Cisco Unified Survivable Remote Site Telephony and Cisco Unified Enhanced Survivable Remote Site Telephony Version 8.6

Cisco® Unified Communications Solutions unify voice, video, data, and mobile applications on fixed and mobile networks, enabling easy collaboration every time from any workspace.

As the enterprise extends its IP telephony deployments from central sites to remote branch offices and teleworkers, a critical factor in achieving a successful deployment is the capability to support backup call control at these remote locations. Cisco Unified Survivable Remote Site Telephony (Unified SRST) and Cisco Unified Enhanced Survivable Remote Site Telephony (Unified E-SRST) provide cost-effective solutions for supporting redundant call control in remote branch offices and the homes of teleworkers.

Benefits of Centralized Call-Processing Architecture

Cisco Unified SRST or Unified E-SRST is a critical component of a centralized call-processing architecture in which a Cisco Unified Communications Manager cluster, located at a central site, provides telephony services for all sites of an organization. The architecture provides numerous benefits for enterprises, including centralized and simplified management. Table 1 lists the benefits of a centralized call-processing architecture.

Table 1. Benefits of Centralized Call-Processing Architecture

Centralized Call Processing	Features and Benefits
Delivery of full feature set to remote locations, next-generation call centers, unified messaging services, embedded directory services, and mobility	Improved productivity
Centralized configuration and management	Reduced operating expenses
Simplified maintenance and troubleshooting	Reduced operating expenses
Converged voice and data network	Reduced operating expenses
Reduced installation cost (shared Cisco Unified Communications Manager resource)	Reduced initial expense

However, a centralized call-processing architecture must include a strategy for survivability of telephony service at the remote locations (that is, at branch offices and the homes of teleworkers) when access to the centralized call-processing services is interrupted because of a WAN outage or other factors. Call-processing redundancy in the remote location is particularly critical during an emergency (which may be the actual cause of the WAN outage).

Components of Centralized Call-Processing Architecture

Cisco Unified Communications Manager in combination with Cisco Unified SRST or Unified E-SRST, which is embedded in the Cisco IOS® Software, helps provide high-availability IP telephony to remote locations. When access to Cisco Unified Communications Manager from a remote location is lost, for example, as a result of a WAN link failure, Cisco Unified SRST or Unified E-SRST provides telephony backup services to help ensure that the remote location has continuous telephony service.

The enhanced reliability makes Cisco Unified Communications a cost-effective solution to help ensure telephony operation for all users in an organization, whether they are located in the headquarters or in a remote location.

Furthermore, in certain environments, the security of telephony communication is a critical requirement. This solution supports secure telephony communication between any two phones in the network, whether those phones are in the headquarters facility or at a remote location. Cisco Unified SRST or Unified E-SRST contributes to this secure telephony communication solution by supporting the same secure telephony protocols in a remote location when that location loses communication with the centralized Cisco Unified Communications Manager.

How Cisco Unified SRST Works

Cisco developed Cisco Unified SRST technology for all Cisco IOS Software platforms that support call processing (refer to Table 2 for a complete list of supported platforms). Cisco Unified SRST integrates network intelligence into Cisco IOS Software, which acts as the call-processing engine for IP phones located in the remote locations during a WAN outage (Figure 1).

Figure 1.   Centralized Cisco Unified Communications Manager Deployment with Remote Site Experiencing a WAN Failure and Cisco Integrated Services Router (ISR) Using Cisco Unified SRST
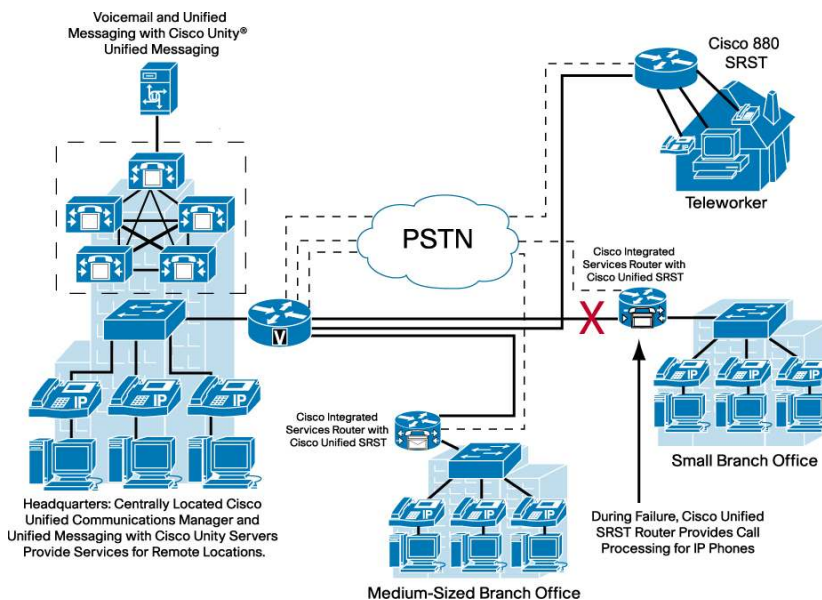
Cisco Unified SRST functions in the remote-location router to automatically detect a failure in the network and initiate a process to provide call-processing backup redundancy for the IP phones in that location and help ensure that the telephony capabilities stay operational. Upon restoration of WAN connectivity, the system intelligently and automatically shifts call processing back to the primary Cisco Unified Communications Manager cluster. The Cisco Unified SRST configuration needs to be completed only once, during the initial installation, simplifying deployment, administration, and maintenance. No IT staff is required at the remote sites to manage the Cisco Unified SRST application.

Cisco routers running Cisco Unified SRST also offer a secure voice mode with Cisco Unified SRST 3.3 and later. If secure voice is deployed with Cisco Unified Communications Manager at the central site, secure Cisco Unified SRST allows you to keep calls secure during Cisco Unified SRST mode with Transport Layer Security (TLS) and Secure Real-Time Transport Protocol (SRTP) for signaling and media encryption. When the WAN link or Cisco Unified Communications Manager service is restored, Cisco Unified Communications Manager resumes secure call-handling capabilities.

Cisco Unified SRST 3.4 and later versions support Session Initiation Protocol (SIP) for Cisco Unified IP Phones, providing basic telephony functions when the network SIP proxy or Cisco Unified Communications Manager is no longer available. The Cisco Unified SRST router with SIP enabled provides SIP registrar services during the outage and supports a back-to-back user agent, allowing for supplementary features such as call transfer and forwarding. Cisco Unified IP Phones register using SIP to the Cisco Unified SRST-enabled router when the WAN link is out of service.

Cisco Unified SRST offers fault monitoring using Simple Network Management Protocol (SNMP) with the SRST MIB, which allows you to remotely monitor the Cisco Unified SRST site using existing SNMP tools or CiscoWorks. The Cisco SRST MIB provides the network operations center details about Cisco Unified SRST activity, including duration of Cisco Unified SRST use, IP phones registered or registration failure, and calls processed during SRST mode. A backup WAN link connection is required to receive Cisco SRST MIB data at the central site in SRST mode.

How Cisco Unified E-SRST Works

Cisco Unified E-SRST provides all the features of SRST and delivers additional capabilities for a total solution. Unlike Cisco Unified SRST, Cisco Unified E-SRST offers automatic provisioning of branch-office routers with the aid of the Cisco Unified Messaging Gateway (UMG). Also, Cisco Unified E-SRST provides a richer telephony experience during failover mode by auto-provisioning the branch-office routers with features such as hunt groups, call park and pickup, and an ephone template from the centralized Cisco Unified Communications Manager.

For Cisco Unified E-SRST deployments, the branch office is configured in Cisco Unified Communications Manager Express-as-SRST mode on a Cisco Integrated Services Router (ISR) or a Cisco Integrated Services Routers Generation 2 (ISR G2) router. Cisco Unified E-SRST provisions the branch-office site using the Cisco UMG with information such as phone users, MAC addresses, and advanced telephony features configured on Cisco Unified Communications Manager.

Cisco Unified E-SRST provides all the capabilities of Cisco Unified SRST and offers these additional features:

- Easy-to-use GUI interface for provisioning, monitoring, reporting, and troubleshooting remote-office sites
- Enhanced user experience in failover mode by providing similar phone display and phone user operations
- Automatic sync-up with Cisco Unified Communications Manager for additions, deletions, and modifications of users and phones
- Calling-rule restrictions continued in failover mode

Table 2 lists the platforms that support Cisco Unified SRST and Unified E-SRST.

Table 2.   Cisco Unified SRST and Unified E-SRST ISR Platform Density and Feature License Part Numbers

Platform	SRST Number of Phones Supported[*]	E-SRST Number of Phones Supported	Part Number (Spare)
Cisco 800 Integrated Services Router	Up to 4 phones	Up to 4 phones	–
Cisco 1861 Integrated Services Router	Up to 15 phones	Up to 15 phones	–
Cisco 2801 Integrated Services Router	Up to 25 phones	Up to 25 phones	FL-SRST-25=
Cisco 2811 Integrated Services Router	Up to 35 phones	Up to 35 phones	FL-SRST-35=
Cisco 2821 Integrated Services Router	Up to 50 phones	Up to 50 phones	FL-SRST-50=
Cisco 2851 Integrated Services Router	Up to 100 phones	Up to 100 phones	FL-SRST-100=
Cisco 3825 Integrated Services Router	Up to 350 phones[*]	Up to 175 phones	FL-SRST-175=
Cisco 3845 Integrated Services Router	Up to 730 phones[**]	Up to 250 phones	FL-SRST-250=
Cisco 2901 Integrated Services Router	Up to 35 phones	Up to 35 phones	FL-CME-SRST-5=, FL-CME-SRST-25=, FL-CME-SRST-100=
Cisco 2911 Integrated Services Router	Up to 50 phones	Up to 50 phones	FL-CME-SRST-5=, FL-CME-SRST-25=, FL-CME-SRST-100=
Cisco 2921 Integrated Services Router	Up to 100 phones	Up to 100 phones	FL-CME-SRST-5=, FL-CME-SRST-25=, FL-CME-SRST-100=
Cisco 2951 Integrated Services Router	Up to 250 phones	Up to 150 phones	FL-CME-SRST-5=, FL-CME-SRST-25=, FL-CME-SRST-100=
Cisco 3925 Integrated Services Router	Up to 730 phones	Up to 250 phones	FL-CME-SRST-5=, FL-CME-SRST-25=, FL-CME-SRST-100=
Cisco 3945 Integrated Services Router	Up to 1200 phones	Up to 350 phones	FL-CME-SRST-5=, FL-CME-SRST-25=, FL-CME-SRST-100=
Cisco 3925E Integrated Services Router	Up to 1350 phones	Up to 400 phones	FL-CME-SRST-5=, FL-CME-SRST-25=, FL-CME-SRST-100=
Cisco 3945E Integrated Services Router	Up to 1500 phones	Up to 450 phones	FL-CME-SRST-5=, FL-CME-SRST-25=, FL-CME-SRST-100=

[*] The numbers of phones supported by SRST have been changed to multiples of 5 starting with Cisco IOS Software Release 12.4(15) T3.
[**] There are no corresponding part numbers, but you can purchase multiple parts to reach the desired phone count.

Table 3 lists the Cisco Unified E-SRST solution hardware support. Cisco Unified E-SRST software is supported on the Cisco Unified Messaging Gateway (NME-UMG and NME-UMG-EC) on the Cisco ISR and on the Cisco UMG (NME-UMG, NME-UMG-EC with the SM-NM-ADPTR card, SM-SRE-700-K9, and SM-SRE-900-K9) on the Cisco ISR G2. Table 3 lists the maximum number of branch-office sites supported per module.

Table 3.   Product Limits for Cisco Unified Messaging Gateway for Cisco Unified E-SRST Deployments

Product	Maximum Number of Branch-Office Sites Supported per Module	License Part Number Spare[*]
Cisco Unified Messaging Gateway Network Module (NME-UMG)	250	• FL-E-SRST-25= (UMG license for 25 E-SRST Nodes/Sites) • L-FL-E-SRST-25= (UMG license for 25 E-SRST Nodes/Sites E-delivery)
Enhanced-capacity Cisco Unified Messaging Gateway Network Module (NME-UMG-EC)	1000	• FL-E-SRST-25= (UMG license for 25 E-SRST Nodes/Sites) • L-FL-E-SRST-25= (UMG license for 25 E-SRST Nodes/Sites E-delivery)FL
Cisco Unified Messaging Gateway on Services-Ready Engine (SM-SRE-700-K9)	1000	• FL-E-SRST-25= (UMG license for 25 E-SRST Nodes/Sites) • L-FL-E-SRST-25= (UMG license for 25 E-SRST Nodes/Sites E-delivery)

Product	Maximum Number of Branch-Office Sites Supported per Module	License Part Number Spare[*]
Cisco Unified Messaging Gateway on Services-Ready Engine (SM-SRE-900-K9)	1000	• FL-E-SRST-25= (UMG license for 25 E-SRST Nodes/Sites) • L-FL-E-SRST-25= (UMG license for 25 E-SRST Nodes/Sites E-delivery)

[*] Use multiple counts of each part number to reach appropriate numbers required.

Cisco Unified SRST and Unified E-SRST Platform Information

Cisco Unified SRST supports from 4 to 730 phones on Cisco 800, 1800, 2800, and 3800 Series ISR platforms. On ISR G2 platforms (Cisco 2900 and 3900 Series ISR platforms), SRST supports from 35 to 1500 phones. Cisco Unified E-SRST is supported on the Cisco 800, 1861, 2800, 3800, 2900, and 3900 Series ISR and ISR G2 platforms with the same number of phones as SRST provisioned in Cisco Unified Communications Manager Express mode. Details about currently supported platforms and the number of phones per platform are provided in the Cisco Unified SRST specifications sheet for each version, which is available at: http://www.cisco.com/en/US/products/sw/voicesw/ps2169/products-device-support-tables-list.html.

Cisco offers ISR bundles with Cisco Unified SRST or Unified E-SRST at a discount when compared to separate purchase of bundle components. These bundles are listed in Table 4 (for Cisco ISR and ISR G2 platforms).

Table 4.   Cisco ISR Platform Bundles for Cisco Unified SRST or Unified E-SRST Deployments

Bundle Part Number	Includes
C3945E-CME-SRST/K9	Cisco 3945E voice bundle with packet voice digital signal processor (DSP) module (PVDM3-64), FL-CME-SRST-25 - Feature License for 25 CME/SRST users, and Unified Communications (UC) License PAK
C3925E-CME-SRST/K9	Cisco 3925E voice bundle with packet voice DSP module (PVDM3-64), FL-CME-SRST-25 - Feature License for 25 CME/SRST users, and Unified Communications (UC) License PAK
C3945-CME-SRST/K9	Cisco 3945 voice bundle with packet voice DSP module (PVDM3-64), FL-CME-SRST-25 - Feature License for 25 CME/SRST users, and Unified Communications (UC) License PAK
C3925-CME-SRST/K9	Cisco 3925 voice bundle with packet voice DSP module (PVDM3-64), FL-CME-SRST-25 - Feature License for 25 CME/SRST users, and Unified Communications (UC) License PAK
C2951-CME-SRST/K9	Cisco 2951 voice bundle with packet voice DSP module (PVDM3-32), FL-CME-SRST-25 - Feature License for 25 CME/SRST users, and Unified Communications (UC) License PAK
C2921-CME-SRST/K9	Cisco 2921 voice bundle with packet voice DSP module (PVDM3-32), FL-CME-SRST-25 - Feature License for 25 CME/SRST users, and Unified Communications (UC) License PAK
C2911-CME-SRST/K9	Cisco 2911 voice bundle with packet voice DSP module (PVDM3-16), FL-CME-SRST-25 - Feature License for 25 CME/SRST users, and Unified Communications (UC) License PAK
C2901-CME-SRST/K9	Cisco 2901 voice bundle with packet voice DSP module (PVDM3-16), FL-CME-SRST-25 - Feature License for 25 CME/SRST users, and Unified Communications (UC) License PAK
CISCO3845-SRST/K9	Cisco 3845 voice bundle with packet voice DSP module ((PVDM2-64), Cisco Unified SRST license for 250 phones, and Cisco IOS SP Services feature set
CISCO3825-SRST/K9	Cisco 3825 voice bundle with packet voice DSP module (PVDM2-64), Cisco Unified SRST license for 175 phones, and Cisco IOS Software SP Services feature set
CISCO2851-SRST/K9	Cisco 2851 voice bundle with packet voice DSP module (PVDM2-48), Cisco Unified SRST license for 100 phones, and Cisco IOS Software SP Services feature set
CISCO2821-SRST/K9	Cisco 2821 voice bundle with packet voice DSP module (PVDM2-32), Cisco Unified SRST license for 50 phones, and Cisco IOS Software SP Services feature set
CISCO2811-SRST/K9	Cisco 2811 voice bundle with packet voice DSP module (PVDM2-16), Cisco Unified SRST license for 35 phones, and Cisco IOS Software SP Services feature set
CISCO2801-SRST/K9	Cisco 2801 voice bundle with packet voice DSP module (PVDM2-8), Cisco Unified SRST license for 25 users, and Cisco IOS Software SP Services feature set
C1861-SRST-C-F/K9	Cisco 1861 voice bundle with 8 Power over Ethernet (PoE) ports, 4 foreign-exchange-station (FXS) ports, 4 foreign-exchange-office (FXO) ports, Cisco Unity® Express, Cisco Unified SRST license for 8 users, and Cisco IOS Software SP Services feature set

Bundle Part Number	Includes
C1861-SRST-C-B/K9	Cisco 1861 voice bundle with 8 PoE ports, 4 FXS ports, 2 Basic Rate Interface (BRI) ports, Cisco Unity Express, Cisco Unified SRST license for 8 users, and Cisco IOS Software SP Services feature set
C1861-SRST-F/K9,	Cisco 1861 voice bundle with 8 PoE ports, 4 FXS ports, 4 FXO ports, Cisco Unified SRST license for 8 users, and Cisco IOS Software SP Services feature set
C1861-SRST-B/K9	Cisco 1861 voice bundle with 8 PoE ports, 4 FXS ports, 2 BRI ports, Cisco Unified SRST license for 8 users, and Cisco IOS Software SP Services feature set
C881SRST-K9	Cisco 881 SRST Ethernet Security Router with 4 FXS ports, 1 FXO port, Cisco Unified SRST license for 4 users, and Cisco IOS Software Advanced IP Services feature set
C881SRSTW-GN-A-K9	Cisco 881 SRST Ethernet Security Router with 4 FXS ports, 1 FXO port, Cisco Unified SRST license for 4 users, Cisco IOS Software Advanced IP Services feature set, and wireless IEEE 802.11n FCC compliance
C881SRSTW-GN-E-K9	Cisco 881 SRST Ethernet Security Router with 4 FXS ports, 1 FXO port, Cisco Unified SRST license for 4 users, Cisco IOS Software Advanced IP Services feature set, and wireless IEEE 802.11n ETSI compliance
C888SRST-K9	Cisco 888 SRST G.SHDSL Router with 4 FXS ports, 1 BRI port, Cisco Unified SRST license for 4 users, and Cisco IOS Software Advanced IP Services feature set
C888SRSTW-GN-A-K9	Cisco 888 SRST G.SHDSL Router with 4 FXS ports, 1 BRI port, Cisco Unified SRST license for 4 users, Cisco IOS Software Advanced IP Services feature set, and IEEE 802.11n FCC compliance
C888SRSTW-GN-E-K9	Cisco 888 SRST G.SHDSL Router with 4 FXS ports, 1 BRI port, Cisco Unified SRST license for 4 users, Cisco IOS Software Advanced IP Services feature set, and IEEE 802.11n ETSI compliance

Cisco Unified IP Phone Support

Cisco Unified SRST is supported with Cisco CallManager Version 3.01 and later. Cisco Unified E-SRST is supported on Cisco Unified Communications Manager 8.5 and later. Cisco Unified SRST and Unified E-SRST are not dependent on Cisco Unified Communications Manager versions but on IP phone loads. (Beginning with Version 4.3, Cisco Unified CallManager is called Cisco Unified Communications Manager.)

Table 5 lists the Cisco Unified IP Phones supported by Cisco Unified SRST and Unified E-SRST with Skinny Client Control Protocol (SCCP) phone loads.

Table 5. Cisco Unified IP Phone Support Using SCCP

Phone	Cisco Unified SRST 3.3	Cisco Unified SRST 3.4	Cisco Unified SRST 4.0	Cisco Unified SRST 4.1	Cisco Unified SRST 4.2	Cisco Unified SRST 4.3	Cisco Unified SRST 7.0	Cisco Unified SRST 7.1	Cisco Unified SRST 8.0	Cisco Unified SRST 8.1	Cisco Unified SRST 8.5 and 8 (Supports SRST and E-SRST)
Cisco Unified IP Conference Station 7937G	–	–	–	–	–	X	X	X	X	X	X
Cisco Unified IP Phone 7975G, 7965G, 7962G, 7945G, and 7942G models	–	–	–	X	X	X	X	X	X	X	X
Cisco Unified IP Phone 7970G and 7971G-GE models	X	X	X	X	X	X	X	X	X	X	X
Cisco Unified IP Phone 7960G and 7940G models	X	X	X	X	X	X	X	X	X	X	X
Cisco Unified IP Phone 7961G, 7941G, 7961G-GE, and 7941G-GE models	X	X	X	X	X	X	X	X	X	X	X
Cisco Unified IP Phone 7931G	–	–	–	X	X	X	X	X	X	X	X

Phone	Cisco Unified SRST 3.3	Cisco Unified SRST 3.4	Cisco Unified SRST 4.0	Cisco Unified SRST 4.1	Cisco Unified SRST 4.2	Cisco Unified SRST 4.3	Cisco Unified SRST 7.0	Cisco Unified SRST 7.1	Cisco Unified SRST 8.0	Cisco Unified SRST 8.1	Cisco Unified SRST 8.5 and 8 (Supports SRST and E-SRST)
Cisco Unified IP Conference Station 7935	X	X	X	X	X	X	X	X	X	X	X
Cisco Unified IP Conference Station 7936	X	X	X	X	X	X	X	X	X	X	X
Cisco Unified IP Phone 7912G	X	X	X	X	X	X	X	X	X	X	X
Cisco Unified IP Phone 7911G	–	–	X	X	X	X	X	X	X	X	X
Cisco Unified IP Phone 7905G	X	X	X	X	X	X	X	X	X	X	X
Cisco Unified IP Phone 7906G	–	–	–	X	X	X	X	X	X	X	X
Cisco Unified IP Phone 7902G	X	X	X	X	X	X	X	X	X	X	X
Cisco Unified Wireless IP Phone 7920	X	X	X	X	X	X	X	X	X	X	X
Cisco Unified Wireless IP Phone 7921G	–	–	–	X	X	X	X	X	X	X	X
Cisco Unified Wireless IP Phone 7925G	–	–	–	X[*]	X	X	X	X	X	X	X
Cisco Unified IP Phone 7985G	–	–	Audio calls only	Audio calls only	Audio and video calls	Audio and video calls	Audio and video calls	X	X	X	X
Cisco Unified IP Phone Expansion Module 7914	X	X	X	X	X	X	X	X	X	X	X
Cisco Unified IP Phone Expansion Module 7915 and 7916 modules	–	–	–	X[*]	X	X	X	X	X	X	X
Cisco VG248 48-Port Analog Voice Gateway	X	X	X	X	X	X	X	X	X	X	X
Cisco ATA 180 Series Analog Telephone Adaptors	–	–	X	X	X	X	X	X	X	X	X
Cisco IP Communicator	–	–	X	X	X	X	X	X	X	X	X
Cisco Unified Video Advantage	–	–	X	X	X	X	X	X	X	X	X

[*] The support started with Cisco IOS Software Release 12.4(15) T8.

Table 6 lists the Cisco Unified IP Phones supported by Cisco Unified SRST only. E-SRST does not support SIP.

Table 6.   Cisco Unified IP Phone Support Using SIP for Cisco Unified SRST

Phone	Cisco Unified SRST 4.0	Cisco Unified SRST 4.1	Cisco Unified SRST 4.2	Cisco Unified SRST 4.3	Cisco Unified SRST 7.0 and 7.1	Cisco Unified SRST 8.0	Cisco Unified SRST 8.1, 8.5, and 8.6
Cisco Unified IP Phone 8961, 9951, and 9971 models	–	–	–	–	X	X	X
Cisco Unified IP Phone 7975G, 7965G, 7962G, 7945G, and 7942G models	–	X	X	X	X	X	X
Cisco Unified IP Phone 7970G and	X	X	X	X	X	X	X

Phone	Cisco Unified SRST 4.0	Cisco Unified SRST 4.1	Cisco Unified SRST 4.2	Cisco Unified SRST 4.3	Cisco Unified SRST 7.0 and 7.1	Cisco Unified SRST 8.0	Cisco Unified SRST 8.1, 8.5, and 8.6
7971G-GE models							
Cisco Unified IP Phone 7960G and 7940G models	X	X	X	X	X	X	X
Cisco Unified IP Phone 7961G, 7941G, 7961G-GE, and 7941G-GE models	X	X	X	X	X	X	X
Cisco Unified IP Conference Station 7935	–	–	–	–	–	–	–
Cisco Unified IP Conference Station 7936	–	–	–	–	–	–	–
Cisco Unified IP Phone 7912G	X	X	X	X	X	–	–
Cisco Unified IP Phone 7906G	–	X	X	X	X	–	–
Cisco Unified IP Phone 7911G	X	X	X	X	X	–	–
Cisco Unified IP Phone 7905G	X	X	X	X	X	–	–
Cisco Unified IP Phone 7902G	–	–	–	–	–	–	–
Cisco Unified Wireless IP Phone 7920 and 7921G models	–	–	–	–	–	–	–
Cisco Unified Wireless IP Phone 7925	–	–	–	–	–	–	–
Cisco Unified IP Phone Expansion Module 7914, 7915, and 7916 modules	–	–	–	–	–	–	–
Cisco Unified IP Phone 6901, 6911, 6921, 6941, and 6961 models	–	–	–	–	–	X	X
Cisco ATA 180 Series Analog Telephone Adaptors	–	–	–	–	–	–	–

Cisco IOS Software Image Support

Table 7 summarizes the correlation between the Cisco Unified SRST version and Cisco IOS Software.

Secure Cisco Unified SRST is available with Cisco Unified SRST 3.3 and later for Cisco Unified IP Phones using SCCP; it requires Cisco Unified CallManager 4.1(2) and later. (Beginning with Version 4.3, Cisco Unified CallManager is called Cisco Unified Communications Manager.)

Cisco Unified SRST for SIP phones is supported by Cisco Unified SRST 3.4 and later and only with Cisco Unified IP Phones. Secure Cisco Unified SRST for SIP phones is available with Cisco Unified SRST 8.0 and later versions. Secure SIP SRST requires Cisco Unified IP Phone Firmware Release 8.5(3) (SIP phoneload) onward and Cisco Unified Communications Manager Version 7.13 or later.

For the latest Cisco IOS Software release and features, consult the Feature Navigator at: http://www.cisco.com/go/fn.

Table 7.   Cisco IOS Software Release

Cisco Unified SRST Version	Cisco Unified E-SRST Version	Cisco IOS Software Release(s)
Cisco Unified SRST 2.0		12.2(13)T
Cisco Unified SRST 2.1		12.2(15)T and 12.3 Mainline
Cisco Unified SRST 3.0		12.3(4)T
Cisco Unified SRST 3.1		12.3(8)T
Cisco Unified SRST 3.2		12.3(11)T
Cisco Unified SRST 3.3 plus Secure SRST		12.3(14)T and 12.4 Mainline

Cisco Unified SRST Version	Cisco Unified E-SRST Version	Cisco IOS Software Release(s)
Cisco Unified SRST 3.4		12.4(4)T
Cisco Unified SRST 4.0		12.4(9)T
Cisco Unified SRST 4.1		12.4(14)T
Cisco Unified SRST 4.2		12.4(11)XW2
Cisco Unified SRST 4.3		12.4(11)XZ
Cisco Unified SRST 7.0		12.4(20)T
Cisco Unified SRST 7.1 (on Cisco ISR)		12.4(22)YB
Cisco Unified SRST 7.1 (on Cisco ISR G2)		15.0.1M
Cisco Unified SRST 8.0		15.1(1)T
Cisco Unified SRST 8.1		15.1(2)T
Cisco Unified SRST 8.5	Cisco Unified E-SRST 8.5	15.1(3)T
Cisco Unified SRST 8.6	Cisco Unified E-SRST 8.5	15.1(4)M

Supported Features

Unlike traditional telephony solutions, Cisco Unified SRST and Unified E-SRST provide robust support for many IP phone features through the duration of a WAN failure. Cisco Unified E-SRST supports the same Cisco Unified SRST features listed in Table 8, but includes other features listed in Table 9.

Table 8.   Cisco Unified SRST Features Supported During WAN Failure (also supported by Cisco Unified E-SRST)

Cisco Unified SRST Version (all are supported with Cisco Unified E-SRST)	Feature Set
Cisco Unified SRST 2.0	- Support for IP and analog phones - Rehoming of IP phones upon failure to branch-office router for call processing - Maintenance of local extension-to-extension calls upon failure[*] - Maintenance of extension-to-public switched telephone network (PSTN) calls upon failure - Up to 6 lines per phone - Call hold and pick up - Speed and last-number redial - Up to 24 line appearances per system - Primary line support - Maintenance of existing calls upon recovery - Analog foreign exchange office (FXO) and foreign exchange station (FXS) - Calling-party name - Caller ID and asynchronous-network-interface (ANI) support - WAN link support: Frame Relay, ATM, Multilink Point-to-Point Protocol (MLPPP), serial, ATM Adaption Layer 2 (AAL2), and DSL - Class of restriction - Music on hold (MoH), tone on hold, and music and tone on transfer (MoH for endpoint PSTN only) - Distinctive ringing - Direct inward dialing (DID) and direct outward dialing (DOD) - PSTN T1 and E1 channel-associated-signaling (CAS) trunks support - ISDN Basic Rate Interface (BRI) and Primary Rate Interface (PRI) support - Call-detail recording and RADIUS server - Interworking with Cisco Gatekeeper - Transfer to voicemail pilot number using PSTN - Alias lists for unregistered phones - Translation rules support - Tool Command Language (TCL)-based simple Automated Attendant and interactive voice response (IVR) on local gateways - Transfer across H.323 network of Cisco endpoints

Cisco Unified SRST Version (all are supported with Cisco Unified E-SRST)	Feature Set
Cisco Unified SRST 2.1	• Cisco Unified CallManager or Cisco Unified Communications Manager phone language support • Global-call-forwarding enhancement • In-band dual-tone multifrequency (DTMF) voicemail integration • Enhanced dial-plan pattern
Cisco Unified SRST 3.0	• E1-R2 signaling support • Secondary dial tone • Dual-line appearance per button • Three-party G.711 temporary conferencing • Call transfer with consult • MoH multicast from flash .au file in Cisco Unified CallManager or Unified Communications Manager mode • Support for Cisco Unified IP Phone 7905G • European date formats • Enhanced **dialplan-pattern** command • Increased directory-number maximums • Additional language options for IP phone • Configurable system message • Improved debugging for phones • Symmetric SIP gateway-to-gateway DTMF relay • Ringing timeout for phones • Cisco SIP phone support of basic calls only
Cisco Unified SRST 3.1	• Support for Cisco Unified Wireless IP Phone 7920 • Support for Cisco Unified IP Conference Station 7935 or Cisco Unified IP Conference Station 7936
Cisco Unified SRST 3.2	• Enhancement to the **alias** command • Enhancement to the **cor** command • Enhancement to the **pickup** command • Enhancement to the **user-locale** command • Increased number of phones supported on the Cisco 3745 Multiservice Access Router • MoH multicast from live feed in Cisco Unified CallManager or Cisco Unified Communications Manager mode • No timeout for call preservation[*] • RFC 2833 DTMF relay support • Translation profile support
Cisco Unified SRST 3.3	• Support for Cisco Unified IP Phone 7970G, 7971G-GE, 7961G, 7941G, 7961G-GE, 7941G-GE, and 7911G models • Enhancement to the **show ephone** command (new Cisco Unified IP Phone model keywords)
Secure Cisco Unified SRST 3.3 with Cisco Unified CallManager 4.1(2)	• Basic call • Call transfer (consult and blind) • Call forwarding (busy, no answer, and all) • Shared line (SCCP IP phones) • Hold and resume • Hold and pickup • Only secure calls between IP phones or Cisco Unified SRST routers

Cisco Unified SRST 3.4	• Fault monitoring with SNMP Cisco SRST MIB, including:
	  ◦ Cisco Unified SRST state and duration
	  ◦ Phone registration and failure
	  ◦ Threshold unregistration
	  ◦ Total calls handled in Cisco Unified SRST mode
	• Cisco Unified SRST support for Cisco Unified IP Phones using SIP loads
	• SIP proxy and registrar services during Cisco Unified SRST mode plus back-to-back user agent for support of supplementary features
	• SIP features: Call forwarding, call hold, call transfer (blind and consult), distinctive ringing, time-based call blocking, and SIP phone-load features

Cisco Unified SRST Version (all are supported with Cisco Unified E-SRST)	Feature Set
Cisco Unified SRST 4.0	• Support for video calls with Cisco Unified Video Advantage Client • Support for Cisco IP Communicator • Fax pass-though using SCCP with Cisco ATA 180 Series Analog Telephone Adaptors • Call preservation enhancements between IP phones and H.323-controlled voice gateways
Cisco Unified SRST 4.1	• SIP line-side feature enhancements, including SIP line-side support for Cisco Unified IP Phone 7971G-GE, 7970G, 7941G, 7961G, 7911G, and 7906G models • Dial-plan pattern and Keypad Markup Language (KPML) for faster dialing for SIP phones • MoH for SIP phones • SIP caller ID update, status line update, and SRST status prompt with customizable message • E-911 support
Cisco Unified SRST 4.2	• Support for Cisco 1861 Integrated Services Router
Cisco Unified SRST 4.3	• Support for up to 8 active calls per line • Support for Cisco 880 Series Integrated Services Routers • Call-detail-record (CDR) enhancement
Cisco Unified SRST 7.0	• Support for up to 8 active calls per line • Support for Cisco 880 Series routers • CDR enhancement • Cisco IOS Software Release 12.4(20)T • Support for TCL script for automatic upload of CDR to FTP server

Cisco Unified SRST 7.1	• Cisco IOS Software Release 12.4(22)YB on Cisco ISR platforms, and Cisco IOS Software Release 12.5.0.1M on Cisco ISR G2 platforms
	  ○ Increase of phone user scalability on Cisco ISR G2 platforms
	  ○ International +E.164 registration and basic call dialing
	  ○ New phone type: Cisco Unified IP phone 8961, 9951, and 9971 model support on Cisco IOS Software Releases 12.4(24)T and 12.5.0(1)M

Cisco Unified SRST 8.0	• Cisco IOS Software Release 15.0(1)T on Cisco ISR platforms
	  ○ Secure SIP SRST support on Cisco SIP phones
	  ○ Five MoH streams stored in the SRST router flash memory
	  ○ New phone type: Cisco Unified IP Phone 6901, 6911, 6921, 6941, and 6961 model support

Cisco Unified SRST 8.5	• SRST support for +E.164 with support for supplementary service calls
Cisco Unified SRST 8.6	• Support for Cisco Unified IP Phone 6901 and 6911 models • Support for Forced Authorization Code (FAC) • Improved deployment flexibility with support for SSL VPN client on Cisco Unified IP Phones (SCCP) • Customizable programmable line keys and button layout control • ISDN overlap sending on PRI and BRI

[*] Prior to Cisco Unified SRST 3.2, active calls to the PSTN from Cisco Unified SRST IP Phones are maintained for most calls and dropped after approximately 3 minutes. Active calls between users on the same LAN are not affected by WAN failure, and security is maintained for the duration of the call.

Cisco Unified SRST 3.2 and later can preserve existing H.323 calls at the branch-office location if an outage occurs; disable the H.225 keepalive timer by entering the **no h225 timeout** keepalive command.

Table 9.   Supported Features for Cisco Unified E-SRST only

Cisco Unified E-SRST Version	Feature Set
Cisco Unified E-SRST 8.5	• Integrated with Cisco Unified Communications Manager: Cisco Unified E-SRST offers automatic provisioning of branch-office routers with the aid of the Cisco Unified Messaging Gateway. Cisco Unified E-SRST supports centralized Cisco Unified Communications Manager deployments and requires branch-office sites to be provisioned in Survivable Remote Site Telephony mode (Cisco Unified CME-as-SRST). • Automatic synchronization with the central site: The Cisco Unified Messaging Gateway synchronizes the configuration from the central site to the branch office on a schedule without manual intervention. The synchronization also can be manually triggered on a temporary basis. Branch-office site adds, moves, and changes are handled centrally on the Cisco Unified Messaging Gateway. • Consistent device layout: The consistent design of the phones results in better user experiences during service outages. Phone displays and basic functions including extensions, soft-key templates, phone types, etc. are carried over in survivable mode. • Full call-control features during failover: The Cisco Unified Messaging Gateway synchronizes the system behavior for the following features (in addition to the features listed previously for Cisco Unified SRST): 　◦ Call-forward no-answer, call-forward all, and call-forward busy 　◦ Time-of-day routing 　◦ Calling route restrictions for both incoming and outgoing directions 　◦ Hunt groups 　◦ Call park and call pickup

Cisco Unified Communications Services and Support

Cisco Unified Communications Services allows you to accelerate cost savings and productivity gains associated with deploying a secure, resilient Cisco Unified Communications Solution. Delivered by Cisco and our certified partners, the Cisco portfolio of services is based on proven methodologies for unifying voice, video, data, and mobile applications on fixed and mobile networks. The unique Cisco lifecycle approach to services can enhance your technology experience and offer true business advantage.

Conclusion

Cisco Unified SRST, in combination with Cisco Unified Communications Manager, offers a simple, cost-effective solution for customers who want the benefits of a centralized call-processing architecture with redundancy at remote branch offices and the homes of teleworkers.

Cisco Unified E-SRST offers a simple, cost-effective solution for autoprovisioning of the branch-office sites and enriches user experience in survivable mode.

For More Information

For more information about the Cisco Unified Communications Solution, visit the following:

- Cisco Unified SRST product and technical information: http://www.cisco.com/go/srst
- Cisco Unified Communications products, including Cisco Unified Communications Manager: http://www.cisco.com/go/unifiedcommunications
- Cisco Unified Messaging Gateway product information: http://www.cisco.com/go/umg