ı1ı1ı1ı
CISCO
The bridge to possible

Cisco Unified Survivable Remote Site Telephony Version 14

Contents

Product overview

Helping provide reliable communications to branch offices and cloud telephony deployments

As the enterprise extends its IP telephony deployments from central sites to remote branch offices, 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. Both Cisco Unified SRST and Unified E-SRST support Cisco Unified Communications Manager (UCM) and Cisco Business Edition solutions. Cisco Unified SRST also provides reliable cloud communications and supports Cisco Powered Cloud Collaboration Services powered by Cisco Hosted Collaboration Solution (HCS) and Cisco Unified Communications Manager Cloud (UCMC).

Benefits of a 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.

The benefits of a centralized call-processing architecture include:

- Delivery of a full feature set to remote locations, feature-rich contact centers, unified messaging services, embedded directory services, and mobility

- Centralized configuration and management

- Simplified maintenance and troubleshooting

- Converged voice and data network

- Reduced installation cost

A centralized call-processing architecture must include a strategy for survivability of telephony service at the remote branch offices 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 a centralized call-processing architecture

Cisco Unified Communications Manager or Cisco Business Edition, 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 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.

Cisco Unified SRST deployed with Cisco HCS and UCMC

Cisco Powered Cloud Collaboration Service deployments powered by Cisco HCS or Cisco UCMC are also a type of centralized call-processing architecture. Based on Cisco Unified Communications Manager, these solutions offer industry-leading collaboration technologies for secure and scalable cloud services. With UCM in the cloud, all enterprise sites act like remote-office locations. If communications from the Cisco Powered Cloud Service to the enterprise fail, Cisco Unified SRST provides the telephony backup service to help eliminate business disruption.

How Cisco Unified SRST works

Cisco developed Cisco Unified SRST technology for Cisco IOS XE router platforms (refer to Table 2 for a complete list) to provide call processing for IP phones during a WAN outage with branch networking intelligence (Figure 1).
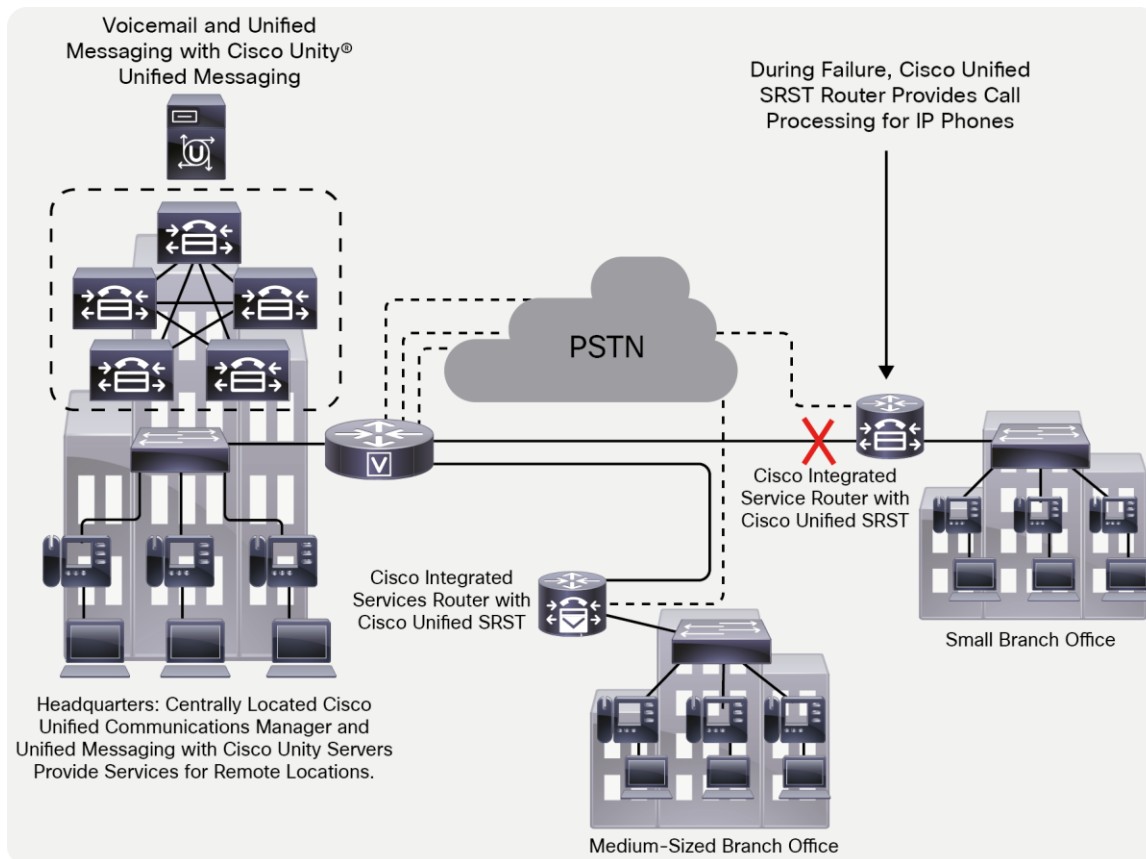

Figure 1.
Centralized Cisco Unified Communications Manager deployment with remote site experiencing a WAN failure and Cisco Router with Cisco Unified SRST

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 Cisco Unified SRST.

Cisco routers also offer a secure voice mode with Cisco Unified SRST. If secure voice is deployed with Cisco Unified Communications Manager at the central site, Cisco Unified SRST allows you to keep calls secure during a failure 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 transparently resumes secure call handling.

Cisco Unified SRST supports Session Initiation Protocol (SIP) and Skinny Client Control Protocol (SCCP) for Cisco IP phones, providing essential telephony functions when Cisco Unified Communications Manager is no longer available. The Cisco Unified SRST router uses SIP registrar services to support SIP phones and the proprietary SCCP to register the SCCP phones. Cisco Unified SRST offers fault monitoring using Simple Network Management Protocol (SNMP) with the Cisco SRST MIB, which allows you to remotely monitor the Cisco Unified SRST site using existing SNMP tools or Cisco Prime products. 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.

When in SRST mode the voice interfaces/circuits (or SIP trunks with Cisco Unified Border Element colocation) on the Cisco router can be used for an alternative route to the PSTN. This PSTN connection can also be used to send and receive calls from the rest of the Cisco Unified Communications Manager (UCM) cluster. (UCM can use Call Forward features to route calls in to the SRST site via the PSTN in the case of WAN failure.)

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. A comprehensive list of supported features is provided in the SRST Protocol Compatibility Matrix.

Router platform support

SRST is developed as a component of Cisco IOS XE Software and runs on the platforms listed in Table 1. The SRST feature set is available in both autonomous and controller (SD-WAN) modes from IOS XE 17.2.1.

Table 1.   SRST platform support

Router platform	Maximum IP phones	Maximum phone lines	Platform License
Cisco 1100 ISR**	50	200	Unified Communications + Security*
Cisco 4321 ISR	50	200	Unified Communications + Security*
Cisco 4331 ISR	100	400	Unified Communications + Security*
Cisco 4351 ISR	700	1000	Unified Communications + Security*

Router platform	Maximum IP phones	Maximum phone lines	Platform License
Cisco 4431 ISR	1200	1800	Unified Communications + Security*
Cisco 4451-X ISR	2000	3500	Unified Communications + Security*
Cisco 4461 ISR	2000	3500	Unified Communications + Security*
C8200L-1N-4T	1500	2500	DNA Advantage
C8200-1N-4T	2500	3500	DNA Advantage
C8300-1N1S-6T	2500	3500	DNA Advantage
C8300-1N1S-4G2X	2500	3500	DNA Advantage
C8300-2N2S-6T	2500	3500	DNA Advantage
C8300-2N2S-4T2X	2500	3500	DNA Advantage

* Security license required for secure SRST or encrypted trunks.

** From IOS XE 17.5.1

Note: Cisco SRST can support of a mix of SIP and SCCP devices up to the combined maximum listed per platform.

IP phone support

SRST supports a comprehensive range of Cisco IP phones and devices. A detailed list of supported products for each Cisco SRST release is available at: https://www.cisco.com/c/en/us/support/unified-communications/unified-survivable-remote-site-telephony/products-device-support-tables-list.html.

Licensing

Cisco SRST may be purchased as part of a Cisco Collaboration Flex subscription, where entitlements are included with on-premises calling licenses. Current licenses are Smart-enabled, providing benefits of license pooling and portability together with better visibility of ownership and use.

As Smart entitlements are fully portable across any device; standalone perpetual licenses are versioned and require Cisco Software Support Service (SWSS) for upgrades. Entitlements provided through Flex subscriptions for on-premises calling are term-based, include support and may be used with any version of Cisco SRST.

From Cisco SRST version 12.5 (Cisco IOS XE Release 16.10.1a) paper-based Right-To-Use (RTU) licenses are no longer supported and Smart entitlements are required. From this release, platforms must be registered with a Cisco Smart Software Management (CSSM) account to ensure continued operation. For more information regarding Smart Licensing, see: https://www.cisco.com/go/smartlicensing

Note: It may be necessary to modify a Collaboration Flex Plan subscription to ensure that SRST entitlements are selected and the correct quantity delivered to the nominated Smart Account. There is no additional charge for selecting Cisco SRST licenses or for modifying a subscription for this purpose. Refer to Flex Plan documentation for further information.

Cisco environmental sustainability

Information about Cisco's environmental sustainability policies and initiatives for our products, solutions, operations, and extended operations or supply chain is provided in the 2021 Cisco Purpose Report.

Reference links to information about key environmental sustainability topics are provided in Table 2.

Table 2.   Environmental sustainability

Sustainability topic	Reference
Information on product material content laws and regulations	Materials
Information on electronic waste laws and regulations, including products, batteries, and packaging	WEEE compliance

Cisco makes packaging data available for informational purposes only. It may not reflect the most current legal developments, and Cisco does not represent, warrant, or guarantee that it is complete, accurate, or up to date. This information is subject to change without notice.

Cisco Capital

Flexible payment solutions to help you achieve your objectives

Cisco Capital financing makes it easier to get the right technology to achieve your objectives, enable business transformation, and help you stay competitive. We can help you reduce the total cost of ownership, conserve capital, and accelerate growth. In more than 100 countries, our flexible payment solutions can help you acquire hardware, software, services, and complementary third-party equipment in easy, predictable payments. Learn more.

Summary

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

For more information

For more information about Cisco Unified Survivable Remote Site Telephony (SRST), visit https://www.cisco.com/go/srst or contact your local Cisco account representative.

Document history

New or revised topic	Described In	Date
Added information related to Catalyst Edge 8200L router and the Cisco Purpose Report.		Jan 2022
Added information related to Catalyst Edge 8200 router		Jan 2021
Added information related to Catalyst Edge router platforms.		Nov 2020
Content fully updated for SRST Version 14 (IOS XE 17.3.1)		July 2020

Printed in USA

C78-744126-04   10/22