



Enhanced SRST

This chapter describes the Unified Enhanced Survivable Remote Site Telephony (Unified E-SRST) feature which is an enhancement of the SRST feature that provides advanced services compared to the classic Unified SRST.

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Migration from Cisco Unified SRST Manager to Unified E-SRST

Cisco Unified Survivable Remote Site Telephony Manager is End-of-Life (EOL). Hence, provisioning for Unified E-SRST through Cisco Unified SRST Manager is not supported for Unified E-SRST Release 12.2 and later releases. Unified E-SRST is provisioned only using CLI commands (manual provisioning) to support fall back of phones registered to Cisco Unified Communications Manager. For more information on configuring Unified E-SRST see [SIP: Configure Unified E-SRST, page 101](#) and [SCCP: Configure Unified E-SRST, page 117](#).

For information on Cisco Unified Survivable Remote Site Telephony Manager End-of-Life announcement, see [Cisco Unified Survivable Remote Site Telephony Manager Product Bulletin](#).

Cisco Unified SRST Manager is a GUI-based tool that helps to monitor, report, and troubleshoot remote sites. It performs automatic sync up between the Cisco Unified Communications Manager and the Unified E-SRST gateway that helps in adding, deleting, and modifying the users and phones including dial-plan mapping. It also provides centralized management and control of all remote sites. For more information on the Cisco Unified SRST Manager that is End-of-Life, see [Administration Guide for Cisco Unified SRST Manager](#).

Benefits

When you configure Unified E-SRST, it provides the following feature benefits in comparison to the classic Cisco Unified SRST:

- Voice Hunt Group

- Shared Lines
- Mixed Shared Lines (SIP and SCCP Phones)
- Hunt Statistics Collection
- Mixed Deployment (SIP and SCCP Phones)

- Shared Line
- BLF
- Video
- B-ACD

For more information on configuring VHG with Unified E-SRST, see Unified E-SRST with Support for Voice Hunt Group.

For more information on configuring Shared Line, BLF, and Video with Unified E-SRST, see SIP: Configure Unified E-SRST.

Restrictions

- Supports the Version Negotiation feature only on the Cisco Unified 9951, 9971, 8961 SIP IP phones, Cisco IP Phone 7800, and 8800 Series.
- The phone firmware version is version 9.4.1 or later versions.
- This feature supports video calls only between the local Cisco Unified SIP IP phones and the No Time-Division Multiplexing (TDM) video calls during the SRST failovers.
- To enable phone-specific features like shared-line & BLF work, configure the individual voice register Pools.

Restrictions for Unified E-SRST, Release 12.2

The Unified E-SRST deployment with the voice hunt group has the following restrictions:

- Does not support the auto logout.
- Does not support Programmable Line Keys (PLK).
- Does not support HLog Softkey.



Note

The existing support for Cisco Jabber is now End of Life (EOL). Hence, does not support Cisco Jabber on Cisco Unified SRST, Unified E-SRST.

Licensing

This section provides information on licensing of Cisco Unified Enhanced Survivable Remote Site Telephony (Unified E-SRST).

Cisco Smart Licensing for Unified E-SRST

Cisco Smart Licensing is a software licensing model that provides visibility of ownership and usage through the Cisco Smart Software Manager (CSSM) portal. CSSM is a central license repository that manages licenses across all Cisco products that you own, including Unified E-SRST. Devices send license usage to CSSM either directly or use an on-premises satellite. Your Smart Account Administrator controls your access to CSSM. Use your Cisco credentials to access the CSSM portal using <http://software.cisco.com>.

Smart Licensing applies to all platform technology (UCK9, Security) and Unified E-SRST feature licenses that the router uses. Unified E-SRST requires one license entitlement (SRST_E_EP) for each configured SIP or SCCP phone.

CSSM shows license usage across all registered devices to a virtual account. A Virtual Account License Inventory displays the quantity of licenses that are purchased, those licenses in use, and a balance. An **Insufficient Licenses** alert is displayed if the license balance is below 0.

For example, consider a smart account in CSSM with 50 SRST_E_EP licenses. If you have a single registered Unified E-SRST router with 20 configured phones, the CSSM licenses page shows **Purchased** as 50, **In Use** as 20 and **Balance** as 30.

For more information on Smart Software Manager, see the [Cisco Smart Software Manager User Guide](#).



Note The SRST_E_EP license count reflects the total phone count for both the ephones and voice register Pools that are configured in the Unified E-SRST irrespective of registered or nonregistered phones. Reports license usage three minutes after the last configuration change, to avoid unnecessary reporting while configuring Unified E-SRST.



Note Unified E-SRST Smart Licenses also provide RTU entitlement for routers that are not configured for Smart Licensing.

Smart License Operation

Cisco IOS XE Everest 16.5.1 Release to Cisco IOS XE Fuji 16.9.1 Release

Cisco 4000 Series Integrated Services Routers support Smart Licensing as an alternative to Cisco Software RTU Licensing. Use the **license smart enable** command to enable Smart Licensing. To disable Smart Licensing, use the **no** form of the command and re-accept the EULA using the **license accept end user agreement** command.

Cisco IOS XE Gibraltar 16.10.1 Release Onwards

The Cisco RTU Licensing and the CLI **license smart enable** command are deprecated. Smart Licensing is mandatory from this release.

Cisco IOS XE Everest 16.5.1 Release to Cisco IOS XE Amsterdam 17.3.1a Release

Routers configured to use Smart Licensing offer a 90-day evaluation period, during which you can use all the features without registering to CSSM. A Unified E-SRST device is associated with CSSM using a registration token. You can obtain the registration token from the virtual CSSM account or from an on-premises satellite. Once registered, the evaluation period pauses and you can use the balance later. You cannot renew the evaluation period on its expiry.



Warning

Unified E-SRST shuts down when the router is unregistered and allowed to pass into the Evaluation Expired state.

To register the Unified E-SRST router with CSSM, use **license smart register idtoken** command. For information on registering the device with CSSM, see Software Activation Configuration Guide.

Upon successful registration, the device sends an authorization request to CSSM for the licenses in use. For each license type requested, if the Smart Account has sufficient licenses, CSSM responds with **Authorized**. If the Smart Account does not have sufficient licenses, CSSM responds with **Out of Compliance**.

Post successful authorization of the request, licenses are bound to the requesting device until the next authorization request submission. An authorization request is sent every 30 days or when there is any change in license consumption, to maintain the registration with CSSM. The authorization expires if you do not update the license request for the router within 90 days. The certificate issued to identify the router at the time of registration is valid for one year and renewed every six months.

```
Router# show license summary
Smart Licensing is ENABLED
Registration:
Status: REGISTERED
Smart Account: ABC
Virtual Account: XYZ
Export-Controlled Functionality: Not Allowed
Last Renewal Attempt: None
Next Renewal Attempt: Jun 07 12:08:10 2017 UTC
License Authorization:
Status: AUTHORIZED
Last Communication Attempt: SUCCESS
Next Communication Attempt: Apr 13 07:11:48 2017 UTC
License Usage:
License                               Entitlement tag          Count    Status
-----
ISR_4351_UnifiedCommun.. (ISR_4351_UnifiedCommun..) 1    AUTHORIZED
SRST v12 Endpoint Li... (SRST_EP)                4    AUTHORIZED
```

Cisco IOS XE Gibraltar 16.12.1 Release to Cisco IOS XE Amsterdam 17.3.1a Release

Cisco 4000 Series Integrated Services Routers supports Specific License Reservation (SLR). SLR allows reservation and utilization of Cisco Smart Licenses without communicating the license information to CSSM. To reserve specific licenses for a device, generate the request code from the device. Enter the request code in CSSM along with the required licenses and their quantity, and generate authorization code. Enter the authorization code on the device to map the license to the Unique Device identifier (UDI).

Cisco IOS XE Amsterdam 17.3.2 and Cisco IOS XE Bengaluru 17.4.1 Release Onwards

This release introduces a new paradigm for tracking license usage across your business. In earlier releases, license authorization was forward looking, binding licenses to a device until the next authorization request. Actual license usage during the proceeding reporting period is sent to CSSM, allowing you to plan ongoing license requirements based on historical usage data. Initial device registration is no longer required to use most platform functionality and deprecates the evaluation period.

Submits the license usage reports periodically according to a minimum reporting policy set for your account. Typically, this period could be once per year. However, you can generate reports more frequently if the use of licensed features varies over time. CSSM acknowledges each Resource Utilization Monitoring (RUM) report to ensure reliable recording of the usage. If the router does not receive an acknowledgment within the minimum reporting period, disables the call processing. Resumes the call processing on receiving a valid acknowledgment.

Submit the reports directly to the CSSM or through a satellite. Cisco Smart Licensing Utility (CSLU) applications can also receive usage reports, providing you with more flexibility in managing your license usage. Also, when a device is not able to communicate directly with a licensing server, a signed usage report can be generated and manually uploaded to CSSM. The acknowledgment generated by CSSM must be uploaded to the device within the license reporting policy period to ensure continued use.

As license reporting is now based on historical usage, the registration process used previously has been replaced with a trust association that also defines the reporting policy set in your account. Establishing trust with CSSM or Cisco Smart Software Manager Satellite uses an identity token similar to earlier registrations. Use the **license smart trust idtoken token** command to establish the trust relationship within the initial reporting period set for the device. The CLI **license smart register** command is deprecated from this release.

Current license usage for Unified E-SRST is displayed using the **show license summary** command:

```
Router# sh license summary
License Usage:
```

License	Entitlement tag	Count	Status
securityk9	(ISR_4400_Security)	1	IN USE
AdvUCSuiteK9	(ISR_4400_AdvancedUCSuite)	1	IN USE
uck9	(ISR_4400_UnifiedCommun...)	1	IN USE
SRST_E_EP	(SRST_E_EP)	8	IN USE
SRST_EP	(SRST_EP)	592	IN USE

Toll Fraud Prevention for SIP Line Side on Unified E-SRST

Unified E-SRST Release 12.6 enhances the existing Toll Fraud Prevention feature by enforcing security on the SIP line side of Unified E-SRST. The feature enhancement secures the Unified E-SRST system against potential toll fraud exploitation by unauthorized users from the SIP line side.

The configuration and characteristics of toll fraud prevention offered on the SIP line side of Unified E-SRST is same as the support available on Cisco Unified SRST. For more information on the feature, see Toll Fraud Prevention for SIP Line Side on Cisco Unified SRST, page 55.

Unified E-SRST with Support for Voice Hunt Group

The Unified E-SRST Release 12.2 supports the Voice Hunt Group with Cisco Unified Enhanced Survivable Remote Site Telephony (Unified E-SRST). The deployment supports the SIP and SCCP phones. The Cisco

IP Phone 7800 and 8800 Series are the supported SIP phones for this deployment. The Unified E-SRST deployment introduces the voice hunt group enhancement on the Cisco 4000 Series Integrated Services Routers.

As part of the enhancement, supports the voice hunt group features in the E-SRST mode. The Unified E-SRST 12.2 and later releases supports the voice hunt group deployments with Sequential, Parallel, Longest idle, and Peer call blasting.

During a WAN outage, the SIP phones on the Cisco Unified Communications Manager (Cisco Unified Communications Manager) fallback to Unified E-SRST router in **mode esrst**. By default, logs the SIP phones in to the hunt group. However, if the CLI command **members logout** is configured under the voice hunt group configuration mode, the phones are in logged out state. In the Unified E-SRST mode, the phone that falls back on Unified E-SRST can toggle state. It can also log in (or log out) to the voice hunt group using HLog in Feature Access Code (FAC). Displays the DN status (logged in or logged out) on the registered phones with Unified E-SRST. The following FAC codes are available as part of the enhancement introduced on Unified E-SRST:

- FAC Standard (Code: *5)
- FAC Custom (Code: Customizable, with maximum character string length of 10. For example, *89, 8888888888)

When the user inputs FAC from a phone with multiple lines, the log out behavior is different across a deployment with the common voice register Pool configuration and the individual voice register Pool configuration.

- Common Voice Register Pool Configuration: The DN's log out individually, and not at the phone level.
- Individual Voice Register Pool Configuration: The DN's log out at the phone level, irrespective of the user providing the DN (primary, secondary, and so on) from which FAC input.

When the WAN is available, the phones register back with Cisco Unified Communications Manager. For a sample configuration of Unified E-SRST with voice hunt group enhancements, see .

The Unified E-SRST 12.2 Release introduces support for the voice hunt group with shared lines and mixed shared lines (SCCP and SIP phones). For a mixed shared line supported with the voice hunt group, configure only individual voice register Pools. Does not support the common voice register Pools. For a sample configuration of mixed shared lines configured for a voice hunt group on Unified E-SRST, see.

Also, supports hunt statistic collection for Unified E-SRST 12.2 and later releases.

A mixed deployment of SIP and SCCP phones supports the Unified E-SRST, Release 12.2. Supports Hunt Group Logout from a mixed deployment of SIP and SCCP phones using:

- FAC
- Feature Button, or DND

Supports Line level logout and phone level log out using FAC (*4).



Note

Does not support Hunt Group Logout for shared lines. Shared lines retain their logged in status.

Support for B-ACD in Unified E-SRST

The Unified E-SRST Release 12.2 enhancement supports B-ACD. For SIP phones that fall back to Unified E-SRST router in **mode esrst**, you must ensure that the CLI command **members logout** is configured. The Members Logout functionality handles the login back from the phones using FAC. It also supports call Delivery to Voice Hunt Group from B-ACD.

For a sample configuration, see .

Recommendations for Configuring Voice Hunt Group on Unified E-SRST

The Unified E-SRST Release with Support for voice hunt group has the following design characteristics:

- For all the directory numbers falling back from Cisco Unified Communications Manager, a common voice register Pool configuration and an individual voice register Pool configuration is supported for this deployment. An individual **voice register pool** configured with the CLI command **id device-id-name**, along with **voice register dn** configuration, is recommended.
- Ensure that the CLI command **mode esrst** is configured under **voice register global** configuration mode for phones to fall back to Unified E-SRST.
- Ensure that the CLI command **id ip** or **id device-id-name** is configured under **voice register pool** configuration mode, along with **voice register dn** configuration, for a deployment with individual voice register Pool configuration. For a sample configuration, see Example for configuring Unified E-SRST with Voice Hunt Group Enhancements, page 112.
- Ensure that the CLI command **id device-id-name** is preferred over **id ip** as the CLI command to configure under **voice register pool** configuration mode. This scenario occurs where the IP address of the phone changes due to the DHCP configured on the phone.
- Ensure that the CLI command **id network** is configured under **voice register pool** configuration mode for a deployment with common voice register Pool configuration. The recommended configuration is **id network 8.55.0.0 255.255.0.0** so as to facilitate registration of phones falling back on Unified E-SRST from Cisco Unified Communications Manager.
- Ensure that the CLI command **members logout** is configured under **voice hunt-group** configuration mode. The CLI is applied by default when the SIP phones fall back to Unified E-SRST from Cisco Unified Communications Manager.
- Ensure that the CLI command **fac standard** is configured under **telephony-service** configuration mode. If you want to configure a FAC code other than *5, you must configure the CLI command **fac custom** under **telephony-service** configuration mode.
- Ensure that the CLI commands **call-park system application** and **hunt-group logout hlog** are configured under **telephony-service** configuration mode. The CLI commands are mandatory configuration for FAC functionality to work.

For steps on configuring voice hunt groups on Unified E-SRST, see Configure Voice Hunt Groups on Unified E-SRST, page 110.

For a sample configuration of voice hunt groups on Unified E-SRST, see Example for configuring Unified E-SRST with Voice Hunt Group Enhancements, page 112.

SIP: Configure Unified E-SRST

The Enhanced SRST for Cisco Unified SIP IP Phones feature supports version negotiation between the SIP phones and ESRST to enable more features in the Cisco Unified E-SRST mode. In the current scenario, when the SIP phones fall back to the SRST mode, disables features such as Shared-Line, Busy-Lamp-Field (BLF), and Video call on the phones. The SRST mode does not support these features. However, with the Enhanced Survivable Remote Site Telephony (E-SRST) deployment, you can enable the basic and supplementary call features. Also, you can enable the following features using version negotiation:

- Shared-Line
- Busy-Lamp-Field (BLF)
- Video Calls

The following table contains a list of supported features and the expected behavior of the features in the E-SRST mode.

Feature	Supported Features	Expected Behavior in the E-SRST Mode
Shared-Line	cBarge	Not Supported (After the failover, the phone does not retain the key.)
Privacy-on-hold	Supported	Supported
Transfer	Supported	
Conference	Supported	
BLF	BLF DN monitoring	
BLF device-based monitoring	Not supported (Not supported in RT phones)	
BLF call-list monitoring	Supported	
Monitoring of a Call-park slot	Not supported	
Monitoring of Paging DN	Not supported	
Monitoring of Conference DN	Not supported	

- To enable version negotiation feature between ESRST & phone, you must configure "mode esrst" under the voice register global mode.
- We recommended using the SRST manager to automate the CLI provisioning of ESRST branch routers.

For more information on SRST, see the [Cisco Unified SRST Manager Administration Guide](#).

Restrictions

- Supports the Version Negotiation feature only on the Cisco Unified 9951, 9971, 8961 SIP IP phones, Cisco IP Phone 7800, and 8800 Series.
- The phone firmware version is version 9.4.1 or later versions.
- This feature supports video calls only between the local Cisco Unified SIP IP phones and the No Time-Division Multiplexing (TDM) video calls during the SRST failovers.
- To enable phone-specific features like shared-line & BLF work, configure the individual voice register Pools.

Enable the E-SRST Mode

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice register global**
4. **mode esrst**
5. **exit**

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	voice register global Example: Router(config)# voice register global	Enters the voice register global configuration mode to set the parameters for all the supported SIP phones in Cisco Unified Communications Manager Express.
Step 4	mode esrst Example: Router(config-register-global)# mode esrst	Configures the E-SRST mode under the voice register global mode.
Step 5	exit Example: Router(config-register-global)# exit	Exits the voice register-global configuration mode.

Configure SIP shared-line

To configure SIP shared-line, perform the following procedure:

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice register dn** *dn-tag*
4. **shared-line** [**max-calls** *number-of-calls*]
5. **huntstop channel** *number-of-channels*
6. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	voice register dn <i>dn-tag</i>	
Step 4	shared-line [max-calls <i>number-of-calls</i>]	
Step 5	huntstop channel <i>number-of-channels</i>	
Step 6	end	Returns to privileged EXEC mode.

Configure BLF

Before you begin

To enable the version negotiation feature in the Unified E-SRST mode, perform the following procedure.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **sip-ua**
4. **presence enable**
5. **exit**
6. **max-subscription** *number*
7. **presence call-list**
8. **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	sip-ua	
Step 4	presence enable	
Step 5	exit	
Step 6	max-subscription <i>number</i>	
Step 7	presence call-list	
Step 8	end	

Enable a SIP Directory Number to Be Watched

To enable a directory number to be watched, perform the following procedure:

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice register dn** *dn-tag*
4. **number***number*
5. **allow watch**
6. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable	
Step 2	configure terminal	
Step 3	voice register dn <i>dn-tag</i>	
Step 4	number <i>number</i>	
Step 5	allow watch	
Step 6	end	

Enable BLF on a Voice Register Pool

To enable BLF on a **voice register pool**, perform the following steps:

For configuration information, see the [Cisco Unified Communications Manager Administration Guide](#).

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice register pool** *pool-tag*
4. **number** *tagdn dn-tag*]
5. **blf-speed-dial** *tag numberlabelstring[device]*
6. **presence call-list**(To enable Presence feature for all the missed/received/placed calls)
7. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable	
Step 2	configure terminal	
Step 3	voice register pool <i>pool-tag</i>	
Step 4	number <i>tagdn dn-tag</i>]	
Step 5	blf-speed-dial <i>tag numberlabelstring[device]</i>	
Step 6	presence call-list (To enable Presence feature for all the missed/received/placed calls)	
Step 7	end	

Example: ESRST Mode

The following example shows how to enable the E-SRST mode:

```
Router# configure terminal
Router(config)# voice register global
Router(config-register-global)# mode esrst
```

Example: Configuring Shared Line

The following example shows how to configure shared-line:

```
Router(config)#voice register dn 1
Router (config-register-dn)#number 1111
Router (config-register-dn)#shared-line max-calls 7

Router(config)#voice register pool 1
Router(config-register-pool)#Id mac 002D.264E.54FA
Router(config-register-pool)#type 9971
Router(config-register-pool)#number 1 dn 1

Router(config)#voice register pool 2
Router(config-register-pool)#id mac 000D.39F9.3A58
```

```
Router(config-register-pool)#type 7965
Router(config-register-pool)#number 1 dn 1
```

Example: Configuring BLF

The following example shows how to configure BLF:

```
Router(config)#voice register dn 1Router (config-register-dn)#number 1111Router
(config-register-dn)#allow watchRouter (config)#voice register dn 1Router
(config-register-dn)#number 2222Router (config)#voice register pool
1Router (config-register-pool)#id mac 0015.6247.EF90Router (config-register-pool)#type
7971Router (config-register-pool)#number 1 dn 1Router (config)#voice register pool
2Router (config-register-pool)#id mac 0012.0007.8D82Router (config-register-pool)#type
7912Router (config-register-pool)#number 1 dn 2Router (config-register-pool)#blf-speed-dial
1 1111 label "1111"
```



Note If the phone and the Unified E-SRST router are in different subnets and you are using **id mac** in the **voice register pool** configuration mode. Configure the digest credentials on Cisco Unified Communications Manager, and username password configuration under **voice register pool** on Unified E-SRST. Digest Configuration is not required with the **id device-id-name** CLI command in Cisco Unified SRST Release 12.2.

Configure Unified E-SRST

The **mode esrst** under **telephony-service** and **voice register global** configuration mode supports SCCP and SIP phones respectively to enable the enhanced services in Unified E-SRST mode. While Cisco Unified SRST supports only the basic voice hunt group features, Unified E-SRST supports the advanced voice hunt group features such as HLog, shared lines, and B-ACD. To configure the basic Unified E-SRST, perform the following procedure:

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **telephony-service**
4. **mode esrst**
5. **max-ephones** *max-phones*
6. **max-dn** *max-directory-numbers*
7. **ip source-address** *ip-address* [**port** *port*] [**any-match** | **strict-match**]
8. **call-park system** { **application** | **redirect** }
9. **hunt-group logout** { **DND** | **HLog** }
10. **transfer-system** **full-consult**
11. **transfer-pattern** *transfer-pattern*
12. **fac** { **standard** | **custom** { **alias** *alias-tag* / *feature* } }
13. **create cnf-files**
14. **exit**
15. **voice register global**
16. **mode esrst**
17. **max-dn** *max-directory-numbers*
18. **max-pool** *max-phones*

19. **exit**
20. **voice register dn** *dn-tag*
21. **number** *number*
22. **exit**
23. **voice register pool** *pool-tag*
24. **id** [{**network address mask mask** | **ip address mask mask** | **mac address**}] [**device-id-name devicename**]
25. **dtmf-relay rtp-nte**
26. **exit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	telephony-service Example: Router(config)# telephony-service	Enters telephony-service configuration mode.
Step 4	mode esrst Example: Router(config)# telephony-service	Configures the E-SRST mode under the telephony-service configuration mode.
Step 5	max-ephones <i>max-phones</i> Example: Router(config-telephony)# max-ephones 40	Configures the maximum supported IP phones by the router. The default is 0. The maximum number is platform-dependent.
Step 6	max-dn <i>max-directory-numbers</i> Example: Router(config-telephony)# max-dn 15	Sets the maximum supported directory numbers (DNs) by the router. <ul style="list-style-type: none">• Max-directory-numbers: Maximum supported directory numbers (DNS) or virtual voice ports by the router. The maximum number is platform-dependent. The default is 0.
Step 7	ip source-address <i>ip-address</i> [port <i>port</i>] [any-match strict-match] Example: Router(config-telephony)# ip source-address 8.39.23.24 port 2000	Enables the router to receive messages from the Cisco IP phones through the specified IP addresses and supports strict IP address verification. The default port number is 2000.

	Command or Action	Purpose
Step 8	call-park system {application redirect} Example: <pre>Router(config-telephony)# call-park system application</pre>	Defines system parameters for the Call Park feature. <ul style="list-style-type: none"> • application : Enables the Call Park features supported in Cisco Unified SRST.
Step 9	hunt-group logout {DND HLog} Example: <pre>Router(config-telephony)# hunt-group logout HLog</pre>	Sets the hunt-group logout options with Hlog in telephony-service configuration mode.
Step 10	transfer-system full-consult Example: <pre>Router(config-telephony)# transfer-system full-consult</pre>	Specifies the Call Transfer method. <ul style="list-style-type: none"> • full-consult—Calls are transferred with consultation using H.450.2 standard methods and a second phone line if available. Calls fall back to full-blind if the second line is unavailable.
Step 11	transfer-pattern transfer-pattern Example: <pre>Router(config-telephony)# transfer-pattern .T</pre>	Allows transfer of the phone calls by Cisco Unified IP phones to specified phone number patterns. If you have set no transfer pattern, defaults to other local IP phones. <ul style="list-style-type: none"> • transfer-pattern—A string of digits for permitted Call Transfers.
Step 12	fac { standard custom { alias alias-tag /feature } } Example: <pre>Router(config-telephony)# fac standard</pre>	Enables all standard feature access codes (FACs) or creates and enables individual custom FACs in telephony-service configuration mode.
Step 13	create cnf-files Example: <pre>Router(config-telephony)# create cnf-files version-stamp</pre>	Builds the required XML configuration files for IP phones in the telephony-service configuration mode.
Step 14	exit Example: <pre>Router(config-telephony)# exit</pre>	Exits the telephony-service configuration mode
Step 15	voice register global Example: <pre>Router(config)# voice register global</pre>	Enter the voice register global configuration mode.
Step 16	mode esrst Example: <pre>Router(config-register-global)# mode esrst</pre>	Configures the E-SRST mode under the voice register global mode.
Step 17	max-dn max-directory-numbers Example: <pre>Router(config-register-global)# max-dn 40</pre>	Set the maximum supported SIP phone directory numbers (extensions) by a Cisco router in the voice register global configuration mode.

	Command or Action	Purpose
Step 18	max-pool <i>max-phones</i> Example: Router(config-register-global)# max-pool 40	Sets maximum supported SIP phones by the Cisco Unified SRST router. <ul style="list-style-type: none"> • Version- and platform-dependent; type? For range.
Step 19	exit Example: Router(config-register-global)# exit	Exits the voice register global configuration mode.
Step 20	voice register dn <i>dn-tag</i> Example: Router(config)# voice register dn 17	Enter the voice register directory number configuration mode to define a directory number for a SIP phone. Use the same directory number (DN) configured in Cisco Unified Communications Manager to configure the voice register directory number in Unified E-SRST.
Step 21	number <i>number</i> Example: Router(config-register-dn)# number 7001	Defines a valid number for a directory number.
Step 22	exit Example: Router(config-register-dn)# exit	Exits the voice register directory number configuration mode.
Step 23	voice register pool <i>pool-tag</i> Example: Router(config)# voice register pool 1	Enters the voice register Pool configuration mode to set phone-specific parameters for a SIP phone.
Step 24	id [{ network address mask mask ip address mask mask mac address }] [device-id-name devicename] Example: Router(config-register-pool)# id network 8.55.0.0 mask 255.255.0.0	Explicitly identifies a locally available individual or set of SIP IP phones. The keywords and arguments are defined as follows: <ul style="list-style-type: none"> • network address mask mask: The network address mask mask keyword/argument combination is used to accept SIP Register messages for the indicated phone numbers from any IP phone within the indicated IP subnet. • ipaddress maskmask : The ip address mask mask keyword/argument combination is used to identify an individual phone. • macaddress : MAC address of a particular Cisco Unified IP Phone. • device-id-name devicename : Defines the device name to be used to download the phone's configuration file.

	Command or Action	Purpose
Step 25	dtmf-relay rtp-nte Example: <pre>Router(config-register-pool)# dtmf-relay rtp-nte</pre>	Forwards DTMF tones by using Real-Time Transport Protocol (RTP) with the Named phone Event (NTE) payload type and enables the DTMF relay using the RFC 2833 standard method.
Step 26	exit Example: <pre>Router(config-register-pool)# exit</pre>	Exits the voice register Pool configuration mode.

Configure Voice Hunt Groups on Unified E-SRST

To configure Voice Hunt Group feature on Unified E-SRST, perform the following procedure:

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice hunt-group** *hunt-tag* {**longest-idle** | **parallel** | **peer** | **sequential**}
4. **members logout**
5. **list** *number* [, *number...*]
6. **timeout** *seconds*
7. **statistics collect**
8. **exit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: <pre>Router> enable</pre>	Enables privileged EXEC mode.
Step 2	configure terminal Example: <pre>Router# configure terminal</pre>	Enters global configuration mode.
Step 3	voice hunt-group <i>hunt-tag</i> { longest-idle parallel peer sequential } Example: <pre>Router(config)# voice hunt-group 1 sequential</pre>	Enters voice hunt-group configuration mode to define a hunt group. <ul style="list-style-type: none"> • Hunt-tag—Unique sequence number for configuring the hunt group. Range is 1–100. • Longest idle—Hunt group in which calls go to the directory number that has been idle for the longest time. • Sequential—Hunt group in which directory numbers ring in the order in which they are listed, left to right.

	Command or Action	Purpose
		<ul style="list-style-type: none"> Parallel—Hunt group in which all directory numbers ring simultaneously. Peer—Hunt group in which the call placed to a directory number rings for the next directory number in line.
Step 4	members logout Example: Router(config-voice-hunt-group)# members logout	(optional) Configures a Cisco Unified SRST system for all non-shared static members or agents in a voice hunt group with the Hlogout initial state.
Step 5	list number [, number..] Example: Router(config-voice-hunt-group)# list 1812, 1813, 1814	Defines a list of extensions that are members of a voice hunt group.
Step 6	timeout seconds Example: Router(config-voice-hunt-group)# timeout 30	Defines the number of seconds after which directs the unanswered calls to the next number in a voice hunt-group list.
Step 7	statistics collect Example: Router(config-voice-hunt-group)# statistics collect	Enables the collection of call statistics for a voice hunt group.
Step 8	exit Example: Router(config-voice-hunt-group)# exit	Exits the voice hunt group configuration mode.

Example for Configuring Unified E-SRST with Voice Hunt Group Enhancements

The following is a sample configuration for Unified E-SRST Release 12.2 under **telephony-service**, **voice register global**, **voice register pool**, and **voice hunt-group** configuration modes, for a deployment with common voice register Pool configuration.

```

Router#
telephony-service
call-park system application
hunt-group logout HLog
transfer-system full-consult
fac standard

Router#sh run | sec global
voice register global
mode esrst
max-dn 40
max-pool 40

Router#
voice register pool 1
id network 8.55.0.0 mask 255.255.0.0
dtmf-relay rtp-nte

```

```

Router#
telephony-service
max-ephones 40
max-dn 50
ip source-address 8.39.23.24 port 2000
call-park system application
transfer-system full-consult
transfer-pattern .T
fac standard
create cnf-files version-stamp Jan 01 2002 00:00:00

Router#sh run | sec hunt
voice hunt-group 1 sequential
members logout
list 1812,1813,1814
timeout 30
statistics collect
pilot 1111

```

The following is a sample configuration for Unified E-SRST Release 12.2, for a deployment with individual voice register Pool configuration, with the CLI command **id ip** configured.

```

voice register dn 2
number 4000
!
voice register dn 3
number 4002
!
voice register pool 2
busy-trigger-per-button 2
id ip 8.55.0.241 mask 255.255.0.0
type 8811
number 1 dn 2
dtmf-relay rtp-nte
codec g711ulaw
!
voice register pool 3
busy-trigger-per-button 2
id ip 8.55.0.242 mask 255.255.0.0
type 7861
number 1 dn 3
dtmf-relay rtp-nte
codec g711ulaw

```

The following is a sample configuration for Unified E-SRST Release 12.2, for a deployment with individual voice register Pool configuration, with the CLI command **id device-id-name** configured.

```

voice register dn 2
number 4000
!
voice register dn 3
number 4002
!
voice register pool 2
busy-trigger-per-button 2
id device-id-name SEP00EBD5CD77ED
type 8811
number 1 dn 2
dtmf-relay rtp-nte
codec g711u;aw
voice register pool 3
busy-trigger-per-button 2
id device-id-name SEP0076861A7EDC
type 7861
number 1 dn 3

```

```
dtmf-relay rtp-nte
codec g71ulaw
```

Example for Configuring B-ACD with Unified E-SRST

The following is a sample configuration for B-ACD functionality supported with Unified E-SRST:

```
application
service aa-bcd bootflash:/app-b-acd-aa-3.0.0.4_thd_v4.tcl
param space english index 0
param second-greeting-time 60
param welcome-prompt _bacd_welcome.au
param call-retry-timer 8
param voice-mail 1811
param space english language en
param max-time-call-retry 16param service-name callq
param number-of-hunt-grps 2
param handoff-string aa-bcd
param space english location flash:
param max-time-vm-retry 2
param aa-pilot 1117
!
service clid_col_npw_npw
param uid-length 4
!
service aa-ccd bootflash:/app-b-acd-aa-3.0.0.4_thd_v4.tcl
param space english index 0
param drop-through-prompt _bacd_welcome.au
param second-greeting-time 60
param space english language en
param call-retry-timer 8
param voice-mail 1811
param max-time-call-retry 16
param service-name callq
param number-of-hunt-grps 1
param drop-through-option 1
param space english location flash:
param handoff-string aa-ccd
param max-time-vm-retry 2
param aa-pilot 1118
!
service callq bootflash:/image-b-acd-3.0.0.4_Q60.tcl
param queue-len 1
param aa-hunt1 1111
param number-of-hunt-grps 4
param queue-manager-debugs 1
!
call-park system application
```

Example for Configuring Shared Line with Voice Hunt Group on Unified E-SRST

The following is a sample configuration of Unified E-SRST, Release 12.2 with support for mixed shared lines (SIP and SCCP Phones) in a voice hunt group deployment.

```
Router# sh run | sec global
voice register global
mode esrst
no allow-hash-in-dn
max-dn 40
max-pool 40
Router# sh run | sec pool
```

```
max-pool 40
voice register pool 1
busy-trigger-per-button 2
id device-id-name SEP00CCFC4AA4DC
type 8811
number 1 dn 1
number 2 dn 21
dtmf-relay rtp-nte
username xxxx password uvwx
codec g711ulaw
no vad
voice register pool 2
busy-trigger-per-button 2
id device-id-name SEP00CCFC177A4E
type 8841
number 1 dn 2
dtmf-relay rtp-nte
username xxxx password uvwx
codec g711ulaw
no vad
voice register pool 3
busy-trigger-per-button 2
id device-id-name SEP0076861ADEF0
type 7841
number 1 dn 3
number 2 dn 22
dtmf-relay rtp-nte
username xxxx password uvwx
codec g711ulaw
no vad
voice register pool 4
busy-trigger-per-button 2
id device-id-name SEP00EBD5CD270C
type 8811
number 1 dn 4
number 2 dn 22
dtmf-relay rtp-nte
username xxxx password uvwx
codec g711ulaw
no vad
voice register pool 5
busy-trigger-per-button 2
id device-id-name SEP94D4692A2553
type 8841
number 1 dn 5
dtmf-relay rtp-nte
username xxxx password uvwx
codec g711ulaw
no vad
voice register pool 6
busy-trigger-per-button 2
id device-id-name SEP00CAE540C4B5
type 8811
number 1 dn 6
number 2 dn 21
dtmf-relay rtp-nte
username xxxx password uvwx
codec g711ulaw
no vad
alias exec pool show voice register pool all br

Router# sh run | sec dn
no allow-hash-in-dn
max-dn 40
voice register dn 1
```

```

voice-hunt-groups login
number 1811
voice register dn 2
voice-hunt-groups login
number 1812
voice register dn 3
voice-hunt-groups login
number 1813
voice register dn 4
voice-hunt-groups login
number 1814
voice register dn 5
voice-hunt-groups login
number 1815
voice register dn 6
voice-hunt-groups login
number 1816
voice register dn 21
voice-hunt-groups login
number 1821
shared-line
voice register dn 22
voice-hunt-groups login
number 1822
shared-line

Router# sh run | sec ephone
max-ephones 40
ephone-dn 11
number 1911
ephone-dn 12
number 1912
ephone-dn 13
number 1913
ephone-dn 14
number 1914
ephone-dn 21
number 1921
ephone-dn 22
number 1822
shared-line sip
ephone 11
device-security-mode none
mac-address 1111.1111.1911
feature-button 1 HLog
type 7970
button 1:11
ephone 12
device-security-mode none
mac-address 1111.1111.1912
feature-button 1 HLog
type 7970
button 1:12 2:21
ephone 13
device-security-mode none
mac-address 1111.1111.1913
feature-button 1 HLog
type 7970
button 1:13 2:21
ephone 14
device-security-mode none
mac-address 1111.1111.1914
feature-button 1 HLog
type 7970
button 1:14 2:22

```

```
alias ephone show ephone summary brief
alias exec ephone show ephone summary brief

Router# sh run | sec tele
telephony-service
conference transfer-pattern
mode esrst
max-ephones 40
max-dn 50
ip source-address 8.39.23.24 port 2000
service phone sshAccess 0
service phone webAccess 0
max-conferences 8 gain -6
call-park system application
hunt-group logout HLog
transfer-system full-consult
fac standard
```

SCCP: Configure Unified E-SRST

You need to configure mode esrst under telephony-service to enable ESRST mode for SCCP Phones.

Before you begin

To enable the version negotiation feature in the Unified E-SRST mode, perform the following procedure.

- Cisco Unified Communications Manager Express 10.5 or later version
- Configure the telephony-services command.



Note For SCCP phones, CME-as-SRST mode is provisioned using the SRST mode autoprovision command. From 10.5 release onwards, deprecates this command. When you try to configure CME-as-SRST mode, displays the following message: “*Note: This configuration is being deprecated. Please configure "mode esrst" to use the enhanced SRST mode.*”

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **telephony-service**
4. **mode esrst**
5. **max-ephones***max-phones*
6. **max-dn max-directory-numbers** [**preference preference-order**] [**no-reg primary | both**]
7. **ip source-address** *ip-address* [*port port*] [*any-match | strict-match*]
8. **exit**
9. **ephone-dn dn-tag** [*dual-line*]
10. **number** *number* [*secondary number*] [*no-reg [both |primary]]*]
11. (Optional) **name***name*
12. **exit**
13. **ephone** *phone-tag*

14. **mac-address***[mac-address]*
15. **type** *phone-type [addon 1 module-type [2 module-type]]*
16. **button** **button-number****{separator}dn-tag** *[,dn-tag...][button-number{x}overlay-button-number]*
[button-number...]
17. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none">• Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	telephony-service Example: Router(config)# telephony-service	Enters telephony-service configuration mode.
Step 4	mode esrst Example: Router(config-telephony)# mode esrst	Enters telephony-service configuration mode.
Step 5	max-ephones <i>max-phones</i> Example: Router(config-telephony)# max-ephones 24	Enters telephony-service configuration mode.
Step 6	max-dn max-directory-numbers [preference preference-order] [no-reg primary both] Example: Router(config-telephony)# max-dn 24 no-reg primary	Limits the number of directory numbers supported by this router. <ul style="list-style-type: none">• Maximum number is the platform and version-specific. Type? For value.
Step 7	ip source-address <i>ip-address [port port] [any-match / strict-match]</i> Example: Router(config-telephony)# ip source-address 192.168.11.1 port 2000	Identifies the IP address and port number that the Cisco Unified SRST router uses for IP phone registration. <ul style="list-style-type: none">• port port—(Optional) TCP/IP port number to use for SCCP. Range is 2000–9999. Default is 2000.• Any-match—(Optional) Disables the strict IP address checking for registration. It is the default setting.• Strict-match—(Optional) Instructs the router to reject IP phone registration attempts if the IP server address used by the phone does not exactly match the source address.

	Command or Action	Purpose
Step 8	exit Example: Router(config-telephony)# exit	Exits telephony-service configuration mode.
Step 9	ephone-dn dn-tag [dual-line] Example: Router(config)# ephone-dn 1	Enters ephone dn configuration mode to define a directory number for an IP phone, intercom line, voice port, or a message-waiting indicator (MWI). <ul style="list-style-type: none"> • Dn-tag—Identifies a particular directory number during configuration tasks. Range is 1 to the maximum number of directory numbers allowed on the router platform. Type? To display range.
Step 10	number number [secondary number] [no-reg [both /primary]] Example: Router(config-ephone-dn)# number 1001	Associates an extension number with this directory number. <ul style="list-style-type: none"> • Number—String of up to 16 digits that represents an extension or E.164 phone number.
Step 11	(Optional) name name Example: Router(config-ephone-dn)# name Smith, John	Associates a name with this directory number. <ul style="list-style-type: none"> • Uses the Name for caller-ID displays and in the local directory listings. • Follows the name order in the directory command.
Step 12	exit Example: Router(config-telephony)# end	Exits ephone-dn configuration mode.
Step 13	ephone phone-tag Example: Router(config)# ephone 1	Enters ephone configuration mode to set ephone specific parameters. <ul style="list-style-type: none"> • Phone-tag—Unique sequence number that identifies the phone. Range is version and platform-dependent; type? To display range.
Step 14	mac-address[mac-address] Example: Router(config-ephone)# mac-address 0022.555e.00f1	Associates the MAC address of a Cisco IP phone with an ephone configuration in a Unified E-SRST system. <ul style="list-style-type: none"> • Mac-address—Identifying MAC address of an IP phone found on a sticker on the bottom of the phone.
Step 15	type phone-type [addon 1 module-type [2 module-type]] Example: Router(config-ephone)# type 7960	Specifies the type of phone.

	Command or Action	Purpose
Step 16	button button-number{separator}dn-tag <i>[,dn-tag...][button-number{x}overlay-button-number]</i> <i>[button-number...]</i> Example: Router(config-ephone)# button 1:7	Associates a button number and line characteristics with an ephone-dn. Determines the maximum number of buttons by phone type.
Step 17	end Example: Router(config-telephony)# end	Returns to privileged EXEC mode.

Example

The following example shows the status of the device in E-SRST mode:

```
show telephony-service
CONFIG (Version=10.5)
=====
Version 10.5
Max phoneload sccp version 17
Max dspfarm sccp version 18
Cisco Unified Enhanced SRST
```



Note For SCCP phones, switching the mode from CME to ESRST and vice versa, results in wiping out the entire CME or ESRST configurations (including ephone, DN, templates etc.).

Configure Mixed Shared Lines with SCCP Phones

To configure mixed shared lines between SCCP and SIP IP Phones on Unified E-SRST, perform the following procedure:

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ephone-dn dn-tag [dual-line]**
4. **number [secondary [number] [no-reg [both|primary]]]**
5. **shared-line sip**
6. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example:	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.

	Command or Action	Purpose
	Router> enable	
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	ephone-dn dn-tag [dual-line] Example: Router(config)# ephone-dn 1	Enters ephone dn configuration mode to define a directory number for an IP phone, intercom line, voice port, or a message-waiting indicator (MWI). <ul style="list-style-type: none"> Dn-tag—Identifies a particular directory number during configuration task. Range is 1 to the maximum number of directory numbers allowed on the router platform. Type? To display the range.
Step 4	number [secondary [number] [no-reg [both primary]]] Example: Router(config-ephone-dn)# number 1001	Associates an extension number with this directory number. <ul style="list-style-type: none"> number—String of up to 16 digits that represents an extension or E.164 phone number.
Step 5	shared-line sip Example: Router(config-ephone-dn)# shared-line sip	Adds an ephone-dn as a member of a shared directory number for a mixed shared line between Unified SIP and Unified SCCP IP phones.
Step 6	end Example: Router(config-ephone-dn)# end	Returns to privileged EXEC mode.

Configure BLF for SCCP Phones

Before you begin

To enable the version negotiation feature in the Unified E-SRST mode, perform the following procedure.

SUMMARY STEPS

1. enable
2. configure terminal
3. presence
4. max-subscription *number*
5. presence call-list
6. end

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable	Enables privileged EXEC mode.

	Command or Action	Purpose
	Example: Router> enable	<ul style="list-style-type: none"> Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	presence	
Step 4	max-subscription <i>number</i>	
Step 5	presence call-list	(To enable Presence feature for all the missed or received or placed calls)
Step 6	end	

Enable an SCCP Directory Number to Be Watched

To enable a directory number to be watched, perform the following procedure:

SUMMARY STEPS

1. **ephone-dn***dn-tag*
2. **number***number*
3. **allow watch**
4. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	ephone-dn <i>dn-tag</i>	
Step 2	number <i>number</i>	
Step 3	allow watch	
Step 4	end	

Enable BLF on an Ephone

To enable BLF on an **ephone**, perform the following steps:

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ephone***ephone-tag*
4. **button***button-number*{separator}*dn-tag* [,*dn-tag*...]
[*button-number*{*x*}*overlay-button-number*][*button-number*...]

5. **blf-speed-dial** *tag number label string* [**device**]
6. **presence call-list**(To enable Presence feature for all the missed/received/placed calls)
7. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable	
Step 2	configure terminal	
Step 3	ephone <i>ephone-tag</i>	
Step 4	button <i>button-number{separator}dn-tag [,dn-tag...] [button-number{x}overlay-button-number][button-number...]</i>	
Step 5	blf-speed-dial <i>tag number label string</i> [device]	
Step 6	presence call-list (To enable Presence feature for all the missed/received/placed calls)	
Step 7	end	

Configure Digest Credentials on Cisco Unified Communications Manager

To configure the username and password with Digest Authentication on Cisco Unified Communications Manager, perform the following steps:

SUMMARY STEPS

1. Log in to Cisco Unified Communications Manager.
2. Go to **System>Security->Phone Security Profile**.
3. Go to **User Management > End User**.
4. Go to the **Phone Settings** page and associate the user in the **Digest User** field.

DETAILED STEPS

	Command or Action	Purpose
Step 1	Log in to Cisco Unified Communications Manager.	
Step 2	Go to System>Security->Phone Security Profile .	
Step 3	Go to User Management > End User .	
Step 4	Go to the Phone Settings page and associate the user in the Digest User field.	

Configure Digest Credentials on Unified E-SRST for SIP

To configure credentials under a specific voice register pool, perform the following procedure:

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice register pool** *<pool-tag>*
4. **username** *<username>* **password** *<password>*
5. **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	voice register pool <i><pool-tag></i>	
Step 4	username <i><username></i> password <i><password></i>	
Step 5	end	

Example: Configuring Digest Credentials on ESRST

The following example shows how to configure digest credentials on ESRST:

```
Router# conf terminal
Router(config)#voice register pool 10
Router (config-register-pool)# username abc password xyz
```

Configure Digest Credentials on Unified E-SRST for SCCP

To configure credentials under a specific ephone, perform the following procedure:

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ephone** *ephone tag*
4. **username** *<username>* **password** *<password>*
5. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none">• Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	ephone <i>ephone tag</i>	
Step 4	username <username> password <password>	
Step 5	end	

