



Configuring Supplementary Features

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This module describes how to enable Skinny Client Control Protocol (SCCP) supplementary features for analog Foreign Exchange Station (FXS) ports on a Cisco voice gateway, such as a Cisco Integrated Services Router (Cisco ISR) or Cisco VG224 Analog Phone Gateway, under the control of Cisco Unified Communications Manager or Cisco Unified Communications Manager Express (Cisco Unified CME).

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 SCCP Controlled Analog \(FXS\) Ports with Supplementary Features in Cisco IOS Gateways](#)” section on page 88.

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.

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Prerequisites for SCCP Controlled Analog (FXS) Ports with Supplementary Features in Cisco IOS Gateways

Cisco IOS Gateway

- Cisco IOS Release 12.3(11)T or a later release.
- The Cisco voice gateway is set up and configured for operation. For information, see the appropriate Cisco configuration documentation.
- The analog FXS voice ports are set up and configured for operation. For information, see the [Cisco IOS Voice Port Configuration Guide](#).
- SCCP and the SCCP telephony control (STC) application is enabled on the Cisco voice gateway. For configuration information, see the [“Configuring FXS Ports for Basic Calls” section on page 17](#).

Analog Endpoints in Cisco Unified Communications Manager

- Cisco Unified Communications Manager 4.2 or a later version.
- Phones are added and configured in Cisco Unified Communications Manager. See the “Directory Number Configuration” chapter under “Call Routing Configuration” and the “Gateway Configuration” chapter under “Device Configuration” in the appropriate [Cisco Unified Communications Manager Administration Guide](#).

Analog Endpoints in Cisco Unified CME

- Cisco CME 3.2 or a later version.
- Ephone configurations and feature parameters for analog endpoints are configured in Cisco Unified CME. For information, see the *Cisco Unified CME Administration Guide*.
- To use call transfer on analog endpoints, set the **transfer-system** command to full-blind or full-consult on Cisco router. Neither of these settings is the default for this command, so one of these settings must be manually configured. For configuration information, see the “[Configuring Call Transfer and Forwarding](#)” module in the *Cisco Unified CME Administration Guide*.

The following example shows how to configure full consultation as the call transfer method:

```
Router(config)# telephony-service
Router(config-telephony)# transfer-system full-consult
```

Restrictions for SCCP Controlled Analog (FXS) Ports with Supplementary Features in Cisco IOS Gateways

- Maximum number of participants in a software-based ad hoc conference is three. Conference chaining, the ability of a conference participant to add another party to an existing three-party conference, is not supported.

Analog Endpoints in Cisco Unified Communications Manager

- Local group pickup and external group pickup are supported for Cisco Unified Communications Manager only if the AutoCallPickupEnabled service parameter is set to True.
- Directed call park and directed call pickup are not supported for Cisco Unified Communications Manager.

Information About SCCP Controlled Analog (FXS) Ports with Supplementary Features in Cisco IOS Gateways

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

- [Summary of SCCP Supplementary Features for FXS ports, page 58](#)
- [Flexible Feature Access Codes, page 66](#)
- [Enhanced Speed Dial on SCCP Analog Phones, page 68](#)
- [Cancel Call Waiting, page 69](#)
- [SCCP Meet-Me Conference, page 69](#)



Note

In Cisco IOS Release 15.1(2)T5 and later, Analog (FXS) phones connected to Cisco IAD2430 are recognized as SCCP endpoints. Cisco IOS Release 15.1(2)T5 also adds support for the STCAPP functionality for Cisco IAD2430.

Summary of SCCP Supplementary Features for FXS ports

Table 1 contains a list of SCCP supplementary features that are supported on analog phones connected to FXS ports, along with descriptions and information about how to configure support for each feature in your Cisco call-control system.



Note For information about individual commands in Cisco Unified CME, see the [Cisco Unified CME Command Reference](#).

Table 1 **SCCP Supplementary Features for Analog FXS Ports**

Feature	How Phone User Accesses Feature	Configuration on Call-Control System
Audible Message-Waiting Indication (AMWI) Notifies user of new voice mail.	User picks up handset and hears message waiting indication (MWI) tone whenever a new voice message is waiting to be heard.	Cisco Unified Communications Manager To configure, see the “Message Waiting Configuration” chapter under “Voice Mail Configuration” in the appropriate Cisco Unified Communications Manager Administration Guide . Cisco Unified CME To configure, see “ Integrating Voice Mail ” in the Cisco Unified CME Administration Guide .
Call Forward Busy (CFB) Forwards calls to a target number when the called number is busy.	User activates by using the Cisco Unified CME GUI or administrator activates by configuring this feature in the Cisco call-control system.	Cisco Unified Communications Manager For feature information, see the “Phone Features” section of the “Cisco Unified IP Phone” chapter under “Devices and protocols” in the appropriate Cisco Unified Communications Manager System Guide . To configure, see the “Configuring Directory Numbers” chapter under “Call Routing Configuration” in the appropriate Cisco Unified Communications Manager Administration Guide . Cisco Unified CME To configure, see “ Configuring Call Transfer and Forwarding ” in the Cisco Unified CME Administration Guide .

Table 1 **SCCP Supplementary Features for Analog FXS Ports (continued)**

Feature	How Phone User Accesses Feature	Configuration on Call-Control System
<p>Call Forward No Answer (CFNA)</p> <p>Forwards calls to a target number when there is no answer at the called number.</p>	<p>User activates by using the Cisco Unified CME GUI or an administrator activates by configuring this feature in the Cisco call-control system.</p>	<p>Cisco Unified Communications Manager</p> <p>For feature information, see the “Phone Features” section of the “Cisco Unified IP Phone” chapter under “Devices and protocols” in the appropriate <i>Cisco Unified Communications Manager System Guide</i>.</p> <p>To configure, see the “Configuring Directory Numbers” chapter under “Call Routing Configuration” in the appropriate <i>Cisco Unified Communications Manager Administration Guide</i>.</p> <p>Cisco Unified CME</p> <p>To configure, see “Configuring Call Transfer and Forwarding” in the <i>Cisco Unified CME Administration Guide</i>.</p>
<p>Call Transfer</p> <p>Connects call to a third party that the phone user dials.</p>	<p>During an active call, user presses hookflash and receives dial tone. User dials number for transfer and either stays online to announce (consultive transfer) or hangs up (blind transfer). When user hangs up, the call is transferred.</p> <p>Note When blind transfer is configured in Cisco Unified CME, the phone user does not have to hang up; the call is transferred when Cisco Unified CME receives the dialed number.</p>	<p>Cisco Unified Communications Manager</p> <p>For feature information, see “Making and Receiving Multiple Calls Per Directory Number” section of the “Understanding Directory Numbers” chapter under “Dial Plan Architecture” in the <i>Cisco Unified Communications Manager System Guide</i>.</p> <p>Cisco Unified CME</p> <p>To configure, see “Configuring Call Transfer and Forwarding” in the <i>Cisco Unified CME Administration Guide</i>.</p>
<p>Call Waiting</p> <p>Announces a second call during an active call.</p>	<p>During an active call, user hears a tone and can press hookflash to toggle between the active call and the incoming call.</p> <p>For analog endpoints in Cisco Unified Communications Manager: The call waiting tone depends on the ring setting for the active station and the tone does not play repeatedly, it plays only once.</p> <p>For analog endpoints in Cisco Unified CME: The call waiting tone is played continuously.</p>	<p>Cisco Unified Communications Manager</p> <p>For feature information, see the “Understanding Directory Numbers” section of the “Understanding Route Plans” chapter under “Dial Plan Architecture” in the <i>Cisco Unified Communications Manager System Guide</i>.</p> <p>Cisco Unified CME</p> <p>No configuration task are required in Cisco Unified CME.</p>

Table 1 *SCCP Supplementary Features for Analog FXS Ports (continued)*

Feature	How Phone User Accesses Feature	Configuration on Call-Control System
<p>Caller ID</p> <p>Displays calling number, caller name, and time of call.</p>	<p>Administrator activates on the Cisco call-control system. Time stamp is from the Cisco voice gateway.</p> <p>Note To display the caller ID when caller ID is supported by the local telco provider, an administrator must use the caller id enable command on the appropriate Cisco voice gateway port.</p>	<p>Cisco Unified Communications Manager</p> <p>For feature information, see the “Caller Identification and Restriction” section of the “Understanding Route Plans” chapter under “Dial Plan Architecture” in the <i>Cisco Unified Communications Manager System Guide</i>.</p> <p>Cisco Unified CME</p> <p>For caller-ID display on local calls (calls between FXS ports and IP phones registered to the same Cisco Unified CME router):</p> <ul style="list-style-type: none"> To configure, see “SCCP: Configuring Phones on SCCP Controlled Analog (FXS) Ports” in the <i>Cisco Unified CME Administration Guide</i>. <p>For restricting or blocking caller-ID display:</p> <ul style="list-style-type: none"> To configure, see “How to Configure Caller-Id Blocking” in the <i>Cisco Unified CME Administration Guide</i>.
<p>Conference Call</p> <p>Initiates a three-party conference.</p>	<p>User in basic call mode presses hookflash to get the first dial tone, then dials an extension number to connect to a second call. When the second call is established, user presses hookflash to get feature tone and then dials #3 to initiate a three-party conference.</p>	<p>Cisco Unified Communications Manager</p> <p>For feature information, see the “Initiating an Ad Hoc Conference Bridge” section of the “Conference Bridges” chapter under “Media Resources” in the <i>Cisco Unified Communications Manager System Guide</i>.</p> <p>Cisco Unified CME</p> <p>To configure, see the “Configuring Conferencing” section of the “Adding Features” chapter in the <i>Cisco Unified CME Administration Guide</i>.</p>
<p>Distinctive Ringing on Cisco IOS SCCP Voice Gateways</p> <p>Enables distinct ring tone to alert user whether incoming call is from an internal or external phone.</p>	<p>System administrator configures the ring patterns for both internal and external calls on the voice gateway port.</p>	<p>To configure, see the ring cadence command in the <i>Cisco IOS Voice Command Reference</i>.</p>

Table 1 **SCCP Supplementary Features for Analog FXS Ports (continued)**

Feature	How Phone User Accesses Feature	Configuration on Call-Control System
<p>Feature Access Codes (FACs) Access features using an abbreviated code.</p> <p>Flexible FACs Allows you to configure feature codes for FACs so that phone users are not required to dial the prefix before dialing the feature code to access an SCCP feature.</p> <p>Enhanced Flexible Facs Allows you to configure feature codes for FACs so that phone users are not required to dial the prefix or special characters to access an SCCP feature.</p>	<p>User accesses features by dialing a FAC, typically consisting of a prefix plus a feature code.</p> <p>For a list of STC application call features that can be accessed by dialing a FAC, see Table 2.</p> <p>Note The stcapp feature access-code command must be enabled on the Cisco voice gateway.</p>	<p>For feature and configuration information for individual STC application call features for which you can configure a FAC, see Table 2.</p>
<p>Redial Dials again the last number dialed from this phone.</p>	<p>User dials the feature speed dial (FSD) prefix and the redial code. Default prefix and code is *#.</p> <p>Note The stcapp feature speed-dial command must be enabled on the Cisco voice gateway.</p>	<p>No configuration tasks required on your Cisco call-control system.</p>

Table 1 SCCP Supplementary Features for Analog FXS Ports (continued)

Feature	How Phone User Accesses Feature	Configuration on Call-Control System
<p>Speed Dial</p> <p>Dials a telephone number using an abbreviated code.</p>	<p>Up to 99 Speed Dials (Local Phone)</p> <p>User dials the FSD prefix and desired speed-dial code. The digit command determines the number of digits used for FSD codes on the Cisco voice gateway.</p> <p>Default prefix and code range is:</p> <ul style="list-style-type: none"> • *1 to *9 for one-digit codes • *01 to *99 for two-digit codes <p>User stores speed-dial destinations by using the Cisco Unified CME GUI or an administrator stores destinations on the Cisco call-control system.</p> <p>Note The stcapp feature speed-dial command must be enabled on the Cisco voice gateway.</p> <p>Up to 9,999 Speed Dials (System-wide)</p> <p>User dials access code and speed-dial number. Administrator activates on the Cisco call-control system.</p>	<p>Cisco Unified Communications Manager</p> <p>For feature information, see the “Phone Features” section of the “Cisco Unified IP Phones” chapter under “Devices and protocols” in the appropriate <i>Cisco Unified Communications Manager System Guide</i>.</p> <p>To configure, see the “Configuring Speed-Dial Buttons” section in the “Cisco Unified Phone Configuration” chapter under “Device Configuration” in the appropriate <i>Cisco Unified Communications Manager Administration Guide</i>.</p> <p>Cisco Unified CME</p> <p>To configure, see “Configuring Speed Dial” in the <i>Cisco Unified CME Administration Guide</i>.</p> <p>Cisco Unified Communications Manager</p> <p>To configure, see the “Translation Pattern Configuration” chapter under “Call Routing Configuration” in the appropriate <i>Cisco Unified Communications Manager Administration Guide</i>.</p> <p>Cisco Unified CME</p> <p>To configure, see “Configuring Speed Dial” in the <i>Cisco Unified CME Administration Guide</i>.</p>
<p>Speed Dial to Voice Mail</p> <p>Dials the voice-mail number using an abbreviated code.</p>	<p>User dials the FSD prefix and speed dial to voice mail code. The digit command determines the number of digits used for FSD codes.</p> <p>Default prefix and code is:</p> <ul style="list-style-type: none"> • *0 for one-digit codes • *00 for two-digit codes. <p>Note The stcapp feature speed-dial command must be enabled on the Cisco voice gateway.</p>	<p>Cisco Unified Communications Manager</p> <p>To configure, see the “Cisco Voice-Mail Pilot Configuration” chapter under “Voice Mail Configuration” in the appropriate <i>Cisco Unified Communications Manager Administration Guide</i>.</p> <p>Cisco Unified CME</p> <p>To configure, see “Integrating Voice Mail” in the <i>Cisco Unified CME Administration Guide</i>.</p>

Table 2 **FACs for SCCP Supplementary Features for Analog FXS Ports**

Feature	How Phone User Accesses Feature	Configuration on Call-Control System
<p>Call Forward All (CFA)</p> <p>Forwards all calls to a target number.</p>	<p>User dials feature access code (FAC) prefix and call-forward-all code, and then following the confirmation tone, the target number. Default prefix and code is **1.</p> <p>After CFA is activated, user hears a stutter tone when the handset is picked up to indicate that all incoming calls are being forwarded.</p> <p>If a phone user tries to activate CFA after it is already activated, a fast busy tone is generated.</p> <p>Note The stcapp feature access-code command must be enabled on the Cisco voice gateway.</p>	<p>Cisco Unified Communications Manager</p> <p>For feature information, see the “Phone Features” section of the “Cisco Unified IP Phone” chapter under “Devices and Protocols” in the appropriate <i>Cisco Unified Communications Manager System Guide</i>.</p> <p>To configure, see the “Configuring Directory Numbers” chapter under “Call Routing Configuration” in the appropriate <i>Cisco Unified Communications Manager Administration Guide</i>.</p> <p>Cisco Unified CME</p> <ul style="list-style-type: none"> • To configure, see “How to Configure Call Transfer and Forwarding” in the <i>Cisco Unified CME System Administrator Guide</i>. • Use the call-forward max-length command in Cisco Unified CME to limit the number of digits that can be dialed for the target forwarding number. • The target destination for diverted calls can be specified in the router configuration or on the phone by using a FAC. The most recently entered destination is recognized by Cisco Unified CME, regardless of how it was entered.

Table 2 FACs for SCCP Supplementary Features for Analog FXS Ports (continued)

Feature	How Phone User Accesses Feature	Configuration on Call-Control System
<p>Call Forward All Cancel</p> <p>Cancels an active CFA condition.</p>	<p>User dials FAC prefix and call-forward-cancel code. Default prefix and code is **2.</p> <p>After CFA is canceled, user hears a confirmation tone when the handset is picked up to indicate incoming calls are no longer being forwarded.</p> <p>Note The stcapp feature access-code command must be enabled on the Cisco voice gateway.</p>	<p>Cisco Unified Communications Manager</p> <p>For feature information, see the “Phone Features” section of the “Cisco Unified IP Phone” chapter under “Devices and Protocols” in the appropriate <i>Cisco Unified Communications Manager System Guide</i>.</p> <p>To configure, see the “Configuring Directory Numbers” chapter under “Call Routing Configuration” in the appropriate <i>Cisco Unified Communications Manager Administration Guide</i>.</p> <p>Cisco Unified CME</p> <ul style="list-style-type: none"> To configure, see “Configuring Call Transfer and Forwarding” in the <i>Cisco Unified CME Administration Guide</i>. Can also be activated using the no call-forward all command.
<p>Call Park Directed Call Pickup Directed</p> <p>Puts a call on hold at a designated extension so that it can be retrieved by anyone.</p>	<p>During an active call, user presses hookflash for dial tone, and then dials the call-park slot number configured on the call-control system.</p> <p>User retrieves the call by dialing the FAC prefix, the directed pickup code, and the call-park slot number where the call was parked, and pressing hookflash. Default prefix and code is **6. For example, if the call is parked at slot 1211, user dials **61211.</p> <p>Users can also retrieve the last call parked by their own extensions by dialing the FAC prefix, the directed pickup code, and an asterisk (*), and pressing hookflash. Default prefix and code is **6*.</p> <p>Note The stcapp feature access-code command must be enabled on the Cisco voice gateway.</p>	<p>Cisco Unified Communications Manager</p> <p>This feature is not supported for Cisco Unified Communications Manager.</p> <p>Cisco Unified CME</p> <p>To configure, see “Configuring Call Coverage Features” in the <i>Cisco Unified CME Administration Guide</i>.</p>
<p>Call Pickup of Ringing Extension, Directed</p> <p>Allows incoming calls to be picked up by phones other than the ringing phone.</p>	<p>User picks up a ringing extension by dialing the FAC prefix, the directed pickup code, and the ringing extension number. Default prefix and code is **6.</p> <p>Note The stcapp feature access-code command must be enabled on the Cisco voice gateway.</p>	<p>Cisco Unified Communications Manager</p> <p>This feature is not supported for analog endpoints in Cisco Unified Communications Manager.</p> <p>Cisco Unified CME</p> <p>No configuration tasks are required In Cisco Unified CME.</p>

Table 2 FACs for SCCP Supplementary Features for Analog FXS Ports (continued)

Feature	How Phone User Accesses Feature	Configuration on Call-Control System
<p>Call Pickup Group</p> <p>Allows incoming calls in a different pickup group than the user to be picked up.</p>	<p>User picks up a ringing extension by dialing the FAC prefix, the group pickup code, and the number of the pickup group. Default prefix and code is **4.</p> <p>Note The stcapp feature access-code command must be enabled on the Cisco voice gateway.</p>	<p>Cisco Unified Communications Manager</p> <p>AutoCallPickupEnabled service parameter must be set to True.</p> <p>For feature information, see the “Call Pickup” section of the “Translation Pattern Configuration” chapter under “Call Configuration” in the appropriate <i>Cisco Unified Communications Manager System Guide</i>.</p> <p>To configure, see the “Pick Up Phone Configuration” chapter under “Call Routing Configuration” in the appropriate <i>Cisco Unified Communications Manager Administration Guide</i>.</p> <p>Cisco Unified CME</p> <p>To configure, see “Configuring Call Coverage Features” in the <i>Cisco Unified CME Administration Guide</i>.</p>
<p>Call Pickup Local</p> <p>Allows incoming calls in the same pickup group as the user to be picked up.</p>	<p>User picks up a ringing extension by dialing the FAC prefix and the local pickup code. Default prefix and code is **3.</p> <p>Note The stcapp feature access-code command must be enabled on the Cisco voice gateway.</p>	<p>Cisco Unified Communications Manager</p> <p>AutoCallPickupEnabled service parameter must be set to True.</p> <p>To configure, see the “Pick Up Phone Configuration” chapter under “Call Routing Configuration” in the appropriate <i>Cisco Unified Communications Manager Administration Guide</i>.</p> <p>Cisco Unified CME</p> <p>To configure, see “Configuring Call Coverage Features” in the <i>Cisco Unified CME Administration Guide</i>.</p>
<p>Cancel Call Waiting</p> <p>Cancels the call waiting service during a call.</p>	<p>User dials the cancel call waiting FAC, receives recall dial-tone, and places a call. Default prefix and code is **8.</p>	<p>Cisco Unified Communications Manager</p> <p>For feature information, see the “Phone Features” section of the “Cisco Unified IP Phone” chapter under “Devices and Protocols” in the appropriate <i>Cisco Unified Communications Manager System Guide</i>.</p> <p>To configure, see the “Configuring Directory Numbers” chapter under “Call Routing Configuration” in the appropriate <i>Cisco Unified Communications Manager Administration Guide</i>.</p> <p>Cisco Unified CME</p> <p>No configuration tasks are required in Cisco Unified CME.</p>

Table 2 FACs for SCCP Supplementary Features for Analog FXS Ports (continued)

Feature	How Phone User Accesses Feature	Configuration on Call-Control System
Forward to Voice Mail Forwards calls to voice mail.	User dials FAC prefix and voice-mail code. Default prefix and code is **7. Note The stcapp feature access-code command must be enabled on the Cisco voice gateway.	Cisco Unified Communications Manager For feature information, see the “Phone Features” section of the “Cisco Unified IP Phone” chapter under “Devices and Protocols” in the appropriate <i>Cisco Unified Communications Manager System Guide</i> . To configure, see the “Configuring Directory Numbers” chapter under “Call Routing Configuration” in the appropriate <i>Cisco Unified Communications Manager Administration Guide</i> .
SCCP Meet-Me Conference Enables user on an analog SCCP phone to start or join a meet-me conference call.	To start a meet-me conference, user dials FAC prefix and meet-me conference code, and following the confirmation tone, the meet-me conference number. Default prefix and code is **5. Participants can join the conference by dialing the meet-me conference number. Participants hear a busy tone if they call the conference number before the conference controller has joined. In this case, participants must call back. To end a meet-me conference, all participants must hang up. The conference does not automatically end when the conference controller disconnects. Before a conference controller can start a meet-me conference, meet-me conference numbers must be configured in your Cisco call-control system by the system administrator. Note The stcapp feature access-code command must be enabled on the Cisco voice gateway.	Cisco Unified Communications Manager To configure: <ul style="list-style-type: none"> • See the “Conference Bridge Configuration” section of the “Media Resource Configuration” chapter in the appropriate <i>Cisco Unified Communications Manager Administration Guide</i>. • See the “Meet-Me Number/Pattern Configuration” section of the “Call Routing” chapter in the appropriate <i>Cisco Unified Communications Manager Administration Guide</i>. Cisco Unified CME To configure meet-me conferencing and meet-me conference numbers, see “SCCP: Configuring Conferencing” in the <i>Cisco Unified CME Administration Guide</i> .

Flexible Feature Access Codes

To access certain STC application call features on analog phones connected to a voice gateway, phone users must dial a FAC consisting of a prefix plus a feature code, for example **1.

The prefix for FACs is a one to five-character string beginning with an asterisk (*) or number sign (#). The default value is **.

Before Cisco IOS Release 12.4(20)YA, feature codes for FACs were limited to a single character (0-9, *, or #). In Cisco IOS Release 12.4(20)YA and later releases, the Flexible FAC feature allows you to configure feature codes as follows:

- For feature codes to be dialed after dialing the prefix, you can configure one character (0-9, *, or #) or two digits (00-99) that can be dialed on phone keypad.
- For feature codes that do not require the prefix to be dialed to access the feature, you can configure two to four characters that can be dialed on phone keypad and the leading or ending character must be an asterisk (*) or number sign (#).
- The default values for specific FACs are listed in [Table 2](#).

Flexible FACs allow you to configure feature codes for FACs so that phone users are not required to dial the prefix before dialing the feature code to access an SCCP feature on an analog phone. If you configure a feature code that is at least two characters and the leading or ending character is an asterisk (*) or number sign (#), no prefix is required to access the feature. For example, if you configure a feature code of 78# for Call Forward Cancel, the phone user dials just the feature code (78#) to access that feature. If you configure a feature code of 78 for Call Forward Cancel, the phone user must dial the prefix, whatever it is, plus the feature code (78) to access that feature.

If you attempt to set a feature code to a value that is already configured for another feature code, a speed-dial code, or the Redial FSD, you receive a warning message. If you configure a duplicate code, the system implements the first feature it matches in the order shown in the output of the `show stcpp feature codes` command. Precedence is determined by the value for each feature code.

If you attempt to set a feature code to a value that precludes or is precluded by another feature code, a speed-dial code, or the Redial FSD, you receive a warning message. For example, if you attempt to set a feature code of #123 and #12 is already configured for another feature, such as Call Forward Cancel, the following message appears:

```
#123 is precluded by call forward cancel(#12)
```

Or if you attempt to configure #1 and #12 is already configured for another feature, such as Call Forward Cancel, the following message appears:

```
#1 precludes call forward cancel(#12)
```

These messages will not prevent you from configuring the feature code.

After a phone user dials the FAC or FSD, the system matches the dialed string with configured FACs, Redial, and speed-dial codes in the following order and executes the first complete match, ignoring the longer feature code:

- Malicious call ID (MCID)
- Call forward all
- Call forward cancel
- Pickup local group
- Pickup different group
- Pickup direct
- Redial
- Speeddial1
- Speeddial2
- Speeddial3
- and so on...

For example, assume that Call Forward All is #123, Call forward Cancel is #12, and Pickup Local Group and Redial are both #1. After the phone user dials #1, the system matches the dialed characters to the configured codes in the order listed and because it is the first exact match, executes Pickup Local Group. If the phone user dials #12, the digit 2 will be ignored because #1 is an exact match and the system executes Pickup Local Group again. In this configuration, the phone user is unable to access Call Forward All (#123), Call Forward Cancel (#12), or Redial (#1) because all are precluded by #1 for Pickup Local Group. You must configure a new value for a precluded feature code in order to enable a FAC for that feature.

To enable and configure FACs on an analog FXS port, see the [“Configuring Feature Access Codes” section on page 71](#).

Enhanced Flexible Feature Access Code

In Cisco IOS 15.0(1)M and later releases, you can configure an all-numeric three or four-digit feature codes so that users are not required to dial a prefix or special characters. For example, if you configure a feature code of 788 for Call Forward Cancel, the phone user dials just the feature code (788) to access that feature.

Flexible Feature Access Code Support for Redial

Flexible feature access codes includes support for Redial. To access Redial using an FSD, analog phone users must dial a prefix and speed-dial code. The default prefix and speed-dial code for Redial is *#.

In Cisco IOS Release 12.4(20)YA and later releases, if you configure a speed-dial code for Redial of one or two characters that can be dialed on a phone keypad, the phone user must dial the FSD prefix before dialing the speed-dial code. If you configure a speed-dial code for Redial of two to four characters and the leading or ending character is an asterisk (*) or a number sign (#), the phone user is not required to dial the FSD prefix before dialing the speed-dial code for Redial.

In Cisco IOS 15.0(1)M and later releases, you can configure a speed-dial code of three or four digits for Redial so that the phone user is not required to dial the FSD prefix or any special character to dial the speed-dial code for Redial.

For configuration information, see the [“Enabling and Changing Feature Speed-Dial Codes” section on page 78](#).

Enhanced Speed Dial on SCCP Analog Phones

To access predefined speed-dial numbers used with the STC application, analog phone users must dial a FSD consisting of a prefix and speed-dial code, for example *9. The FSD prefix and speed-dial codes are set on the Cisco voice gateway; the telephone numbers that are speed dialed must be configured on your Cisco call-control system.

The speed-dial codes on the Cisco voice gateway are mapped to speed-dial positions on the call-control device, starting with position 1. For example, if you configure speed-dial codes 00 to 20 on the Cisco voice gateway, the system maps code 00 to speed-dial 1 on the call-control device, code 01 to speed-dial 2, code 02 to speed-dial 3, and so on. Dialing 00 on the analog phone dials the telephone number associated with speed-dial 1.

Prior to Cisco IOS Release 12.4(6)T, speed-dial codes for FSDs were limited to a single digit, 0 to 9. In Cisco IOS Release 12.4(6)T and later releases, you can define two-digit speed-dial codes to access up to 99 local speed-dial numbers configured on the call-control device.

In Cisco IOS 15.0(1)M and later releases, for speed-dial to voice mail, you can dial a three or four digit FAC without a prefix. For example:

```
VG224(config)#stcapp feature speed-dial
VG224(config-stcapp-fsd)#voicemail 777
do not use prefix. voicemail is 777
```

Flexible FACs supports only the FSD for Redial. In Cisco IOS Release 12.4(20)YA and later releases, if you configure a speed-dial code for Redial of two to four characters that can be dialed on a phone keypad and the leading or ending character is an asterisk (*) or a number sign (#), the phone user is not required to dial the FSD prefix before dialing the speed-dial code for Redial. For information about Flexible FACs, see the [“Flexible Feature Access Codes” section on page 66](#).

To enable FSDs on an analog FXS port, see the [“Enabling and Changing Feature Speed-Dial Codes” section on page 78](#).

To use bulk speed-dial codes up to 9,999, no specific configuration is required on the Cisco voice gateway. Analog phone users do not need to use an FSD prefix or speed-dial codes to access bulk speed-dial numbers. See the documentation for your Cisco call-control system for information about configuring up to 9,999 speed dials.

Cancel Call Waiting

In Cisco IOS Release 15.1(1)T and later releases, the Cancel Call Waiting feature allows a phone user with Call Waiting service to disable the Call Waiting feature for one call. The user dials the cancel call waiting FAC, receives recall dial-tone, and places a call normally. The Call Waiting service is inactive during this call. Anyone calling the user receives the normal busy treatment and no call waiting tone interrupts the user’s active call. Cancel Call Waiting automatically deactivates when the user disconnects from the call.

For configuration information, see the [“Configuring Feature Access Codes” section on page 71](#).

SCCP Meet-Me Conference

In Cisco IOS Release 12.4(20)YA and later releases, hardware-based meet-me conferencing is supported on analog phones connected to the FXS port of Cisco voice gateways. Hardware-based conferencing uses digital signal processors (DSPs) to allow more parties than the three-party limit allowed by software-based ad hoc conferencing. Meet-me conferencing requires a range of meet-me conference numbers that are created in the Cisco call-control system and allocated for exclusive use of the conference.

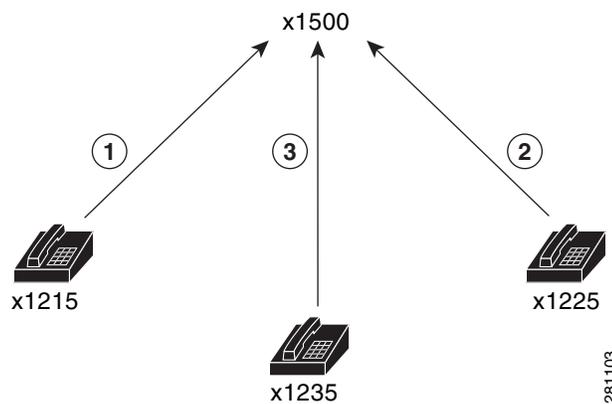
To start an SCCP Meet-Me Conference on an analog phone connected to a voice gateway, you must dial a FAC consisting of a prefix plus a feature code. The default FAC for SCCP Meet-Me Conference is **5.

When you start a meet-me conference, the Cisco call-control system considers you the conference controller. When a meet-me conference is set up, you choose a meet-me conference number and advertise it to conference participants. Participants call the number to join the conference. Anyone who calls the number while the conference is active joins the conference if the number of participants does not exceed the maximum number of parties specified for the conference type and sufficient streams are available on the conference device.

In [Figure 1](#), extensions 1215, 1225, and 1235 are all parties in a meet-me conference on extension number 1500. The conference is created as follows:

1. The conference controller at extension 1215 presses the FAC for SCCP Meet-Me Conference, hears a confirmation tone, and then dials the meet-me conference number 1500.
2. Extension 1225 and extension 1235 joins the meet-me conference by dialing 1500.
3. Extension 1235 joins the meet-me conference by dialing 1500.

Figure 1 Simple Meet-Me Conference



If other phone users press the meet-me FAC and then dial the same meet-me conference number, the Cisco call-control system ignores the signal.

A meet-me conference continues even if the conference controller hangs up.

If only one participant remains in the meet-me conference, for example, if one participant forgets to hang up, the conference call is disconnected after five minutes to free system resources.

If the conference controller is waiting for participants to join the conference and is the only party on the conference, the conference is not disconnected because significant resources are not being used.

For configuration information, see the [“Configuring Feature Access Codes”](#) section on page 71.

How to Configure SCCP Analog FXS Ports with Supplementary Features in Cisco IOS Gateways

**Note**

This document does not contain details about configuring Cisco Unified Communications Manager or Cisco Unified CME. See the documentation for these products for installation and configuration instructions.

This section contains the following tasks for setting up SCCP analog phone support:

- [Configuring Feature Access Codes, page 71](#) (optional)
- [Enabling and Changing Feature Speed-Dial Codes, page 78](#) (optional)

Configuring Feature Access Codes

To enable FACs and enter STC application feature access-code configuration mode for defining a prefix other than the default (**) or a feature code other than the default for a particular feature, perform the following steps.

**Note**

The Flexible Feature Access Code feature also affects only the FSD for redial. If you want the phone user to just dial the speed-dial code to access the Redial feature, configure a redial speed-dial code that begins or ends with an asterisk (*) or number sign (#) by using the **redial** command. For configuration information, see the “[Enabling and Changing Feature Speed-Dial Codes](#)” section on page 78.

**Note**

In Cisco IOS 15.0(1)M and later releases, a user can dial a three or four digit FAC without a prefix, for all the features under scapp FACs and for voice mail under scapp feature speed-dial.

Prerequisites

- Cisco IOS Release 12.4(2) or a later release.
- To configure a FAC that does not require the user to dial a prefix, Cisco IOS Release 12.4(20)YA or a later release.
- To configure an all-numeric feature code, Cisco IOS Release 15.0(1)M or a later release.

For SCCP Meet-Me Conference and Analog Endpoints in Cisco Unified Communications Manager

- A hardware conference bridge is configured in Cisco Unified Communications Manager. Configure the same bridge name for the hardware conference bridge and for the Cisco IOS bridge. Security mode can be encrypted, authenticated or non-secure. See the “Conference Bridge Configuration” section of the “Media Resource Configuration” chapter in the appropriate *Cisco Unified Communications Manager Administration Guide*.
- Meet-Me page and conference numbers are configured in Cisco Unified Communications Manager. See the “Meet-Me Number/Pattern Configuration” section of the “Call Routing” chapter in the appropriate *Cisco Unified Communications Manager Administration Guide*.

For SCCP Meet-Me Conference and Analog Endpoints in Cisco Unified CME

- Meet-Me Conferencing and meet-me conference numbers are configured in Cisco Unified CME. For configuration information, see [“How to Configure Conferencing”](#) in the *Cisco Unified CME System Administrator Guide*.

Restrictions

- In Cisco IOS Release 12.4(20)YA and later releases, if you configure the same value for more than one feature code or speed-dial code, or for the Redial FSD, the system implements the first feature it matches in the order of precedence shown in the output of the **show stcapp feature codes** command.
- In Cisco IOS Release 12.4(20)YA and later releases, if you configure feature codes for FACs or speed-dial codes for FSDs, including the Redial FSD, to a value that precludes or is precluded by another code, the system implements the feature with the shortest feature code first. The precluded codes cannot be implemented.

For SCCP Meet-Me Conference

- Maximum number of simultaneous meet-me conferences for each Cisco Unified Communications Manager server is 100.
- The maximum number of meet-me conference parties in Cisco Unified CME is 32 for one DSP using the G.711 codec and 16 for a DSP using the G.729 codec.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **stcapp feature access-code**
4. **prefix** *prefix-string*
5. **call forward all** *keypad-character*
6. **call forward cancel** *keypad-character*
7. **cancel-call-waiting** *keypad-character*
8. **meetme-conference** *keypad-character*
9. **pickup local** *keypad-character*
10. **pickup group** *keypad-character*
11. **pickup direct** *keypad-character*
12. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	<pre>enable</pre> <p>Example: Router> enable </p>	<p>Enables privileged EXEC mode.</p> <ul style="list-style-type: none"> Enter your password if prompted.
Step 2	<pre>configure terminal</pre> <p>Example: Router# configure terminal </p>	<p>Enters global configuration mode.</p>
Step 3	<pre>stcapp feature access-code</pre> <p>Example: Router(config)# stcapp feature access-code </p>	<p>Enables FACs and enters STC application feature access-code configuration mode.</p>
Step 4	<pre>prefix prefix-string</pre> <p>Example: Router(config-stcapp-fac)# prefix *# </p>	<p>(Optional) Sets a prefix string to indicate that the following keypad character is a feature access code.</p> <ul style="list-style-type: none"> <i>prefix-string</i>—One to five characters that can be dialed on a telephone keypad. The leading character must be an asterisk (*) or a number sign (#). Default is **. Configuring the prefix command changes the prefix for all FACs.
Step 5	<pre>call forward all keypad-character</pre> <p>Example: Router(config-stcapp-fac)# call forward all 2 </p>	<p>(Optional) Sets the code to use for enabling call-forward-all on FXS ports.</p> <ul style="list-style-type: none"> <i>keypad-character</i>—String that can be dialed on a phone keypad. Default is 1. In Cisco IOS Release 12.4(20)YA and earlier releases, this is a single character. Value: 0-9, #, or *. In Cisco IOS Release 12.4(20)YA and later releases, the length of <i>keypad-character</i> is a single character or 2 digits (00-99). <p>or</p> <ul style="list-style-type: none"> To configure the code so that the phone user is not required to dial the prefix to access this feature, the length of <i>keypad-character</i> must be 2 to 4 characters and the leading or ending character must be an asterisk (*) or a number sign (#). In Cisco IOS 15.0(1)M and later releases, to configure the code so that the phone user is not required to dial the prefix or any special character to access this feature, the length of <i>keypad-character</i> must be 3 or 4 digits (000-9999).

Command or Action	Purpose
<p>Step 6</p> <p><code>call forward cancel keypad-character</code></p> <p>Example: Router(config-stcapp-fac)# call forward cancel 3</p>	<p>(Optional) Sets the code to canceling call-forward-all on FXS ports.</p> <ul style="list-style-type: none"> • <i>keypad-character</i>—String that can be dialed on a phone keypad. Default is 2. • In Cisco IOS Release 12.4(20)YA and earlier releases, this is a single character. Value: 0-9, #, or *. • In Cisco IOS Release 12.4(20)YA and later releases, the length of <i>keypad-character</i> is a single character or 2 digits (00-99). <p>or</p> <ul style="list-style-type: none"> • To configure the code so that the phone user is not required to dial the prefix to access this feature, the length of <i>keypad-character</i> must be 2 to 4 characters and the leading or ending character must be an asterisk (*) or a number sign (#). • In Cisco IOS 15.0(1)M and later releases, to configure the code so that the phone user is not required to dial the prefix or any special character to access this feature, the length of <i>keypad-character</i> must be 3 or 4 digits (000-9999).
<p>Step 7</p> <p><code>cancel-call-waiting keypad-character</code></p> <p>Example: Router(config-stcapp-fac)# cancel-call-waiting 9</p>	<p>(Optional) Sets the code to cancel call waiting on FXS ports.</p> <ul style="list-style-type: none"> • This command is supported in Cisco IOS Release 15.1(1)T and later releases. • <i>keypad-character</i>—String that can be dialed on a phone keypad. Allowed values are a single digit (0-9), two digits (00-99) and # or *. Default is 8. • To configure the code so that the phone user is not required to dial the prefix to access this feature, the length of <i>keypad-character</i> must be 2 to 4 characters and the leading or ending character must be an asterisk (*) or a number sign (#).

Command or Action	Purpose
<p>Step 8 <code>meetme-conference keypad-character</code></p> <p>Example: <pre>Router(config-stcapp-fac)# meetme-conference #55</pre></p>	<p>(Optional) Sets the code to use for enabling meet-me conferencing on FXS ports.</p> <ul style="list-style-type: none"> This command is supported in Cisco IOS Release 12.4(20)YA and later releases. <i>keypad-character</i>—String that can be dialed on a telephone keypad. Default is 5. Length of <i>keypad-character</i> is a single character (0-9, *, #) or two digits (00-99) <p>or</p> <ul style="list-style-type: none"> To configure the code so that the analog phone user is not required to dial the prefix to access this feature, the length is 2-4 characters and the leading or ending character must be an asterisk (*) or a number sign (#). In Cisco IOS 15.0(1)M and later releases, to configure the code so that the phone user is not required to dial the prefix or any special character to access this feature, the length of <i>keypad-character</i> must be 3 or 4 digits (000-9999).
<p>Step 9 <code>pickup local keypad-character</code></p> <p>Example: <pre>Router(config-stcapp-fac)# pickup local 6</pre></p>	<p>(Optional) Sets the code to use for picking up calls from the local pickup group; that is, for picking up a call by dialing the prefix and code.</p> <ul style="list-style-type: none"> <i>keypad-character</i>—String that can be dialed on a phone keypad. Default is 3. In Cisco IOS Release 12.4(20)YA and earlier releases, this is a single character. Value: 0-9, #, or *. In Cisco IOS Release 12.4(20)YA and later releases, the length of <i>keypad-character</i> is a single character or 2 digits (00-99). <p>or</p> <ul style="list-style-type: none"> To configure the code so that the phone user is not required to dial the prefix to access this feature, the length of <i>keypad-character</i> must be 2 to 4 characters and the leading or ending character of the string must be an asterisk (*) or a number sign (#). In Cisco IOS 15.0(1)M and later releases, to configure the code so that the phone user is not required to dial the prefix or any special character to access this feature, the length of <i>keypad-character</i> must be 3 or 4 digits (000-9999).

Command or Action	Purpose
<p>Step 10 <code>pickup group keypad-character</code></p> <p>Example: Router(config-stcapp-fac)# pickup group 5</p>	<p>(Optional) Sets the code to use for picking up calls from a different pickup group; that is, for picking up a call by dialing the prefix, code, and pickup group number.</p> <ul style="list-style-type: none"> <code>keypad-character</code>—String that can be dialed on a phone keypad. Default is 4. In Cisco IOS Release 12.4(20)YA and earlier releases, this is a single character. Value: 0-9, #, or *. In Cisco IOS Release 12.4(20)YA and later releases, the length of <code>keypad-character</code> is a single character or 2 digits (00-99). <p>or</p> <ul style="list-style-type: none"> To configure the code so that the phone user is not required to dial the prefix to access this feature, the length of <code>keypad-character</code> must be 2 to 4 characters and the leading or ending character must be an asterisk (*) or a number sign (#). In Cisco IOS 15.0(1)M and later releases, to configure the code so that the phone user is not required to dial the prefix or any special character to access this feature, the length of <code>keypad-character</code> must be 3 or 4 digits (000-9999).
<p>Step 11 <code>pickup direct keypad-character</code></p> <p>Example: Router(config-stcapp-fac)# pickup direct 4</p>	<p>(Optional) Sets the code to use for directly picking up calls; that is, for picking up a call by dialing the prefix, code, and extension number of a ringing phone or parked call.</p> <ul style="list-style-type: none"> <code>keypad-character</code>—String that can be dialed on a phone keypad. Default is 6. In Cisco IOS Release 12.4(20)YA and earlier releases, this is a single character. Value: 0-9, #, or *. In Cisco IOS Release 12.4(20)YA and later releases, the length of <code>keypad-character</code> is a single character or 2 digits (00-99). <p>or</p> <ul style="list-style-type: none"> To configure the code so that the phone user is not required to dial the prefix to access this feature, the length of <code>keypad-character</code> must be 2 to 4 characters and the leading or ending character must be an asterisk (*) or a number sign (#). <p>Note This command is not supported for Cisco Unified Communications Manager.</p> <ul style="list-style-type: none"> In Cisco IOS 15.0(1)M and later releases, to configure the code so that the phone user is not required to dial the prefix or any special character to access this feature, the length of <code>keypad-character</code> must be 3 or 4 digits (000-9999).

	Command or Action	Purpose
Step 12	<pre>end</pre> <p>Example: Router(config-stcapp-fac)# end </p>	Exits STC application feature access-code configuration mode and returns to privileged EXEC mode.

Examples

The following example shows FACs enabled and the changes to some of the default settings:

```
Router# show running-config
.
.
.
stcapp feature access-code
  prefix *#
  call forward all 2
  call forward cancel 9
!
```

The following output from the **show stcapp feature codes** command displays the default and nondefault settings for FACs. The FAC prefix has been set to *# (asterisk, number sign).

```
Router# show stcapp feature codes

stcapp feature access-code
malicious call ID (MCID) ***
prefix *#
call forward all *#2
call forward cancel *#9
pickup local group *#3
pickup different group *#4
pickup direct *#6
cancel call waiting *#9
```

Cisco IOS Release 12.4(20)YA and Later Releases

In the following example configuration, phone users are not required to dial the FAC prefix to access the Call Forward All and Call Forward Cancel features because the feature code is at least two characters and begins or ends with an asterisk (*) or number sign (#), making it a flexible FAC. A phone user must dial only #74 and, following the confirmation tone, the target number to forward all incoming calls to the target phone number.

```
Router# show running-config
.
.
.
stcapp feature access-code
call forward all #74
call forward cancel 18#
```

The following output from the **show stcapp feature codes** command displays the default and nondefault settings for FACs. In this configuration, all of the FACs settings are for default values.

```
Router# show stcapp feature codes
```

```
stcapp feature access-code
malicious call ID (MCID) ***
prefix **
call forward all **1
call forward cancel **2
pickup local group **3
pickup different group **4
pickup direct **6
meetme-conference **5
cancel call waiting **8
```

Enabling and Changing Feature Speed-Dial Codes

To enable FSDs, define a prefix other than the default (*), and define speed-dial codes, perform the following steps on the Cisco voice gateway.



Note

This procedure enables analog phone users to access up to 99 speed-dial numbers configured on the call-control device. To use bulk speed-dial numbers up to 9,999, no specific configuration is required on the Cisco voice gateway. See the documentation provided for your call-control system for information on configuring up to 9,999 speed dials.

Prerequisites

- Speed dial codes from 0 to 9 require Cisco IOS Release 12.4(2)T or a later release; speed dial codes from 10 to 99 require Cisco IOS Release 12.4(6)T or a later release.
- To use speed-dial codes 34 to 99 on analog phones controlled by Cisco Unified CME, you must configure directory entries in telephony-service configuration mode. The following example sets a directory entry for speed-dial codes 34 and 35. When an analog phone user dials 34, extension 1602 is dialed.

```
Router(config)# telephony-service
Router(config-telephony)# directory entry 34 1602 name payroll
Router(config-telephony)# directory entry 35 1603 name security
```

For more information, see [“Configuring Speed Dial”](#) in the *Cisco Unified Communications Manager Express System Administration Guide*.

- To configure an FSD for Redial that does not require the phone user to dial a prefix, Cisco IOS Release 12.4(20)YA or a later release.
- To configure an all-numeric FSD for Redial, Cisco IOS 15.0(1)M or a later release.

Restrictions

- In Cisco IOS Release 12.4(20)YA and later releases, if you configure the same value for more than one feature code or speed-dial code, or for the Redial FSD, the system implements the first feature it matches in the order of precedence shown in the output of the **show stcapp feature codes** command.
- In Cisco IOS Release 12.4(20)YA and later releases, if you configure feature codes for FACs or speed-dial codes for FSDs, including the Redial FSD, to a value that precludes or is precluded by another code, the system implements the feature with the shortest feature code first. The precluded codes cannot be implemented.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **stcapp feature speed-dial**
4. **digit** *number*
5. **prefix** *prefix-string*
6. **speed dial from** *digit to digit*
7. **redial** *keypad-character*
8. **voicemail** *keypad-character*
9. **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 speed-dial Example: Router(config)# stcapp feature speed-dial	Enables FSD codes and enters STC application feature speed-dial configuration mode to set speed-dial prefixes and codes.

Command or Action	Purpose
<p>Step 4 <code>digit number</code></p> <p>Example: Router(config-stcapp-fsd)# digit 2</p>	<p>(Optional) Sets the number of digits that are used for speed-dial codes.</p> <ul style="list-style-type: none"> This command is supported in Cisco IOS Release 12.4(6)T and later releases. <i>number</i>—Number of digits to enter for speed-dial codes. Value is 1 or 2. Default is 1. <p>Note Modifying the value of this command resets the speed dial and voicemail commands to their defaults.</p>
<p>Step 5 <code>prefix prefix-string</code></p> <p>Example: Router(config-stcapp-fsd)# prefix ##</p>	<p>(Optional) Sets a prefix string to indicate that the following keypad character is a speed-dial code.</p> <ul style="list-style-type: none"> <i>prefix-string</i>—One to five characters that can be dialed on a phone keypad. Lead character must be an asterisk (*) or a number sign (#). Default is *.
<p>Step 6 <code>speed dial from digit to digit</code></p> <p>Example: Router(config-stcapp-fsd)# speed dial from 2 to 7</p>	<p>(Optional) Sets the range of codes to use for dialing speed-dial numbers in ascending or descending order.</p> <ul style="list-style-type: none"> <i>digit</i>—Starting and ending number for the range of speed-dial codes. Range is: <ul style="list-style-type: none"> 0 to 9 for one-digit codes. Allows a maximum of nine speed-dial codes. This means that if you set the starting number to 0, the highest number you can set for the ending number is 8. Default is 1 to 9. 00 to 99 for two-digit codes. Allows a maximum of 99 speed-dial codes. Default is 01 to 99. <p>Note Number of allowed digits depends on the value set with the digit command.</p>

Command or Action	Purpose
<p>Step 7 <code>redial keypad-character</code></p> <p>Example: Router(config-stcapp-fsd)# redial 9</p>	<p>(Optional) Sets the code to use for redialing the last number dialed.</p> <ul style="list-style-type: none"> <i>keypad-character</i>—String that can be dialed on a phone keypad. Default is #. In Cisco IOS Release 12.4(20)YA and earlier releases, this is a single character. Value: 0-9, #, or *. In Cisco IOS Release 12.4(20)YA and later releases, the length of <i>keypad-character</i> is a single character or 2 digits (00-99). <p>or</p> <ul style="list-style-type: none"> To configure the code so that the phone user is not required to dial the prefix to access this feature, the length of <i>keypad-character</i> must be 2 to 4 characters and the leading or ending character must be an asterisk (*) or a number sign (#). In Cisco IOS 15.0(1)M and later releases, to configure the code so that the phone user is not required to dial the prefix or any special character to access this feature, the length of <i>keypad-character</i> must be 3 or 4 digits (000-9999).
<p>Step 8 <code>voicemail keypad-character</code></p> <p>Example: Router(config-stcapp-fsd)# voicemail 8</p>	<p>(Optional) Sets the code to use for dialing the voice-mail number that is defined in Cisco Unified Communications Manager or the Cisco Unified CME router.</p> <ul style="list-style-type: none"> <i>keypad-character</i>—One or two digits that can be dialed on a telephone keypad. Default is 0 (zero) for single digits; 00 (two zeros) for two digits. <p>Note Number of digits allowed depends on the value set with the digit command.</p>
<p>Step 9 <code>end</code></p> <p>Example: Router(config-stcapp-fsd)# end</p>	<p>Exits STC application feature speed-dial configuration mode and returns to privileged EXEC mode.</p>

Examples

Cisco IOS Release 12.4(2)T

The following example shows FSD codes enabled and the changes to some of the default settings in Cisco IOS Release 12.4(2)T:

```
Router# show running-config
.
.
.
stcapp feature speed-dial
 prefix ##
 redial 9
 voicemail 8
 speed dial from 2 to 7
!
```

The following output from the **show stcapp feature codes** command displays the default and nondefault settings for FSD codes and shows how the speed-dial range set in the example above is mapped to the speed-dial positions on the call-control system. Note that the range from 2 to 7 is mapped to speed-dial 1 to 6. To dial the telephone number that is stored for speed-dial 1 on Cisco Unified Communications Manager or Cisco Unified CME, an analog phone user presses ##2.

```
Router# show stcapp feature codes
.
.
.
stcapp feature speed-dial
 prefix ##
 redial ##9
 voicemail ##8
 speeddial1 ##2
 speeddial2 ##3
 speeddial3 ##4
 speeddial4 ##5
 speeddial5 ##6
 speeddial6 ##7
```

Cisco IOS Release 12.4(6)T

The following example shows FSD codes enabled and the changes to some of the default settings in Cisco IOS Release 12.4(6)T:

```
Router# show running-config
.
.
.
stcapp feature speed-dial
  digit 2
  voicemail 55
  speed dial from 11 to 17
!
```

The following output from the **show stcapp feature codes** command displays the default and nondefault settings for FSD codes and shows how the speed-dial range set in the preceding example is mapped to the speed-dial positions on the call-control system. Note that the range from 11 to 17 is mapped to speed-dial 1 to 7. To dial the telephone number that is stored for speed-dial 1 on Cisco Unified Communications Manager or Cisco Unified CME, an analog phone user presses *11.

```
Router# show stcapp feature codes
.
.
.
stcapp feature speed-dial
  prefix *
  redial *#
  speeddial number of digit(s) 2
  voicemail *55
  speeddial1 *11
  speeddial2 *12
  speeddial3 *13
  speeddial4 *14
  speeddial5 *15
  speeddial6 *16
  speeddial7 *17
```

Configuration Examples for SCCP Controlled Analog (FXS) Ports with Supplementary Features in Cisco IOS Gateways

The following example shows a configuration for a Cisco VG224 Analog Phone Gateway:

```
Router# show running-config

Building configuration...

Current configuration : 3442 bytes
!
.
.
.
!
hostname Router
!
boot-start-marker
boot-end-marker
!
!
no aaa new-model
!
resource manager
!
ip subnet-zero
no ip dhcp use vrf connected
!
!
no ftp-server write-enable
!
stcapp ccm-group 1
stcapp
!
stcapp feature access-code
prefix *#
call forward all 2
call forward cancel 9
!
stcapp feature speed-dial
prefix ##
redial 9
voicemail 8
speed dial from 3 to 7
!
!
template address
!
voice-card 0
!
!
!
!
!
interface FastEthernet0/0
ip address 10.4.138.5 255.255.0.0
duplex auto
speed auto
!
interface FastEthernet0/1
no ip address
shutdown
```

```
duplex auto
speed auto
!
ip default-gateway 10.4.0.1
ip classless
ip route 223.255.254.0 255.255.255.0 10.4.0.1
!
ip http server
!
!
!
control-plane
!
!
voice-port 2/0
  caller-id enable
!
voice-port 2/1
  caller-id enable
!
voice-port 2/2
  caller-id enable
!
voice-port 2/3
  caller-id enable
!
voice-port 2/4
!
.
.
.
!
voice-port 2/23
!
!
!
sccp local FastEthernet0/0
sccp ccm 10.4.131.200 identifier 7815
sccp ccm 10.4.138.77 identifier 7825
sccp
!
sccp ccm group 1
  associate ccm 7815 priority 1
  associate ccm 7825 priority 2
!
!
dial-peer voice 500 pots
  service stcapp
  port 2/0
!
dial-peer voice 501 pots
  service stcapp
  port 2/1
!
dial-peer voice 502 pots
  service stcapp
  port 2/2
!
dial-peer voice 503 pots
  service stcapp
  port 2/3
!
dial-peer voice 504 pots
  service stcapp
```

```

port 2/4
!
.
.
!
dial-peer voice 523 pots
  service stcapp
  port 2/23
!
!
line con 0
  exec-timeout 0 0
  transport preferred all
  transport output all
line aux 0
  transport preferred all
  transport output all
line vty 0 4
  login
  transport preferred all
  transport input all
  transport output all
!
end

```

The following example shows the expanded command for call-control mode feature:

You can now configure a string of up to 4 characters (0 – 9, *, #) as the feature code for the 5 features (the defaults are #1 for “hangup last active call”, #2 for “transfer”, #3 for “conference”, #4 for “drop last conferee”, and #5 for “toggle between two calls”) under stcapp feature mode.

```

VG224 (config)#stcapp call-control mode feature
VG224 (config-stcapp-fmcode)#?
STCAPP feature fm-code configuration commands:
  conference          Select code for conference
  default             Set a command to its defaults
  drop-last-conferee Select code for drop last conferee
  exit               Exit from stcapp feature fmcode configuration mode
  hangup-last-active-call Select code for hangup last active call
  no                 Negate a command or set its defaults
  toggle-between-two-calls Select code for toggle between two calls
  transfer           Select code for transfer

VG224 (config-stcapp-fmcode)#hangup-last-active-call 456
VG224 (config-stcapp-fmcode)#toggle-between-two-calls 7890
VG224 (config-stcapp-fmcode)#conference 12#
VG224 (config-stcapp-fmcode)#end

VG224# show stcapp feature code

stcapp feature access-code
  malicious call ID (MCID) ***
  prefix **
  call forward all 111
  call forward cancel **2
  pickup local group **3
  pickup different group **4
  pickup direct **6
  meetme-conference **5
  forward-to-voicemail 1234

```

```
stccpp feature speed-dial
  prefix *
  redial *#
  speeddial number of digit(s) 1
  voicemail 777
  speeddial1 *1
  speeddial2 *2
  speeddial3 *3
  speeddial4 *4
  speeddial5 *5
  speeddial6 *6
  speeddial7 *7
  speeddial8 *8
  speeddial9 *9

stccpp call-control mode in feature mode
  456 -- hangup last active call
  #2 -- transfer
  12# -- conference
  #4 -- drop last conferee
  7890 -- toggle between two calls
```

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 documentation
Cisco Unified Communications Manager Express	Cisco Unified Communications Manager Express documentation
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	<ul style="list-style-type: none"> • Cisco VG200 Series documentation • Cisco 1800 Series Integrated Services Routers documentation • Cisco 2800 Integrated Services Routers documentation • Cisco 3800 Series Integrated services Routers documentation • Cisco Unified 500 Series documentation
Conferencing and transcoding resources	<ul style="list-style-type: none"> • “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
<p>The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies.</p> <p>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.</p> <p>Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.</p>	http://www.cisco.com/techsupport

Feature Information for SCCP Controlled Analog (FXS) Ports with Supplementary Features in Cisco IOS Gateways

Table 3 lists the features in this module and provides links to specific configuration information. Only features that were introduced or modified in Cisco IOS Release 12.4(2)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 3](#) 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 3 Feature Information for SCCP Controlled Analog (FXS) Ports

Feature Name	Releases	Feature Information
Cancel Call Waiting	15.1(1)T 15.0(1)XA	<p>Adds FAC for Cancel Call Waiting feature.</p> <p>The following sections provide information about this feature:</p> <ul style="list-style-type: none"> • Cancel Call Waiting, page 69 • Configuring Feature Access Codes, page 71 <p>The following commands were introduced or modified by this feature: cancel-call-waiting, show stcapp device, show stcapp feature codes.</p>
Distinctive Ringing on SCCP IOS gateways	15.0(1)M	<p>Enables distinct ring tone to alert user whether incoming call is from an internal or external phone.</p> <p>The following section provides information about this feature:</p> <ul style="list-style-type: none"> • Summary of SCCP Supplementary Features for FXS ports, page 58 <p>The following command was modified by this feature: ring cadence</p>
Enhanced Speed Dial on SCCP Analog Phones	12.4(6)T	<p>Allows you to define two-digit speed-dial codes for accessing up to 99 local speed-dial numbers configured on the call-control device.</p> <p>The following sections provide information about this feature:</p> <ul style="list-style-type: none"> • Enhanced Speed Dial on SCCP Analog Phones, page 68 • Enabling and Changing Feature Speed-Dial Codes, page 78 <p>The following commands were new or modified by this feature: digit, speed dial</p>

Table 3 Feature Information for SCCP Controlled Analog (FXS) Ports (continued)

Feature Name	Releases	Feature Information
Flexible Feature Access Codes	12.4(20)YA	<p>Allows you to configure feature codes for feature access codes (FACs), and the speed-dial code for Redial, so that phone users are not required to dial the prefix before dialing the feature code to access an SCCP feature on an analog phone.</p> <p>The following sections provide information about this feature:</p> <ul style="list-style-type: none"> • Flexible Feature Access Codes, page 66 • Flexible Feature Access Code Support for Redial, page 68 • Configuring Feature Access Codes, page 71 <p>The following commands were modified by this feature: call forward all, call forward cancel, pickup direct, pickup group, pickup local, redial.</p>
Enhanced Flexible FACs	15.0(1)M	<p>Allows you to configure feature codes for Flexible feature access codes (FACs) so that phone users are not required to dial the prefix or special characters to access an SCCP feature on an analog phone.</p> <p>The following sections provide information about this feature:</p> <ul style="list-style-type: none"> • Enhanced Flexible Feature Access Code, page 68 • Configuring Feature Access Codes, page 71 <p>The following commands were modified by this feature: call forward all, call forward cancel, pickup direct, pickup group, pickup local, redial.</p>
Forward to Voice Mail	15.0(1)M	<p>Adds FAC for Forward to Voice Mail feature.</p> <p>The following sections provide information about this feature:</p> <ul style="list-style-type: none"> • FACs for SCCP Supplementary Features for Analog FXS Ports, page 63 <p>The following command was modified by this feature:</p>

Table 3 Feature Information for SCCP Controlled Analog (FXS) Ports (continued)

Feature Name	Releases	Feature Information
SCCP Controlled Analog (FXS) Ports with Supplementary Features in Cisco IOS Gateways	12.4(2)T	<p>Enables SCCP supplementary features on analog FXS ports on a Cisco VG224 Analog Phone Gateway under the control of Cisco Unified Communications Manager or Cisco Unified CME.</p> <p>The following sections provide information about this feature:</p> <ul style="list-style-type: none"> • Summary of SCCP Supplementary Features for FXS ports, page 58 • Configuring Feature Access Codes, page 71 <p>The following commands were introduced or modified by this feature: call forward all, call forward cancel, debug voip application stcapp buffer-history, pickup direct, pickup group, pickup local, prefix (stcapp-fac), prefix (stcapp-fsd), redial, show stcapp buffer-history, show stcapp device, show stcapp feature codes, speed dial, stcapp feature access-code, stcapp feature speed-dial, voicemail (stcapp-fsd).</p>
	12.4(9)T	<p>Adds support for SCCP supplementary features on analog FXS ports on Cisco ISRs.</p>
SCCP Meet-Me Conference	12.4(20)YA	<p>Adds FAC to enable user on an analog SCCP phone to start or join a meet-me conference call. To initiate a meet-me conference, a phone user presses the FAC prefix and feature code for SCCP Meet-Me Conference (default **5) and dials the meet-me conference number. Participants can join the conference by dialing in.</p> <p>The following sections provide information about this feature:</p> <ul style="list-style-type: none"> • SCCP Meet-Me Conference, page 69 • Configuring Feature Access Codes, page 71 <p>The following commands were introduced by this feature: meetme-conference.</p>

