Configuring CallBack on No Answer for Analog Phones

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This module describes the CallBack on No Answer feature for analog phones that are connected to Foreign Exchange Station (FXS) ports on a Cisco VG2nn Analog Gateway or a Cisco Integrated Services Router (ISR). This feature is supported for analog SCCP endpoints that are controlled by the Cisco Unified Communications Manager (Cisco Unified CM) only.

Finding Feature Information in This Module

Your Cisco IOS software release may not support all of the features documented in this module. To reach links to specific feature documentation in this module and to see a list of the releases in which each feature is supported, use the "Feature Information for CallBack on No Answer for Analog Phones" section on page 124.

Finding Support Information for Platforms and Cisco IOS Software Images

Use Cisco Feature Navigator to find information about platform support and Cisco IOS and Catalyst OS software image support. To access Cisco Feature Navigator, go to http://www.cisco.com/go/cfn. An account on Cisco.com is not required.

Contents

Prerequisites for CallBack on No Answer for Analog Phones

Cisco IOS Gateway

- Cisco IOS Release 15.1(3)T or a later version.
- Cisco voice gateway is set up and configured for operation. For information, see the appropriate Cisco configuration documentation.
- Analog FXS voice ports are set up and configured for operation. For information, see the *Cisco IOS Voice Port Configuration Guide*.
- SCCP and the STCAPP are enabled on the Cisco voice gateway. For configuration information, see *Configuring FXS Ports for Basic Calls*.
- SCCP supplementary features are enabled on the Cisco voice gateway. See *Configuring Supplementary Features*.

Analog Endpoints in Cisco Unified CM

- Configure CallBack service parameters by accessing **System> Service Parameters** in Cisco Unified CM Administration; choose the server where the Cisco Unified CM service runs and then choose the Cisco Unified CM service. Unless instructed otherwise by the Cisco Technical Assistance Center, we recommend that you use the default service parameters settings. For information, see the "Call Back" section in the appropriate Cisco Unified CM Features and Services Guide at *http://www.cisco.com/en/US/products/sw/voicesw/ps556/prod_maintenance_guides_list.html*.

CallBack on No Answer for Analog Phones requires the following software components:

- Cisco Unified CM 8.5.
- Cisco Unified CM service running on at least one server in the cluster.
- Cisco Database Layer Monitor service running on the same server as the Cisco Unified CM service.
- Cisco real-time information server Data Collector service running on the same server as the Cisco Unified CM service.
- Cisco Unified CM Locale Installer, that is, if you want to use non-English phone locales or country-specific tones.
- Microsoft Internet Explorer or Netscape Navigator.

Restrictions for CallBack on No Answer for Analog Phones

- This feature is not supported in Cisco Unified CME.

Benefits of Using CallBack on No Answer for Analog Phones

The CallBack on No Answer feature provides parity with incumbent time-division multiplexing PBXs (remote endpoint can be behind a Public Switched Telephone Network gateway in specific cases).

Information About CallBack on No Answer for Analog Phones

To enable SCCP supplementary features on analog phones connected to FXS ports on a Cisco voice gateway, you should understand the following concepts:

Feature Summary

Table 1 contains information about SCCP-based CallBack on No Answer for Analog Phones on Cisco Voice Gateways, along with information about how to configure support for this feature in your Cisco call-control system.

Table 1 CallBack on No Answer for Analog Phones

Feature	How Phone User Accesses Feature	Configuration on Call-Control System
CallBack on No Answer for Analog Phones Allows phone user to initiate an audio alert on the phone when a party who does not answer becomes available.	After placing call to a phone that does not answer, user dials callback activation key to activate SCCP-based CallBack on No Answer feature. Default activation key sequence is #1. After CallBack on No Answer is activated, user hears a confirmation tone. The calling phone only supports one active CallBack request at a time. If a phone user tries to activate a second CallBack on No Answer while a callback is already active, the first callback is canceled and replaced by an active callback for the second no answer called number. **Note** The **stcapp feature callback** command must be enabled on the Cisco voice gateway.	**Cisco Unified Communications Manager** Configure Cisco Callback service parameters by accessing **System> Service Parameters** in Cisco Unified Communications Manager Administration; choose the server where the Cisco Unified Communications Manager service runs and then choose the Cisco Unified Communications Manager service. Unless instructed otherwise by the Cisco Technical Assistance Center, we recommend that you use the default service parameters settings. For information on these parameters, click the question mark button in the upper corner of the Service Parameter window. **Cisco Unified CME** This feature is not supported for analog endpoints in Cisco Unified CME.

CallBack on No Answer for Analog Phones

When the analog FXS ports are enabled by the Skinny Client Control Protocol (SCCP) telephony control (STC) application (STCAPP), calls through the FXS endpoints are controlled by the Cisco Unified CM, with basic call support in Survivable Remote Site Telephony (SRST) mode. The STCAPP on the Cisco voice gateway functions as a proxy to translate call-control messages between the Cisco call-control system and the voice gateway.

The Cisco Unified CM monitors the called telephone when you activate the CallBack feature on an analog phone when the remote side is either not answering the phone or is busy. For more information, see the "Configuring CallBack on Busy" section on page 107.

When the called telephone becomes available to receive a call, the Cisco Unified CM verifies that the calling phone is also available and if so, automatically activates the CallBack notification. The original calling phone generates a special CallBack ringtone. When the calling party lifts the handset, the called phone receives a call as a regular call from the calling party.

Note Existing SCCP protocols for the CallBack feature are integrated with the IOS gateway and translated into analog phone tones and alert ringtones to support all phases of the CallBack scenario.

- In successful cases, the confirmation tone is used during CallBack activation. In cases where the Cisco Unified CM reports an error, a fast busy tone is played.
- If you activate the CallBack feature and go on-hook before the confirmation or error tones are played, you cannot determine whether the feature is activated successfully or not. If CallBack is activated, the scenario proceeds as usual and you hear the CallBack ringtone.

The following examples describe how CallBack on No Answer is supported on analog phones connected to IOS-based platforms, either on a call to another analog phone or to an IP phone:

- Normal Operation, page 118
- CallBack not completed because Calling Party does not answer, page 119
- CallBack not completed because Called Party does not answer, page 119
- CallBack not completed because Calling Party receives another incoming call, page 119

Note In the succeeding scenarios, A and B are both analog telephones existing in the same Cisco Unified CM Cluster connected to the same or different Cisco VG2nn Analog Gateway or Cisco ISR router. Alternatively, B can be any Cisco IP Phone existing in the same Cisco Unified CM cluster or any off-net phone, connected to Cisco Unified CM using Q Signaling PRI trunk.

Normal Operation

User A calls user B, which does not answer (the phone rings).

User A hears ring back tone, then activates the CallBack feature by pressing #1 (configurable) and gets a confirmation tone from the system letting user A know that the feature has been activated. The system allows only one CallBack number to be activated at any time. If a CallBack to another destination is previously activated, it is automatically cancelled and replaced with the new destination.

User A is able to make calls to other users without affecting or cancelling the CallBack feature. The CallBack cannot be explicitly cancelled by the user.

When user B becomes available (by going on-hook), system checks if user A is also on-hook. If A is busy on another call, the system waits until both users A and B are available to establish CallBack call.

When both A and B are available (on-hook), user A receives the CallBack notification ringtone.

When user A lifts the handset he hears the CallBack ringtone and user B's phone rings normally.

CallBack not completed because Calling Party does not answer

User A calls user B, which does not answer (the phone rings).

User A hears ring back tone, then activates the CallBack feature by pressing #1 (configurable) and gets a confirmation tone from the system letting user A know that the feature has been activated. The system allows only one CallBack number to be activated at any time. If a CallBack to another destination is previously activated, it is automatically cancelled and replaced with the new destination.

User A is able to make calls to other users without affecting or cancellingthe CallBack feature. The CallBack cannot be explicitly cancelled by the user.

When user B becomes available (by going on-hook), system checks if user A is also on-hook. If A is busy on another call, the system waits until both users A and B are available to establish CallBack call.

When both A and B are available (on-hook), user A receives a CallBack ringtone but does not answer.

The system keeps sending a CallBack ringtone to user A until the defined "ringing-timeout" set on the Cisco VG2nn Analog Gateway or Cisco ISR router is reached, if user A still does not answer, CallBack feature gets cancelled.

No further attempts to complete the call are made and there is NO notification to users about cancellation of the CallBack feature.

CallBack not completed because Called Party does not answer

User A calls user B, which does not answer (the phone rings).

User A hears ring back tone, then activates the CallBack feature by pressing #1 (configurable) and gets a confirmation tone from the system letting user A know that the feature has been activated. The system allows only one CallBack number to be activated at any time. If a CallBack to another destination is previously activated, it is automatically cancelled and replaced with the new destination.

User A is able to make calls to other users without affecting or cancellingthe CallBack feature. The CallBack cannot be explicitly cancelled by the user.

When user B becomes available (by going on-hook), system checks if user A is also on-hook. If A is busy on another call, the system waits until both users A and B are available to establish CallBack call.

When both A and B are available (on-hook), user A receives the CallBack notification ringtone.

When user A lifts the handset he hears the CallBack ringtone and user B's phone rings normally.

User B does not answer, the system keeps ringing B until the "No Answer Ring Duration" time (set in CUCM) is reached . If user B still does not answer, the CallBackfeature gets cancelled.

No further attempts to complete the call are made and there is NO notification to users about cancellation of the CallBack feature.

CallBack not completed because Calling Party receives another incoming call

User A calls user B, which does not answer (the phone rings).

User A hears ring back tone, then activates the CallBack feature by pressing #1 (configurable) and gets a confirmation tone from the system letting user A know that the feature has been activated. The system allows only one CallBack number to be activated at any time. If a CallBack to another destination is previously activated, it is automatically cancelled and replaced with the new destination.

User A is able to make calls to other users without affecting or cancellingthe CallBack feature. The CallBack cannot be explicitly cancelled by the user.

When user B becomes available (by going on-hook), system checks if user A is also on-hook. If A is busy on another call, the system waits until both users A and B are available to establish CallBack call.

When both A and B are available (on-hook), user A receives the CallBack notification ringtone.

While user A hears CallBack ringtone, another incoming call comes in to A.

CallBack gets immediately cancelled and the ring pattern changes to normal.

When user A picks up the handset, the call is answered like a normal incoming call.

Note CallBack on No Answer requires additional effort in the activation phase since the activation happens at different call states.

In the case where call progress tones (busy or ringback) are coming in-band, possibly with some third party PBXs interconnected through Q Signaling trunks, the call goes to the "active" state, the media flows to the gateway, and the tones are delivered as part of media. In this case, CallBack is activate and works like a normal incoming call.

How to Configure CallBack on No Answer for Analog Phones

CallBack on No Answer automatically installs when you install Cisco Unified CM.

The "Configuring CallBack on No Answer for Analog Phones" section on page 120 provides detailed configuration information

Configuring CallBack on No Answer for Analog Phones

Note This document does not contain details about configuring Cisco Unified CM. See the documentation for this product for installation and configuration instructions.

To modify the default values of the CallBack activation key sequence or ringing timer for CallBack on No Answer on analog phones on IOS-based platforms, perform the following steps on the Cisco voice gateway.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **stcapp feature callback**
4. **activation-key** *string*
5. **ringing-timeout** *seconds*
6. **end**

DETAILED STEPS

	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	**stcapp feature callback** **Example:** `Router(config)# stcapp feature callback`	Enables CallBack on No Answer and enters STCAPP feature CallBack configuration mode.
Step 4	**activation-key** *string* **Example:** `Router(config-stcapp-callback)# activation-key *4`	(Optional) Defines the key sequence to use for activating CallBack on No Answer. • *string*—String (0-9, # *) that can be dialed on a telephone keypad. Length: 1 to 5 characters. Default is #1.
Step 5	**ringing-timeout** *seconds* **Example:** `Router(config-stcapp-callback)# ringing-timeout 45`	(Optional) Defines the timeout period for ringing timer. • *seconds*—Range: 5 to 60. Default: 30,
Step 6	**end** **Example:** `Router(config-stcapp-callback)# end`	Exits STCAPP feature CallBack configuration mode and returns to privileged EXEC mode.

Configuration Examples for CallBack on No Answer for Analog Phones

This section provides the following configuration examples:

Example: Configuring Feature Callback in the STCAPP on a Cisco IOS Gateway

The following example shows a partial output of feature callback in the STCAPP on a Cisco IOS gateway with the key sequence for activating CallBack on No Answer defined as 1000 and the timeout period for the ringing timer defined as 10:

```
Router# show run all
.
.
.
stcapp feature callback
 activation-key #1000
 ringing-timeout 10
```

Example: Configuring CallBack on No Answer on a Cisco IOS Gateway

The following example shows how to configure CallBack on No Answer on a Cisco IOS gateway. In this configuration, the activation key and the timeout period for the ringing timer are modified from the defaults.

```
Building configuration...
Current configuration : 3442 bytes
!
version 12.4
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname Router
!
.
.
.
!
stcapp ccm-group 1
stcapp
!
.
.
.
!
stcapp feature callback
  activation-key *22
  ringing-timeout 45
!
```

Additional References

The following sections provide references related to SCCP analog phone support for FXS ports on the Cisco voice gateway.

Related Documents

Related Topic	Document Title
Cisco Unified Communications Manager	*Cisco Unified Communications Manager*
Cisco Unified Communications Manager Express	*Cisco Unified Communications Manager Express*
Cisco IOS debugging	*Cisco IOS Debug Command Reference*
Cisco IOS voice commands	*Cisco IOS Voice Command Reference*
Cisco IOS voice configuration	*Cisco IOS Voice Configuration Library*
Cisco voice gateway	• *Cisco VG200 Series Gateway* • *Cisco 1800 Series Integrated Services Routers* • *Cisco 2800 Series Integrated Services Routers* • *Cisco 3800 Series Integrated services Routers* • *Cisco Unified 500 Series*
Conferencing and transcoding resources	• "Configuring Enhanced Conferencing and Transcoding for Voice Gateway Routers" chapter in the *Cisco Unified CallManager and Cisco IOS Interoperability Guide*. • *Cisco CallManager and IOS Gateway DSP Farm Configuration Example*

Technical Assistance

Description	Link
The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.	http://www.cisco.com/techsupport

Feature Information for CallBack on No Answer for Analog Phones

Table 2 lists the features in this module and provides links to specific configuration information. Only features that were introduced or modified in Cisco IOS Release 15.1(3)T or a later release appear in the table.

For information on a feature in this technology that is not documented here, see the "Supplementary Services Features Roadmap" section on page 1.

Not all commands may be available in your Cisco IOS software release. For release information about a specific command, see the command reference documentation.

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which Cisco IOS and Catalyst OS software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to http://www.cisco.com/go/cfn. An account on Cisco.com is not required.

Note Table 2 lists only the Cisco IOS software release that introduced support for a given feature in a given Cisco IOS software release train. Unless noted otherwise, subsequent releases of that Cisco IOS software release train also support that feature.

Table 2 Feature Information for CallBack on No Answer for Analog Phones

Feature Name	Releases	Feature Information
CallBack on No Answer for Analog Phones	15.1(3)T	Provides CallBack notification when a called phone becomes available. This feature is supported on analog SCCP endpoints in Cisco Unified CM only. The following sections provide information about this feature: • Information About CallBack on No Answer for Analog Phones, page 117 • Configuring CallBack on No Answer for Analog Phones, page 120. No new commands were introduced by this feature.