CHAPTER 12

Working with the Tool for Auto-Registered Phones Support

The Tool for Auto-Registered Phone Support (TAPS) application enables phone users to call the TAPS directory number and download the preconfigured phone settings for the user's directory number. TAPS works in conjunction with Cisco Unified CallManager Administration to provide these capabilities:

Configure TAPS—Allows you to enable TAPS usage for all phones that use auto-registration or to limit TAPS to only phones that are added through BAT with dummy MAC addresses. See the "Configuring Auto-Registration Options for TAPS" section on page 12-12.

Secure TAPS—Allows you to keep some directory numbers from being updated through TAPS. See the "Setting Secure Directory Numbers" section on page 12-13

User Locales for TAPS—Allows you to choose the languages for TAPS prompts. See the "Setting User Locales for TAPS" section on page 12-17.

The following topics provide information about using, installing, and configuring TAPS:

Introducing TAPS

To work with auto-registration, you must install some TAPS components on the Cisco Unified CallManager publisher server. You must enable auto-registration in Cisco Unified CallManager Administration for TAPS to function.

The TAPS application also gets installed on the Cisco Customer Response Solutions (Cisco CRS) server. TAPS requires the Cisco IP Interactive Voice Response (IP IVR) application that runs on the Cisco CRS server for the user interface and prompts.

Administrators need to provide instructions to tell end users how to use TAPS to configure their new phones. For end user instructions, see the "TAPS Information for End Users" section on page 12-18

Note Cisco recommends that you stop the TAPS service when you are not using TAPS to add phones to Cisco Unified CallManager database. See the "Stopping TAPS" section on page 12-11.

Additional Information

See the "Related Topics" section on page 12-19.

Auto-registration Options for TAPS

You can set the following options for using TAPS to update auto-registering phones.

- Update MAC addresses and download a predefined configuration for new phones.
- Reload the configuration for replacement phones.

Note Make sure that the range of auto-registered phones on Cisco Unified CallManager is greater than or equal to the number of phones you want to use TAPS for. For more information on configuring auto-registration information, see *Cisco CallManager Administration Guide*.

Note Cisco recommends that you delete unassigned directory numbers that get created after you use TAPS option. This will ensure that you do not need to increase auto-registration range to use TAPS on more phones.

Using TAPS with New Phones

After BAT has added the new phone configurations with dummy MAC addresses in Cisco Unified CallManager Administration, you can plug the phones into the network. You or the phone user can dial a TAPS directory number that causes the phone to download its configuration. At the same time, the phone gets updated in Cisco Unified CallManager Administration with the correct MAC address. You must make sure that Auto-registration is enabled in Cisco Unified CallManager Administration (**System >** Cisco Unified CallManager) for TAPS to function.

Note Although TAPS is designed to work with all phones that auto-register and have SEP or ATA as device prefixes, this capability has not been tested on all available models.

Note It takes around 20-25 seconds for downloading phone profile and to make necessary updates in publisher and directory.

Example

You have 100 new-hire employees starting on Monday. You must add these users and their new phones to Cisco Unified CallManager Administration. You can use BAT to create a phone template for these 100 phones and a CSV data file for phones and users. By using the dummy MAC address option in the CSV data file, you do not need to add the individual MAC addresses for the new phones. With

auto-registration enabled in Cisco Unified CallManager, you can plug the phones directly into the network. You or the new employee can load the configuration by dialing the TAPS directory number and following the voice-prompt instructions.

Using TAPS for Reloading Configurations

When you must replace an existing phone that is not functioning, you can use TAPS to download the existing phone configuration to the new phone. After the user receives the new phone and plugs the phone into the network, the user dials the TAPS directory number to download configuration for the previous phone. The user makes no configuration changes during this process.

Note It takes around 20-25 seconds for downloading phone profile and to make necessary updates in publisher and directory.

In Cisco Unified CallManager Administration, you must enable auto-registration. You must ensure that you configure TAPS usage for all phones to enable a user to download an existing phone configuration. See the "Configuring Auto-Registration Options for TAPS" section on page 12-12.

Example

John's Cisco Unified IP Phone 7940 gets short-circuited during a lightning storm. He receives a new Cisco Unified IP Phone 7940 and plugs it into the network. John can dial the TAPS directory number, and the new phone will download the configuration that was previously used for the damaged phone. TAPS automatically updates device information in Cisco Unified CallManager Administration.

Additional Information

See the "Related Topics" section on page 12-19.

Secured Directory Numbers

Because TAPS can replace a directory number, you can protect certain directory numbers from being overwritten. To protect important directory numbers, you can use the Secure TAPS option. See the"Setting Secure Directory Numbers" section on page 12-13 for more information.

Example

The directory number 5000 provides voice-messaging access for your system. You do not want a new user to mistakenly configure 5000 on the new phone. The Secure TAPS option allows you to specify that TAPS cannot access directory number "5000."

Additional Information

See the "Related Topics" section on page 12-19.

Language Prompts for TAPS Users

You can configure user prompts for TAPS to play in several languages. Administrators can choose the languages to make available to users. See the "Setting User Locales for TAPS" section on page 12-17.

If you need to use language prompts other than English prompts, make sure that you installed the Cisco Unified CallManager Locale Installer on every Cisco Unified CallManager and Cisco CRS server in the cluster before you install, upgrade, or configure TAPS. Using the locale installer ensures that you have the latest translated text, translated voice prompts, country-specific phone tones, and country-specific gateways tones available for the phones. For more information on the Cisco Unified CallManager Locale Installer, refer to the specific locale installer documentation.

Additional Information

See the "Related Topics" section on page 12-19.

Installing TAPS

This section provides information about installing, reinstalling, and uninstalling TAPS. TAPS interfaces with both Cisco Unified CallManager publisher server and Cisco Customer Response Solution (CRS) 3.5(2) server; therefore, the installation involves both of these servers.

During TAPS installation or reinstallation on the publisher database server, the setup program halts the following services:

- IIS Administration

- World Wide Web publishing
- FTP publishing

These services restart when the installation is finished.

You cannot use Windows Terminal Services to install TAPS. You must install TAPS directly from the Cisco Unified CallManager publisher server and the Cisco CRS server.

Before You Begin

The following prerequisites apply to the TAPS installation for BAT Release 5.2(3):

- Make sure that the publisher database for Cisco Unified CallManager is configured and running. The publisher database can reside on its own server or on the same server as Cisco Unified CallManager.
- Before installing TAPS, ensure that the latest BAT release is installed on the publisher database server for Cisco Unified CallManager.
- Have the IP address for the Cisco Unified CallManager publisher server and the private phrase for the installation procedure.
- Ensure the Cisco CRS server is configured. The Cisco CRS 3.5(2) application can reside on its own dedicated server or can be co-located on the same server as Cisco Unified CallManager.
- Be sure to use the locale installer to create the country-specific TAPS prompts.
- Ensure that the Windows 2000 Services window is closed.

To install TAPS, use this procedure.

Procedure

Step 1 Log on with administrator privileges to the system that is running the publisher database for Cisco Unified CallManager (where you installed BAT).

Step 2 Access Cisco Bulk Administration Tool.

Step 3 Choose **Applications > Install Plugins**.

Step 4 Find TAPS (Tool for Auto-Registered Phone Support) and double-click the setup icon.

Step 5 The Welcome window for the installation wizard opens. This installation program installs TAPS on the Cisco Unified CallManager publisher server and the CRS applications server at the same time, if applications are co-located on the same server. Click **Next**.

Note When you are installing TAPS in a network with a dedicated CRS server, you must run the TAPS installation program again on the CRS server. Use CRS online help for assistance with installation and configuration.

Step 6 Enter the Cisco Unified CallManager publisher server IP address in the IP Address field, and click **Next**.

Step 7 Enter the Private Phrase for the Cisco Unified CallManager publisher server in the Installing Cisco Unified CallManager Components window and click **Next**.

Step 8 The Installing TAPSonCCM and TAPSonAppsServer window displays a progress bar that shows the status of the installation. Click **Next** to begin the installation.

Step 9 The Installation Completed window displays when the installation ends. Click **Finish**.

Additional Information

See the "Related Topics" section on page 12-19.

Configuring TAPS in Cisco Unified CallManager

Like other applications in the Cisco IP telephony system, TAPS has some configuration requirements. You must add a CTI route point, CTI ports, and users in Cisco Unified CallManager Administration. You need only one CTI route point for the TAPS application. You will need at least one CTI port to make TAPS available to users, but you can configure more CTI ports for users if desired.

Use Cisco Unified CallManager Administration for the following tasks:

- Create a CTI route point and assign it a unique directory number.
- Set call forward busy, call forward no answer, and call forward on failure to the operator number on the TAPS CTI route point.

- Create one or more CTI ports with directory numbers. You can create CTI ports in BAT or in Cisco Unified CallManager Administration.

  TAPS supports a maximum number of sessions equal to the number of CTI ports that are configured for TAPS. For example, if you have configured five CTI ports, up to five users can dial into TAPS at same the time. The sixth caller cannot connect to TAPS.

- Create a user. The TAPS route point and ports should be in the user's control devices list. Set "Enable CTI applications use" for the user.

- Create an auto-registration partition/calling search space to prevent phones that have auto-registered from dialing any directory number other than the directory number that is assigned to the TAPS CTI route point. Restricting access to this directory number ensures that users download the proper configuration information for their phones.

For information about how to add or assign these values, see the *Cisco Unified CallManager Administration Guide*.

Configuring TAPS in IPCCx 4.0

After installing the TAPS plugin, go to the AAR Management page in CRS Admin and upload the TAPS AAR.aar file. After uploading TAPS.aar, an application called TAPS gets created and the TAPS.aef script gets uploaded.

Note To start Cisco Unified CallManager TAPS Service, you must use the Services window in Windows 2000.

Additional Information

See the "Related Topics" section on page 12-19.

Configuring the TAPS Application in CRS Applications Server

You can review the Cisco CRS 3.5(2) Application Server documentation by browsing to Cisco Voice Applications and Tools at http://www.cisco.com. Refer to the *Cisco Customer Response Administration Guide* for instructions on how to configure an application.

Note When you are installing TAPS in a network with a dedicated CRS server, you must run the TAPS installation program again on the CRS server. Use CRS online help for assistance with installation and configuration.

Additional Information

See the "Related Topics" section on page 12-19.

Uninstalling TAPS

The uninstall program removes the TAPS applications from the system when both CRS and Cisco Unified CallManager are running on the same server (co-located).

If Cisco Unified CallManager publisher and CRS are installed on different servers, you must remove TAPS from both servers. After completing the following steps on the server that is running the publisher database for Cisco Unified CallManager, you must complete the uninstallation of TAPS on the Cisco CRS server.

Note If you uninstall BAT, the TAPS components remain installed on the server.You cannot open the TAPS user interface because you must use the BAT Configure menu to access the TAPS user interface. The TAPS directory number remains available to users for updating phones

To uninstall TAPS by using the Add/Remove Programs in the Control Panel, use the following procedure.

Procedure

Step 1 On the server that is running the publisher database for Cisco Unified CallManager, choose **Start > Settings > Control Panel> Add/Remove programs**.

Step 2 Choose **TAPS** and click the **Change/Remove** button. A message displays that confirms the uninstall operation.

Step 3 To uninstall TAPS, click **Yes** or **No** to cancel. The IIS Admin service stops, files are deleted, and the IIS Admin service restarts.

Solution To exit the uninstallation, click **OK**.

For co-located systems, you have removed both the Cisco Unified CallManager and CRS components of TAPS.

If TAPS is also running on a dedicated CRS server, you must also complete the steps in the "Completing TAPS Uninstallation" section on page 12-10.

Additional Information

See the "Related Topics" section on page 12-19.

Completing TAPS Uninstallation

To uninstall TAPS from the Cisco CRS server, perform the following steps. This procedure completes the TAPS uninstallation.

Procedure

Step 1 On the Cisco CRS server, choose **Start > Settings > Control Panel > Add/Remove Programs**.

Step 2 Choose **TAPS** and click the **Change/Remove** button. A message displays that confirms the uninstall operation.

Step 3 To uninstall TAPS, click **Yes** or **No** to cancel. If you clicked Yes, TAPS uninstalls from the Cisco CRS server.

Step 4 To exit the uninstallation, click **OK**.

Additional Information

See the "Related Topics" section on page 12-19.

Starting TAPS

You must manually start the TAPS service. Use this procedure to start TAPS.

Procedure

Step 1 On the server that is running the publisher database for Cisco Unified CallManager, choose **Start > Programs > Administrative Tools > Services**.

The Services window displays.

Step 2 Double-click or right-click Cisco Unified CallManager Auto-Register Phone Tool and click **Start**.

The TAPS service now runs. If the service should fail, you must manually start TAPS again.

Note Cisco recommends that you stop the TAPS service when you are not using TAPS to add phones to Cisco Unified CallManager database. See the "Stopping TAPS" section on page 12-11.

Additional Information

See the "Related Topics" section on page 12-19.

Stopping TAPS

Cisco recommends that you stop the TAPS service when you are not using TAPS to add phones to Cisco Unified CallManager database. Stop the TAPS service from the Services window on the publisher server where BAT is installed.

Procedure

Step 1 On the server that is running the publisher database for Cisco Unified CallManager, choose **Start > Programs > Administrative Tools > Services**. The Services window displays.

Step 2 In the list of services, double-click or right-click Cisco Unified CallManager Auto-Register Phone Tool and click **Stop**.

Additional Information

See the "Related Topics" section on page 12-19.

Setting TAPS Options

Administrators can choose how to use TAPS in their Cisco Unified CallManager system. These TAPS feature options provide more flexibility when allowing users to update phones or download phone profiles. The TAPS options include:

- Configuring Auto-Registration Options for TAPS, page 12-12
- Setting Secure Directory Numbers, page 12-13
- Setting User Locales for TAPS, page 12-17

To access TAPS Options, on the machine that is running BAT, choose **Start > Programs > Cisco Unified CallManager 4.2> Bulk Admin Tool.** The BAT main window displays.

Choose **Configure>TAPS** and the TAPS Options window displays.

Configuring Auto-Registration Options for TAPS

The Configure TAPS option provides two ways to use TAPS to update phones that auto-register with the Cisco Unified CallManager database.

- For phones that are added by using BAT and have a dummy MAC address.
- For existing phones in Cisco Unified CallManager Administration

The default setting limits use of TAPS to phones that have a dummy MAC address with a device name that starts with the prefix "BAT."

You can set the Configure TAPS option to allow any phone to auto-register in the Cisco Unified CallManager system, including phones that have a standard MAC address.

To set the Configure TAPS option, use this procedure.

Procedure

Step 1 In the TAPS Options window, choose **Configure TAPS** and click **Next**. The Configure TAPS window displays.

Step 2 Choose one of these two options:

- **Allow Auto-Registered phones to reset with a profile with a dummy MAC address**.

  TAPS updates only the phones that have the dummy MAC address option.

- **Allow Auto-Registered phones to reset with any profile**.

  TAPS updates any phone that auto-registers.

Step 3 Click **Update**. A status message indicates that the update completed.

Step 4 To return to the TAPS Options page, click **Back**.

Additional Information

See the "Related Topics" section on page 12-19.

Setting Secure Directory Numbers

The Secure TAPS options let you specify directory numbers that TAPS cannot access. Use this capability when you want to protect directory numbers from being accidentally assigned to another phone.

To access TAPS Options, on the machine that is running BAT, choose **Start > Programs > Cisco Unified CallManager 4.2> Bulk Admin Tool.** The BAT main window displays.

Choose **Configure>TAPS** and the TAPS Options window displays.

Additional Information

See the "Related Topics" section on page 12-19.

Restricting Directory Numbers

To block TAPS from using directory numbers that you specify, use this procedure. TAPS cannot use any directory number that you include in the list of secured directory numbers.

Procedure

Step 1 In the TAPS Options window, choose **Secure TAPS** and click **Next**. The Secure Directory Numbers window appears.

Step 2 In the Directory Number field, enter the number that you want to protect from TAPS.

Step 3 Click **Secure**. A prompt tells you that the directory number was added to the list of secured numbers.

Step 4 Click **OK**.

Step 5 Continue to add directory numbers by repeating Step 2 through Step 4. When you finish adding directory numbers, click **View Secured DN**.

A list box displays the directory numbers that you have protected. TAPS cannot use the directory numbers that are shown in this list. If a user tries to update a device profile by entering one of the directory numbers in this list, TAPS will refuse the request.

Note The View Secure DN list box does not automatically refresh. If you want to see the latest list of secured directory numbers, click **Refresh List** to redisplay an updated list.

Step 6 To return to the TAPS Options page, click **Back**.

Additional Information

See the "Related Topics" section on page 12-19.

Lifting the Restriction on a Directory Number

To remove a directory number from the list of directory numbers that TAPS cannot access, use this procedure.

Procedure

Step 1 In the TAPS Options window, choose **Secure TAPS** and click **Next**. The Secure Directory Numbers window appears.

Step 2 In the field, enter the directory number that you want to unprotect from TAPS.

Step 3 Click **Remove**. A prompt indicates that the directory number has been removed from the list of secured directory numbers.

Step 4 Click **OK**.

Step 5 Continue to remove directory numbers by repeating Step 2 through Step 4. When you finish removing directory numbers, click **View Secured DN**.

A list box displays the directory numbers that are protected. If a user tries to update a device profile by entering one of the directory numbers in this list, TAPS will refuse the request.

Note The View Secure DN list box does not automatically refresh. If you want to see the latest list of secured directory numbers, click **Refresh List** to display an updated list.

Step 6 To return to the TAPS Options page, click **Back**.

Note If two or more phones lines share an unrestricted directory number, and you are trying to update any of these phones, then you will be prompted to enter the external phone mask of your phone.

Additional Information

See the "Related Topics" section on page 12-19.

Removing All Directory Numbers

To remove all the secured directory numbers from the list, use this procedure.

Procedure

Step 1 In the TAPS Options window, choose **Secure TAPS** and click **Next**. The Secure Directory Numbers window appears.

Step 2 Click **Remove All**. A prompt indicates that no directory numbers will be secured from TAPS.

Step 3 Click **OK** to clear all directory numbers or click **Cancel** to cancel the clear operation. A prompt advises you that the list of directory numbers that are protected from TAPS has been cleared.

Step 4 Click **OK**.

Step 5 To return to the TAPS Options page, click **Back**.

Additional Information

See the "Related Topics" section on page 12-19.

Viewing a List of Restricted Directory Numbers

To view a list of directory numbers that TAPS cannot access, use this procedure.

Procedure

Step 1 In the TAPS Options window, choose **Secure TAPS** and click **Next**. The Secure Directory Numbers window appears.

Step 2 Click **View Secured DN**.

A list box displays. TAPS cannot use the directory numbers that are shown in this list. If a user tries to update a device profile by entering one of the directory numbers in this list, TAPS will refuse the request.

Step 3 Close the list box.

Step 4 To return to the TAPS Options page, click **Back**.

Additional Information

See the "Related Topics" section on page 12-19.

Setting User Locales for TAPS

Administrators can specify the languages for TAPs voice prompts by using the User Locales for TAPS option. You can configure user prompts for TAPS in several languages. Before you install or upgrade TAPS, make sure that you installed the Cisco Unified CallManager Locale Installer on every Cisco Unified CallManager and Cisco CRS server in the cluster. Using the locale installer ensures that you have the latest translated text, translated voice prompts, country-specific phone tones, and country-specific gateways tones that are available for the phones. For more information on the Cisco Unified CallManager Locale Installer, refer to the specific locale installer documentation.

To access TAPS Options, on the machine that is running BAT, choose **Start > Programs > Cisco Unified CallManager 4.2> Bulk Admin Tool.** The BAT main window displays.

Choose **Configure>TAPS** and the TAPS Options window displays.

Adding Languages for TAPS Prompts

To set the languages for TAPS prompts, use this procedure.

Procedure

Step 1 In the TAPS Options window, choose **User Locales for TAPS** and click **Next**. The Select User Locales window displays.

Step 2 In the User Locales list box, which is the list of languages that are installed on Cisco Unified CallManager, choose the languages that you want to use for user prompts. Click the arrow to move the chosen language to the Selected User Locales list box.

Step 3 You can choose as many languages as you need for user prompts and move them to the Selected User Locales list box.

Step 4 After you have chosen the languages for user prompts, click **Update**. A status message indicates that the update completed.

Step 5 To return to the TAPS Options page, click **Back**.

Additional Information

See the "Related Topics" section on page 12-19.

Removing Languages for TAPS Prompts

To remove the languages for TAPS prompts, use this procedure.

Procedure

Step 1 In the TAPS Options window, choose **User Locales for TAPS** and click **Next**. The Select User Locales window displays.

Step 2 In the Selected User Locales list box, which is the list of languages that is chosen for user prompts, choose the language that you want to remove.

Step 3 Click the arrow to move the chosen language to the User Locales list box.

You can choose one or many languages from user prompts and move them to the User Locales list box.

Step 4 Click **Update**. A status message indicates that the updated is completed.

Step 5 To return to the TAPS Options page, click **Back**.

Additional Information

See the "Related Topics" section on page 12-19.

TAPS Information for End Users

To configure your new phone, use this procedure.

Procedure

Step 1 Plug the phone into a port.

The phone automatically registers and displays a number.

Note It takes around 20-25 seconds for downloading phone profile and to make necessary updates in publisher and directory.

Step 2 Dial the CTI Route Point number provided by your system administrator and follow the prompts.

Step 3 Dial the TAPS extension that your system administrator provided.

Step 4 A voice prompts you to choose the language that you want to use. Choose appropriately.

Step 5 Dial your personal extension number, that your system administrator provided, followed by #.

Note You may be instructed to enter the complete telephone number (including area code).

Step 6 To confirm, enter your personal extension number again, followed by #.
You will hear a confirmation prompt.

Step 7 Hang up the phone.

The phone resets and displays your extension number.

If you experience any problems, contact your system administrator.

Additional Information

See the "Related Topics" section on page 12-19.

Related Topics

- Introducing TAPS, page 12-2

- Installing TAPS, page 12-5
- Configuring TAPS in Cisco Unified CallManager, page 12-7
- Uninstalling TAPS, page 12-9
- Starting TAPS, page 12-11
- Stopping TAPS, page 12-11
- Setting TAPS Options, page 12-12
- TAPS Information for End Users, page 12-18