A MITEL
PRODUCT
GUIDE

Unify OpenScape Xpressions V7

Cisco UC Manager

Installation Guide
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Mitel

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History of Change

Date	Changes	Reason
12/2011	First draft	
12/2012	Cisco UC Manager 9.0	
03/2015	Removed all references to H.323	FRN9525

1 About this Manual

This chapter contains the following information:

1.1 Who should read this Manual?

This setup manual addresses all persons who wish to connect the Cisco UC Manager to an XPR server for CTI, Voice and MWI. The complete name of Cisco UC Manager is Cisco UC Manager.

1.2 Manual Structure

This manual is divided into the following sections:

Chapter 1, “About this Manual”

This chapter describes information about the structure, content and use of this manual.

Chapter 2, “Installation”

This chapter describes how to install and configure the Cisco UC Manager for CTI, Voice and MWI.

1.3 Representation Conventions

In this manual, we use the following markups and representations to highlight information.

- Text Markups
- Representation of the Setup Process
- Further Markups

1.3.1 Text Markups

In this manual we use the following markups to highlight selected text passages.

Markup	for the following elements	Example
Italic	• Book title • Highlighted names	*Server Administration*
`Courier`	• System entries and outputs • File names and system directory specifications • File contents	`conn %CONNECTION_NAME%`
Boldface	• Menu names and entries in a GUI • Names of GUI entry fields • GUI buttons • GUI tabs • Highlighted individual names	Click on **Save** to…
<*Text in pointed brackets*>	Specifications that may have individual content.	• `C:\`<*user directory*>`\` • <*address list*>
Blue-highlighted	Active cross reference for skipping to the specified passage in the manual.	• Text Markups • Chapter 2, “Installation”

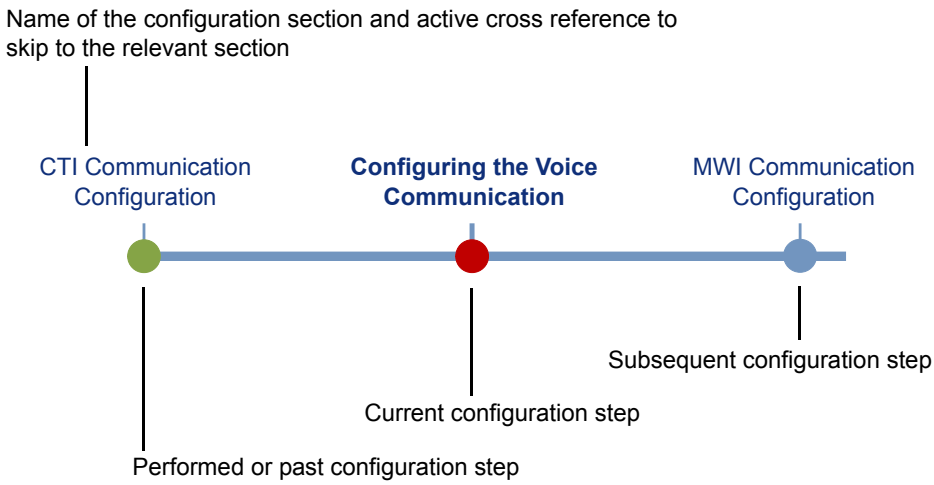
1.3.2 Representation of the Setup Process

In Chapter 2, “Installation”, a graphic representation shows on each page which stage in the setup process you have currently reached. This will help you to orientate yourself in the described setup process.

You can also use the graphic representation to navigate in the setup chapter. Simply click on the name of the setup section you want to switch to. You immediately reach the first page of the selected section then.

The different elements in the graphic representation have the following significance.

1.3.3 Further Markups



Critical notes and additional information are indicated in this manual in the following manner:

IMPORTANT: Notes indicated in this way signalize **high priority** information. You definitely need to read such notes to rule out malfunctions, damages to devices or possible loss of data.

NOTE: Notes indicated in this way point to information worth knowing or practical suggestions.

1.4 Software Versions used

For the information in this documentation applies:

- All work steps described for the Cisco UC Manager refer to the Cisco UC Manager **software version 6.1, 7.1.3, 8.0 and 9.0**
- All work steps described for the **Cisco TAPI Service Provider** (Cisco-TSP) refer to the Cisco TSP **software version 8.6.X**.

NOTE: The screens depicted in this documentation refer to version 6.1 of the Cisco UC Manager. Options that the versions 7.1 and 8.0 interfaces provide in addition are irrelevant for the described installation.

1.5 Continuative Information

For reasons of clarity, the following setup instructions cannot describe all system adjustments technically possible for a communication solution of XPR server and Cisco UC Manager.

So that you can perform further, specific adjustments after the setup described here, we recommend the following continuative documentation:

- *OpenScape Xpressions Server Administration* manual
- Cisco UC Manager and Cisco TSP producer documentation
  Source: http://www.cisco.co.

2 Installation

Connecting the XPR server to the Cisco UC Manager enables the following features:

- CTI
- Fax
- Conferencing
- MWI

The connections can be realized via the following options:

- TAPI for CTI
- SIP as trunk for Fax/ Voice/ Conferencing

NOTE: You can combine the SIP technology with the TAPI connection. The SIP technology **must** be extended by the TAPI connection.

Since the setup procedure depends on the features, this installation chapter is divided into the following sections:

- CTI Communication Configuration
- Configuring the Voice Communication
- MWI Communication Configuration

2.1 Demands on the Installing Personnel

This manual addresses installing personnel who have the following knowledge and experience:

- General knowledge of information technology
- Good Windows operation skills
- Working experience with setting up and configuring software on Windows systems
- Working experience with setting up and configuring the XPR server
- Working experience with configuring the Cisco UC Manager.

2.2 CTI Communication Configuration

2.2.1 Requirements

The Cisco TSP is required for the CTI communication between Cisco UC Manager and XPR server.

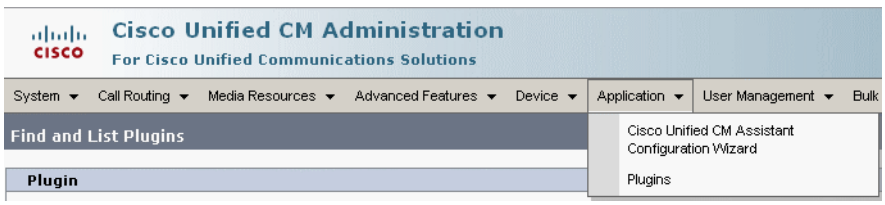
The Cisco TSP setup is divided into the following sections:

- Downloading the Cisco TSP setup file
- Installing the Cisco TSP

Downloading the Cisco TSP setup file

Before you can install the Cisco TSP you need to download the TSP setup file from the Cisco UC Manager. Proceed as follows:

1. Log on to the administration website of the Cisco UC Manager from the XPR server computer system.
2. In the main menu of the administration website select **Application > Plugins**.



3. Start searching for the plugin with **Find** without setting any search criteria.

   The hitlist displays, among other things, the **Cisco Telephony Service Provider**.

4. Use the Download link to download the Cisco TSP to the local computer system of the XPR server.

You thus have downloaded the Cisco TSP from the Cisco UC Manager. As described in the following, you can now install the Cisco TSP on the XPR server.

Installing Cisco TSP

How to install the Cisco TSP on the computer system of the XPR server.

1. Start the `CiscoTSPx64` file with a doubleclick.
2. Select the language to be used by the TSP driver setup wizard and confirm your selection with **OK**.

   The setup wizard to guide you through the following installation steps opens.

3. Confirm the welcome dialog of the setup wizard with **Next**.

4. Specify the directory in which the Cisco TSP shall be installed and continue with **Next**.
5. Skip the query for TSP entities to be installed and continue with **Next**.

   In this way, exactly one TSP entity is installed for the CTI communication relation between XPR server and Cisco UC Manager.

NOTE: For each Cisco UC Manager system to communicate with the local XPR server one TSP entity must be installed and configured.

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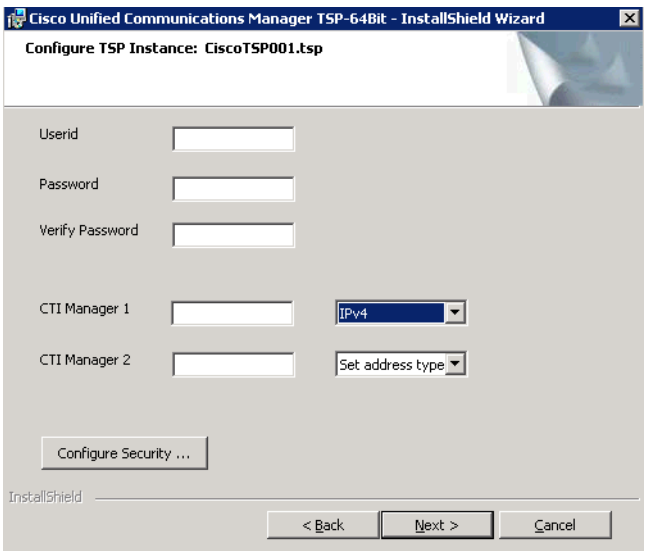
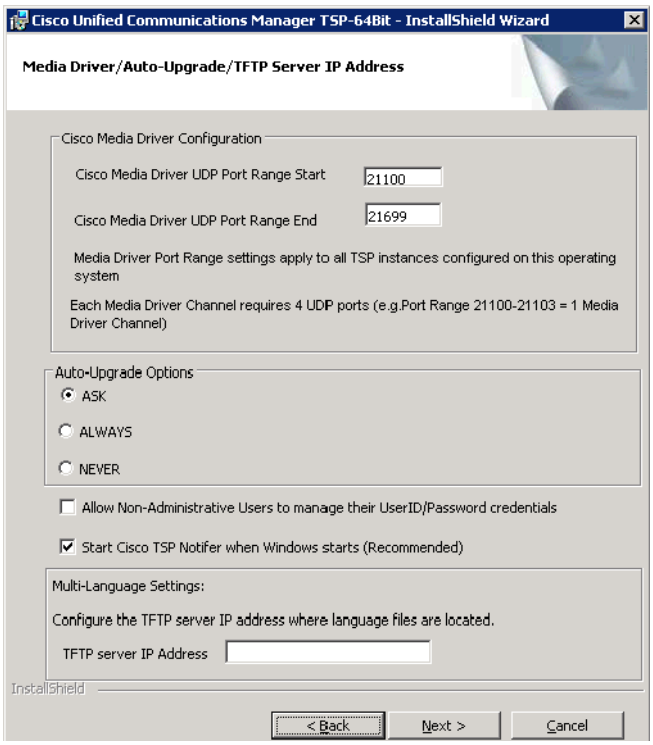
6. Enter the user data under **Userid**, **Password** and the IP address of the CTI Manager in the **CTI Manager 1** field. Then continue with **Next**.



7. Check the default settings and continue with **Next**.



8. Check the settings made. If all specifications are correct, continue with **Next**.

   If you wish to modify the settings made, click the **Back** button.

9. Select **Finish** to complete the Cisco TSP installation.

   To activate the newly installed Cisco TSP the computer system must be rebooted.

NOTE: The reboot stops **all services** started on the computer system. If you are not sure whether these services also include productive services that **must not be interrupted**, please contact the system administrator in charge **before you continue**.

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10. Select **Yes** to reboot the computer system.

You have now installed the Cisco TSP on the computer system of the XPR server.

2.2.2 Configuration

The CTI communication configuration is divided into the following sections:

In the Cisco UC Manager:

- Creating an Application User
- Activating CTI for Telephones.

On the XPR server computer system:

- Installing the Cisco TSP
- Configuring the CTI Link.

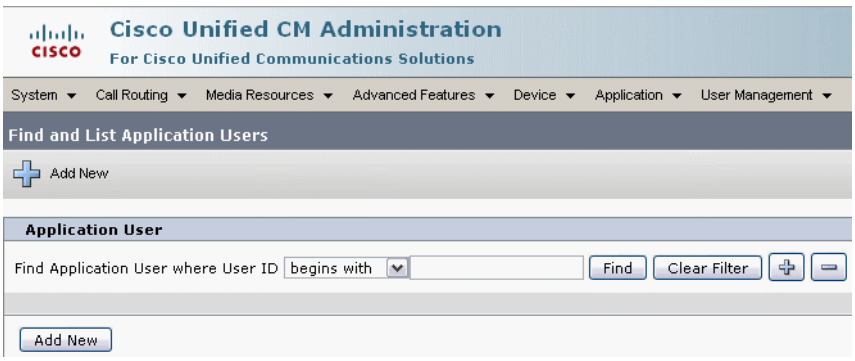
2.2.2.1 Creating an Application User

You need to create an application user in the Cisco UC Manager for the CTI communication between XPR server and Cisco UC Manager. Based on this user, communication between the Cisco UC Manager and the Cisco TSP of the XPR server will later be authorized.

How to create the application user in the Cisco UC Manager.

1. Log on to the administration website of the Cisco UC Manager with administrator privileges.
2. In the administration website main menu select **User Management > Application User**.

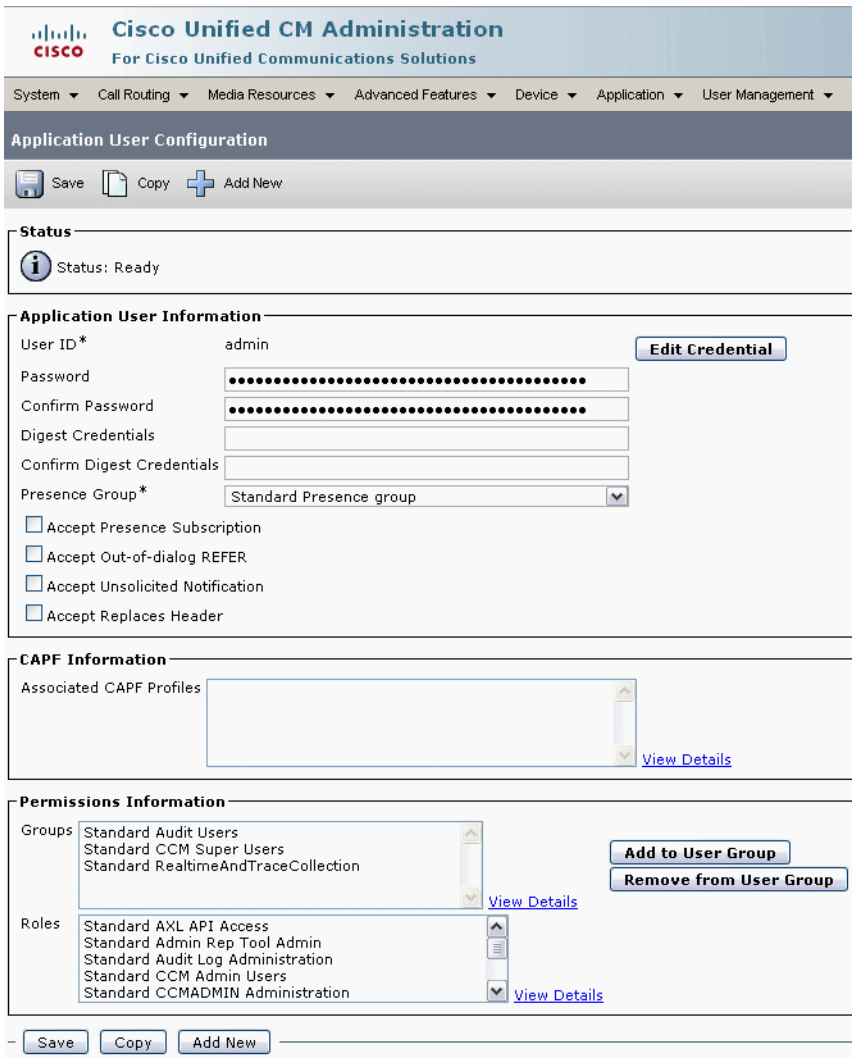
3. Select **Add New**.



4. In the **User ID** field specify a unique name for the application user – for our example **VM-AU**.
5. Enter a password in the **Password** field and repeat it in the **Confirm Password** field.
6. From the **Available Devices** field copy all devices to that you want to have monitored via CTI to **Controlled Devices**.

7. Click on **Add to User Group** to add the following users groups to the **Permissions Information – Groups** field:

   - **Standard CTI Allow Control of All Devices**
   - **Standard CTI Enabled**.



8. Select **Save** to save the application user settings. The values are copied to **Roles**.

You have now created an application user.

2.2.2.2 Activating CTI for Telephones

To enable the Cisco UC Manager monitoring its phones via CTI, you need to activate CTI monitoring individually for the appropriate terminal devices. Proceed as follows:

1. In the main menu of the administration website select **Device > Phone**.
2. Start searching for the terminal device with **Find** without setting any search criteria.

   The hitlist displays all terminal devices configured in the Cisco UC Manager.
3. Open the settings of a device to be monitored via CTI and activate the **Device Information > Allow Control of Device from CTI** option.
4. Select **Save** to save the terminal device settings.
5. Activate the **Device Information > Allow Control of Device from CTI** option also for all other terminal devices to be monitored via CTI.

You have now activated the CTI monitoring for the terminal devices.

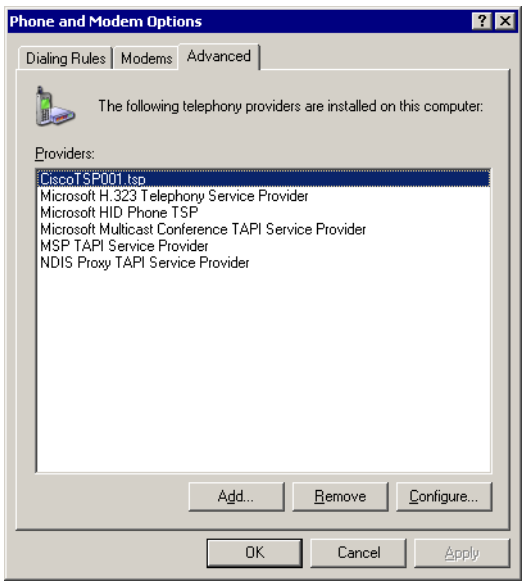
2.2.2.3 Installing the Cisco TSP

The Cisco TSP is required for the CTI communication between Cisco UC Manager and XPR server.

How to configure the Cisco TSP on the XPR server computer system:

1. In the Windows **Start** menu on the XPR server computer system select **Control Panel > Phone and Modem Options**.
2. If a site-information prompt appears at this point, enter the information and continue with **OK**.

3. In the **Phone and Modem Options** dialog switch to the **Advanced** tab.



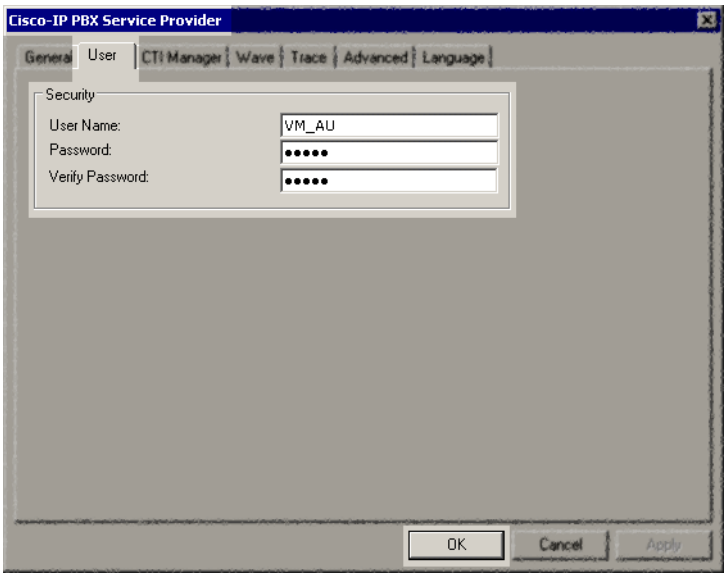
4. Select the TSP entry **CiscoTSP001.tsp** with a doubleclick.

   The number in the `CiscoTSPxxx.tsp` expression depends on the number of configured TSP entities and can assume the values *001* to *010*. In the preparations for our example we have merely configured one TSP entity (cf.Section 2.2.1, “Installing Cisco TSP”, on page 14).

5. Switch to the **User** tab in the **Cisco Unified Communication Manager TSP** configuration dialog.

6. In the **User Name** field, specify the user ID of the application user you have previously created in the Cisco UC Manager. Compare Section 2.2.2.1, “Creating an Application User”, on page 17.

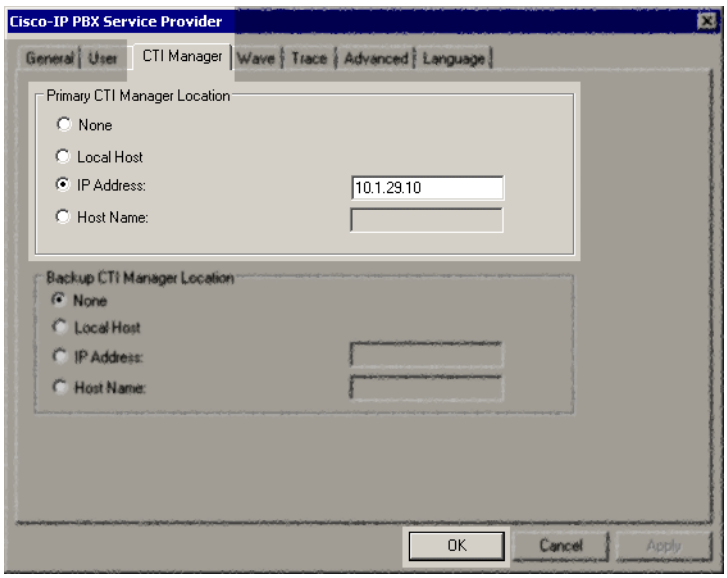
7. Enter the associated password in the **Password** and **Verify Password** field.



8. Select **OK** to save the user settings.
9. Switch to the **CTI Manager** tab.

10. In the **Primary CTI Manager Location – IP Address** field, enter the IP address of the computer system on which the Cisco UC Manager is installed.

    If the network can resolve the associated host name via DNS, you can also enter the corresponding host name in the **Host Name** field.



11. Select **OK** to save the CTI settings.

For all other tabs and parameters you can keep the given default values.

You have now installed and configured the Cisco TSP.

2.2.2.4 Configuring the CTI Link

How to configure the CTI link to the Cisco UC Manager in the XPR server CTI APL:

1. Log on to the XPR monitor with administrator privileges.
2. In the modules window of the XPR monitor select **<Settings> > ctiAPL > Set Options** with a doubleclick.

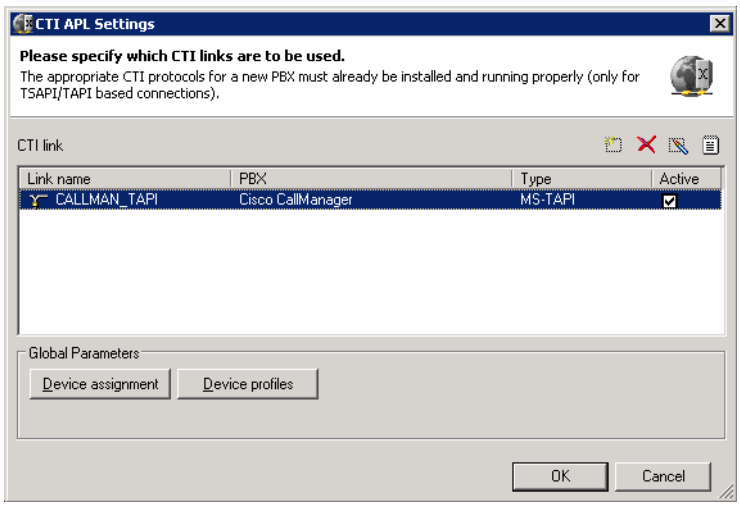
   The **CTI APL Settings** dialog opens.

3. Select **Add** to configure a new CTI link.

   The **Add CTI Channel** dialog opens.

4. Select the **Cisco – Cisco UC Manager…** entry from the PBX list and select **OK**.

5. In the **Active** column tick the checkbox for the new CTI link to activate it.



6. Select **OK** to save the CTI APL settings.

You thus have configured the CTI link to the Cisco UC Manager. You find information about further, special CTI link adjustments in the *OpenScape Xpressions Server Administration* manual.

The CTI communication configuration is thus complete.

2.3 Configuring the Voice Communication

The voice communication configuration is divided into the following sections:

In the Cisco UC Manager:

- Configuring the Connection
- Creating a Route Pattern

On the XPR server computer system:

- Configuring the Device
- Configuring the Voicemail Protocol

NOTE: The following work steps require the previous Cisco UC Manager installation. This installation is described in the Cisco UC Manager producer documentation.

2.3.1 Requirements on the Voice Configuration

This manual describes the setup steps for connecting an XPR server to a Cisco UC Manager. The requirements that apply for the setup environment depend on the Cisco UC Manager connecting via a SIP to the XPR server.

2.3.1.1 SIP Connection

For the setup description of the SIP connection we assume the following as regards the setup environment:

- A smoothly operating basic installation of a non-distributed XPR server that contains the following XPR components:
  - an IP APL
    for voice communication between Cisco UC Manager and XPR server
  - a Notification APL
    for creating the MWI notifications in the XPR server
  - a voicemail protocol
    (in these setup instructions we use the Ergo voicemail protocol as example).

  Specialties in the environment of a distributed XPR server are described in Section 2.5, “Cisco UC Manager at a distributed XPR Server”, on page 40
- A smoothly operating basic installation of the Cisco UC Manager

- An operable LAN connection between the XPR server and the Cisco UC Manager

Additionally required product licenses

You do not need any additional product licenses for connecting an XPR server to a Cisco UC Manager via SIP.

2.3.2 Configuring the Connection

- SIP connection:
  - Configuring the SIP Connection

2.3.2.1 Configuring the SIP Connection

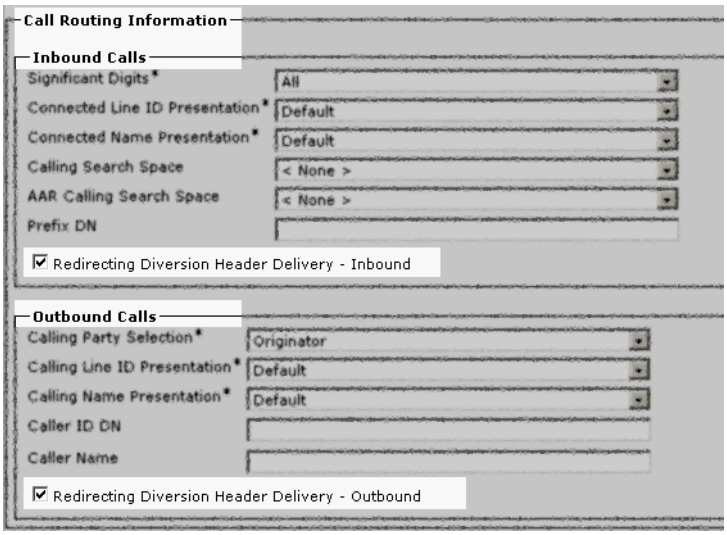
To enable the Cisco UC Manager handing calls over to the XPR server, an SIP trunk must be configured in the Cisco UC Manager.

How to configure a new SIP trunk in the Cisco UC Manager:

1. Log on to the administration website of the Cisco UC Manager with administrator privileges.
2. In the main menu of the administration website select **Device > Trunk**.
3. Select **Add New**.
4. In the **Trunk Type** field select the **SIP Trunk** entry.
5. In the **Device Protocol** field select the **SIP** entry.
6. In the **Trunk Service Type** field select the **None (default)** entry.
7. Select **Next**.
8. Specify a name for the new SIP trunk in the **Device Name** field – in our example **VM_TRUNK**.

   Under this name, the Cisco UC Manager manages the SIP trunk internally.
9. In the **Device Pool** field select the **Default** entry.
10. Under **Call Routing Information – Inbound Calls** activate the **Redirecting Diversion Header Delivery – Inbound** option.

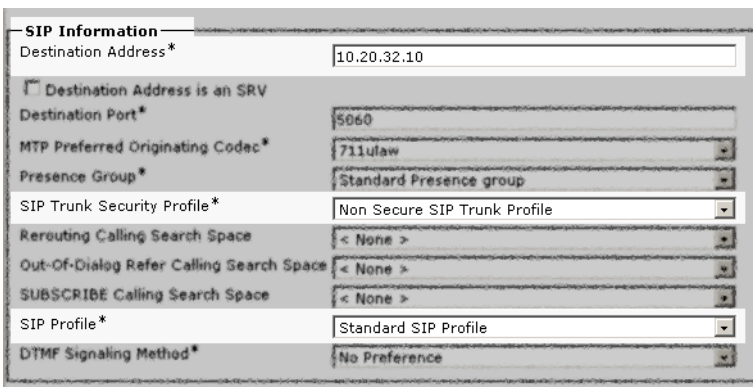
11. Under **Call Routing Information – Outbound Calls** activate the **Redirecting Diversion Header Delivery – Outbound** option.



12. In the **Destination Address** field specify the IP address used by the XPR server's IP APL.

13. In the **SIP Trunk Security Profile** field select the **None Secure SIP Trunk Profile** entry.

14. In the **SIP Profile** field select the **Standard SIP Profile** entry.



15. Select **Save** to save the settings for the new SIP trunk.

16. Confirm the SIP trunk reset dialog with **OK**.

17. Select **Reset** to activate the settings for the new SIP trunk.
18. Confirm the reset information dialog with **Reset**.
19. Confirm the reset information dialog with **Close**.

You thus have created the SIP trunk for connecting the XPR server in the Cisco UC Manager.

2.3.3 Creating a Route Pattern

The route pattern defines which calls the Cisco UC Manager routes to the XPR server.

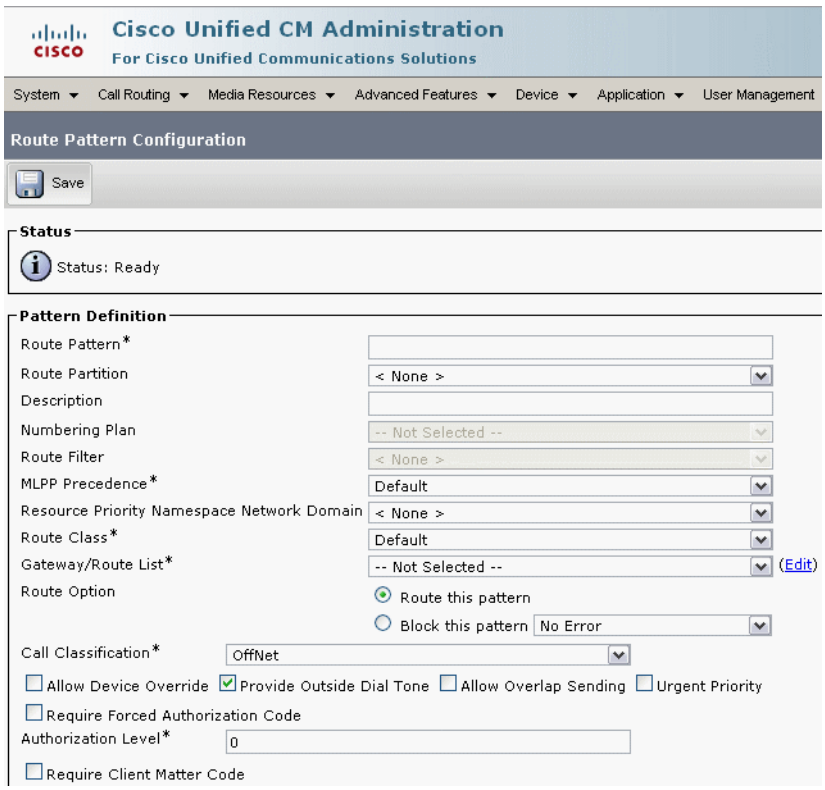
How to create a new route pattern in the Cisco UC Manager:

1. In the administration website main menu select **Call Routing > Route/ Hunt > Route Pattern**.
2. Select **Add New**.
3. In the **Route Pattern** field enter a phone number expression that may, in particular, contain wildcards.

   The Cisco UC Manager compares the target phone numbers of calls with this expression. If the expression matches a target phone number, the relevant call is forwarded to the specified route list and thus to the XPR server. The route pattern **95XX** has calls forwarded to the XPR server only if, for example, the associated target phone number is **four-digit** and begins with **95**.

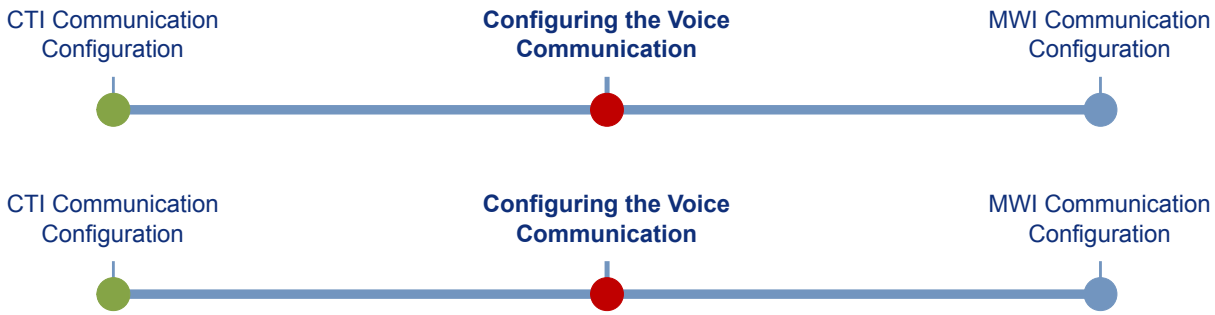
   Please refer to the UC Manager online help to see which wildcards the Cisco UC Manager supports for route patterns.
4. In the **Gateway/Route List** field select the just created route list.

CTI Communication Configuration | **Configuring the Voice Communication** | MWI Communication Configuration



5. Select **Save** to store the settings for the new route pattern.
6. Confirm the authorization code note with **OK**.
7. Confirm the note for the automatic reset of the route pattern with **OK**.

You have now defined the route pattern.



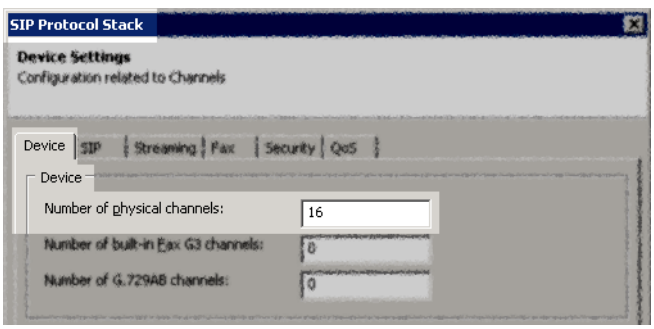
2.3.4 Configuring the Device

2.3.4.1 Configuring the IP APL for SIP

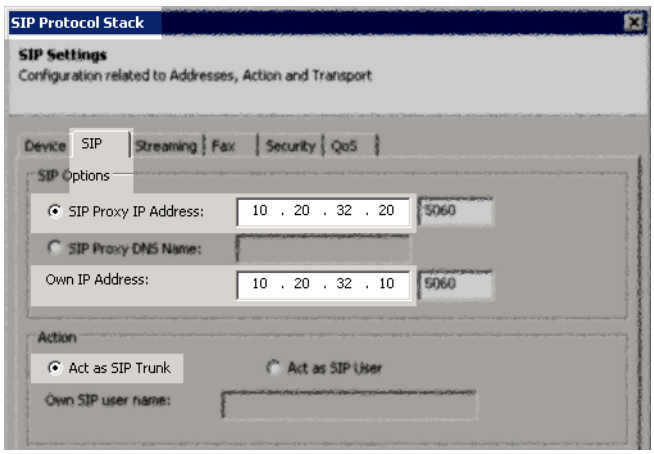
How to configure the device in the XPR server's IP APL:

1. In the **IP APL Settings** dialog switch to the **Device** tab.
2. Select the **SIP Protocol Stack** device with a doubleclick.

   The **SIP Protocol Stack** dialog opens.
3. Switch to the **Device** tab.
4. In the **Number of physical channels** field, specify how many parallel communication channels shall be possible between Cisco UC Manager and XPR server – for our example e.g. **16.**



5. Switch to the **Device** tab.
6. Select the **SIP Proxy IP Address** option and enter the Cisco UC Manager IP address in the associated field.
7. In the **Own IP Address** field specify the IP address used by the IP APL on the XPR server's computer system.
8. Select the **Act as SIP Trunk** option.



9. Select **OK** to save the settings for the SIP device.
10. In the **IP APL Settings** dialog expand the list entry for the **SIP Protocol Stack** device. To this, click on the plus sign next to the relevant entry.
11. Select the trunk group of the **SIP Protocol Stack** device with a doubleclick.

    The **Trunkgroup Properties** dialog opens.
12. Using the **From Channel** and **To** fields configure as many channels as you have previously specified in the **Number of physical channels** field – for our example **16**.
13. In the **Number Conversion Object** and **Location** fields select the desired NCO settings. As a rule you can copy the default settings unchanged.

NOTE: You find continuative information about the NCO settings in chapter “Number Conversion Object (NCO)” of the *OpenScape Xpressions Server Administration* manual.

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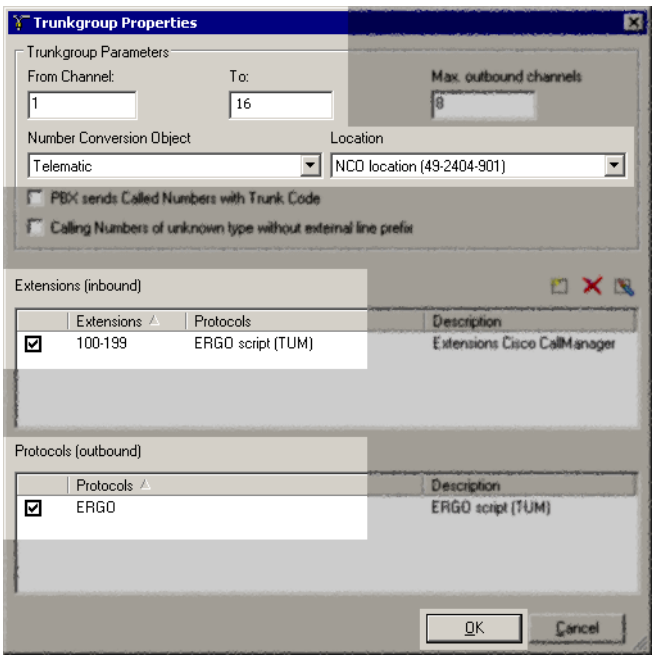
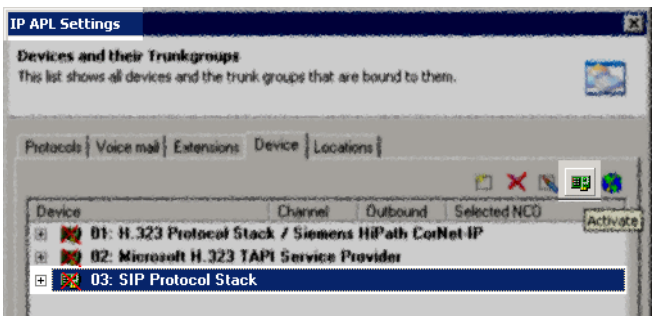
14. Verify that in the **Extensions (inbound)** section the previously configured extension range is active. The associated checkbox needs to be ticked for this purpose.
15. Verify that in the **Protocols (outbound)** section the previously configured voicemail protocol is active. The associated checkbox needs to be ticked for this purpose.



16. Select **OK** to save the modifications.
17. In the **IP APL Settings** dialog select the list entry for the **SIP Protocol Stack** device and click on **Activate** to enable the device.
18. Verify that all other devices of the IP APL are inactive since the IP APL supports a maximum of one active device.



19. Select **OK** to save the settings for the IP APL.

The voice communication configuration is thus complete.

2.3.5 Configuring the Voicemail Protocol

How to configure the voicemail protocol in the XPR server APL:

1. Log on to the XPR monitor with administrator privileges.
2. In the component window of the XPR monitor select:
   - SIP: **<settings> > ipAPL > Set Extended Options** with a doubleclick.

   The **ISDN or ip APL Settings** dialog opens.
3. Switch to the **Protocols** tab.
4. Select the installed voicemail protocol with a doubleclick – in our example Ergo.

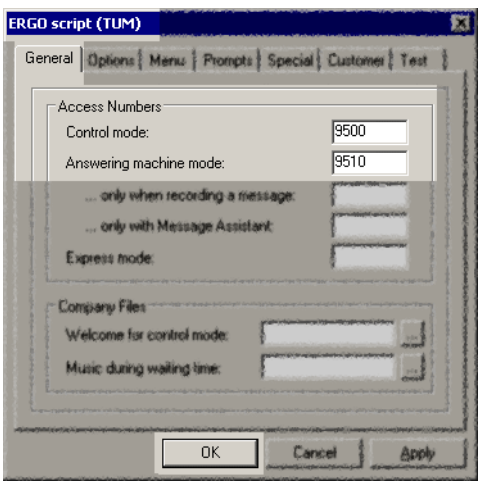
   The **E-Script Protocol Properties** dialog opens.
5. Switch to the **Script** tab.
6. Select **Parameters...**.

   The **ERGO Script (TUM)** dialog opens.

7. Configure for our example the Control Mode (Direct Access) and Answering Machine Mode (Guest Access) access numbers.

   - **Control Mode** 9500
   - **Answering Machine Mode:** 9510

   You must include these access numbers **at any rate** in the number range you have specified in the Cisco UC Manager by the route pattern (cf. Section 2.3.3, “Creating a Route Pattern”, on page 30).



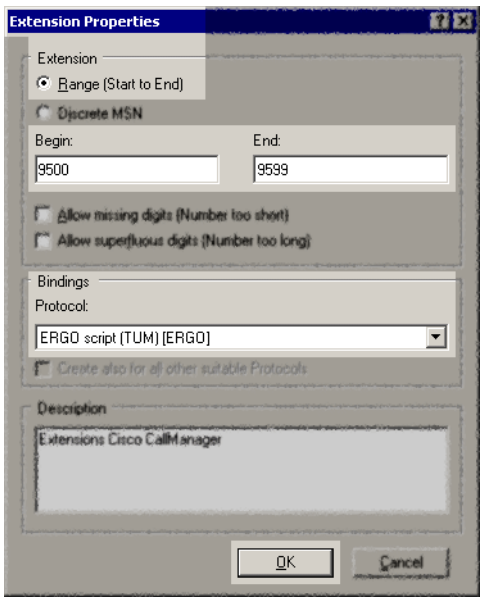
8. Select **OK** to save the modifications.
9. Select **OK** to close the **E-Script Protocol Properties** dialog.
10. In the **ISDN or ip APL Settings** dialog expand the list entry for the voicemail protocol used. To this, click on the plus sign next to the relevant entry.
11. Select the extension range of the voicemail protocol with a doubleclick.

    The **Extension Properties** dialog opens.
12. Select the extension option **Range (Start to End)**.

13. In the **Begin** and **End** fields define an extension range that is to use the voicemail protocol.

    The extension range specified here must **at any rate** comprise the phone numbers you have specified in the Cisco UC Manager by the route pattern (cf. Section 2.3.3, “Creating a Route Pattern”, on page 30).

14. Verify that under **Bindings** the voicemail protocol used is selected.



15. Select **OK** to save the modifications.

The Ergo voicemail protocol is now operable. For information about further, special adjustments please refer to the *OpenScape Xpressions Server Administration* manual.

2.4 MWI Communication Configuration

The MWI communication configuration is divided into the following sections:

On the XPR server computer system:

- Configuring the MWI Protocol.

2.4.1 Requirements for the MWI Configuration

For the setup description we assume the following as regards the setup environment:

- A smoothly operating basic installation of a non-distributed XPR server that contains the following XPR components:
  - a Notification APL
    for creating the MWI notifications in the XPR server

  Specialties in the environment of a distributed XPR server are described in Section 2.5, “Cisco UC Manager at a distributed XPR Server”, on page 40
- A smoothly operating basic installation of the Cisco UC Manager
- An operable LAN connection between the XPR server and the Cisco UC Manager

Additionally required product licenses

You do not need any additional product licenses for connecting an XPR server to a Cisco UC Manager via MWI.

CTI Communication Configuration | Configuring the Voice Communication | **MWI Communication Configuration**

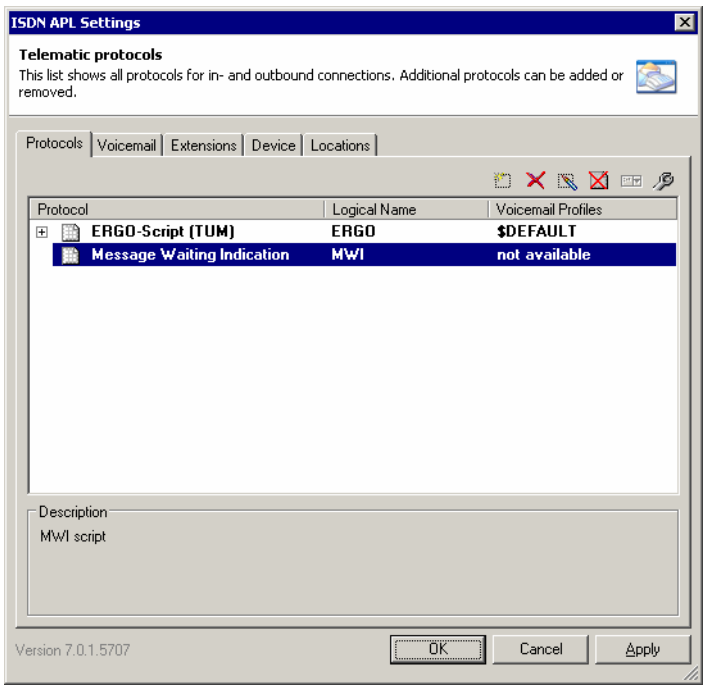
2.4.2 Configuring the MWI Protocol

NOTE: In case of an SIP connection, merely the MWI protocol needs to be added.

How to configure the MWI protocol in the XPR server APL:

1. Log on to the XPR monitor with administrator privileges.
2. In the component window of the XPR monitor select:
   - SIP: **<settings> > ipAPL > Set Extended Options** with a doubleclick.

   The **ISDN or ip APL Settings** dialog opens.
3. In the **ISDN or ip APL Settings** dialog switch to the **Protocols** tab.
4. Verify that the protocol list contains the **Message Waiting Indication** protocol. If this protocol is not available yet, add it to the APL.



5. Select **OK** to close the protocol settings dialog.

2.5 Cisco UC Manager at a distributed XPR Server

If you wish to connect several satellites of a distributed XPR server to a Cisco UC Manager, the following specialties apply for the installation of the connection versions.

2.5.1 Distributed XPR Server in Case of SIP

The following specialties apply for setting up the SIP connection version.

1. For each telematics satellite to be connected to the Cisco UC Manager, an SIP trunk must be configured in the Cisco UC Manager. Compare Section 2.3.2.1, “Configuring the SIP Connection”, on page 27.
2. After you have configured the connection (cf. Section 2.3.2.1, “Configuring the SIP Connection”, on page 27), you must specify all SIP trunks in the route group that were configured in the Cisco UC Manager for the connected telematic satellites. The configuration is described in Section 2.5.2.1, “Creating a Route Group”, on page 41.

   The **Distribution Algorithm** set in the route group determines in this case the system according to which calls are distributed among the different telematic satellites.

2.5.2 Creating a Route

2.5.2.1 Creating a Route Group

If several gateways are installed in a Cisco UC Manager, you can use a route group to define how calls will be distributed among these gateways.

How to create a new route group in the Cisco UC Manager:

1. In the administration website main menu select **Call Routing > Route/ Hunt > Route Group**.
2. Select **Add New**.
3. Specify a name for the new route group in the **Route Group Name** field – in our example **VM-GROUP**.

   Under this name, the Cisco UC Manager manages the route group internally.
4. In the **Distribution Algorithm** field, select the algorithm the Cisco UC Manager is to use for the distribution of calls between different gateways.
5. Select **Save** to store the settings for the new route group.

You have now created the route group.

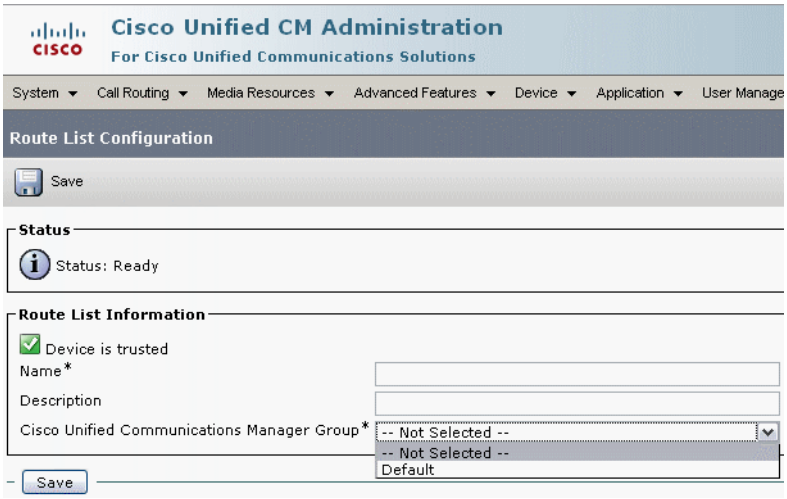
2.5.2.2 Creating a Route List

In the Cisco UC Manager, the route list is used to connect the just created route group to the route pattern, which we will configure in the following.

How to create a new route list in the Cisco UC Manager:

1. In the administration website main menu select **Call Routing > Route/ Hunt > Route List**.
2. Select **Add New**.
3. Specify a name for the new route list in the **Name** field – in our example **VM_LIST**.

   Under this name, the Cisco UC Manager manages the route list internally.
4. In the **Cisco Unified Communications Manager Group** field select the **Default** entry.
5. Select **Save** to save the settings.



6. Select **Add Route Group**.
7. In the **Route Group** field select the just created route group.
8. Select **Save** to add the route group to the route list.
9. Confirm the dialog for resetting of the route list with **OK**.

   The selected route group is now displayed under **Route List Member Information**.
10. Select **Save** to store the settings for the new route list.
11. Select **Reset** to activate the new settings for the route list.
12. Confirm the reset information dialog with **Reset**.

You have now created the route list and assigned the route group to it.