo.

For more information about the CISCO-CDP-MIB, refer to this URL:

<ftp://ftp.cisco.com/pub/mibs/v2/CISCO-CDP-MIB.my>

## SNMP Traps

You can set up SNMP traps to automatically notify you of high-severity messages and errors that come from the Cisco CRS Engine. An SNMP agent can send traps that identify these important system events. Traps can also come from the Alarm Service. The Alarm Service forwards messages to the SNMP trap subagent, which sends the messages to the SNMP trap receiver in the proper format.

## SNMP Trap Messages

Table 2-1 shows the Cisco CRS SNMP trap messages that are sent to an NMS specified as a trap receiver. These trap messages can be sent for each subsystem shown in [SYSAPPL-MIB, page 2-2](#).

**Table 2-1** *SNMP Trap Message Descriptions*

Message	Description
cvaProcessStart	A Windows process associated with the Cisco CRS server started. The processId parameter specifies the Windows process ID.
cvaProcessStop	A Windows process associated with the Cisco CRS server stopped or aborted. The processId parameter specifies the Windows process ID.
cvaModuleStart	A subsystem started successfully and became in-service. The trap includes the severity level and the module name.
cvaModuleStop	A subsystem stopped. The trap includes the severity level and the module name. The cvaModuleFailureCause parameter specifies the cause, if available.
cvaModuleRunTimeFailure	A run-time failure occurred. The trap includes the severity level and module name. The cvaModuleRunTimeFailureCause parameter specifies the cause, if available.



When an SNMP agent detects an alarm condition, it generates a trap (also called a notification) that is sent to configured IP addresses. To set up SNMP traps, see [Setting up SNMP Traps, page 2-7](#).

## Failover Traps

Cisco CRS failover traps are sent using CvaProcessStart trap with cvaModuleName description as "New Master xxx" where xxx = Process name. Below is a snapshot of a CRS Engine failover trap.

```
12/8/2006 13:51:28 SERVER-NAME Trap: P3 cvaProcessStart,  
ent=ciscoVoiceAppsMIBNotifications, comm-public,  
cvaAlarmSeverity=notice, cvaModuleName=New Master Engine, cvaProcessId=0
```

## Setting up SNMP Traps

To use SNMP traps, you must designate the SNMP trap destination for the trap messages.

You can specify the following security options for the SNMP traps to ensure that only authorized systems have access to SNMP trap information:

- Community strings—Serve as passwords for SNMP information. A system can exchange SNMP information only with systems in the same community.
- Valid sources for SNMP requests.
- Read/write privileges—Whether systems can only read SNMP information or can read and write information.

For additional information about SNMP security, refer to your Microsoft Windows documentation.

To configure the SNMP trap sender, see these sections:

- [Setting the SNMP Trap Receiver, page 2-7](#)
- [Setting the SNMP Community Names, page 2-8](#)

## Setting the SNMP Trap Receiver

The trap receiver is the network management system (NMS) that receives the SNMP traps. This NMS must have the same SNMP community string as the trap sender. The Cisco CRS system sends traps that can be received by CiscoWorks and by standard third-party NMSs.

To set the SNMP trap receiver, follow these steps:

- 
- Step 1** From the Windows desktop, choose **Start > Settings > Control Panel**.
  - Step 2** Double-click **Administrative Tools**.
  - Step 3** Double-click **Services**.  
The Services window appears.
  - Step 4** Right-click **SNMP Services** and choose **Properties**.
  - Step 5** Click the **Traps** tab.
  - Step 6** In the Community name field, enter the community name to which this computer will send trap messages.

You must configure at least one community string or SNMP will not respond to requests. Community name is case-sensitive

- Step 7** Click **Add to List**.
  - Step 8** Under the Trap destinations field, click **Add**.
  - Step 9** In the SNMP Service Configuration dialog box, enter the IP address or the host name of the trap destination.
  - Step 10** In the SNMP Service Configuration dialog box, click **Add**.
  - Step 11** Repeat Step 7 through Step 10 for each trap destination required.
  - Step 12** Click **OK** to apply your changes and exit the SNMP Service Properties window.
- 

## Setting the SNMP Community Names

You can configure security settings for the SNMP traps to ensure that only authorized system can access information that is sent to the traps. SNMP community names serve as passwords for SNMP information. You can set valid sources for SNMP requests and specify whether systems can only read information, or both read and write information. For more information about SNMP security, refer to your Microsoft Windows documentation.

To set up community names and privileges, follow these steps:

- 
- Step 1** From the Windows desktop, choose **Start > Settings > Control Panel**.
  - Step 2** Double-click **Administrative Tools**.
  - Step 3** Double-click **Services**  
The Services window appears.
  - Step 4** Right-click **SNMP Services** and choose **Properties**.
  - Step 5** Click the **Security** tab.
  - Step 6** In the Accepted Community Names pane, click **Add**.  
The SNMP Service Configuration dialog box appears.
  - Step 7** In the Community Name field, enter the name of the community.
  - Step 8** If you need write privileges for the community, choose **READ WRITE** from the Community Rights drop-down list.
  - Step 9** On the SNMP Service Configuration dialog box, click **Add**.
  - Step 10** Repeat Step 6 through Step 9 as needed to add other community names.
  - Step 11** If you want to allow only specific NMS hosts to query the SNMP subagent, follow these steps:
    - a. Click the **Accept SNMP packets from these hosts** radio button.
    - b. In the Accept SNMP packets from these hosts pane, click **Add**.
    - c. In the SNMP Service Configuration dialog box, enter the IP address or the host name of the host that is allowed to query the SNMP subagent.
    - d. In the SNMP Service Configuration dialog box, click **Add**.
    - e. Repeat Steps a through d as needed.

**Step 12** Click **OK** to apply your changes and exit the SNMP Service Properties window.

---

## Starting, Stopping, and Confirming the SNMP Service

In general, the SNMP Service will always be running. To confirm that the SNMP Service is running and to restart it or stop it, if necessary, follow these steps:

**Step 1** From the Windows desktop, choose **Start > Settings > Control Panel**

**Step 2** Double-click **Administrative Tools**.

**Step 3** Double-click **Services**.

The Services window appears.

**Step 4** Look at the Status field in the SNMP Service row.

If this field displays "Started," the SNMP Service is running. If this field is blank, the SNMP Service is not running.

To start the SNMP Service, right-click **SNMP Service** and choose **Start**.

To stop the **SNMP Service**, right-click **SNMP Service** and choose **Stop**.

---

## Snapshot of Traps During Startup

The following example shows a snapshot of traps generated by CRS during startup. To view this file more clearly in Acrobat, use the Zoom In icon on the Acrobat menu bar to increase the text size.







## CHAPTER 3

# Alarm Service

---

This section contains the following topics:

- [About Alarms, page 3-1](#)
- [Cisco CRS Alarm Service, page 3-1](#)
- [Starting and Confirming the Alarm Service, page 3-2](#)
- [Configuring the Alarm Service, page 3-3](#)
- [Viewing Alarm Messages, page 3-3](#)
- [Viewing Alarm Messages Sent to a Syslog Server, page 3-3](#)
- [Viewing Alarm Messages Sent to an SNMP Trap Receiver, page 3-5](#)
- [Viewing Alarm Messages Sent to a Windows Event Log, page 3-5](#)
- [Alarm Definitions, page 3-5](#)
- [Finding Information About an Alarm, page 3-5](#)

## About Alarms

Alarms provide information about the Cisco CRS system activities. You can use this information to monitor the status and the state of the system and to determine actions to take if a problem occurs. By default, the Cisco CRS system also writes alarm information to trace files. You can use the information in a trace file for further analysis of a problem.

## Cisco CRS Alarm Service

The Cisco CRS Alarm Service is installed as part of the Cisco CRS installation process. It is a Windows service that receives alarms about system events from the Cisco CRS Engine, Cisco CRS Node Manager, Cisco CRS Administration, Cisco CRS Repository Datastore, Cisco CRS Historical Datastore, Cisco CRS Config Datastore, Cisco CRS Agent Datastore, Cisco Recording, and Cisco Monitoring components. These alarms are defined in XML format in files called catalogs. Catalogs are set up as part of the Cisco CRS installation process.

Based on catalogs, the Cisco CRS Alarm Service forwards the alarms that it receives to one or more of the following destinations:

- **Syslog Server**—Forwards alarms as standard Syslog-format messages to CiscoWorks or any third-party Syslog server. For related information, see [CiscoWorks Support, page 1-2](#).

- **SNMP Trap Subagent**—Processes alarms and sends them as traps to a configured trap receiver, such as the Voice Health Monitor (VHM) in CiscoWorks. For more information, see [CiscoWorks Support, page 1-2](#) and [SNMP Traps, page 2-6](#).
- **Windows Event Log**—Sends alarms that can be viewed with the Windows Event Viewer. For more information, see [Viewing Alarm Messages Sent to a Windows Event Log, page 3-5](#).

You can specify the severity level of the alarm that the Cisco CRS Alarm Service sends to a Syslog server. Alarm severity levels are described in the following table. For more information, see [Configuring the Alarm Service, page 3-3](#).

**Table 3-1 Alarm Severity Levels**

Severity Level	Name	Explanation
0	EMERGENCY_ALARM	System emergency
1	ALERT_ALARM	Situation where the application will continue to run but not all functions are available
2	CRITICAL_ALARM	Critical failure that prevents the application from accomplishing a task
3	ERROR_ALARM	Critical failure that prevents the application from accomplishing a task
4	WARNING_ALARM	Problem exists but it does not prevent the application from completing its tasks
5	NOTICE_ALARM	Notification of a normal but significant condition
6	INFORMATIONAL_ALARM	Information that does not relate to errors, warnings, audits, or debugging
7	DEBUG_ALARM	Detailed information regarding system errors and processing status

## Starting and Confirming the Alarm Service

In general, the Cisco CRS Alarm Service is always running.

To confirm that the Alarm Service is running and to restart it, if necessary, follow these steps:

- 
- Step 1** From the Windows desktop, choose **Start > Settings > Control Panel**.
  - Step 2** Double-click **Administrative Tools**.
  - Step 3** Double-click **Services**.  
The Services window appears.
  - Step 4** Look at the Status field in the Cisco CRS Alarm Service row.  
If this field displays “Started”, the Alarm Service is running. If this field is blank, start the Alarm Service by right-clicking **Cisco CRS Alarm Service** in the Name field, and then choosing **Start**.
-

## Configuring the Alarm Service

When you configure the Alarm Service, you provide the Cisco CRS system with information about how to handle alarms. To configure the Alarm Service, perform the following steps.

If you will be entering information in the Syslog Server Name field or in the Syslog Message Filtering Level field, as explained in Step 3, make sure that the Alarm Service is running before following these steps. (See [Starting and Confirming the Alarm Service](#), page 3-2 for more information.)

- 
- Step 1** From the Cisco CRS Administration menu, choose **System > Alarm Configuration**.  
The Alarm and Tracing Configuration page appears.
- Step 2** Choose **Alarm Server Tracing** from the navigation bar.
- Step 3** Enter information in the fields under Alarm Service as follows:
- **Alarm Server**—IP address or name of the server on which the Cisco CRS Alarm Service is running. By default, the Alarm Server is “localhost,” meaning that the Alarm Service is running on the Cisco CRS server. You cannot change this information.
  - **Alarm Server Port**—Port on the Alarm Server to which alarm messages are sent. This information is entered as part of the installation process. The default value is 1444. You cannot change this information.
  - **Catalog Directory**—Directory in which the catalogs of alarm messages are stored. The default is “catalog”. This information is entered as part of the installation process. You cannot change this information.
  - **Syslog Server Name**—Enter the IP address or the host name of the Syslog server to which alarm messages are sent. If you are using CiscoWorks, enter the IP address or the host name of the CiscoWorks server. If this field is blank, the system sends alarm messages to the Cisco CRS server.
  - **Syslog Message Filtering Level**—Click the drop-down arrow and choose the severity level of alarm messages that you want sent to the Syslog server. Syslog messages range from severity 0 (most severe) to severity 7 (least severe). When you choose a severity level, all messages of that severity level and higher will be sent. For example, if you choose `ERROR_ALARM` (Severity 3), all messages of severity 3, severity 2, severity 1, and severity 0 will be sent. The default is “`DEBUG_ALARM` (Severity 7)”, which will send messages of all severity levels.
- Step 4** Click **Update**.
- 

## Viewing Alarm Messages

The way in which you view alarm messages depends on the destination to which messages were sent. Each alarm message that you view will include an alarm name. To find information about the alarm name that appears in an alarm message, see [Alarm Definitions](#), page 3-5.

## Viewing Alarm Messages Sent to a Syslog Server

To view alarm messages that were sent to a CiscoWorks Resource Management Essentials (RME) Syslog server, refer to the CiscoWorks documentation, available at this URL:

[http://www.cisco.com/en/US/products/sw/cscowork/ps2073/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/sw/cscowork/ps2073/tsd_products_support_series_home.html)

To view alarm messages that were sent to a third-party Syslog server, refer to the documentation for that system.

Table 3-2 describes the fields found in Syslog messages.

**Table 3-2 Syslog Message Format**

Field	Example	Description
<pri>	<128>	This field is added so that syslog can read the severity level. Syslogd looks for this pri value which is set to LOCAL0 SEVERITY by default.
n:	100:	This field mimics the Solaris syslogd, which prefixes the syslog message with an internal counter szi. It has no significance to the SAC. The number is parsed out by the SAC.
MMM DD	Aug 09	Abbreviated month day as known at the source.
hh:mm:ss.mmm	19:20:10.209	Time at source device. The UTC time is used to avoid any time zone name discrepancy.
TimeZone	UTC	Abbreviated time zone defined in the device, such as GMT. This field is always set to UTC to avoid any time zone name discrepancy.
% FACILITY Allowed characters A-Z 0-9 _	CDP (Cisco Discovery Protocol), ALIGN (Memory optimization in RISC)	A code consisting of two or more uppercase letters that indicate the facility to which the message refers. A facility can be a hardware device, a protocol, or a module of the system software. Note that this is not the same as the UNIX Syslog server logging facility.
[SUBFACILITY-] A-Z 0-9 _	CLAW (Common Link Access for Workstations)	Subfacility Code. This field is optional.
SEVERITY	0	A single-digit code from 0 to 7 that reflects the severity of the condition. The lower the number, the more serious the situation. Severity also maps to logging level.
MNEMONIC	BADIPALIGN: Invalid alignment in packet for IP.	The mnemonic code uniquely identifies the error message. This code is used by CiscoWorks to associate the syslog message with the message information in the message catalog.
Message-text	Module Failure Cause=Unknown	A text string describing the condition.

**Sample Format:**

```
<LOCAL7|SEVERITY>51:Oct 18 03:28:29.327 PDT: %MIVR-GENERIC-1-ModuleStop: Module has
stopped; Module Name=HTTP SubSystem; Module Failure Cause=Unknown
```



## Viewing Alarm Messages Sent to an SNMP Trap Receiver

To view alarm messages that were sent to the CiscoWorks Voice Health Monitor (VHM), refer to the CiscoWorks documentation, available at this URL:

[http://www.cisco.com/en/US/products/sw/cscowork/ps2431/tsd\\_products\\_support\\_eol\\_series\\_home.html](http://www.cisco.com/en/US/products/sw/cscowork/ps2431/tsd_products_support_eol_series_home.html)

To view alarm messages that were sent to a third-party SNMP trap receiver, refer to the documentation for that system.

## Viewing Alarm Messages Sent to a Windows Event Log

You use the Windows Event Viewer to view alarm messages that were sent to a Windows event log. To use the Windows Event Viewer, perform the following steps. For additional information about the Windows Event Viewer, refer to your Microsoft Windows documentation.

- 
- Step 1** From the Windows desktop, choose **Start > Setting > Control Panel**.
  - Step 2** Double-click **Administrative Tools**.
  - Step 3** Double-click **Event Viewer**.
  - Step 4** On the Tree pane, click the item for which you want to view information.
- 

## Alarm Definitions

Cisco CRS maintains a list of alarm catalogs. Each of these catalogs contains a list of alarms. Each alarm contains a definition of the alarm, which includes the alarm name, a description, an explanation, recommended actions, and related information.

An alarm name appears in an alarm message as follows:

- Trace file—Alarm name follows the severity level.
- CiscoWorks RME—Alarm name appears in the Mnemonic field on the Syslog WorkFlow report.
- Third-party Syslog server—Alarm name follows the reason. If a reason is not shown the alarm message name follows the module name.
- Windows Event Viewer—Alarm name follows the severity level.

## Finding Information About an Alarm

To use the alarm catalog to find information about an alarm message name, follow these steps:

- 
- Step 1** From the Cisco CRS Administration menu, choose **Tools > Alarm Definition**.

The Alarm Definitions web page appears.

Locate information for the alarm message name as follows:

- For a list of all alarm message names, make sure that **All** appears in the Catalog field, and then click **Search**.

- For a list of alarm message names that relate to a specific facility and subfacility, click the Catalog drop-down arrow, choose the desired item, and then click **Search**.
- For a specific alarm message name, type the name of the alarm in the Enter Alarm Name field, and then click **Search**.

A list of the alarm message names that you requested appears. If the list contains more than one page, you can click **First**, **Previous**, **Next**, or **Last** to move through the list. You can also type a page number in the Page field and click **Page** to move to that page.

**Step 2** To see a detailed explanation of an alarm message name, click the alarm message name.

---



## CHAPTER 4

# Trace

---

This section contains the following topics:

- [About Trace Files, page 4-1](#)
- [The Component Trace File, page 4-2](#)
- [Configuring the Component Trace File, page 4-2](#)
- [Trace Level Options, page 4-3](#)
- [Setting Trace Level Options, page 4-7](#)
- [Viewing and Interpreting the Trace Files, page 4-8](#)
- [Displaying a Trace File, page 4-8](#)
- [Interpreting a Trace File, page 4-8](#)
- [The Thread Dump Trace File, page 4-8](#)
- [Writing to the Thread Dump Trace file, page 4-9](#)
- [Displaying the Thread Dump Trace File, page 4-9](#)
- [The CRS Log Files, page 4-9](#)
- [Cisco Desktop Product Suite Installation Logs, page 4-11](#)
- [CRS Log Collection Tool, page 4-11](#)

## About Trace Files

A trace file is a log file that records activity from the Cisco CRS components. Trace files let you obtain specific, detailed information about the system that can help you troubleshoot problems.

The Cisco CRS system can generate trace information for every component subfacility. This information is stored in a trace file. To help you control the size of an trace file, you specify the component and subfacilities for which you want to collect information and the level of information that you want to collect.

The Cisco CRS system also generates information about all threads that are running on the system. This information is stored in the thread dump trace file and is useful for troubleshooting.

# The Component Trace File

You can create a trace file for any of the following Cisco CRS components:

- Cisco CRS Engine
- Cisco CRS Administration
- Cisco CRS Editor
- Cisco CRS Node Manager
- Cisco CRS SQL Server

The component trace file contains information about each of the component's subfacilities. To set up this trace file, you perform the following general procedures:

- [Configuring the Component Trace File, page 4-2](#)
- [Trace Level Options, page 4-3](#)

For information about reading the trace file, see the [Viewing and Interpreting the Trace Files, page 4-8](#)

## Configuring the Component Trace File

By default, the Cisco CRS system sends information about subfacilities to a trace file, for example, CiscoMIVRnn.log. The system replaces nn with a number, starting with 01. You can configure the size of the trace file. When the size you configured is reached, or if a Cisco CRS component is restarted, the system creates a new trace file, incrementing nn by one. After creating the tenth trace file (by default), the trace file begins overwriting existing files, starting with the first trace file created.

Note that the examples shown here are for the Cisco CRS Engine component. Follow the same procedures for the other components, substituting the component's name.

To change any of these default trace file parameters, follow these steps:

- 
- Step 1** From the Cisco CRS Administration menu, choose **System > Tracing**.  
The Trace Configuration page appears.
- Step 2** Choose and expand a component from the navigation bar.
- Step 3** Change the following information under Trace File as needed:
- Trace File Output—Check this check box to send information to a trace file. Uncheck this box if you do not want to send information to a trace file. By default, this check box is checked.
  - File Name—Enter the base name and the extension of the trace file. A trace file name is made up of the base facility name, the file number, and the extension (for example, CiscoMIVR01.log). The default file name is **Cisco<facility\_code>.log**  
where the *<facility\_code>* could be MIVR, MCVD, MADM, MEDT, or MARC.
  - Number of Trace Files—Enter the number of trace files that the system will create before starting to overwrite existing files. The system will create a new trace file each time the existing one reaches the size specified in the Trace File Size field. The default number of trace files is 10.
  - Trace File Size—You can configure the file size, or you can enter the maximum size, in bytes, of the trace file. The default files size is 1048576.

**Step 4** Click **Update**.

## Trace Level Options

A trace file is a log file that records activity from the Cisco CRS component subsystems and steps. Trace files let you obtain specific, detailed information about the system that can help you troubleshoot problems.

The Cisco CRS system can generate trace information for every subfacility. This information is stored in an engine trace file. To help you control the size of an engine trace file, you specify the subfacilities for which you want to collect information and the level of information that you want to collect.

The Cisco CRS system also generates information about all threads that are running on the system. This information is stored in the thread dump trace file and is useful for troubleshooting.

A trace file that records all information for a component, such as the Cisco CRS Engine, can become large and difficult to read. To help you manage the trace file, the Cisco CRS system lets you specify the subfacilities for which you want to record information. These subfacilities are shown in the following table.

For each subfacility, you can select a trace level of Debugging, Alarm Tracing, both selections, or no selections. These selections specify the messages that the system sends to a trace file. [Table 4-1](#) shows the effect of each trace level settings. For an explanation of message severity levels, see [Cisco CRS Alarm Service, page 3-1](#).

**Table 4-1** Messages Sent to a Trace File

Selection	Severity Level of Messages Sent	Explanation
Debugging	0, 1, 2, 3, 7	Sends detailed, verbose information. To be used primarily for debugging and troubleshooting.
Alarm Tracing	0, 1, 2, 3, 4, 5, 6	Sends messages of all severity levels except detailed debugging information.
Debugging and Alarm Tracing	0, 1, 2, 3, 4, 5, 6, 7	Sends messages of all severity levels.
No selections	0, 1, 2, 3	Sends high-priority notifications, errors, and alerts.

The Trace Configuration pane groups trace level options into these lists:

- Active trace level options—Facilities and subfacilities that are running on your system
- Inactive trace level options—Facilities and subfacilities that are not running on your system

If you make a change under an active facility, the trace file will reflect your change immediately. If you make a change under an inactive subfacility, the change will take effect when the subfacility becomes active.



### Warning

**Level 7 traces are debug only and do not reflect a system issue.**

All applications that use the CRS Trace library use a Syslog Facility Code. [Table 4-2](#) lists the Facilities and Descriptions for the Trace Files

**Table 4-2** Trace File Facilities

Facility Code	Description
MIVR	Workflow Application Framework
MCVD	Cluster Framework
MADM	CRS Administration page
MEDT	Editor

[Table 4-3](#) describes the Trace file subfacilities.

**Table 4-3** Trace File Subfacilities

Subfacility Code	Description
AC_CLUSTER	Archive Cluster Component
AC_CONFIG	Archive Configuration Component
AC_DATABASE	Archive Database Component
AC_JTAPI	JTAPI Archive Component
AC_OS	Archive Operating System Component
AC_SPANLINK	CAD/CSD Archive Component
ADM	Administration Client
ADM_CFG	Administration Configuration
APP_MGR	Applications Manager
ARCHIVE_MGR	Archive Manager
AW_CFG	Restore Administration Configuration
BARBI_CLI	Backup and Restore Client Interface
BOOTSTRAP_MGR	CRS Bootstrap Manager
CFG_MGR	Configuration Manager
CHANNEL_MGR	Channel Manager
CLUSTER_MGR	Cluster Manager
CONTACT_MGR	Contact Manager
CONTACT_STEPS	Contact Steps
CRA_CMM	CRS ClusterMsgMgr Component
CRA_HRDM	CRS Historical Reporting Data Manager
CVD	Cluster View Daemon
DB	Database
DBPURGE_MGR	Database Purge Manager
DESKTOP	CRS Editor Desktop
DOC_MGR	Document Manager

**Table 4-3 Trace File Subfacilities (continued)**

<b>Subfacility Code</b>	<b>Description</b>
EDT	CRS Editor general
ENG	CRS Engine
EXECUTOR_MGR	Executor Manager
EXPR_MGR	Expression Manager
FILE_MGR	File Manager
GENERIC	Generic catalog for a facility
GRAMMAR_MGR	Grammar Manager
GRP_CFG	Group Configuration
HOLIDAY_MGR	Holiday Manager
HR_MGR	Historical Reports Manager
ICD_CTI	Unified CCX CTI Server
ICD_HDM	Unified CCX Historical Data Manager
ICD_RTDM	Unified CCX Real-Time Data Manager
IO_ICM	Unified ICME Input/Output
JASMIN	Java Signaling and Monitoring Interface
LIB_APPADMININTERCEPTOR	CRS Administration Interceptor Library
LIB_AXL	AXL Library
LIB_CFG	Configuration Library
LIB_CRTP	CRTP Library
LIB_DATABASE	Database Library
LIB_DIRECTORY	Directory Access Library
LIB_EVENT	Event Message Library
LIB_ICM	Unified ICME Library
LIB_JASPER	Jasper Tomcat Library
LIB_JCUP	JavaCup Library to parse expressions
LIB_JDBC	JDBC Library
LIB_JINI	JINI Services
LIB_JMAIL	Java Mail Library
LIB_JLEX	JLEX Library used to parse expressions
LIB_LICENSE	License Library
LIB_MEDIA	Media Library
LIB_RMI	Java Remote Method Invocation Library
LIB_SERVLET	Servlet Library
LIB_TC	Tomcat Library
LOG_MGR	Log Manager
MRCP_CFG	MRCP Configuration

**Table 4-3** Trace File Subfacilities (continued)

<b>Subfacility Code</b>	<b>Description</b>
MGR_MGR	Manager Manager
NODE_MGR	Node Manager
PALETTE	Editor Palette
PROMPT_MGR	Prompt Manager
PURGING	Purging
RPT	Reporting
RTPPORT_MGR	RTP Manager
SCRIPT_MGR	Script Manager
SESSION_MGR	Session Manager
SIP_STACK	SIP Stack logging
SOCKET_MGR	Socket Manager
SS_APP	Application Subsystem
SS_CM	Contact Manager Subsystem
SS_CMT	Cisco Media Termination Subsystem
SS_DB	Database Subsystem
SS_EMAIL	E-mail Subsystem
SS_ENT_SRV	Enterprise Server Subsystem
SS_HTTP	HTTP Subsystem
SS_ICM	Unified ICME Subsystem
SS_MRCP_ASR	MRCP ASR Subsystem
SS_MRCP_TTS	MRCP TTS Subsystem
SS_OUTBOUND	Preview Outbound Dialer Express Subsystem (uses MIVR log file)
SS_RM	Resource Manager Subsystem
SS_RMCM	Resource Manager Contact Manager Subsystem
SS_RTR	Real-Time Reporting Subsystem
SS_SIP	SIP Subsystem
SS_TEL	JTAPI Subsystem (Telephony)
SS_VB	Voice Browser Subsystem
SS_VOIPMON_SRV	Voice over IP Monitor Server Subsystem
STEP_CALL_CONTROL	Call Control Steps
STEP_ENT_SRV	Enterprise Server Steps
STEP_MEDIA_CONTROL	Media Control Steps
STEP_SESSION	Sessions Steps
STEP_SESSION_MGMT	Session Management Steps
STEP_USER	User Steps



**Table 4-3** Trace File Subfacilities (continued)

Subfacility Code	Description
STEP_CALL_CONTACT	Call Contact Steps
STEPS_CONTACT	Contact Steps
STEPS_DB	Database Steps
STEPS_DOCUMENT	Document Steps
STEPS_EMAIL	E-mail Steps
STEPS_GENERAL	General Steps
STEPS_GRAMMAR	Grammar Steps
STEPS_HTTP	HTTP Steps
STEPS_ICM	Unified ICME Steps
STEPS_IPCC_EXP	Unified CCX Steps
STEPS_JAVA	Java Steps
STEPS_PROMPT	Prompt Steps
STEPS_SESSION	Session Steps
STEPS_USER.ALARM	User Alarm Steps
USR_MGR	User Manager
WEB_STEPS	HTTP Contact Steps

When the Unified CCX product is running on a 7845 machine and tracing is ON (the default), limit the Busy Hour Call Completions (BHCC) to 4500 calls per hour. If you want to run a higher BHCC, turn the debug traces OFF. The trace subfacilities to be turned OFF are ICD\_CTI, SS\_TEL, SS\_RM, SS\_CM, and SS\_RMCM.

## Setting Trace Level Options

To set trace level options, follow these steps:

- 
- Step 1** From the Cisco CRS Administration menu, choose **System > Tracing**.  
The Trace Configuration web page appears.
  - Step 2** Under a specific CRS Component, choose **Trace File Configuration** from the navigation bar.
  - Step 3** Check or uncheck the desired boxes in the Active trace level option list and in the Inactive trace level option list.
  - Step 4** Click **Update**.
  - Step 5** If you made any changes in the Inactive trace level option list, stop and restart the Cisco CRS Engine to reflect your changes in the trace file.
-

# Viewing and Interpreting the Trace Files

The Cisco CRS server stores the trace files in the Log directory under the directory in which you installed the Cisco CRS component. From the Cisco CRS Administration menu, you can view a list of all trace files and display the contents of any trace file.

## Displaying a Trace File

To display a CRS component trace file, follow these steps:

- 
- Step 1** From the Cisco CRS Administration menu, choose **System > Tracing**.  
The Trace Configuration web page appears.
- Step 2** Select and expand a component from the navigation bar and select **Trace Configuration**.  
A list of subfacility categories appears.
- Step 3** Expand the category of subfacility, select the levels of debugging for specific subfacilities, and click **Update**.  
The trace file appears in a separate window.
- 

## Interpreting a Trace File

The trace files contain information in standard Syslog format. The file includes some or all of the following information for each event that it records:

- Line number
- Date and time the event occurred
- Facility and subfacility name
- Severity level
- Message name
- Explanation
- Parameters and values

## The Thread Dump Trace File

The thread dump trace file is named JVM.log. It is stored on the Cisco CRS server in the Log directory under the directory in which you installed the Cisco CRS Engine. This file contains stack trace information about all threads that are running on the Cisco CRS system. You can write information to this file when you need it. In addition, the system writes information to this file automatically if the system detects a severe system problem. When new information is generated, it is appended to the existing thread dump file.

**Note**

There is also a Memory Dump file. It is located in CRS Administration in the same place as the Thread Dump file. It creates a memory dump file of the type `memory<timestamp>.log`.

## Writing to the Thread Dump Trace file

To manually write to the thread dump trace file, follow these steps:

- 
- Step 1** From the Cisco CRS Administration menu, choose **System > Control Center**.  
The Control Center web page appears.
  - Step 2** Click **Servers** and choose the server hostname from the navigation bar (if it is not the selected server).
  - Step 3** Click **Server Traces** (at the top), and choose the component for which you want to enable the thread dump.
  - Step 4** Click **Dump Threads Trace**.
- 

## Displaying the Thread Dump Trace File

To display the thread dump trace file, follow these steps:

- 
- Step 1** From the Cisco CRS Administration menu, choose **System > Control Center**.  
The Control Center web page appears.
  - Step 2** Click **Servers** and choose the server hostname from the navigation bar (if it is not the selected server).
  - Step 3** Click **Server Traces** (at the top), and choose the component for which you want to enable the thread dump.
  - Step 4** Click **Dump Threads Trace**.
  - Step 5** In the File Name column, click **JVM.log**.  
The trace file appears in a separate window.
- 

## The CRS Log Files

The CRS log files can help you troubleshoot problems. [Table 4-4](#) provides information about the log files for the various CRS components and points you to the log file path locations.



## Cisco Desktop Product Suite Installation Logs

If you need to locate the Cisco Desktop Product Suite, Version 6.4, log files, this section helps you to locate them.

Here are the locations of the various log files:

- The Install Manager log files are located at the root of the C: drive:  
The files are:
  - IM<number>.dbg - where <number> ranges between 0001 & 0010, (i.e IM0001.dbg)
  - IM<number>.log
- The InstallShield silent install file is located at C:\Winnt:
  - splk\_<project>.log - where <project> is a Desktop installation project, such as splk\_base.log.
- The InstallShield install / uninstall debug files are located at <Program Files>\Cisco\Desktop\IM:  
The files are:
  - splkInstall\_<version>.dbg - where <version> is a Desktop software version, such as splkInstall\_6.4.0.20.dbg
  - splkInstall\_Obj\_<version>.dbg - where <version> is a Desktop software version, such as splkInstall\_Obj\_6.4.0.20.dbg.

After you uninstall the Desktop, the log files are located at:

- Install Manager files exist in the location defined above until the uninstall reboot when they are removed from the system.
- InstallShield silent uninstall file is at the root of the BootUp drive.
- InstallShield install / uninstall debug files are at the root of the C: drive.

## CRS Log Collection Tool

The CRS Log Collection Tool provides a way for you to collect all of the log files you want to view into one zip file. The tool also provides a way for you to run it remotely and to move the zip file off of the CRS server to your own desktop or to a network drive.

To use the log collection tool to collect log files into a zip file, complete the following steps:

- 
- Step 1** To access the CRS Log Collection Tool, go to **Start > Programs > Cisco CRS Administrator > Cisco CRS Log Collection Tool**.

The following warning message appears:



---

*The Log Collection Tool might impact system performance, so run this tool during off peak hours. Do not run this tool during a system backup or restore. To save disk space on the CRS server, write the zip file to a network drive; otherwise, remove the zip file from the CRS server once captured. To limit the size of the zip file, use the Log Collection Tool Advanced Options to select start and end times and any subset of components.*

---

- Step 2** After reading and adhering to the message, click **OK**.

The CRS Log Collection Tool dialog box appears.

**Step 3** Enter the path and name of the zip file you want to create and click **Save**. This collects all the log files on the system into the zip file. If you want to limit the number of files by date, time, and component, and if you want to select another location for the zip file, check the **Advanced Options** check box, and the dialog box appears with more options.

**Step 4** Enter the information to limit the collection of log files by date and time. Check the check boxes of the components for which you want to collect log files, and then browse to a location where you want to move the zip file, by clicking the... button next to the Source Drive field. Select the location for the zip file; it then appears in the Source Drive field. Then click **Save**.

If you choose a location on the CRS system instead of on a network drive, a warning message appears asking if you want to continue.

**Step 5** Click **Yes** to save the file to the CRS system, or click **No** to go back and select another location on a network drive.

When you click **Yes**, the tool displays a dialog box with the estimated disk space to be used by the zip file before actually writing the zip file.

**Step 6** Click **Yes** to continue, or click **No** if you want to stop the collection of log files into the zip file.

While the tool is collecting the log files, a Progress dialog box appears.

---



## CHAPTER 5

# Cisco Discovery Protocol Support

---

This section contains the following topics:

- [About the Cisco Discovery Protocol \(CDP\), page 5-1](#)
- [Using the CDP Driver, page 5-2](#)
- [Accessing CDP Driver Control, page 5-2](#)
- [Installing the CDP Protocol Driver, page 5-2](#)
- [Starting the CDP Protocol Driver, page 5-2](#)
- [Enabling the CDP Protocol Driver, page 5-3](#)
- [Showing the CDP Protocol Driver Properties, page 5-3](#)
- [Updating an IP Address for the CDP Protocol Driver, page 5-3](#)
- [Locating Updated CDP Driver and Interface Files, page 5-4](#)
- [Default CDP Settings, page 5-4](#)

## About the Cisco Discovery Protocol (CDP)

The Cisco CRS system uses the Cisco Discovery Protocol (CDP) to periodically send out CDP messages to a designated multicast address. These messages contain information such as device identification, interface name, system capabilities, SNMP agent address, and time-to-live. Any Cisco device with CDP support can locate a Cisco CRS server by monitoring these periodic messages.

Using information provided through CDP, the CiscoWorks server discovers your Cisco CRS server and the Campus Manager application Topology Services builds topology maps that display the CRS server and other Cisco devices.

CDP is enabled on the Cisco CRS system by default. You must have the CDP driver enabled at all times for CiscoWorks to discover the CRS server.



### Note

---

The Windows 2003 CDP Protocol Driver is designed to run with Cisco CRS on a Cisco Media Convergence Server (MCS) with a 10/100BaseT Ethernet network interface card under Windows 2003 Server. It does not support other media, such as Token Ring, ATM, or Windows NT platforms (including Windows 98 or Windows NT 4.0).

---

## Using the CDP Driver

Starting a system on which Cisco CRS is installed enables the CDP driver. You can use CDP to allow CiscoWorks to discover and manage your Cisco CRS systems.

CiscoWorks uses the CDP cache MIB of the direct neighboring device to discover the Cisco CRS server. You can use CiscoWorks to query other Cisco CRS-supported MIBs for provisions or statistics.

## Accessing CDP Driver Control

You can control the CDP driver using the CISCO-CDP-MIB.



**Warning**

---

**Alter the CDP setting only in special cases. For example, you might restart the CDP driver from the Control Panel at run time to pick up the latest IP configuration changes without resetting the system.**

---

## Installing the CDP Protocol Driver

The Cisco CRS installation process installs the CDP protocol driver. After completion of a successful Cisco CRS installation, the CDP protocol driver resides in the list of device drivers under the Windows Control Panel.

## Starting the CDP Protocol Driver

To start the CDP protocol driver, follow these steps:

- 
- Step 1** Choose **Start > Settings > Control Panel**.
  - Step 2** Double-click **System**.
  - Step 3** Click the **Hardware** tab.
  - Step 4** Click **Device Manager**.  
The Device Manager window appears.
  - Step 5** Choose **View > Devices by connection**.
  - Step 6** Choose **View > Show hidden devices**.
  - Step 7** Double-click **CDP Protocol Driver**.
  - Step 8** Click the **Driver** tab.
  - Step 9** Click **Start** to enable the driver (Default = Start).
  - Step 10** Click **OK**.




---

**Note** Choosing **Startup Type=Demand** keeps **Start** setting after a restart

---



## Enabling the CDP Protocol Driver

To enable the CDP protocol driver, follow these steps.

- 
- Step 1** Choose **Start > Settings > Control Panel**.
  - Step 2** Double-click **System**.
  - Step 3** Click the **Hardware** tab.
  - Step 4** Click the **Device Manager** button.  
The Device Manager window appears.
  - Step 5** Choose **View > Devices by connection**.
  - Step 6** Choose **View > Show hidden devices**.
  - Step 7** Double-click **CDP Protocol Driver**.
  - Step 8** Click the **Driver** tab.
  - Step 9** Choose **Enable Device**.
  - Step 10** Click **Next**, and then click **Finish** to enable the device.
  - Step 11** Click **Close** and restart the system.
- 

## Showing the CDP Protocol Driver Properties

To show CDP protocol driver properties, follow these steps:

- 
- Step 1** Choose **Start > Run**.
  - Step 2** In the Run field, type `\\WINNT\system32\drivers`.
  - Step 3** Click **OK**.
  - Step 4** Right-click `cdp.sys`.
  - Step 5** Choose **Properties** to show CDP driver properties.
  - Step 6** Click **OK**.
- 

## Updating an IP Address for the CDP Protocol Driver

The CDP protocol driver runs on top of the existing Ethernet network interface card. You can restart CDP when a new IP address is configured at run time.

To update the CDP protocol driver, restart CDP using the Windows Device Manager to update the CDP driver with the new IP address information. You do not have to reset the system after updating.

## Locating Updated CDP Driver and Interface Files

Installing Cisco CRS updates these components:

- The CDP driver (cdp.sys) updates to the Windows 2003 driver directory (`WINNT\System32\Drivers\cdp.sys`).
- The CDP Interface Library (cdpintf.dll) updates to the Windows 2003 System32 directory (`WINNT\System32\cdpintf.dll`).
- A Backup **Regedit** export file for reinstalling CDP registries updates to the bin directory (`\Program Files\Cisco\Bin\cdp2k101.reg`). Use this file to restore the CDP registry in case it becomes corrupted. This file restores the CDP registry to the `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\CDP` directory.
- After running the `cdp2k101.reg` file, you must reset the system to restore the CDP registries.

## Default CDP Settings

Table 5-1 shows the default CDP settings.

**Table 5-1**      *Default CDP Setting Values*

Description	Default Value
Default Transmit Frequency	60 seconds
Default Time to Live	180 seconds
Default State	CDP advertisement enabled



## CHAPTER 6

# Cisco Support Tools

---

This section contains the following topics:

- [About Cisco Support Tools with Cisco CRS, page 6-1](#)
- [Accessing Cisco Support Tools, page 6-1](#)

## About Cisco Support Tools with Cisco CRS

Cisco Support Tools can help you manage and troubleshoot the Cisco CRS servers. Cisco Support Tools is a suite of utilities, but not every utility in the suite is supported by Cisco CRS.

Cisco CRS supports two components of Cisco Support Tools:

- Node Agent Service

The Node Agent Service is bundled with the CRS installer and is automatically installed on every CRS machine when you install the CRS software.

- Server

The Support Tools Server must be installed separately on a different machine. It provides a web server and the Support Tools Dashboard user interface.

## Accessing Cisco Support Tools

Although the Support Tools Node Agent Service is automatically installed with CRS, before you can use it, you also need the Support Tools Server software. You must purchase the server software separately from your Cisco Representative.

The documentation that provides instructions on how to use Cisco Support Tools can be found on the Cisco website at

[http://www.cisco.com/en/US/products/ps5905/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/ps5905/tsd_products_support_series_home.html)

When you purchase Support Tools from Cisco, the documentation is also included on the CD with the Support Tools Server software.





## **PART II**

# **Troubleshooting**





# CHAPTER 7

## Diagnosing and Correcting Cisco CRS Problems

---

The troubleshooting section describes problems that you might encounter when using the Cisco Customer Response Solutions (CRS) system. For each problem, this manual lists symptoms, possible causes, and corrective actions that you can take.

This section assumes that you are familiar with the CRS Administration web interface, CRS trace and log files, and various Windows administrative tasks. For more information, refer to the *Cisco Customer Response Solutions Administration Guide* and your Windows documentation.

This chapter contains the following topic:

- [General Troubleshooting Steps, page 7-1](#)

### General Troubleshooting Steps

The following troubleshooting steps can help you diagnose most problems with your Cisco CRS products:

- 
- Step 1** Verify that Cisco Unified Communications Manager is running.
  - Step 2** Verify that the Cisco CRS Node Manager service is registered.
  - Step 3** Verify that you uploaded the application.aef files to the repository using the Script Management page and that you refreshed the CRS Engine after making a change to an application.
  - Step 4** Refer to the Release Notes for known problems.
  - Step 5** Verify that the Cisco CRS Node Manager service is running under a user account with Administrator privileges.
  - Step 6** Stop and start the Internet Information Server (IIS).
  - Step 7** Save log files to prevent them from being overwritten.
  - Step 8** Save the application (.aef) file.
  - Step 9** Before debugging CRS Administration problems, turn on the Debugging trace level option for the ADM subfacility.
- 

The detailed output will be in the following file:

```
c:\program files\wfavvid\log\MADM\jvm.stdout
```

The error output will be in the following file:

```
c:\program files\wfvavid\log\MADM\jvm.stderr
```





## CHAPTER 8

# Troubleshooting Tips

---

The following sections provide help in correcting problems with Cisco CRS software.

If you experience problems when using the Cisco Agent Desktop or the Cisco Supervisor Desktop, see the Troubleshooting section of the *Cisco CAD Service Information Guide* book, located at [http://www.cisco.com/univercd/cc/td/doc/product/voice/sw\\_ap\\_to/apps\\_5\\_0/english/agents/cad641si.pdf](http://www.cisco.com/univercd/cc/td/doc/product/voice/sw_ap_to/apps_5_0/english/agents/cad641si.pdf).

If you are using Unified CCX with Unified ICME as part of the IPCC Gateway Solution and you experience any problems, see the troubleshooting information in the *Cisco IPCC Gateway Deployment Guide*.



### Note

---

The following troubleshooting tips are also accessible from the CRS Administration user interface. To access them from the Main menu, select **Tools > Troubleshooting Tips**.

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The tips are divided into the following categories:

- [Installation Problems, page 8-2](#)
- [Backup, Restore, and Update Problems, page 8-2](#)
- [CME Telephony subsystem problems, page 8-8](#)
- [Cisco Unified Communications Manager Automated Attendant problems, page 8-9](#)
- [Cisco Unified Communications Manager Express Problems, page 8-10](#)
- [Cisco Unified CCX Problems, page 8-10](#)
- [Cisco Unified IP IVR Problems, page 8-17](#)
- [CRS Administration Problems, page 8-18](#)
- [CRS Admin Utility Problems, page 8-23](#)
- [CRS Database Problems, page 8-25](#)
- [CRS Editor Problems, page 8-28](#)
- [CRS Engine Problems, page 8-29](#)
- [CRS Real-Time Reporting Problems, page 8-40](#)
- [CRS Historical Reporting Problems, page 8-41](#)
- [Automatic Speech Recognition \(ASR\) Problems, page 8-53](#)
- [Outbound Problems, page 8-56](#)
- [Text-to-Speech \(TTS\) Problems, page 8-60](#)

- [Serviceability Problems, page 8-64](#)
- [CRS Internationalization Problems, page 8-68](#)
- [VXML Problems, page 8-69](#)
- [High Availability and Bootstrap, page 8-71](#)
- [High Availability and Failover, page 8-72](#)
- [VoIP Monitor Problems, page 8-76](#)

## Installation Problems

This section contains the following troubleshooting tips on installation problems:

- [One node on a CRS 5.0 two-node cluster crashes beyond repair, page 8-2](#)

### One node on a CRS 5.0 two-node cluster crashes beyond repair

**Symptom** You have a CRS 5.0 two-node cluster and one node crashes beyond repair.

**Error Message** None

**Possible Cause** The cause is unknown.

**Recommended Action** For information on installation instructions, see the *Cisco Customer Response Solutions Installation Guide*.

Do the following:

- 
- Step 1** If necessary, switch the DB publisher from the crashed node to the working node.
  - Step 2** Remove the crashed node from the cluster by executing the **Remove** option in Control Center Server Configuration page in the CRS Application Administration web interface on the non-crashed node.
  - Step 3** For instructions, see "Removing a Server" in the *Cisco Customer Response Solutions Administration Guide*.
  - Step 4** Re-image the crashed node.
  - Step 5** Re-install CRS on the crashed node, and execute the **Add To Cluster** selection as part of the CRS Administration configuration.
- 

## Backup, Restore, and Update Problems

This section contains the following troubleshooting tips on Backup, Restore, and Update problems:

- [Backup, Restore, and Upgrade cannot be started from a client desktop, page 8-3](#)
- [During Backup, Restore, or Upgrade, an exception is seen in UI, page 8-3](#)
- [Backup failed for a One or Two-Node system, page 8-4](#)
- [CRS 4.5 profile name is missing, page 8-4](#)

- [Page Not Found message is displayed during Restore or Upgrade, page 8-4](#)
- [Restore fails due to a file not being found, page 8-5](#)
- [Restore failed for a one-node system, page 8-5](#)
- [Restore failed on a two-node system that had run before the Restore, page 8-6](#)
- [Restore failed on a two-node system that was re-imaged, page 8-7](#)
- [Some RmCm configuration is missing after Upgrade, page 8-8](#)

## Backup, Restore, and Upgrade cannot be started from a client desktop

**Symptom** Backup, Restore, and Upgrade cannot be started from a client desktop.

**Error Message** Backup and Restore or Upgrade displays an exception or a 'Page Not Found' message.

**Possible Cause** When an exception is displayed by Backup and Restore or Upgrade, please check the logs in the c:\program files\wfvavvid\log\MCVD folder and search for the keyword: 'backup\_fail'. This will show the cause of the failure. If the message is not understandable, please contact TAC. If the 'Page Not Found' message is displayed, please contact TAC since the CRS Node Manager service has restarted for some reason.

**Recommended Action** Start Backup and Restore or Upgrade from the CRS server desktop.

## During Backup, Restore, or Upgrade, an exception is seen in UI

**Symptom** During Backup, Restore, or Upgrade, an exception is seen.

**Error Message** To see the error message, open the C:\Program Files\wfvavvid\log\MCVD\MCVDXXX.log where the time of the failure occurred. Search for the keyword: 'BACKUP\_FAILED', 'RESTORE\_FAILED', or 'UPGRADE\_FAILED' based on type of failure. An exception with stack trace will be shown next to this text.

From the error message, go down to the last exception shown and look for the following keyword to see which component failed:

- com.cisco.archive.\* - Indicates general issue with ArchiveManager.
- com.cisco.archive.impl.component.config.\* - Indicates issue with saving or restoring configuration such as properties files.
- com.cisco.database.\* - Indicates issue with database.
- com.cisco.wf.spanlinkBackupRestore.\* - Indicates issues with Spanlink components.
- com.cisco.wf.jtapi.archive.\* - Indicates issue with JTAPI configuration.
- com.cisco.wf.cme.archive.\* - Indicates issue with CME configuration.
- com.cisco.restoreadmin.jtapiresyncwizard.\* - Indicates issue with JTAPI wizard synchronization of Route Points, CTI Ports.
- com.cisco.restoreadmin.cmevalidate.\* - Indicates issues with CME validation wizard.

**Recommended Action** Please contact TAC based on information in Cause to find appropriate specialist.

## Backup failed for a One or Two-Node system

**Symptom** Backup failed for a one or two-node system.

**Error Message** Backup and Restore displays an exception or a 'Page Not Found' message.

**Possible Cause** When an exception is displayed by Backup and Restore, please check the logs in the c:\program files\wfvavvid\log\MCVD folder and search for the keyword: 'backup\_fail'. This will show the cause of the failure. If the message is not understandable, please contact TAC. If the 'Page Not Found' message is displayed, please contact TAC since the CRS Node Manager service has restarted for some reason.

**Recommended Action** Check and make sure that the 'Backup Storage Location' is set correctly with the right credentials.

## CRS 4.5 profile name is missing

**Symptom** You are prompted to select the CRS 4.5 profile name during the 4.5 to 5.0 upgrade, but that name is missing from the pulldown menu list during restore.

**Error Message** None

**Possible Cause** This can happen if an initial attempt to restore was unsuccessful due to the CRS Node Manager abruptly shutting down or restarting. The CRS 4.5 profile name may have been migrated to the 5.0 cluster ID (that is, a long number) during the restore attempt. However, because the CRS Node Manager service abruptly shut down, the name itself remained migrated in the CCM table.

**Recommended Action** When prompted for the CRS 4.5 profile name, please choose the long integer number from the menu pulldown list.

## Page Not Found message is displayed during Restore or Upgrade

**Symptom** During Restore or Upgrade, the message "Page Not Found" is displayed.

**Error Message** Check the log in c:\program files\wfvavvid\log\MCVD and search for keyword 'reboot\_on' for the error message.

**Possible Cause** Most likely, the CRS Node Manager has restarted during Restore or Upgrade due to an abnormal shutdown. This can be checked if you see a new MCVD log file (in the c:\program files\wfvavvid\log\MCVD folder) created during the time of the restore or if you see that the CRS Node Manager Service is no longer running.

**Recommended Action**

- 
- Step 1** Analyze the 'reboot\_on' message to see which service went down. If this is intermittent issue, redo the Restore by first doing the following two steps. Contact TAC if condition persists
  - Step 2** Stop the CRS Node Manager Service if it is running.
  - Step 3** Replace the c:\program files\wfvavvid\ClusterData folder with the original ClusterData folder that was copied before the restore.
  - Step 4** Remember to keep the original copy around just in case the process needs to be repeated.

If Restore still fails, please contact TAC.

---

## Restore fails due to a file not being found

**Symptom** Restore fails due to "<file-name> file is not found."

**Error Message** "<file-name> file is not found" message is displayed in the Restore Pop-up UI.

**Possible Cause** The <file-name> file cannot be found by the Restore process.

**Recommended Action** Do the following:

- 
- Step 1** Delete the staging directory (C:\STI).
  - Step 2** Manually stop the Node Manager Service by selecting **Start > Programs > Administrative Tools > Services**, and then stopping the 'Cisco CRS Node Manager' service.
  - Step 3** Delete the C:\Program Files\wfavvid\ClusterData folder.
  - Step 4** Copy C:\BackupClusterData\ClusterData folder (which was backed up before) to C:\Program Files\wfavvid\.
  - Step 5** Reboot the machine.
  - Step 6** Re-run the restore.
- 

## Restore failed for a one-node system

**Symptom**

**Error Message** Backup and Restore displays an exception or a 'Page Not Found' message.

**Possible Cause** When an exception is displayed by Backup and Restore, please check the logs in the c:\program files\wfavvid\log\MCVD folder and search for the keyword: 'backup\_fail'. This will show the cause of the failure. If the message is not understandable, please contact TAC. If the 'Page Not Found' message is displayed, please contact TAC since the CRS Node Manager service has restarted for some reason.

**Recommended Action** Check failure. If failure is irrecoverable, please contact TAC. If failure is due to intermittent issue, retry restore by doing one of the following.

If you have a copy of original ClusterData folder:

- 
- Step 1** Stop the CRS Node Manager Service.
  - Step 2** Remove the C:\Program Files\wfavvid\ClusterData folder.
  - Step 3** Copy the original ClusterData folder to the C:\Program Files\wfavvid\ folder.
  - Step 4** Start the CRS Node Manager Service.

**Step 5** Redo the restore.

---

If you don't have a copy of original ClusterData folder:

---

**Step 1** Reinstall the CRS server using Win2K3 OS.

**Step 2** Fresh install the server using the CRS installer.

**Step 3** Rerun the Restore.

---

## Restore failed on a two-node system that had run before the Restore

**Symptom** Restore failed on a two-node system. The system had already been configured as a cluster and was running successfully before the restore.

**Error Message** Backup and Restore displays an exception or a 'Page Not Found' message.

**Possible Cause** When an exception is displayed by Backup and Restore, please check the logs in the c:\program files\wfvavvid\log\MCVDFolder and search for the keyword: 'backup\_fail'. This will show the cause of the failure. If the message is not understandable, please contact TAC. If the 'Page Not Found' message is displayed, please contact TAC since the CRS Node Manager service has restarted for some reason.

**Recommended Action** Check failure. If failure is irrecoverable, please contact TAC. If failure is due to intermittent issue, retry restore by doing the following:

---

**Step 1** Shutdown the CRS Node Manager Service on both nodes.

**Step 2** You must have a copy of ClusterData folder saved on both nodes:

- a. Remove the C:\Program Files\wfvavvid\ClusterData folder on both nodes.
- b. Copy the original ClusterData folder to the C:\Program Files\wfvavvid folder on both nodes.

**Step 3** If you don't have a copy of ClusterData folder saved on both nodes:

- a. Reinstall both CRS servers using Win2K3 OS.
- b. Fresh install both servers using CRS installer.
- c. Rerun the Restore.

**Step 4** Restart CRS Node Manager on both nodes.

**Step 5** Rerun the Restore again.

---

## Restore failed on a two-node system that was re-imaged

**Symptom** Restore failed on a two-node system. The system was re-imaged and had not been configured to run as a cluster.

**Error Message** Backup and Restore displays an exception or a 'Page Not Found' message.

**Possible Cause** When an exception is displayed by Backup and Restore, please check the logs in the c:\program files\wfvavid\log\MCVD folder and search for the keyword: 'backup\_fail'. This will show the cause of the failure. If the message is not understandable, please contact TAC. If the 'Page Not Found' message is displayed, please contact TAC since the CRS Node Manager service has restarted for some reason.

**Recommended Action** Check failure. If failure is irrecoverable, please contact TAC. If failure is due to intermittent issue, retry restore by doing the following:

- 
- Step 1** Shutdown CRS Node Manager Service on both nodes.
- Step 2** If you have a copy of ClusterData folder saved on both nodes:
- Remove the C:\Program Files\wfvavid\ClusterData folder on both nodes.
  - Copy the original ClusterData folder to the C:\Program Files\wfvavid folder on both nodes.
  - On the 2nd node, use regedit and check to make sure the 'com.cisco.cluster.node.id' is set to '1' for the following:  
`\HKEY_LOCAL_MACHINE\SOFTWARE\Cisco Systems, Inc.\CRS\Properties\application.MADM.properties`  
`\HKEY_LOCAL_MACHINE\SOFTWARE\Cisco Systems, Inc.\CRS\Properties\application.MADM.properties`  
`\HKEY_LOCAL_MACHINE\SOFTWARE\Cisco Systems, Inc.\CRS\Properties\application.MADM.properties`  
`\HKEY_LOCAL_MACHINE\SOFTWARE\Cisco Systems, Inc.\CRS\Properties\application.MADM.properties`
- Step 3** If you do not have a copy of the ClusterData folder saved on both nodes:
- Reinstall both CRS servers using Win2K3 OS.
  - Fresh install both servers using CRS installer.
  - Rerun the Restore.
- Step 4** Restart the CRS Node Manager on both nodes.
- Step 5** Rerun the Restore again.
-

## Some RmCm configuration is missing after Upgrade

**Symptom** After the 4.5 to 5.0 Upgrade is successful, the system is missing some RmCm configuration (that is, resource skills group, CSQ configuration, and so on).

**Error Message** None

**Possible Cause** This can happen when an Upgrade was initially triggered, but failed due to the CRS Node Manager restarting in the middle of the Restore. During the successful attempt for Restore, the CRS 4.5 user profile name has already been changed to a long integer by the 1st attempt to Restore.

**Recommended Action** To reset the profileID = 1 for the default profilename, do the following:

- 
- Step 1** Open the SQL query analyzer and type the following:
- a. Run `SELECT * FROM db_cra.dbo.profileIDMapping`  
You should see 2 records (one from 4.5 and the default for 5.0). Note the CRS4.5\_profilename which is NOT the default. You will need this.
  - b. Run `DELETE FROM db_cra.dbo.profileIDMapping where profileName='CRS4.5_profilename'`  
Make sure you see 1 row affected in the result window after executing the preceding command.
  - c. Run `UPDATE db_cra.dbo.profileIDMapping SET profileID = 1`  
Make sure you see 1 row affected after executing the preceding command.
- Step 2** `SELECT * FROM db_cra.dbo.profileIDMapping`
- Step 3** You should get only one record with profilename 'default' and profileID=1
- 

## CME Telephony subsystem problems

This section contains the following troubleshooting tips on CME Telephony problems:

- [A functional routing point stopped working or the CME Telephony subsystem is in partial service, page 8-8](#)

### A functional routing point stopped working or the CME Telephony subsystem is in partial service

**Symptom** A functional routing point stopped working or the CME Telephony subsystem is in partial service

**Error Message** None

**Possible Cause** This can happen if some one manually deleted the route point DN on the router side.

**Recommended Action** Run the configuration validator tool and check for any warning messages. A report should indicate that there is an RP DN mismatch. Check on the router configuration whether or not the DN exists or not. If confirmed, then visit the Trigger page and click the update button to fix and recreate the DN on the router side.



# Cisco Unified Communications Manager Automated Attendant problems

This section contains the following troubleshooting tips on Cisco Unified Communications Manager (Unified CM) Automated Attendant (AA) problems:

- [Dial by name does not find the specified server, page 8-9](#)
- [Automated Attendant prompt is not played, page 8-9](#)

## Dial by name does not find the specified server

**Symptom** The Cisco Unified Communications Manager Automated Attendant cannot find a user that a caller specifies when dialing by name.

**Error Message** None.

**Possible Cause** The extension of the requested user is not valid because the user does not have a primary extension assigned in Cisco Unified Communications Manager, or the ccndir.ini file is missing information.

**Recommended Action** Complete the following steps:

---

**Step 1** In the Cisco Unified Communications Manager User Information web page, verify that the user has an entry in the AutoAttendant Dialing field, that the User record has an associated phone, and that the Primary Extension radio button is selected.

**Step 2** On the CRS server, verify that the ccndir.ini file contains the correct userbase and profilebase information. For example:

```
# Base DN for CCN APPS
CCNAPPSBASE "ou=CCN Apps, o=cisco.com"
# CCN Cluster Profile name
CCNCLUSTERPROFILE "johndoe_test"
# Base DN for Users
USERBASE "ou=Users, o=cisco.com"
```

---

## Automated Attendant prompt is not played

**Symptom** The Cisco Unified Communications Manager Automated Attendant prompt is not played.

**Error Message** None.

**Possible Cause** An incorrect welcome prompt is specified in the welcomePrompt field in the Cisco Script Application web page.

**Recommended Action** From the CRS Administration web page, choose **Applications > Prompt Management**. Click the **Upload New Prompts** link to upload the Welcome prompt.

# Cisco Unified Communications Manager Express Problems

This section contains the following troubleshooting tips on Cisco Unified Communications Manager Express (Unified CME) problems:

- [Agent cannot log in on shared line, page 8-10](#)
- [Agent cannot log in on restricted line, page 8-10](#)
- [When agent drops from conference, all parties on conference are dropped, page 8-10](#)

## Agent cannot log in on shared line

**Symptom** Agent is unable to log in on the Cisco Agent Desktop (CAD).

**Error Message** CAD displays *Unable to login agent because line is shared.*

**Possible Cause** The extension specified during login is a shared extension.

**Recommended Action** Make sure the extension only exists on one device.

## Agent cannot log in on restricted line

**Symptom** Agent is unable to log in on CAD.

**Error Message** CAD displays *The line is restricted.*

**Possible Cause** The extension specified during login cannot be monitored.

**Recommended Action** Make sure the agent's extension is configured with "allow-watch" on Unified CME.

## When agent drops from conference, all parties on conference are dropped

**Symptom** When an agent drops from a conference, all parties on the conference are dropped as well.

**Error Message** None.

**Possible Cause** The agent device is not configured with "keep-conference."

**Recommended Action** Make sure the agent's device is configured with "keep-conference" on Unified CME.

# Cisco Unified CCX Problems

This section contains the following troubleshooting tips on Cisco Unified Contact Center Express (Unified CCX) problems:

- [RmCm subsystem is out of service, page 8-11](#)
- [RmCm subsystem remains INITIALIZING, page 8-11](#)
- [RmCm remains in Initializing state, page 8-12](#)

- [Agents, Supervisors, or Teams are out of synch, page 8-12](#)
- [Agent or CSQ does not appear in Cisco Desktop Administrator \(CDA\), page 8-12](#)
- [Agents do not appear in the Resources area in the Unified CCX Configuration web page, page 8-13](#)
- [You cannot select the order of agents, page 8-13](#)
- [Agent does not go to Work state after handling a call, page 8-13](#)
- [A media step causes a Could not create PlayPromptDialog Object exception, page 8-14](#)
- [Unable to make any Unified CCX configuration changes, page 8-14](#)
- [Some resource selection criteria are missing, page 8-14](#)
- [Unable to record an agent, page 8-15](#)
- [Sometimes the supervisor can monitor and record an agent and sometimes he cannot, page 8-15](#)
- [Calls to Unified CCX route points are disconnected, page 8-15](#)
- [Calls are not routed to agents, page 8-15](#)
- [Agents do not show in a CSQ, page 8-16](#)
- [Caller gets dropped when an attempt is made to recall a Unified CCX agent extension after the agent previously parked the call, page 8-16](#)
- [Updating a NIC driver disables silent monitoring and recording, page 8-16](#)

## RmCm subsystem is out of service

**Symptom** The Resource Manager Contact Manager (RmCm) subsystem is out of service.

**Error Message** None.

**Possible Cause** The RM JTAPI user in Cisco Unified Communications Manager is not configured properly.

**Recommended Action** Complete the following steps:

- 
- Step 1** From the CRS Administration web page, choose **Subsystems > RmCm**.
  - Step 2** Click the **RM JTAPI Provider** hyperlink.
  - Step 3** Make sure that the information in the RM JTAPI User ID and Password fields matches the information for the RM JTAPI user in Cisco Unified Communications Manager.
- 

## RmCm subsystem remains INITIALIZING

**Symptom** The Resource Manager Contact Manager (RmCm) subsystem remains in INITIALIZING state.

**Error Message** None.

**Possible Cause** Could not load the default scripts CM.aef and RM.aef.

Complete the following steps:

- 
- Step 1** Check the RM JTAPI provider configuration and then stop and restart the CRS engine.
- Step 2** Check to be sure the workflow scripts CM.aef and RM.aef are present on the Script Management page on CRS Administration. They are needed for the RmCm subsystem to be in service. If either of these scripts are deleted, missing, or corrupted, the RmCm subsystem will not go IN SERVICE. To recover, upload new copies of these scripts from *C:\Program Files\wfavvid\scripts\system\default\rmcm*, and restart the CRS Engine.
- 

## RmCm remains in Initializing state

**Symptom** The RmCm subsystem remains in the Initializing state after the CRS Engine starts.

**Error Message** None.

**Possible Cause** The RmCm subsystem is unable to read any configuration information.

**Recommended Action** Make sure there is at least one "CRS SQL Server - Config" service running in the cluster. If the service is stopped, start it.

## Agents, Supervisors, or Teams are out of synch

**Symptom** Agents, Supervisors, or Teams are out of synch between Unified CCX and the Cisco Desktop Administrator (CDA).

**Error Message** None.

**Possible Cause** The automatic synchronization between Unified CCX and the CDA failed.

**Recommended Action** Launch a manual synch from the CDA by selecting the Logical Call Center (usually the CRS profile name) and clicking **Setup > Synchronize Directory Services**.

## Agent or CSQ does not appear in Cisco Desktop Administrator (CDA)

**Symptom** After adding an agent or a contact service queue (CSQ) in CRS Administration, the agent or the CSQ does not appear in the CDA.

**Error Message** None.

**Possible Cause** The RmCm subsystem has not synchronized the agents.

**Recommended Action** Go to the Resources link under **Subsystems > RmCm**. This will force the RmCm subsystem to synchronize the agents.

## Agents do not appear in the Resources area in the Unified CCX Configuration web page

**Symptom** No agents appear in the Resources area in the Unified CCX Configuration web page.

**Error Message** None.

**Possible Cause** To appear as an agent in this area, a user must be configured as a Unified CCX agent in the Cisco Unified Communications Manager User Information web page.

**Recommended Action** In Cisco Unified Communications Manager, verify configuration information in the User Information web pages. For each user, under Associated Devices, verify that a phone is associated, and verify that the Unified CCX extension radio button is selected.

## You cannot select the order of agents

**Symptom** When you configure a resource group, the system does not allow you to select the order of agents.

**Error Message** None.

**Possible Cause** You order agents at the CSQ level.

**Recommended Action** When you configure the CSQ and select the desired Resource Group, click **Show Resources** and order the agents as desired.

## Agent does not go to Work state after handling a call

**Symptom** An agent does not go to Work State after handling a call, even though the CSQ is configured with Auto Work turned on.

**Error Message** None.

**Possible Cause** An agent will not go to Work State after handling a call if the agent presses the Ready button while in Talk state. In addition, if the agent services multiple CSQs, Auto Work may not be configured for each CSQ. The agent will only go to Work State if the call comes from a CSQ where Auto Work is enabled.

**Recommended Action** None.

## A media step causes a Could not create PlayPromptDialog Object exception

**Symptom** Any media step except SendDigitString causes the following exception in the CRS trace files.

**Error Message** *Could not create PlayPromptDialog Object:  
Exception=com.cisco.channel.ChannelUnsupportedException: com.cisco.dialog.PlayPromptDialog is not supported.*

**Possible Cause** A Primary Dialog Group was not specified when a trigger was defined.

**Recommended Action** After you add an application in the CRS Application Configuration web page, you must define a trigger. When you define a trigger for the application, you must define both a Call Control Group and a Primary Dialog Group in the JTAPI Trigger Configuration window.

## Unable to make any Unified CCX configuration changes

**Symptom** When trying to save Unified CCX configuration changes, CRS Administration shows an error message.

**Error Message** *There was an error reading/updating the database. Please contact your administrator .*

**Possible Cause** All "CRS SQL Server - Config" services need to be IN-SERVICE in order to make Unified CCX configuration changes. If one or more services are down, no Unified CCX configuration update is allowed.

**Recommended Action** Check the state of all "CRS SQL Server - Config" services in the cluster. If a service is stopped, start it. Make sure the "CRS Config Datastore" component is activated.

## Some resource selection criteria are missing

**Symptom** When trying to configure a CSQ, CRS Administration does not show all the resource selection criteria.

**Error Message** None.

**Possible Cause** The CSQ is resource-group based. A resource-group based CSQ has Longest Available, Most Handled Contact, Shortest Average Handle Time, Linear and Circular criteria. A skills-based CSQ has Longest Available, Most Handled Contact, Shortest Average Handle Time, Most Skilled, Least Skilled, Most Skilled by weight, Least Skilled by Weight, Most Skilled by Order, and Least Skilled by Order criteria.

**Recommended Action** You might want to use a skills-based CSQ in order to use a specific resource selection criteria.

## Unable to record an agent

**Symptom** A supervisor is unable to record an agent's call. Clicking on Record pops up a message dialog box.

**Error Message** *Unable to record agent.*

**Possible Cause** The recording count is set to 0.

**Recommended Action** Go to CRS Administration. Select **System > System Parameters** and set the number of the recording count appropriately.

## Sometimes the supervisor can monitor and record an agent and sometimes he cannot

**Symptom** Sometimes the supervisor can monitor and record an agent and sometimes he cannot.

**Error Message** None

**Possible Cause** Currently, CAD supports only the G.711 and the G.729 codecs. If your codec setting is different in the Cisco unified Communications Manager, for example, if your setting is G.722, then you can experience these problems.

**Recommended Action** Make sure you have disabled "Advertise G 722 codec" on the agent phone and make sure your settings in Unified CM are for the G.711 or the G.,729 codec. Although Unified CM 6.0 supports the G 722 codec, CAD does not.

## Calls to Unified CCX route points are disconnected

**Symptom** Callers are disconnected when calling Unified CCX route points.

**Error Message** None.

**Possible Cause** The CSQ parameter is not correctly defined in the Cisco Script Application web page.

**Recommended Action** From the CRS Administration web page, choose **Applications > Application Management**, click the name of the script that corresponds to Unified CCX, and then enter the name of the configured CSQ in the CSQ field.

## Calls are not routed to agents

**Symptom** Calls are not routed to agents even though the agents are configured with the skills of the CSQ.

**Error Message** None.

**Possible Cause** The skill levels of the agents are not equal to or higher than the skill levels of the CSQ.

**Recommended Action** Click **Show Resources** on the CSQ configuration page to determine that agents are part of the CSQ. If agents do not appear, verify that the skill levels of the agents are equal to or higher than the skill levels of the CSQ.

## Agents do not show in a CSQ

**Symptom** A CSQ is configured with a group of agents for Skill A and a group of agents for Skill B; however, the agents do not show up in the CSQ.

**Error Message** None.

**Possible Cause** Agents do not have all the skill levels of the CSQ or the skill level of the agents do not have equal or higher skill levels than that of the CSQ.

**Recommended Action** Verify that agents have all the skill levels of the CSQ and that the agents have equal or higher skill levels than that of the CSQ.

## Caller gets dropped when an attempt is made to recall a Unified CCX agent extension after the agent previously parked the call

**Symptom** Agent A gets a Unified CCX call and parks that call. After the parked call times out, a recall is attempted to the Agent A extension (if no other agent has picked up the call). If Agent A is busy handling another call on that Unified CCX extension while the previously parked call is being routed, the caller gets dropped.

**Error Message** None.

**Possible Cause** A parked call gets dropped if an attempt is made to place the call again to a busy line that is not set with *forward busy*.

**Recommended Action** Configure the Unified CCX extension of Agent A with *Forward Busy* to a non-Unified CCX line on the same phone.

Also, configure this line as *Forward Busy* to the Unified CCX route point. When an attempt is made to recall the Unified CCX extension of Agent A, the call is forwarded to the non-Unified CCX line if the extension is busy. If the non-Unified CCX line is busy, the call is forwarded to the Unified CCX route point and gets queued again instead of being dropped. You can set up the workflow of the Unified CCX route point to increase the priority of the call.

## Updating a NIC driver disables silent monitoring and recording

**Symptom** After updating a network interface card (NIC) driver, the Cisco Supervisor Desktop and Cisco Agent Desktop Silent Monitoring and Recording features do not work.

**Error Message** None.

**Possible Cause** This problem can occur if you have updated a NIC driver on a server on which you checked the VoIP Monitor Server check box during the installation of Cisco CRS.

**Recommended Action** Reinstall Cisco CRS. Make sure to check the VoIP Monitor Server check box in the Component Distribution pane.



# Cisco Unified IP IVR Problems

This section contains the following troubleshooting tips on Unified IP IVR problems:

- [Cisco Unified IP IVR drops callers when transferring to an extension, page 8-17](#)
- [Prompts play in language, page 8-17](#)
- [Some prompts do not play, page 8-18](#)
- [Some prompts in a script play in the language specified and other prompts play in English, page 8-18](#)
- [A prompt plays phrases in the wrong order, page 8-18](#)

## Cisco Unified IP IVR drops callers when transferring to an extension

**Symptom** After Cisco Unified IP IVR transfers a call to an extension, the called party hears a busy signal when taking the call and the caller is dropped.

**Error Message** None.

**Possible Cause** If a call gets dropped, one potential cause is a codec mismatch between the endpoint and the CRS Server. The CRS Server supports either the G.729 or the G.711 protocol, but not both simultaneously. To support these protocols, a transcoder is required.

**Recommended Action** Install a transcoder for Cisco Unified IP IVR.

## Prompts play in language

**Symptom** A script was assigned to a language at the route point but it plays prompts in another language.

**Error Message** None.

This problem can be caused by the following situations:

- The system default language is set incorrectly.
- The language specified in the Set Contact step is incorrect.
- The language specified in the Play Prompt step is incorrect.

**Recommended Action** Verify that system default language is set correctly. Verify that the correct language is set in the Set Contact step or the Play Prompt step if these steps are used.

## Some prompts do not play

**Symptom** A prompt in a script does not play. The script may or may not continue executing.

**Error Message** None.

**Possible Cause** A prompt is missing in the language directory for the language used by the script. By default, the Play Prompt step is set to continue if it encounters an error and the script will continue to play if it encounters a missing prompt. If you have changed the Play Prompt step to not continue if it encounters an error, the script will stop executing.

**Recommended Action** Refer to the CRS trace files to find the missing prompt. Provide the missing prompt in the language folder shown in the CRS trace files.

## Some prompts in a script play in the language specified and other prompts play in English

**Symptom** A script is set to a language other than US English, but some prompts play in US English.

**Error Message** None.

**Possible Cause** A prompt is missing in the language directory for the language used by the script. If the default language for the script uses the same rules as US English, the system will automatically replace the missing prompt with a US English prompt.

**Recommended Action** Refer to the CRS trace files to find the missing prompt and provide the missing prompt in the language folder shown in the CRS trace files.

## A prompt plays phrases in the wrong order

**Symptom** A prompt played by the Create Generated Prompt step plays the correct language but plays phrases in the wrong order. For example, a prompt that you expect to play as “month, day, year” plays as “year, month, day.”

**Error Message** None.

**Possible Cause** The Create Generated Prompt step is using incorrect rules for the language.

**Recommended Action** If creating a new language or adapting an existing language for a new locale, check the PromptGenerator.properties file and make sure that it is using the correct rules for the language.

## CRS Administration Problems

This section contains the following troubleshooting tips on CRS Administration problems:

- [The CRS Administration Authentication web page is not available, page 8-19](#)
- [Uploading a license file can result in a warning message, page 8-20](#)
- [User cannot log in to the CRS web page, page 8-20](#)
- [Refreshing subflow script does not update parent scripts, page 8-20](#)

- [Unified Communications Manager users display in random order, page 8-20](#)
- [CRS Supervisor web page cannot be viewed from CRS Server, page 8-21](#)
- [Database table fields used by wallboard store data in milliseconds, page 8-21](#)
- [Management pages display error message when selected, page 8-21](#)
- [Zip file does not auto unzip on Document Management page, page 8-22](#)
- [Invalid files message displays while uploading a zip file of prompts, page 8-22](#)
- [A Component Manager goes into partial service when uploading a zip file, page 8-23](#)
- [High call rejection rate under heavy load, page 8-23](#)

## The CRS Administration Authentication web page is not available

**Symptom** You cannot browse to the CRS Administration URL and a Page Cannot be Displayed error appears.

**Error Message** None.

**Possible Cause** The system cannot access the CRS Administration web page. A required service may not be running or required files may be missing.

Make sure the following services are running:

- Check that the *CRSJavaAdmin.exe* is running (in Windows Task Manager).
- IIS Admin service
- World Wide Web Publishing service

**Recommended Action** If these services are running, verify that files exist in the `install_directory\tomcat_appadmin\webapps\appadmin\` directory, where `install_directory` is the folder in which the CRS system is installed. (By default, the CRS system is installed in the `c:\Program Files\wfvavvid` folder.)

If no files exist in this directory, perform the following steps:

- 
- Step 1** Stop the Cisco CRS Node Manager service.
  - Step 2** Delete the `appadmin` folder from the `tomcat_appadmin\webapps` folder in the folder in which you installed the CRS system. (By default, the CRS system is installed in the `c:\Program Files\wfvavvid` folder.)
  - Step 3** Start the Cisco CRS Node Manager service.
  - Step 4** Wait for a few minutes and try to browse to the URL again.
-

## Uploading a license file can result in a warning message

**Symptom** The user gets a warning message when uploading license files using CRS Administration.

**Error Message** *The license file, <filename>, if uploaded will change the package from <existing license package> to <new license package>. Please click OK to continue or CANCEL to abort.*

**Possible Cause** This warning is only displayed if a user tries to upload licenses which change the existing license package of the CRS cluster to a different package.

**Recommended Action** The user needs to determine if he or she really wants to change the license package as described in the warning message. If yes, clicking OK will change the package. If it was a user error, clicking CANCEL will keep the license package unchanged.

## User cannot log in to the CRS web page

**Symptom** A user cannot log in to the Cisco CRS web pages after the CRS Administration times out.

**Error Message** None.

**Possible Cause** If you perform no activity for 30 minutes, the CRS system automatically logs you out.

**Recommended Action** Log in again to continue.

## Refreshing subflow script does not update parent scripts

**Symptom** Refreshing a subflow script does not update its parent scripts.

**Error Message** None.

**Possible Cause** If a script is referenced in other scripts, refreshing a subflow script does not update its parent scripts.

**Recommended Action** Manually refresh all parent scripts.

## Unified Communications Manager users display in random order

**Symptom** On the CRS User Maintenance window, Unified Communications Manager users display in random order when the number of users returned during the search is greater than 75.

**Error Message** None.

**Possible Cause** The User Maintenance window on Cisco CRS limits the display to 75 Unified Communications Manager users. If that number is exceeded, the Unified Communications Manager users display in a random order. Instead of the usual logical order of 39001, 39002, 39003, 39004, the list contains 39001, 39003, with 39002 and 39004 not shown.

**Recommended Action** Narrow the search by adding additional characters to be matched.

## CRS Supervisor web page cannot be viewed from CRS Server

**Symptom** The Cisco CRS Supervisor web page cannot be viewed from the Cisco CRS Server.

**Error Message** None.

**Possible Cause** If the Cisco CRS Supervisor is running on a computer with the language set to Simplified Chinese, you cannot view the Cisco CRS Supervisor web page from the Cisco CRS Server.

**Recommended Action** Use a client computer to view the Cisco CRS Supervisor web page.

## Database table fields used by wallboard store data in milliseconds

**Symptom** Some database table fields used by a wallboard store data in milliseconds instead of in HH:MM:SS.

**Error Message** None.

**Possible Cause** The avgTalkDuration, avgWaitDuration, longestTalkDuration, longestWaitDuration, and oldestContact database table fields in the RtCSQsSummary and the RtICDStatistics database tables store date in milliseconds.

If you want to include information described by these fields on your wallboard, use the following fields, which store the same information but use the HH:MM:SS format:

- Instead of avgTalkDuration, use convAvgTalkDuration.
- Instead of avgWaitDuration, use convAvgWaitDuration.
- Instead of longestTalkDuration, use convLongestTalkDuration.
- Instead of longestWaitDuration, use convLongestWaitDuration.
- Instead of oldestContact, use convOldestContact.

## Management pages display error message when selected

**Symptom** The Prompt Management, Grammar Management, or Document Management pages show an error message when selected.

**Error Message** *com.cisco.file.FileException: Unable to list files; Repository Data Store not initialized*

**Possible Cause** This error occurs when there is no master selected for the Repository Datastore component. This can happen due to one of the following reasons:

- Repository Datastore component is not activated at all in the cluster.
- Repository Datastore component activated node is not up or SQL Services are not running on this node.
- In the case of high availability, the Repository Datastore component is activated, but the Publisher activation has not yet completed from the Datacontrol Center page of CRS Administration.

**Recommended Action** To resolve the problem, do one of the following:

- To activate the Repository Datastore component, from CRS Administration select **Control Center > Component Activation** page. Check to be sure the nodes with Repository Datastore components are up and running. If the nodes are up, check that all the SQL Services, including Microsoft SQL Server and Microsoft SQL Agent services are up and running.
- In the case of high availability, from CRS Administration, go to **Datacontrol Center > Publisher Activation** page to check that the Publisher is activated . If active, you see the Publication Snapshot Agent in STOPPED state and the Subscription Agent in RUNNING state.

## Zip file does not auto unzip on Document Management page

**Symptom** On the Document Management page when a zip file is uploaded, it does not get unzipped automatically as a zip file does on the Prompt Management and Grammar Management pages.

**Error Message** None .

**Possible Cause** While uploading a zip file in Document Management, the user has the option of storing it as a zip file without unzipping or unzipping the file before it gets stored.

**Recommended Action** Be sure the **Unzip after uploading** check box is selected if that is the intention.

## Invalid files message displays while uploading a zip file of prompts

**Symptom** Uploading a zip file of prompts (or grammars or documents) at the root level in Prompts Management (or Grammar Management or Document Management) shows an error message in the MADM log files.

**Error Message** *Invalid files...*

**Possible Cause** This problem could occur for one of the following reasons:

- At the root level only language folders can exist.
- Prompt Management and Grammar Management pages except files of valid extension only.

**Recommended Action** To correct the problem, do the following:

- Check that your zip file does not contain any files that do not belong to a folder while uploading at the root level.
- Check that all the files have a valid extension.

## A Component Manager goes into partial service when uploading a zip file

**Symptom** When uploading a file or zip file from Prompt Management, Grammar Management, or Document Management in CRS Administration, the CRS Engine component Prompt Manager (or Grammar Manager or Document Manager) is shown in `PARTIAL_SERVICE` state.

**Error Message** `PARTIAL_SERVICE`

**Possible Cause** The Prompt Manager, Grammar Manager, or Document Manager are put in `PARTIAL_SERVICE` by File Manager while it synchronizes the uploaded files from the Repository Datastore to the local disk. Once the synchronization is complete, they are put back into `INSERVICE` state.

**Recommended Action** None.

## High call rejection rate under heavy load

**Symptom** With a heavy load of over 200 agents a high call rejection or aborted rate occurs.

**Error Message** None.

**Possible Cause** Writing the Unified Communications Manager and CTI Manager traces to the local drive leads to call failures due to the increased load of tracing.

**Recommended Action** CTI Manager and Unified Communications Manager traces need to be directed to another hard drive. Here is an example of how to set things up. Note that you need to create the directory structure shown in the F:\ drive:

```
Unified Communications Manager SDL Trace Directory Path = F:\Program
Files\Cisco\ \Trace\SDL\
```

```
Unified Communications Manager SDI Trace output setting, File Name =
F:\Program Files\Cisco\Trace\CCM\ccm.txt
```

```
CTIManager SDL Trace Directory Path = F:\Program Files\Cisco\ Trace\SDL\
```

```
CTIManager SDI Trace output setting, File Name = F:\Program
Files\Cisco\Trace\CCM\cti.txt
```

The AntiVirus has been set not to scan the following folders:

```
C:\Program Files\Cisco\Trace\ F:\Program Files\Cisco\Trace\
```

## CRS Admin Utility Problems

This section contains the following troubleshooting tips on CRS Admin Utility problems:

- [The cluster is not in synchronization, page 8-24](#)
- [CRS Admin Utility exits or does not come up after login., page 8-24](#)
- [The CRS Admin Utility fails due to data corruption, page 8-24](#)
- [The CRS Admin Utility will not run on a none bootstrap node, page 8-25](#)
- [The CRS Admin Utility will not run since the Node Manager hung, page 8-25](#)

## The cluster is not in synchronization

**Symptom** The cluster is not in synchronization.

**Error Message** Rerun the CRS Admin Utility again to bring the cluster back into synchronization.

**Possible Cause** This can happen due to a variety of reasons: The password setting or synchronization failed in the middle of the process. The update was done on a bootstrap data store but not on a Windows database. The update was done on one node but not on the second node.

**Recommended Action** Rerun the CRS Admin Utility again to bring the cluster back into synchronization.

## CRS Admin Utility exits or does not come up after login.

**Symptom** CRS Admin Utility exits or does not come up after login.

**Error Message** None

**Possible Cause** The CRS Admin Utility runs on a system where CRS has been properly installed and configured.

**Possible Cause** Check the status of the configuration manager (and the bootstrap manager for both nodes, if you have a two node system) from the CRS Admin control center.

**Possible Cause** The CRS Admin Utility needs to have the CRS configuration manager In\_service for a single node system or the CRS configuration manager and bootstrap manager In\_service for a multiple node system.

**Recommended Action** Properly install and configure the CRS system.

## The CRS Admin Utility fails due to data corruption

**Symptom** The CRS Administration Utility fails due to data corruption.

**Error Message** None

**Possible Cause** The CRS Admin Utility fails when there is data corruption in the bootstrap data store. Any process running on the node on which the Admin Utility is running and that has access to the bootstrap data store can cause data corruption. For example, the Admin Utility, the CRS engine, CONFINGAPI, and so on, many cause data corruption.

**Recommended Action** When the Admin Utility fails on one node due to data corruption, try to run it from another bootstrap server node. If the Admin Utility fails again, contact TAC.



## The CRS Admin Utility will not run on a none bootstrap node

**Symptom** The CRS Admin Utility will not run on a none bootstrap node.

**Error Message** Local system is not a Bootstrap Server Node. Please run CRS Admin Utility on a Bootstrap Server Node.

**Possible Cause** An attempt was made to run the CRS Admin Utility on a none bootstrap server node. ON CRS 5.0 2-node systems, both nodes are bootstrap servers. A none bootstrap server will be a DB node or a VOP node.

**Recommended Action** You must run the CRS Admin Utility on a bootstrap server node. Only the bootstrap server has the required bootstrap data storage installed.

## The CRS Admin Utility will not run since the Node Manager hung

**Symptom** The CRS Admin Utility will not run since the Node Manager hung.

**Error Message** Failed to shut down remote bootstrap server Node Manager on <server\_name>. Please shut it down manually and try again.

**Possible Cause** Anything running on the system could potentially hang the Node Manger and make it fail to shutdown smoothly or the window could not bring the node manager down.

**Recommended Action** Manually shut down the Node Manager from the window service, or reboot the system, or first power down the system and then reboot it.

## CRS Database Problems

This section contains the following troubleshooting tips on CRS Database problems:

- [Cannot configure Application or System parameters from their pages in CRS Administration, page 8-26](#)
- [HR client login error, page 8-26](#)
- [Cannot activate DB components on HA node, page 8-26](#)
- [CRS Databases are not purged as expected, page 8-26](#)
- [Historical Database db\\_cra is full, page 8-27](#)
- [E-mail notification of database purging activities is not sent, page 8-27](#)
- [Syslog or SNMP trap notification of database purging activities is not sent, page 8-28](#)

## Cannot configure Application or System parameters from their pages in CRS Administration

**Symptom** Cannot configure Application or System parameters from their pages in CRS Administration.

**Error Message** "ConfigException\* occurred"

**Possible Cause** This can happen if CRS Config Datastore service is OOS when SQL Services or MSDTC are not running.

**Recommended Action** Check in the control center that the Microsoft Distributed Transaction coordinator, Microsoft SQL Agent services are running and the CRS Config Datastore is in INSERVICE. If it is an HA setup, ensure that both nodes have the above services up and running.

## HR client login error

**Symptom** HR client login error.

**Error Message** An Error ocurred while attempting to communicate to Web Server. Check your userid and pwd and try again (NO\_HISTORICAL\_REPORTING\_CAPABILITY)

**Possible Cause** The userid is not assigned reporting capability in the CRS Administration User Management web page.

**Recommended Action** Please give reporting capability and priveleges to the userid in the User Management web page and relogin the HR client.

## Cannot activate DB components on HA node

**Symptom** Cannot activate DB components on HA node.

**Error Message** Error related to DB Engine Version or DB Engine Edition mismatch during activation of DB components.

**Possible Cause** HA requires both the nodes to have SQL 2K installed and the SQL 2k should be of same version on both nodes.

**Recommended Action** Ensure both nodes have the same version of SQL 2K installed.

## CRS Databases are not purged as expected

**Symptom** The CRS databases are not automatically purged as expected.

**Error Message** None.

**Possible Cause** The cause of this problem could be one of the following:

- Automatic purging is not configured properly.
- You have changed the system clock on the CRS server.

- You have altered the size of the CRS databases.

**Recommended Action** Depending upon the cause of the problem, do one of the following:

- From the CRS Administration web page, choose **Tools > Historical Reporting** and configure automatic purging.
- If you change the size of the CRS databases, make sure that the CRS database size is equal to the maxsize.

## Historical Database db\_cra is full

**Symptom** Historical data is not getting written into the database, db\_cra.

**Error Message** Could not allocate space for object in database db\_cra because the PRIMARY file group is full in the SQL log file, MIVR log file.

**Possible Cause** The db\_cra database is full.

**Recommended Action** Do one of the following:

- 
- Step 1** Try to start purging using the CRS Administration web page. Choose **Tools > Historical Reporting > Purge Now**.
- Step 2** Check the db\_cra database size to make sure that it is of the proper size for the call volume generated.
- 

## E-mail notification of database purging activities is not sent

**Symptom** The CRS system does not send e-mail notification of database purging activities.

**Error Message** None.

**Possible Cause** The Email subsystem is not configured or e-mail notification is not set up properly in CRS Administration.

Complete the following steps:

- 
- Step 1** From the CRS Administration web page, choose **Subsystems > eMail** and make sure that correct information is entered in the Mail Server and eMail Address fields.
- Step 2** From the CRS Administration web page, choose **Tools > Historical Reporting** and click the Purge Schedule Configuration hyperlink.
- Step 3** If multiple e-mail addresses are specified in the Send Email Notifications To field, make sure that each address is separated with a semicolon (;), comma (,), or space.
- Step 4** Make sure that the Send Email Notifications To field contains no more than 255 characters.
-

## Syslog or SNMP trap notification of database purging activities is not sent

**Symptom** The CRS system does not send Syslog notification or SNMP trap notification of purging activities.

**Error Message** None.

**Possible Cause** The Cisco CRS Alarm Service is not running, Syslog is not configured, or SNMP service is not configured.

Complete the following steps:

- 
- Step 1** Make sure that the Cisco CRS Alarm Service is running.
  - Step 2** Make sure that Syslog is properly configured.
  - Step 3** Make sure that SNMP service is properly configured on the CRS server.
- 

## CRS Editor Problems

This section contains the following troubleshooting tips on CRS Editor problems:

- [Change a string variable to an integer, page 8-28](#)
- [Accept step error during active debug, page 8-28](#)
- [Error occurs with Reactive Debugging Tool, page 8-29](#)

### Change a string variable to an integer

**Symptom** You want to change a string variable to an integer.

**Error Message** None.

**Possible Cause** None.

**Recommended Action** Use the Set step, which supports the conversion of a string to any numerical type.

### Accept step error during active debug

**Symptom** While debugging an application, the following message appears, where *n* is the task ID:

**Error Message** *Task: nAccept Step: Trigger is not a Contact Application trigger.*

**Possible Cause** The debugger encountered the Accept step in the application but there was no call to answer.

**Recommended Action** Debug the application as a Reactive Application and make the call before the Reactive Application times out.

## Error occurs with Reactive Debugging Tool

**Symptom** An error occurs when using the Reactive Debugging tool.

**Error Message** Not defined.

**Possible Cause** Using the CRS Editor Reactive Debugging tool on a translation routed call can cause an error.

**Recommended Action** From the ICM Configuration Manager, choose **Tools > List Tools > Network VRU Script List** and temporarily increase the value in the Timeout field for the script.

## CRS Engine Problems

This section contains the following troubleshooting tips on CRS Engine problems

- [Agent cannot go Ready after logging in, page 8-30](#)
- [Voice Browser step throws an exception, page 8-30](#)
- [CRS Engine does not start and an RMI port in use error appears, page 8-30](#)
- [Attempting to start the Cisco CRS Node Manager service causes an error 1067, page 8-31](#)
- [Attempting to start the Cisco CRS Node Manager service causes an error 1069, page 8-31](#)
- [Application subsystem is in partial service, page 8-31](#)
- [CRS Engine is running but calls are not answered, page 8-32](#)
- [Changing the time on CRS machines results in agents getting logged off, page 8-32](#)
- [An error message plays when calling a CTI route point, page 8-33](#)
- [Changes to applications do not register, page 8-33](#)
- [Call drops during transfer over gateway, page 8-34](#)
- [H.323 client DTMF digits not detected, page 8-34](#)
- [Redirected call is disconnected, page 8-34](#)
- [The CRS server runs out of disk space, page 8-35](#)
- [CRS Server runs at 100% capacity or is very slow, page 8-35](#)
- [Database Subsystem goes into partial service, page 8-36](#)
- [JTAPI subsystem is in partial service, page 8-37](#)
- [Unable to connect to JTAPI provider, page 8-37](#)
- [The Simple Recognition step takes the unsuccessful branch, page 8-38](#)
- [Calling party and CRS do not have common codec, page 8-38](#)
- [Prompts with incorrect codec being played out, page 8-38](#)
- [Prompt Exception in CRS Engine log file, page 8-39](#)
- [CRS Engine does not start, page 8-39](#)
- [Application subsystem in partial service and application running for an unexpectedly long time, page 8-39](#)
- [CRS Server and Active Directory integration results in some services being unregistered, page 8-40](#)

## Agent cannot go Ready after logging in

**Symptom** Agent cannot go Ready after logging in.

**Error Message** The Cisco Agent Desktop says that the resource's device is off and the agent extension is out of service.

**Possible Cause** The agent's ephone does not have a session-server configured.

**Recommended Action** Make sure the session server of the agent's ephone is set to the the CRS session server.

## Voice Browser step throws an exception

**Symptom** When the URL specified in Voice Browser step uses "ServerName" instead of IPAddress, the step throws an exception, "UnknownHostException."

**Error Message** None.

**Possible Cause** The Java Virtual Machine (JVM) caches a previously resolved entry, that is no longer correct, until the JVM is restarted.

**Recommended Action** Restart the CRS Engine.

## CRS Engine does not start and an RMI port in use error appears

**Symptom** The CRS Engine does not start and a Remote Method Invocation (RMI) port in use error appears in the CRS trace files.

**Error Message** *RMI port in use*.

**Possible Cause** Another process is using the port that the CRS Engine is attempting to use.

From the CRS Administration web page, complete the following steps:

- 
- Step 1** Choose **System > System Parameters**.
  - Step 2** Enter a different port in the RMI Port Number field.
  - Step 3** Stop and then restart the CRS Engine.
  - Step 4** If CRS Engine is shown "Invalid" from CRS Administration, see the troubleshooting tip "**Service constantly shows Invalid**".
-

## Attempting to start the Cisco CRS Node Manager service causes an error 1067

**Symptom** You attempt to start the Cisco CRS Node Manager service in the Windows Services window and the following message appears.

**Error Message** *Could not start the Cisco CRS Node Manager service on local computer. Error 1067: The process terminated unexpectedly.*

**Possible Cause** There is an internal error in the Cisco CRS Node Manager.

**Recommended Action** Refer to *Cisco Customer Response Solutions Administration Guide* or the Administration online help for information about properly setting up the CRS Node Manager service.

## Attempting to start the Cisco CRS Node Manager service causes an error 1069

**Symptom** You attempt to start the Cisco CRS Node Manager service in the Windows Services window and the following message appears.

**Error Message** *Could not start the Cisco CRS Node Manager service on local computer. Error 1069: The service did not start due to a logon failure.*

**Possible Cause** When you install Cisco Unified Communications Manager or Cisco CRS, the Windows 2003 administrator password that you enter overwrites the existing Windows 2003 administrator password. Also, if you enter a password that includes spaces, it may not be recorded properly.

Perform the following steps to change the password for the CRS Node Manager service:

- 
- Step 1** On the CRS Server, choose **Start > Settings > Control Panel > Administrative Tools > Services**.
  - Step 2** Double-click **Cisco CRS Node Manager**.
  - Step 3** Choose the **Log On** tab.
  - Step 4** Enter and confirm the Windows 2003 administrator password and click **Apply**. Do not include spaces in the password.
- 

## Application subsystem is in partial service

**Symptom** The Engine Status area in the Engine web page shows that the Application subsystem is in partial service.

**Error Message** None.

**Possible Cause** Some applications are invalid.

Performs these actions:

- 
- Step 1** Refer to the CRS trace files to identify the invalid application.
  - Step 2** Validate the corresponding script using the CRS Editor.
-

## CRS Engine is running but calls are not answered

**Symptom** The CRS Engine is running but the CRS system does not answer calls.

**Error Message** None.

**Possible Cause** The JTAPI subsystem is out of service, the trigger is disabled, the application is disabled, the maximum number of sessions or maximum number of tasks were exceeded, or no CTI ports or media channels are available for the trigger.

Complete the following steps:

- 
- Step 1** From the CRS Administration web page, choose **System > Control Center**, pick up the servers on the left panel, and expand the CRS Engine to verify that the JTAPI subsystem is in service.
- If the JTAPI subsystem is in partial service, see the “JTAPI subsystem is in partial service” troubleshooting tip in this guide.
- If the JTAPI subsystem out of service, refer to the “CRS Provisioning for Cisco Unified Communications Manager” section in the *Cisco Customer Response Solutions Administration Guide* for information about configuration.
- Step 2** From the CRS Administration web page, choose **Subsystems > JTAPI** and click the **JTAPI Triggers** hyperlink. If False appears in the Enabled column for the trigger, double-click the trigger, click the **Enabled Yes** radio button, and then click **Update**.
- Step 3** From the CRS Administration web page, choose **Applications > Configure Applications**. If No appears in the Enabled column for the application, double-click the application, click the **Enabled Yes** radio button, and then click **Update**.
- Step 4** In the CRS trace files, verify that the calls do not exceed the maximum number of allowed sessions.
- Step 5** In the CRS trace files, verify that the calls do not exceed the maximum number of allowed tasks.
- Step 6** In the CRS trace files, make sure that there are no messages regarding insufficient free CTI ports or media channels.
- 

## Changing the time on CRS machines results in agents getting logged off

**Symptom** Agents got logged off and Cisco Agent Desktop out-of-service and wrap-up timer delay expired when the time was changed on CRS.

**Error Message** None.

**Possible Cause** If wrap-up timers are being used on Cisco Agent Desktops, changing the CRS time can cause erroneous firings of the timers.

**Recommended Action** Do not change the system time on CRS machines.



## An error message plays when calling a CTI route point

**Symptom** Callers hear a message when calling a CTI route point. The JTAPI subsystem might also be in partial service because the CTI route point cannot load the associated application script.

**Error Message** *I'm sorry, we are currently experiencing system problems.*

**Possible Cause** The application script associated with the CTI route point did not load correctly.

**Recommended Action** Validate the application script in the CRS Editor as follows:

- 
- Step 1** From the CRS Administration web page, choose **Applications > Script Management**.
  - Step 2** Click the script and download it from the Repository.
  - Step 3** Open the script in the CRS Editor.
  - Step 4** Validate the script and save it.
  - Step 5** Choose **Applications > Script Management** and upload the script to the Repository.
  - Step 6** When prompted, click **Yes** to refresh both script and applications.
  - Step 7** Refer to the CRS trace files to verify that the application script was loaded successfully.
  - Step 8** If a script has been validated, saved, and uploaded to the repository, and still will not load, verify that any other dependencies are met. For example, if the script references a custom class, make sure that the class is available to the CRS Engine.
- 

## Changes to applications do not register

**Symptom** You make changes to an application script but the changes are not apparent to callers.

**Error Message** None.

**Possible Cause** The application script was not uploaded to the repository and refreshed.

**Recommended Action** After making a change to an application script, perform the following steps:

- 
- Step 1** Save the application script.
  - Step 2** From the CRS Administration web page, choose **Applications > Script Management** and upload the application script to the repository.
  - Step 3** When prompted, click **Yes** to refresh both script and applications.
-

## Call drops during transfer over gateway

**Symptom** When the CRS system receives a call made over a gateway, the CRS system drops the call if the call is transferred.

**Error Message** None.

**Possible Cause** The H.323 client does not support the Empty Capability Service and the H.323 port on the Cisco Unified Communications Manager is not configured to use a Media Termination Point (MTP).

**Recommended Action** Update the configuration of the Cisco Communications Manager H.323 port to require an MTP and reset the H.323 port.

## H.323 client DTMF digits not detected

**Symptom** When a call originates from an H.323 client, DTMF digits are not collected.

**Error Message** None.

**Possible Cause** The H.323 client only produces in-band DTMF signals. Cisco Unified Communications Manager cannot detect in-band DTMF signals.

**Recommended Action** None.

## Redirected call is disconnected

**Symptom** A redirected call disconnects or a redirected call does not ring the IP phone to which it was directed.

**Error Message** None.

**Possible Cause** Some gateways do not support ringback.

**Recommended Action** Reconfigure the gateway and protocols so that they will support ringback.

Following are the gateways and the protocol for each gateway (note that the protocol is in parentheses):

- 26XX FXO (Media Gateway Control)
- 36XX FXO (36XX FXO Media Gateway Control)
- VG200 FXO (Media Gateway Control)
- DT-24+ (Skinny)
- WS-6608-T1—[Cat6K 8-port T1 PRI] (Skinny)
- WS-6608-E1 [Cat6K 8-port E1 PRI] (Skinny)
- DE-30+ (Skinny)
- AT-2, 4, 8 (AT-2, 4, 8 —)

## The CRS server runs out of disk space

Possible symptoms are:

- An out of memory error occurs on the CRS server.
- Accessing purging or synchronization pages on the Administration UI returns an error.
- Running historical reports returns SQL error 5048.

**Error Message** SQL error 5048.

**Possible Cause** The CRS database log files, the tempdb database, or the tempdb log files have grown large.

**Recommended Action** There are two possible actions you can take:

- 
- Step 1** To manually shrink a CRS database log file, open a command window on the CRS server and type the following commands:
- ```
osql -Usa -Ppassword -ddb_cra, where password is the password for the sa log in to the CRS database.  
USE database_name, where database_name is db_cra.  
GO  
DBCC SHRINKFILE (database_name_log.mdf), where database_name is db_cra.  
GO
```
- Step 2** Alternatively, you can shrink the log files by running the batch file runTruncateHistDBLogs.bat, installed under the wfavvid directory. Depending on the arguments, it shrinks the log files of db\_cra or tempdb.
- Examples:
- Truncate the log files for db\_cra to 10MB:
  - **runTruncatedHistDBLogs "sa" "sa\_password" "db\_cra\_all" 10**
  - Truncate the tempdb transaction log:
  - **runTruncateHistDBLogs "sa" "sa\_password" "tempdb"**
- Additional information can be found about truncating logs in the Managing Historical Reporting Databases section of the *Cisco CRS Administration Guide*.



**Note**

This troubleshooting tip also applies to the CRS Database Problems section and the CRS Historical Reporting Problems section.

---

## CRS Server runs at 100% capacity or is very slow

**Symptom** The CRS server CPU works at or close to 100 percent capacity. DTMF digits are delayed.

**Error Message** None.

One of the following configurations might be causing this problem:

- Trace settings include debugging.
- Cisco Unified Communications Manager polling is enabled. (Polling is enabled by default, but it can consume server resources.)
- You are running many applications on a smaller system simultaneously. For example, you are running Cisco Unified Communications Manager, and Cisco CRS Server, all on a low-end MCS.

**Recommended Action** Complete the following steps:

- 
- Step 1** Turn off debugging as a trace level option. Debugging consumes substantial server resources. Only use debugging as a trace level option when you are actively debugging Cisco CRS.
- Step 2** Turn CRS debugging off if the system is running BHCC higher than 4500.
- Step 3** If you have a very high load with 300 agents, disable all the logs and traces.
- Step 4** If you have very high load with 300 agents, you should redirect logs (for example Unified CM logs) to a different drive where CRS and SQL is installed.
- Step 5** Turn off Cisco Unified Communications Manager polling. Polling enables JTAPI (and therefore the telephony applications that use JTAPI, such as CRS) to detect the addition of devices to an application or user's controlled list. For example, polling can detect when an agent is added to a call center or a CTI port is added to the CRS Engine. If you do turn off polling, Cisco Unified Communications Manager does not update new devices automatically. For example, you must restart the CRS Server after adding a new CTI port or route point to Cisco Unified Communications Manager.
- Step 6** If you are using a smaller system with many applications running at the same time, install the different telephony applications on separate servers or use an MCS-7835.
- Step 7** Defragment the hard disk at regular interval on the CRS machine if the load is very high.
- 

## Database Subsystem goes into partial service

**Symptom** The Database subsystem is in partial service when the Cisco CRS system is configured to use a Sybase database.

**Error Message** None.

**Possible Cause** If the Sybase datasource name that you enter in the Cisco CRS Administration Enterprise Database Subsystem Configuration web page does not match exactly the datasource name in the Windows ODBC DSN configuration window, the database connection will fail and the database will go into partial service.

**Recommended Action** Be sure the Sybase datasource name on the Administration Enterprise Database Subsystem Configuration web page matches the Windows ODBC datasource name.

## JTAPI subsystem is in partial service

**Symptom** The Engine Status area in the Engine web page shows that the JTAPI subsystem is in partial service.

**Error Message** None.

**Possible Cause** The JTAPI client was not set up properly. At least one, but not all, of the CTI ports, route points, or dialog channels (CMT or MRCP) could not initialize.

Complete the following steps:

- 
- Step 1** Refer to the CRS trace files to determine what did not initialize.
  - Step 2** Verify that all CTI ports and CTI route points are associated with the JTAPI user in Cisco Unified Communications Manager.
  - Step 3** Verify that the Cisco Unified Communications Manager and JTAPI configuration IP addresses match.
  - Step 4** Verify that the Cisco Unified Communications Manager JTAPI user has control of all the CTI ports and CTI route points.
  - Step 5** Verify that the application file was uploaded to the repository using the Repository Manager.
- 

## Unable to connect to JTAPI provider

**Symptom** The JTAPI provider is unavailable.

**Error Message** None.

**Possible Cause** The problem might be caused by one of the following:

- Cisco Unified Communications Manager is not running.
- Incorrect JTAPI client version is installed on the CRS server.
- JTAPI user is not configured correctly.
- JTAPI client cannot communicate with the Cisco Unified Communications Manager.

**Recommended Action** Depending upon the cause, do one of the following:

- Troubleshoot the Cisco Unified Communications Manager (refer to *Cisco Unified Communications Manager Administration Guide*).
- Check the JTAPI version on the CRS server by selecting **Start > Programs > Cisco JTAPI > Readme**.
- From the CRS Administration web page, choose **Subsystems > JTAPI**, click the **JTAPI Provider** hyperlink, and then verify that information in the User ID field matches the name of a valid user in Cisco Unified Communications Manager. Verify that information in the Password field is correct.
- Verify that Cisco Unified Communications Manager is running. Configure Cisco Unified Communications Manager using the IP address instead of the DNS name.

## The Simple Recognition step takes the unsuccessful branch

**Symptom** The Simple Recognition step in a script takes the unsuccessful branch even when the word spoken or DTMF key pressed is defined in the grammar.

**Error Message** None.

**Possible Cause** The Simple Recognition step is configured with a set of tags and output points. Most likely, the tag names defined in the step do not exactly match the tag names defined in the grammar used by the step. Such a mismatch can occur when a tag name is defined in the grammar

**Recommended Action** Complete the following steps:

- 
- Step 1** Verify that all tag names defined in the grammar are configured in the Simple Recognition step with matching spelling and case.
- Step 2** If the grammar contains tag names that are not configured in the Simple Recognition step, either configure the same tag name in the Simple Recognition step or remove the tag names from the grammar.
- 

## Calling party and CRS do not have common codec

**Symptom** The calling party hears a fast busy signal when calling into a CRS application.

**Error Message** The CRS log shows `CTIERR_REDIRECT_CALL_PROTOCOL_ERROR`.

**Possible Cause** The calling device's codec is possibly incompatible with CRS.

**Recommended Action** Use the transcoding service on Cisco Unified Communications Manager or ensure that the calling device is using G.711 or G729, depending on what is configured on the CRS server.

## Prompts with incorrect codec being played out

**Symptom** The calling party does not hear prompts.

**Error Message** None.

**Possible Cause** The prompt being played does not match the system's codec.

**Recommended Action** Use the correct version of the prompt.

## Prompt Exception in CRS Engine log file

**Symptom** A prompt exception appears in the Cisco CRS Engine log file.

**Error Message** The exception contains the words *open port failed*.

**Possible Cause** This error is generally caused when the Cisco CRS Engine is incorrectly shut down; for example, from the Windows Task Manager while there are RTP ports in use.

**Recommended Action** If this prompt exception appears, reboot your Cisco CRS Server. To prevent this problem, stop the Cisco CRS Engine. Choose **System > Engine** from the CRS Administration menu bar and then click **Stop Engine**. Alternatively you can use the Windows services console to stop the Cisco CRS Engine.

## CRS Engine does not start

**Symptom** The Cisco CRS Engine does not start and the trace file contains the following message:

**Error Message** *Port already in use.*

**Possible Cause** If another process is using the Cisco CRS Engine default port 1099, the CRS Engine will not start.

From the CRS Administration web page, complete the following steps:

- 
- Step 1** Choose **System > System Parameters**.
  - Step 2** Enter a different port in the RMI Port Number field.
  - Step 3** Stop and then restart the CRS Engine.
- 

## Application subsystem in partial service and application running for an unexpectedly long time

**Symptom** The Application subsystem is in partial service and the Application Tasks real-time report shows an application running for an unexpectedly long time.

**Error Message** None.

**Possible Cause** If an application does not receive a disconnect signal after a call, and the application does not have an error handling mechanism to detect that the call has ended, the Application subsystem might go into partial service. In addition, Application Tasks real-time report might show an application running for an unexpectedly long time.

**Recommended Action** Make sure that the application script includes error handling that prevents infinite retries if a call is no longer present.

## CRS Server and Active Directory integration results in some services being unregistered

**Symptom** Installing Cisco CRS Server into a corporate Active Directory to take advantage of a single logon to access the DESKTOP\_CFG share, instead of creating local logon account and local permissions on the CRS Server, results in some services not being registered. For example, when installing new product features, such as MRCP TTS, or VoIP Monitor Server, some services might not register.

**Error Message** None.

**Possible Cause** Domain security policies can affect the installation, and some services might not get registered. The installation appears to complete without problems.

To correct this problem, complete the following steps:

- 
- Step 1** Remove the CRS server from Active Directory back into a local workgroup and then reboot.
  - Step 2** Log on as the local Administrator, and then run the necessary installer CD.
  - Step 3** Reboot and complete any new setup and configuration.
  - Step 4** Re-add the CRS server back into the Active Directory.
- 

## CRS Real-Time Reporting Problems

This section contains the following troubleshooting tips on CRS Real-Time Reporting problems:

- [Attempting to run a real-time report causes an error, page 8-40](#)
- [After installing JRE, the user receives a message from real-time reporting saying to install JRE, page 8-41](#)

### Attempting to run a real-time report causes an error

**Symptom** The following message appears when you try to run any real-time report from the CRS Administration web page:

**Error Message** *Unable to connect to the server.*

**Possible Cause** The proxy server setting on the Browser impedes underlying RMI communication, or the RTR subsystem is not running.

Complete the following steps:

- 
- Step 1** From Internet Explorer, choose **Tools > Internet Options > Connections > LAN settings** and then uncheck the **Use a proxy server** check box.
  - Step 2** Make sure that the RTR subsystem is running.
-



## After installing JRE, the user receives a message from real-time reporting saying to install JRE

**Symptom** Upon opening a real-time reporting applet, a message box with information about the version of JRE that is running and the required version of JRE appears. The user installs the required JRE version yet still gets this message when opening a real-time report applet.

**Error Message** Message contains the JRE version.

**Possible Cause** The message appears when another version of JRE is installed on the machine as default and is invoked at run time.

**Recommended Action** Uninstall that version of JRE from the Control Panel and reinstall the required JRE version.

## CRS Historical Reporting Problems

This section contains the following troubleshooting tips on CRS Historical Reporting problems:

- [Exported PDF report does not print in landscape orientation, page 8-42](#)
- [User login missing in Windows XP after installing HR client, page 8-42](#)
- [Client and Server security policies do not match, page 8-43](#)
- [Charts do not appear properly in MS Excel format, page 8-43](#)
- [Columns of data missing in report in MS Excel format, page 8-43](#)
- [Records truncated in report in MS Excel format, page 8-43](#)
- [Agent names overwritten on charts, page 8-44](#)
- [RTF Report containing charts has tabular report headings, page 8-44](#)
- [Scheduler icon does not appear on Terminal Services client, page 8-44](#)
- [Reports do not execute at scheduled times, page 8-44](#)
- [Search dialog box and Preview tab appear in English on Windows system with locale set to German, page 8-45](#)
- [Dialog box does not appear as expected when report is exported, page 8-45](#)
- [Error when choosing an option from the Historical Reporting web page, page 8-45](#)
- [Truncated report description in Historical Reports client, page 8-46](#)
- [Scheduled Historical Reports do not run, page 8-46](#)
- [The SQL Command Failed dialog box appears when you try to generate a historical report, page 8-46](#)
- [Some information appears in English on a German system, page 8-47](#)
- [The Historical Reports client computer cannot connect to the CRS server, page 8-47](#)
- [A Database Connection Error 5051 error appears, page 8-47](#)
- [Export file name does not appear in Export dialog box, page 8-48](#)
- [Cannot point to local applications from the Database Server Configuration page, page 8-48](#)

- Attempt to log in to the CRS Server from the Historical Reporting client fails and an error message is returned, page 8-49
- Only three report templates available for Unified CCX Standard, page 8-49
- Discrepancy in number of ACD calls shown on custom reports, page 8-50
- Priority Summary Activity Report chart prints only partly in color, page 8-50
- Scheduled Historical Reports do not run and message appears in CiscoSch.log file, page 8-50
- Historical Reporting Client window shows nothing in user drop-down menu, page 8-51
- Historical Reporting Client stops working; attempt to log in again results in error messages, page 8-51
- Scheduler DOS exception error received when running a custom report, page 8-52
- Columns displaced in Excel spreadsheet when exporting a report, page 8-52
- Scheduler icon does not appear in Windows status bar, page 8-52
- Error message appears indicating connection with database is broken, page 8-53

## Exported PDF report does not print in landscape orientation

**Symptom** A report that has been exported in Portable Document Format (PDF) does not print in landscape orientation.

**Error Message** None.

**Possible Cause** Limitation of PDF viewer.

**Recommended Action** Print the document in portrait orientation.

## User login missing in Windows XP after installing HR client

**Symptom** No user login exists in Windows XP after installing the Historical Reports client.

**Error Message** None.

**Possible Cause** The Windows XP system hides the Administrator user icon when no other user account exists in the system.

**Recommended Action** Do one of the following

- Restart the machine. When you see the Windows XP login screen (with the user icon turned on), press **Ctrl-Alt-Del** twice and then choose the Administrator User ID.
- Create a new user account in the XP system other than Administrator.

## Client and Server security policies do not match

**Symptom** The Cisco CRS Historical Reports client does not work on Windows 2000 Professional when the Cisco CRS Server is on the Windows 2003 operating system if the security policies on the client and server do not match.

**Error Message** None.

**Possible Cause** The client and server security policies do not match.

To verify that the security policies match, do the following:

- 
- Step 1** Select **Start > Programs > Control Panel > Administrative Tools > Local Security Policy** and note the Network Security: LAN Manager Authentication setting.
- Step 2** Next, go to the Local Security Settings window on the Historical Reports client PC and verify that the Security: LAN Manager Authentication setting is identical to that on the Cisco CRS Server.

## Charts do not appear properly in MS Excel format

**Symptom** Charts do not appear properly in a report that has been exported in Microsoft Excel format.

**Error Message** None.

**Possible Cause** Limitation of the export function.

**Recommended Action** Do not include charts in reports that are exported in Microsoft Excel format.

## Columns of data missing in report in MS Excel format

**Symptom** Columns of data are missing in a report that has been exported in Microsoft Excel format.

**Error Message** None.

**Possible Cause** Limitation of the export function.

**Recommended Action** Make sure that the Extended version of Excel 7.0 is installed on the computer on which you perform the export procedure.

## Records truncated in report in MS Excel format

**Symptom** Some records are truncated in a report that has been exported in Microsoft Excel format.

**Error Message** None.

**Possible Cause** Limitation of Microsoft Excel. Excel 7.0 (95) is limited to reports with 16,384 records. Excel 8.0 (97) and Excel 2000 are limited to reports with 65,536 records. Records that exceed these limits are truncated in the Excel file.

**Recommended Action** Be aware of the size of the report when exporting it in Microsoft Excel format.

## Agent names overwritten on charts

**Symptom** Agent names overwrite each other on charts that appear with the Agent Detail Report, the Agent Login Logout Activity Report, or the Agent Summary Report.

**Error Message** None.

**Possible Cause** The report contains information for more than 70 agents.

**Recommended Action** Do not include charts with the report if you are generating information for more than 70 agents, or use filter parameters to limit the report to information for no more than 70 agents.

## RTF Report containing charts has tabular report headings

**Symptom** A report that has been exported in Rich Text Format (RTF) includes tabular report headings on pages that contain charts.

**Error Message** None.

**Possible Cause** Limitation of the export function.

**Recommended Action** Be aware of this limitation when exporting reports in RTF.

## Scheduler icon does not appear on Terminal Services client

**Symptom** The Scheduler icon does not appear on the Terminal Services client when you run the Cisco CRS Historical Reports client under a Terminal Services session.

**Error Message** None.

**Possible Cause** By design, only one instance of the Scheduler can run on a Cisco CRS Historical Reports client system.

**Recommended Action** None.

## Reports do not execute at scheduled times

**Symptom** Schedules for generating reports do not execute at the expected time.

**Error Message** None.

**Possible Cause** The Cisco CRS Historical Reports client system clock has been changed but the Scheduler has not been restarted.

**Recommended Action** Stop and restart the Scheduler. See the *Cisco CRS Historical Reports User Guide* for more information.

## Search dialog box and Preview tab appear in English on Windows system with locale set to German

**Symptom** When running the Cisco CRS Historical Reports client on a computer with an English version of Windows for which the system locale has been set to German, the Search dialog box and the Previews on the Report Viewer still appear in English.

**Error Message** None.

**Possible Cause** Limitation of the Report Viewer.

**Recommended Action** Install a German version of the operating system.

## Dialog box does not appear as expected when report is exported

**Symptom** The Exporting Records dialog box does not appear as expected when a scheduled report is exported.

**Error Message** If the report is being exported, the following message will appear at or near the end of the file:*Note: Getting report contents may take considerable amount of time based on the size of the contents...Pls wait...*

**Possible Cause** This dialog box appears only after the client system fetches the required database records. For a large report, fetching records can take a long time.

**Recommended Action** Wait for the export operation to complete. Or, check the CiscoSChPrintExport.log file.

## Error when choosing an option from the Historical Reporting web page

**Symptom** An error message appears when you choose an option from a web page in Cisco Historical Reporting.

**Error Message** Not defined.

**Possible Cause** The Cisco CRS Node Manager service or the MSSQLServer service might not be running, or there might be a problem connecting to the CRS database.

**Recommended Action** Complete the following steps:

- 
- Step 1** Make sure that the Cisco CRS Node Manager service is running on the CRS server.
  - Step 2** Make sure that the MSSQLServer service is running on the CRS server.
  - Step 3** On the CRS server, choose **Start > Settings > Control Panel > Administrative Tools > Data Sources (ODBC)** and make sure that ODBC System DSNs dsn\_cra and DSN\_SCH\_DB are properly configured.
-

## Truncated report description in Historical Reports client

**Symptom** Historical Report(s) in a localized version, such as Spanish, has the report description truncated in the Historical Reports client user interface.

**Error Message** None.

**Possible Cause** The report description seems to appear incomplete in the description box of the Historical Reports client user interface.

**Recommended Action** Click the description box of the Historical Reports client user interface, and scroll to view the complete localized text.

## Scheduled Historical Reports do not run

**Symptom** Historical Reports scheduled through the Historical Reports client do not run.

**Error Message** None.

**Possible Cause** The problem could be caused by an issue in the Historical Reports client schedule settings or in the Historical Reports Scheduler connectivity.

Complete the following steps:

- 
- Step 1** Check whether the schedules are listed in the Historical Reports client. To do this, launch the Historical Reports client, and go to **Settings > Scheduler**. In the Scheduled Reports dialog box verify that the "Daily" recurring schedules are listed.
  - Step 2** By default, the "daily" schedule ends after running one occurrence. To keep them running forever, select "No end date" in the Schedule Configuration dialog box.
  - Step 3** Check the proxy server configuration in the web browser. Open the Internet Explorer browser and go to **Internet Options > Connections > LAN settings**. Check to be sure the **Use a proxy server** check box is selected. If so, click **Advanced** and add the CRS server to the list of exceptions.
- 

## The SQL Command Failed dialog box appears when you try to generate a historical report

**Symptom** The CRS Historical reports client computer displays the SQL Command Failed dialog box when you try to generate a historical report. This dialog box specifies an error number, *n*.

**Error Message** *Error: <number>*

**Possible Cause** This error can occur in a variety of situations.

**Recommended Action** On the computer on which you received the SQL Command Failed dialog box, open the most recent Historical Reports log file. Search for the error number. The cause of the error will appear near the error number. You can use this information to resolve the problem.

## Some information appears in English on a German system

**Symptom** On a CRS Historical Reports client computer with an English version of Windows for which the system locale has been set to German, the Search dialog box and the Preview tab on the Report Viewer still appear in English.

**Error Message** None.

**Possible Cause** Limitation of the Report Viewer.

**Recommended Action** Install a German version of the operating system

## The Historical Reports client computer cannot connect to the CRS server

**Symptom** The CRS Historical Reports client computer is unable to connect to the CRS server. The Historical Reports Client log file shows the following message:

**Error Message** *Not associated with a trusted connection.*

**Possible Cause** SQL server is not being accessed with the proper authentication.

**Recommended Action** Perform the following steps on the CRS Historical Reporting client computer:

- 
- Step 1** Choose **Start > Programs > Microsoft SQL Server n > Enterprise Manager**, where *n* is a version number.
  - Step 2** Double-click **Microsoft SQL Servers**.
  - Step 3** Double-click **SQL Server Group**.
  - Step 4** From the SQL Server group, right-click the name of the server on which the CRS databases reside.
  - Step 5** Choose **Properties**.
  - Step 6** Choose the **Security** tab.
  - Step 7** Click the **Windows only** radio button.
  - Step 8** Click **OK**.
- 

## A Database Connection Error 5051 error appears

**Symptom** When you try to log into the CRS Historical Reporting client software on the client computer, a Database Connection Error 5051 is displayed.

**Error Message** Error 5051

**Possible Cause** Network connectivity is down or the client connection setting is incorrect.

**Recommended Action** Complete the following steps:

- 
- Step 1** From the Windows Control Panel on the CRS Historical reports client computer, choose **Data Sources (ODBC)**.

- Step 2** Create a DSN to the db\_cra database on the CRS server to which the client computer is attempting to connect. Make sure the client computer and the CRS server have the same Administrator password. While pointing the ODBC data source to the CRS server, use `<crsServerNameOrIP>\CRSSQL` where `crsServerNameOrIP` is the named instance. For example, if your CRS server name is CiscoCRSserver1, in the Server input box, type `CiscoCRSserver1\CRSSQL`. CRS uses NT authentication, so choose the **Windows NT authentication** radio button.
- Step 3** If the DSN cannot be created, verify that network connectivity exists between the CRS Historical Reports client computer and the CRS server.
- Step 4** If you are able to connect successfully using the DSN, update the hrcConfig.ini file on the client computer with the appropriate network library.
- 

## Export file name does not appear in Export dialog box

**Symptom** A default export file name does not appear in the Export dialog box.

**Error Message** None.

**Possible Cause** If you click the Export Report tool in the Report Viewer on a Cisco CRS Historical Reports client computer on which the language is set to Simplified Chinese, the Export dialog box will not contain a default export file name.

**Recommended Action** The name of the report is shown on the header of the report in the Report Viewer. In the Export dialog box, specify a name for the exported report using the report name; for example, you can name your PDF report `<ReportName>_<startdatetime>_<enddatetime>.pdf`.

## Cannot point to local applications from the Database Server Configuration page

**Symptom** With a Historical Reports Database Server installed, the user cannot point to the CRS local database from the Database Server Configuration page.

**Error Message** None.

**Possible Cause** Once a Historical Reports Database Server (remote database) is configured from Cisco CRS, the user cannot point back to CRS.

**Recommended Action** None. This is working as designed. To go back to a single-box solution (and lose the Historical Reports Database Server configuration in CRS), uninstall Cisco CRS and reinstall it (and accept the dropping of the CRS databases when prompted).



## Attempt to log in to the CRS Server from the Historical Reporting client fails and an error message is returned

**Symptom** The CRS servlet service or web server is not reachable from the client machine.

**Error Message** *Request timed out.*

**Possible Cause** An authentication request timeout has occurred. The client log indicates Request timed out error.

**Recommended Action** Complete the following steps:

- 
- Step 1** On the CRS server, check to be sure the web server and servlet service are running. On the client, check your browser Internet options for the connection setting.
  - Step 2** Make sure you are able to connect to the CRS Administration web page from the client machine. Refresh the page to make sure it is not cached.
  - Step 3** If the error persists after doing the above, modify your client hrcConfig.ini file by updating AuthReqTimeOut to a larger value than the current one (default is 15 seconds).
  - Step 4** Restart your client and attempt to log in again.
- 

## Only three report templates available for Unified CCX Standard

**Symptom** When configuring Unified CCX Standard for historical reporting, only three report templates are available—IVR Application Performance Analysis, IVR Traffic Analysis, and Detailed Call by Call CCDR.

**Error Message** None.

**Possible Cause** The historical reporting client might not have privileges assigned to view all the Unified CCX Standard reports.

**Recommended Action** From the Cisco CRS Administration menu, select **Tools > Historical Reporting** and check to be sure the license provides eight Unified CCX reports and two IVR reports.

## Discrepancy in number of ACD calls shown on custom reports

**Symptom** When running user-created custom reports, one report shows the number of calls for each hour of the day, totaling 244 calls. The other report shows the number of ACD calls for the entire report period, totalling 243 calls. Such discrepancies happen for other days as well, the difference being as many as four calls.

**Error Message** None.

**Possible Cause** If some ACD calls are transferred, the result can be that two or more call legs fall in different hours of the day. Therefore, the call is counted once in the first report and twice in the second.

**Recommended Action** The software is working as designed. If this is not acceptable, you could alternatively count call legs, instead of entire calls, and the totals on the first report and the second report will match. Then “select count distinct sessionID” becomes “select count distinct (sessionID, sessionSeqNum) pairs.” However, be advised that this would change the definition of counting calls for the entire call center.

## Priority Summary Activity Report chart prints only partly in color

**Symptom** The outer edges of the Priority Summary Activity Report pie chart print in color, but the middle of the chart does not.

**Error Message** None.

**Possible Cause** This problem occurs when you print directly from the Cisco CRS Historical Report Client Viewer and is related to the third-party printing driver from Crystal Decisions.

**Recommended Action** Export the report to PDF output or any other supported file format and print from the output file.

## Scheduled Historical Reports do not run and message appears in CiscoSch.log file

**Symptom** If you are using a proxy service in Internet Explorer on the CRS Historical Reports client system, scheduled historical reports might not run and you might see a message in the CiscoSch.log file.

**Error Message** *[CRS\_DATABASE] entry not found in the properties file. Failed to validate user or get MaxConnections of database value.*

**Possible Cause** You are attempting to run the reports from a proxy service.

If this situation occurs but you can run the report directly from the CRS Historical Reports client system, follow these steps:

- 
- Step 1** From Internet Explorer on the Historical Reports client system, choose **Tools > Internet Options**.
  - Step 2** Click **Connections**.
  - Step 3** Click **LAN Settings**.
  - Step 4** The Use a Proxy Service check box will be checked if you are using a proxy server.

- Step 5** Click **Advanced**.
- Step 6** In the **Do not use proxy server for addresses beginning with field**, enter the IP address of the Cisco CRS server to which the Historical Reports client system logs in.
- Step 7** Click **OK** as needed to save your changes.
- 

## Historical Reporting Client window shows nothing in user drop-down menu

**Symptom** When selecting **Tools > Historical Reporting** from the Cisco CRS Administration menu, nothing appears in the user drop-down menu.

**Error Message** None.

**Possible Cause** Privileges have not been assigned to the Cisco Unified Communications Manager user. Assign privileges to the Cisco Unified Communications Manager user who needs historical reporting privileges.

---

- Step 1** Log in to the Historical Reporting Client with the user name of the Cisco Unified Communications Manager user. A dialog box with a message asking if you want to set the privileges for that user in CRS Administration appears.
- Step 2** Click **Yes**. The Historical Reporting Privileges page appears.
- Step 3** Assign historical reporting privileges to the user. The proper logLevel (3) is required.



**Note** The User Maintenance and Historical Users pages use the same underlying directory API.

---

## Historical Reporting Client stops working; attempt to log in again results in error messages

**Symptom** Although no changes were made to the server or network, the CRS Historical Reporting Client suddenly stops working. When attempting to log in again, the user receives a series of error messages.

**Error Message** A series of messages appear.

**Possible Cause** The client authentication request timed out.

Complete the following steps:

---

- Step 1** On the CRS Server, check that your web server and servlet service is running. On the client, check you browser Internet options for the connection setting.
- Step 2** Make sure you are able to connect to the CRS Administration web page from the client machine. Refresh the page to be sure it is not cached.

- Step 3** If after successfully connecting to the CRS Administration web page the client error persists, modify your client hrcConfig.ini file by updating AuthReqTimeOut in the General section to a larger value than the current one (default value is 15 seconds).
- Step 4** Restart your Cisco CRS Historical Reports client and attempt to log in again.
- 

## Scheduler DOS exception error received when running a custom report

**Symptom** When running a custom report, the following error message appears in the CiscoSchPrintExport.log file:

**Error Message** *ERROR Descripton=Dos error, thread in Export method=Exception.*

**Possible Cause** The DOS error can occur when the database is not accessible from the client machine at the scheduled report time.

**Recommended Action** Schedule a report with an export format other than CSV and check the result for the same report.

## Columns displaced in Excel spreadsheet when exporting a report

**Symptom** When exporting an Agent Summary Report (by agent) to a Microsoft Excel spreadsheet, the Avg and Max statistics column headings are displaced.

**Error Message** None.

**Possible Cause** Information can be displaced if the extended Excel format is not used.

**Recommended Action** Use the Microsoft Excel 7. (XLS) Extended format in the Export dialog box while exporting the report to Excel. This will pop up a second dialog box. Use the default settings.

## Scheduler icon does not appear in Windows status bar

**Symptom** The Scheduler icon does not appear in the Windows status bar under a terminal service session.

**Error Message** None.

**Possible Cause** This system is working as designed while running under a terminal service session.

**Recommended Action** If you need to access features from the Scheduler icon, you must do so from the computer on which the Scheduler is installed.

## Error message appears indicating connection with database is broken

**Symptom** During generation of an Agent Detail Report or an Abandoned Call Detail Activity Report, an error message might appear indicating that the connection with the database has been broken.

**Error Message** *Connection with database is broken.*

**Possible Cause** This message might appear if the system is under a heavy load when either of these reports is generated. A heavy load can include tens of thousands of calls during the report period or the maximum number of skills configured in the system.

**Recommended Action** To work around this problem, reduce the length of the report period or reconfigure CSQs so that there are more CSQs with fewer skills each.

## Automatic Speech Recognition (ASR) Problems

This section contains the following troubleshooting tips on Media Resource Control Protocol (MRCP) ASR problems:

- [Names are not recognized, page 8-53](#)
- [Recognition never times out, page 8-54](#)
- [Alternate pronunciations and nicknames are not recognized, page 8-54](#)
- [Reduced call completion rate under heavy load while using an MRCP ASR Group, page 8-54](#)
- [MRCP ASR subsystem is out of service, page 8-55](#)
- [Changes, additions, or deletions to MRCP ASR Providers, MRCP Servers, or Groups do not take effect, page 8-55](#)
- [Calling a route point with an MRCP ASR Dialog Group results in default treatment, page 8-56](#)

### Names are not recognized

**Symptom** For calls that have been allocated a channel from a MRCP ASR Dialog Control Group, names are not consistently recognized by the Name to User step.

**Error Message** *None.*

**Possible Cause** The Name Grammar Generator was not run after a new CRS installation or after you added or changed an existing name.

**Recommended Action** Run the Name Grammar Generator.

Complete the following steps:

- 
- Step 1** Select **Tools > User Management > Name Grammar Generation**. (Run the Name Grammar Generator at off-peak times.)
- Step 2** Verify that you have select the correct Grammar Variant. If you use Nuance, select "Nuance." If you use any other vendor, select "Standard," and in the case of a mixed environment, select "Both."
-

## Recognition never times out

**Symptom** While waiting for speech input, speech recognition waits indefinitely.

**Error Message** None.

**Possible Cause** This problem is caused by setting the initial timeout value to 0 (zero). The problem will occur only if the ASR provider is Nuance. Nuance defines an initial timeout value of zero to mean that it will never time out. Other vendors interpret this value to mean that it must time out immediately.

**Recommended Action** If an immediate timeout is required, do the following: When using Nuance as the ASR software provider, set the initial timeout value to the smallest value greater than 0 (zero). For other ASR vendors, simply set the initial timeout to 0 (zero).

## Alternate pronunciations and nicknames are not recognized

**Symptom** Alternate pronunciations and nicknames are not recognized in the Name to User step when used in the ASR mode.

**Error Message** None.

**Possible Cause** The Name Grammar Generator was not run after a new CRS installation or after you added or changed a nickname or pronunciation in the user administration page.

**Recommended Action** Run the Name Grammar Generator.

Complete the following steps:

- 
- Step 1** Select **Tools > User Management > Name Grammar Generation**. (Run the Name Grammar Generator at off-peak times.)
  - Step 2** Verify that you have select the correct Grammar Variant. If you use Nuance, select "Nuance." If you use any other vendor, select "Standard," and in the case of a mixed environment, select "Both."
- 

## Reduced call completion rate under heavy load while using an MRCP ASR Group

**Symptom** Under heavy load, calls that utilize a channel from an MRCP ASR Dialog Control Group, can have a reduced call completion rate.

**Error Message** None.

**Possible Cause** The MRCP channels utilized by calls can take some additional time to clean up all the sessions set up with MRCP resources.

**Recommended Action** Overprovision MRCP ASR Dialog Control Groups by a factor of 1.2 or by an additional 20 percent. For example, if your application requires 100 MRCP ASR channels, then configure 120 MRCP ASR channels. Complete the following steps:

- 
- Step 1** Select **Subsystems > MRCP ASR > MRCP ASR Provider Configuration**.
- Step 2** Click the **MRCP ASR Dialog Groups** link on the left panel
- Step 3** Either click the **Add MRCP ASR Dialog Control Group** link or select an existing group.
- Step 4** Modify the value of **Max.Number of Sessions** as prescribed above. Overprovision this value by a factor of 1.2 or by an additional 20 percent.
- Step 5** Click **Update** or **Add** as appropriate.
- 

## MRCP ASR subsystem is out of service

**Symptom** The Engine Status area in the Engine web page shows that the MRCP ASR subsystem is out of service.

**Error Message** None.

The cause could be one of the following: .

- The MRCP Provider and Server are not configured from the MRCP ASR Configuration web page.
- The MRCP ASR Server(s) is down or unreachable.
- The Speech Server is not configured from the MRCP ASR Configuration web page

**Recommended Action** Complete the following steps:

- 
- Step 1** Verify that the MRCP Provider and Servers are configured through the MRCP ASR Configuration web page.
- Step 2** Verify that the MRCP ASR servers are up and reachable.
- 

## Changes, additions, or deletions to MRCP ASR Providers, MRCP Servers, or Groups do not take effect

**Symptom** Changes made to either MRCP ASR Providers, MRCP Servers, or Groups through CRS Administration do not seem to take effect.

**Error Message** None.

**Possible Cause** When you make any configuration changes (including additions or deletions) to either MRCP ASR Providers, MRCP Servers, or Groups including changes to locales through CRS Administration, these changes are made in the Config datastore and do not affect the data that is already loaded by the engine. If you wish to make these changes effective immediately without having to restart the engine, the changes need to be explicitly reloaded by the MRCP ASR Subsystem.

**Recommended Action** If you want the changes to take effect immediately without having to restart the engine, do the following:

- 
- Step 1** If you want to reload the data associated with a single MRCP Provider, Server, or Group, go to **Subsystems > MRCP ASR** to access the MRCP ASR Configuration page and click the refresh icon for the corresponding provider. You can also use this step to load a newly created MRCP ASR Provider.
- Step 2** If you want to reload all providers, go to **Subsystems > MRCP ASR** to access the MRCP ASR Configuration page and click **Refresh All**.
- 

## Calling a route point with an MRCP ASR Dialog Group results in default treatment

**Symptom** The customer gets the default treatment when calling a route point with an MRCP ASR Dialog Group.

**Error Message** None.

The cause might be one of the following:

- No server is configured for this dialog group. The MRCP ASR Dialog Group refers to a specific MRCP ASR Provider. Each MRCP ASR Provider must have at least one reachable server configured in order to be IN\_SERVICE.
- None of the servers for the MRCP ASR Provider can provide all the languages required by the MRCP Dialog Group.

**Recommended Action** Depending upon the cause, do one of the following:

- Ensure that a server is configured and reachable for the MRCP ASR Provider being used by the MRCP ASR Dialog Group.
- When configuring an MRCP ASR Provider, more than one MRCP ASR Server can be associated with that Provider. Each server can support a different set of languages. For example, server A supports en\_US and server B supports es\_ES. When configuring an MRCP Dialog Group in the Provider that contains these two servers, you are provided with a list of Enabled Languages. For this example, the list contains both en\_US and es\_US because there are servers for the specified provider that support these languages.
- Normally the user interface will prevent you from selecting both en\_US and es\_ES for the group because neither server supports both languages; however, it is possible to create an illegal situation if at least one of the servers starts out supporting all the languages installed. The UI will allow you to select all languages for the group as well because there is at least one server in the Provider that supports all languages. It is possible to go back to that server and remove support for one of the languages. If you do this, the group is not changed and now needs a language combination that neither server can provide.
- To check for this, access the CRS Administration page for the group in question. Click **Update**. If you see the message, *There are no servers to satisfy this selection of languages*, then you need to change the languages selected to a set that is supported by at least one of the servers in the Provider.

## Outbound Problems

This section contains the following troubleshooting tips on Outbound problems:

- [Agent does skip or skip-close but does not stay reserved, page 8-57](#)



- [Agent is not getting callbacks, page 8-57](#)
- [Agent is ready but does not get an Outbound call for up to Two minutes, page 8-57](#)
- [Errors placing Outbound calls, page 8-58](#)
- [Not all contacts get imported, page 8-58](#)
- [On the Campaigns Configuration web page, the available CSQs list is empty even though there are CSQs configured under the RmCm subsystem, page 8-58](#)
- [Outbound buttons do not show up on CAD, page 8-58](#)
- [Outbound buttons show up but are disabled on CAD, page 8-59](#)
- [Outbound calls are not getting dialed, page 8-59](#)
- [Outbound call volume is low, page 8-59](#)
- [Outbound System Service is not in service, page 8-60](#)
- [RTR Outbound reports do not show all possible reclassification, page 8-60](#)

## Agent does skip or skip-close but does not stay reserved

**Symptom** Agent does skip or skip-close but does not stay reserved.

**Error Message** None.

**Possible Cause** If the Outbound subsystem does not have contacts in memory, the agent will be no longer reserved for Outbound calls and the agent will be available or not available depending on the auto-available setting for the agent.

**Recommended Action** Make sure the Outbound subsystem has contacts in memory and that the agent has an auto-available setting.

## Agent is not getting callbacks

**Symptom** Agent is not getting callbacks.

**Error Message** None.

**Possible Cause** The system time on the Cisco Agent Desktop (CAD) could be incorrect.

**Recommended Action** Ensure that the system time on the CAD is correct.

## Agent is ready but does not get an Outbound call for up to Two minutes

**Symptom** Agent is ready but does not get an Outbound call for up to Two minutes.

**Error Message** None.

**Possible Cause** This is as designed. It can take up to two minutes for the Outbound subsystem to detect an available agent and get the Outbound contact from the database to present to that agent.

**Recommended Action** No action needed.

## Errors placing Outbound calls

**Symptom** Errors placing Outbound calls.

**Error Message** The error message depends on the error.

**Possible Cause** The Dialing prefixes on the General Configuration web page could be inaccurate.

**Recommended Action** Check the Dialing prefixes on the General Configuration web page.

## Not all contacts get imported

**Symptom** Not all contacts get imported.

**Error Message** None

**Possible Cause** If the contacts being imported contain the same phone number, such duplicate contacts are overwritten, resulting in a fewer number of contacts being imported into the subsystem.

**Recommended Action** Make sure the imported contacts do not have duplicate numbers.

## On the Campaigns Configuration web page, the available CSQs list is empty even though there are CSQs configured under the RmCm subsystem

**Symptom** On the Campaigns Configuration web page, the available CSQs list is empty even though there are CSQs configured under the RmCm subsystem.

**Error Message** None

**Possible Cause** The assigned CSQs list on the General Configuration web page is empty.

**Recommended Action** Ensure that the assigned CSQs list is not empty on the General Configuration web page. Only assigned CSQs on the General Configuration web page will be on the Available CSQs list on the Campaign web page.

## Outbound buttons do not show up on CAD

**Symptom** Outbound buttons do not show up on the CAD.

**Error Message** None

**Possible Cause** The Direct Preview checkbox on the Cisco Desktop Administrator (CDA) is not checked.

**Recommended Action** Ensure that the Direct Preview checkbox is checked on the CDA.

**Recommended Action** To display the additional buttons for the Outbound feature on CAD, the Direct Preview option must be enabled on CDA. See the *Cisco Desktop Administrator's User Guide* and the *Cisco Agent User Guide*, Release 6.4 for Unified CCX, Release 5.0(x).

## Outbound buttons show up but are disabled on CAD

**Symptom** Outbound buttons show up but are disabled on CAD.

**Error Message** None

**Possible Cause** The Enterprise Data Service on the server is down.

**Recommended Action** On the CRS server, ensure that Enterprise Data Service is running.

## Outbound calls are not getting dialed

**Symptom** Outbound calls are not getting dialed

**Error Message** None

**Possible Cause** The Outbound subsystem service could be down, the campaign not enabled, the campaign does not have the correct start and end times, the customer dialing time range is incorrect, inbound calls are taking precedence, and/or contacts might not have been imported for the campaign.

**Recommended Action** Make sure that:

- Agents are available in the CSQ(s) assigned to the campaign.
- The Outbound System Service is in service. If you have a two-node cluster, then ensure that Config Data Store is running on both nodes.
- The campaign is enabled.
- The campaign has correct start and end times.
- The customer dialing time range is correct.
- Non-Cisco IP Phone Agent (non-IPPA) agents are available (Inbound calls take precedence).
- Contacts have been imported for the campaigns.

## Outbound call volume is low

**Symptom** The number of Outbound calls is low.

**Error Message** None

**Possible Cause** The CSQ percentage allocation for Outbound calls on the General Configuration web page is low.

**Recommended Action** Check the CSQ percentage allocation on the General Configuration web page and increase it if necessary.

## Outbound System Service is not in service

**Symptom** The Outbound System Service is not in service.

**Error Message** None

**Possible Cause** The Outbound license has not been uploaded, not all Config Data Stores are running and the two MSSQL services are not running, and/or the RmCm subsystem is not in service.

**Recommended Action** Check that:

- The Outbound license is uploaded (An engine restart is required after the license is uploaded).
- All Config Data Stores are up and the 2 MSSQL services are running.
- The RmCm subsystem is in service.

## RTR Outbound reports do not show all possible reclassification

**Symptom** RTR Outbound reports do not show all possible reclassification.

**Error Message** None

**Possible Cause** This is by design. Not all reclassification categories are displayed.

**Recommended Action** You can get the complete list of reports from the the CRS Historical Reports. See the *Cisco Customer Response Solutions Historical Reports User Guide* and the *Cisco Customer Response Solutions Administration Guide* the *Managing Cisco CRS Historical Reporting* chapter.

## Text-to-Speech (TTS) Problems

This section contains the following troubleshooting tips on MRCP TTS problems:

- [Provider becomes IN\\_SERVICE immediately, page 8-61](#)
- [A TTS Prompt will not play, page 8-61](#)
- [A TTS prompt is not recognizable, page 8-62](#)
- [MRCP TTS subsystem is out of service, page 8-62](#)
- [Long TTS prompts consume significant memory on CRS Server, page 8-62](#)
- [Non-UTF-8 characters needed for some languages, page 8-63](#)
- [A .wav file prompt playback is garbled when played by a TTS server, page 8-63](#)
- [Changes, additions, or deletions to MRCP TTS Providers, MRCP Servers, locales, or genders do not take effect, page 8-64](#)

## Provider becomes IN\_SERVICE immediately

**Symptom** When creating an ASR/TTS provider, its status becomes IN\_SERVICE immediately. This happens even before creating any servers for it.

**Error Message** The ASR/TTS provider status incorrectly shows IN\_SERVICE.

**Possible Cause** After deleting a provider and all the servers along with it, if a new provider is created, it continues to use the previous configuration and does not get refreshed.

**Recommended Action** Click **Refresh** or **Refresh All** for that provider. This will cause the status of the provider to go OUT\_OF\_SERVICE as expected.

## A TTS Prompt will not play

**Symptom** Callers do not hear a TTS prompt when a TTS prompt is expected.

**Error Message** None.

The cause of the problem might be one of the following:

- The language specified in the Override Language field in the TTS Prompt step is not available.
- The text referenced in the Text Input expression is larger than 20 KB.
- There are not enough MRCP TTS licenses for the MRCP TTS Provider that is being used. Licensing can be implemented in different ways by different MRCP TTS vendors. It may happen that depending on the licensing scheme of the vendor there may not be enough MRCP TTS licenses configured for the language being used.
- When using multiple TTS providers, each with a different set of supported languages, the appropriate TTS provider (the one that supports the desired language) might not get used. This might be because the provider is not selected as the Default TTS provider and therefore some other provider might get used.

**Recommended Action** Depending upon the cause, do one of the following:

- If the language specified is not available, from the CRS Administration web page, choose **Subsystems > MRCP TTS** and check whether the MRCP TTS server for the Override Language is configured. If it is not, configure a new MRCP TTS server with the desired language and then reload the corresponding MRCP Provider.
- Text larger than 20 KB is not allowed. Make sure that you are using less than 20 KB of text.
- If necessary, obtain a license for additional MRCP TTS ports from the MRCP TTS vendor.
- If the default TTS provider is not being used, configure the Default TTS Provider field using CRS Administration. Go to **System > System Parameters** and select the desired TTS provider. Or using the CRS Editor Create TTS Prompt step, explicitly specify the desired TTS provider in the Override TTS Provider field. If using VXML scripts, specify the desired TTS provider for Nuance Vocalizer 3.0, and then configure it as follows:
- `<property name="com.cisco.tts.provider" value="Nuance Vocalizer 3.0"/>`

## A TTS prompt is not recognizable

**Symptom** A TTS Prompt cannot be recognized by callers.

**Error Message** None.

**Possible Cause** The language of the text does not match the Override Language in the TTS Prompt step. For example, the text is in English, but the Override Language is Spanish.

**Recommended Action** In the appropriate TTS Prompt step, make sure that the Text Input matches the Override Language Selection.

## MRCP TTS subsystem is out of service

**Symptom** The Engine Status area in the Engine web page shows that the MRCP TTS Subsystem is out of service.

**Error Message** None.

The cause could be one of the following:

- The MRCP Provider and Server are not configured from the MRCP TTS Configuration web page.
- The MRCP TTS Server(s) is down or unreachable.

Complete the following steps:

- 
- Step 1** Verify that MRCP Provider and Servers are configured through the MRCP TTS Configuration web page.
- Step 2** Verify that the MRCP TTS servers are up and reachable.
- 

## Long TTS prompts consume significant memory on CRS Server

**Symptom** Long TTS prompts consume significant memory on the Cisco CRS Server.

**Error Message** None.

**Possible Cause** Long text files will increase memory usage on the CRS Server. For example, a 5 KB text file requires a 2.5 MB audio file. On a system with 40 TTS ports, this scenario can consume approximately 120 MB of memory.

**Recommended Action** If you are using long text files, make sure to provision your system appropriately.

## Non-UTF-8 characters needed for some languages

**Symptom** When using TTS for some languages, such as French or Spanish, characters are needed that are not in the UTF-8 character set. For example: *ç, é* or *ñ* if not handled correctly, will cause the TTS server to generate an error message, and the prompt will not be heard.

**Error Message** None.

**Possible Cause** By default, most TTS engines expect to receive characters only in the UTF-8 character set, which are generally only those characters that are in the ASCII character set. Some characters in languages like French or Spanish do not belong to that set, such as *ç, é* or *ñ*. When such characters are required the script writer must specify the appropriate encoding explicitly. For most languages, use the ISO-8859-1 encoding, unless otherwise specified. TTS vendors document the different ISO encodings required by their TTS engines for different languages.

**Recommended Action** In order to specify such encoding, you must use SSML markup; therefore, you cannot use plain text. The following example shows how character coding can be specified:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<say>
Buonas tardes. Le estoy hablando en español.
</say>
```

This can be provided in a file or can be specified in a TTS text expression in a Workflow step. When using the Expression Editor in the Workflow Editor, certain characters must be "escaped" in order to be evaluated properly. Enter the same text as follows when specified explicitly in a text expression for TTS:

```
u"<?xml version=\"1.0\" encoding=\"ISO-8859-1\"?>
<say>
Buonas tardes. Le estoy hablando en español.
</say>
```

**Recommended Action** Note the use of the `<text string>` syntax. That allows the use of the `"\"` escape character within the string to escape the quote (`"`) characters. You do not need to escape the non-UTF-8 characters such as the *ñ*.

## A .wav file prompt playback is garbled when played by a TTS server

**Symptom** A .wav file prompt playback is garbled when played out by a TTS server.



### Note

Prompts specified in VXML scripts or prompts created using the workflow CreateTTSPromptStep are played out using TTS. Such prompts can mix text with audio files. Cisco CRS supports wave file formats with RIFF headers. For details on where prompts are played out, see the *Cisco CRS Administration Guide*.

**Error Message** None.

**Possible Cause** Nuance TTS may be configured as the system default TTS provider, in which case, the wave file prompt is played out by Nuance TTS. Nuance TTS does not support RIFF header wave files.

**Recommended Action** Translate the RIFF header wave file into a Sphere header wave file using the utility provided by Nuance. The utility can be found under the Nuance installation folder:

```
<$Nuance>V8.5.0\bin\win32\wavconvert.exe
```

## Changes, additions, or deletions to MRCP TTS Providers, MRCP Servers, locales, or genders do not take effect

**Symptom** Changes made to either MRCP TTS Providers, MRCP Servers, locales, or genders through CRS Administration do not seem to take effect.

**Error Message** None.

**Possible Cause** When you make any configuration changes (including additions or deletions) to either MRCP TTS Providers, MRCP Servers, locales or genders through CRS Administration, these changes are made in the Config datastore and do not affect the data that is already loaded by the engine. If you wish to make these changes effective immediately without having to restart the engine, the changes need to be explicitly reloaded by the MRCP TTS Subsystem.

If you want the changes to take effect immediately without having to restart the engine, do the following:

- 
- Step 1** If you want to reload the data associated with a single MRCP Provider, Server, or associated locales and genders, go to **Subsystems > MRCP TTS** to access the MRCP TTS Configuration web page and click the refresh icon for the corresponding provider. You can also use this step to load a newly created MRCP TTS Provider.
- Step 2** If you want to reload all providers, go to **Subsystems > MRCP TTS** to access the MRCP TTS Configuration web page and click **Refresh All**.
- 

## Serviceability Problems

This section contains the following troubleshootig tips on Serviceability problems:

- [SNMP-based network management tools cannot monitor CRS components, page 8-65](#)
- [File Manager in partial service, page 8-65](#)
- [SNMP traps do not arrive at the trap receiver, page 8-65](#)
- [Syslog messages not received by receiver, page 8-66](#)
- [The Alarm Service does not start, page 8-67](#)
- [Serviceability does not uninstall completely, page 8-67](#)
- [Updating Data with the Serviceability Tool on One Node Does Not Update Other Nodes, page 8-67](#)
- [Virus Scan software slows Call Completion Rate, page 8-68](#)



## SNMP-based network management tools cannot monitor CRS components

**Symptom** You are unable to monitor CRS components with SNMP-based network management tools, such as CiscoWorks.

**Error Message** None.

**Possible Cause** The SNMP subagents that monitor CRS components are not loaded or configured properly, or the SNMP service is not running.

**Recommended Action** Complete the following steps:

- 
- Step 1** Make sure that each subagent has a key under the following SNMP service registry:
- ```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\SNMP\Parameters\ExtensionsAgents
```
- Step 2** Make sure that the subagent DLL exists under the directory specified in the registry. For example, expect the subagent `SnmSysAppAgent` to have a registry under **HKEY\_LOCAL\_MACHINE\SOFTWARE\Cisco Systems, Inc.\SnmSysAppAgent\CurrentVersion** and a path name that points to the location of the `SnmSysApp` subagent `SnmSysAppImpl.dll`.
- Step 3** Make sure that the SNMP service is running on the CRS server. If it is not, start the SNMP service.
- 

## File Manager in partial service

**Symptom** File Manager is found to be in `PARTIAL_SERVICE`. A message similar to the following displays in the MIVR/MADM log messages:

**Error Message** *Class=class.com.cisco.doc.UserDocument.Synchronization status=2005-8-7 14:02:05.36:Synching 1173: Aug 07 14:02:05.797 EDT %MADM-FILE\_MGR-6-RECOVERY\_DETECTED:THREAD:EventQueue.DispatchThread-0-1: Synchronization from Repository to local disk not performed.*

**Possible Cause** RECOVERY of the node is in progress. File Manager does not perform the synchronization of files from RDS (DB) during recovery, and it puts itself in `PARTIAL_SERVICE` until it is notified that RECOVERY is complete.

**Recommended Action** None. Working as designed.

## SNMP traps do not arrive at the trap receiver

**Symptom** The network management system (NMS) does not receive SNMP trap messages.

**Error Message** None.

**Possible Cause** There is a misconfiguration in the SNMP service properties.

**Recommended Action** Perform the following actions:

- 
- Step 1** On the CRS server, choose **Start > Settings > Control Panel > Administrative Tools > Services**.

- Step 2** Double-click **SNMP Services** in the Name field.
- Step 3** In the SNMP Service Properties window, click the **Traps** tab and make sure that you use the correct case and name for the community name. Also, make sure that the IP address or host name of the trap destination is correct.
- Step 4** In the SNMP Service Properties window, click the **Security** tab and make sure that at least one community name is defined and that its rights are **READ ONLY** or **READ WRITE**. Do not use “public” community name as it might lead to security holes in your system. For more information about SNMP security, refer to your Microsoft Windows documentation. Also, make sure that you use the correct case for the community name.
- Step 5** On the CRS server, choose **Start > Settings > Control Panel > Administrative Tools > Services** and verify that the SNMP service and Cisco CRS Alarm Service are running.
- Step 6** On the CRS server, verify that the Cisco CRS Alarm Service is receiving messages:  
Open the AlarmService.ini file and verify that the correct port number is listed. The default port is 1444.  
Open the Alarm Service error logs, AlarmTracen.log, where *n* indicates the log number. (For example, AlarmTrace11.log is the eleventh log.) By default, the error logs are in the following folder: C:\Program Files\Cisco\AlarmService\AlarmServiceLog.
- Step 7** On the trap receiver (the NMS system) make sure that the same community names are defined in the SNMP Service properties as you used in step 4. Make sure traps are enabled by verifying that the `cvaNotificationEnable` table is set to *true* in the `ciscoVoiceAppsMIB`.
- 

## Syslog messages not received by receiver

**Symptom** Your Network Management System (NMS) does not receive Syslog messages.

**Error Message** None.

**Possible Cause** There is a misconfiguration in the service properties. For more information, refer to the Syslog Support section in Part I: Serviceability.

**Recommended Action** Perform the following actions on the CRS server:

- Step 1** Choose **Start > Settings > Control Panel > Administrative Tools > Services** and verify that the Cisco CRS alarm Service is running.
- Step 2** Verify that the Cisco CRS Alarm Service is receiving messages:  
Open the AlarmService.ini file and verify that the correct port number is listed. The default port is 1444.  
Open the Alarm Service error logs, AlarmTracen.log, where *n* indicates the log number. (For example, AlarmTrace11.log is the eleventh log.)
- Step 3** Verify the settings on the Syslog receiver (the NMS system).
-

## The Alarm Service does not start

**Symptom** The Cisco CRS Alarm service does not start.

**Error Message** None.

**Possible Cause** AlarmNTService.exe does not exist, or the alarm service is not registered.

**Recommended Action** Complete the following steps:

---

**Step 1** Verify that AlarmNTService.exe exists in the C:\program files\cisco\AlarmService directory. If it does not exist, reinstall the CRS system. For installation instructions see the *Cisco CRS Installation Guide*.

**Step 2** Make sure that the Cisco CRS Alarm Service is running. If this service is not running, register this service by typing the following command in a command window:

```
C:\Program Files\Cisco\AlarmService\AlarmNTService -Service
```

---

## Serviceability does not uninstall completely

**Symptom** Uninstalling Serviceability does not completely remove all serviceability components.

**Error Message** None.

**Possible Cause** On a server on which CRS and Cisco Unified Communications Manager are both installed, some Serviceability files are shared by each of these Cisco applications. If you uninstall Serviceability, you will be prompted for permission to delete the shared files. If you do not delete these files, they will remain on the system.

**Recommended Action** None.

## Updating Data with the Serviceability Tool on One Node Does Not Update Other Nodes

**Symptom** If you change data on one node, for example the IP Address, by using the Serviceability Tool, the data on all other nodes is not updated.

**Error Message** None

**Possible Cause** The Serviceability Tool only operates on one node at a time.

**Recommended Action** To change data on more than one node by using the Serviceability Tool, you must operate on them each separately with the Serviceability Tool for the update to happen across a cluster of nodes.

## Virus Scan software slows Call Completion Rate

**Symptom** When the CRS system is under load, the system updates and writes to the log files more often. Therefore, Virus Scan software works more often. This can affect system performance.

**Error Message** None.

**Possible Cause** Changes or updates to log files trigger the Virus Scan software to read the files.

**Recommended Action** In order to improve the Call Completion Rate of the system running under high load, the virus scan software excludes some of the directories for performance reasons.

Exclude the following directories:

- *C:\Program Files\wfaavid\log*
- *C:\Program Files\Cisco\Desktop\log*
- *C:\Program Files\Cisco\Desktop\_Audio*
- *C:\Program Files\Microsoft SQL Server\MSSQL\$CRSSQL*

## CRS Internationalization Problems

This section contains the following troubleshooting tips on internationalization problems:

- [Results not as expected for first name and last name in Chinese, Japanese, and Korean, page 8-68](#)
- [Language specified is not accepted or played, page 8-69](#)

## Results not as expected for first name and last name in Chinese, Japanese, and Korean

**Symptom** First name and last name information does not produce the expected results for Chinese, Japanese, and Korean.

**Error Message** None.

**Possible Cause** In the Cisco CRS User Options Alternate Pronunciations web page, entering information in the First Name and Last Name fields does not produce the expected results for Chinese, Japanese, and Korean.

**Recommended Action** To work around this problem, enter the given name in the First Name field, and enter the family name in the Last Name field.

## Language specified is not accepted or played

**Symptom** A user specifies a language, but the software does not accept it or play the language entered by the user.

**Error Message** None.

**Possible Cause** If you are trying to use a prompt or recognition grammars, the problem might be that the language was not successfully installed. Check the language and associated region in the ISO 639 and ISO 3166 standards. If the problem occurs with a Voice Browser, note that the VXML standard specifies that languages be entered in the form `xml:lang="<ISO 639>-<ISO 3166>"` (example: en-US, fr-CA). Note that the VXML delimiter is a hyphen (-); for the CRS Editor, Application Administration, locale customization, installation, and prompts, the separator is an underscore (\_).

**Recommended Action** Check the language installation. Check the following ISO references for the correct language and region representation:

- ISO 639 can be viewed at:
- <http://www.ics.uci.edu/pub/ietf/http/related/iso639.txt>
- ISO 3166 can be viewed at:
- [http://www.chemie.fu-berlin.de/diverse/doc/ISO\\_3166.html](http://www.chemie.fu-berlin.de/diverse/doc/ISO_3166.html)

Check to be sure you have used the hyphen (-) delimiter for VXML and have used the underscore (\_) delimiter everywhere else.

## VXML Problems

This section contains the following troubleshooting tips on Voice XML problems:

- [Voice Browser Step troubleshooting steps, page 8-69](#)
- [Timeout attribute for non-input does not work, page 8-70](#)
- [Menu Choice DTMF does not work, page 8-70](#)

## Voice Browser Step troubleshooting steps

**Symptom** Some guidelines must be followed to avoid troubles when using the Voice Browser step.

**Error Message** None.

**Possible Cause** Not applicable here.

**Recommended Action** To avoid problems, use the following steps:

- 
- Step 1** Use CRS Administration to check to be sure subsystems are in service, such as CMT, JTAPI, MRCP ASR, MRCP TTS, and Voice Browser.
  - Step 2** Make sure the Universal Resource Identifier (URI) is reachable by testing the URI in a web browser.
  - Step 3** Make sure the Provider selection is set correctly.
  - Step 4** If using VXML scripts, specify the desired TTS provider. For example, for Nuance Vocalizer 3.0, the configuration is as follows: `<property name="com.cisco.tts.provider" value="Nuance Vocalizer 3.0"/>`

- Step 5** Make sure that VXML, grammar, and audio files are correct by validating each piece separately before connecting them all together.
  - Step 6** Tracing subfacilities that are helpful in debugging the Voice Browser steps include: SS\_VB, SS\_MRCP\_TTS, SS\_MRCP\_ASR, and SS\_CMT. See the Tracing chapter of this book for additional information.
  - Step 7** Make sure the file fetching locations are reachable and correct.
  - Step 8** Check the syntax of the application by including VoiceXML DTD shipped with Cisco CRS.
- 

## Timeout attribute for non-input does not work

**Symptom** The timeout attribute when set to 0 causes VXML script execution to wait forever when run with Nuance. Nuance implements a timeout of 0 by waiting indefinitely, which is not compliant with the VXML specification.

**Error Message** None.

**Possible Cause** Using `timeout=0`, for example,

```
<form id="form1"><property name="timeout" value="0s"/> <field name="myField">
<prompt count="1"> No input expected. Say nothing </prompt>
```

**Recommended Action** Using a timeout of 1 ms will effectively provide the behavior expected by the VXML specification; that is,

```
<property name="timeout" value="1ms"/>
```

## Menu Choice DTMF does not work

**Symptom** An `error.badfetch` is thrown when using the menu element of Voice XML 2.0 with the DTMF attribute set to `True`.

**Error Message** `error.badfetch`

**Possible Cause** When the menu element is set to `true`; that is, `<menu dtmf="true">`, then in the choice element, DTMF values can only be `*`, `#`, or `0`. For example, the following VXML code is not allowed:

```
<menu id="aa" dtmf="true">
```

```
<prompt> Welcome to the automated attendant. To enter the phone number of the
person you are trying to reach, press 1. To enter the name of the person you
are trying to reach, press 2. To transfer to the operator, press 0. </prompt>
```

```
<choice dtmf="1" next="#dial_by_extn">1</choice>
```

```
<choice dtmf="2" next="#dial_by_name">2</choice>
```

```
<choice dtmf="0" next="#operator">0,</choice> </menu>
```

**Recommended Action** Use an example like the following, which is allowed:

```
<menu id="aa" dtmf="true"> <prompt> Welcome to the automated attendant. To
enter the phone number of the person you are trying to reach, press 1. To
enter the name of the person you are trying to reach, press 2. To transfer to
the operator, press 0.</prompt>

<choice next="#dial_by_extn">1</choice>

<choice next="#dial_by_name">2</choice>

<choice dtmf="0" next="#operator">0 </choice> </menu>
```

## High Availability and Bootstrap

This section contains the following troubleshooting tips on CRS 5.0 high availability and bootstrap problems:

- [Transaction Manager cannot start, page 8-71](#)
- [Have an exception on startup with a message like "unable to recover transaction" or an error message related to reading or modifying the "Tx.per" file., page 8-71](#)

### Transaction Manager cannot start

**Symptom** CRS cannot be started since the Transaction Manager failed to start.

**Error Message** The "BOOTSTRAP\_START\_ERROR" and "transaction manager is not started" error messages are in the same log statement.

**Possible Cause** The third-party Transaction Manager (Mahalo) log in wfavvid\TxnMgrPersistence\ may be corrupted.

**Recommended Action** Manually clean TxnMgrPersistence? directory.

- 
- Step 1** Shut down the Node Manager.
- Step 2** Copy everything in the wfavvid\TxnMgrPersistence\ directory to a backup directory. Then delete all the files in the wfavvid\TxnMgrPersistence\ directory.
- Step 3** Restart the Node Manager.
- 

### Have an exception on startup with a message like "unable to recover transaction" or an error message related to reading or modifying the "Tx.per" file.

**Symptom** Symptom #1: in the log, you see TxLoggerException?, TxLoggerIOException?, TxLoggerClassNotFoundException?, TxLoggerFileNotFoundException?, or other Tx.....Exception.

Symptom #2: when bootstrap\_mgr debug log is turned on, if you see "Recovery.recover" and "about to recover." but did not see "Recovery.recover(): total pending tx: or "Recovery.recover(): no pending tx".

Symptom #3: or if you see an error message that mentions the file "Tx.per".

**Error Message** See the previous symptoms topic for the message.

**Possible Cause** The files in BSTxState? may be corrupted.

**Recommended Action** Manually clean the BSTxState?/ directory.

- 
- Step 1** Shut down the Node Manager.
- Step 2** Copy everything in the wfavvid\BSTxState\ directory to a backup directory. Then delete all the files in wfavvid\BSTxState\
- Step 3** Restart the Node Manager.
- 

## High Availability and Failover

This section contains the following troubleshooting tips on CRS 5.0 high availability and failover problems:

- [Previously configured log file size is not preserved after system upgrade, page 8-72](#)
- [Conflicts in Datastore Control Center history, page 8-73](#)
- [Cannot make configuration changes in HA cluster, page 8-73](#)
- [Cannot make configuration changes in RmCm Subsystem, page 8-73](#)
- [Service constantly shows Invalid, page 8-74](#)
- [CRS server keeps rebooting due to CRS Node Manager failure, page 8-74](#)
- [Cluster is in partial service, page 8-74](#)
- [Server is in partial service, page 8-75](#)
- [CRS does not accept call or function properly, page 8-75](#)
- [Service Master/Slave status is not shown on CRS Administration Control Center, page 8-75](#)
- [Cluster time synch fails, page 8-76](#)
- [CRS Servers respond slowly in HA environment, page 8-76](#)
- [Multiple failovers with high CPU usage, page 8-76](#)

### Previously configured log file size is not preserved after system upgrade

**Symptom** After upgrade, previously configured CRS log file size is set to default.

**Error Message** None.

**Possible Cause** The CRS log layer does not dynamically adjust the log file size after the right value synchronizes down from LDAP.

**Recommended Action** Restart the Cisco CRS Node Manager.



## Conflicts in Datastore Control Center history

**Symptom** With high availability, messages appear in the comment column in the subscription agent history. To see the message from CRS Administration, select **Datastore Control Center > History** for a subscription agent.

**Error Message** A message similar to *Downloaded 111 data changes (0 inserts, 111 updates, 0 deletes, 111 conflicts)* appears.

**Possible Cause** To support high availability, SQL merge replication is being used to replicate data between the subscriber node and the publisher. As part of this, SQL logs these messages in the subscription agent history.

**Recommended Action** No user action required.

## Cannot make configuration changes in HA cluster

**Symptom** Unable to make configuration changes in a high availability cluster when one node is down.

**Error Message** None.

**Possible Cause** If one node is down, configuration changes cannot be made because the changes are written to both configuration datastores at the same time.

**Recommended Action** Do the following:

- 
- Step 1** Make sure that the Publisher is the active node. If it is not, use CRS Administration to make it the active node for all datastores.
  - Step 2** Deactivate CDS and HDS for the inactive node using the Component Activation link.
- 

## Cannot make configuration changes in RmCm Subsystem

**Symptom** In a high availability deployment, the user cannot make changes to the configuration in the RmCm subsystem, such as add/remove skills, team and so forth.

**Error Message** *There was an error reading/updating the database. Please contact your administrator.*

**Possible Cause** Unified CCX stores configuration data in Configuration Datastore, which is managed by the Microsoft SQL database. The high availability databases use Microsoft Distributed Transaction Coordinator (MS DTC) service to communicate with each other, and MS DTC service uses the NetBIOS name of its peer to talk to other MS DTC services. This problem is caused by invalid name resolution of the database nodes so that MS DTC cannot communicate.

**Recommended Action** Make sure the two database nodes can communicate with each other, not just by IP address, because DTC also requires that you are able to resolve computer names by way of NetBIOS or DNS. You can test whether or not NetBIOS can resolve the names by using ping and the server name. The client computer must be able to resolve the name of the server, and the server must be able to resolve the name of the client. If NetBIOS cannot resolve the names, you can add entries to the LMHOSTS files on the computers.

You can download *DTCPing.exe* from Microsoft to troubleshoot the MS DTC issue. Go to: <http://support.microsoft.com/default.aspx?scid=kb;en-us;250367>.

## Service constantly shows Invalid

**Symptom** The CRS Node Manager cannot start a service, and the service is shown "Invalid" from CRS Administration.

**Error Message** A red X mark displays beside the service in CRS Administration.

**Possible Cause** This could possibly be caused by excessive failures of the specific service.

**Recommended Action** Refer to the *Cisco CRS Installation Guide* for help in doing a recovery or a restore in order to repair the failed service.

## CRS server keeps rebooting due to CRS Node Manager failure

**Symptom** The Cisco CRS server keeps rebooting due to the Cisco CRS Node Manager service failure.

**Error Message** A Microsoft Windows message shows a server reboot in 60 seconds due to the service failure.

**Possible Cause** The problem might result from a variety of reasons, such as from failures of the CRS Engine, CRS Administration, Datastore, and Desktop services.

**Recommended Action** Complete the following steps:

- 
- Step 1** Go to the Windows Services Control Panel. Under the Recovery tab, change First/Second/Subsequent failures action to *Take No Action*.
  - Step 2** Look at the Cisco MCVD log first to identify the failure service; then go to the log of that service to find the reason.
  - Step 3** After you correct the failure, restore the failure recovery action back to First failure: Restart the Service; Second failure: Reboot the Computer; Subsequent failures: Reboot the Computer.
- 

## Cluster is in partial service

**Symptom** The CRS cluster status shows *PARTIAL\_SERVICE* from the CRS Administration Control Center.

**Error Message** *PARTIAL\_SERVICE* on CRS Administration Control Center web page under a specific server link.

**Possible Cause** At least one of the servers show a status that is not *IN\_SERVICE*.

**Recommended Action** Log on to the server and see whether or not the Cisco Node Manager service is running on the server. Also check the MCVD log for any additional information.

## Server is in partial service

**Symptom** The CRS server shows `PARTIAL_SERVICE` from the CRS Administration Control Center.

**Error Message** `PARTIAL_SERVICE` on the CRS Administration Control Center web page under a specific server link.

**Possible Cause** At least one service is not `IN_SERVICE`.

**Recommended Action** From the CRS Administration Control Center web page, complete the following steps:

- 
- Step 1** If a service is not `IN_SERVICE`, go to the log of that service to find the reason.
- Step 2** If a service is marked *Invalid*, refer to the tip *Service constantly shows Invalid*.
- 

## CRS does not accept call or function properly

**Symptom** The Cisco CRS system does not accept a call or function properly.

**Error Message** From the CRS Administration Control Center, under a specific server link, there is neither `CRS Engine` nor `CRS SQL Server (Config/Historical/Repository/Agent)`.

**Possible Cause** One possible cause could be that the component is not activated.

**Recommended Action** Go to the CRS Administration web page to activate the appropriate component.

## Service Master/Slave status is not shown on CRS Administration Control Center

**Symptom** There is no Master or Slave status for a service on the CRS Administration Control Center web page.

**Error Message** There is no Master or Slave icon next to a service.

**Possible Cause** The problem could be caused by one of the following:

- The service is not started.
- A dependent service is not started. For example, the Cisco Desktop Service does not show Master/Slave status unless the CRS Engine is running, and the Cisco SQL Server (Config/Historical/Repository/Agent) does not show Master/Slave status unless the Microsoft Distributed Transaction Coordinator or the Microsoft SQL Agent is running.

**Recommended Action** Start the dependent service.

## Cluster time sync fails

**Symptom** The cluster time on the CRS machines (on the same cluster) is not synchronized with the Unified Communications Manager.

**Error Message** The Network Time Protocol Service on the CRS machine exits with a message in the event log stating that the time difference is greater than the threshold.

**Possible Cause** The NTP service has a built-in threshold of 1000 seconds. If the time difference between the NTP client (CRS machines) and the server (Cisco Unified Communications Manager) is more than this threshold, the NTP service does not correct the time.

**Recommended Action** Do the following:

- Manually set the clock on each CRS machine in the cluster. The Time on the CRS machines should be approximately the same as the time on the Unified Communications Manager machine.
- Restart the Network Time Protocol service on the CRS machines, using the Service Control Manager.

## CRS Servers respond slowly in HA environment

**Symptom** CRS servers in a high availability (HA) environment respond very slowly. Because of the slow response time, the CRS system is unusable. No calls can get to agents.

**Error Message** LDAP error 51 in MADM logs. SDL and SQL errors on the Subscriber.

**Possible Cause** Publisher and Subscriber databases are not synchronized.

**Recommended Action** Sync up the Publisher and Subscriber databases.

## Multiple failovers with high CPU usage

**Symptom** Multiple failovers occur in a high availability environment and there is high CPU usage on both servers. When the CRS server boots up, the primary server begins to spike the CPU usage causing the primary server to be unusable, and it fails over to the secondary server. The secondary server then starts the same behavior and eventually fails back over to the primary server.

**Error Message** None.

**Possible Cause** The problem can be caused by errors in the customer Java steps.

**Recommended Action** Check for custom Java steps in the scripting and remove them.

## VoIP Monitor Problems

This section contains the following troubleshooting tips on VoIP Monitor Problems

- [VoIP monitor does not work correctly, page 8-77](#)
- [CRS fails to start, page 8-77](#)

## VoIP monitor does does not work correctly

**Symptom** VoIP Monitor does does not work correctly

**Error Message** None

**Possible Cause** The VoIP Monitor is not on the agents' phones Voice VLAN.

**Recommended Action** If the VoIP Monitor is installed on CRS, see the Appendix on using multiple NICs with VoIP in the *Cisco CAD Installation Guide* at [Cisco Unified Contact Center Express Install and Upgrade Guides web site](#). CRS 5.0 supports only an on-board VoIP Monitor.

## CRS fails to start

**Symptom** CRS node manager fails to start

**Error Message** None

**Possible Cause** There are two NICs on the CRS server. The second NIC is used for VoIP Monitoring  
To understand the situation:

- 
- Step 1** In Windows 2003, select **Start > Settings > Network Connection**.
  - Step 2** Click the **Advanced** drop down menu.
  - Step 3** Select **Advanced Settings > Adapters and Bindings**.
  - Step 4** In the **Connections** window, note that the VoIP Monitr NIC is higher in the order.
- 

**Recommended Action** Set the VoIP Monitor NIC to have a the lower priority than the NIC used by CRS for communication.





## INDEX

### A

---

#### alarms

- Alarm Service [3-1](#)
- alarm severity levels [3-2](#)
- Cisco CRS Alarm Service [3-1](#)
- configuring the Alarm Service [3-3](#)
- definitions [3-5](#)
- finding information about [3-5](#)
- Severity levels [3-2](#)
- starting and confirming the service [3-2](#)
- Syslog message format [3-4](#)
- viewing messages [3-5](#)
- viewing messages sent to Syslog Server [3-3](#)
- viewing messages sent to Windows event log [3-5](#)

#### ASR problems [8-53](#)

- Alternate pronunciations and nicknames are not recognized [8-54](#)
- Calling a route point with an MRCP ASR Dialog Group results in default treatment [8-56](#)
- Changes do not take effect [8-55](#)
- MRCP ASR subsystem is out of service [8-55](#)
- Names are not recognized [8-53](#)
- Recognition never times out [8-54](#)
- Reduced call completion rate under heavy load while using an MRCP ASR Group [8-54](#)

attempt to log in again results in error messages [8-51](#)

### B

---

#### Backup, Restore, and Update problems [8-2](#)

- Backup, Restore, and Upgrade cannot be started from a client desktop [8-3](#)
- Backup failed for a one or two-node system [8-4](#)

CRS 4.5 profile name is missing [8-4](#)

During Backup, Restore, or Upgrade, an exception is seen in UI [8-3](#)

Page Not Found message is displayed [8-4](#)

Restore failed for a one-node system [8-5](#)

Restore failed on a two-node system that had run before the Restore [8-6](#)

Restore failed on a two-node system that was re-imaged [8-7](#)

Some RmCm configuration is missing after Upgrade [8-8](#)

### C

---

#### CDP

- accessing CDP Driver Control [5-2](#)
- default settings [5-4](#)
- enabling the protocol driver [5-3](#)
- installing the protocol driver [5-2](#)
- locating files [5-4](#)
- starting the protocol driver [5-2](#)
- updating IP address of driver [5-3](#)
- using the driver [5-2](#)
- viewing driver properties [5-3](#)

CISCO-CDP-MIB [2-6](#)

Cisco Discovery Protocol

see CDP [5-1](#)

CISCO-VOICE-APPS-MIB [2-6](#)

CiscoWorks support [1-2](#)

Campus Manager [1-2](#)

IP Telephony Monitor [1-2](#)

Resource Management Essentials [1-2](#)

CME Telephony problems

A functional routing point stopped or the CME Telephony subsystem is in partial service [8-8](#)

## CRS Administration problems

- A component manager goes into partial service when uploading a file [8-23](#)
- Authentication web page is not available [8-19](#)
- CRS Supervisor web page cannot be viewed from CRS Server [8-21](#)
- Database table fields used by wallboard store data in milliseconds [8-21](#)
- High call rejection rate under heavy load [8-23](#)
- Invalid files message displays while uploading a zip file of prompts [8-22](#)
- Management pages display error message when selected [8-21](#)
- Refreshing subflow script does not update parent scripts [8-20](#)
- Unified Communications Manager users display in random order [8-20](#)
- Uploading license file can result in warning message [8-20](#)
- User cannot log in to the CRS web page [8-20](#)
- Zip file does not auto unzip on Document Management page [8-22](#)

CRS Admin Utility problems [8-23](#)

- The cluster is not in synchronization [8-24](#)
- The CRS Admin Utility exits or does not come up after login [8-24](#)
- The CRS Admin Utility fails due to data corruption [8-24](#)
- The CRS Admin Utility will not run on a none bootstrap node [8-25](#)
- The CRS Admin Utility will not run since the Node Manager hung [8-25](#)

CRS Database problems [8-25](#)

- Cannot activate DB components on HA node [8-26](#)
- Cannot configure Application or System parameters from their pages in CRS Administration [8-26](#)
- CRS Databases are not purged as expected [8-26](#)
- E-mail notification of database purging activities is not sent [8-27](#)
- Historical database db\_cra is full due to high availability [8-27](#)
- HR client login error [8-26](#)
- Syslog or SNMP trap notification of database purging activities is not sent [8-28](#)

## CRS Editor problems

- Accept step error during active debug [8-28](#)
- Change a string variable to an integer [8-28](#)
- Error occurs with Reactive Debugging Tool [8-29](#)

## CRS Engine problems

- An error message plays when calling a CTI route point [8-33](#)
- Application subsystem in partial service and application running for an unexpectedly long time [8-39](#)
- Application subsystem is in partial service [8-31](#)
- Attempting to start the Cisco CRS Node Manager service causes an error 1067 [8-31](#)
- Attempting to start the Cisco CRS Node Manager service causes an error 1069 [8-31](#)
- Call drops during transfer over gateway [8-34](#)
- Calling party and CRS do not have common codec [8-38](#)
- Changes to applications do not register [8-33](#)
- Changing time on CRS machines results in agents getting logged off [8-32](#)
- CRS Engine does not start [8-39](#)
- CRS Engine does not start and an RMI port in use error appears [8-30](#)
- CRS Engine is running but calls are not answered [8-32](#)
- CRS Server and Active Directory integration results in some services being unregistered [8-40](#)
- CRS Server runs at 100% capacity [8-35](#)
- CRS Server runs out of disk space [8-35](#)
- Database subsystem goes into partial service [8-36](#)
- H.323 client DTMF digits not detected [8-34](#)
- JTAPI subsystem is in partial service [8-37](#)
- Prompt exception in CRS Engine log file [8-39](#)
- Prompts with incorrect codec being played out [8-38](#)
- Redirected call is disconnected [8-34](#)
- The Simple Recognition step takes the unsuccessful branch [8-38](#)
- Unable to connect to JTAPI provider [8-37](#)
- Voice Browser step throws an exception [8-30](#)



- D**
- 
- diagnosing problems [7-1](#)
- E**
- 
- examples
- traps during shutdown [2-10](#)
  - traps during startup [2-9](#)
- H**
- 
- High Availability and bootstrap problems [8-71](#)
- An exception on startup [8-71](#)
  - Transaction Manager cannot start [8-71](#)
- High availability and failover problems [8-72](#)
- Cannot make configuration changes in HA cluster [8-73](#)
  - Cannot make configuration changes in RmCm subsystem [8-73](#)
  - Cluster is in partial service [8-74](#)
  - Cluster time synch fails [8-76](#)
  - Conflicts in Datastore Control Center history [8-73](#)
  - CRS does not accept call or function properly [8-75](#)
  - CRS server keeps rebooting due to CRS Node Manager failure [8-74](#)
  - CRS servers respond slowly in HA environment [8-76](#)
  - Multiple failovers with high CPU usage [8-76](#)
  - Previously configured log file size is not preserved after system upgrade [8-72](#)
  - Server is in partial service [8-75](#)
  - Service constantly shows Invalid [8-74](#)
  - Service Master/Slave status is not shown on CRS Administration Control Center [8-75](#)
- Historical Reporting problems
- A database connection Error 5051 error appears [8-47](#)
  - Agent names overwritten on charts [8-44](#)
  - Attempt to log in to CRS Server from Historical Reporting client fails [8-49](#)
  - Cannot point to local applications from DB configuration page [8-48](#)
  - Charts do not appear properly in MS Excel format [8-43](#)
  - Client and Server security policies do not match [8-43](#)
  - Columns displaced in Excel spreadsheet when exporting a report [8-52](#)
  - Columns of data missing in report in MS Excel format [8-43](#)
  - Dialog box does not appear as expected when report is exported [8-45](#)
  - Discrepancy in number of ACD calls shown on custom reports [8-50](#)
  - Error when choosing an option from the Historical Reporting web page [8-45](#)
  - Exported PDF report does not print in landscape orientation [8-42](#)
  - Export file name does not appear in Export dialog box [8-48](#)
  - Historical Reporting client stops working [8-51](#)
  - Historical Reporting client window shows nothing in user drop-down menu [8-51](#)
  - Only two report templates available for Unified CCX Standard [8-49](#)
  - Priority Summary Activity Report chart prints only partly in color [8-50](#)
  - Records truncated in report in MS Excel format [8-43](#)
  - Reports do not execute at scheduled times [8-44](#)
  - RTF report containing charts has tabular report headings [8-44](#)
  - Scheduled Historical Reports do not run [8-46](#)
  - Scheduled Historical Reports do not run and message appears in CiscoSch.log file [8-50](#)
  - Scheduler icon does not appear in Windows status bar [8-52](#)
  - Scheduler icon does not appear on Terminal Services client [8-44](#)
  - Search dialog box and Preview tab appear in English on Windows system with locale set to German [8-45](#)
  - Some information system [8-47](#)
  - The Historical Reporting client computer cannot connect to the CRS server [8-47](#)
  - The SQL Command Failed dialog box appears when you try to generate a historical report [8-46](#)
  - Truncated report description in Historical Reports client [8-46](#)

User login missing in Windows XP after installing HR client [8-42](#)

## I

### Internationalization problems

Language specified is not accepted or played [8-69](#)

Results not as expected for first name and last name in Chinese, Japanese, and Korean [8-68](#)

### IPCC Express problems

Agent or CSQ does not appear in Cisco Agent Desktop [8-12](#)

Agents, Supervisors, or Teams are out of synch [8-12](#)

RM-CM remains in Initializing state [8-12](#)

RM-CM subsystem remains INITIALIZING [8-11](#)

## L

Log Collection Tool [4-11](#)

### log files

CAD installation logs [4-11](#)

collecting into a zip file [4-11](#)

path locations [4-9](#)

## M

Media Resource Control Protocol (MRCP) [8-53](#)

## O

Outbound problems [8-56](#)

Agent does skip or skip-close but does not stay reserved [8-57](#)

Agent is not getting callbacks [8-57](#)

Agent is ready but does not get an Outbound call for up to Two minutes [8-57](#)

Errors placing Outbound calls [8-58](#)

Not all contacts get imported [8-58](#)

On the Campaigns Configuration web page, the available CSQs list is empty even though there are CSQs configured [8-58](#)

Outbound buttons do not show up on CAD [8-58](#)

Outbound buttons show up but are disabled on CAD [8-59](#)

Outbound calls are not getting dialed [8-59](#)

Outbound call volume is low [8-59](#)

Outbound system service is not in service [8-60](#)

RTR Outbound reports do not show all possible reclassification [8-60](#)

## R

### Real-Time Reporting problems

After installing JRE, the user receives a message from real-time reporting saying to install JRE [8-41](#)

Attempting to run a real-time report causes an error [8-40](#)

remote serviceability [1-3](#)

CiscoWorks [1-3](#)

MS Windows Performance Monitoring [1-3](#)

MS Windows Terminal Services [1-3](#)

VNC [1-3](#)

## S

### Serviceability

remote [1-3](#)

### Serviceability problems

Alarm Service does not start [8-67](#)

File Manager in partial service [8-65](#)

Serviceability does not uninstall completely [8-67](#)

SNMP-based network management tools cannot monitor CRS components [8-65](#)

SNMP traps do not arrive at the trap receiver [8-65](#)

Syslog messages not received by receiver [8-66](#)

Virus Scan software slows Call Completion Rate [8-68](#)

### Simple Network Management Protocol

see SNMP [2-1](#)

### SNMP

agent and subagents [2-2](#)

basics [2-1](#)

- Management Information Base (MIB) [2-2](#)
- setting community names [2-8](#)
- setting the trap receiver [2-7](#)
- setting up traps [2-7](#)
- starting, stopping, and confirming the service [2-9](#)
- trap messages [2-6](#)
- traps [2-6](#)

Support Tools [6-1](#)

- accessing [6-1](#)
- documentation [6-1](#)
- Node Agent Service [6-1](#)
- Server [6-1](#)

SYSAPPL-MIB [2-2](#)

## T

trace files [4-1](#)

- configuration [4-2](#)
- displaying [4-8](#)
- displaying thread dump file [4-9](#)
- facilities [4-4](#)
- interpreting [4-8](#)
- level options [4-3](#)
- setting trace level options [4-7](#)
- subfacilities [4-4](#)
- thread dump [4-8](#)
- viewing and interpreting [4-8](#)
- writing to thread dump file [4-9](#)

Troubleshooting [11-1](#)

- general steps [7-1](#)
- tips [8-1](#)

TTS problems [8-60](#)

- A TTS prompt is not recognizable [8-62](#)
- A TTS prompt will not play [8-61](#)
- Changes do not take effect [8-64](#)
- Long TTS prompts consume significant memory on CRS Server [8-62](#)
- MRCP TTS subsystem is out of service [8-62](#)

- Non-UTF-8 characters needed for some languages [8-63](#)
- Provider becomes IN\_SERVICE immediately [8-61](#)
- Wave file prompt playback is garbled [8-63](#)

## U

### Unified CCX

- Call Statistics, Recording, and Monitoring Server support [1-4](#)

### Unified CCX problems

- Agent does not go to Work state after handling a call [8-13](#)
- Agents do not appear in Resources are in Unified CCX Configuration web page [8-13](#)
- Agents do not show in CSQ [8-16](#)
- Caller gets dropped when an attempt is made to recall a Unified CCX agent's extension after the agent previously parked the call [8-16](#)
- Calls are not routed to agents [8-15](#)
- Calls to IPCC Express route points are disconnected [8-15](#)
- Media step causes a Could not create PlayPromptDialog Object exception [8-14](#)
- recording and monitoring problems [8-15](#)
- RM-CM subsystem is out of service [8-11](#)
- Some resource selection criteria are missing [8-14](#)
- Unable to make any Unified CCX configuration changes [8-14](#)
- unable to record an agent [8-15](#)
- Updating a NIC driver disables silent monitoring and recording [8-16](#)
- You cannot select the order of agents [8-13](#)

### Unified CM Automated Attendant problems

- Automated Attendant prompt is not played [8-9](#)
- Dial by name does not find the specified server [8-9](#)

### Unified CME problems

- Agent cannot log in on restricted line [8-10](#)
- Agent cannot log in on shared line [8-10](#)
- When agent drops from conference, all parties on conference are dropped [8-10](#)

### Unified IP IVR problems

- Prompt plays phrases in the wrong order [8-18](#)
- Prompts play in an incorrect language [8-17](#)
- Some prompts do not play [8-18](#)
- Some prompts in a script play in the language specified and other prompts play in English [8-18](#)
- Unified IP IVR drops callers when transferring to an extension [8-17](#)

## V

---

- Virtual Network Computing (VNC) [1-3](#)
- VoIP Monitor problems [8-76](#)
  - VoIP Monitor does not work correctly [8-77](#)
- VXML problems
  - Menu Choice DTMF does not work [8-70](#)
  - Timeout attribute for non-input does not work [8-70](#)
  - Voice Browser Step troubleshooting steps [8-69](#)

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