



Cisco SRS Telephony Overview

This chapter provides an overview that describes what Cisco SRS Telephony is and what it does. In addition is information regarding IP phone, platform, and Cisco CallManager Version support; specifications; restrictions; and where to find additional reference documents.

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- [Cisco SRS Telephony Description, page 1-1](#)
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Cisco SRS Telephony Description

The SRS Telephony feature provides Cisco CallManager (CCM) with fallback support for Cisco IP phones attached to a Cisco router on your local network. The SRS Telephony feature enables routers to provide call-handling support for Cisco IP phones when they lose connection to remote primary, secondary, or tertiary CCM installations, or when the WAN connection is down.

CCM supports Cisco IP phones at remote sites attached to Cisco multiservice routers across the WAN. Prior to the SRS Telephony feature, when the WAN connection between a router and CCM failed, or connectivity with CCM was lost for some reason, Cisco IP phones on the network became unusable for the duration of the failure. The SRS Telephony feature overcomes this problem and ensures that the Cisco IP phones offer continuous (yet, minimal) service by providing call-handling support for Cisco IP phones directly from the SRS Telephony router. The system automatically detects a failure and uses Simple Network Auto Provisioning (SNAP) technology to autoconfigure the branch office router to provide call processing for Cisco IP phones registered with the router. When the WAN link or connection to the primary CCM is restored, call-handling reverts back to the primary CCM.

When Cisco IP phones lose contact with primary, secondary, and tertiary CCMs, they must establish a connection to a local SRS Telephony router in order to ensure call-processing capability necessary to place and receive calls. The Cisco IP phone retains the IP address of the local SRS Telephony router as a default router in the Network Configuration area of the Settings menu. This list supports a maximum

of five default router entries; however, CCM accommodates a maximum of three entries. When a secondary CCM is not available on the network, the local SRS Telephony router's IP address is retained as the standby connection for CCM during normal operation.

When the WAN link fails, calls in progress are sustained for the duration of the call. Calls in transition and calls that have not yet connected are dropped and must be reinitiated once Cisco IP phones reestablish connection to their local SRS Telephony router. Telephone service remains unavailable from the time connection to the remote CCM is lost until the Cisco IP phone establishes connection to the SRS Telephony router.

**Note**

CCM fallback mode telephone service is available only to those Cisco IP phones that are supported by an SRS Telephony router. Other Cisco IP phones on the network remain out of service until they are able to reestablish a connection with their primary, secondary, or tertiary CCM.

The time taken to reestablish connection to a remote CCM depends in part on the keepalive period set by CCM, itself. Typically, it takes three times the keepalive period for a phone to discover that its connection to CCM has failed. The default keepalive period is 30 seconds. If the phone has an active standby connection established with an SRS Telephony router, the fallback process takes 10 to 20 seconds after connection with CCM is lost. An active standby connection to an SRS Telephony router exists only if the phone has the location of a single CCM in its CallManager list. Otherwise, the phone activates a standby connection to its secondary CCM.

If a Cisco IP phone has multiple CCMs in its CallManager list, it progresses through its list of secondary and tertiary CCMs before attempting to connect with its local SRS Telephony router. Therefore, the time it passes before the Cisco IP phone eventually establishes a connection with the SRS Telephony router increases with each attempt to contact a CCM. Assuming that each attempt to connect to CCM takes around one minute, the Cisco IP phone in question could remain offline for three minutes or more following a WAN link failure.

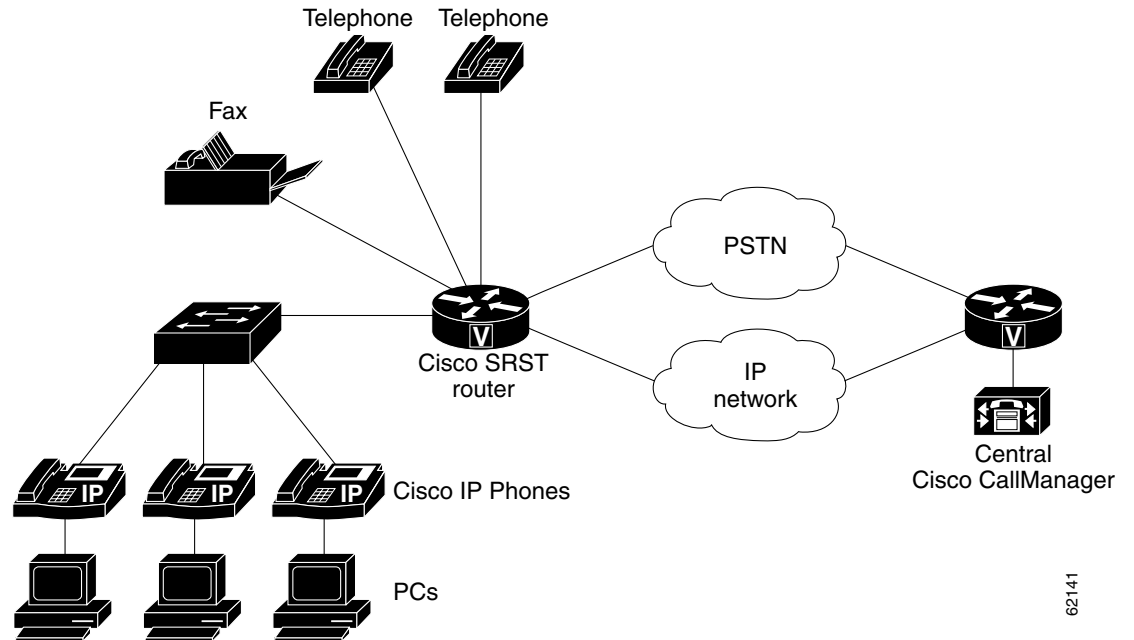
**Note**

During a WAN connection failure, when SRS Telephony is enabled, Cisco IP phones display a message informing you that they are operating in CCM fallback mode. The Cisco IP Phone 7960 and Cisco IP Phone 7940 display a "CM Fallback Service Operating" message and the Cisco IP Phone 7910 displays a "CM Fallback Service" message when operating in CCM fallback mode. When the CCM is restored, the message goes away and full Cisco IP phone functionality is restored.

While in CallManager fallback mode, Cisco IP phones periodically attempt to reestablish a connection with CCM at the central office. When a connection is reestablished with CCM, Cisco IP phones automatically cancel their registration with the SRS Telephony router. A Cisco IP phone cannot reestablish a connection with the primary CCM at the central office if it is currently engaged in an active call.

Figure 1-1 shows a branch office with several Cisco IP phones connected to an SRS Telephony router. The router features connections to both a WAN link and the public switched telephone network (PSTN). The Cisco IP phones connect to their primary CCM at the central office via this WAN link.

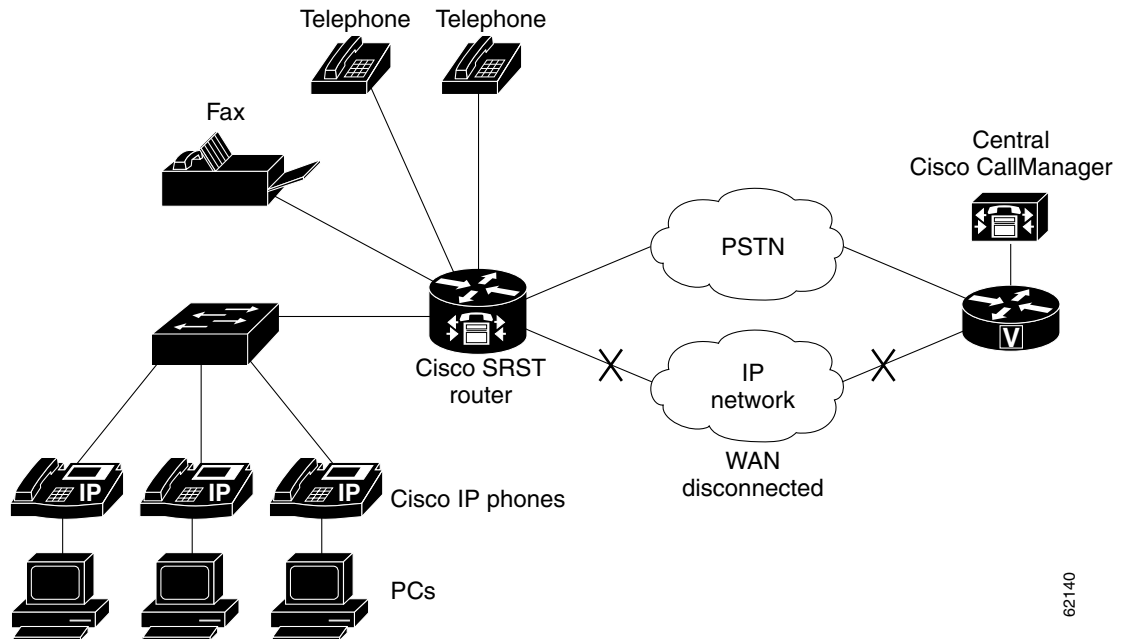
Figure 1-1 Branch Office Cisco IP Phones Connected to a Remote Central CCM



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Figure 1-2 shows the same branch office telephone network with the WAN connection down. In this situation, the Cisco IP phones use the SRS Telephony router as a fallback for their primary CCM. The branch office Cisco IP phones are connected to the PSTN through the SRS Telephony router and are able to make and receive “off-net” calls.

Figure 1-2 Branch Office Cisco IP Phones Operating in SRS Telephony Mode



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Cisco IP Phone, Platform, Cisco CallManager, Signal, and Switch Support

The following sections provide information about Cisco SRST Version 2.1:

- [Finding Cisco IOS Software Releases that Support Cisco SRST, page 1-5](#)
- [Cisco IP Phone Support, page 1-5](#)
- [Platform Support, page 1-6](#)
- [Cisco CallManager Compatibility, page 1-6](#)
- [Signal Support, page 1-7](#)
- [Switch Support, page 1-7](#)

Finding Cisco IOS Software Releases that Support Cisco SRST

Cisco SRST 2.1 was introduced in Cisco IOS release 12.2(11)YT and subsequently incorporated into Cisco IOS release 12.2(15)T. Other Cisco IOS software releases may inherit versions of Cisco SRST subsequently. To get a list of Cisco IOS software releases that support a particular version of Cisco SRST, use Cisco Feature Navigator.

Cisco Feature Navigator is a web-based tool that enables you to determine which Cisco IOS software images support a specific set of features and which features are supported in a specific Cisco IOS image. You can search by feature or release. Under the release section, you can compare releases side by side to display both the features unique to each software release and the features in common.

To access Cisco Feature Navigator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to cco-locksmith@cisco.com. An automatic check will verify that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password will be e-mailed to you. Qualified users can establish an account on Cisco.com by following the directions found at this URL:

<http://tools.cisco.com/RPF/register/register.do>

Cisco Feature Navigator is updated regularly when major Cisco IOS software releases and technology releases occur. For the most current information, go to the Cisco Feature Navigator home page at the following URL:

<http://www.cisco.com/go/fn>

Cisco IP Phone Support

The following IP phones are supported by Cisco SRST 2.1:

Table 1-1 Cisco SRST 2.1 P Phone Support

Cisco SRST Version	Cisco IOS Release ¹	Supported Cisco IP Phones
Version 2.1	12.2(15)T 12.2(11)YT	<ul style="list-style-type: none"> • Cisco Analog Telephone Adaptors (ATA) 186 and Cisco ATA 188 Version 2.16 and higher with Cisco Call Manager 3.3 and higher² • Cisco IP Phone 7905 and Cisco IP Phone 7905G • Cisco IP Phone 7910 • Cisco IP Phone Expansion Module 7914 • Cisco IP Conference Station 7935 • Cisco IP Phone 7940 and Cisco IP Phone 7940G • Cisco IP Phone 7960 and Cisco IP Phone 7960G • Cisco VG248 Analog Phone Gateway Version 1.2(1) and higher³

Table 1-1 Cisco SRST 2.1 P Phone Support (continued)

Cisco SRST Version	Cisco IOS Release ¹	Supported Cisco IP Phones
Version 2.1	12.2(15)T1	<ul style="list-style-type: none"> • Cisco Analog Telephone Adaptor (ATA) 186 and Cisco ATA 188 Version 2.16 and higher with Cisco Call Manager 3.3 and higher² • Cisco IP Phone 7902G • Cisco IP Phone 7905 and Cisco IP Phone 7905G • Cisco IP Phone 7910 • Cisco IP Phone 7912G • Cisco IP Phone Expansion Module 7914 • Cisco IP Conference Station 7935 • Cisco IP Phone 7940 and Cisco IP Phone 7940G • Cisco IP Phone 7960 and Cisco IP Phone 7960G • Cisco VG248 Analog Phone Gateway Version 1.2(1) and higher³

1. Includes subsequent rebuilds (T1, T2, T3, and so forth) that support Cisco SRST.
2. Cisco SRST supports Cisco ATA 186 and Cisco ATA 188 using Skinny Client Control Protocol (SCCP) for voice calls only.
3. During Cisco CallManager fallback, Cisco SRST considers the Cisco VG248 to be a group of Cisco IP phones. Each of the 48 ports on the Cisco VG248 is treated by Cisco SRST as a separate Cisco IP phone. For more information, see the [“Cisco IP Phone Expansion Module 7914 Support”](#) section on page 1-14.

Platform Support

See the [“Specifications”](#) section on page 1-7.

Determining Platform Support Through Cisco Feature Navigator

Cisco IOS software is packaged in feature sets that are supported on specific platforms. To get updated information regarding platform support for this feature, access [Cisco Feature Navigator](#). Cisco Feature Navigator dynamically updates the list of supported platforms as new platform support is added for the feature.

Availability of Cisco IOS Software Images

Platform support for particular Cisco IOS software releases is dependent on the availability of the software images for those platforms. Software images for some platforms may be deferred, delayed, or changed without prior notice. For updated information about platform support and availability of software images for each Cisco IOS software release, refer to the online release notes or, if supported, [Cisco Feature Navigator](#).

Cisco CallManager Compatibility

See the [Cisco Call Manager Compatibility Matrix](#).

Signal Support

Cisco SRST 2.1 supports T1 and E1 signals.

Switch Support

Cisco SRST 2.1 supports all Primary Rate Interface (PRI) and Basic Rate Interface (BRI) switches are supported, including the following:

- basic-net3
- basic-5ess
- basic-dms100
- basic-ni
- basic-ts013
- basic-1tr6
- basic-ntt NTT switch type for Japan
- primary-4ess Lucent 4ESS switch type for the U.S.
- primary-5ess Lucent 5ESS switch type for the U.S.
- primary-dms100 Northern Telecom DMS-100 switch type for the U.S.
- primary-net5 NET5 switch type for UK, Europe, Asia and Australia
- primary-ni National ISDN Switch type for the U.S.
- primary-ntt NTT switch type for Japan
- primary-qsig QSIG switch type
- primary-ts014 TS014 switch type for Australia (obsolete)

Specifications

[Table 2](#) provides information about the maximum number of Cisco IP Phones, maximum number of directory numbers (DNs) or virtual voice ports, and memory requirements for Cisco SRST 2.1.



Note

Although Cisco IOS can provide higher number of DN's for some of these platforms, the higher limitation may not apply to your platform due to memory restrictions. We recommend that you follow the guidelines in the Specifications tables to configure your network.

Table 2 Specifications for Cisco SRST 2.1

Cisco Platform	Maximum Cisco IP Phones	Maximum DN's or Virtual Voice Ports	Minimum DRAM	Recommended DRAM ¹	Minimum Flash	Recommended Flash
Cisco 1751 router ²	24	120	64 MB	64 MB	16 MB	32 MB
Cisco 1760 router	24	120	64 MB	64 MB	16 MB	32 MB

Table 2 Specifications for Cisco SRST 2.1 (continued)

Cisco Platform	Maximum Cisco IP Phones	Maximum DN's or Virtual Voice Ports	Minimum DRAM	Recommended DRAM ¹	Minimum Flash	Recommended Flash
Cisco 2600-XM routers ³	24	120	96 MB	128 MB	32 MB	—
Cisco 2650 and Cisco 2651 routers	48	192	96 MB	128 MB	16 MB	32 MB
Cisco 2650-XM and Cisco 2651-XM routers	48	192	96 MB	128 MB	32 MB	—
Cisco 2691 router	72	288	96 MB	128 MB	32 MB	—
Cisco 3640 router and Cisco 3640A router	72	288	96 MB	128 MB	32 MB	—
Cisco 3660 router	240	960	96 MB	128 MB	16 MB	32 MB
Cisco 3725 router	144	576	128 MB	—	32 MB	—
Cisco 3745 router	240	960	128 MB	—	32 MB	—
Cisco 7200 routers NPE-225 ⁴	200	800	256 MB	256 MB	32 MB	32 MB
Cisco 7200 routers NPE-300 and NPE-400 ⁴	240	960	256 MB	256 MB	32 MB	32 MB
Cisco 7200 routers NPE-400 ⁴	480	960	512 MB	512 MB	32 MB	32 MB
Cisco 7200 routers G1 ⁴	480	960	512 MB	512 MB	32 MB	32 MB

1. These DRAM recommendations were tested in Cisco IOS release 12.2(8)T for the maximum number of IP phones and virtual ports listed in this table. The DRAM recommendations for the number of IP phones and virtual ports listed have not been verified for subsequent Cisco IOS releases that have inherited Cisco SRST. Cisco SRST configurations running post Cisco IOS release 12.2(8)T software may require additional memory.
2. The Cisco 1750 platform does not support quality of service (QoS) features on the asymmetric digital subscriber line (ADSL) link, Cisco Hoot and Holler over IP applications, and G.SHDSL WAN card supported in the current.
3. Cisco 2610-XM, Cisco 2611-XM, Cisco 2620-XM, and Cisco 2621-XM.
4. These DRAM recommendations were tested in Cisco IOS release 12.2(13)T for the maximum number of IP phones and virtual ports listed in this table. The DRAM recommendations for the number of IP phones and virtual ports listed have not been verified for subsequent Cisco IOS releases that have inherited Cisco SRST.

Features

Table 1-3 provides a summary of the features in the order in which they were introduced.

Table 1-3 Feature History from Cisco SRS Telephony V1.0 to Present Version

Release	Cisco SRST Version	Modification
12.1(5)YD	Version 1.0	<ul style="list-style-type: none"> • Cisco SRS Telephony introduced on the Cisco 2600 series and Cisco 3600 series multiservice routers, and Cisco IAD2420 series integrated access devices • Cisco IP phones able to establish a connection with an SRS Telephony router in the event of a WAN link to Cisco CallManager failure • Graying out of all Cisco IP phone function keys that are not supported during SRS Telephony operation • Extension-to-extension dialing • Direct Inward Dialing (DID) • Direct Outward Dialing (DOD) • Calling party ID (Caller ID/ANI) display • Calling party name display • Last number redial • Preservation of local extension-to-extension calls when WAN link fails • Preservation of local extension to Public Switched Telephone Network (PSTN) calls when WAN link fails • Preservation of calls in progress when failed WAN link is reestablished • Blind transfer of calls within IP network • Multiple lines per Cisco IP phone • Multiple line appearance across telephones • Call hold (shared lines) • Analog Foreign Exchange Station (FXS) and Foreign Exchange Office (FXO) ports • BRI support for EuroISDN • PRI support for NET5 switch type
12.1(5)YD1	Version 1.0	Support was added for 144 Cisco IP phones on the Cisco 3660 multiservice routers.

Table 1-3 Feature History from Cisco SRS Telephony V1.0 to Present Version

12.2(2)XT	Version 2.0	<ul style="list-style-type: none"> • Cisco SRS Telephony was implemented on the Cisco 1750 and Cisco 1751 routers • Huntstop support • Class of restriction (COR) • Translation rule support • Music on hold and tone on hold • Distinctive ringing • Forward to a central voice mail or auto-attendant (AA) through PSTN during Cisco CallManager fallback • Phone number alias support during Cisco CallManager fallback: enhanced default destination support • List-based call restrictions for Cisco CallManager fallback
12.2(8)T	Version 2.0	Cisco SRS Telephony was integrated into Cisco IOS Release 12.2(8)T and implemented on the Cisco 3725 and Cisco 3745 routers, and Cisco MC3810-V3 concentrators.
12.2(8)T1	Version 2.0	Cisco SRS Telephony was implemented on the Cisco 2600-XM and Cisco 2691 routers.
12.2(11)T	Version 2.01	<ul style="list-style-type: none"> • Cisco SRS Telephony was implemented on the Cisco 1760 routers and support for Cisco 1750 was removed. • Support was added for additional connected Cisco IP phones • Support was added for additional directory numbers or virtual voice ports on Cisco IP phones
12.2(13)T	Version 2.02	<ul style="list-style-type: none"> • Unity Voice Mail Integration Using In-Band DTMF Signaling across the PSTN, page 1-12 • Increase in Directory Number Maximums, page 1-12. • Cisco IP Phone Conference Station 7935 Support, page 1-11 • Cisco SRS Telephony was implemented on the Cisco Catalyst 4224 access gateway switches, Cisco Catalyst 4000 family access gateway modules, Cisco Catalyst 4224 access gateway switch, and Cisco 7200 routers (NPE-225, NPE-300, and NPE400). See the Specifications for Cisco SRST 2.1, page 1-7 • Support was removed for the Cisco MC3810-V3 concentrator.

Table 1-3 Feature History from Cisco SRS Telephony V1.0 to Present Version

12.2(11)YT	Version 2.1	<ul style="list-style-type: none"> • Additional Language Options for IP Phone Display, page 1-13 • Cisco IP Phone 7905G Support • Cisco IP Phone Expansion Module 7914 Support, page 1-14 • dialplan-pattern Command Enhancement, page 1-14 • Support for Cisco VG248 Analog Phone Gateway Version 1.2(1) and Higher
12.2(15)T		—
12.2(15)T1		<ul style="list-style-type: none"> • Cisco IP Phone 7902G Support • Cisco IP Phone 7912G Support

Information about New Features in Cisco SRS Telephony V.2.02

Cisco SRS Telephony Version 2.1 introduces the new features described in the following sections:

- [Cisco IP Phone Conference Station 7935 Support](#)
- [Increase in Directory Number Maximums](#)
- [Unity Voice Mail Integration Using In-Band DTMF Signaling across the PSTN](#)

Cisco IP Phone Conference Station 7935 Support

The Cisco IP Conference Station 7935 voice instrument is a full-featured, IP-based, full-duplex hands-free conference station for use on desktops and offices, and in small to medium-sized conference rooms. This device easily attaches a Catalyst® 10/100 Ethernet switch port with a simple RJ-45 connection, and dynamically configures itself to the IP network via the Dynamic Host Control Protocol (DHCP). Other than connecting the Cisco 7935 to an Ethernet switch port, no further administration is necessary. The Cisco 7935 dynamically registers to the Cisco CallManager for connection services and receives the appropriate endpoint phone number, and any software enhancements or personalized settings, which are pre-loaded within Cisco CallManager.

The Cisco 7935 full-duplex design offers superior voice quality, eliminating echoes, clipped words, and reverberations for more natural conversation. It features superior sound quality with a digitally tuned speaker and three microphones, allowing conference participants to move around while speaking. In addition to the regular telephony keypad, the Cisco 7935 provides three soft keys and menu navigation keys that guide a user through call features and functions. The Cisco 7935 also features a pixel-based LCD display. The display provides features such as date and time, calling party name, calling party number, digits dialed, and feature and line status.

No configuration is necessary.

Increase in Directory Number Maximums

Directory numbers were increased for the platforms shown in [Table 1-4](#).

Table 1-4 Directory Number Changes in Cisco IOS Release 12.2(11)T

Cisco Platform	Maximum Cisco IP Phones	Increase in Maximum Directory Number	
		From	To
Cisco 1751 routers	24	96	120
Cisco 1760 routers	24	96	120
Cisco 2600-XM	24	96	120
Cisco 2691 router	72	216	288
Cisco 3640 routers	72	216	288
Cisco 3660 routers	240	720	960
Cisco 3725 routers	144	432	576
Cisco 3745 routers	240	720	960

Unity Voice Mail Integration Using In-Band DTMF Signaling across the PSTN

Unity voice mail is integrated with Cisco SRS Telephony, introducing six new commands:

- [pattern direct](#), page 3-56
- [pattern ext-to-ext busy](#), page 3-58
- [pattern ext-to-ext no-answer](#), page 3-60
- [pattern trunk-to-ext busy](#), page 3-62
- [pattern trunk-to-ext no-answer](#), page 3-64
- [vm-integration](#), page 3-97

For further information, see the “[Configuring DTMF Patterns on the Router](#)” section on page 2-9.

Information about New Features in Cisco SRS Telephony V.2.1

Cisco SRS Telephony Version 2.1 introduces the new features described in the following sections:

- [Additional Language Options for IP Phone Display](#)
- [Cisco IP Phone 7902G Support](#)
- [Cisco IP Phone 7905G Support](#)
- [Cisco IP Phone 7912G Support](#)
- [Cisco IP Phone Expansion Module 7914 Support](#)
- [dialplan-pattern Command Enhancement](#)
- [Support for Cisco VG248 Analog Phone Gateway Version 1.2\(1\) and Higher](#)

Additional Language Options for IP Phone Display

Displays for the Cisco IP Phone 7940 and Cisco IP Phone 7960 can be configured with ISO-3166 codes for the following countries:

- France
- Germany
- Italy
- Portugal
- Spain
- United States

**Note**

This feature is available only in Cisco SRS Telephony running under Cisco CallManager V3.2.

For configuration information, see the “Configuring Cisco SRS Telephony Optional Settings” section on page 2-4.

Cisco IP Phone 7902G Support

The Cisco IP Phone 7902G is an entry-level IP phone addressing the voice communications needs of a lobby, laboratory, manufacturing floor, hallway, or other area where only basic calling capability is required.

The Cisco IP Phone 7902G is a single-line IP phone with fixed feature keys that provide one-touch access to the redial, transfer, conference, and voice-mail access features. Consistent with other CiscoIPPhones, the Cisco IP Phone 7902G supports inline power, which allows the phone to receive power over the LAN. This capability gives the network administrator centralized power control and thus greater network availability.

For further information, go to [Cisco.com](http://www.cisco.com) and click Products & Service, IP Phone, Cisco 7900 Series IP Phones, Product Literature, and Data Sheets or go to http://www.cisco.com/univercd/cc/td/doc/product/voice/c_ipphon/english/ipp7902/index.htm.

Cisco IP Phone 7905G Support

The Cisco IP Phone 7905G, is a cost-effective, basic IP phone providing a core set of business features. It 7905G provides single-line access and four interactive soft keys that guide a user through call features and functions via the pixel-based liquid crystal display (LCD). The graphic capability of the display presents calling information, intuitive access to features, and language localization in future firmware releases.

The Cisco IP Phone 7905G supports inline power, which allows the phone to receive power over the LAN. This capability gives the network administrator centralized power control, which translates into greater network availability.

No configuration is necessary.

For more information, refer to

http://www.cisco.com/univercd/cc/td/doc/product/voice/c_ipphon/7905_g/index.htm.

Cisco IP Phone 7912G Support

The Cisco IP Phone 7912G provides core business features and addresses the communication needs of a cubicle worker who conducts low to medium telephone traffic. Four dynamic soft keys provide access to call features and functions. The graphic display shows calling information and allows access to features.

The Cisco IP Phone 7912G supports an integrated Ethernet switch, providing LAN connectivity to a local PC. In addition, the Cisco IP Phone 7912G supports inline power, which allows the phone to receive power over the LAN. This capability gives the network administrator centralized power control and thus greater network availability. The combination of inline power and Ethernet switch support reduces cabling needs to a single wire to the desktop.

For further information, go to Cisco.com and click Products & Service, IP Phone, Cisco 7900 Series IP Phones, Product Literature, and Data Sheets.

Cisco IP Phone Expansion Module 7914 Support

The Cisco IP Phone 7914 Expansion Module attaches to your Cisco IP Phone 7960, adding 14 line appearances and/or speed dial numbers to your phone. You can attach one or two Expansion Modules to your IP Phone. When you use two Expansion Modules, you have 28 additional line appearances and/or speed dial numbers, or a total of 34 line appearances and/or speed dial numbers.

No configuration is necessary.

For more information, refer to the [Cisco IP Phone 7914 Expansion Module Quick Start Guide](#).

dialplan-pattern Command Enhancement

A new keyword has been added to the **dial-pattern** command. The **extension-pattern keyword** sets an extension number's leading digit pattern when it is different from the E.164 telephone number's leading digits defined in the *pattern* variable. This enhancement allows manipulation of IP phone abbreviated extension number prefix digits. See "[dialplan-pattern](#)" section on page 3-39.

Support for Cisco VG248 Analog Phone Gateway Version 1.2(1) and Higher

The Cisco VG248 Analog Phone Gateway is a mixed-environment solution, enabled by Cisco AVVID (Architecture for Voice, Video and Integrated Data), which allows organizations to support their legacy analog devices while taking advantage of the new opportunities afforded through the use of IP telephony. The Cisco VG248 is a high-density gateway for using analog phones, fax machines, modems, voice-mail systems, and speakerphones within an enterprise voice system based on Cisco CallManager.

During Cisco CallManager fallback, Cisco SRST considers the Cisco VG248 to be a group of Cisco IP phones. Cisco SRST counts each of the 48 ports on the Cisco VG248 as a separate Cisco IP phone.

For more information, see the [Cisco VG248 Analog Phone Gateway data sheet](#) and the [Cisco VG248 Analog Phone Gateway Version 1.2\(1\) release notes](#).

Restrictions

[Table 1-5](#) provides a history of restrictions from Cisco SRS Telephony Version 1.0 to the present version.

Table 1-5 Restrictions History from Cisco SRS Telephony V1.0 to Present Version

Cisco SRS Telephony Version	Cisco IOS Release	Restrictions
Version 1.0	12.1(5)YD	<ul style="list-style-type: none"> This feature does not support first generation Cisco IP phones, such as Cisco IP Phone 30 VIP and Cisco IP Phone 12 SP+. Does not support other Cisco CallManager applications or services: Cisco IP SoftPhone, Cisco uOne—Voice and Unified Messaging Application, or Cisco IP Contact Center. This feature does not support Centralized Automatic Message Accounting (CAMA) trunks on the Cisco 3660 routers. <p>Note If you are in one of the states in the United States of America where there is a regulatory requirement for CAMA trunks to interface to 911 emergency services, and you would like to connect more than 48 Cisco IP phones to the Cisco 3660 multiservice routers in your network, please contact your local Cisco account team for help in understanding and meeting the CAMA regulatory requirements.</p>
	12.1(5)YD1	
	12.2(2)XB	
	12.2(2)XG	
Version 2.0	12.2(2)XT	<ul style="list-style-type: none"> All of the restrictions in Cisco SRS Telephony Version 1.0
Version 2.0	12.2(8)T	<ul style="list-style-type: none"> Call transfer is supported only on the following: <ul style="list-style-type: none"> Voice over IP (VoIP) H.323, Voice over Frame Relay (VoFR), and Voice over ATM (VoATM) between Cisco gateways running Cisco IOS Release 12.2(11)T and using the H.323 nonstandard information element FXO and FXS loopstart (analog) FXO and FXS groundstart (analog) E&M (analog) and DID (analog) T1 CAS with FX0 and FXS groundstart signalling T1 CAS with E&M signalling All PRI and BRI switch types Graying out of all Cisco IP phone function keys that are not supported during SRS Telephony operation <ul style="list-style-type: none"> CFwdAll (call forward all) MeetMe PickUp GPickUp (group pickup) Park Confrn (conference) Although the Cisco IAD2420 series IADs support the SRS Telephony feature, this feature is not recommended as a solution for enterprise branch offices. The Cisco 1750 and Cisco 1751 platforms do not support quality of service (QoS) features on an asymmetric digital subscriber line (ADSL) link, Cisco Hoot and Holler over IP applications, and G.SHDSL WAN card supported in the current Cisco 1700 image sets.
Version 2.0	12.2(8)T1	
Version 2.01	12.2(11)T	
Version 2.02	12.2(13)T	
Version 2.1	12.2(11)YT	
Version 2.1	12.2(15)T	

Additional References

The following sections provide additional references related to Cisco SRS Telephony Version 2.02:

- [Related Documents](#), page 1-16
- [Standards](#), page 1-16
- [MIBs](#), page 1-17
- [RFCs](#), page 1-17
- [Technical Assistance](#), page 1-17

Related Documents

Related Topic	Documents
Cisco IP phones	<ul style="list-style-type: none"> • Getting Started with the Cisco IP Phone 7910 • Cisco IP Phone 7914 Expansion Module Quick Start Guide • Cisco IP Conference Station 7935 documents • At a Glance Cisco IP Phone 7960 and 7940 Series • Cisco IP Phone 7960 and 7940 Series User Guide
Command reference and configuration information for voice and telephony commands	<ul style="list-style-type: none"> • Cisco IOS Voice, Video, and Fax Command Reference, Release 12.2 T • Cisco IOS Voice, Video, and Fax Configuration Guide, Release 12.2 • Cisco IOS Debug Command Reference, Release 12.2
Cisco CallManager user documentation	<ul style="list-style-type: none"> • Cisco CallManager
Dynamic Host Control Protocol (DHCP)	<ul style="list-style-type: none"> • Cisco IOS DHCP Server

Standards

Standards ¹	Title
No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.	—

1. Not all supported standards are listed.

MIBs

MIBs ¹	MIBs Link
No new or modified MIBs are supported by this feature, and support for existing standards has not been modified by this feature.	To obtain lists of supported MIBs by platform and Cisco IOS release, and to download MIB modules, go to the Cisco MIB website on Cisco.com at the following URL: http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml

1. Not all supported MIBs are listed.

To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL:

<http://tools.cisco.com/ITDIT/MIBS/servlet/index>

If Cisco MIB Locator does not support the MIB information that you need, you can also obtain a list of supported MIBs and download MIBs from the Cisco MIBs page at the following URL:

<http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml>

To access Cisco MIB Locator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to cco-locksmith@cisco.com. An automatic check will verify that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password will be e-mailed to you. Qualified users can establish an account on Cisco.com by following the directions found at this URL:

<http://tools.cisco.com/RPF/register/register.do>

RFCs

RFCs ¹	Title
No new or modified RFCs are supported by this feature, and support for existing RFCs has not been modified by this feature.	—

1. Not all supported RFCs are listed.

Technical Assistance

Description	Link
Technical Assistance Center (TAC) home page, containing 30,000 pages of searchable technical content, including links to products, technologies, solutions, technical tips, tools, and lots more. Registered Cisco.com users can log in from this page to access even more content.	http://www.cisco.com/public/support/tac/home.shtml

