



Configuring Communication Services

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Communication Services

You can use the communication services defined below to interface third-party applications with Cisco UCS.

Cisco UCS Manager supports IPv4 and IPv6 address access for the following services:

- CIM XML
- HTTP
- HTTPS
- SNMP
- SSH
- Telnet

Cisco UCS Manager supports out-of-band IPv4 address access to the **Cisco UCS KVM Direct** launch page from a web browser. To provide this access, you must enable the following service:

- CIMC Web Service

Communication Service	Description
CIM XML	<p>The Common Information Model (CIM) XML service is disabled by default and is only available in read-only mode. The default port is 5988.</p> <p>The CIM XML is a standards-based protocol for exchanging CIM information that the Distributed Management Task Force defines.</p>
CIMC Web Service	<p>This service is disabled by default.</p> <p>When this service is enabled, users can directly access a server CIMC using one of the out-of-band management IP addresses assigned directly to the server, or associated with the server through a service profile.</p> <p>Note CIMC Web Service can only be enabled or disabled globally. You cannot configure KVM direct access for individual CIMC IP addresses.</p>
HTTP	<p>By default, HTTP is enabled on port 80.</p> <p>You can run the Cisco UCS Manager GUI in an HTTP or HTTPS browser. If you select HTTP, all data is exchanged in clear text mode.</p> <p>For a secure browser session, we recommend that you enable HTTPS and disable HTTP.</p> <p>By default, Cisco UCS implements a browser redirects to an HTTPS equivalent and recommends that you do not change this behavior.</p> <p>Note If you are upgrading to Cisco UCS, version 1.4(1), the browser redirect to a secure browser does not occur by default. To redirect the HTTP browser to an HTTPS equivalent, enable the Redirect HTTP to HTTPS in Cisco UCS Manager.</p>
HTTPS	<p>By default, HTTPS is enabled on port.</p> <p>With HTTPS, all data is exchanged in encrypted mode through a secure server.</p> <p>For a secure browser session, We recommend that you only use HTTPS and either disable or redirect HTTP communications.</p>
SMASH CLP	<p>This service is enabled for read-only access and supports a limited subset of the protocols, such as the show command. You cannot disable it.</p> <p>This shell service is one of the standards that the Distributed Management Task Force defines.</p>
SNMP	<p>By default, this service is disabled. If enabled, the default port is 161. You must configure the community and at least one SNMP trap.</p> <p>Enable this service only if your system includes integration with an SNMP server.</p>
SSH	<p>This service is enabled on port 22. You cannot disable it, and you cannot change the default port.</p> <p>This service provides access to the Cisco UCS Manager CLI.</p>
Telnet	<p>By default, this service is disabled.</p> <p>This service provides access to the Cisco UCS Manager CLI.</p>

Configuring CIM-XML

Procedure

- Step 1** In the **Navigation** pane, click **Admin**.
 - Step 2** Expand All > **Communication Management** > **Communication Services**.
 - Step 3** Select the **Communication Services** tab.
 - Step 4** In the **CIM-XML** area, click the **Enabled** radio button.
The **CIM-XML** area expands to display the default **Port** number, 5988. You cannot change this port number.
 - Step 5** Click **Save Changes**.
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Configuring HTTP

Procedure

- Step 1** In the **Navigation** pane, click **Admin**.
 - Step 2** Expand All > **Communication Management** > **Communication Services**.
 - Step 3** Click the **Communication Services** tab.
 - Step 4** In the **HTTP** area, click the **Enabled** radio button.
The **HTTP** area expands to display the available configuration options.
 - Step 5** (Optional) In the **Port** field, change the default port that Cisco UCS Manager GUI uses for HTTP.
The default port is 80.
 - Step 6** (Optional) In the **Redirect HTTP to HTTPS** field, click the **Enabled** radio button.
You must also configure and enable HTTPS to enable redirection of HTTP logins to the HTTPS login. Once enabled, you cannot disable the redirection until you have disabled HTTPS.
Note If you redirect HTTP to HTTPS, you cannot use HTTP to access Cisco UCS Manager GUI. Redirection disables HTTP as it automatically redirects to HTTPS.
 - Step 7** Click **Save Changes**.
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Configuring HTTPS

Certificates, Key Rings, and Trusted Points

HTTPS uses components of the Public Key Infrastructure (PKI) to establish secure communications between two devices, such as a client's browser and Cisco UCS Manager.

Encryption Keys and Key Rings

Each PKI device holds a pair of asymmetric Rivest-Shamir-Adleman (RSA) encryption keys, one kept private and one made public, stored in an internal key ring. A message encrypted with either key can be decrypted with the other key. To send an encrypted message, the sender encrypts the message with the receiver's public key, and the receiver decrypts the message using its own private key. A sender can also prove its ownership of a public key by encrypting (also called 'signing') a known message with its own private key. If a receiver can successfully decrypt the message using the public key in question, the sender's possession of the corresponding private key is proven. Encryption keys can vary in length, with typical lengths from 512 bits to 2048 bits. In general, a longer key is more secure than a shorter key. Cisco UCS Manager provides a default key ring with an initial 1024-bit key pair, and allows you to create additional key rings.

The default key ring certificate must be manually regenerated if the cluster name changes or the certificate expires.

This operation is only available in the UCS Manager CLI.

Certificates

To prepare for secure communications, two devices first exchange their digital certificates. A certificate is a file containing a device's public key along with signed information about the device's identity. To merely support encrypted communications, a device can generate its own key pair and its own self-signed certificate. When a remote user connects to a device that presents a self-signed certificate, the user has no easy method to verify the identity of the device, and the user's browser will initially display an authentication warning. By default, Cisco UCS Manager contains a built-in self-signed certificate containing the public key from the default key ring.

Trusted Points

To provide stronger authentication for Cisco UCS Manager, you can obtain and install a third-party certificate from a trusted source, or trusted point, that affirms the identity of your device. The third-party certificate is signed by the issuing trusted point, which can be a root certificate authority (CA) or an intermediate CA or trust anchor that is part of a trust chain that leads to a root CA. To obtain a new certificate, you must generate a certificate request through Cisco UCS Manager and submit the request to a trusted point.



Important The certificate must be in Base64 encoded X.509 (CER) format.

Creating a Key Ring

Cisco UCS Manager supports a maximum of 8 key rings, including the default key ring.

Procedure

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- Step 1** In the **Navigation** pane, click **Admin**.
- Step 2** Expand **All > Key Management**.
- Step 3** Right-click **Key Management** and choose **Create Key Ring**.
- Step 4** In the **Create Key Ring** dialog box, do the following:
- In the **Name** field, enter a unique name for the key ring.
 - In the **Modulus** field, select one of the following radio buttons to specify the SSL key length in bits:
 - **Mod512**
 - **Mod1024**
 - **Mod1536**
 - **Mod2048**
 - **Mod2560**
 - **Mod3072**
 - **Mod3584**
 - **Mod4096**
 - Click **OK**.
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What to Do Next

Create a certificate request for this key ring.

Creating a Certificate Request for a Key Ring

Procedure

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- Step 1** In the **Navigation** pane, click **Admin**.
- Step 2** Expand **All > Key Management**.
- Step 3** Click the key ring for which you want to create a certificate request.
- Step 4** In the **Work** pane, click the **General** tab.
- Step 5** In the **General** tab, click **Create Certificate Request**.
- Step 6** In the **Create Certificate Request** dialog box, complete the following fields:
- | Name | Description |
|-----------|---|
| DNS field | The domain name assigned to the network that is common to all host names. |

Name	Description
Locality field	The city or town in which the company requesting the certificate is headquartered. Enter up to 64 characters. You can use any letters, numbers, or spaces, as well as the following special characters: , (comma), . (period), @ (at sign), ^ (carat), ((open parenthesis),) (close parenthesis), - (dash), _ (underscore), + (plus sign), : (colon), / (forward slash).
State field	The state or province in which the company requesting the certificate is headquartered. Enter up to 64 characters. You can use any letters, numbers, or spaces, as well as the following special characters: , (comma), . (period), @ (at sign), ^ (carat), ((open parenthesis),) (close parenthesis), - (dash), _ (underscore), + (plus sign), : (colon), / (forward slash).
Country field	The country code corresponding to the country in which the company resides. Enter two alphabetic characters.
Organization Name field	The organization requesting the certificate. Enter up to 64 characters. You can use any letters, numbers, or spaces, as well as the following special characters: , (comma), . (period), @ (at sign), ^ (carat), ((open parenthesis),) (close parenthesis), - (dash), _ (underscore), + (plus sign), : (colon), / (forward slash).
Organization Unit Name field	The organizational unit. Enter up to 64 characters. You can use any letters, numbers, or spaces, as well as the following special characters: , (comma), . (period), @ (at sign), ^ (carat), ((open parenthesis),) (close parenthesis), - (dash), _ (underscore), + (plus sign), : (colon), / (forward slash).
Email field	The email address associated with the request.
Password field	An optional password for this request.
Confirm Password field	If you specified a password, enter it again for confirmation.
Subject field	The fully qualified domain name of the fabric interconnect.

Step 7 To assign IP addresses, click the **IPv4** or **IPv6** tab. The choice you make depends upon how the fabric interconnects were configured when you set up Cisco UCS Manager.

- Click the IPv4 tab, and complete the following fields:

Name	Description
IP Address field	The IPv4 address of the Cisco UCS domain.
FI-A IP field	The IPv4 address of fabric interconnect A.
FI-B IP field	The IPv4 address of fabric interconnect B.

- Click the IPv6 tab, and complete the following fields:

Name	Description
IP Address field	The IPv6 address of the Cisco UCS domain.
FI-A IP field	The IPv6 address of fabric interconnect A.
FI-B IP field	The IPv6 address of fabric interconnect B.

Step 8 Click **OK**.

Step 9 Copy the text of the certificate request from the **Request** field and save in a file.

Step 10 Send the file with the certificate request to the trust anchor or certificate authority.

What to Do Next

Create a trusted point and set the certificate chain for the certificate of trust received from the trust anchor.

Creating a Trusted Point

Procedure

Step 1 In the **Navigation** pane, click **Admin**.

Step 2 Expand All > **Key Management**.

Step 3 Right-click **Key Management** and choose **Create Trusted Point**.

Step 4 In the **Create Trusted Point** dialog box, complete the following fields:

Name	Description
Name field	The name of the trusted point. This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters other than - (hyphen), _ (underscore), : (colon), and . (period), and you cannot change this name after the object is saved.

Name	Description
Certificate Chain field	<p>The certificate information for this trusted point.</p> <p>Important The certificate must be in Base64 encoded X.509 (CER) format.</p> <p>For windows 2012 server, using RSASSA-PSS returns the following error occurs: Trustpoint's cert-chain is invalid, reason: unknown. UCS Manager does not support this algorithm.</p>

Step 5 Click **OK**.

What to Do Next

When you receive the certificate from the trust anchor or certificate authority, import it into the key ring.

Importing a Certificate into a Key Ring

Procedure

Step 1 In the **Navigation** pane, click **Admin**.

Step 2 Expand All > **Key Management**.

Step 3 Click the key ring into which you want to import the certificate.

Step 4 In the **Work** pane, click the **General** tab.

Step 5 In the **Certificate** area, complete the following fields:

- a) From the **Trusted Point** drop-down list, select the trusted point for the trust anchor that granted this certificate.
- b) In the **Certificate** field, paste the text from the certificate you received from the trust anchor or certificate authority.

Important The certificate must be in Base64 encoded X.509 (CER) format.

Tip If the fields in an area do not display, click the **Expand** icon to the right of the heading.

Step 6 Click **Save Changes**.

What to Do Next

Configure your HTTPS service with the key ring.

Configuring HTTPS

**Caution**

After you complete the HTTPS configuration, including changing the port and key ring for the HTTPS to use, all current HTTP and HTTPS sessions are closed without warning as soon as you save or commit the transaction.

Procedure

Step 1 In the **Navigation** pane, click **Admin**.

Step 2 Expand All > **Communication Management** > **Communication Services**.

Step 3 Select the **Communication Services** tab.

Step 4 In the **HTTPS** area, click the **Enabled** radio button.

The **HTTPS** area expands to display the available configuration options.

Step 5 Complete the following fields:

Name	Description
Admin State field	This can be one of the following: <ul style="list-style-type: none">• Enabled• Disabled If Admin State is enabled, Cisco UCS Manager GUI displays the remaining fields in this section.
Port field	The port to use for HTTPS connections. Specify an integer between 1 and 65535. By default, HTTPS is enabled on port.
Operational Port field	The port Cisco UCS Manager requires for system-level HTTPS communication. You cannot change this port.
Key Ring drop-down list	The key ring for HTTPS connections.
Cipher Suite Mode field	The level of Cipher Suite security used by the Cisco UCS domain. This can be one of the following: <ul style="list-style-type: none">• High Strength• Medium Strength• Low Strength• Custom—Allows you to specify a user-defined Cipher Suite specification string.

Name	Description
Cipher Suite field	<p>If you select Custom in the Cipher Suite Mode field, specify the user-defined Cipher Suite specification string in this field.</p> <p>The Cipher Suite specification string can contain up to 256 characters and must conform to the OpenSSL Cipher Suite specifications. You cannot use any spaces or special characters except ! (exclamation point), + (plus sign), - (hyphen), and : (colon). For details, see http://httpd.apache.org/docs/2.0/mod/mod_ssl.html#sslciphersuite.</p> <p>For example, the medium strength specification string Cisco UCS Manager uses as the default is:</p> <pre>ALL:!ADH:!EXPORT56:!LOW:RC4+RSA:+HIGH:+MEDIUM:+EXP:+eNULL</pre>

- Step 6** Click **Save Changes**.
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Deleting a Key Ring

Procedure

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- Step 1** In the **Navigation** pane, click **Admin**.
Step 2 Expand **All > Key Management**.
Step 3 Right-click the key ring you want to delete and choose **Delete**.
Step 4 If a confirmation dialog box displays, click **Yes**.
-

Deleting a Trusted Point

Before You Begin

Ensure that the trusted point is not used by a key ring.

Procedure

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- Step 1** In the **Navigation** pane, click **Admin**.
Step 2 Expand **All > Key Management**.
Step 3 Right-click the trusted point you want to delete and choose **Delete**.
Step 4 If a confirmation dialog box displays, click **Yes**.
Step 5 Click **OK**.
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Enabling SNMP

SNMP Overview

The Simple Network Management Protocol (SNMP) is an application-layer protocol that provides a message format for communication between SNMP managers and agents. SNMP provides a standardized framework and a common language for monitoring and managing devices in a network.

SNMP Functional Overview

The SNMP framework consists of three parts:

- An SNMP manager—The system used to control and monitor the activities of network devices using SNMP.
- An SNMP agent—The software component within Cisco UCS, the managed device that maintains the data for Cisco UCS, and reports the data as needed to the SNMP manager. Cisco UCS includes the agent and a collection of MIBs. To enable the SNMP agent and create the relationship between the manager and agent, enable and configure SNMP in Cisco UCS Manager.
- A managed information base (MIB)—The collection of managed objects on the SNMP agent. Cisco UCS release 1.4(1) and higher supports a larger number of MIBs than earlier releases.

Cisco UCS supports SNMPv1, SNMPv2c and SNMPv3. Both SNMPv1 and SNMPv2c use a community-based form of security. SNMP is defined in the following:

- RFC 3410 (<http://tools.ietf.org/html/rfc3410>)
- RFC 3411 (<http://tools.ietf.org/html/rfc3411>)
- RFC 3412 (<http://tools.ietf.org/html/rfc3412>)
- RFC 3413 (<http://tools.ietf.org/html/rfc3413>)
- RFC 3414 (<http://tools.ietf.org/html/rfc3414>)
- RFC 3415 (<http://tools.ietf.org/html/rfc3415>)
- RFC 3416 (<http://tools.ietf.org/html/rfc3416>)
- RFC 3417 (<http://tools.ietf.org/html/rfc3417>)
- RFC 3418 (<http://tools.ietf.org/html/rfc3418>)
- RFC 3584 (<http://tools.ietf.org/html/rfc3584>)

SNMP Notifications

A key feature of SNMP is the ability to generate notifications from an SNMP agent. These notifications do not require that requests be sent from the SNMP manager. Notifications can indicate improper user

authentication, restarts, the closing of a connection, loss of connection to a neighbor router, or other significant events.

Cisco UCS Manager generates SNMP notifications as either traps or informs. Traps are less reliable than informs because the SNMP manager does not send any acknowledgment when it receives a trap, and Cisco UCS Manager cannot determine if the trap was received. An SNMP manager that receives an inform request acknowledges the message with an SNMP response Protocol Data Unit (PDU). If the Cisco UCS Manager does not receive the PDU, it can send the inform request again.

SNMP Security Levels and Privileges

SNMPv1, SNMPv2c, and SNMPv3 each represent a different security model. The security model combines with the selected security level to determine the security mechanism applied when the SNMP message is processed.

The security level determines the privileges required to view the message associated with an SNMP trap. The privilege level determines whether the message requires protection from disclosure or whether the message is authenticated. The supported security level depends on which security model is implemented. SNMP security levels support one or more of the following privileges:

- noAuthNoPriv—No authentication or encryption
- authNoPriv—Authentication but no encryption
- authPriv—Authentication and encryption

SNMPv3 provides for both security models and security levels. A security model is an authentication strategy that is set up for a user and the role in which the user resides. A security level is the permitted level of security within a security model. A combination of a security model and a security level determines which security mechanism is employed when handling an SNMP packet.

Supported Combinations of SNMP Security Models and Levels

The following table identifies the combinations of security models and levels.

Table 1: SNMP Security Models and Levels

Model	Level	Authentication	Encryption	What Happens
v1	noAuthNoPriv	Community string	No	Uses a community string match for authentication.
v2c	noAuthNoPriv	Community string	No	Uses a community string match for authentication.
v3	noAuthNoPriv	Username	No	Uses a username match for authentication.

Model	Level	Authentication	Encryption	What Happens
v3	authNoPriv	HMAC-MD5 or HMAC-SHA	No	Provides authentication based on the Hash-Based Message Authentication Code (HMAC) Message Digest 5 (MD5) algorithm or the HMAC Secure Hash Algorithm (SHA).
v3	authPriv	HMAC-MD5 or HMAC-SHA	DES	Provides authentication based on the HMAC-MD5 or HMAC-SHA algorithms. Provides Data Encryption Standard (DES) 56-bit encryption in addition to authentication based on the Cipher Block Chaining (CBC) DES (DES-56) standard.

SNMPv3 Security Features

SNMPv3 provides secure access to devices through a combination of authenticating and encrypting frames over the network. SNMPv3 authorizes only configured users to perform management operations and encrypts SNMP messages. The SNMPv3 User-Based Security Model (USM) refers to SNMP message-level security and offers the following services:

- Message integrity—Ensures that messages are not altered or destroyed in an unauthorized manner, and that data sequences are not altered beyond what can occur non-maliciously.
- Message origin authentication—Ensures that the identity of a message originator is verifiable.
- Message confidentiality and encryption—Ensures that information is not made available or disclosed to unauthorized individuals, entities, or processes.

SNMP Support in Cisco UCS

Cisco UCS provides the following support for SNMP:

Support for MIBs

Cisco UCS supports read-only access to MIBs.

For information about the specific MIBs available for Cisco UCS and where you can obtain them, see the http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/mib/b-series/b_UCS_MIBRef.html for B-series servers, and http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/mib/c-series/b_UCS_Standalone_C-Series_MIBRef.html C-series servers.

Authentication Protocols for SNMPv3 Users

Cisco UCS supports the following authentication protocols for SNMPv3 users:

- HMAC-MD5-96 (MD5)
- HMAC-SHA-96 (SHA)

AES Privacy Protocol for SNMPv3 Users

Cisco UCS uses Advanced Encryption Standard (AES) as one of the privacy protocols for SNMPv3 message encryption and conforms with RFC 3826.

The privacy password, or priv option, offers a choice of DES or 128-bit AES encryption for SNMP security encryption. If you enable AES-128 configuration and include a privacy password for an SNMPv3 user, Cisco UCS Manager uses the privacy password to generate a 128-bit AES key. The AES privacy password can have a minimum of eight characters. If the passphrases are specified in clear text, you can specify a maximum of 64 characters.

Enabling SNMP and Configuring SNMP Properties

SNMP messages from a Cisco UCS domain display the fabric interconnect name rather than the system name.

Procedure

Step 1 In the **Navigation** pane, click **Admin**.

Step 2 Expand All > **Communication Management** > **Communication Services**.

Step 3 Select the **Communication Services** tab.

Step 4 In the **SNMP** area, complete the following fields:

Name	Description
Admin State field	<p>This can be one of the following:</p> <ul style="list-style-type: none"> • Enabled • Disabled <p>Enable this service only if your system includes integration with an SNMP server.</p> <p>If Admin State is enabled, Cisco UCS Manager GUI displays the remaining fields in this section.</p>

Step 5 Click **Save Changes**.

What to Do Next

Create SNMP traps and users.

Creating an SNMP Trap

Procedure

- Step 1** In the **Navigation** pane, click **Admin**.
- Step 2** Expand All > **Communication Management** > **Communication Services**.
- Step 3** Select the **Communication Services** tab.
- Step 4** In the **SNMP Traps** area, click +.
- Step 5** In the **Create SNMP Trap** dialog box, complete the following fields:

Name	Description
Hostname (or IP Address) field	The host name or IP address of the SNMP host to which Cisco UCS Manager should send the trap. You can use an IPv4 address, or an IPv6 address for the SNMP host. The host name can also be a fully qualified domain name of an IPv4 address.
Community/Username field	The SNMP v1 or v2c community name or the SNMP v3 username Cisco UCS Manager includes when it sends the trap to the SNMP host. This must be the same as the community or username that is configured for the SNMP service. Enter an alphanumeric string between 1 and 32 characters. Do not use @ (at sign), \ (backslash), " (double quote), ? (question mark) or an empty space.
Port field	The port on which Cisco UCS Manager communicates with the SNMP host for the trap. Enter an integer between 1 and 65535. The default port is 162.
Version field	The SNMP version and model used for the trap. This can be one of the following: <ul style="list-style-type: none">• V1• V2c• V3

Name	Description
Type field	The type of trap to send. This can be one of the following: <ul style="list-style-type: none"> • Traps, if you select V2c or V3 for the version. • Informs, if you select V2c for the version. <p>Note An inform notification can be sent only if you select v2c for the version.</p>
v3 Privilege field	If you select V3 for the version, the privilege associated with the trap. This can be one of the following: <ul style="list-style-type: none"> • Auth—Authentication but no encryption • Noauth—No authentication or encryption • Priv—Authentication and encryption

Step 6 Click **OK**.

Step 7 Click **Save Changes**.

Deleting an SNMP Trap

Procedure

Step 1 In the **Navigation** pane, click **Admin**.

Step 2 Expand **All > Communication Management > Communication Services**.

Step 3 Select the **Communication Services** tab.

Step 4 In the **SNMP Traps** area, click the row in the table that corresponds to the user you want to delete.

Step 5 Click the **Delete** icon to the right of the table.

Step 6 If a confirmation dialog box displays, click **Yes**.

Step 7 Click **Save Changes**.

Creating an SNMPv3 user

Procedure

- Step 1** In the **Navigation** pane, click **Admin**.
- Step 2** Expand All > **Communication Management** > **Communication Services**.
- Step 3** Select the **Communication Services** tab.
- Step 4** In the **SNMP Users** area, click +.
- Step 5** In the **Create SNMP User** dialog box, complete the following fields:

Name	Description
Name field	The username assigned to the SNMP user. Enter up to 32 letters or numbers. The name must begin with a letter and you can also specify _ (underscore), . (period), @ (at sign), and - (hyphen). Note You cannot create an SNMP username that is identical to a locally authenticated username.
Auth Type field	The authorization type. This can be one of the following: <ul style="list-style-type: none">• MD5• SHA
Use AES-128 check box	If checked, this user uses AES-128 encryption.
Password field	The password for this user.
Confirm Password field	The password again for confirmation purposes.
Privacy Password field	The privacy password for this user.
Confirm Privacy Password field	The privacy password again for confirmation purposes.

- Step 6** Click **OK**.
- Step 7** Click **Save Changes**.
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Deleting an SNMPv3 User

Procedure

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- Step 1** In the **Navigation** pane, click **Admin**.
 - Step 2** Expand **All > Communication Management > Communication Services**.
 - Step 3** Select the **Communication Services** tab.
 - Step 4** In the **SNMP Users** area, click the row in the table that corresponds to the user you want to delete.
 - Step 5** Click the **Delete** icon to the right of the table.
 - Step 6** If a confirmation dialog box displays, click **Yes**.
 - Step 7** Click **Save Changes**.
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Enabling Telnet

Procedure

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- Step 1** In the **Navigation** pane, click **Admin**.
 - Step 2** Expand **All > Communication Management > Communication Services**.
 - Step 3** Click the **Communication Services** tab.
 - Step 4** In the **Telnet** area, click the **Enabled** radio button.
 - Step 5** Click **Save Changes**.
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Enabling the CIMC Web Service

The CIMC web service is enabled by default. Follow the steps below to enable the service if you have disabled it.

Procedure

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- Step 1** In the **Navigation** pane, click **Admin**.
 - Step 2** Expand **All > Communication Management > Communication Services**.
 - Step 3** Select the **Communication Services** tab.
 - Step 4** In the **CIMC Web Service** area, click the **Enabled** radio button.
 - Step 5** Click **Save Changes**.
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Disabling Communication Services

**Note**

We recommend that you disable all communication services that are not required to interface with other network applications.

Procedure

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- Step 1** In the **Navigation** pane, click **Admin**.
 - Step 2** Expand **All > Communication Management > Communication Services**.
 - Step 3** On the **Communication Services** tab, click the **disable** radio button for each service that you want to disable.
 - Step 4** Click **Save Changes**.
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