Managing Cisco SIP IP Phones

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How to Customize Cisco Unified IP Phone 7960G and 7940G Rings

The Cisco Unified IP Phone 7960G and 7940G ships with two ring types: Chirp1 and Chirp2. However, you can create and add custom rings.

Procedure

Step 1 Create a pulse-code-modulation (PCM) file for each desired ring type and store it in the root tftp directory of your TFTP server.

PCM files must contain no header information and must comply with the following format guidelines:

- 8000-Hz sampling rate
- 8 bits per sample
- mu-law compression

Step 2 Using an ASCII text editor such as vi, open the RINGLIST.DAT file.

RINGLIST.DAT lists audio files that are the custom ring type options for the phones. These audio files must also be in the root directory of the TFTP server.

Step 3 For each ring type that you are adding, specify the name as you want it to appear on the Ring Type menu.

Step 4 Press **Tab**, then specify the filename of the ring type.

The contents of your RINGLIST.DAT file should appear similar to the following:

```
Ring Type 1    ringer1.pcm
Ring Type 2    ringer2.pcm
```

Step 5 Save and close the file.

How to Access Cisco IP Phone Services

You can access Cisco IP Phone Services in any of the following ways:

- Select **Services** (configured by means of the services_url parameter).
- Select **External Directory** (configured by means of the directory_url parameter).
- Download a bitmap to be used as the phone logo (configured by means of the logo_url parameter).

Restrictions for Cisco IP Phone Services

The phone supports Cisco IP Phone Services up through version 3.0. It does not support the following XML objects in version 3.1 and later: CiscoIPPhoneIconMenu, CiscoIPPhoneExecute, CiscoIPPhoneError, and CiscoIPPhoneResponse.

The following restrictions apply to phones that use Cisco IP Phone Services:

- External directories cannot be appended to the main list of directories under the Directories button. If external directories are provisioned for the phone, access them by pressing the Directories button and selecting the External Directory option.
- The phone removes white space when Cisco CallManager Cisco IP Phone Services are displayed. Multiple spaces are consolidated into a single space.
- The phone does not allow setting of *x* and *y* coordinates for the CiscoIPPhoneImage object. The image always appears at location 0,0. Centering of the image is not supported if *x* and *y* are set to –1.
- The phone displays any valid title that it receives. In contrast, with Cisco CallManager phones, the CiscoIPPhoneGraphicMenu object does not display a title even if it receives one; the CiscoIPPhoneImage object displays the previous menu item or service rather than received titles.
- The phone discards carriage returns and line feeds. In contrast, Cisco CallManager phones allow embedded carriage returns and line feeds.
- The phone always displays the full set of directory softkeys. In contrast, Cisco CallManager phones change the softkeys depending on what type of object the phone receives and the version of Cisco CallManager.
- The phone sends a parameter along with the initial request for a Services or Directory URL. Other types of phones do not.

For more information about using Cisco IP Phone Services on your Cisco SIP IP phone, refer to the following:

- IP Telephony
  http://www.hotdispatch.com/cisco-ip-telephony
- Cisco CallManager Services Developer Kit
  http://www.cisco.com/pcgi-bin/dev_support/access_level/product_support

- *Developing Cisco IP Phone Services* by Darrick Deel, Mark Nelson, and Anne Smith, ISBN 1-58705-060-9

How to View Your Cisco SIP IP Phone Firmware Image Version

You can determine your firmware image version.

Procedure

Step 1 Select **Settings > Status**.

Step 2 Select **Firmware Versions**. The Firmware Versions menu appears.

Step 3 View information as needed. The following displays:

- Application Load ID—Current software image on the phone.
- Boot Load ID—Bootstrap loader image version that is manufactured on the phone. This image name does not change.
- DSP Load ID—Current DSP version on the phone.

Step 4 Select **Exit**.

How to Upgrade Your Cisco SIP IP Phone Firmware Image

For instructions about how to upgrade the firmware image on a Cisco SIP IP Phone, refer to *Cisco IP Phone 7960 and 7940 Firmware Upgrade Matrix*, which is available at this URL:

http://www.cisco.com/univercd/cc/td/doc/product/voice/c_ipphon/english/ipp7960/addprot/mgcp/frmwrup.htm

How to Upgrade Your Cisco SIP IP Phone Firmware Image and Reboot Remotely

If you have a SIP proxy server and a TFTP server in your phone network, you can upgrade your system firmware image and reboot remotely using NOTIFY messages and the syncinfo.xml file. You can also push the dialplan.xml file down to the phones using a NOTIFY message with a check-sync Event header.

Procedure

Step 1 Edit the default configuration file as follows:

a. Using an ASCII text editor such as vi, open the SIPDefault.cnf file located in the root directory of your TFTP server.

b. Change the image_version parameter to the desired release (for example, P0S3-07-4-00).

c. Save and close the file.

Step 2 Edit the synchronization file as follows:

a. Using a text editor, open the syncinfo.xml file located in the root directory of your TFTP server.

b. Specify values for the image version and sync parameter as follows:

```
<IMAGE VERSION="image_version" SYNC="sync_number"/>
```

Where the variables are as follows:

- image_version—Image version of the phone. You can use the asterisk (*) as a wildcard character.
- sync_number—Synchronization level of the phone. A valid value is a character string of up to 32 characters. Default is 1.

c. Save and close the file.

Step 3 Send a NOTIFY message to the phone.

In the message, ensure that the Event header is equal to check-sync. The following is a sample NOTIFY message:

Sample NOTIFY Message

```
NOTIFY sip:lineX_name@ipaddress:5060 SIP/2.0
Via: SIP/2.0/UDP ipaddress:5060;branch=1
Via: SIP/2.0/UDP ipaddress
From: <sip:webadim@ipaddress>
To: <sip:lineX_name@ipaddress>
Event: check-sync <<----->> Event header.
Date: Mon, 10 Jul 2000 16:28:53 -0700
Call-ID: 1349882@ipaddress
CSeq: 1300 NOTIFY
Contact: <sip:webadmin@ipaddress>
Content-Length: 0
```

During a remote reboot, the phone does the following:

1. If it is idle, the phone waits 20 seconds and contacts the TFTP server for the syncinfo.xml and dialplan.xml files. Otherwise, it waits until it is idle for 20 seconds and then contacts the TFTP server.
2. The phone reads the syncinfo.xml file and does the following as appropriate:
   a. Determines whether the current image is specified. If it is not specified, the phone proceeds to Step b. If it is specified, the phone proceeds to Step c.
   b. Determines whether the image version parameter contains a wildcard entry (*). If it does, the phone proceeds to Step c. If it does not, the phone proceeds to Step d.
   c. Determines if the synchronization value is different from that stored on the phone. If it is, the phone proceeds to Step 3. If it is not, the phone proceeds to Step d.
   d. Does nothing. The procedure is finished. This step allows a dialplan change to be pushed to the phone without the phone having to reboot.
3. The phone performs a normal reboot.

   During reboot, the phone sees the new image and upgrades to it with a synchronization value as specified in the syncinfo.xml file. The procedure is finished.

Where to Go Next

See Chapter 5, "Monitoring Cisco SIP IP Phones," for information on debugging and on viewing network statistics.