Cisco Unified SRST SNMP MIB Support

Last Updated: June 23, 2009

Note
Prior to version 4.0, this product was called Cisco Survivable Remote Site Telephony (SRST)

Cisco Unified Survivable Remote Site Telephony (Cisco Unified SRST) is used for the remote office routers that support from 24 to 720 users in a centralized Cisco Unified Communications Manager processing environment, to back up IP phone calls and provide 911 emergency access by the public switched telephone network (PSTN). Any Cisco Unified SRST user can leverage Cisco Unified SRST MIBs for better management with Simple Network Management Protocol (SNMP) support.

Feature History of the Cisco Unified SRST MIB Feature

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.4(4)XC</td>
<td>This feature was integrated into Cisco IOS Release 12.4(4)XC.</td>
</tr>
<tr>
<td>12.4(4)T</td>
<td>This feature was introduced on the 12.4(4)T</td>
</tr>
</tbody>
</table>

Finding Support Information for Platforms and Cisco IOS Software Images
Use Cisco Feature Navigator to find information about platform support and Cisco IOS software image support. Access Cisco Feature Navigator at http://www.cisco.com/go/fn. You must have an account on Cisco.com. If you do not have an account or have forgotten your username or password, click Cancel at the login dialog box and follow the instructions that appear.

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Compliance

Cisco MIBs are a set of variables that are private extensions to the Internet standard MIB-II. The MIB-II is documented in RFC 1213 (Management Information Base for Network Management of TCP/IP-based Internets: MIB-II). This RFC includes information on the benefits of the new feature, supported platforms, related documents, troubleshooting tips, configuration examples, and a detailed command reference.

Cisco Compliance

At present, Cisco implementations of standard MIBs are often read-only or have some objects or object groups missing because of security concerns or time requirements for implementation. Since Cisco IOS Release 10.2, developers must document such specifics with AGENT-CAPABILITIES from RFC 1904.

Implementation


This contains a list of MIBs available for various software versions. The MIB list cannot account for MIBs not included in a particular software subset or because a feature is turned off. Whether or not the MIB is included is the function of AGENT-CAPABILITIES descriptions and the snmpORTable (RFC 1907) in later software versions.

Information about SNMP and MIBs

The following sections provide an overview of SNMP:

- Network Management Overview, page 16
- MIBs, page 17
- SNMP, page 20
- SNMP MIB, page 21

Network Management Overview

Network management takes place between two major types of systems: those in control (called managing systems) and those observed and controlled (called managed systems). The most common managing system is called a network management system (NMS). Managed systems can include hosts, servers, or network components such as routers or intelligent repeaters.
To promote interoperability, the cooperating systems must adhere to a common framework and a common language, called a protocol. In the Internet network management framework, that protocol is the Simple Network Management Protocol (SNMP). SNMP is an application-layer protocol designed to facilitate the exchange of network management information between network devices. The SNMP system consists of three parts:

- SNMP manager
- SNMP agent
- MIB

The Internet network management framework is based on the idea of a managing the system interfacing to a managed system. The managing system (called a manager) runs a network management application (called an agent). The managed system runs an agent that answers status requests from the manager. The manager and the managed system exchange information using SNMP.

The information exchanged between the manager and the managed system is about the Management Information Base (MIB), which defines all the information that can be seen or changed by the manager. The MIB may be either standard or proprietary, and a similar concept of the MIB must be shared by both the manager and the agent.

SNMP and its MIBs are defined in a combination of system-specific language and Abstract Syntax Notation 1 (ASN.1). Although ASN.1 is a rich definition language, SNMP uses only a subset of ASN.1, which is defined in the SNMP Structure of Management Information (SMI). For transmission, SNMP is encoded according to the ASN.1 basic encoding rules (BER).

SNMP may be carried over a wide choice of transport protocols. The most common combination is the User Datagram Protocol over the Internet Protocol, UDP/IP. Other possibilities include AppleTalk, Netware, and Ethernet.

SNMP has facilities for identifying the requester and the operational context in which a request is to be performed by the agent, such as read-only or read-write, a MIB subset for a particular group of users, or a subset that may be elsewhere or obtained through other mechanisms (proxy). These are the facilities concerned with security.

SNMP has a small number of MIB management operations it can perform for observation and control of MIB information, comprising various ways of reading (get operations), and one way of modifying (set operations).

**MIBs**

In a managed device, specialized low-impact software modules, called agents access information about the device and make it available to the network management system (NMS). Managed devices maintain values for a number of variables and report those, as required, to the NMS. For example, an agent can report data such as the number of bytes and packets in and out of the device, or the number of broadcast messages sent and received. In the Internet network management framework, each variable, which is a managed object, is any information that an agent can access and report back to the NMS.

All managed objects are contained in the MIB database. The managed objects can be set or read to provide information on network devices and interfaces. An NMS can control a managed device by sending a message to an agent of that managed device requiring the device to change the value of one or more of its managed objects.

**MIB Source**

MIBs come from various sources:
MIB Objects

A MIB is conceptually a tree (as shown in Figure 1), where the leaves are the individual data objects. An object can be, for example, a counter or a protocol status. The SNMP framework uses the term “object” in a way different from the way OSI management uses it. An OSI object is a network entity, such as a router or a protocol, which has attributes. These OSI attributes and SNMP objects are essentially the same concept, that is, individual data values. A MIB object consists of the following values:

- **Object type**—Identifies the type of MIB object.
- **Syntax**—Identifies the data type which models the object.
- **Access**—Identifies the maximum level of access and can have one of five values (listed from highest to lowest level of access):
  - Read-create—Indicates that instances of the object may be read, written, and created
  - Read-write—Indicates that instance of the object may be read or written, but not created
  - Read-only—Indicates that instances of the object may be read but not written or created
  - Accessible-for-notify—Indicates that instances of the object may only appear in notifications
  - Not-accessible—Indicates that instances of the object may not be directly read, written, or created
- **Status**—The status of a managed object can be:
  - Mandatory—Indicates that the definition is required and should be implemented
  - Current—Indicates that the definition is current
  - Deprecated—Indicates that the definition will soon be made obsolete and need no longer be implemented
  - Obsolete—Indicates that managed nodes should not implement the object
- **Description**—Provides a textual description of the managed object

The following is an example of a MIB object:

```
ntpTDMIfCollectTimeInterval OBJECT-TYPE
```
SYNTAX  Counter32
MAX-ACCESS read-only
STATUS  current
DESCRIPTION
This object shows measurement time interval seconds.
::= {tpTDMIfStatTableEntry 1}

For descriptions of supported MIBs and how to use MIBs, see the Cisco MIB web site on CCO at http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml.

MIB Archive

Cisco MIBs are archived in the Cisco FTP server and are accessible by anonymous FTP at the following location: ftp://ftpeng.cisco.com/pub/mibs

Internet MIB Hierarchy

The MIB structure is logically represented by a tree hierarchy (see Figure 1). The structure uses branches and the branches that fall below each category have short text strings and integers to identify them. Text strings describe object names, and integers allow computer software to create compact, encoded representations of the names. For example, the Cisco MIB variable authAddr is an object name and is denoted by number 5, which is listed at the end of its object identifier number 1.3.6.1.4.1.9.2.1.5.

The object identifier in the Internet MIB hierarchy is the sequence of numeric labels on the nodes along a path from the root to the object. The Internet standard MIB is represented by the object identifier 1.3.6.1.2.1. It also can be expressed as iso.org.dod.internet.mgmt.mib. (See Figure 1.)
Cisco MIB variables are accessible through SNMP, which is an application-layer protocol designed to facilitate the exchange of management information between network devices.

Instead of defining a large set of commands, SNMP places all operations in a get-request, get-next-request, or set-request format. For example, an SNMP manager can get a value from an SNMP agent or store a value in that SNMP agent. The SNMP manager can be part of an NMS, and the SNMP agent can reside on a networking device such as a router. You can compile the Cisco MIB with your network management software. If SNMP is configured on a Catalyst Switch, the SNMP agent can respond to MIB-related queries being sent by the NMS.
An example of an NMS is the CiscoWorks network management software. CiscoWorks uses the Cisco MIB variables to set device variables and to poll devices on the internetwork for specific information. The results of a poll can be displayed as a graph and analyzed for the troubleshooting of internetwork problems. Results can also be used to increase network performance, verify the configuration of devices, monitor traffic loads, and so on.

As shown in Figure 2, the SNMP agent gathers data from the MIB, which is the repository for information about device parameters and network data. The agent can send traps, or notifications of events of interest, to the manager. The Cisco trap file, mib.traps, which documents the format of the Cisco traps, is available on the Cisco host ftp.cisco.com.

![Simple Network Management Protocol Network](image)

The SNMP manager uses information in the MIB to perform the operations described in Table 1.

### Table 1  SNMP Manager Operations

<table>
<thead>
<tr>
<th>Operation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>get-request</td>
<td>Retrieve a value from a specific variable.</td>
</tr>
<tr>
<td>get-next-request</td>
<td>Retrieve the value following the named variable. Often used to retrieve variables from within a table.</td>
</tr>
<tr>
<td>get-response</td>
<td>The reply to a get-request, get-next-request, get-bulk-request, or set-request sent by an NMS.</td>
</tr>
<tr>
<td>get-bulk-request</td>
<td>Similar to a get-next-request, but fill the get-response with up to max-repetition number of get-next interactions.</td>
</tr>
<tr>
<td>set-request</td>
<td>Store a value in a specific variable.</td>
</tr>
<tr>
<td>trap</td>
<td>An unsolicited message sent by an SNMP agent to an SNMP manager indicating that some event has occurred.</td>
</tr>
</tbody>
</table>

1. With this operation, an SNMP manager does not need to know the exact variable name. A sequential search is performed to find the needed variable from within the MIB.

### SNMP MIB

An SNMP MIB is an abstract database, that is, a conceptual specification for information that a management application may read and modify in a certain form. This does not imply that the information is kept in the managed system in that same form. The SNMP agent translates between the internal data structures and formats of the managed system and the external data structures and formats defined for the MIB.
The SNMP MIB is conceptually a tree structure with conceptual tables, described in more detail in the following sections. Relative to this tree structure, the term “MIB” is used in two ways. In one way, it is actually a MIB branch, usually containing information for a single aspect of technology, such as a transmission medium or a routing protocol. A MIB used in this way is more accurately called a MIB module, and is usually defined in a single document.

In the other way, a MIB is a collection of such branches. Such a collection of MIB branches might comprise, for example, all of the MIB modules implemented by a given agent, or the entire collection of MIB modules defined for SNMP.

MIBs can be standard or enterprise. Internet standard MIBs are defined by working groups of the IETF and published as RFCs. Enterprise MIBs are defined by other organizations, which are usually individual companies. Done properly, enterprise MIBs instrument technology not covered by standard MIBs, either completely or as an extension to a standard MIB.

The prototypical standard MIB is MIB-II, the second revision of the original SNMP MIB. MIB-II contains branches for the basic areas of instrumentation, such as the system, its network interfaces, IP, and TCP. All of these started out in a single MIB module, but as SNMPv2 evolves, they are being split into separate modules.

### SNMP MIB Tables

Tables are a powerful and often confusing aspect of SNMP MIBs. Architectural purists say SNMP has conceptual tables, not real tables. This is because every object, whether in a table or not, is a leaf of the tree, identified by an object identifier (OID) that includes an instance. So, in an abstract sense, all objects are alike. But practically speaking, SNMP has tables, and using or implementing them gets somewhat more complex than implementing scalars, which are single object instances.

Tables have a rigid structure, defined in the SMI. Tables can contain only simple objects, not other tables, although multiple indexes can represent the concept of tables in tables. An entry, or row, in a table is uniquely identified by one or more table indexes, also called auxiliary objects. The OID of an object from a table is the OID for that object's position in the MIB tree concatenated with a representation of all the table indexes for an entry in the table.

For example, the Interface MIB (RFC 1573) has a key table called the ifTable. Its index object is ifIndex, an integer. Minus the instance, the OID for a counter from that table is:

```
iso.internet.mgmt.mib-2.interfaces.ifTable.ifEntry.ifInOctets
```

Or, numerically:

```
1.3.6.1.2.1.2.2.1.10
```

For the interface with ifIndex 7, the full OID is:

```
iso.internet.mgmt.mib-2.interfaces.ifTable.ifEntry.ifInOctets.7
1.3.6.1.2.1.2.2.1.10.7
```

Observe that row selection (instance) comes after column selection. This can be particularly confusing when you are applying the principle of lexical order to a table. Using the GetNext protocol operation to walk a table, you can proceed by column, that is, all instances for a column are returned before the next column is started.

Table indexes can be much more complex than tables. Here is an example from the Cisco VINES MIB. The INDEX clause from the ASN.1 definition is:

```
INDEX { cvForwNeighborHost,
    ifIndex,
    cvForwNeighborPhysAddress }
```
The first two indexes are simple integers, with ifIndex being imported from the standard ifTable. The final index is a variable length octet string. Including the integers is simple and obvious. The variable-length index object gets more complex. RFC 1212 includes rules for encoding variable length index objects as instances. The general rule is that the value is preceded by a length, and the length and each part of the value are separate subidentifiers.

So, for example, if we have neighbor host number 9, ifIndex 3, and an Ethernet neighbor physical address 0000.0c03.1ef0, the instance portion of an object for that row is 9.3.6.0.0.12.3.30.240.

In RFC 1902, SNMPv2 extends the instance encoding rules to include an “IMPLIED” keyword that can be used on the final instance object if it is variable length. When “IMPLIED” is present, the string instance cannot have a zero length in front of it.

Because lexical ordering for variable length instance objects effectively sorts them by length, your ASCII text index will not come out naturally in alphabetical order.

Information about Cisco Unified SRST SNMP MIB Support

To configure Cisco Unified SRST SNMP MIB support, you must understand the following concepts:

- Dependencies, page 23
- Restrictions, page 23
- Performance Impact, page 24
- Cisco IOS SNMP Agent in Cisco Unified SRST 4.0, page 24
- CISCO-SRST-MIB, page 25
- Cisco Unified SRST MIB Notifications/Traps, page 47

Dependencies

When using an Cisco Unified SRST router, you can get information regarding Ephones, Ephone-dns, and related statistics from the CCME MIB. For example:

- To retrieve the total number of SCCP phones registered (EphoneTotalRegistered) to the Cisco Unified SRST router, get the total number of SCCP registered from the CCME MIB.
- To retrieve the total number of SCCP call legs (EphoneCallLegs) accumulated on the Cisco Unified SRST router, get the total number of SCCP call legs from the CCME MIB.
- To monitor the SCCP phone activities, retrieve the ccmeEphoneActTable from the CCME MIB.

Restrictions

Be aware of the following design limitations when implementing the CISCO-SRST-MIB:

- Configuring objects is not provided through SNMP.
- No password or encrypted objects are provided.
- Objects that are not part of the CISCO-SRST-MIB are out of the scope of this MIB.
- SIP phone details that cannot be seen by underlying Cisco Unified SRST layers, such as the Ethernet address, are not provided.
Performance Impact

The performance characteristics of the SRST SNMP module vary significantly depending on how often bulk data is requested by the SNMP managers.

SNMP bulk data can consume significant CPU and DRAM resources, and even network bandwidth. We recommend that management stations are to minimize the statistical sampling intervals as much as possible. Even though CISCO-SRST-MIB objects are grouped to reduce the unnecessary bulk data that can be fetched at a burst, the Cisco IOS SNMP agent does not enforce the data volume or the frequency at which SNMP managers make requests to the SNMP agent.

To reduce performance impact, the Cisco Unified SRST gateway managers can use the traps provided by these MIBs by using asynchronous fault notification and traps to help isolate a fault.

There are few leaf objects, and they are light weighted and important (specified in active Group of the MIBs). They can be sampled at relatively short intervals, which would help gather the load on the CISCO-SRST-MIB components.

The Cisco IOS software supports SNMP versions 1, 2c, and 3 (SNMPv1, SNMPv2c, and SNMPv3). The Cisco Unified SRST MIB is compliant with SNMPv2c and SNMPv3.

External SNMP managers are required; they issue SNMP queries and also accept SNMP notifications and traps. The SNMP managers include tools, such as basic Scotty command line tools, HP-OpenView, SunNet managers, IBM Netview, Tivoli, NetIQ, and so on.

To provide complete monitoring solutions, the SNMP managers can interface with existing Cisco IOS MIBs that address individual components and build a “schema” (or view) that helps monitor objects that suit their configuration or needs. For Cisco Unified SRST related scenarios, the CISCO-VOICE-DIAL-CONTROL-MIB, various hardware interface MIBs, and the CISCO-CCM-MIB are available.

Cisco IOS SNMP Agent in Cisco Unified SRST 4.0

The Cisco Unified SRST 4.0 component of Cisco IOS Release 12.4(4)T and later releases is not capable of participating in network management using SNMP. The Cisco Unified SRST 4.0 effort is to make these components SNMP visible and provide necessary network management functions. This feature can be used in the deployed customer scenarios that use SNMP managers. The Cisco IOS SNMP Agent can provide the following functions for the Cisco Unified SRST modules:

- Generate notifications/traps for various functionality failures
- Provide objects that help monitor performance/load of some of the key features
- Provide detailed configurations for help in fault isolation.
- Provide the active registrations of IP phones and Session Initiation Protocol (SIP) phones
- Publish statistics on Ephone lines and SIP phone lines
- Provide ability to mask/unmask notification

Cisco Unified SRST 4.0 does not have product-specific network management capabilities. The Cisco Unified SRST MIB addresses SNMP Management Information Base (MIB) development for generating asynchronous exception notifications/traps, displaying configurations, and monitoring performance for IP telephony management purposes.

The Cisco Unified SRST feature provides emergency back up IP phone call capabilities, as shown in Figure 3.
Cisco Unified SRST provides backup redundancy for broadband deployment of IP telephony to small branch offices. It can be used if Cisco Unified CallManager is no longer in service due to a loss of WAN connectivity. Cisco Unified SRST continues to provide basic call processing and IP telephony service to phones that fall back to Cisco Unified SRST.

The CISCO-SRST-MIB defines managed objects that pertain to Cisco Unified SRST, SIP Registrar, and SIP phones.

The CISCO-SRST-MIB has dependency on existing Cisco IOS MIBs, especially on the CISCO-CCME-MIB and the CISCO-VOICE-DIAL-CONTROL-MIB.

All of these MIBs are accessible from SNMP management software running on external SNMP managers.

**CISCO-SRST-MIB**

The CISCO-SRST-MIB enables you to display configurations and monitor and send traps and asynchronous notifications to the SNMP management applications.

The CISCO-SRST-MIB approach offers the following advantages over the CLI command approach:

- A more efficient use of network bandwidth
- Greater interoperability among vendors because standard SNMP protocols are used

This section contains the following topics:

- **Structure**, page 26
- **Cisco-SRST-MIB in Internet MIB Hierarchy**, page 26
- **CISCO-SRST-MIB Features**, page 27
- **Cisco-SRST-MIB Object Groups**, page 28
- **Objects for Cisco Unified CME MIB and Cisco Unified SRST MIB**, page 40
The Structure of Management Information (SMI) is represented conceptually by a tree hierarchy. Branches along the tree have short text strings and integers to identify them. Text strings describe object names, and integers allow computer software to encode compact representations of the names.

The CISCO-SRST-MIB is part of the Cisco management group, which is part of private.enterprise.cisco.ciscoMgmt.

The CISCO-SRST-MIB structure is further divided into the following groups:

**Cisco Unified SRST MIB Groups**
- ciscoSrstMIBNotifications
- ciscoSrstMIBObjects
- ciscoSrstMIBConformance

The CISCO-SRST-MIB structure further is divided into the following subgroups:

**Cisco-SRST-MIB Object Groups**
- csrstConf
- csrstNotifInfo
- csrstSipConf
- csrstActiveStats
- csrstMIBNotifs

CISCO-SRST-MIB, which is uniquely identified by the number 441

Therefore the ciscoSrstMIB is 1.3.6.1.4.1.9.9.441

Objects in the CISCO-SRST-MIB can be identified by either of the following methods.

- The object identifier is 1.3.6.1.4.1.9.9.441<SRST MIB-variable>

**Cisco-SRST-MIB in Internet MIB Hierarchy**

Figure 4 shows the position of the CISCO-SRST-MIB in the Internet MIB hierarchy.
**CISCO-SRST-MIB Features**

The Cisco Unified SRST 4.0 features that are supported by the CISCO-SRST-MIB are:

- Cisco Unified SRST configuration
- Ephone registrations
- Ephone directory number (DN) (multiple lines per phone, multiple-line appearance per phone)
- Huntstop (alias, SIP number list, between DNs)
- Class of Restriction (COR)
- Translation Rule
- Music on Hold (MoH) (flash, multicast)
- Call-forward
- Phone number alias
- Voicemail number
- Dial-plan pattern
- User-locale information
- Secondary-dial tone
- Ringing timeout
- Date format
- Dual-line mode
- Customized system message
- Consultative call transfer
- Interactive Voice Response (IVR) Application

**Cisco-SRST-MIB Object Groups**

Table 2 lists the object groups provided in the CISCO-SRST-MIB, Table 3 lists the notifications/traps provided in the CISCO-SRST-MIB, Table 4 lists the CISCO-SRST-MIB objects, presented according to their group.

**Table 2**  
*Cisco Unified-SRST-MIB Object Groups*

<table>
<thead>
<tr>
<th>No.</th>
<th>Object Name</th>
<th>Comments</th>
</tr>
</thead>
</table>
|     | **csrstConf**                | **csrstEnabled**                                                                           | Indicates if SRST support is enabled or disabled.  
|     |                              | **Note**                                    | Supported for Cisco Unified SRST only. Not supported for Cisco Unified CME in SRST fallback mode.  |
| 1   | csrstVersion                 | Cisco Unified SRST version                                                                |
| 2   | csrstIPAddressType           | IP address type governing the address type format for objects in this MIB                 |
| 3   | csrstIPAddress               | IP address for the router to receive messages from IP phones                              |
| 4   | csrstPortNumber              | Indicates the TCP port number to use for SCCP and is range limited                         |
| 5   | csrstMaxConferences          | Maximum number of simultaneous three-party conference calls configured                     |
| 6   | csrstMaxEphones              | Maximum number of Cisco Unified IP phones configured on the Cisco Unified SRST router     |
| 7   | csrstMaxDN                   | Maximum number of IP phone extensions (Ephone-DNs) configured                              |
| 8   | csrstSipPhoneUnRegThreshold  | Indicates a threshold for the number of SIP phones unregistered to Cisco Unified SRST     |
### Table 2  Cisco Unified-SRST-MIB Object Groups (continued)

<table>
<thead>
<tr>
<th>No.</th>
<th>Object Name</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>csrstCallFwdNoAnswer</td>
<td>Cisco Unified SRST call forwarding number when a Cisco Unified IP phone is not answered</td>
</tr>
<tr>
<td>11</td>
<td>csrstCallFwdNoAnswerTo</td>
<td>Timeout, in seconds, if a Cisco Unified IP phone is not answered</td>
</tr>
<tr>
<td>12</td>
<td>csrstCallFwdBusy</td>
<td>Cisco Unified SRST call forwarding number when a Cisco Unified IP phone is busy</td>
</tr>
<tr>
<td>13</td>
<td>csrstMohFilename</td>
<td>Music-on-Hold is enabled or disabled</td>
</tr>
<tr>
<td>14</td>
<td>csrstMohMulticastAddrType</td>
<td>Internet address type for the address type format for objects in this MIB</td>
</tr>
<tr>
<td>15</td>
<td>csrstMohMulticastAddr</td>
<td>Indicates the Cisco Unified SRST Music-On-Hold multicast IP address</td>
</tr>
<tr>
<td>16</td>
<td>csrstMohMulticastPort</td>
<td>Indicates Music-on-Hold multicast TCP port which is range limited</td>
</tr>
<tr>
<td>17</td>
<td>csrstVoiceMailNumber</td>
<td>Voice mail number that is speed-dialed when the messages button is pressed</td>
</tr>
<tr>
<td>18</td>
<td>csrstSystemMessagePrimary</td>
<td>System static text message displayed on Cisco Unified IP phone during fallback</td>
</tr>
<tr>
<td>19</td>
<td>csrstSystemMessageSecondary</td>
<td>System message displayed on phones not supporting static text message</td>
</tr>
<tr>
<td>20</td>
<td>csrstScriptName</td>
<td>SRST session-level IVR application script</td>
</tr>
<tr>
<td>21</td>
<td>csrstSecondaryDialTone</td>
<td>SRST secondary dial tone digits</td>
</tr>
<tr>
<td>22</td>
<td>csrstTransferSystem</td>
<td>SRST call transfer method using the ITU-T H.450.2 standard</td>
</tr>
<tr>
<td>23</td>
<td>csrstUserLocaleInfo</td>
<td>SRST language for displays on Cisco Unified IP phone by country</td>
</tr>
<tr>
<td>24</td>
<td>csrstDateFormat</td>
<td>Date display format on Cisco Unified IP phones in the Cisco Unified SRST system</td>
</tr>
<tr>
<td>25</td>
<td>csrstTimeFormat</td>
<td>Time display format on Cisco Unified IP phones in the Cisco Unified SRST system</td>
</tr>
<tr>
<td>26</td>
<td>csrstInterdigitTo</td>
<td>SRST interdigit timeout duration for Cisco Unified IP phones</td>
</tr>
<tr>
<td>27</td>
<td>csrstBusyTo</td>
<td>Time before disconnect when destination is busy, without call-forwarding</td>
</tr>
<tr>
<td>28</td>
<td>csrstAlertTo</td>
<td>Time before disconnect when call is not answered, without call-forwarding</td>
</tr>
<tr>
<td>29</td>
<td>csrstXlateCalledNumber</td>
<td>Indicates the tag used to translate a called number on the Cisco Unified SRST router</td>
</tr>
<tr>
<td>30</td>
<td>csrstXlateCallingNumber</td>
<td>Indicates the tag used to translate a calling number on the Cisco Unified SRST router</td>
</tr>
</tbody>
</table>

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>csrstAliasTable</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31.</td>
<td>csrstAliasIndex</td>
<td>Table index</td>
</tr>
<tr>
<td>32.</td>
<td>csrstAliasTag</td>
<td>A number indicating an alias pattern configured on this Cisco Unified SRST router</td>
</tr>
<tr>
<td>33.</td>
<td>csrstAliasNumPattern</td>
<td>Indicates the pattern to match the incoming telephone number</td>
</tr>
<tr>
<td>34.</td>
<td>csrstAliasAltNumber</td>
<td>Alternate number to route incoming calls to match the number pattern</td>
</tr>
<tr>
<td>35.</td>
<td>csrstAliasPreference</td>
<td>Indicates the preference value of the associated dial-peer</td>
</tr>
<tr>
<td>36.</td>
<td>csrstAliasHuntStopEnabled</td>
<td>Hunt stops after trying the alternate number according to the alias pattern</td>
</tr>
</tbody>
</table>

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>csrstAccessCodeTable</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37.</td>
<td>csrstAccessCodeType</td>
<td>Type of trunk line to which the access-code is applied</td>
</tr>
<tr>
<td>No.</td>
<td>Object Name</td>
<td>Comments</td>
</tr>
<tr>
<td>-----</td>
<td>------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>38</td>
<td>csrstAccessCode</td>
<td>Access-code applied to the corresponding trunk line by creating dial-peers</td>
</tr>
<tr>
<td>39</td>
<td>csrstAccessCodeDIDEnabled</td>
<td>Indicates the direct-inward-dial on a POTS dial-peer is enabled or disabled</td>
</tr>
<tr>
<td>40</td>
<td>csrstLimitDNType</td>
<td>Type of IP phone to which the limit-dn is applied</td>
</tr>
<tr>
<td>41</td>
<td>csrstLimitDN</td>
<td>Maximum number of directory numbers available to each type of IP phone</td>
</tr>
<tr>
<td>42</td>
<td>csrstNotificationEnabled</td>
<td>Indicates if this system produces the Cisco Unified SRST notifications</td>
</tr>
<tr>
<td>43</td>
<td>csrstSysNotifSeverity</td>
<td>Severity of the alarm condition, for the most recent SNMP notification</td>
</tr>
<tr>
<td>44</td>
<td>csrstSysNotifReason</td>
<td>Failure cause of the alarm condition for the most recent system notification</td>
</tr>
<tr>
<td>45</td>
<td>csrstState</td>
<td>Current state of Cisco Unified SRST feature on this router</td>
</tr>
<tr>
<td>46</td>
<td>csrstSipPhoneCurrentRegistered</td>
<td>Total number of SIP phones currently registered to the Cisco Unified SRST router</td>
</tr>
<tr>
<td>47</td>
<td>csrstSipCallLegs</td>
<td>Total number of SIP call legs through the Cisco Unified SRST router since activation</td>
</tr>
<tr>
<td>48</td>
<td>csrstTotalUpTime</td>
<td>Total number of minutes that router is active in SRST mode</td>
</tr>
<tr>
<td>49</td>
<td>csrstSipRegSrvExpMax</td>
<td>Max expiration time for the SIP registrar server to time out on a registration</td>
</tr>
<tr>
<td>50</td>
<td>csrstSipRegSrvExpMin</td>
<td>Min. expiration time for the SIP registrar server to time out on a registration</td>
</tr>
<tr>
<td>51</td>
<td>csrstSipIp2IpGlobalEnabled</td>
<td>Indicates if VoIP calls are redirected IP to IP globally</td>
</tr>
<tr>
<td>52</td>
<td>csrstSipSend300MultSupport</td>
<td>Indicates if the redirect contact order is best or longest match</td>
</tr>
<tr>
<td>53</td>
<td>csrstSipVoRegPoolTag</td>
<td>Identifier tag configured for a voice register pool entry</td>
</tr>
<tr>
<td>54</td>
<td>csrstSipNetId</td>
<td>Network identification information of the SIP voice register pool</td>
</tr>
<tr>
<td>55</td>
<td>csrstSipVoRegPoolIpAddrType</td>
<td>IP address type for the address format of InetAddress objects in this MIB</td>
</tr>
<tr>
<td>56</td>
<td>csrstSipNetMask</td>
<td>IP subnet configured for the SIP voice register pool</td>
</tr>
<tr>
<td>57</td>
<td>csrstSipProxySrvIpAddr</td>
<td>IP address of the proxy server configured for the SIP voice register pool</td>
</tr>
<tr>
<td>58</td>
<td>csrstSipProxySrvPref</td>
<td>Preference order for creating the VoIP dial-peers in the voice register pool</td>
</tr>
<tr>
<td>59</td>
<td>csrstSipProxySrvMonitor</td>
<td>Configured proxy server monitoring protocol for the SIP voice register pool</td>
</tr>
<tr>
<td>60</td>
<td>csrstSipProxySrvAltIpAddr</td>
<td>Alternate IP address monitored other than the proxy configured</td>
</tr>
<tr>
<td>61</td>
<td>csrstSipDefaultPreference</td>
<td>Default preference of the proxy dial-peers created in the voice register pool</td>
</tr>
<tr>
<td>62</td>
<td>csrstSipVoRegPoolAppl</td>
<td>Application for the SIP dial-peers configured under voice register pool</td>
</tr>
<tr>
<td>63</td>
<td>csrstSipVoRegNumberListTable</td>
<td>Table index</td>
</tr>
<tr>
<td>64</td>
<td>csrstSipVoRegNumberListIndex</td>
<td>Index of the number list configured for the voice register pool</td>
</tr>
<tr>
<td>65</td>
<td>csrstSipVoRegNumberListTag</td>
<td>Number pattern the registrar permits to handle the register message</td>
</tr>
<tr>
<td>66</td>
<td>csrstSipVoRegNumberPref</td>
<td>Number pattern preference configured for the voice register pool</td>
</tr>
</tbody>
</table>
The CISCO-SRST-MIB is organized by the following groups listed in Table 4:

- `csrstConf`
- `csrstNotifInfo`
- `csrstActiveStats`
- `csrstSipConf`
- `CiscoSrstMIBNotifs`

**Table 4**  **SRST MIB Objects by Group and with Descriptions**

<table>
<thead>
<tr>
<th>MIB Group</th>
<th>MIB Object</th>
<th>Max Access</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>csrstConfGroup</code></td>
<td><code>csrstEnabled</code></td>
<td>read-only</td>
<td>Cisco Unified SRST support is enabled or disabled. When enabled, the router is in fallback mode to provide call-handling support to IP phones. If disabled, all of the objects in this group have no significance.</td>
</tr>
<tr>
<td></td>
<td><code>csrstVersion</code></td>
<td>read-only</td>
<td>Cisco Unified SRST version.</td>
</tr>
</tbody>
</table>

**Note** Supported for Cisco Unified SRST only. Not supported for Cisco Unified CME in SRST fallback mode.
### Table 4  **SRST MIB Objects by Group and with Descriptions (continued)**

<table>
<thead>
<tr>
<th>MIB Group</th>
<th>MIB Object</th>
<th>Max Access</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>csrstIPAddressType</td>
<td>read-only</td>
<td>Internet address type governing the address type format for one or more InetAddress objects in this MIB. The associated InetAddress objects' description will refer back to this type object as appropriate.</td>
</tr>
<tr>
<td></td>
<td>csrstIPAddress</td>
<td>read-only</td>
<td>Cisco Unified SRST IP address for the router to receive messages from IP phones, typically one of the addresses of an Ethernet port of the router. The type of IP address used here is indicated by the csrstSysIPAddressType object.</td>
</tr>
<tr>
<td></td>
<td>csrstPortNumber</td>
<td>read-only</td>
<td>This object indicates the TCP port number to use for Skinny Client Control Protocol (SCCP) and is range limited. This port also indicates through which IP phones communicate with Cisco Unified SRST.</td>
</tr>
<tr>
<td></td>
<td>csrstMaxConferences</td>
<td>read-only</td>
<td>Maximum number of simultaneous three-party conference calls configured on the router. Range is Cisco IOS release and platform dependent. With Cisco SRST Version 3.0 and later, the following are the maximum values for each platform - Cisco 1751, Cisco 1760, Cisco 2600, Cisco 3640 - 8 conferences. Cisco 3660, Cisco 3725, Cisco 3745 - 16 conferences. Default is half the maximum number of simultaneous three-party conferences for each platform.</td>
</tr>
<tr>
<td></td>
<td>csrstMaxEphones</td>
<td>read-only</td>
<td>Maximum number of Cisco Unified IP phones configured on the Cisco Unified SRST router. Range is IOS version and platform dependent.</td>
</tr>
<tr>
<td></td>
<td>csrstMaxDN</td>
<td>read-only</td>
<td>Maximum number of IP phones extensions (Ephone-dns) or directory number configured on this Cisco Unified SRST router. Range is IOS version and platform dependent. Default is 0.&quot; -- This object is changeable by NMS to set a threshold -- for a trap to be reported. This refers to SIP phones only.</td>
</tr>
<tr>
<td></td>
<td>csrstSipPhoneUnRegThreshold</td>
<td>read-write</td>
<td>This object indicates a threshold for the number of SIP phones unregistered to Cisco Unified SRST. This threshold is changeable by the NMS user.</td>
</tr>
<tr>
<td></td>
<td>csrstCallFwdNoAnswer</td>
<td>read-only</td>
<td>Cisco Unified SRST call forwarding number when a Cisco Unified IP phone is not answered. This directory number is a fully qualified E.164 number.</td>
</tr>
<tr>
<td></td>
<td>csrstCallFwdNoAnswerTo</td>
<td>read-only</td>
<td>Timeout in seconds if a Cisco Unified IP phone is not answered, Cisco Unified SRST will call forward to another directory number.</td>
</tr>
</tbody>
</table>
### Table 4  
**SRST MIB Objects by Group and with Descriptions (continued)**

<table>
<thead>
<tr>
<th>MIB Group</th>
<th>MIB Object</th>
<th>Max Access</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>csrstCallFwdBusy</td>
<td>read-only</td>
<td>Cisco Unified SRST call forwarding number when a Cisco Unified IP phone is busy. This directory number is a fully qualified E.164 number.</td>
</tr>
<tr>
<td></td>
<td>csrstMohFilename</td>
<td>read-only</td>
<td>Cisco Unified SRST Music-On-Hold is enabled with file on flash, or disabled without a file on flash. MOH is enabled by default.</td>
</tr>
<tr>
<td></td>
<td>csrstMohMulticastAddrType</td>
<td>read-only</td>
<td>Internet address type governing the address type format for one or more InetAddress objects in this MIB. The associated InetAddress objects' description will refer back to this type object as appropriate.</td>
</tr>
<tr>
<td></td>
<td>csrstMohMulticastAddr</td>
<td>read-only</td>
<td>This object indicates Cisco Unified SRST Music-On-Hold Multicast IP address. When configured, this feature enables continuous IP multicast output of MOH from a Flash MOH file. This object has no significance if MOH is not configured. Default is the csrstIPAddress object for Cisco Unified SRST. The type of IP address used here is indicated by the csrstMohMulticastAddrType object.</td>
</tr>
<tr>
<td></td>
<td>csrstMohMulticastPort</td>
<td>read-only</td>
<td>This object indicates Cisco Unified SRST Music-On-Hold Multicast TCP port which is range limited When configured, this feature enables</td>
</tr>
<tr>
<td></td>
<td>csrstVoiceMailNumber</td>
<td>read-only</td>
<td>Cisco Unified SRST voice mail number that is speed-dialed when the messages button on a Cisco Unified IP phone is pressed. This voice mail number is a fully qualified E.164 number. If voice-mail number is not configured, this object will have a string length of 2 with the value '***'.</td>
</tr>
<tr>
<td></td>
<td>csrstSystemMessagePrimary</td>
<td>read-only</td>
<td>Cisco Unified SRST system static text message that is displayed on Cisco Unified IP phone during fallback. Length of text string is less than 32 characters. Default message is 'CM Fallback Service Operating'.</td>
</tr>
<tr>
<td></td>
<td>csrstSystemMessageSecondary</td>
<td>read-only</td>
<td>Cisco Unified SRST system message that is displayed on Cisco Unified IP phone that does not support static text message and have a limited display space during fallback. Length of text string is less than 20 characters. Default messages is 'CM Fallback Service'.</td>
</tr>
<tr>
<td></td>
<td>csrstScriptName</td>
<td>read-only</td>
<td>Cisco Unified SRST session-level IVR application script. This application can be written in Tool Command Language (TCL) and is applied to all Cisco Unified IP phone lines served by the Cisco Unified SRST router. If no application script name is configured, the default built-in IOS application will be applied to all phone lines served by the Cisco Unified SRST router and this object will be a zero-length string.</td>
</tr>
</tbody>
</table>
Table 4  **SRST MIB Objects by Group and with Descriptions (continued)**

<table>
<thead>
<tr>
<th>MIB Group</th>
<th>MIB Object</th>
<th>Max Access</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>csrstSecondaryDialTone</td>
<td>read-only</td>
<td>Cisco Unified SRST secondary dial tone digits. When a Cisco Unified IP phone user dials a PSTN access prefix, defined by the secondary dial tone digits, the secondary dial tone is enabled.</td>
</tr>
<tr>
<td></td>
<td>csrstTransferSystem</td>
<td>read-only</td>
<td>Cisco Unified SRST call transfer method using the ITU-T H.450.2 standard. Default setting is blind.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>blind (1),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>fullBlind (2),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>fullConsult (3),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>localConsult (4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>blind - Calls are transferred without consultation using a single phone line and the Cisco proprietary method.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>fullBlind - Calls are transferred without consultation using H.450.2 standard methods.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>fullConsult - Calls are transferred using H.450.2 with consultation using the second phone line if available, or the calls fall back to full-blind if the second line is unavailable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>localConsult - Calls are transferred with local consultation using the second phone line if available, or the calls fall back to blind for non-local consultation or transfer target. This mode is intended for use primarily in Voice over Frame Relay (VoFR) networks.</td>
</tr>
<tr>
<td></td>
<td>csrstUserLocaleInfo</td>
<td>read-only</td>
<td>Cisco Unified SRST language for displays on Cisco Unified IP phone by country.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>denmark (1),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>france (2),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>germany (3),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>italy (4),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>netherlands (5),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>norway (6),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>portugal (7),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>russian (8),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>spain (9),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>sweden (10),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>us (11) - default</td>
</tr>
</tbody>
</table>
### Table 4  SRST MIB Objects by Group and with Descriptions (continued)

<table>
<thead>
<tr>
<th>MIB Group</th>
<th>MIB Object</th>
<th>Max Access</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>csrstDateFormat</td>
<td>read-only</td>
<td>Date display format on Cisco Unified IP phones in the Cisco Unified SRST system.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>mmddyy (1) - default,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ddmmyy (2),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>yyddmm (3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>yymmdd (4)</td>
</tr>
<tr>
<td></td>
<td>csrstTimeFormat</td>
<td>read-only</td>
<td>Time display format on Cisco Unified IP phones in the Cisco Unified SRST system.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>twelveHour (1) - default,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>twentyFourHour (2)</td>
</tr>
<tr>
<td></td>
<td>csrstInterdigitTo</td>
<td>read-only</td>
<td>Cisco Unified SRST interdigit timeout duration in seconds for Cisco Unified IP phones.</td>
</tr>
<tr>
<td></td>
<td>csrstBusyTo</td>
<td>read-only</td>
<td>Cisco Unified SRST time in seconds before disconnect when destination is busy, without call-forwarding.</td>
</tr>
<tr>
<td></td>
<td>csrstAlertTo</td>
<td>read-only</td>
<td>Cisco Unified SRST time in seconds before disconnect when call is not answered, without call-forwarding.</td>
</tr>
<tr>
<td></td>
<td>csrstXlateCalledNumber</td>
<td>read-only</td>
<td>This object indicates the tag of a corresponding translation rule, which utilizes the number-translation mechanism of the IOS to translate a called number on the Cisco Unified SRST router.</td>
</tr>
<tr>
<td></td>
<td>csrstXlateCallingNumber</td>
<td>read-only</td>
<td>This object indicates the tag of a corresponding translation rule, which utilizes the number-translation mechanism of the IOS to translate a calling number on the Cisco Unified SRST router.</td>
</tr>
<tr>
<td></td>
<td>csrstAliasTag</td>
<td>read-only</td>
<td>A unique sequence number that indicates a particular alias pattern configured on this Cisco Unified SRST router.</td>
</tr>
<tr>
<td></td>
<td>csrstAliasNumPattern</td>
<td>read-only</td>
<td>This object indicates the pattern to match the incoming telephone number. It may include wildcards.</td>
</tr>
<tr>
<td></td>
<td>csrstAliasAltNumber</td>
<td>read-only</td>
<td>This object indicates the alternate telephone phone number to route incoming calls to match the number pattern. This has to be a valid extension for an IP phone actively registered on the Cisco Unified SRST router.</td>
</tr>
<tr>
<td></td>
<td>csrstAliasPreference</td>
<td>read-only</td>
<td>This object indicates the preference value of the associated dial-peer. A value of 0 has the highest preference.</td>
</tr>
<tr>
<td></td>
<td>csrstAliasHuntStopEnabled</td>
<td>read-only</td>
<td>This object specifies that if hunt stop is enabled, after the caller tried the alternate number according to the alias pattern, it will stop call hunting. If hunt stop is disabled, it will rollover to another directory number if available.</td>
</tr>
</tbody>
</table>
The type of trunk lines can be fxo, e&m, bri, and pri.

- **fxo** (1) - Enables a foreign exchange office (FXO) interface.
- **em** (2) - Enables an analog ear and mouth (E&M) interface.
- **bri** (3) - Enables a BRI interface.
- **pri** (4) - Enables a PRI interface.

This object indicates the access-code to be applied to the corresponding trunk line by creating dial-peers.

This object indicates the direct-inward-dial on a POTS dial-peer is enabled or disabled.

This object indicates the type of IP phone to which the limit-dn is applied to.

The current range of maximum lines setting is from 1 to 34. The default is 6.

This variable indicates whether this system produces the SRST notifications. A false value will prevent SRST notifications from being generated by this system.
### Table 4  SRST MIB Objects by Group and with Descriptions (continued)

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<tbody>
<tr>
<td></td>
<td>csrstSysNotifSeverity</td>
<td>accessible-for-notify</td>
<td>The internally-defined severity of the particular alarm condition, associated with the most recent SNMP notification. A subsequent event in which the alarm condition changes from its failed state back to a 'normal' state has a severity of 'clear'. This severity-level value is supplied with each Cisco Unified SRST specific notification.</td>
</tr>
<tr>
<td></td>
<td>csrstSysNotifReason</td>
<td>accessible-for-notify</td>
<td>The internally-defined failure cause of the particular alarm condition, associated with the most recent system notification.</td>
</tr>
<tr>
<td>csrstActiveStatsGroup</td>
<td>csrstState</td>
<td>read-only</td>
<td>This object indicates the current state of Cisco Unified SRST feature on this router. Active - At least one IP or SIP phone is registered. Inactive - Cisco Unified SRST has no IP or SIP phones registered. This object has no significance if csrstEnabled object is disabled.</td>
</tr>
<tr>
<td></td>
<td>csrstSipPhoneCurrentRegistered</td>
<td>read-only</td>
<td>Total number of SIP phones currently registered to the Cisco Unified SRST router.</td>
</tr>
<tr>
<td></td>
<td>csrstSipCallLegs</td>
<td>read-only</td>
<td>Total number of SIP call legs routed through the Cisco Unified SRST router since going active. This includes incoming and outgoing calls.</td>
</tr>
<tr>
<td></td>
<td>csrstTotalUpTime</td>
<td>read-only</td>
<td>Accumulated total number of minutes that router is active in SRST mode.</td>
</tr>
<tr>
<td>csrstSipConfGroup</td>
<td>csrstSipRegSrvExpMax</td>
<td>read-only</td>
<td>This object indicates the maximum expiration time for the SIP Registrar Server to timeout on a registration.</td>
</tr>
<tr>
<td></td>
<td>csrstSipRegSrvExpMin</td>
<td>read-only</td>
<td>This object indicates the minimum expiration time for the SIP Registrar Server to timeout on a registration.</td>
</tr>
<tr>
<td></td>
<td>csrstSipIp2IpGlobalEnabled</td>
<td>read-only</td>
<td>This object indicates whether voip calls are re-directed IP to IP globally.</td>
</tr>
<tr>
<td></td>
<td>csrstSipSend300MultSupport</td>
<td>read-only</td>
<td>This object indicates whether the redirect contact order is best or longest match. This applies globally for SIP. bestMatch (1), longestMatch (2) bestMatch - Uses the current system configuration to set the order of contacts. longestMatch - Sets the contact order by using the destination pattern longest match first, and then the second longest match, the third longest match, etc.</td>
</tr>
</tbody>
</table>
### Table 4  
SRST MIB Objects by Group and with Descriptions (continued)

<table>
<thead>
<tr>
<th>MIB Group</th>
<th>MIB Object</th>
<th>Max Access</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>csrstSipVoRegPoolTag</td>
<td>not-accessible</td>
<td>A unique identifier tag configured for a voice register pool entry.</td>
</tr>
<tr>
<td></td>
<td>csrstSipNetId</td>
<td>read-only</td>
<td>This object indicates the network identification information of the SIP voice register pool configured on this router. This object can be the network Id, IP address, or MAC address.</td>
</tr>
<tr>
<td></td>
<td>csrstSipVoRegPoolIpAddrType</td>
<td>read-only</td>
<td>Internet address type governing the address type format for one or more InetAddress objects in this MIB. The associated InetAddress objects’ description will refer back to this type object as appropriate.</td>
</tr>
<tr>
<td></td>
<td>csrstSipNetMask</td>
<td>read-only</td>
<td>This object indicates the IP subnet configured for the SIP voice register pool. The type of IP subnet used here is indicated by the csrstSipVoRegPoolIpAddrType object.</td>
</tr>
<tr>
<td></td>
<td>csrstSipProxySrvIpAddr</td>
<td>read-only</td>
<td>This object indicates the IP address of the proxy server configured for the SIP voice register pool. The type of IP address used here is indicated by the csrstSipVoRegPoolIpAddrType object.</td>
</tr>
<tr>
<td></td>
<td>csrstSipProxySrvPref</td>
<td>read-only</td>
<td>This object indicates the preference order for creating the VoIP dial peers in the voice register pool. Setting the preference enables the desired dial peer to be selected when multiple dial peers within a hunt group are matched for a dial string. A value of 0 has the highest preference.</td>
</tr>
<tr>
<td></td>
<td>csrstSipProxySrvMonitor</td>
<td>read-only</td>
<td>Cisco Unified SIP SRST monitoring protocol of the proxy server configured for the SIP voice register pool. This monitoring protocol can be ICMP ping or RTR probes. icmp (1), rtr (2)</td>
</tr>
<tr>
<td></td>
<td>csrstSipProxySrvAltIpAddr</td>
<td>read-only</td>
<td>Cisco Unified SIP SRST monitoring of an alternate IP address other than the proxy configured for the SIP voice register pool. The type of IP address used here is indicated by the csrstSipVoRegPoolIpAddrType object.</td>
</tr>
<tr>
<td></td>
<td>csrstSipDefaultPreference</td>
<td>read-only</td>
<td>This object indicates the default preference of the proxy dial-peers created in the voice register pool. If csrstSipProxySrvPref object is not set, the default preference is applied to the dial-peers created. A value of 0 has the highest preference.</td>
</tr>
<tr>
<td></td>
<td>csrstSipVoRegPoolAppl</td>
<td>read-only</td>
<td>Application for the SIP dial-peers configured under voice register pool.</td>
</tr>
</tbody>
</table>
### Table 4  SRST MIB Objects by Group and with Descriptions (continued)

<table>
<thead>
<tr>
<th>MIB Group</th>
<th>MIB Object</th>
<th>Max Access</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>csrstSipVoRegNumberListTag</td>
<td>read-only</td>
<td>This object indicates the particular index of the number list configured for the corresponding voice register pool.</td>
</tr>
<tr>
<td></td>
<td>csrstSipVoRegNumberPattern</td>
<td>read-only</td>
<td>This object indicates the number pattern that the registrar permits to handle the register message from the SIP phone. This number pattern is a fully qualified E.164 number.</td>
</tr>
<tr>
<td></td>
<td>csrstSipVoRegNumberPref</td>
<td>read-only</td>
<td>This object indicates the preference of the number pattern configured for the corresponding voice register pool.</td>
</tr>
<tr>
<td></td>
<td>csrstSipVoRegNumberHuntstopEnabled</td>
<td>read-only</td>
<td>This object indicates huntstop is enabled (true) or disabled (false) for the number pattern configured for the corresponding voice register pool.</td>
</tr>
<tr>
<td></td>
<td>csrstSipEndpointTag</td>
<td>not-accessible</td>
<td>This object is a number that indicates a SIP endpoint configured on this Cisco Unified SRST router</td>
</tr>
<tr>
<td></td>
<td>csrstSipVoRegPoolEdptTag</td>
<td>read-only</td>
<td>This object indicates the voice register pool tag from which the corresponding SIP endpoint (dial-peer) is created.</td>
</tr>
<tr>
<td></td>
<td>csrstSipEndpointIpAddrType</td>
<td>read-only</td>
<td>Internet address type governing the address type format for one or more InetAddress objects in this MIB. The associated InetAddress objects' description will refer back to this type object as appropriate.</td>
</tr>
<tr>
<td></td>
<td>csrstSipEndpointIpAddress</td>
<td>read-only</td>
<td>This object indicates the SIP endpoint IP address configured on this router. The type of IP address used here is indicated by the csrstSipEndpointIpAddrType object.</td>
</tr>
<tr>
<td></td>
<td>csrstSipEndpointDN</td>
<td>read-only</td>
<td>This object indicates the SIP phone's DN or line number assigned to the SIP endpoint.</td>
</tr>
<tr>
<td>csrstActiveStatsGroup</td>
<td>csrstSipVoRegNumberListTag</td>
<td>read-only</td>
<td>This object indicates the particular index of the number list configured for the corresponding voice register pool.</td>
</tr>
</tbody>
</table>
|                       | csrstState                                      | read-only   | This object indicates the current state of Cisco Unified SRST feature on this router.  
Active - At least one IP or SIP phone is registered  
Inactive - Cisco Unified SRST has no IP or SIP phones registered  |
|                       | csrstSipPhoneCurrentRegistered                  | read-only   | Total number of SIP phones currently registered to the Cisco Unified SRST router.                                                            |
### Table 4  
**SRST MIB Objects by Group and with Descriptions (continued)**

<table>
<thead>
<tr>
<th>MIB Group</th>
<th>MIB Object</th>
<th>Max Access</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>csrstSipCallLegs</td>
<td>read-only</td>
<td>Total number of SIP call legs routed through the Cisco Unified SRST router since going active. This includes incoming and outgoing calls.</td>
</tr>
<tr>
<td></td>
<td>csrstTotalUpTime</td>
<td>read-only</td>
<td>Accumulated total number of minutes that router is active in SRST mode.</td>
</tr>
</tbody>
</table>

**csrstMIBNotifsGroup**

<table>
<thead>
<tr>
<th></th>
<th>csrstStateChange</th>
<th>notification</th>
<th>An SRST up or down state change notification is generated. This indicates one or more phones is registered to the Cisco Unified SRST router or none is registered.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>csrstSysNotifSeverity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>csrstState</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>csrstSysNotifReason</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>csrstFailNotif</td>
<td>notification</td>
<td>A failure notification is generated when the Cisco Unified SRST router encounters a catastrophic failure.</td>
</tr>
<tr>
<td></td>
<td>csrstSipPhoneUnRegThresholdExceed</td>
<td>notification</td>
<td>A SIP phone unregistration notification is generated when the number of SIP phone unregistrations have exceeded the threshold. The number of currently registered SIP phones is provided here by csrstSipPhoneCurrentRegistered object as a reference such that if csrstSipPhoneCurrentRegistered falls below csrstSipPhoneUnRegThreshold, a notification will be generated to indicate that the number of unregistered SIP phones has crossed the threshold.</td>
</tr>
<tr>
<td></td>
<td>csrstSipPhoneRegFailed</td>
<td>notification</td>
<td>A SIP phone fail registration notification is generated when the SIP phone fails to register.</td>
</tr>
<tr>
<td></td>
<td>csrstConferenceFailed</td>
<td>notification</td>
<td>A conference failure notification is generated when the maximum number of conferences are exceeded.</td>
</tr>
</tbody>
</table>

### Objects for Cisco Unified CME MIB and Cisco Unified SRST MIB

The following objects are common to both the Cisco Unified CME and Cisco Unified SRST MIBs:

- `ccmeEphoneUnRegistrationThreshold`
- `ccmeEphoneTot`
- `ccmeEphoneTotalRegistered`
- `ccmeEphoneCallLegs`
## Cisco-SRST-MIB Object Mappings

Table 5 lists the CISCO-SRST-MIB OID mappings.

<table>
<thead>
<tr>
<th>Object Name</th>
<th>Object ID</th>
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<tr>
<td>ciscoMgmt</td>
<td>1.3.6.1.4.1.9.9.441</td>
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<tr>
<td>ciscoSrstMIB</td>
<td>1.3.6.1.4.1.9.9.441</td>
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<tr>
<td>ciscoSrstMIBNotifications</td>
<td>1.3.6.1.4.1.9.9.441.0</td>
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<td>1.3.6.1.4.1.9.9.441.0.1</td>
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<tr>
<td>csrstFailNotif</td>
<td>1.3.6.1.4.1.9.9.441.0.2</td>
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<tr>
<td>csrstSipPhoneUnRegThresholdExceed</td>
<td>1.3.6.1.4.1.9.9.441.0.3</td>
</tr>
<tr>
<td>csrstSipPhoneRegFailed</td>
<td>1.3.6.1.4.1.9.9.441.0.4</td>
</tr>
<tr>
<td>csrstConferenceFailed</td>
<td>1.3.6.1.4.1.9.9.441.0.5</td>
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<tr>
<td>ciscoSrstMIBObjects</td>
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<tr>
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<tr>
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<td>1.3.6.1.4.1.9.9.441.1.2.6</td>
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<tr>
<td>csrstMaxEphones</td>
<td>1.3.6.1.4.1.9.9.441.1.2.7</td>
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<td>csrstMaxDN</td>
<td>1.3.6.1.4.1.9.9.441.1.2.8</td>
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<td>csrstSipPhoneUnRegThreshold</td>
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<td>csrstCallFwdNoAnswer</td>
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<td>csrstCallFwdNoAnswerTo</td>
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<td>csrstCallFwdBusy</td>
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<td>csrstMohFilename</td>
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<td>csrstMohMulticastAddrType</td>
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<td>csrstMohMulticastAddr</td>
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<td>csrstMohMulticastPort</td>
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<td>csrstVoiceMailNumber</td>
<td>1.3.6.1.4.1.9.9.441.1.2.17</td>
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<tr>
<td>csrstSystemMessagePrimary</td>
<td>1.3.6.1.4.1.9.9.441.1.2.18</td>
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<td>csrstSystemMessageSecondary</td>
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<td>csrstTransferSystem</td>
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</table>
### Table 5  Cisco-SRST-MIB OID Mappings (continued)

<table>
<thead>
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<th>Object Name</th>
<th>Object ID</th>
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<td>csrstTimeFormat</td>
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<td>csrstInterdigitTo</td>
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<tr>
<td>csrstBusyTo</td>
<td>1.3.6.1.4.1.9.9.441.1.2.27</td>
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<td>csrstAlertTo</td>
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### Table 5  Cisco-SRST-MIB OID Mappings (continued)

<table>
<thead>
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<th>Object Name</th>
<th>Object ID</th>
</tr>
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<tbody>
<tr>
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<td>csrstSipProxySrvAltIpAddr</td>
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<td>1.3.6.1.4.1.9.9.441.1.4.6.1.5</td>
</tr>
<tr>
<td>csrstSipEndpointTable</td>
<td>1.3.6.1.4.1.9.9.441.1.4.7</td>
</tr>
<tr>
<td>csrstSipEndpointEntry</td>
<td>1.3.6.1.4.1.9.9.441.1.4.7.1</td>
</tr>
<tr>
<td>csrstSipEndpointTag</td>
<td>1.3.6.1.4.1.9.9.441.1.4.7.1.1</td>
</tr>
<tr>
<td>csrstSipVoRegPoolEdptTag</td>
<td>1.3.6.1.4.1.9.9.441.1.4.7.1.2</td>
</tr>
<tr>
<td>csrstSipEndpointIpAddrType</td>
<td>1.3.6.1.4.1.9.9.441.1.4.7.1.3</td>
</tr>
<tr>
<td>csrstSipEndpointIpAddress</td>
<td>1.3.6.1.4.1.9.9.441.1.4.7.1.4</td>
</tr>
<tr>
<td>csrstSipEndpointDN</td>
<td>1.3.6.1.4.1.9.9.441.1.4.7.1.5</td>
</tr>
<tr>
<td>ciscoSrstMIBConformance</td>
<td>1.3.6.1.4.1.9.9.441.2</td>
</tr>
<tr>
<td>ciscoSrstMIBCompliances</td>
<td>1.3.6.1.4.1.9.9.441.2.1</td>
</tr>
<tr>
<td>ciscoSrstMIBCompliance</td>
<td>1.3.6.1.4.1.9.9.441.2.1.1</td>
</tr>
<tr>
<td>ciscoSrstMIBGroups</td>
<td>1.3.6.1.4.1.9.9.441.2.2</td>
</tr>
<tr>
<td>csrstConfGroup</td>
<td>1.3.6.1.4.1.9.9.441.2.2.1</td>
</tr>
<tr>
<td>csrstNotifInfoGroup</td>
<td>1.3.6.1.4.1.9.9.441.2.2.2</td>
</tr>
<tr>
<td>csrstSysNotifSeverity</td>
<td>1.3.6.1.4.1.9.9.441.2.2.2.1</td>
</tr>
<tr>
<td>csrstSysNotifReason</td>
<td>1.3.6.1.4.1.9.9.441.2.2.2.2</td>
</tr>
<tr>
<td>csrstActiveStatsGroup</td>
<td>1.3.6.1.4.1.9.9.441.2.2.3</td>
</tr>
</tbody>
</table>
Cisco Unified SRST SNMP MIB Support

Information about Cisco Unified SRST SNMP MIB Support

Cisco Unified SRST SNMP MIB Release 4.0 Guide

Cisco Unified SRST MIB Tables

The following tables are common to both the Cisco Unified CME and Cisco Unified SRST MIBs:
- ccmeCorConfTable
- ccmeDialplanPatternTable
- ccmeTransferPatternTable
- ccmeEphoneBtnDNAssocConfTable
- ccmeEphoneActTable
- ccmeEphoneDnChStatsHistoryTable
- ccmeEphoneConfTable

Table 6 lists all the tables that are common to both the Cisco Unified CME and Cisco Unified SRST MIBs.

### Table 5 Cisco-SRST-MIB OID Mappings (continued)

<table>
<thead>
<tr>
<th>Object Name</th>
<th>Object ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>csrstSipConfGroup</td>
<td>1.3.6.1.4.1.9.9.441.2.2.4</td>
</tr>
<tr>
<td>csrstMIBNotifsGroup</td>
<td>1.3.6.1.4.1.9.9.441.2.2.5</td>
</tr>
</tbody>
</table>

### Cisco Unified SRST MIB Tables

The following tables are common to both the Cisco Unified CME and Cisco Unified SRST MIBs:

<table>
<thead>
<tr>
<th>Common Table or Element</th>
<th>Table or Element</th>
<th>Scope of Objects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common COR table</td>
<td>COR table</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ccmeCorTableIndex</td>
<td>ccme, srst-sccp, and srst-sip mode</td>
</tr>
<tr>
<td></td>
<td>ccmeCorTag</td>
<td>ccme, srst-sccp, and srst-sip mode</td>
</tr>
<tr>
<td></td>
<td>ccmeCorListName</td>
<td>ccme, srst-sccp, and srst-sip mode</td>
</tr>
<tr>
<td></td>
<td>ccmeCorScope</td>
<td>ccme, srst-sccp, and srst-sip mode</td>
</tr>
<tr>
<td></td>
<td>ccmeCorDirection</td>
<td>srst-sccp and srst-sip</td>
</tr>
<tr>
<td></td>
<td>ccmeCorStartingNumber</td>
<td>srst-sccp and srst-sip</td>
</tr>
<tr>
<td></td>
<td>ccmeCorEndingNumber</td>
<td>Srst-sccp and srst-sip</td>
</tr>
<tr>
<td></td>
<td>ccmeCorVoiceRegPoolNumber</td>
<td>Applies only to srst-sip mode</td>
</tr>
<tr>
<td></td>
<td>ccmeCorListDefaultEnabled</td>
<td>srst-sccp and srst-sip</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Common Dial Plan table</th>
<th>Dial Plan table</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ccmeDialplanPatternTag</td>
<td>ccme and srst mode</td>
</tr>
<tr>
<td></td>
<td>ccmeDialplanPattern</td>
<td>ccme and srst mode</td>
</tr>
<tr>
<td></td>
<td>ccmeDialplanExtLength</td>
<td>ccme and srst mode</td>
</tr>
<tr>
<td></td>
<td>ccmeDialplanExtPattern</td>
<td>ccme and srst mode</td>
</tr>
<tr>
<td>Common Table or Element</td>
<td>Table or Element</td>
<td>Scope of Objects</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Common Transfer Plan table</td>
<td>Transfer Plan table</td>
<td></td>
</tr>
<tr>
<td>This Cisco Unified SRST Transfer plan feature is in the common Transfer Plan table</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ccmeTransferPattern</td>
<td>ccme and srst mode</td>
<td></td>
</tr>
<tr>
<td>ccmeTransferPatternType</td>
<td>ccme and srst mode</td>
<td></td>
</tr>
<tr>
<td>Common ccmeEphoneConfTable</td>
<td>ccmeEphoneConfTable</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneTag</td>
<td>ccme and srst mode</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneIpAddressType</td>
<td>ccme and srst mode</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneIpAddress</td>
<td>ccme and srst mode</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneMacAddress</td>
<td>ccme and srst mode</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneModel</td>
<td>ccme</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneUsername</td>
<td>ccme</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneKeepAlive</td>
<td>ccme</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneAutoLineOut</td>
<td>ccme</td>
<td></td>
</tr>
<tr>
<td>ccmeEphonePagingDn</td>
<td>ccme</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneAddon</td>
<td>ccme</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneTemplate</td>
<td>ccme</td>
<td></td>
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<tr>
<td>ccmeEphonePagingPolicy</td>
<td>ccme</td>
<td></td>
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<tr>
<td>ccmeEphoneKeyPhone</td>
<td>ccme</td>
<td></td>
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<tr>
<td>ccmeEphoneAutoLineInEnabled</td>
<td>ccme</td>
<td></td>
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<tr>
<td>ccmeEphoneAftHrsBlkExmptEnabled</td>
<td>ccme</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneNightBellSvcEnabled</td>
<td>ccme</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneKeepConfEnabled</td>
<td>ccme</td>
<td></td>
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<tr>
<td>Common ccmeEphoneButton Association tables</td>
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<td>ccmeEphoneBtnDNAssocConfTable</td>
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<td></td>
</tr>
<tr>
<td>ccmeEphoneButtonNumber</td>
<td>ccme and srst mode</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneOverlayDN</td>
<td>ccme and srst mode</td>
<td></td>
</tr>
<tr>
<td>Common Ephone active table</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implemented in CCME MIB—this table is for displaying activities of Ephones</td>
<td>ccmeEphoneActTable</td>
<td>Common Ephone active table contents apply to ccme and srst mode</td>
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</table>
Table 6 Common Tables or Elements for the Cisco Unified CME and Cisco Unified SRST MIBs (continued)

<table>
<thead>
<tr>
<th>Common Table or Element</th>
<th>Table or Element</th>
<th>Scope of Objects</th>
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<tr>
<td>ccmeEphoneDevicename</td>
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</tr>
<tr>
<td>ccmeEphoneRegState</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneActiveDN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneActivityStatus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneKeepAliveCnt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ccmeEphonePendingReset</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneRegTime</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneCurrentFirmwareRev</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ccmeEphonePreviousFirmwareRev</td>
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</tr>
<tr>
<td>ccmeEphoneLastError</td>
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<tr>
<td>ccmeEphoneObservedType</td>
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</tr>
<tr>
<td>ccmeEphoneLoginStatus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneDnDStatus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneDebugStatus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneMediaActive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneTAPIClient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneMediaCapability</td>
<td></td>
<td></td>
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</table>

Ephone-DN history stats

<table>
<thead>
<tr>
<th>Table or Element</th>
<th>Scope of Objects</th>
</tr>
</thead>
<tbody>
<tr>
<td>ccmeEphoneDnChStatsHistoryTable</td>
<td>This table contents apply to ccme and srst</td>
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<td>ccmeEphoneDnChNum</td>
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<tr>
<td>ccmeEphoneDnChIncoming</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneDnChIncoming</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneDnChOutbound</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneDnChOutAnswered</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneDnChOutBusy</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneDnChDiscAtConn</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneDnChDiscAtAlert</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneDnChDiscAtHold</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneDnChDiscAtRing</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneDnChDiscAtCauseNearEnd</td>
<td></td>
</tr>
<tr>
<td>ccmeEphoneDnChDiscCauseFarEnd</td>
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</table>

Common Ephone statistics

<table>
<thead>
<tr>
<th>Table or Element</th>
<th>Scope of Objects</th>
</tr>
</thead>
<tbody>
<tr>
<td>ccmeActiveStats</td>
<td></td>
</tr>
</tbody>
</table>

Total number of Ephones present

<table>
<thead>
<tr>
<th>Table or Element</th>
<th>Scope of Objects</th>
</tr>
</thead>
<tbody>
<tr>
<td>ccmeEphoneTot</td>
<td>ccme and srst</td>
</tr>
</tbody>
</table>

This refers to total number of Skinny phones registered to Cisco Unified SRST

<table>
<thead>
<tr>
<th>Table or Element</th>
<th>Scope of Objects</th>
</tr>
</thead>
<tbody>
<tr>
<td>EphoneTotalRegistered</td>
<td>ccme and srst</td>
</tr>
</tbody>
</table>
Table 6  Common Tables or Elements for the Cisco Unified CME and Cisco Unified SRST MIBs (continued)

<table>
<thead>
<tr>
<th>Common Table or Element</th>
<th>Table or Element</th>
<th>Scope of Objects</th>
</tr>
</thead>
<tbody>
<tr>
<td>This refers to the total number of Ephone call legs routed through Cisco Unified SRST</td>
<td>EphoneCallLegs</td>
<td>ccme and srst</td>
</tr>
<tr>
<td></td>
<td>ccmeEphoneTotKeyPhConfigured</td>
<td>ccme</td>
</tr>
<tr>
<td></td>
<td>ccmeEphoneTotKeyPhRegistered</td>
<td>ccme</td>
</tr>
<tr>
<td>Trap</td>
<td>EphoneUnRegistrationThresholdExceed</td>
<td>ccme and srst mode</td>
</tr>
<tr>
<td>Trap</td>
<td>EphoneFailRegistration</td>
<td>ccme and srst mode</td>
</tr>
<tr>
<td>Trap</td>
<td>ccmeEphoneDeceased</td>
<td>ccme and srst mode</td>
</tr>
<tr>
<td>Read/Write object</td>
<td>EphoneUnRegistrationThreshold</td>
<td>ccme and srst mode</td>
</tr>
</tbody>
</table>

Cisco Unified SRST MIB Notifications/Traps

The following notifications/traps are common to both the Cisco Unified CME and Cisco Unified SRST MIBs:

- ccmeEphoneUnRegistrationThresholdExceed
- ccmeEPhoneRegFailed
- ccmeEPhoneDeceased

Using SNMP and MIBs to Extract CISCO-SRST-MIB Information

SNMP has historically been used to collect network information. SNMP permits retrieval of critical information from network elements such as routers, switches, and workstations. The CISCO-SRST-MIB feature uses SNMP to gather remote site status information.

The CISCO-SRST-MIB feature allows remote site status data for the managed devices on your system to be retrieved by SNMP. You can specify retrieval of CISCO-SRST-MIB information from a managed device (for example, a router) either by entering commands on that managed device or by entering SNMP commands from the NMS workstation to configure the router by the MIB. If the CISCO-SRST-MIB information is configured from the network management system (NMS) workstation, no access to the router is required and all configuration can be performed by SNMP. The CISCO-SRST-MIB request for information is sent from an NMS workstation by SNMP to the router and is retrieved from the router. This information can then be stored or viewed, thus allowing CISCO-SRST-MIB information to be easily accessed and transported across a multivendor programming environment.

SRST Traps

SRST traps are SNMP traps, which are unsolicited notifications of an unusual or a catastrophic system event sent to the system administrator. To configure SRST traps, see the “Enabling Traps in SRST Mode” section on page 53.

SRST traps or alerts are sent for the following:
• Notification (alarm/trap): SRST SCCP port is down.
• Threshold (trap and event correlation) on phones registering back and forth between CM and Cisco Unified SRST router due to flapping WAN link.
• Threshold (trap and event correlation) on phones registering back and forth between SIP server/proxy and Cisco Unified SIP SRST router due to flapping WAN link.

Note
Send traps by modem or ISDN dial backup links to a secondary NMS when the primary NMS is down. (Do this through the configuration in the Cisco Unified SRST router.)

Receiving Notifications/Traps

Notifications and traps are asynchronously generated by Cisco Unified SRST to pass information about certain device status changes. Table 7 lists the Cisco Unified SRST notifications/traps and additional information regarding each notification or trap.

<table>
<thead>
<tr>
<th>Notification/Trap</th>
<th>Reason</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>csrstStateChange</td>
<td>SRST system state change up</td>
<td>Minor</td>
</tr>
<tr>
<td>csrstStateChange</td>
<td>SRST system state change down</td>
<td>Minor</td>
</tr>
<tr>
<td>csrstStateChange</td>
<td>SIP SRST system state change up</td>
<td>Minor</td>
</tr>
<tr>
<td>csrstStateChange</td>
<td>SIP SRST system state change down</td>
<td>Minor</td>
</tr>
<tr>
<td>csrstFailNotif</td>
<td>Skinny listening socket setup error</td>
<td>Minor (when system is running)</td>
</tr>
<tr>
<td>csrstFailNotif</td>
<td>Maximum number of allowed sockets has been exceeded</td>
<td>Minor (when system is running)</td>
</tr>
<tr>
<td>csrstFailNotif</td>
<td>Skinny server initialization failed</td>
<td>Major (at initialization)</td>
</tr>
<tr>
<td></td>
<td>Sockets initialization failed</td>
<td></td>
</tr>
<tr>
<td>csrstFailNotif</td>
<td>Skinny server initialization failed</td>
<td>Major (at initialization)</td>
</tr>
<tr>
<td></td>
<td>Not enough memory</td>
<td></td>
</tr>
<tr>
<td>csrstFailNotif</td>
<td>Not enough memory to create Registrar Control Block (rcb) for SIP Voice Register DNS</td>
<td>Minor</td>
</tr>
<tr>
<td>csrstFailNotif</td>
<td>Not enough memory to create Call Control Block (ccb) from SIP registrar outgoing</td>
<td>Minor</td>
</tr>
</tbody>
</table>

How to Configure Cisco Unified SRST SNMP MIB Support

This section contains the following topics:

• Enabling the SNMP Agent, page 49
• Verifying the Enabling of the SNMP Agent, page 50
• Configuring Cisco Unified SRST Mode, page 51
• Enabling Traps in SRST Mode, page 53
Enabling the SNMP Agent

The SNMP Agent for the SRST/CCME MIB is disabled by default. To enable the SNMP agent for the CISCO-SRST-MIB, perform the following steps on the router on which the CISCO-SRST-MIB feature is to be used.

Prerequisites

- Cisco Unified CallManager Fallback must be configured on your system.
- An SNMP manager must be available on the network. For information about configuring an SNMP server for use with a MIB, refer to the “Configuring SNMP Support” chapter of the Cisco IOS Configuration Fundamentals and Network Management Configuration Guide.
- Traps are defined in the NMS software.
- Alarm events are not put into “log only” mode and come up as an Alarm.

SUMMARY STEPS

1. `telnet ipaddress`
2. `enable`
3. `show running-config`
4. `config terminal`
5. `snmp-server community xxxxxx RO`
6. `snmp-server community xxxxxx RW`
7. `exit`
8. `write memory`

DETAILED STEPS

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong> <code>telnet ipaddress</code></td>
<td>Telnets to the router identified by the specified IP address.</td>
</tr>
<tr>
<td><strong>Example:</strong> Prompt# telnet xxx.xxxx.xxx.xxxx</td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong> <code>enable</code></td>
<td>Enters the privileged EXEC mode.</td>
</tr>
<tr>
<td><strong>Example:</strong> Router# enable</td>
<td>- Enter your password if required.</td>
</tr>
</tbody>
</table>
Verifying the Enabling of the SNMP Agent

To verify that the SNMP agent has been enabled on a given network device, perform the following steps:

Step 1 Telnet to the target device:

Router# telnet xxx.xxx.xxx.xxx
where xxx.xxx.xxx.xxx represents the IP address of the target device.

Step 2 Establish the enable mode on the device:

Router# enable

Step 3 Display the running configuration on the device and examine the output for any displayed SNMP information:

Router# show running-config
... 
... 
snmp-server community public RO
snmp-server community private RW

Any "snmp-server" statement appearing in the output that takes the form shown above verifies that SNMP has been enabled on the specified device.

## Configuring Cisco Unified SRST Mode

Perform the following steps to configure Cisco Unified SRST mode.

**Step 1** Have Ephones registered to Cisco Unified CME or CallManager before enabling Cisco Unified SRST.

**Step 2** Have an Ephone-dn assigned to each Ephone.

**Step 3** Have a button associated with each Ephone-dn.

**Step 4** Configure and show call-manager-fallback.

**Step 5** Verify the response to show call-manager-fallback is similar to the following:

```
SRST-Router#sh call-manager-fallback
CONFIG (Version=3.3)
===================== Version 3.3
For on-line documentation please see:

ip source-address 1.4.196.1 port 2000
max-ephones 10
max-dn 10
max-conferences 8 gain -6
dspfarm units 0
dspfarm transcode sessions 0
huntstop
dialplan-pattern 2 2222 extension-length 2 extension-pattern 20 no-reg
dialplan-pattern 4 4444 extension-length 4 extension-pattern 4040
dialplan-pattern 5 5555 extension-length 2 extension-pattern 50
access-code bri 333 direct-inward-dial
access-code pri 44 direct-inward-dial
time-format 24
date-format yy-mm-dd
timezone 0 Greenwich Standard Time
transfer-pattern 111 blind
transfer-pattern 202
transfer-pattern 301 blind
cor incoming eng default
cor incoming eng 1 2000
cor outgoing hr 1 1000
cor incoming eng 2 2000-2010
cor outgoing hr 2 2000
alias 1 1234 to 9988 huntstop
alias 2 2222 to 5552222
alias 4 4444 to 5554444
alias 8 8888 to 5558888
keepalive 30
timeout interdigit 10
timeout busy 10
timeout ringing 180
caller-id name-only: enable
Limit number of DNs per phone: 7910: 34
```
Step 6 Simulate a link failure for Ephones to fall back to Cisco Unified SRST mode.

Step 7 Issue the following command to check call-manager-fallback configuration:

```
getmany -v2c <ip addr> test csrstConf
```

Step 8 Verify the response to `getmany` is similar to the following:

```
moki:1929> getmany -v2c 1.4.196.1 test csrstConf
 csrstEnabled.0 = true(1)
 csrstVersion.0 = 3.3
 csrstIPAddressType.0 = ipv4(1)
 csrstIPAddress.0 = 1.4.196.1
 csrstPortNumber.0 = 2000
 csrstMaxConferences.0 = 8
 csrstMaxEphones.0 = 10
 csrstMaxDN.0 = 10
 csrstSlpPhoneUnRegThreshold.0 = 480
 csrstCallPwDNoAnswer.0 =
 csrstCallPwDNoAnswerTo.0 = 180
 csrstCallPwDBusy.0 =
 csrstMohFilename.0 =
 csrstMohMulticastAddrType.0 = ipv4(1)
 csrstMohMulticastAddr.0 = 0.0.0.0
 csrstMohMulticastPort.0 = 0
 csrstVoiceMailNumber.0 =
 csrstSystemMessagePrimary.0 =
 csrstSystemMessageSecondary.0 =
 csrstScriptName.0 =
 csrstSecondaryDialTone.0 =
 csrstTransferSystem.0 = blind(1)
 csrstUserLocaleInfo.0 = us(11)
 csrstDateFormat.0 = yymmdd(4)
 csrstTimeFormat.0 = twentyFourHour(2)
 csrstInterdigitTo.0 = 10
 csrstBusyTo.0 = 10
 csrstAlertTo.0 = 180
 csrstXlateCalledNumber.0 = 0
 csrstXlateCallingNumber.0 = 0
 csrstAliasTag.0 = 1
 csrstAliasTag.1 = 2
 csrstAliasTag.2 = 4
 csrstAliasTag.3 = 8
 csrstAliasTag.4 = 2
 csrstAliasTag.5 = 4
 csrstAliasTag.6 = 1
 csrstAliasTag.7 = 5
 csrstAliasNumPattern.0 = 9988
 csrstAliasNumPattern.1 = 5552222
 csrstAliasNumPattern.2 = 5554444
 csrstAliasNumPattern.3 = 5558888
 csrstAliasNumPattern.4 = 2222
 csrstAliasNumPattern.5 = 4444
 csrstAliasNumPattern.6 = 1013
 csrstAliasNumPattern.7 = 5013
```
Enabling Traps in SRST Mode

To enable traps in SRST mode, perform the following steps:

**Step 1** Issue the following command:

```
Setany -v2c <ip addr> test csrstNotificationEnabled.0 -i 1
```

**Step 2** When the Cisco Unified SRST has at least 1 SCCP phone with DN associated with it, an “SRST system state change up” trap is generated.

```
*Mar 10 23:13:15.632: SNMP: V1 Trap, ciscoMgmt.441, addr 1.4.196.1, gentrap 6, spectrap 1
ciscoMgmt.441.2.2.2.1.2.1.1.1.1.1 = 2
ciscoMgmt.441.1.3.1.2.1.1 = 1
ciscoMgmt.441.2.2.2.2.2.1 = SRST system state change up
```
Monitoring SCCP Phone Statistics

To monitor SCCP phone statistics, perform the following steps:

**Step 1**
Register the Ephones to the Cisco Unified SRST router.

**Step 2**
Issue the following CLI command:

```
show ephone summary
```

**Step 3**
Verify the response to `show Ephone summary` is similar to the following:

```
SRST-Router#sh ephone summary

ephone-1 Mac:000F.24BA.2C37 TCP socket:[1] activeLine:0 REGISTERED
mediaActive:0 offhook:0 ringing:0 reset:0 reset_sent:0 debug:0
IP:1.4.196.42 7912 keepalive 2 1:1 2:2 CM Fallback
ephone-2 Mac:0011.BBEF.7554 TCP socket:[2] activeLine:0 REGISTERED
mediaActive:0 offhook:0 ringing:0 reset:0 reset_sent:0 debug:0
IP:1.4.196.2 Telecaster 7960 keepalive 2 CM Fallback
ephone-3 Mac:000D.2808.427F TCP socket:[3] activeLine:0 REGISTERED
mediaActive:0 offhook:0 ringing:0 reset:0 reset_sent:0 debug:0
IP:1.4.196.3 Telecaster 7960 keepalive 1 CM Fallback

Max 10, Registered 3, Unregistered 0, Deceased 0, Sockets 3
ephone_send_packet process switched 0

Max Conferences 8 with 0 active (8 allowed)
Skinny Music On Hold Status
Active MOH clients 0 (max 480), Media Clients 0
No MOH file loaded
```

**Step 4**
Issue the following SNMP request:

```
Getmany -v2c <ip addr> test ccmeActiveStats
```

**Step 5**
Verify the response for the `getmany` request is similar to the following:

```
moki:1931> getmany -v2c 1.4.196.1 test ccmeActiveStats
cmseEphoneCallLegs.0 = 0
cmseEphoneTot.0 = 3
cmseEphoneTotRegistered.0 = 3
cmseEphoneTotKeyPhConfigured.0 = 0
cmseEphoneTotKeyPhRegistered.0 = 0
ccmseEphoneDeviceName.1 = SEP000F24BA2C37
cmseEphoneDeviceName.2 = SEP000D2808427F
ccmseEphoneDeviceName.3 = SEP0011BBEF7554
ccmseEphoneRegState.1 = registered(1)
cmseEphoneRegState.2 = registered(1)
cmseEphoneRegState.3 = registered(1)
cmseEphoneActiveDN.1 = 0
cmseEphoneActiveDN.2 = 0
cmseEphoneActiveDN.3 = 0
cmseEphoneActivityStatus.1 = onhook(1)
cmseEphoneActivityStatus.2 = onhook(1)
cmseEphoneActivityStatus.3 = onhook(1)
cmseEphoneKeepAliveCnt.1 = 3
cmseEphoneKeepAliveCnt.2 = 4
cmseEphoneKeepAliveCnt.3 = 3
cmseEphonePendingReset.1 = false(2)
```
ccmeEphonePendingReset.2 = false(2)
cemmeEphonePendingReset.3 = false(2)
cemmeEphoneRegTime.1 = 
cemmeEphoneRegTime.2 = 
cemmeEphoneRegTime.3 = 
cemmeEphoneCurrentFirmwareRev.1 = CP7912010200SCCP031023
ccmeEphoneCurrentFirmwareRev.2 = 7.0(2.0)
cemmeEphoneCurrentFirmwareRev.3 = 7.0(2.0)
cemmeEphonePreviousFirmwareRev.1 = 
cemmeEphonePreviousFirmwareRev.2 = 
cemmeEphonePreviousFirmwareRev.3 = 
cemmeEphoneLastError.1 = Initialized
ccmeEphoneLastError.2 = CM-closed-TCP
ccmeEphoneLastError.3 = CM-closed-TCP
ccmeEphoneObservedType.1 = 7912
ccmeEphoneObservedType.2 = Telecaster 7960
ccmeEphoneObservedType.3 = Telecaster 7960
cemmeEphoneLoginStatus.1 = false(2)
cemmeEphoneLoginStatus.2 = false(2)
cemmeEphoneLoginStatus.3 = false(2)
cemmeEphoneDnDStatus.1 = false(2)
cemmeEphoneDnDStatus.2 = false(2)
cemmeEphoneDnDStatus.3 = false(2)
cemmeEphoneDebugStatus.1 = false(2)
cemmeEphoneDebugStatus.2 = false(2)
cemmeEphoneDebugStatus.3 = false(2)
cemmeEphoneMediaActive.1 = false(2)
cemmeEphoneMediaActive.2 = false(2)
cemmeEphoneMediaActive.3 = false(2)
cemmeEphoneTAPIClient.1 = false(2)
cemmeEphoneTAPIClient.2 = false(2)
cemmeEphoneTAPIClient.3 = false(2)
cemmeEphoneMediaCapability.1 = audioOnly(1)
cemmeEphoneMediaCapability.2 = audioOnly(1)
cemmeEphoneMediaCapability.3 = audioOnly(1)
cemmeEphoneRemote.1 = true(1)
cemmeEphoneRemote.2 = true(1)
cemmeEphoneRemote.3 = true(1)
cemmeMobSource.0 = liveFeed(2)
cemmeNightServiceEnabled.0 = false(2)

Retrieving SIP Phone Registrations

To retrieve SIP phone registrations, perform the following steps:

**Step 1** Register the SIP phones to the Cisco Unified SRST router.

**Step 2** Issue the following CLI command:

```
Show voice register pool <pool #>
```

**Step 3** Verify the `show voice register` response is similar to the following:

```
SRST-Router#sh voice regi pool 1
Pool Tag 1
Config:
Network address is 1.4.196.0, Mask is 255.255.255.0
Proxy Ip address is 1.4.196.1
DTMF Relay is disabled
```
Dialpeers created:

dial-peer voice 40001 voip
destination-pattern 5001
redirect ip2ip
session target ipv4:1.4.196.41:25672
session protocol sipv2

dial-peer voice 40002 voip
destination-pattern 5001
redirect ip2ip
session target ipv4:1.4.196.1:5060
session protocol sipv2
monitor probe rtr 1.4.196.1

dial-peer voice 40003 voip
destination-pattern 5002
redirect ip2ip
session target ipv4:1.4.196.41:25672
session protocol sipv2

dial-peer voice 40004 voip
destination-pattern 5002
redirect ip2ip
session target ipv4:1.4.196.1:5060
session protocol sipv2
monitor probe rtr 1.4.196.1

Statistics:
Active registrations : 4

Total Registration Statistics
Registration requests : 4
Registration success : 4
Registration failed : 0
unRegister requests : 0
unRegister success : 0
unRegister failed : 0

Step 4 Issue the following SNMP request:
Getmany -v2c <ip addr> test csrstSipEndpointTable

Step 5 Verify the response for the getmany request is similar to the following:
moki:1919> getmany -v2c 1.4.196.1 test csrstSipEndpointTable
csrstSipVoRegPoolEdptTag.0 = 1
csrstSipVoRegPoolEdptTag.1 = 1
csrstSipVoRegPoolEdptTag.2 = 1
csrstSipVoRegPoolEdptTag.3 = 1
csrstSipEndpointTpAddrType.0 = ipv4(1)
csrstSipEndpointTpAddrType.1 = ipv4(1)
csrstSipEndpointTpAddrType.2 = ipv4(1)
csrstSipEndpointTpAddrType.3 = ipv4(1)
csrstSipEndpointTpAddress.0 = ipv4:1.4.196.41:26057
csrstSipEndpointTpAddress.1 = ipv4:1.4.196.1:5060
csrstSipEndpointTpAddress.2 = ipv4:1.4.196.41:26057
csrstSipEndpointTpAddress.3 = ipv4:1.4.196.1:5060
csrstSipEndpointDN.0 = 5001
csrstSipEndpointDN.1 = 5001
csrstSipEndpointDN.2 = 5002
csrstSipEndpointDN.3 = 5002
Configuration Examples

This section contains the following examples:

- Complete Cisco Unified SRST Configuration: Example, page 57

Complete Cisco Unified SRST Configuration: Example

The following is a complete configuration example for Cisco Unified SRST. It is provided to give you an example of the commands used when configuring Cisco Unified SRST.

```
SRST-Router#sh run

hostname SRST-Router

ip subnet-zero
ip cef

! hostname SRST-Router
!
!

voice service voip
sip
  registrar server expires max 600 min 60
!
!
voice class codec 1
codec preference 1 g711ulaw
codec preference 2 g729br8
!
!
!
!
!

voice register pool 1
id network 1.4.196.0 mask 255.255.255.0
proxy 1.4.196.1 monitor probe rtr
!
voice register pool 3
id network 1.4.4.1 mask 255.255.255.0
number 2 2020 preference 2
number 4 4040 preference 4
alias 2 2211 to 2222 preference 2
alias 4 4411 to 4444 preference 4
!
voice register pool 4
```
id network 1.4.199.1 mask 255.255.255.255
proxy 1.4.100.1

! voice register pool 7
id mac 0002.0002.0002
number 3 3030 preference 3
number 10 10 preference 10
cor incoming eng 1 1000
cor incoming eng 3 3000
cor outgoing eng 4 4000
proxy 1.4.196.7 monitor probe rtr
alias 1 1012 to 1013 preference 2
alias 5 5012 to 5013 preference 4

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interface FastEthernet0/0
ip address 1.4.196.1 255.255.255.0
no ip route-cache cef
no ip route-cache
no ip mroute-cache
duplex auto
speed auto
no cdp enable
!
interface FastEthernet0/1
ip address 3.0.0.1 255.255.255.0
no ip mroute-cache
duplex auto
speed auto
no keepalive
no cdp enable
!
interface Serial0/2:1
ip address 12.12.12.1 255.255.255.0
!
ip classless
ip route 0.0.0.0 0.0.0.0 1.4.0.1
ip route 4.0.0.0 255.255.255.0 FastEthernet0/0
ip route 223.255.254.0 255.255.255.0 1.4.0.1
ip route 223.255.254.254 255.255.255.255 FastEthernet0/0
!
no ip http server
!
snmp-server community public RW
snmp-server community test RW
snmp-server contact helloall
snmp-server host 1.4.198.78 SNMP
snmp-server host 1.4.198.78 SNMPv2c
no cdp run
arp 3.3.3.3 0000.0000.001a ARPA
!

tftp-server flash:SIP000F23AD6FBC.cnf
tftp-server flash:SIPDefault.cnf
tftp-server flash:OS79XX.TXT
tftp-server flash:P0S3-04-1-00.bin
tftp-server flash:P00305000300.bin
! control-plane
!
!
voice-port 0/3:2
no ignore rx-c-bit
no ignore rx-d-bit
condition tx-a-bit off
condition tx-b-bit invert
condition tx-c-bit on
!
voice-port 0/3:3
!
voice-port 4/0/0
!
voice-port 4/0/1
!
!
!
dial-peer cor custom
name test_sharmukh_member
name liz
!
!
dial-peer cor list test
!
dial-peer cor list name
!
dial-peer cor list eng
member liz
!
dial-peer cor list hr
!
!
dial-peer voice 2001 pots
destination-pattern 2001
!
dial-peer voice 9002 voip
corlist incoming eng
destination-pattern ....
session target ipv4:1.4.196.77
dtmf-relay h245-alphanumeric
ip qos dscp cs5 media
!
dial-peer voice 9003 voip
destination-pattern ....
session target ipv4:1.4.196.78
dtmf-relay h245-alphanumeric
ip qos dscp cs5 media
!
dial-peer voice 9001 voip
!
gateway
timer receive-rtp 1200
security password 1511021P0725 level endpoint
!
sip-ua
sip-server ipv4:1.4.196.1
!
!
call-manager-fallback
max-conferences 8 gain -6
limit-dn 7960 20
ip source-address 1.4.196.1 port 2000
max-ephones 10
max-dn 10
dialplan-pattern 2 2222 extension-length 2 extension-pattern 20 no-reg
dialplan-pattern 4 4444 extension-length 4 extension-pattern 4040
dialplan-pattern 5 5555 extension-length 2 extension-pattern 50
transfer-pattern 111 blind
transfer-pattern 202
transfer-pattern 301 blind
access-code bri 333 direct-inward-dial
access-code pri 44 direct-inward-dial
alias 1 1234 to 9988 huntstop
alias 2 2222 to 5552222
alias 4 4444 to 5554444
alias 8 8888 to 5558888
time-format 24
date-format yy-mm-dd
cor incoming eng default
cor incoming eng 1 2000
cor incoming eng 2 2000 - 2010
cor outgoing hr 1 1000
cor outgoing hr 2 2000
!
line con 0
exec-timeout 0 0
line aux 0
line vty 0 4
login
!
end

There is no reason string or severity sent with the following traps:

- csrstSipPhoneUnRegThresholdExceed
- csrstSipPhoneRegFailed
- csrstConferenceFailed

The following list contains all the CISCO-SRST-MIB traps.

- csrstStatusChange - SRST status change trap (Up)

*Mar  7 20:56:23.207: SNMP: V1 Trap, ent ciscoMgmt.441, addr 1.4.196.10, gentrap 6, spectrap 1
ciscoMgmt.441.2.2.1.2.1 = 2
ciscoMgmt.441.1.3.1.2.1 = 1
ciscoMgmt.441.2.2.2.2.1 = 1
  ciscoMgmt.441.2.2.2.2.1 = SRST system state change up

- csrstStateChange - SRST status change trap (Down)

*Mar  7 20:57:23.199: SNMP: V1 Trap, ent ciscoMgmt.441, addr 1.4.196.10, gentrap 6, spectrap 1
ciscoMgmt.441.2.2.1.2.1 = 2
ciscoMgmt.441.1.3.1.2.1 = 2
ciscoMgmt.441.2.2.2.2.1 = SRST system state change down

- csrstStateChange - SIP-SRST status change trap (Up)

*Mar  7 20:56:23.459: SNMP: V1 Trap, ent ciscoMgmt.441, addr 1.4.196.10, gentrap 6, spectrap 1
ciscoMgmt.441.2.2.1.2.1 = 2
ciscoMgmt.441.1.3.1.2.2 = 1

ciscoMgmt.441.2.2.2.2.2.2 = SIP SRST system state change up

- csrstStateChange - SIP-SRST status change trap (Down)

*Mar  7 20:57:23.451: SNMP: V1 Trap, ent ciscoMgmt.441, addr 1.4.196.10, gentrap 6, spectrap 1
  ciscoMgmt.441.2.2.2.1.2.2 = 2
  ciscoMgmt.441.1.3.1.2.2 = 2
  ciscoMgmt.441.2.2.2.2.2.2 = SIP SRST system state change down

- csrstSipPhoneUnRegThresholdExceeded Trap – SIP phone unregistration threshold exceeded

*Mar  8 23:53:01.480: SNMP: V1 Trap, ent ciscoMgmt.441, addr 1.4.196.11, gentrap 6, spectrap 3
  ciscoMgmt.441.1.2.9.1.1 = 1
  ciscoMgmt.441.1.3.2.1.1 = 1

- csrstFailNotif – SRST System Failure Notification

*Mar  6 01:53:58.957: SNMP: V1 Trap, ent ciscoMgmt.441, addr 1.4.196.1, gentrap 6, spectrap 2
  ciscoMgmt.441.2.2.2.1.1 = 1
  ciscoMgmt.441.2.2.2.1 = Skinny listening socket setup error

- csrstMaxConferenceExceeded – SRST maximum number of conferences exceeded

*Mar 10 19:16:56.165: SNMP: V1 Trap, ent ciscoMgmt.441, addr 1.4.196.1, gentrap 6, spectrap 5
  ciscoMgmt.441.1.2.6.0 = 8

- csrstSipPhoneRegFailed – SIP phone failed to register

*Mar 11 19:25:00.663: SNMP: V1 Trap, ent ciscoMgmt.441, addr 1.4.196.1, gentrap 6, spectrap 4
  ciscoMgmt.441.1.4.7.1.4.0 = 1.4.196.41

Command Reference

All Cisco IOS commands used with the CISCO-SRST-MIB feature are documented in the Cisco IOS Release command reference publications.

Glossary

The following terms are used in this document.

ATA — Analog Telephone Adaptor
BRI — Basic Rate Interface
ccb — Call Control Block
CCME — Cisco Unified CallManager Express
COR — Class of Restriction
CTI — Computer Telephony Integration
CUE — Cisco Unity Express
DN — directory number
DnD — do-not-disturb
E&M — ear and mouth (also recEive and transMit)
Ephone — Ethernet phone
FXO — foreign exchange office
GUI — Graphical User Interface
IETF — Internet Engineering Task Force
IVR — Interactive Voice Response
MIB — Management Information Base
MoH — Music on hold
MWI — message-waiting indicator
OID — Object Identifier
PLAR — private line, automatic ringdown
PRI — Primary Rate Interface
rcb — Registrar Control Block
RFC — Requests for Comment
SCCP — Skinny Client Control Protocol
SIP — Session Initiated Protocol
SNMP — Simple Network Management Protocol
SRST — Survivable Remote Site Telephony
TCL — Tool Command Language
VoFR — Voice over Frame Relay