

CallManager Express: Add Custom Rings for Cisco 7960 and 7940 IP Phones

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Introduction

This document provides the configuration steps you use to add custom phone rings to Cisco CallManager Express.

Prerequisites

Requirements

Ensure that you meet these requirements before you attempt this configuration:

- Basic knowledge of a Cisco CallManager Express configuration.
- Cisco IP phones are currently registered with Cisco CallManager Express.

Components Used

The information in this document is based on these software and hardware versions, but applicable to all Cisco CallManager release and Cisco IP phone loads:

- Cisco IOS[®] router that runs Cisco IOS Software Release 12.4(4)T with Cisco CallManager Express release 3.4(0)
- Cisco IP phone 7960G that runs a firmware version of 7.2(3)

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Related Products

This configuration can also be used with:

- Cisco IP Phone 7940G

Conventions

Refer to the Cisco Technical Tips Conventions for more information on document conventions.

Background Information

Cisco IP phones 7960G and 7940G come with two default ring types that are implemented in the hardware. They are *Chirp1* and *Chirp2*. Cisco CallManager Express is also implemented to support custom ring sounds that are implemented in software as Pulse Code Modulation (PCM) files. An XML file (named RingList.xml) that describes the ring list option available at your site is needed on the Flash of the Cisco CallManager Express router. This document describes how you can customize the phone ring types available at your site with the creation of your own PCM files and RingList.xml file.

Configure

In this section, you are presented with the information to add custom phone ring types to Cisco CallManager Express.

Note: Use the Command Lookup Tool (registered customers only) to obtain more information on the commands used in this section.

Complete these steps:

1. Create a PCM file for each custom ring (one ring per file).

The PCM files must comply with these format guidelines. The PCM files for the rings must meet these requirements for proper playback on Cisco IP phones:

- ◆ Raw PCM (no header)
- ◆ 8000 samples per second
- ◆ 8 bits per sample
- ◆ uLaw compression
- ◆ Maximum ring size 16080 samples
- ◆ Minimum ring size 240 samples
- ◆ Number of samples in the ring must be evenly divisible by 240
- ◆ Ring should start and end at the zero crossing

You can use any standard audio editing packages that support these file format requirements to create PCM files for custom phone rings.

2. Use an ASCII editor to edit RingList.xml.

The RingList.xml file defines an XML object that contains a list of phone ring types. Each ring type contains a pointer to the PCM file used for that ring type and the text that is displayed on the Ring Type menu on a Cisco IP phone for that ring. The CiscoIPPhoneRingList XML object uses this simple tag set to describe the information:

```
<CiscoIPPhoneRingList>
<Ring>
<DisplayName/>
<FileName/>
</Ring>
</CiscoIPPhoneRingList>
```

The ring in this definition contains two fields:

- ◆ DisplayName
- ◆ FileName

These fields are required for each phone ring type. You can list up to 50 rings.

- ◆ The DisplayName field defines the name of the custom ring for the associated PCM file that is displayed on the Ring Type menu of the Cisco IP phone.
- ◆ The FileName field specifies the name of the PCM file for the custom ring to associate with the DisplayName field.
- ◆ The DisplayName and FileName fields must not exceed 25 characters.

This is a sample RingList.xml file that defines two phone ring types:

```
<CiscoIPPhoneRingList>
<Ring>
<DisplayName>Piano1</DisplayName>
<FileName>Piano1.raw</FileName>
</Ring>
<Ring>
<DisplayName>Sax1</DisplayName>
<FileName>Sax1.raw</FileName>
</Ring>
</CiscoIPPhoneRingList>
```

3. TFTP the new PCM files and XML file to the Flash of the Cisco CallManager Express router.
4. Set the **tftp-server** command to allow access to the files.

```
Router_CCME(config)#tftp-server flash:RingList.xml
Router_CCME(config)#tftp-server flash:Piano1.raw
Router_CCME(config)#tftp-server flash:Sax1.raw
```

Note: The **tftp-server** command is case sensitive. Make sure the file name in the **flash:** memory and the **tftp-server** command mentioned is the same. The **show flash:** command can be used to list all the files in the Flash memory.

5. Reboot the IP phones.

When the IP phones are rebooted, the IP phones get the files and show the ring types in the Ring Type Option list under Settings.

```
Router_CCME(config)#telephony-service
Router_CCME(config-telephony)#restart all
Reset 1 phones: at 5 second interval

!--- This can take several minutes per phone.

Starting with 7960 phones

Router_CCME(config-telephony)#
```

Verify

There is currently no verification procedure available for this configuration.

Troubleshoot

There is currently no specific troubleshooting information available for this configuration.

Related Information

- **Custom Phone Rings – Cisco CallManager Features and Services Guide**
 - **Voice Technology Support**
 - **Voice and IP Communications Product Support**
 - **Recommended Reading: Troubleshooting Cisco IP Telephony**
 - **Technical Support & Documentation – Cisco Systems**
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