



## Custom Phone Rings

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This chapter describes how to configure and upload customized phone ring types for your Cisco Unified IP Phones.

- [Custom Phone Rings Overview, on page 1](#)
- [Custom Phone Rings Prerequisites, on page 1](#)
- [Custom Phone Rings Configuration Task Flow, on page 2](#)

### Custom Phone Rings Overview

Custom Phone Rings allows you to create customized phone rings and upload the customized files to the Cisco Unified Communications Manager TFTP server where they can be accessed by Cisco Unified IP Phones.

Cisco Unified IP Phones ship with default ring types that are implemented in hardware: Chirp1 and Chirp2. In addition, Cisco Unified Communications Manager provides the capability of uploading the following files to phones:

#### PCM Files

Cisco Unified Communications Manager provides a default set of phone ring sounds that are implemented in software as pulse code modulation (PCM) audio files. Each PCM file specifies a single ring type.

#### Ringlist.xml File

The Ringlist.xml file describes the list of ring options that are available for phones.

You can upload customized PCM audio files, such as custom ring tones and call back tones, as well as the modified Ringlist.xml file to the TFTP directory in Cisco Unified Communications Manager.

### Custom Phone Rings Prerequisites

The following prerequisites apply to Custom Phone Rings:

- In order to upload your custom phone rings, the Cisco TFTP service must be running.
- Any PCM files that you want to upload must meet a set of file requirements in order to be compatible with Cisco Unified IP Phones. For details, review the topic [PCM File Format Requirements, on page 3](#).

- The Ringlist.xml file must meet a set of formatting guidelines. For details, review the topic [Ringlist.xml File Format Requirements, on page 3](#).

## Custom Phone Rings Configuration Task Flow

### Before you begin

- Review [Custom Phone Rings Prerequisites, on page 1](#)

### Procedure

	Command or Action	Purpose
<b>Step 1</b>	<a href="#">Prepare Custom Phone Rings for Upload, on page 2</a>	Create your customized PCM and Ringlist.xml files.
<b>Step 2</b>	<a href="#">Upload Custom Phone Rings to TFTP Server, on page 2</a>	Upload customized files to the Cisco Unified Communications Manager TFTP server.
<b>Step 3</b>	<a href="#">Restart TFTP Service, on page 3</a>	After the upload completes, restart the Cisco TFTP service.

## Prepare Custom Phone Rings for Upload

### Procedure

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- Step 1** Use the `file get tftp <tftp path>` CLI command to download the existing Ringlist.xml file, in addition to any PCM files that you want to modify.
- Step 2** Create a PCM file for each ring type that you want to upload. For guidelines on PCM file compatibility with Cisco Unified Communications Manager, see [PCM File Format Requirements, on page 3](#).
- Step 3** Use an ASCII editor to update the Ringlist.xml file with your new phone rings. For details on Ringlist.xml file formatting requirements, see [Ringlist.xml File Format Requirements, on page 3](#).
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## Upload Custom Phone Rings to TFTP Server

### Before you begin

[Prepare Custom Phone Rings for Upload, on page 2](#)

### Procedure

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- Step 1** From Cisco Unified OS Administration, choose **Software Upgrades > TFTP > File Management**.

- Step 2** Click **Upload File**.
- Step 3** Click **Browse** and select the Ringlist.xml file, as well as any PCM files that you want to upload.
- Step 4** Click **Upload File**.
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## Restart TFTP Service

### Before you begin

[Upload Custom Phone Rings to TFTP Server, on page 2](#)

### Procedure

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- Step 1** Log in to Cisco Unified Serviceability and choose **Tools > Control Center - Feature Services**.
- Step 2** From the **Server** drop-down list, choose the server on which the Cisco TFTP service is running.
- Step 3** Click the radio button that corresponds to the **Cisco TFTP** service.
- Step 4** Click **Restart**.
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## PCM File Format Requirements

PCM files for phone rings must meet a set of requirements for proper playback on Cisco Unified IP Phones. When creating or modifying your PCM files, you can use any standard audio editing packages that support the following file format requirements:

- Raw PCM
- 8000 samples per second
- 8 bits per sample
- mu-law compression
- Maximum ring size: 16080 samples
- Number of samples in the ring must be evenly divisible by 240
- Ring starts and ends at the zero crossing

## Ringlist.xml File Format Requirements

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 that is used for that ring type and the text that will display on the Ring Type menu on a Cisco Unified IP Phone for that ring.

The CiscoIPPhoneRinglist XML object uses the following simple tag set to describe the information:

```
<CiscoIPPhoneRinglist>  <Ring>
    <DisplayName/>
    <FileName/>
  </Ring>
</CiscoIPPhoneRinglist>
```

The following characteristics apply to the definition names:

- DisplayName defines the name of the custom ring for the associated PCM file that will display on the Ring Type menu of the Cisco Unified IP Phone.
- FileName specifies the name of the PCM file for the custom ring to associate with DisplayName.



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**Tip** The DisplayName and FileName fields must not exceed 25 characters.

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The following example shows a Ringlist.xml file that defines two phone ring types:

```
<CiscoIPPhoneRinglist>  <Ring>
    <DisplayName>Analog Synth 1</DisplayName>
    <FileName>Analog1.raw</FileName>
</Ring>
<Ring>
    <DisplayName>Analog Synth 2</DisplayName>
    <FileName>Analog2.raw</FileName>
</Ring>
</CiscoIPPhoneRinglist>
```



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**Tip** You must include the required DisplayName and FileName for each phone ring type. The Ringlist.xml file can include up to 50 ring types.

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