

Ringtones

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Information About Ringtones

Distinctive Ringing

Distinctive ring is used to identify internal and external incoming calls. An internal call is defined as a call originating from any Cisco Unified IP phone that is registered in Cisco Unified CME or is routed through the local FXS port.

In Cisco CME 3.4 and earlier versions, the standard ring pattern is generated for all calls to local SCCP endpoints. In Cisco Unified CME 4.0, the following distinctive ring features are supported for SCCP endpoints:

- Specify one of three ring patterns to be used for all types of incoming calls to a particular directory number, on all phones on which the directory number appears. If a phone is already in use, an incoming call is presented as a call-waiting call and uses a distinctive call-waiting beep.
- Specify whether the distinctive ring is used only if the incoming called number matches the primary or secondary number defined for the ephone-dn. If no secondary number is defined for the ephone-dn, the secondary ring option has no effect.
- Associate a feature ring pattern with a specific button on a phone so that different phones that share the same directory number can use a different ring style.

For local SIP endpoints, the type of ring sound requested is signaled to the phone using an alert-info signal. If distinctive ringing is enabled, Cisco Unified CME generates the alert-info for incoming calls from any phone that is not registered in Cisco Unified CME, to the local endpoint. Alert-info from an incoming leg can be relayed to an outgoing leg with the internally generated alert-info taking precedence.

Cisco Unified IP phones use the standard Telcordia Technologies distinctive ring types.

Customized Ringtones

Cisco Unified IP Phones have two default ring types: Chirp1 and Chirp2. Cisco Unified CME also supports customized ringtones using pulse code modulation (PCM) files.

An XML file called RingList.xml specifies the ringtone options available for the default ring on an IP phone registered to Cisco Unified CME. An XML file called DistinctiveRingList.xml specifies the ringtones available on each individual line appearance on an IP phone registered to Cisco Unified CME.

On-Hold Indicator

On-hold indicator is an optional feature that generates a ring burst on idle IP phones that have placed a call on hold. An option is available to generate call-waiting beeps for occupied phones that have placed calls on hold. This feature is disabled by default. For configuration information, see Configure On-Hold Indicator, on page 5.

LED color display for hold state, also known as I-Hold, is supported in Cisco Unified CME 4.0(2) and later versions. The I-Hold feature provides a visual indicator for distinguishing a local hold from a remote hold on shared lines on supported phones, such as the Cisco Unified IP Phone 7931G. This feature requires no additional configuration.

Configure Ringtones

Configure Distinctive Ringing

To set the ring pattern for all incoming calls to a directory number, perform the following steps.

Before you begin

Cisco Unified CME 4.0 or a later version.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ephone-dn** *dn-tag* [**dual-line**]
4. **number** *number* [**secondary** *number*] [**no-reg** [**both** | **primary**]]
5. **ring** {**external** | **internal** | **feature**} [**primary** | **secondary**]
6. **end**

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:**	Enables privileged EXEC mode. • Enter your password if prompted.

	Command or Action	Purpose
	`Router> enable`	
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**ephone-dn** *dn-tag* [**dual-line**] **Example:** `Router(config)# ephone-dn 29`	Enters ephone-dn configuration mode, creates an ephone-dn, and optionally assigns it dual-line status.
Step 4	**number** *number* [**secondary** *number*] [**no-reg** [**both** | **primary**]] **Example:** `Router(config-ephone-dn)# number 2333`	Configures a valid extension number for this ephone-dn.
Step 5	**ring** {**external** | **internal** | **feature**} [**primary** | **secondary**] **Example:** `Router(config-ephone-dn)# ring internal`	Designates which ring pattern to be used for all types of incoming calls to this directory number, on all phones on which the directory number appears.
Step 6	**end** **Example:** `Router(config-ephone-dn)# end`	Returns to privileged EXEC mode.

Configure Customized Ringtones

To create a customized ringtone, perform the following steps.

Before you begin

Cisco Unified CME 4.0 or a later version.

Procedure

Step 1 Create a PCM file for each customized ringtone (one ring per file). The PCM files must comply with the following format guidelines.

- Raw PCM (no header)
- 8000 samples per second
- 8 bits per sample
- mLaw 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

Use an audio editing package that supports these file format requirements to create PCM files for customized phone rings.

Sample ring files are in the ringtone.tar file at https://software.cisco.com/download/home/277641082

Step 2 Edit the RingList.xml and DistinctiveRingList.xml files using a text editor.

The RingList.xml and DistinctiveRingList.xml files contain a list of phone ring types. Each file shows the PCM file used for each ring type and the text that is displayed on the Ring Type menu on a Cisco Unified IP Phone for each ring.

Sample XML files are in the ringtone.tar file at https://software.cisco.com/download/home/277641082

The RingList.xml and DistinctiveRingList.xml files use the following format to specify customized rings:

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

The XML ring files use the following tag definitions:

- Ring files contain two fields, DisplayName and FileName, which are required for each phone ring type. Up to 50 rings can be listed.
- DisplayName defines the name of the customized ring for the associated PCM file that will be displayed on the Ring Type menu of the Cisco Unified IP Phone.
- FileName specifies the name of the PCM file for the customized ring to associate with DisplayName.
- The DisplayName and FileName fields can not exceed 25 characters.

The following sample RingList.xml file defines two phone ring types:

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

Step 3 Copy the PCM and XML files to system Flash on the Cisco Unified CME router. For example:

```
copy tftp://192.168.1.1/RingList.xml flash:
copy tftp://192.168.1.1/DistinctiveRingList.xml flash:
copy tftp://192.168.1.1/Piano1.raw flash:
copy tftp://192.168.1.1/Chime.raw flash:
```

Step 4 Use the **tftp-server** command to enable access to the files. For example:

```
tftp-server flash:RingList.xml
tftp-server flash:DistinctiveRingList.xml
tftp-server flash:Piano1.raw
tftp-server flash:Chime.raw
```

Step 5 Reboot the IP phones. After reboot, the IP phones download the XML and ringtone files. Select the customized ring by pressing the Settings button followed by the Ring Type menu option on a phone.

Configure On-Hold Indicator

The Call Hold feature is available by default. To define an audible indicator as a reminder that a call is waiting on hold, perform the following steps.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ephone-dn** *dn-tag* [**dual-line**]
4. **hold-alert** *timeout* {**idle** | **originator** | **shared** | **shared-idle**} [**recurrence** *recurrence-timeout*] [**ring-silent-dn**]
5. **end**

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**ephone-dn** *dn-tag* [**dual-line**] **Example:** `Router(config)# ephone-dn 20`	Enters ephone-dn configuration mode, creates an ephone-dn, and optionally assigns it dual-line status.
Step 4	**hold-alert** *timeout* {**idle** | **originator** | **shared** | **shared-idle**} [**recurrence** *recurrence-timeout*] [**ring-silent-dn**] **Example:** `Router(config-ephone-dn)# hold-alert 15 idle recurrence 3`	Sets audible alert notification on the Cisco Unified IP phone for alerting the user about on-hold calls. **Note** From the perspective of the originator of the call on hold, the **originator** and **shared** keywords provide the same functionality.

	Command or Action	Purpose
Step 5	**end** **Example:** `Router(config-ephone-dn)# end`	Returns to privileged EXEC mode.

Enable Distinctive Ringing on SIP Phones

To set the ring pattern for distinguishing between external and internal incoming calls, perform the following steps.

Restriction bellcore-dr1 to bellcore-dr5 are the only Telcordia options that are supported for SIP phones.

Before you begin

Cisco Unified CME 3.4 or a later version.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice register global**
4. **external-ring** {**bellcore-dr1** | **bellcore-dr2** | **bellcore-dr3** | **bellcore-dr4** | **bellcore-dr5**}
5. **end**

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**voice register global** **Example:** `Router(config)# voice register global`	Enters voice register global configuration mode to set parameters for all supported SIP phones in Cisco Unified CME.
Step 4	**external-ring** {**bellcore-dr1**	**bellcore-dr2**	**bellcore-dr3**	**bellcore-dr4**	**bellcore-dr5**}	Specifies the type of audible ring sound to be used for external calls

	Command or Action	Purpose
	Example: `Router(config-register-global)# external-ring bellcore-dr3`	• Default—Internal ring sound is used for all incoming calls.
Step 5	**end** **Example:** `Router(config-register-global)# end`	Exits configuration mode and enters privileged EXEC mode.

Configuration Examples for Ringtones

Example for Configuring Distinctive Ringing for Internal Calls

The following example sets distinctive ringing for internal calls on extension 2333.

```
ephone-dn 34
 number 2333
 ring internal
```

Example for Configuring On-Hold Indicator

In the following example, extension 2555 is configured to not forward local calls that are internal to the Cisco Unified CME system. Extension 2222 dials extension 2555. If 2555 is busy, the caller hears a busy tone. If 2555 does not answer, the caller hears ringback. The internal call is not forwarded.

```
ephone-dn 25
 number 2555
 no forward local-calls
 call-forward busy 2244
 call-forward noan 2244 timeout 45
```

Feature Information for Ringtones

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to https://cfnng.cisco.com/. An account on Cisco.com is not required.

Table 1: Feature Information for Ringtones

Feature Name	Cisco Unified CME Version	Feature Information
Distinctive Ringing	4.0	Supports ringtone choices for all incoming calls to an individual directory number, for all SCCP phones on which the directory number appears.
	3.4	Generate the alert-info for incoming calls from any phone that is not registered in Cisco Unified CME, to local SIP endpoints.
Customized Ringtones	4.0	Customized Ringtones feature was introduced.
On-Hold Indictor	4.0(2)	Controls LED color display for hold state to provide visual indicator for distinguishing a local hold from a remote hold on shared lines on supported phones, such as the Cisco Unified IP Phone 7931G.
	2.0	Audible on-hold indicator was introduced.
	1.0	Call Hold was introduced.