Microsoft Office Communicator Call Control with Microsoft OCS for IM and Presence Service on Cisco Unified Communications Manager, Release 11.0(1)

First Published: June 08, 2015

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
http://www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: http://www.cisco.com/go/trademarks. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

© 2015 Cisco Systems, Inc. All rights reserved.

CONTENTS

CHAPTER 1 **Configuration of IM and Presence Service with Microsoft OCS** 1

- Integration Requirements 1
- Integration Overview 2
  - How this Integration Works 2
  - Line Appearances 3
- License Requirements 4
- Service Restart 4
- More Information 4

CHAPTER 2 **Configuration of Cisco Unified Communications Manager for Integration with Microsoft OCS** 5

- User and Device Configuration on Cisco Unified Communications Manager 5
- Add Users to a Standard CCM Access Control Group 6
- Configure an Application User for CTI Gateway 7
- Add Application User to a CTI-Enabled Access Control Group 7
- Assign CTI Device Control to the Application User 8

CHAPTER 3 **Configuration of IM and Presence Service for Integration with Microsoft OCS** 9

- Configure Service Parameters 9
- Configure an Incoming Access Control List 10
- Configure Routing Settings 10
- Remote Call Control Settings Configuration 11
  - Configure CTI Connections on IM and Presence Service 11
  - Assign User Capabilities 12
  - Run Microsoft RCC Troubleshooter 12

CHAPTER 4 **Configuration of Microsoft Components for Integration with IM and Presence Service** 13

- Line URI Configuration on Microsoft Active Directory 13
- User Authentication on IM and Presence Service 14

Configure Microsoft Active Directory 14
Microsoft OCS Configuration Overview 15

CHAPTER 5 Configuration of Normalization Rules on Microsoft Active Directory 19
Configure Normalization Rules on Microsoft Active Directory 19
Verify Username Displays on Microsoft Office Communicator Interface 20
Sample Normalization Rules 21

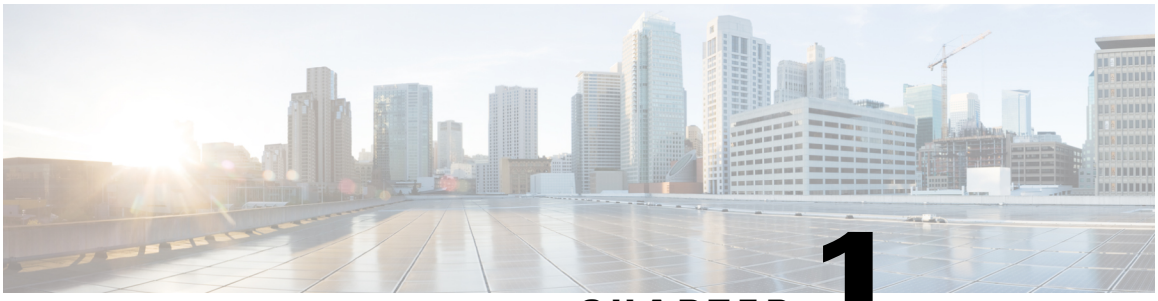
CHAPTER 6 Security Certificate Configuration for IM and Presence Service 23
Configure Standalone Root Certificate Authority (CA) 24
Download Root Certificate from CA Server 24
Upload Root Certificate onto IM and Presence Service 25
Generate a Certificate Signing Request for IM and Presence Service 26
Download Certificate Signing Request from IM and Presence Service 26
Submit Certificate Signing Request on CA Server 27
Download Signed Certificate from CA Server 28
Upload Signed Certificate to IM and Presence Service 28

CHAPTER 7 Configuration of Security between IM and Presence Service and Microsoft OCS 31
Security Certificate Configuration for Microsoft OCS 31
Download CA Certification Chain 31
Install CA Certification Chain 32
Submit Certificate Request on CA Server 33
Approve and Install Certificate 34
Configure Installed Certificate 35
Configure a TLS Route for IM and Presence Service on Microsoft OCS 36
Configure IM and Presence Service as an Authenticated Host on Microsoft OCS 37
Configure Microsoft OCS to Use TLSv1 37
Create a New TLS Peer Subject for Microsoft OCS on IM and Presence Service 38
Add TLS Peer to Selected TLS Peer Subjects List on IM and Presence Service 38

CHAPTER 8 Load Balancing over TCP 41

CHAPTER 9 Microsoft OCS Remote Call Control Installation 43
Deployment of Phone Selection Plug-in 43

Install Phone Selection Plug-in on a Client PC 43
Uninstall Phone Selection Plug-in 44
Access Phone Selection Through a Web Browser 44
Troubleshooting Remote Call Control 45
User Unable to Switch Selected Device from Cisco Unified IP Phone to Cisco IP Communicator 45
Distribution of Plug-in Information 48



CHAPTER 1

Configuration of IM and Presence Service with Microsoft OCS

- Integration Requirements, page 1
- Integration Overview, page 2
- License Requirements, page 4
- Service Restart, page 4
- More Information, page 4

Integration Requirements

This document describes the configuration steps for integrating the IM and Presence Service with Microsoft Office Communications Server or Microsoft Live Communications Server for Microsoft Office Communicator (MOC) call control.

Note This document describes the procedure for integrating IM and Presence Service with Microsoft Office Communications Server (OCS).

Software Requirements

- Latest release of IM and Presence Service Server
- Latest release of Cisco Unified Communications Manager Server
- Microsoft Office Communications (OCS) 2007 R2 Server, Standard or Enterprise
- Microsoft Office Communicator (MOC)
- Microsoft Windows Server
- Cisco CSS 11500 Content Services Switch

For this integration it is assumed that you have the following installed and configured:

- An IM and Presence Service node that is set up and configured as described in *Configuration and Administration of IM and Presence Service on Cisco Unified Communications Manager*.
- The IM and Presence Service node must be correctly deployed with a Cisco Unified Communications Manager server as described in *Configuration and Administration of IM and Presence Service on Cisco Unified Communications Manager*.
- A Microsoft server that is set up and configured as per the requirements defined in the Microsoft documentation.

Caution You must disable High-Availability on the IM and Presence Service presence redundancy group prior to integrating the server with Microsoft OCS. For more information, see *Configuration and Administration of IM and Presence Service on Cisco Unified Communications Manager*.

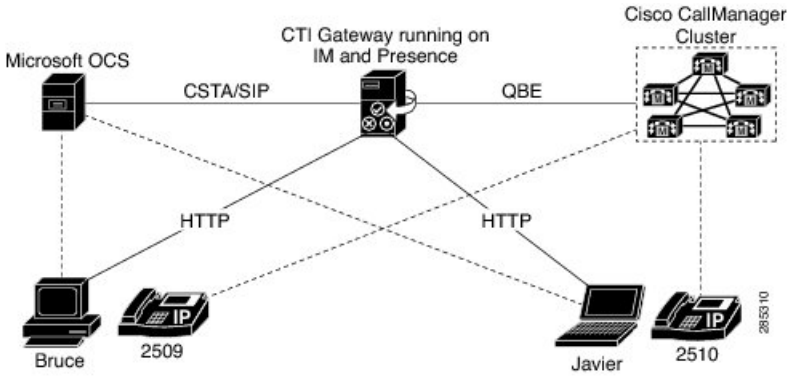
Integration Overview

How this Integration Works

The IM and Presence Service allows enterprise users to control their Cisco Unified IP Phone through Microsoft Office Communicator, a third party desktop IM application. The Microsoft Office Communicator client for this integration must run on Microsoft Office Communications Server (OCS) 2007 R2.

Microsoft Office Communicator sends session-initiating requests to the CTI Gateway on IM and Presence Service to control Cisco Unified IP Phones registered in Cisco Unified Communications Manager, as illustrated in the following figure. The CTI Gateway forwards the requests to the CTI Manager on Cisco Unified Communications Manager. The Cisco Unified Communications Manager returns the events to the Microsoft Office Communicator application using the same path in the opposite direction.

Figure 1: Integration Overview



IM and Presence Service supports CTI connections with up to eight Cisco Unified Communications Manager nodes; you can configure up to eight CTI connection addresses on IM and Presence Service.

Microsoft Office Communicator sends session initiating requests to IM and Presence Service. These requests are routed in a round-robin sequence to the CTI connection addresses configured on IM and Presence Service.

For example, the first request is routed to first CTI node, second request to next CTI node and so on. Priority is assigned to CTI connection addresses in the order in which they are configured. If a dual node IM and Presence Service cluster is deployed, you must use a load balancer. In this scenario, the load balancer sends the session initiating requests in a round-robin sequence from Microsoft Office Communicator clients to the IM and Presence Service publisher and subscriber nodes. There is a maximum of two nodes in an IM and Presence Service cluster when it is configured to support Microsoft Office Communicator Remote Control Client.

In a dual node IM and Presence Service cluster, a load balancer can be used to round-robin the session initiating requests sent from Microsoft Office Communicator clients to the publisher and subscriber IM and Presence Service nodes.

When the CTI Gateway on IM and Presence Service starts, it connects to all CTI connection addresses in the configured list, and monitors these connections by sending periodic heartbeat messages. When a Microsoft Office Communicator user signs in, Microsoft OCS sends a SIP INVITE request with a CSTA body to the CTI Gateway to monitor the Cisco Unified IP Phone for the user. The CTI Gateway creates a session for that Microsoft Office Communicator user, and uses the load balancing mechanism to send session initiating requests from that user to any of the CTI connection addresses.

Once the CSTA application session is established, Microsoft Office Communicator and CTI Gateway exchange a sequence of SIP INFO messages for activities such as monitoring devices, making calls, transferring calls, or changing the status of controlling devices. This message exchange is sent over the same CTI connection address with which the initial session was established.

If connection to any of the CTI Managers fails, outbound call requests from Microsoft Office Communicator are returned until the connection comes back into service. If a Cisco Unified Communications Manager node is down, the CTI Gateway will make periodic attempts to re-establish a connection to it. When the Cisco Unified Communications Manager node comes back in service, the CTI Gateway will reconnect to it and monitor the connection. In this case, when Microsoft OCS sends an (in-session) SIP INFO request, the CTI Gateway will have a different CTI Manager connection ID because of a new connection. Microsoft Office Communicator sends a new SIP INVITE message, but the Microsoft Office Communicator user is not required to sign in again.

Related Topics

Line Appearances, on page 3
Redundancy Setup for this Integration

Line Appearances

When a user selects a phone to use with the remote call control feature, on IM and Presence Service the user is selecting a *line appearance* to control through Microsoft Office Communicator. A line appearance is the association of a line with a device. On Cisco Unified Communications Manager, the administrator can associate a device with multiple lines, and a line with multiple devices. Typically it is the role of the Cisco Unified Communications Manager administrator to configure line appearances by specifying the lines and devices that are associated with each other.

Related Topics

User and Device Configuration on Cisco Unified Communications Manager, on page 5

License Requirements

You must assign IM and Presence Service to each Microsoft Lync Remote Call Control (RCC) user. IM and Presence Service capabilities are included within both User Connect Licensing (UCL) and Cisco Unified Workspace Licensing (CUWL). See the *Cisco Unified Communications Manager Enterprise License Manager User Guide* for more information.

You can assign IM and Presence Service to a user in the **End User Configuration** window in Cisco Unified Communications Manager. See the *Cisco Unified Communications Manager Administration Guide* for more information.

Service Restart

After you configure the IM and Presence Service node to allow Remote Call Control through a Microsoft server, you will need to restart the Cisco UP SIP Proxy service on the node. For instructions to restart services for an IM and Presence Service node, see the *Cisco Unified Serviceability Administration Guide*.

More Information

IM and Presence Service

For additional IM and Presence Service documentation, refer to the following URL:

http://www.cisco.com/en/US/products/sw/voicesw/ps556/tsd_products_support_series_home.html

Cisco Unified Communications Manager

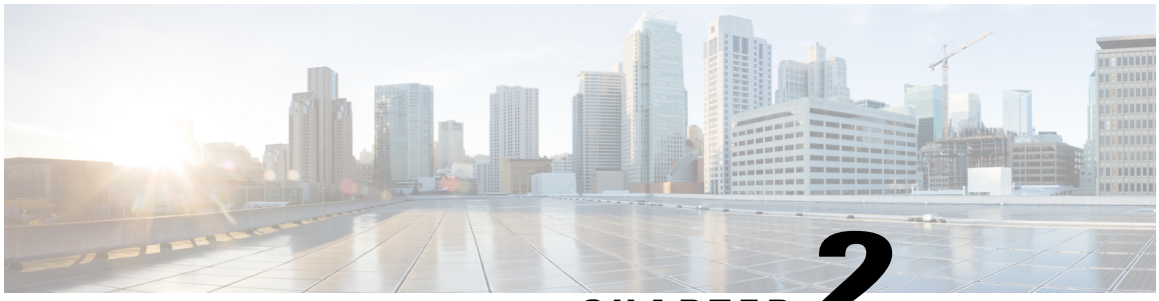
For Cisco Unified Communications Manager documentation, refer to the following URL:

http://www.cisco.com/en/US/products/sw/voicesw/ps556/tsd_products_support_series_home.html

Microsoft Active Directory

For information about Microsoft Windows Server Active Directory, refer to the following URL

http://technet2.microsoft.com/windowsserver/en/technologies/featured/ad/default.mspx



CHAPTER 2

Configuration of Cisco Unified Communications Manager for Integration with Microsoft OCS

Note Note that because menu options and parameters may vary per Cisco Unified Communications Manager releases, see the Cisco Unified Communications Manager documentation appropriate to your release.

- User and Device Configuration on Cisco Unified Communications Manager, page 5
- Add Users to a Standard CCM Access Control Group, page 6
- Configure an Application User for CTI Gateway, page 7
- Add Application User to a CTI-Enabled Access Control Group, page 7
- Assign CTI Device Control to the Application User, page 8

User and Device Configuration on Cisco Unified Communications Manager

Before you configure Cisco Unified Communications Manager for integration with Microsoft OCS, you need to complete the user and device configuration on Cisco Unified Communications Manager. You need to configure the phone devices, configure the users, and then associate a device with each user.

You also need to associate a line to a device, or for users of the Extension Mobility feature, to a device profile. This association forms a line appearance. When a user is associated to the device or to a device profile, the line appearance is associated to the user.

Task	Menu path
Configure the phone devices, and associate a primary extension with each device	**Cisco Unified Communications Manager Administration** > **Device** > **Phone**

Task	Menu path
Configure the users, and associate a device with each user	**Cisco Unified Communications Manager Administration** > **User Management** > **End User**.
Associate a user with a line appearance	**Cisco Unified Communications Manager Administration** > **Device** > **Phone**

Note With IM and Presence Service release 9.0 or a later release, you no longer need to associate a primary extension with each device on Cisco Unified Communications Manager.

What To Do Next

Add Users to a Standard CCM Access Control Group, on page 6

Related Topics

Line Appearances, on page 3

Add Users to a Standard CCM Access Control Group

Before You Begin

Make sure you have completed the prerequisite user and device configuration on Cisco Unified Communications Manager.

Procedure

Step 1 Select **Cisco Unified Communications Manager Administration** > **User Management** > **User Settings** > **Access Control Group**.

Step 2 Click **Find**.

Step 3 Select **Standard CCM End Users**.

Step 4 Select the end user to add to the Standard CCM access control group.

Step 5 Click **Add Selected**.

Step 6 Click **Save**.

What to Do Next

Configure an Application User for CTI Gateway, on page 7

Related Topics

User and Device Configuration on Cisco Unified Communications Manager, on page 5

Configure an Application User for CTI Gateway

Procedure

Step 1 Select **Cisco Unified Communications Manager Administration** > **User Management** > **Application User**.

Step 2 Click **Add New**.

Step 3 Enter an application user name in the User ID field, for example, **CtiGW**.

Step 4 Enter a password for this application user, and confirm the password.

Step 5 Click **Save**.

What to Do Next

Add Application User to a CTI-Enabled Access Control Group, on page 7

Add Application User to a CTI-Enabled Access Control Group

Complete the following procedure to add the application user to a CTI-enabled access control group.

Before You Begin

Configure an Application user for the CTI Gateway.

Procedure

Step 1 Select **Cisco Unified Communications Manager Administration** > **User Management** > **User Settings** > **Access Control Group**.

Step 2 Click **Find**.

Step 3 Click **Standard CTI Enabled**.

Step 4 Click **Add App Users to Group**.

Step 5 Select the Application user that you created for the CTI Gateway.

Step 6 Click **Add Selected**.

Step 7 Click **Save**.

What to Do Next

Assign CTI Device Control to the Application User, on page 8

Related Topics

Configure an Application User for CTI Gateway, on page 7

Assign CTI Device Control to the Application User

Complete the following procedure to assign CTI device control to the application user.

Before You Begin

Configure an Application user for the CTI gateway.

Procedure

Step 1 Select **Cisco Unified Communications Manager Administration** > **User Management** > **User Settings** > **Access Control Group**.

Step 2 Click **Find**.

Step 3 Select **Standard CTI Allow Control of All Devices**. If you are deploying an RT model of Cisco Unified IP phones, select **Standard CTI Allow Control of Phones supporting Connected Xfer and conf**

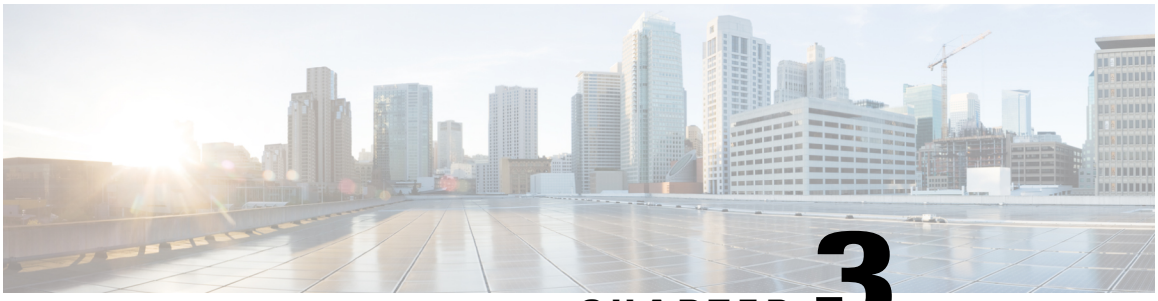
Step 4 Click **Add App Users to Group**.

Step 5 Select the Application user that you created for the CTI Gateway.

Step 6 Click **Add Selected**.

Related Topics

Configure an Application User for CTI Gateway, on page 7
Add Application User to a CTI-Enabled Access Control Group, on page 7



CHAPTER 3

Configuration of IM and Presence Service for Integration with Microsoft OCS

- Configure Service Parameters, page 9
- Configure an Incoming Access Control List, page 10
- Configure Routing Settings, page 10
- Remote Call Control Settings Configuration, page 11

Configure Service Parameters

The SIP message routing from IM and Presence Service to Microsoft Office Communicator is based on the Record-Route header added by Microsoft OCS in the initial request. IM and Presence Service resolves the hostname in the Record-Route header to an IP address and routes the SIP messages to the Microsoft Office Communicator client.

In addition the transport type on IM and Presence Service should be the same as the transport type configured on Microsoft OCS for the IM and Presence Service route (either TLS or TCP respectively).

Procedure

Step 1 Select **Cisco Unified CM IM and Presence Administration** > **System** > **Service Parameters**.

Step 2 Select the IM and Presence Service node.

Step 3 Select the service **Cisco SIP Proxy**.

Step 4 Verify that the following parameters are configured correctly:

a) The **Proxy Domain** parameter value must define the enterprise top-level domain name (e.g. "example.com"). This parameter specifies which URIs are treated as local and handled by this IM and Presence Service installation. Other SIP requests may be proxied.

b) Enable the **Add Record-Route Header** parameter.

c) Enable the **Use Transport in Record-Route Header** parameter.

d) The **SIP Route Header Transport Type** parameter value must be set to the same type as the transport parameter configured on Microsoft OCS for the Microsoft OCS to IM and Presence Service route.

Step 5 Click **Save**.

Step 6 Restart the Cisco UP SIP Proxy service on IM and Presence Service. For more information, see the *Cisco Unified Serviceability Administration Guide*.

Configure an Incoming Access Control List

Procedure

Step 1 Select **Cisco Unified CM IM and Presence Administration** > **System** > **Security** > **Incoming ACL**.

Step 2 Click **Add New**.

Step 3 Enter a description in the Description field.

Step 4 Enter IP address, host name, or Fully Qualified Domain Name (FQDN) of the associated Microsoft OCS server in the Address Pattern field.

Step 5 Click **Save**.

What to Do Next

Configure Routing Settings, on page 10

Configure Routing Settings

Procedure

Step 1 Select **Cisco Unified CM IM and Presence Administration** > **Presence** > **Routing** > **Settings**.

Step 2 Click **On** for Method/Event Routing Status.

Step 3 Click **Default Cisco SIP Proxy TCP Listener** for the Preferred Proxy Server.

Step 4 Click **Save**.

What to Do Next

Remote Call Control Settings Configuration, on page 11

Remote Call Control Settings Configuration

Configure CTI Connections on IM and Presence Service

Before You Begin

Obtain the username and password that you configured for the Application user account on the associated Cisco Unified Communications Manager server for the CTI Gateway.

Procedure

Step 1 Select **Cisco Unified CM IM and Presence Administration** > **Application** > **Microsoft RCC** > **Settings**.

Step 2 Select **On** from the Application Status menu.

Step 3 Enter the CTI Gateway application username and password.

Tip The username and password are case sensitive and must match what is configured on Cisco Unified Communications Manager.

Step 4 Enter a value (in seconds) for the heartbeat interval. This is the length of time between heartbeat messages sent from IM and Presence Service to the Cisco Unified Communications Manager nodes to monitor the CTI connections.

Step 5 Enter a value (in seconds) for the session timer. This is the session timer for the Microsoft Office Communicator sign-in session.

Step 6 Select **MOC server OCS** as the Microsoft Server Type.

Note You must install the Phone Selection plug-in on Microsoft Office Communicator for any users who use more than one line appearance for remote call control. The Phone Selection plug-in adds a tab to the Microsoft Office Communicator client that enables the user to select a line appearance to control.

Step 7 As required, enter the IP address of each Cisco Unified Communications Manager node with which you want to establish a CTI connection.

Note You can configure a CTI connection with up to eight Cisco Unified Communications Manager nodes. These nodes must all belong to the same Cisco Unified Communications Manager cluster.]

Step 8 Select **Save**.

What to Do Next

Assign User Capabilities, on page 12

Related Topics

Configure an Application User for CTI Gateway, on page 7
Deployment of Phone Selection Plug-in, on page 43
Run Microsoft RCC Troubleshooter, on page 12

Assign User Capabilities

Procedure

Step 1 Select **Cisco Unified CM IM and Presence Administration** > **Application** > **Microsoft RCC** > **User Assignment**.

Step 2 Click **Find**.

Step 3 Check the users to whom you want to assign the remote call control capabilities and click **Assign Selected Users**.

Step 4 Check **Enable Microsoft RCC** in the **Microsoft RCC Assignment** window and click **Save**.

Troubleshooting Tips

- Make sure that you have assigned remote call control capabilities to each Microsoft Office Communicator user.

What to Do Next

Configuration of Microsoft Components for Integration with IM and Presence Service, on page 13

Related Topics

Configure CTI Connections on IM and Presence Service, on page 11
Run Microsoft RCC Troubleshooter, on page 12

Run Microsoft RCC Troubleshooter

The Microsoft RCC Troubleshooter validates the configuration that supports the integration of the Microsoft Office Communicator client with IM and Presence Service.

Procedure

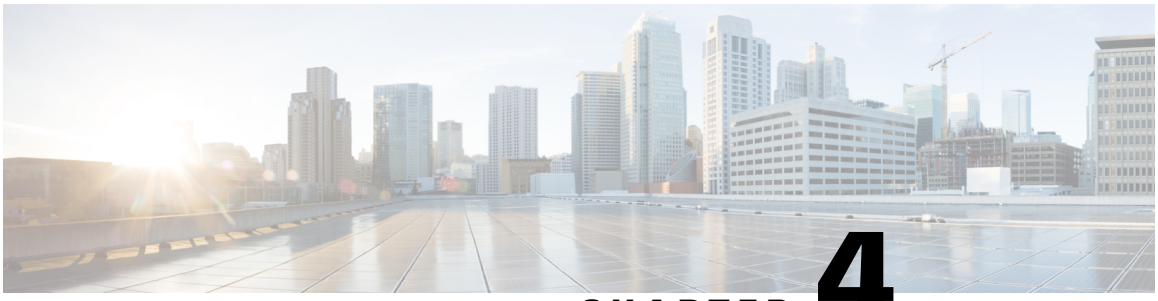
Step 1 Select **Cisco Unified CM IM and Presence Administration** > **Diagnostics** > **Microsoft RCC Troubleshooter**.

Step 2 Enter a valid user ID.

Tip Select **Search** to find the ID for a user.

Step 3 Enter the Microsoft OCS server address.

Step 4 Click **Submit**.



CHAPTER 4

Configuration of Microsoft Components for Integration with IM and Presence Service

- Line URI Configuration on Microsoft Active Directory, page 13
- User Authentication on IM and Presence Service, page 14
- Configure Microsoft Active Directory, page 14
- Microsoft OCS Configuration Overview, page 15

Line URI Configuration on Microsoft Active Directory

Before you configure the Line URI parameter on Microsoft Active Directory, note the following:

- For the Line URI, we recommend that you use the format: tel:xxxx;phone-context=dialstring
  - xxxx also specifies the directory number that the CTI Manager reports to IM and Presence Service as the calling or called number when a call gets placed.
  - phone-context=dialstring enables the Microsoft Office Communicator client to control one of the devices that are associated with the directory number.
- If you configure the device ID, the Microsoft Office Communicator client controls that particular device on initial sign in; for example: tel:xxxx;phone-context=dialstring;device=SEP0002FD3BB5C5
- If you configure the partition, the Microsoft Office Communicator client specifies the partition for the directory number; for example: tel:xxxx;phone-context=dialstring;device=SEP0002FD3BB5C5;partition=myPartition
- The Line URI only takes effect when the Microsoft Office Communicator user signs in.
- After initial sign in, the Microsoft Office Communicator user can change the line appearance that they wish to control using the Phone Selection plug-in.
- If you do not configure the device ID in the Line URI, the CTI Gateway determines the devices that are associated with the line Directory Number (DN). If only one device is associated with the line DN, the CTI Gateway uses that device.

Related Topics

Line Appearances, on page 3
User Authentication on IM and Presence Service, on page 14
Deployment of Phone Selection Plug-in, on page 43

User Authentication on IM and Presence Service

When configuring the SIP URI on Microsoft Active Directory, consider how the IM and Presence Service performs the user authentication checks. The user authentication logic is as follows:

1. IM and Presence Service checks if the Microsoft Office Communicator (sign in) user ID matches the Cisco Unified Communications Manager user ID. If IM and Presence Service cannot find a match:
2. IM and Presence Service checks if the Microsoft Office Communicator user email (the From header) matches the Cisco Unified Communications Manager user email. If IM and Presence Service cannot find a match:
3. IM and Presence Service checks if the Microsoft Office Communicator user email matches the ocsPrimaryAddress value of a Cisco Unified Communications Manager user.

For example, a user Joe has the Microsoft Office Communicator user ID joe@someCompany.com. The From header in the SIP INVITE is sip:joe@someCompany.com.

In this case, IM and Presence Service checks the following:

- If there is a user in the Cisco Unified Communications Manager database whose user ID is 'joe'. If this user ID does not exist:
- If there is a user in the Cisco Unified Communications Manager database whose mail is 'joe@someCompany.com'. If this mail does not exist:
- If there is a user in the Cisco Unified Communications Manager database whose ocsPrimaryAddress is 'sip:joe@someCompany.com'.

Configure Microsoft Active Directory

Before You Begin

- Read the topic describing Line URI configuration on Microsoft Active Directory.
- Read the topic describing the user authentication checks on IM and Presence Service.

Procedure

Step 1 From the Microsoft Active Directory application window, add a user name and the telephone number that are associated with each particular user.

Step 2 For each of the users that you added, open the Properties window on Microsoft Active Directory and configure the following parameters:

a) Enable the user for the Office Communications Server.
b) Enter the SIP URI.
c) Enter the Microsoft OCS server name or pool.
Caution Ensure the OCS server name or pool name does not contain the underscore character.
d) Under Telephony Settings, select **Configure**.
e) Check **Enable Remote call control**.
f) Enter the Remote Call Control SIP URI; for example, sip:8000@my-cups.my-domain.com, where my-cups.my-domain.com specifies the FQDN of the IM and Presence Service node that you configured for this integration.
g) Enter the Line URI value.
Troubleshooting Tip

The SIP URI that you enter on Microsoft Active Directory must match the static route URI that you define when you are configuring static routes on Microsoft OCS.

What to Do Next

Microsoft OCS Configuration Overview, on page 15

Related Topics

Line URI Configuration on Microsoft Active Directory, on page 13
User Authentication on IM and Presence Service, on page 14
Line Appearances, on page 3
http://technet2.microsoft.com/windowsserver/en/technologies/featured/ad/default.mspx

Microsoft OCS Configuration Overview

Note This topic provides a brief outline of the configuration required on Microsoft OCS for this integration. A detailed description of Microsoft OCS configuration is out of the scope of this module. Please refer to the Microsoft OCS documentation for this information.

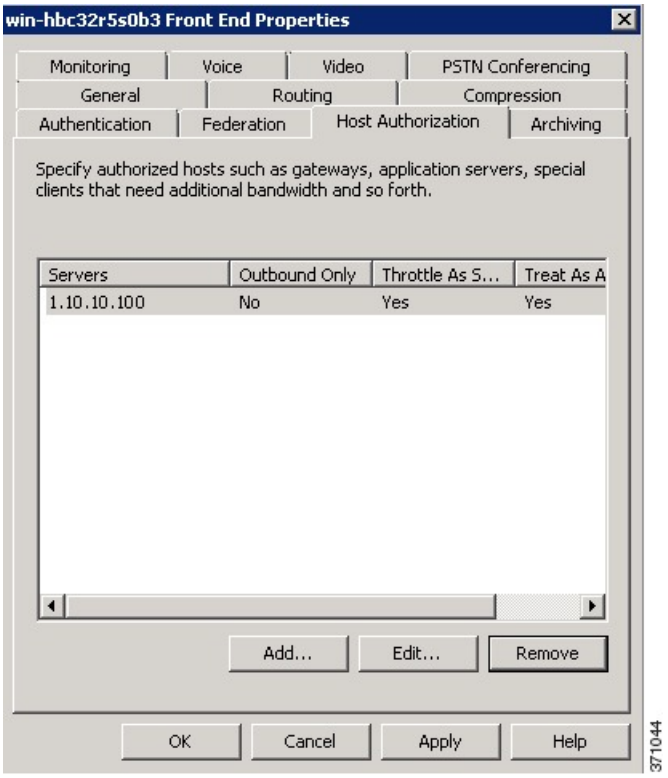
Make sure that the Microsoft OCS server is properly installed and activated. Make sure that the following items are configured on Microsoft OCS:

- Certificate configuration
- Static Routes
- Authorized Host
- Domain Name Server
- Pool Properties
- Server Properties
- Pool Users

- User Configuration
- Microsoft Office Communicator (MOC) Configuration

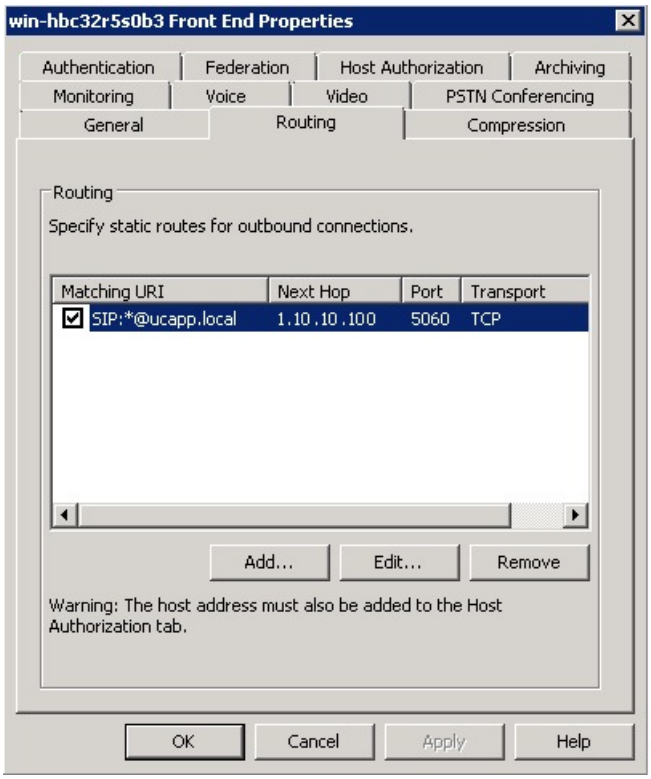
OCS Front-End Properties - Host Authorization

Figure 2: OCS Front-End Properties - Host Authorization



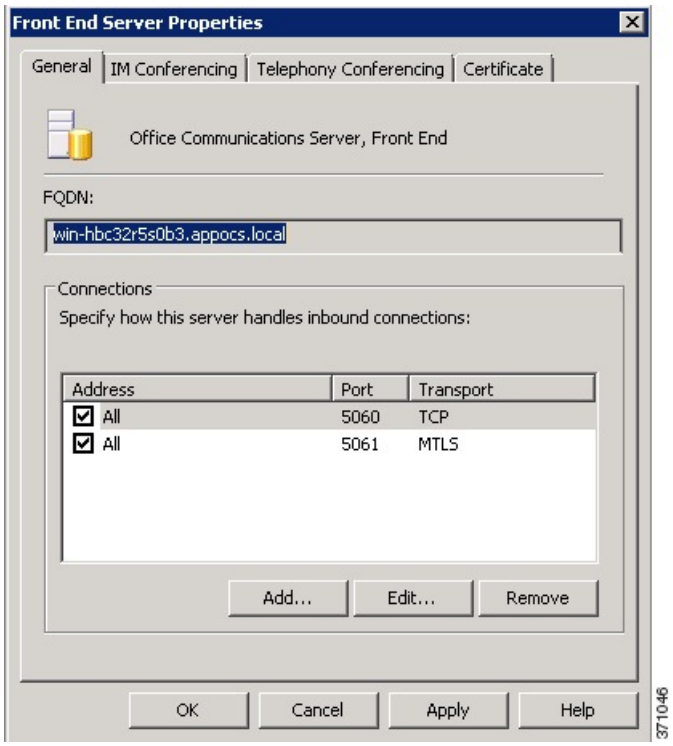
OCS Front-End Properties - Routing

Figure 3: OCS Front-End Properties - Routing



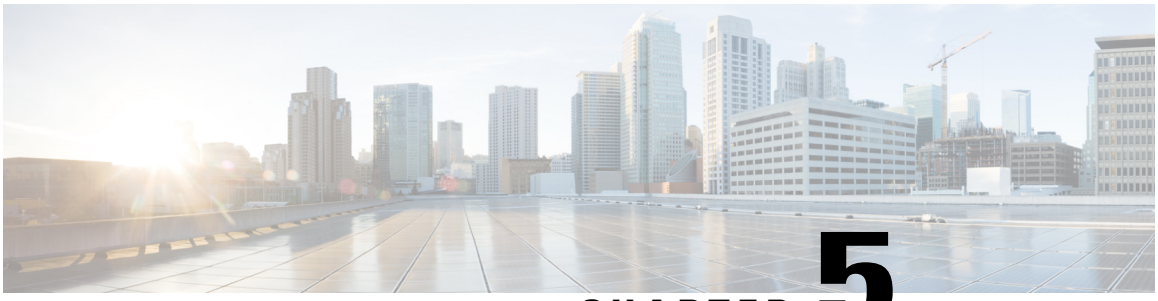
OCS Front-End Server Properties - General Tab

Figure 4: OCS Front-End Server Properties - General Tab



Related Topics

Configure Normalization Rules on Microsoft Active Directory, on page 19
Security Certificate Configuration for Microsoft OCS, on page 31
Configure a TLS Route for IM and Presence Service on Microsoft OCS, on page 36
Configure IM and Presence Service as an Authenticated Host on Microsoft OCS, on page 37
http://office.microsoft.com/en-us/communicationsserver/FX101729111033.aspx



CHAPTER 5

Configuration of Normalization Rules on Microsoft Active Directory

- Configure Normalization Rules on Microsoft Active Directory, page 19
- Verify Username Displays on Microsoft Office Communicator Interface, page 20
- Sample Normalization Rules, page 21

Configure Normalization Rules on Microsoft Active Directory

A reverse look-up of a directory number to username does not work under these conditions:

- a Microsoft Office Communicator user is controlling the Cisco Unified IP Phone
- there is an incoming voice call to that user
- the directory number for the user is configured as E.164 in the Active Directory
- Active Directory phone number normalization rules are not set up

Under these conditions, the application identifies the call as coming from an extension number, and the username will not display in Microsoft Office Communicator.

Therefore you must set up the correct normalization rules for the Active Directory address book on the Microsoft Office Communicator server to enable the Microsoft Office Communicator user to see name of the calling party in the popup window that displays when the call is made.

Note You must provide a normalization rule file for extension dialing. See the sample normalization rules topic for an example.

Before You Begin

The CA-signed certificate for Microsoft OCS needs to be on the Microsoft Office Communicator PC to achieve correct certificate distribution for address book synchronization. If a common CA is used to sign certificates, for example Verisign or RSA, the CA certificate may already come installed on the PC.

Procedure

Step 1 Use this directory path to add the Normalization rules to this file: C:\Program Files\Microsoft Office Communications Server 2007\Web Components\Address Book Files\Files\Company_Phone_Number_Normalization_Rules.txt

Step 2 Use this directory path to run the Address Book server (ABServer) and regenerate the Normalization rules: C:\Program Files\Microsoft Office Communications Server 2007\Server\Core>Abserver.exe -regenUR

Note You might have to wait up to five minutes for a UR regenerate to complete successfully.

Step 3 Use this directory path to synchronize the ABServer: C:\Program Files\Microsoft Office Communications Server 2007\Server\Core>ABServer.exe -syncnow

Note You might have to wait up to five minutes for an ABServer synchronization to complete successfully.

Step 4 After the synchronization is complete, check the Microsoft OCS server Event Viewer and verify that it indicates that the synchronization is complete.

Step 5 Test the Normalization rule on the Phone number: C:\Program Files\Microsoft Office Communications Server 2007\Server\Core>Abserver.exe -testPhoneNorm <E164 phone number>

What to Do Next

Verify Username Displays on Microsoft Office Communicator Interface, on page 20

Related Topics

Sample Normalization Rules, on page 21

Verify Username Displays on Microsoft Office Communicator Interface

You must verify that the user is able to see name of the calling party in the Microsoft Office Communicator popup window that displays when the call is made.

Before You Begin

Configure the normalization rules on Microsoft Active Directory.

Procedure

Step 1 Exit Microsoft Office Communicator. Do not just sign out.

Step 2 Delete the address book file contacts.db at the following location: C:\Documents and Settings\<username>\Local Settings\Application Data\Microsoft\Communicator

Step 3 Start the Microsoft Office Communicator client and sign in again.

Step 4 Verify that galcontacts.db is created.

Step 5 Exit Microsoft Office Communicator again, sign in, and verify that the username displays in Microsoft Office Communicator.

Related Topics

Configure Normalization Rules on Microsoft Active Directory, on page 19
Sample Normalization Rules, on page 21

Sample Normalization Rules

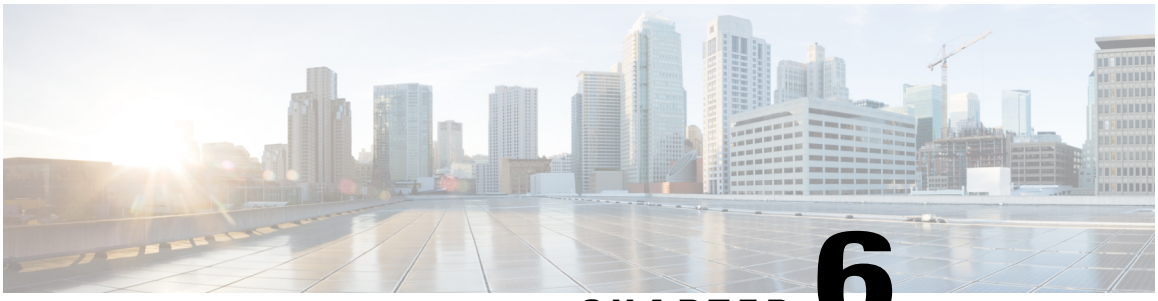
```
# ++ test RTP## PSTN:+61262637900, Extension:37XXX # +61262637ddd
[\s()\-\./\+]*(61)?[\s()\-\./]*0?(2)\)?[\s()\-\./]*(6263)[\s()\-\./]*(7\d\d\d)
 3$4;phone-context=dialstring # ++ test1 RTP ## Site:, PSTN:+61388043300,
 Extension:33XXX
[\s()\-\./\+]*(61)?[\s()\-\./]*0?(3)\)?[\s()\-\./]*(8804)[\s()\-\./]*(3\d\d\d)
 3$4;phone-context=dialstring #Test input +61388043187, Test result->
tel:33187;phone-context=dialstring # ++ test2 RTP ## PSTN:+61292929000,
Extension:29XXX
[\s()\-\./\+]*(61)?[\s()\-\./]*0?(2)\)?[\s()\-\./]*(9292)[\s()\-\./]*(9\d\d\d)
 2$4;phone-context=dialstring # Test input +61292929761, test result->
tel:29761;phone-context=dialstring
```

You must provide a normalization rule file for extension dialing. For example, a sample normalization rule for three digit extension dialing is:

```
^(\d{3}) $1;phone-context=dialstring
```

Related Topics

Configure Normalization Rules on Microsoft Active Directory, on page 19
Verify Username Displays on Microsoft Office Communicator Interface, on page 20



CHAPTER 6

Security Certificate Configuration for IM and Presence Service

This topic is only applicable if you require a secure connection between IM and Presence Service and Microsoft OCS.

This topic describes how to configure security certificates using a standalone CA. If you use an enterprise CA, refer to the *Interdomain Federation for IM and Presence Service on Cisco Unified Communications Manager* for an example of the certificate exchange procedure using an enterprise CA.

Note SIP Proxy certificates (own and trust) should be X.509 version 3 compliant.

- Configure Standalone Root Certificate Authority (CA), page 24
- Download Root Certificate from CA Server, page 24
- Upload Root Certificate onto IM and Presence Service, page 25
- Generate a Certificate Signing Request for IM and Presence Service, page 26
- Download Certificate Signing Request from IM and Presence Service, page 26
- Submit Certificate Signing Request on CA Server, page 27
- Download Signed Certificate from CA Server, page 28
- Upload Signed Certificate to IM and Presence Service, page 28

Configure Standalone Root Certificate Authority (CA)

Procedure

Step 1 Sign in to the CA server with Domain Administrator privileges.
Step 2 Insert the Windows Server 2003 CD.
Step 3 Select**Start** > **Settings** > **Control Panel**.
Step 4 Double-click **Add or Remove Programs**.
Step 5 Click **Add/Remove Windows Components**.
Step 6 Select **Application Server**.
Step 7 Select **Internet Information Services (IIS)**.
Step 8 Complete the installation procedure.
Step 9 Click **Add/Remove Windows Components**.
Step 10 Select **Certificate Services**.
Step 11 Click **Next**.
Step 12 Select **Standalone root CA**.
Step 13 Click **Next**.
Step 14 Type the name of the CA root.
Note This name can be a friendly name for the CA root in the forest root.
Step 15 Change the time to the number of years required for this certificate.
Step 16 Click **Next** to begin installation.
Step 17 Select the location for the certificate database and the certificate database files.
Step 18 Click **Next**.
Step 19 Click **Yes** when prompted to stop IIS.
Step 20 Click **Yes** when prompted with a message regarding Active Server Pages.
Step 21 Click **Finish**.

What to Do Next

Download Root Certificate from CA Server, on page 24.

Download Root Certificate from CA Server

Before You Begin

Configure the Standalone Root Certificate Authority.

Procedure

Step 1 Sign in to your CA server and open a web browser.

Step 2 Open the URL **http://<ca_server_IP_address>/certsrv**.

Step 3 Click on **Download a CA certificate, certificate chain, or CRL**.

Step 4 Click **Base 64** for the Encoding Method.

Step 5 Click **Download CA Certificate**.

Step 6 Save the certificate file certnew.cer to the local disk.

Troubleshooting Tips

If you do not know the Subject Common Name (CN) of the root certificate, you can use an external certificate management tool to find out. On Windows operating system, you can right-click the certificate file with a .cer extension and open the certificate properties.

What to Do Next

Upload Root Certificate onto IM and Presence Service, on page 25

Related Topics

Configure Standalone Root Certificate Authority (CA), on page 24

Upload Root Certificate onto IM and Presence Service

Before You Begin

Download the Root Certificate from the CA Server.

Procedure

Step 1 Copy the certnew.cer file to the local computer that you use to administer the IM and Presence Service node.

Step 2 Select **Cisco Unified IM and Presence Operating System Administration** > **Security** > **Certificate Management**.

Step 3 Click **Upload Certificate**.

Step 4 Select **cup-trust** from the Certificate Name menu.

Note Leave the Root Name field blank.

Step 5 Click **Browse**.

Step 6 Locate the certnew.cer file on your local computer.

Note You may need to change the certificate file to a .pem extension.

Step 7 Click **Upload File**.

Tip Make a note of the new CA certificate filename you have uploaded to the cup-trust using the Certificate Management Find screen. This certificate filename (without the .pem or .der extension) is the value you enter in the 'Root CA' field when uploading the CA-signed SIP proxy certificate.

What to Do Next

Generate a Certificate Signing Request for IM and Presence Service, on page 26

Related Topics

Download Root Certificate from CA Server, on page 24
Upload Signed Certificate to IM and Presence Service, on page 28

Generate a Certificate Signing Request for IM and Presence Service

Before You Begin

Upload the Root Certificate onto IM and Presence Service.

Procedure

Step 1 Select **Cisco Unified IM and Presence Operating System Administration** > **Security** > **Certificate Management**.

Step 2 Click **Generate CSR**.

Step 3 Select **cup** from the Certificate Name menu.

Step 4 Click **Generate CSR**.

What to Do Next

Download Certificate Signing Request from IM and Presence Service, on page 26

Related Topics

Upload Root Certificate onto IM and Presence Service, on page 25

Download Certificate Signing Request from IM and Presence Service

Before You Begin

Generate a Certificate Signing Request for IM and Presence Service.

Procedure

Step 1 Select **Cisco Unified IM and Presence Operating System Administration** > **Security** > **Certificate Management**.

Step 2 Click **Download CSR**.

Step 3 Select **cup** from the Certificate Name menu.

Step 4 Click **Download CSR**.

Step 5 Click **Save** to save the cup.csr file to your local computer.

What to Do Next

Submit Certificate Signing Request on CA Server, on page 27

Related Topics

Generate a Certificate Signing Request for IM and Presence Service, on page 26

Submit Certificate Signing Request on CA Server

Before You Begin

Download the Certificate Signing Request from IM and Presence Service.

Procedure

Step 1 Copy the certificate request file cup.csr to your CA server.

Step 2 Open the URL **http://local-server/certserv** or **http://127.0.0.1/certsrv**.

Step 3 Click **Request a certificate**.

Step 4 Click **Advanced certificate request**.

Step 5 Select **Submit a certificate request by using a base-64-encoded CMC or PKCS #10 file, or submit a renewal request by using a base-64-encoded PKCS #7 file**.

Step 6 Using a text editor like Notepad, open the cup self-certificate that you generated.

Step 7 Copy all information from and including
-----BEGIN CERTIFICATE REQUEST

to and including

END CERTIFICATE REQUEST-----

Step 8 Paste the content of the certificate request into the Certificate Request text box.

Step 9 Click **Submit**.
The Request ID number displays.

Step 10 Open **Certificate Authority** in Administrative Tools.
The Certificate Authority window displays the request you just submitted under Pending Requests.

Step 11 Right-click on your certificate request.
Step 12 Select **All TasksIssue**.
Step 13 Select **Issued certificates** and verify that your certificate has been issued.

What to Do Next

Download Signed Certificate from CA Server, on page 28

Related Topics

Download Certificate Signing Request from IM and Presence Service, on page 26

Download Signed Certificate from CA Server

Before You Begin

Submit the Certificate Signing Request on the CA Server.

Procedure

Step 1 Open **http://<local_server>/certsrv** on the Windows server that CA is running on.
Step 2 Click **View the status of a pending certificate request**.
Step 3 Select the option to view the request that was just submitted.
Step 4 Click **Base 64 encoded**.
Step 5 Click **Download certificate**.
Step 6 Save the signed certificate to the local disk
Step 7 Rename the certificate **cup.pem**.
Step 8 Copy the cup.pem file to your local computer.

What to Do Next

Upload Signed Certificate to IM and Presence Service, on page 28

Related Topics

Submit Certificate Signing Request on CA Server, on page 27

Upload Signed Certificate to IM and Presence Service

Before You Begin

Download the Signed Certificate from the CA Server.

Procedure

Step 1 Select **Cisco Unified IM and Presence Operating System Administration** > **Security** > **Certificate Management**.

Step 2 Click **Upload Certificate**.

Step 3 Select **cup** from the Certificate Name menu**.**

Step 4 Specify the root certificate name. The root certificate name must contain the .pem or .der extension.

Step 5 Click **Browse**.

Step 6 Locate the signed **cup.pem** certificate on your local computer.

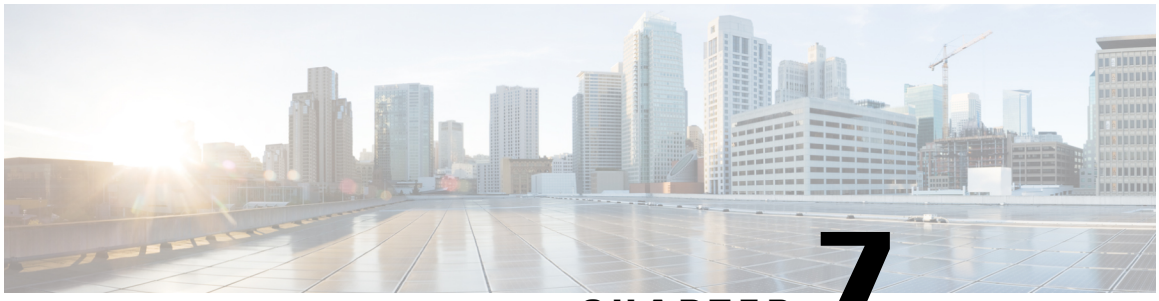
Step 7 Click **Upload File**.

What to Do Next

Security Certificate Configuration for Microsoft OCS, on page 31

Related Topics

Download Signed Certificate from CA Server, on page 28



CHAPTER 7

Configuration of Security between IM and Presence Service and Microsoft OCS

This topic is only applicable if you require a secure connection between IM and Presence Service and Microsoft OCS.

- Security Certificate Configuration for Microsoft OCS, page 31
- Configure a TLS Route for IM and Presence Service on Microsoft OCS, page 36
- Configure IM and Presence Service as an Authenticated Host on Microsoft OCS, page 37
- Configure Microsoft OCS to Use TLSv1, page 37
- Create a New TLS Peer Subject for Microsoft OCS on IM and Presence Service, page 38
- Add TLS Peer to Selected TLS Peer Subjects List on IM and Presence Service, page 38

Security Certificate Configuration for Microsoft OCS

Download CA Certification Chain

Procedure

Step 1 Select **Start** > **Run**.

Step 2 Perform the following actions:

a) Type **http://<name of your Issuing CA Server>/certsrv**.

b) Click **OK**.

Step 3 Click **Download a CA certificate, certificate chain, or CRL** from Select a task.

Step 4 Click **Download CA certificate chain**.

Step 5 Click **Save** in the File Download dialog box.

Step 6 Save the file on a hard disk drive on your server.

Troubleshooting Tips

The certificate file has an extension of .p7b. If you open this .p7b file, the chain will have the following two certificates:

- name of Standalone root CA certificate
- name of Standalone subordinate CA certificate (if any)

What to Do Next

Install CA Certification Chain, on page 32

Install CA Certification Chain

Before You Begin

Download the CA Certification Chain.

Procedure

Step 1 Select **Start** > **Run**.

Step 2 Perform the following actions:
a) Enter **mmc**.
b) Click **OK**.

Step 3 Select **File** > **Add/Remove Snap-in**.

Step 4 Click **Add** in the Add/Remove Snap-in dialog box.

Step 5 Select **Certificates** in the list of Available Standalone Snap-ins.

Step 6 Click **Add**.

Step 7 Click **Computer account**.

Step 8 Click **Next**.

Step 9 Perform the following actions from the Select Computer dialog box:
a) Ensure **Local computer: (the computer this console is running on)** is selected.
b) Click **Finish**.
c) Click **Close**
d) Click **OK**.

Step 10 Expand **Certificates (Local Computer)** in the left pane of the Certificates console.

Step 11 Expand **Trusted Root Certification Authorities**.

Step 12 Right-click **Certificates**.

Step 13 Perform the following actions:
a) Point to All Tasks.

b) Click **Import**.

Step 14 Click **Next** in the Import Wizard.

Step 15 Click **Browse** and locate the certificate chain on your computer.

Step 16 Click **Open**.

Step 17 Click **Next**.

Step 18 Leave the default value **Place all certificates in the following store** selected.

Step 19 Ensure **Trusted Root Certification Authorities** appears under the Certificate store.

Step 20 Click **Next**.

Step 21 Click **Finish**.

What to Do Next

Submit Certificate Request on CA Server, on page 33

Related Topics

Download CA Certification Chain, on page 31

Submit Certificate Request on CA Server

Before You Begin

Install the CA Certification Chain.

Procedure

Step 1 On the computer requiring a certificate, open a Web browser.

Step 2 Enter the URL **http://<name of your Issuing CA server>/certsrv.**

Step 3 Click **Enter**.

Step 4 Click **Request a Certificate**.

Step 5 Click **Advanced certificate request**.

Step 6 Click **Create and submit a request to this CA**.

Step 7 Select **Other** in the Type of Certificate Needed list.

Step 8 In the Name field of the Identifying Information section, enter the **FQDN**. The name must match the name of the Microsoft OCS, which is usually the FQDN.

Step 9 In the OID field, type the following OID: **1.3.6.1.5.5.7.3.1,1.3.6.1.5.5.7.3.2**.

Note A comma separates the two 1s in the middle of the OID.

Step 10 Perform one of the following procedures:

a) If you are using Windows Certificate Authority 2003, check **Store certificate in the local computer certificate store** in Key Options.

b) If you are using Windows Certificate Authority 2008, refer to the workaround described in the Troubleshooting Tips of this topic.

Step 11 Enter a friendly name.

Step 12 Click **Submit**.

Step 13 Click **Yes** in the Potential Scripting Violation dialog box.

Troubleshooting Tips

If you are using Windows Certificate Authority 2008, you no longer have the option to store the certificate in the local computer store on the certificate enrollment page. Perform the following workaround to replace Step 10 in the procedure:

a) Sign out of the Microsoft OCS server.
b) Sign in to the Microsoft OCS server as a Local user.
c) Create the certificate.
d) Approve the certificate from the CA server.
e) Export the certificate to a file.
f) Sign out of the Microsoft OCS server.
g) Sign in to the Microsoft OCS server as a Domain user.
h) Import the certificate file using the Certificate wizard. The certificate displays in the Microsoft OCS certificate tab (because it is installed in the Local Computer store).

What to Do Next

Approve and Install Certificate, on page 34

Related Topics

Install CA Certification Chain, on page 32

Approve and Install Certificate

Before You Begin

Submit the Certificate Request on the CA Server.

Procedure

Step 1 Sign in to the enterprise subordinate CA server with Domain Administrator credentials.

Step 2 Select **Start** > **Run**.

Step 3 Perform the following actions:

a) Enter **mmc**.

b) Click **Enter**.

Step 4 Select **File** > **Add/Remove Snap-in**.

Step 5 Click **Add**.

Step 6 Select **Certification Authority** in Add Standalone Snap-in.

Step 7 Click **Add**.

Step 8 In Certification Authority, accept the default option **Local computer (the computer this console is running on)**.

Step 9 Click **Finish**.

Step 10 Click **Close**.

Step 11 Click **OK**.

Step 12 In the MMC, expand Certification Authority and expand your issuing certificate server.

Step 13 Select **Pending request**.

Step 14 In the Details pane, perform the following actions

a) Right-click the request identified by its request ID.

b) Point to All Tasks.

c) Select **Issue**.

Step 15 Select **Start** > **Run** on the server from which you requested the certificate.

Step 16 Type **http://<name of your Issuing CA Server>/certsrv**.

Step 17 Click **OK**.

Step 18 Select **View the status of a pending certificate request** from Select a task.

Step 19 Select your certificate request.

Step 20 Click **Install this certificate**.

What to Do Next

Configure Installed Certificate, on page 35

Related Topics

Submit Certificate Request on CA Server, on page 33

Configure Installed Certificate

Before You Begin

Approve and install the Certificate.

Procedure

Step 1 Select **Start** > **Programs** > **Administrative Tools** > **Internet Information Services (IIS) Manager**.
Step 2 Expand the (local computer) tree on the right pane.
Step 3 Select **Default Web Site**.
Step 4 Right-click to open the Properties dialog box.
Step 5 Select the **Certificate** tab from the **Default Web Site** Properties dialog box.
Step 6 If a certificate has already been selected, select **Delete Certificate** to remove the selection
Step 7 Click **Certificate** to launch the Certificate Wizard.
Step 8 Using the Certificate Wizard, select the certificate that was installed for Microsoft OCS.
Step 9 Launch the **Microsoft Office Communications Server 2007** application.
Step 10 In the right pane, select the server that represents the local machine.
Step 11 Right-click on the server.
Step 12 Select **Properties** > **Front End Properties**.
Step 13 Select the **Certificate** tab.
Step 14 Click **Select Certificate**.
Step 15 Find and select the installed certificate for Microsoft OCS.

What to Do Next

Configure a TLS Route for IM and Presence Service on Microsoft OCS, on page 36

Related Topics

Approve and Install Certificate, on page 34

Configure a TLS Route for IM and Presence Service on Microsoft OCS

Procedure

Step 1 Launch the **Microsoft Office Communications Server 2007** application.
Step 2 Right-click on Microsoft OCS Server pool in the right pane.
Step 3 Select **Properties** > **Front End Properties**.
Step 4 Select the **Routing** tab from the **Front End Server Properties** dialog box.
Step 5 Click **Add**.
Step 6 Perform the following actions to add a static route:
a) Enter the hostname/FQDN for IM and Presence Service in the **Domain** field.
Note This should match with Subject CN of the IM and Presence Service certificate otherwise Microsoft OCS will not establish a TLS connection with IM and Presence Service.

b) Select **TLS** from the Transport menu.
c) Enter **5062** in the **Port** field. The port number 5062 is the default IM and Presence Service port where it listens for peer authentication TLS connections.
d) Check **Replace host in request URI**.
e) Click **OK**.

Troubleshooting Tip

You can check Subject CN of an IM and Presence Service certificate by selecting **Cisco Unified CM IM and Presence Operating System Administration** > **Security** > **Certificate Management**, and selecting a certificate entry in the certificate list.

What to Do Next

Configure IM and Presence Service as an Authenticated Host on Microsoft OCS, on page 37

Configure IM and Presence Service as an Authenticated Host on Microsoft OCS

Procedure

Step 1 Launch the **Microsoft Office Communications Server 2007** application.
Step 2 Right-click on Microsoft OCS Server pool in the right pane.
Step 3 Select **Properties** > **Front End Properties**.
Step 4 Select the **Host Authorization** tab.
Step 5 Click **Add**.
Step 6 Select FQDN and enter the CUP X.509 Subject Common Name as it appears in its certificate.
Step 7 Check **Throttle as server**.
Step 8 Check **Treat as Authenticated**.
Step 9 Click **OK**.
Step 10 Reboot the Microsoft OCS server.
When the server reboots, the Microsoft OCS server pool should display the outbound static route just configured.

What to Do Next

Configure Microsoft OCS to Use TLSv1, on page 37

Configure Microsoft OCS to Use TLSv1

IM and Presence Service only supports TLSv1 so you must configure Microsoft OCS to use TLSv1. This procedure describes how to configure FIPS-compliant algorithms on Microsoft OCS to ensure that Microsoft OCS sends TLSv1 with TLS cipher TLS_RSA_WITH_3DES_EDE_CBC_SHA.

Procedure

Step 1 Select **Start** > **Administrative Tools** > **Local Security Policy**.
Step 2 Select **Security Settings** in the console tree.
Step 3 Select **Local Policies**.
Step 4 Select **Security Options**.
Step 5 Double-click the FIPS security setting in the Details pane.
Step 6 Modify the security setting.
Step 7 Click **OK**.
Step 8 Restart the Windows Server for the change to the FIBS security setting to take effect.

What to Do Next

Create a New TLS Peer Subject for Microsoft OCS on IM and Presence Service, on page 38

Create a New TLS Peer Subject for Microsoft OCS on IM and Presence Service

Procedure

Step 1 Select **Cisco Unified CM IM and Presence Administration** > **System** > **Security** > **TLS Peer Subjects**.
Step 2 Click **Add New**.
Step 3 Enter the subject CN of the certificate that Microsoft OCS presents in the Peer Subject Name field.
Step 4 Enter the name of the Microsoft OCS server in the Description field.
Step 5 Click **Save**.

What to Do Next

Add TLS Peer to Selected TLS Peer Subjects List on IM and Presence Service, on page 38

Add TLS Peer to Selected TLS Peer Subjects List on IM and Presence Service

Before You Begin

Creating a new TLS Peer Subject for Microsoft OCS on IM and Presence Service.

Procedure

Step 1 Select **Cisco Unified CM IM and Presence Administration** > **System** > **Security** > **TLS Context Configuration**.

Step 2 Click **Find**.

Step 3 Select **Default_Cisco_UPS_SIP_Proxy_Peer_Auth_TLS_Context**.
The TLS Context Configuration window displays.

Step 4 From the list of available TLS ciphers, select **TLS_RSA_WITH_3DES_EDE_CBC_SHA**.

Step 5 Click the right arrow to move this cipher to **Selected TLS Ciphers**.

Step 6 Check **Disable Empty TLS Fragments**.

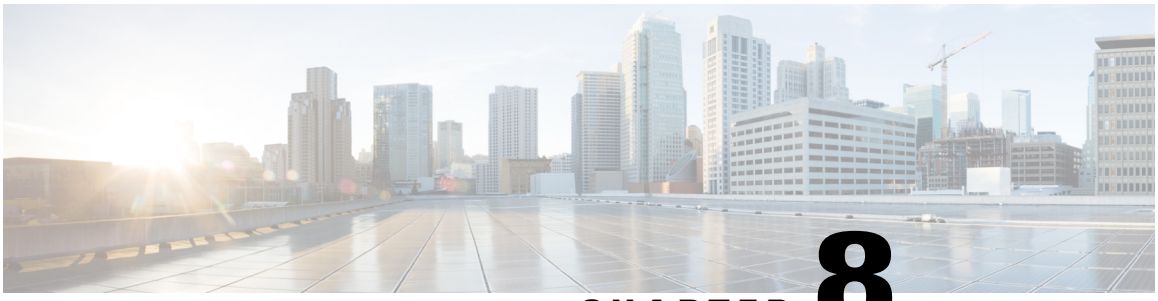
Step 7 From the list of available TLS peer subjects, select the TLS peer subject that you configured.

Step 8 Click the right arrow to move it to **Selected TLS Peer Subjects**.

Step 9 Click **Save**.

Related Topics

Create a New TLS Peer Subject for Microsoft OCS on IM and Presence Service, on page 38



CHAPTER 8

Load Balancing over TCP

This topic describes how to incorporate a load balancer in an IM and Presence Service dual-node configuration for use with incoming CSTA/TCP connections. We recommend the Cisco CSS 11501 Content Services Switch for the load balancer.

The following table gives an overview of the necessary tasks for configuring the Cisco CSS 11501 Content Services Switch for this integration. For detailed information on each task, refer to the Cisco CSS 11500 Content Services Switch documentation at the following URL:

http://www.cisco.com/en/US/products/hw/contnetw/ps792/products_installation_and_configuration_guides_list.html

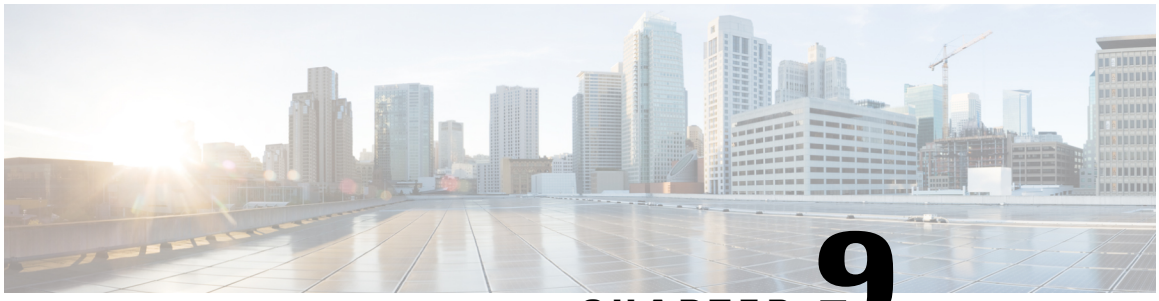
Table 1: Cisco CSS 11501 Configuration Checklist for Load Balancing over TCP

Task	Additional Notes
Create a SIP service entry for each IM and Presence Service node.	• The keepalive port should be the same port as the content, port 5060. • The keepalive message type value should be 'tcp'.
Create a SIP rule that defines the content and the services that will manage this content	The content is SIP on port 5060 The SIP service entries (for each IM and Presence Service node) must be associated to the rule.
Create a NAT (Network Address Translation) rule to show the Virtual IP Address of Load Balancer	The NAT rule shows the packets returning from the IM and Presence Service node to Microsoft OCS as coming from the Load Balancer (and not directly from the IM and Presence Service node).

On Microsoft OCS, you must configure the following parameters:

- The next hop address to be the Virtual IP address of Load Balancer for the SIP message routing.
- The default TCP listener on port 5060.

On IM and Presence Service, you must configure the Virtual IP address of the Load Balancer. This is configured in the Virtual IP address field in **Cisco Unified CM IM and Presence Administration** > **System** > **Service Parameters** > **Cisco SIP Proxy** > **General Proxy Parameters (Clusterwide)**.



CHAPTER 9

Microsoft OCS Remote Call Control Installation

- Deployment of Phone Selection Plug-in, page 43
- Install Phone Selection Plug-in on a Client PC, page 43
- Uninstall Phone Selection Plug-in, page 44
- Access Phone Selection Through a Web Browser, page 44
- Troubleshooting Remote Call Control, page 45
- Distribution of Plug-in Information, page 48

Deployment of Phone Selection Plug-in

The Phone Selection plug-in adds a Device Selection tab to the Microsoft Office Communicator client interface that enables the user to select a phone device to control. Microsoft Office Communicator connects to the IM and Presence Service node, and the Phone Selection tab displays in a pane below the contacts list on Microsoft Office Communicator, as shown in User Unable to Switch Selected Device from Cisco Unified IP Phone to Cisco IP Communicator, on page 45.

You must install the Phone Selection plug-in for the user if:

- on IM and Presence Service, the Microsoft Server Type value is MOC Server OCS, and
- the user has multiple devices (lines), and
- on Microsoft OCS, the LINE URI for the user does not uniquely identify a line appearance (for example, there is no device=, or partition=, or both, in the LINE URI)

Install Phone Selection Plug-in on a Client PC

Before You Begin

For this procedure you will require:

- Your username and password for Cisco Unified Communications Manager IM and Presence Service User Options.

- The Phone Selection plug-in installer file **Cisco MOC RCC Plug-in.msi**, which you can download from Cisco Unified CM IM and Presence Administration. To download the plug-in select **Application > Plugins** and click the link **Cisco Unified CM IM and Presence MOC Remote Call Control Plugin**.
- The administrator must assign the user to the "Standard CCM End User" Group. Confirm that you have been added to this group.

Procedure

Step 1 Run the following command on the client PC, where the CUPFQDN value specifies the FQDN of your IM and Presence Service node:
msiexec /I "*plug_in_filename***.msi" CUPFQDN=***my-CUP.cisco.com* **/L*V install_log.txt**

Note If you do not specify the FQDN of your IM and Presence Service node in this command the plug-in installation will be aborted.

Step 2 Follow the installation instructions to finish installing the Phone Selection plug-in.

Step 3 Launch Microsoft Office Communicator, and verify that the IM and Presence Service tab connects and displays on the interface.

Uninstall Phone Selection Plug-in

To uninstall the Phone Selection plug-in, run the following command on the client PC:

msiexec /x "<*plug_in_filename*>" /L*V install_log.txt

Access Phone Selection Through a Web Browser

You use the Cisco Unified Communications Manager IM and Presence Service User Options Web interface (Web interface) to customize settings, create personal response messages, and organize contacts.

Before You Begin

Confirm the following information from your system administrator:

- The hostname, FQDN, or IP address for the Web interface.
- Your username and password for the Web interface.
- To be able to log in to the Web interface, the administrator must assign the user to the "Standard CCM End User" Group. Confirm that you have been added to this group.

Procedure

Step 1 Open a supported Web browser on your computer.

Step 2 Enter the URL for the Web interface:

https://*imp_ip*:8443/cupuser/mocSelectEdit.do?mini-true

Where *imp_ip* is the hostname, FQDN, or IP address of the IM and Presence Service node.

Step 3 Enter your username for the Web interface.

Step 4 Enter your password for the Web interface that was provided by your system administrator.

Step 5 Click **Login**.

To log out of the Web interface, click **Logout** in the upper right corner of the **User Options** page. For security purposes, you will be automatically logged out of the Web interface after thirty minutes of inactivity.

Troubleshooting Remote Call Control

Microsoft Office Communicator Users Hear Two Beeps for Each DTMF Tone

When running Microsoft Office Communicator with Remote Call Control, users can select Cisco IP Communicator as their phone device.

In this scenario, when a user makes a call and enters DTMF tones (for example, when entering a voicemail password), the DTMF tones beep twice for each button press—once from Microsoft Office Communicator and once from Cisco IP Communicator. This is normal and expected behavior when DTMF is negotiated in-band; it does not happen if DTMF is negotiated out-of-band.

User Unable to Switch Selected Device from Cisco Unified IP Phone to Cisco IP Communicator

This problem can occur if you have configured the device name for Cisco IP Communicator to be the same as the Cisco Unified Communications manager username. This is not a supported configuration, and you should change the device name for Cisco IP Communicator to a unique name.

Remote Call Control is Not Working Following OCS Restart

If Remote Call Control is not working for the Microsoft Office Communicator users, and the SIP Proxy service is not processing incoming messages from the Microsoft Office Communicator Server, check the following:

This can be caused by a high number of simultaneous sign in attempts on Microsoft Office Communicator after restarting the

Microsoft OCS. When many of these attempts are made concurrently, the SIP Proxy service is flooded with INVITES and INFO messages.

1. Notify users about the service outage and recommend that they sign out of Microsoft Office Communicator during this time.
2. Stop the SIP Proxy service.
3. Restart the Microsoft OCS.
4. Restart the SIP Proxy service.
5. Notify users that they must sign in again to ensure that Remote Call Control is working properly.

Microsoft Office Communicator Client Cannot Connect to the IM and Presence Service Tab

If the Microsoft Office Communicator client cannot connect to the IM and Presence Service tab, check the following:

- You may have specified an invalid IP address or FQDN for your IM and Presence Service node. Repeat the plug-in installation procedure, specifying the correct IM and Presence Service node address in the command in Step 1.
- If you experience tab connection problems, note the following:
  - You may need to add the web address of the IM and Presence Service node to the list of trusted web addresses in the browser on the client PC. In Microsoft Internet Explorer, select **Internet Options** > **Security** > **Trusted Sites**, and add the web address **https://<***IM and Presence Service_node_name***>** to the list of trusted web addresses.
  - You may need to add the HTTPS web address of your domain to the security zone of the IM and Presence Service node. In Microsoft Internet Explorer, select **Internet Options** > **Security** > **Local intranet** > **Sites** > **Advanced**, and add the entry **https://*.***your-domain* to the list of web addresses for the security zone.
- If an error message displays informing users that they do not have permission to use this feature, you need to enable users for Microsoft Office Communicator on IM and Presence Service.

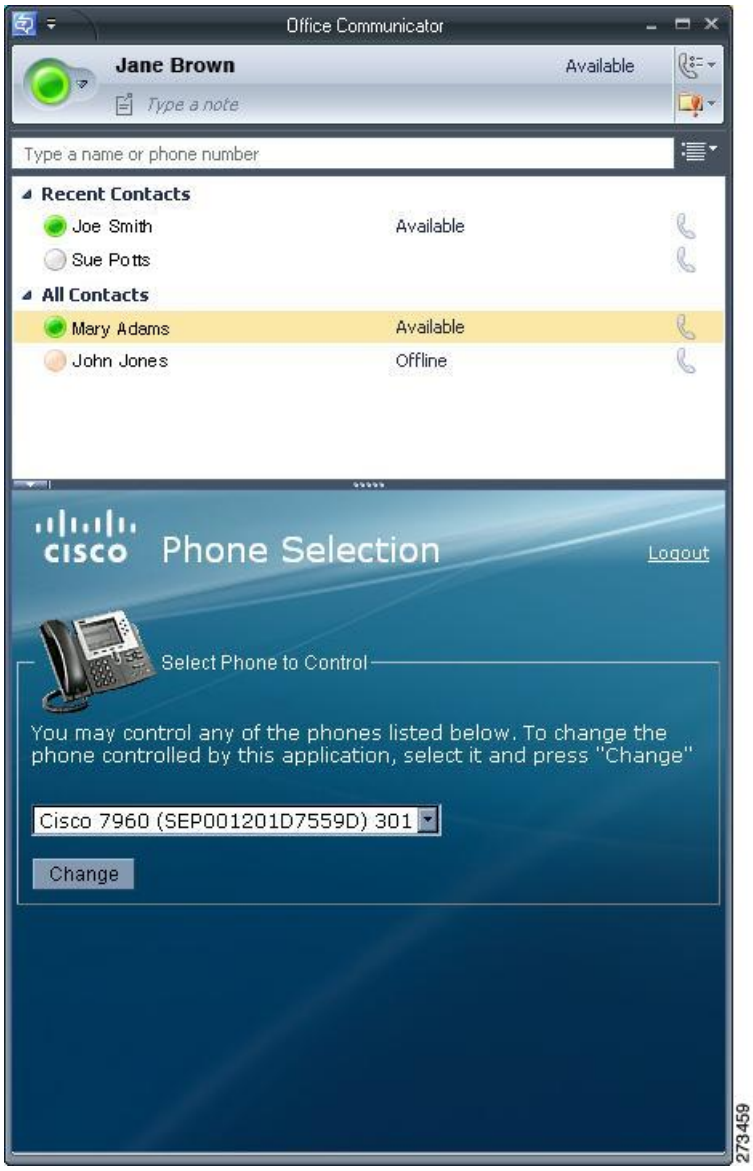
Problems Installing the Plug-in on Microsoft Vista

If you are running a Microsoft Vista platform and you experience problems installing the plug-in, you may need to turn off User Access Control (UAC) on the client PC. Follow this procedure to turn off UAC:

1. Sign in to the client PC with the credentials of a member of the local Administrators group.
2. Select **Start** > **Control Panel** > **User Accounts**.
3. Select **User Accounts** in the User Accounts pane.
4. Select **Turn User Account Control On or Off** in the User Accounts task pane.
5. If UAC is currently configured in Admin Approval Mode, the User Account Control message displays. Select **Continue**.
6. Uncheck **Use User Account Control (UAC) to help protect your computer**.
7. Select **OK**.

8 Select **Restart Now** to apply the change.

Figure 5: Microsoft Office Communicator client with Phone Selection tab



Related Topics

Uninstall Phone Selection Plug-in, on page 44
Distribution of Plug-in Information, on page 48

Distribution of Plug-in Information

Provide..	Explanation
Sign in information	Provide your user base with their usernames and passwords for the IM and Presence Service interface.
Instructions for using the Phone Selection plug-in.	Provide your users with the *Quick Start Guide for the Phone Selection Plug-In for the Microsoft Office Communicator Call Control Feature for Cisco Unified Presence Release 7.03*.