# Avaya Configuration and Orchestration Manager Fundamentals

Release 3.0.1
NN47226-100
Issue 06.02
February 2013

**Notice**

While reasonable efforts have been made to ensure that the information in this document is complete and accurate at the time of printing, Avaya assumes no liability for any errors. Avaya reserves the right to make changes and corrections to the information in this document without the obligation to notify any person or organization of such changes.

**Documentation disclaimer**

“Documentation” means information published by Avaya in varying mediums which may include product information, operating instructions and performance specifications that Avaya generally makes available to users of its products. Documentation does not include marketing materials. Avaya shall not be responsible for any modifications, additions, or deletions to the original published version of documentation unless such modifications, additions, or deletions were performed by Avaya. End User agrees to indemnify and hold harmless Avaya, Avaya's agents, servants and employees against all claims, lawsuits, demands and judgments arising out of, or in connection with, subsequent modifications, additions or deletions to this documentation, to the extent made by End User.

**Link disclaimer**

Avaya is not responsible for the contents or reliability of any linked websites referenced within this site or documentation provided by Avaya. Avaya is not responsible for the accuracy of any information, statement or content provided on these sites and does not necessarily endorse the products, services, or information described or offered within them. Avaya does not guarantee that these links will work all the time and has no control over the availability of the linked pages.

**Warranty**

Avaya provides a limited warranty on its hardware and Software (“Product(s)”). Refer to your sales agreement to establish the terms of the limited warranty. In addition, Avaya’s standard warranty language, as well as information regarding support for this Product while under warranty is available to Avaya customers and other parties through the Avaya Support website: http://support.avaya.com. Please note that if you acquired the Product(s) from an authorized Avaya reseller outside of the United States and Canada, the warranty is provided to you by said Avaya reseller and not by Avaya. “Software” means computer programs in object code, provided by Avaya or an Avaya Channel Partner, whether as stand-alone products or pre-installed on hardware products, and any upgrades, updates, bug fixes, or modified versions.

**Licenses**

THE SOFTWARE LICENSE TERMS AVAILABLE ON THE AVAYA WEBSITE, HTTP://SUPPORT.AVAYA.COM/LICENSEINFO ARE APPLICABLE TO ANYONE WHO DOWNLOADS, USES AND/OR INSTALLS AVAYA SOFTWARE, PURCHASED FROM AVAYA INC., ANY AVAYA AFFILIATE, OR AN AUTHORIZED AVAYA RESELLER (AS APPLICABLE) UNDER A COMMERCIAL AGREEMENT WITH AVAYA OR AN AUTHORIZED AVAYA RESELLER. UNLESS OTHERWISE AGREED TO BY AVAYA IN WRITING, AVAYA DOES NOT EXTEND THIS LICENSE IF THE SOFTWARE WAS OBTAINED FROM ANYONE OTHER THAN AVAYA, AN AVAYA AFFILIATE OR AN AVAYA AUTHORIZED RESELLER; AVAYA RESERVES THE RIGHT TO TAKE LEGAL ACTION AGAINST YOU AND ANYONE ELSE USING OR SELLING THE SOFTWARE WITHOUT A LICENSE. BY INSTALLING, DOWNLOADING OR USING THE SOFTWARE, OR AUTHORIZING OTHERS TO DO SO, YOU, ON BEHALF OF YOURSELF AND THE ENTITY FOR WHOM YOU ARE INSTALLING, DOWNLOADING OR USING THE SOFTWARE (HEREINAFTER REFERRED TO INTERCHANGEABLY AS “YOU” AND “END USER”), AGREE TO THESE TERMS AND CONDITIONS AND CREATE A BINDING CONTRACT BETWEEN YOU AND AVAYA INC. OR THE APPLICABLE AVAYA AFFILIATE (“AVAYA”).

Avaya grants you a license within the scope of the license types described below, with the exception of Heritage Nortel Software, for which the scope of the license is detailed below. Where the order documentation does not expressly identify a license type, the applicable license will be a Designated System License. The applicable number of licenses and units of capacity for which the license is granted will be one (1), unless a different number of licenses or units of capacity is specified in the documentation or other materials available to you. “Designated Processor” means a single stand-alone computing device. “Server” means a Designated Processor that hosts a software application to be accessed by multiple users.

**Licence types**

Designated System(s) License (DS). End User may install and use each copy of the Software only on a number of Designated Processors up to the number indicated in the order. Avaya may require the Designated Processor(s) to be identified in the order by type, serial number, feature key, location or other specific designation, or to be provided by End User to Avaya through electronic means established by Avaya specifically for this purpose.

**Heritage Nortel Software**

“Heritage Nortel Software” means the software that was acquired by Avaya as part of its purchase of the Nortel Enterprise Solutions Business in December 2009. The Heritage Nortel Software currently available for license from Avaya is the software contained within the list of Heritage Nortel Products located at http://support.avaya.com/LicenseInfo under the link “Heritage Nortel Products”. For Heritage Nortel Software, Avaya grants Customer a license to use Heritage Nortel Software provided hereunder solely to the extent of the authorized activation or authorized usage level, solely for the purpose specified in the Documentation, and solely as embedded in, for execution on, or (in the event the applicable Documentation permits installation on non-Avaya equipment) for communication with Avaya equipment. Charges for Heritage Nortel Software may be based on extent of activation or use authorized as specified in an order or invoice.

**Copyright**

Except where expressly stated otherwise, no use should be made of materials on this site, the Documentation, Software, or hardware provided by Avaya. All content on this site, the documentation and the Product provided by Avaya including the selection, arrangement and design of the content is owned either by Avaya or its licensors and is protected by copyright and other intellectual property laws including the sui generis rights relating to the protection of databases. You may not modify, copy, reproduce, republish, upload, post, transmit or distribute in any way any content, in whole or in part, including any code and software unless expressly authorized by Avaya. Unauthorized reproduction, transmission, dissemination, storage, and or use without the express written consent of Avaya can be a criminal, as well as a civil offense under the applicable law.

**Third Party Components**

“Third Party Components” mean certain software programs or portions thereof included in the Software that may contain software (including open source software) distributed under third party agreements (“Third Party Components”), which contain terms regarding the rights to use certain portions of the Software (“Third Party Terms”). Information regarding distributed Linux OS source code (for those Products that have distributed Linux OS source code) and identifying the copyright holders of the Third Party Components and the Third Party Terms that apply is available in the Documentation or on Avaya’s website at: http://support.avaya.com/Copyright. You agree to the Third Party Terms for any such Third Party Components.

**Preventing Toll Fraud**

“Toll Fraud” is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or is not working on your company's behalf). Be aware that there can be a risk of Toll Fraud associated with

your system and that, if Toll Fraud occurs, it can result in substantial additional charges for your telecommunications services.

**Avaya Toll Fraud intervention**

If you suspect that you are being victimized by Toll Fraud and you need technical assistance or support, call Technical Service Center Toll Fraud Intervention Hotline at +1-800-643-2353 for the United States and Canada. For additional support telephone numbers, see the Avaya Support website: http://support.avaya.com. Suspected security vulnerabilities with Avaya products should be reported to Avaya by sending mail to: securityalerts@avaya.com.

**Trademarks**

Avaya Aura® is a registered trademark of Avaya Inc.

The trademarks, logos and service marks (“Marks”) displayed in this site, the Documentation and Product(s) provided by Avaya are the registered or unregistered Marks of Avaya, its affiliates, or other third parties. Users are not permitted to use such Marks without prior written consent from Avaya or such third party which may own the Mark. Nothing contained in this site, the Documentation and Product(s) should be construed as granting, by implication, estoppel, or otherwise, any license or right in and to the Marks without the express written permission of Avaya or the applicable third party.

Avaya is a registered trademark of Avaya Inc.

All non-Avaya trademarks are the property of their respective owners, and “Linux” is a registered trademark of Linus Torvalds.

**Downloading Documentation**

For the most current versions of Documentation, see the Avaya Support website: http://support.avaya.com.

**Contact Avaya Support**

See the Avaya Support website: http://support.avaya.com for product notices and articles, or to report a problem with your Avaya product. For a list of support telephone numbers and contact addresses, go to the Avaya Support website: http://support.avaya.com, scroll to the bottom of the page, and select Contact Avaya Support.

## Contents

# Chapter 1: Introduction

## Purpose

This document provides information and procedures for using and administering the Avaya Configuration and Orchestration Manager (COM) application. Configuration and Orchestration Manager provides you with an intuitive interface to configure, manage, and provision the Avaya enterprise family of devices, such as Avaya Ethernet Routing Switches, Avaya Ethernet Switches, Legacy BayStack switches, Business Policy Switches 2000™ operating within the same local area network, and Wireless Local Area Network (WLAN) devices. Configuration and Orchestration Manager is a management system that manages multiple network devices.

*Avaya Configuration and Orchestration Manager Fundamentals* (NN47226–100) is intended for administrators and users of the COM application.

## Related resources

**Related topics:**


Documentation on page 7
Training on page 8
Avaya Mentor videos on page 8
Support on page 8


### Documentation

See the following related documents:

| Title | Purpose | Link |
|---|---|---|
| Avaya Configuration and Orchestration Manager Fundamentals (NN47226-100) | Fundamentals | http://support.avaya.com |

| Title | Purpose | Link |
|---|---|---|
| Avaya Configuration and Orchestration Manager Installation (NN47226-300) | Deployment | http://support.avaya.com |
| Avaya Configuration and Orchestration Manager Administration (NN47226-600) | Administration | http://support.avaya.com |
| Avaya Bulk Configuration Manager Fundamentals (NN48021–100) | Fundamentals | http://support.avaya.com |

## Training

Ongoing product training is available. For more information or to register, you can access the Web site at http://avaya-learning.com/.

## Avaya Mentor videos

Avaya Mentor is an Avaya-run channel on YouTube that includes technical content on how to install, configure, and troubleshoot Avaya products.

Go to http://www.youtube.com/AvayaMentor and perform one of the following actions:

- Enter a key word or key words in the Search Channel to search for a specific product or topic.
- Scroll down Playlists, and click the name of a topic to see the available list of videos posted on the site.

## Support

Visit the Avaya Support website at http://support.avaya.com for the most up-to-date documentation, product notices, and knowledge articles. You can also search for release notes, downloads, and resolutions to issues. Use the online service request system to create a service request. Chat with live agents to get answers to questions, or request an agent to connect you to a support team if an issue requires additional expertise.

# Chapter 2: New in this release

The following sections detail what's new in *Avaya Configuration and Orchestration Manager Fundamentals* (NN47226-100) for Release 3.0.1.



## Features

See the following sections for information about feature changes:

### Enhancements

Avaya Configuration and Orchestration Manager (COM) 3.0.1 introduces the following enhancements:

- Device Group Manager full support is available to all license levels including the base license.
- The Actions menu is reintroduced for the COM Inventory Manager.

### Device support

Avaya Configuration and Orchestration Manager (COM) 3.0.1 supports the following devices:

- VSP 7000 v10.2 — Includes L2-SPBM capability.
- ERS 45xx v5.6.1 and v5.6.2 — Limited support for new versions; includes Discovery and EDM plug in support.
- ERS 48xx v5.6.1 and v5.6.2 — Limited support for new versions; includes Discovery and EDM plug in support.
- ERS 55xx v6.3 — Limited support for new versions; includes Discovery and EDM plug in support.
- ERS 56xx v6.3 — Limited support for new versions; includes Discovery and EDM plug in support.

## Bug fixes

For more information about bugs that have been fixed for Avaya Configuration and Orchestration Manager (COM) release 3.0.1, see *Avaya Configuration and Orchestration Manager Release Notes*.

## Licensing changes

You require a new license if you upgrade to Avaya Configuration and Orchestration Manager (COM) 3.0.1 from release 2.3 or 2.3.x, or 3.0 if you use a VMWare Virtual Machine. If you upgrade from 3.0 using a physical machine or a non-VMWare Virtual Machine, you do not require a new license.

# Other changes

See the following sections for information about changes that are not feature-related.

## Introduction chapter

The Introduction chapter replaces the Purpose of this document chapter.

# Chapter 3: Configuration and Orchestration Manager overview

Avaya Configuration and Orchestration Manager (Avaya COM) provides you with an intuitive interface to configure, manage, and provision the Avaya enterprise family of devices, such as Avaya Ethernet Routing Switches, Avaya Ethernet Switches, Legacy BayStack switches, Business Policy Switches 2000™ operating within the same local area network, and Wireless Local Area Network (WLAN) devices.

Configuration and Orchestration Manager is a management system that manages multiple network devices, and provides management for services across different elements.

Configuration and Orchestration Manager is a Web-based, platform-independent application that allows you to save the error log, preferences, and communities in the application.

**Note:**

To run COM, you do not require Java Runtime Environment (JRE). The JRE 1.6.0.22 is bundled with COM.

For more information about operating systems, devices, and software releases supported by Configuration and Orchestration Manager, see *Avaya Configuration and Orchestration Manager Administration* (NN47226-600).

Configuration and Orchestration Manager provides topology driven multiuser, multidevice configuration and provisioning features, and off-box element management features that includes COM and EDM management base features.

For more information about how to install Configuration and Orchestration Manager, see *Avaya Configuration and Orchestration Manager Installation* (NN47226-300).

## COM features

Configuration and Orchestration Manager has the following features:

- COM 3.0.1 is a Web-based element manager and supports both Internet Explorer and Firefox browsers.
- COM is supported by dynamic HTML (DHTML). DHTML is a combination of HTML, JavaScript, and Cascading Style Sheets (CSS). To use DHTML, JavaScript and CSS must be enabled on the browser.
- COM supports wizards and templates for complex multidevice configuration management simplification.
- COM supports device configuration management.
- COM is supported across Windows, and Linux platforms.

- COM provides a consistent graphical user interface (GUI) across COM and submanagers, and provides a single point of access to the submanagers.
- COM provides access control and security using community strings, SNMPv3 USM, and SSH.

### Navigation

- Navigation pane on page 12

# Navigation pane

The Navigation pane is located on the left side of the Configuration and Orchestration Manager (COM) main window. By default, the Managers panel opens when you access COM.

**Note:**

The options that appear in the Navigation pane vary depending on the user tool you select. For more information about options, see Access Control on page 43.

The Navigation pane includes the following panels for all COM features:

- **Admin**—Contains Access Control, Preferences, Device Credentials, User Management, Licensing, Plugins Inventory, and Audit Log.
- **Devices**—Contains Device Inventory View, Device Group Manager, and Inventory Manager.
- **Managers**—Contains VLAN Manager, MultiLink Trunking Manager, Security Manager, Routing Manager, Trap/Log Manager, Virtual Routing Manager, Multicast Manager, Bulk Configuration Manager, Virtual Services Network (VSN) Manager, Multimedia Manager, Trap Viewer, and Syslog Viewer.
- **Wizards**—Contains VLAN, SMLT, and VSN wizards.
- **Templates**—Contains Template Manager.
- **Tools**—Contains SmartDiff Tool, TFTP Server, MIB Browser, Port Scanner, Scheduled Tasks, CLI*manager, and Config Auditing tool.

The Navigation pane displays the contents pane. In the Navigation pane, click (+) to expand a panel, and click (-) to collapse a panel. To collapse the Navigation pane, click (<<).

The following figure shows the Configuration and Orchestration Manager Navigation pane.

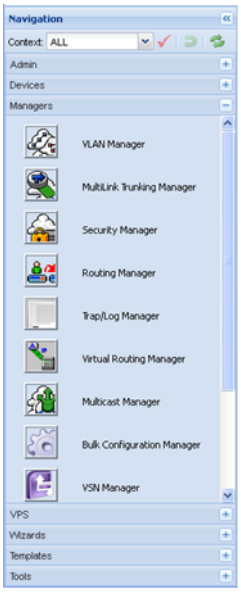



**Figure 1: Configuration and Orchestration Manager Navigation pane**

# Chapter 4: Configuration and Orchestration Manager logon

This section describes how to start and log on to Avaya Configuration and Orchestration Manager (COM).

For more information about how to install Configuration and Orchestration Manager, see *Avaya Configuration and Orchestration Manager Installation* (NN47226-300).

### Navigation

- Logging on to COM on page 15

## Logging on to COM

Perform the following procedure to start the COM application.

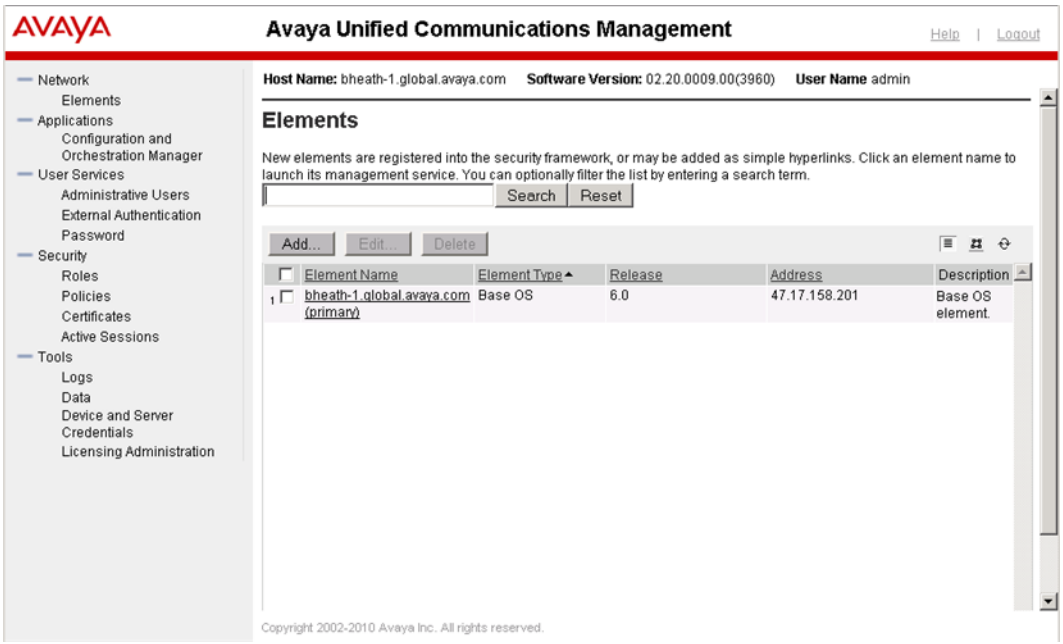
### Before you begin

- You must install COM.
- If you are logging on with a client PC, you require Internet Explorer 7, 8 or 9, or Firefox 3.6, 9, or 10.

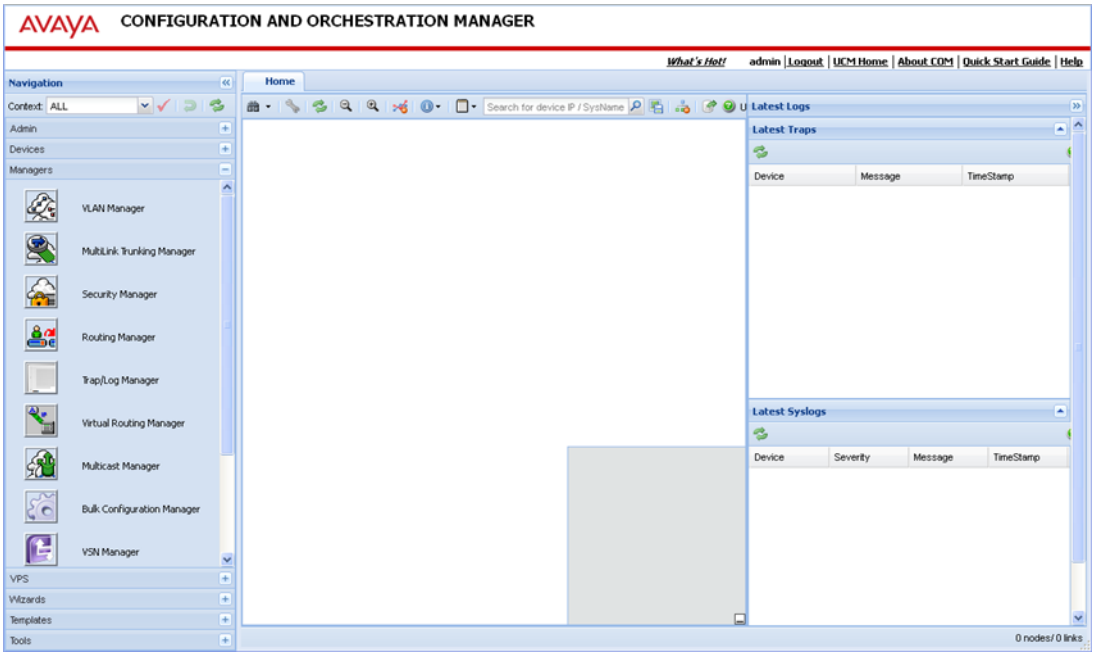
### Procedure

1. Start a Web browser supported by COM.
2. In the **Address** field, enter the Fully Qualified Device Name (FQDN) of the COM server.


3. In the **User ID** field, enter the installed COM user ID.
   - The default user ID is **admin**.
4. In the **Password** field, enter the installed COM password.
5. Click **Log In**.




6. In the left Navigation pane, select **Applications**, and then click **Configuration and Orchestration Manager**.


AVAYA
CONFIGURATION AND ORCHESTRATION MANAGER
What's Hot!
admin | Logout | UCM Home | About COM | Quick Start Guide | Help
Navigation
Context: ALL
Admin
Devices
Managers
VLAN Manager
MultiLink Trunking Manager
Security Manager
Routing Manager
Trap/Log Manager
Virtual Routing Manager
Multicast Manager
Bulk Configuration Manager
VSN Manager
VPS
Wizards
Templates
Tools
Home
Search for device IP / SysName
Latest Logs
Latest Traps
Device
Message
TimeStamp
Latest Syslogs
Device
Severity
Message
TimeStamp
0 nodes/ 0 links

# Chapter 5: Network discovery

This chapter provides an overview of the Avaya Configuration and Orchestration Manager (COM) network discovery applications, including the topology manager.

## Topology Manager

The main COM window is also referred to as the Topology Manager. The Topology Manager provides a graphical view of a network of devices that support the Bay Networks Autotopology Discovery Protocol or SONMP.

## IEEE 802.1ab

The Topology Manager supports the discovery of devices using IEEE 802.1ab, Station and Media Access Control Connectivity Protocol, or Link Layer Discovery Protocol (LLDP). The Topology Manager uses both 802.1ab and the Bay Networks Autotopology Discovery Protocol to discover the devices on the network.

With 802.1ab, stations connected to a LAN can advertise their capabilities to each other, enabling the discovery of physical topology information for network management. The 802.1ab-compatible stations can consist of any interconnection device including PCs, IP Phones, switches, and routers. Each station stores 802.1ab information in a standard Management Information Base (MIB), making it possible for Configuration Orchestration Manager (COM) to access the information.

With 802.1ab, COM can discover certain configuration inconsistencies or malfunctions that can result in impaired communications at higher layers, such as duplex mismatches.

Each 802.1ab station:

- advertises connectivity and management information about the local station to adjacent stations on the same 802 LAN.
- receives network management information from adjacent stations on the same LAN.

The following Avaya devices support 802.1ab:

- Ethernet Routing Switch 55xx Release 5.0
- Ethernet Routing Switch 8300 Release 3.0
- Ethernet Routing Switch 45xx Release 5.0
- Ethernet Routing Switch 25xx Release 4.0
- Ethernet Switch 325/425 Release 3.6
- Ethernet Switch 470/460 Release 3.7
- Avaya IP Phones

With 802.1ab support, COM is not restricted to the discovery of Avaya devices, and can discover any 802.1ab-enabled devices on the network, including third-party switches, routers, and IP Phones. Configuration Orchestration Manager can also display MED devices in the network.

**Important:**

Configuration Orchestration Manager can only discover third-party 802.1ab-enabled devices on the network, and cannot provide management for these devices.

The following figure shows an example of how 802.1ab works in a network.

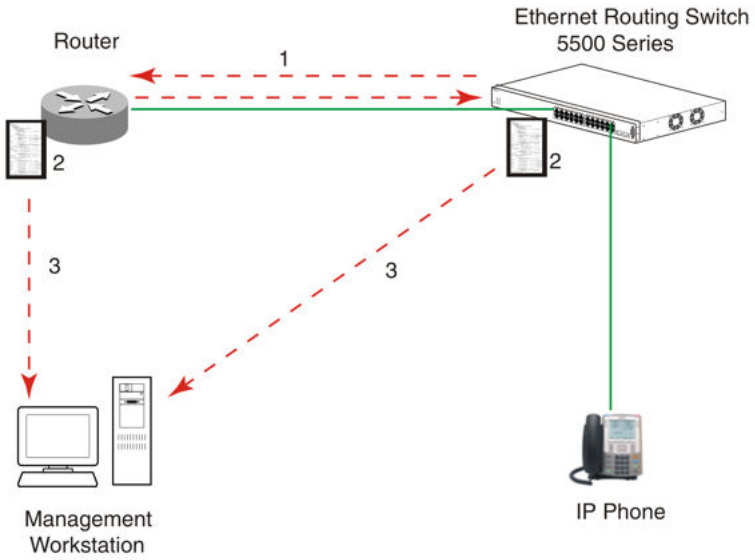



**Figure 2: How 802.1ab works**

1. The Ethernet Routing Switch and 802.1ab-enabled router advertise chassis/port IDs and system descriptions to each other.
2. The devices store the information about each other in local MIB databases, accessible by using SNMP.
3. A management workstation running COM retrieves the data stored by each device and builds a network topology map.

Both Avaya and third-party devices are displayed.

# Enabling discovery with 802.1ab

To enable discovery of a device through 802.1ab, you must enable the following TLVs on the device:

- System Name TLV
- System Capabilities TLV
- Management Address TLV

To enable discovery of MED endpoints, you must also enable the MED TLVs on those endpoints.

For more information about configuring 802.1ab on your device, refer to the documentation for your device.

The following table describes the parts of COM main window.

**Table 1: Parts of COM window**

| Parts | Description |
|---|---|
| Navigation pane | From the Navigation pane, you can navigate all the panels supported by COM. For more information, see Navigation pane on page 12. |
| Contents pane | Displays a view of all the discovered devices and their relationship. For more information, see Contents pane on page 22. |
| Latest Logs pane | Displays the last 15 traps and syslogs sent to COM from various devices. For more information, see Latest Logs pane on page 29. |
| Links | From the links available in the upper right corner of the COM main window, you can logout, access UCM home, view COM details, access the COM Quick Start Guide, and view online Help. For more information, see Links on page 30. |

# Contents pane

The Contents pane provides a view of all the discovered devices and their relationship on the Home tab. You can use the tool bar on the Contents pane to manage discovered devices on the topology map. You also can use the right-click menu options on the Contents pane to perform device query and administrative management.

The following sections contain information about the tool bar and right-click menu options.

**Related topics:**

Toolbar options on page 22

Right-click menu options on page 25

## Toolbar options

You can use the tool bar buttons on the **Home** tab to manage the topology map. For example, you can zoom in and out of the device view, import or export device view values, or discover a topology.

The following table lists the tool bar options that you can use to manage your topology map.

**Table 2: Home tab tool bar options**

| Option | Description |
|---|---|
| Discover Topology | Use this option to perform the following actions:<br>• Discover topology from seed<br>• Schedule a Discovery<br>You have the option to run a discovery based on a seed value. You also have the option to configure the COM application to run scheduled network discovery events. These events can occur once or repeatedly according to specific months, days of the week, date, and time. |
| Set Discovery Preferences | Before starting a discovery for the COM system, you can enter the discovery preferences such as Seed, Hop Count, and Landing Page. You also can set the COM application to run one of the following types of discoveries: new or merged. |
| Refresh Device Topology | Use this option to refresh the topology view. The COM application communicates with the server to get the latest discovered devices. |
| Zoom Out | Use this option to zoom out the topology view. |
| Zoom In | Use this option to zoom in the topology view. |
| Clear Highlights | Use this option clear the existing highlights on the topology map. |
| View Device Information | Use this option to display the port names, device types, and Link details like link speed, type, mismatch, and duplex for devices in your topology. The View Device Information button has the following options for your use:<br>• Display port names — Select this button to display port names on the topology map.<br>• Toggle Addr / Name — Select this button to toggle the name and address of the device.<br>• Link data — Select this button to perform the following actions: view link speeds, duplex, types, mismatch, and clear highlights. |
| Perform Device Action | Use this option to perform the following actions on a topology map device:<br>• view port status<br>• view connections<br>• ping devices |

| Option | Description |
|---|---|
| | • view device properties<br>• view a topology dump<br>• view learned MAC addresses<br>• launch an element manager<br>• perform the following administrative actions:<br>- create a group<br>- update device topology<br>- change IP address<br>You also can access these options through the right-click menu of a device on the topology map or inventory grid. |
| Search for device IP / SysName | Use this option to search and highlight an IP address you are looking for. You can search based on:<br>• a partial or full IP address<br>• IPv4 format<br>• IPv6 format<br>**Important:**<br>If the device is not found, then a topology dialog box appears showing, `No additional matches found`. |
| Save Topology | Use this option to save the current topology and export it to an XML file which you can load into COM again. This provides a way for you to save multiple topologies without having to do a rediscovery. In previous versions of COM, if you saved the layout of a topology and rediscovered the network, the previously discovered devices maintain their layout position thereby eliminating the need to relay out the topology after each discovery. |
| Clear saved Topology | Use this option to return to the topology that you had previously saved. |
| Import/Export Topology | Use this option to export in xml and csv, and import in xml formats. |
| Reachable/Unreachable state | Use this option to display the connection status of the listed devices. The devices in the topology view show an orange color to indicate the unreachable status. Unreachable status means that the device did not respond to SNMP queries from COM because the device was down or because the SNMP credentials |

| Option | Description |
|---|---|
| | provided to COM are not correct for the device in the unreachable state. |
| Device navigation window | You use the device navigation window (also called the panning window) to easily pan through the whole map to focus on a specific area of the network. |

## Right-click menu options

You can use the right-click menu on the Home tab to manage devices on the topology map. To access the right-click menu options, right-click a device on the topology map.

One set of device actions includes query management such as ping devices, connection information, device properties, and port status. The second set of device actions includes administration management, such as update device topology and change IP address.

You also can access the right-click menu options by selecting **Device Inventory View**, and then clicking **Perform Device Action**.

The following tables describe the device management options available from the Home tab and the Device Inventory View.

- Device management options from the right-click menu on the topology on page 25
- Device management options from the Home tab Perform Device Action button on page 27
- Device management options from the Device Inventory View Perform Device Action button on page 28

The following table lists the device management options available after you right-click on a device on the topology.

**Table 3: Device management options from the right-click menu on the topology**

| Menu option | Description |
|---|---|
| Ping... | Use this option to ping the selected device from the server. |
| Show Connections | Use this option to display the neighbors of a device on the topology map. It does not display live connections, only what is on the topology map. |
| Properties | Use this option to display the following properties of the device:<br>• Name<br>• IP address<br>• Device type<br>• Location |

| Menu option | Description |
|---|---|
| | • Contact<br>• Version<br>• Uptime<br>• Description |
| Launch Element Manager | Use this option to launch the element manager for the selected device. |
| Show All Traps For Device | Use this option to show all traps for a device. You can select this option by right-clicking on a device only. |
| Show Trap Highlight Details | Use this option to show trap highlight details of a device. You can select this option by right-clicking on a device only. |
| Port Status | Use this option to display the status of the port.<br>• green—the port is in-service<br>• red—the port is out-of-service<br>• blue—the port is being tested |
| Dump Topology | Use this option to display the topology based on the real-time queries of devices. |
| Learned Mac Addresses | Use this option to display the learned Mac addresses on the selected device. |
| Administrative Actions | Use this option to change the device attributes by performing one of the following actions:<br>• Create a Group—This option appears on the topology map of the COM Home tab only.<br>• Update device topology<br>• Change device IP Address<br>• Close<br>The administrative actions prompt the system to discover a change to a single device with a one hop count. When the discovery is complete, the COM application updates the database with the discovered information. |
| Close | Closes the drop down menu. |

The following table lists the device management options available after you select a device on the topology map, and then click on the Perform Device Action button from the Home tool bar.

**Table 4: Device management options from the Home tab Perform Device Action button**

| Menu option | Description |
|---|---|
| Show Port Status | Use this option to display the status of the port:<br>• green—the port is in-service<br>• red—the port is out-of-service<br>• blue—the port is being tested |
| Show Connections | Use this option to display the neighbors of a device on the topology map. It does not display live connections, only what is on the topology map. |
| Ping Device | Use this option to ping the selected device from the server. |
| Show Properties | Use this option to display the following properties of the device:<br>• Name<br>• IP address<br>• Device type<br>• Location<br>• Contact<br>• Version<br>• Uptime<br>• Description |
| Dump Topology | Use this option to display the topology based on the real-time queries of devices. |
| Learned Mac Address | Use this option to display the learned Mac addresses on the selected device. |
| Launch Element Manager | Use this option to launch the element manager for the selected device. |
| Administrative Actions | Use this option to change the device attributes by performing one of the following actions:<br>• Create a Group—This option appears on the topology map of the COM Home tab only.<br>• Update device topology<br>• Change device IP Address<br>The administrative actions prompt the system to discover a change to a single device with a one hop count. When the discovery finishes, the COM application updates the database with the discovered information. |

The following table lists the device management options available from the Device Inventory View after you right-click on a selection on the inventory grid, or after you click the Perform Device Action button on the Device Inventory View tool bar.

**Table 5: Device management options from the Device Inventory View Perform Device Action button**

| Menu option | Description |
|---|---|
| Show Port Status | Use this option to display the status of the port.<br>• green—the port is in-service<br>• red—the port is out-of-service<br>• blue—the port is being tested |
| Ping Device | Use this option to ping the selected device from the server. |
| Show Properties | Use this option to display the following properties of the device:<br>• Name<br>• IP address<br>• Device type<br>• Location<br>• Contact<br>• Version<br>• Uptime<br>• Description |
| Dump Topology | Use this option to display the topology based on the real-time queries of devices. |
| Learned Mac Address | Use this option to display the learned Mac addresses on the selected device. |
| Launch Element Manager | Use this option to launch the element manager for the selected device. |
| Administrative Actions | Use this option to change the device attributes by performing one of the following actions:<br>• Update Device Topology<br>• Change IP Address<br>The administrative actions prompt the system to discover a change to a single device with a one hop count. When the discovery is complete, the COM application updates the database with the discovered information. |

# Latest Logs pane

The Latest Logs pane provides a view of the latest traps and the latest syslogs, and displays the last 15 syslogs and traps sent to Configuration and Orchestration Manager (COM) from various devices. A refresh button is available in the Latest Syslogs and Latest Traps panels that always requests the last 25 logs or traps from the server. You can collapse the Latest Logs pane to maximize the topology area.

When you open a new tab, all the existing tabs, topology, latest logs, and latest traps, become inactive.

The following figure is an example of the Latest Logs pane.

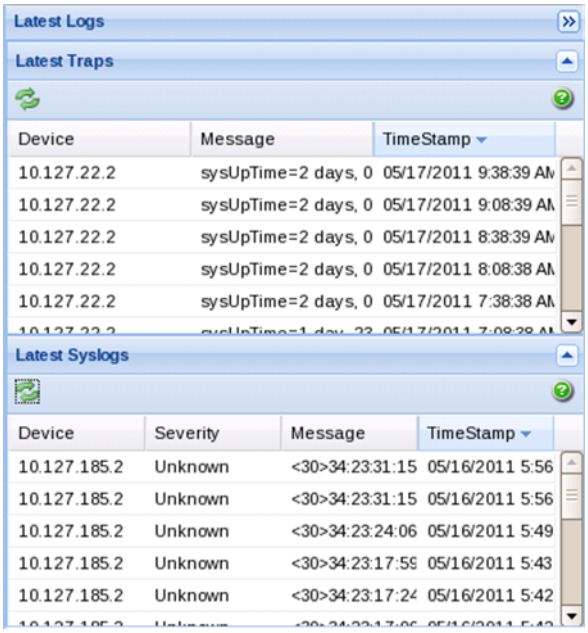



**Figure 3: Latest logs pane**

The Latest Logs pane contains the following panels.

### Latest Traps

The Latest Traps panel lists the latest traps COM receives from traps sent by devices. The devices are programmed with the COM IP address so that COM can receive the device traps. The Latest Traps panel includes a refresh button to provide the most current list, the device IP address, message, and timestamp.

### Latest Syslogs

The Latest Syslogs panel lists the latest syslogs for a device, and includes a refresh button. Each device syslog includes a severity level, message, and timestamp.

# Links

The following links are located at the upper right corner of the Configuration and Orchestration Manager (COM) main page.

- **What's Hot!**
- **admin**—Displays the current logged in user name.
- **Logout**—Logs you off from the Avaya Unified Communications Management (UCM) and returns you to the logon page.
- **UCM Home**—Opens the UCM page.
- **About COM**—Opens a dialog box that provides information about COM, such as version, revision, and build. If you are using node-based licensing, then the number of nodes supported by the license appears in the dialog box. If you are using the FullApp license, there is no change.
- **Quick Start Guide**—Outlines the set up steps that the COM administrator requires after a new COM is installed. This link guides the administrator through various initial steps such as creating users, discovering the network, assigning device and multi-element manager permissions to the users. This link also guides you through the one time setup required on the client machine.
- **Help**—Starts the online help.

The following figure displays COM links.


**Figure 4: COM Links**

# Chapter 6: User management

This section provides information about managing users, and creating and managing the capabilities of users by assigning roles. The administrator can perform the user management tasks required to manage users within the UCM.

**Navigation**



## Avaya UCM role

Configuration and Orchestration Manager (COM) supports the following Avaya Unified Communications Management (UCM) user roles:

- NetworkAdministrator
- UCMSystemAdministrator
- UCMOperator

The following table outlines the functions of the UCM user roles on UCM and COM components.

**Table 6: UCM user roles on UCM and COM components**

| Component | NetworkAdministrator | UCMSystemAdministrator | UCMOperator |
|---|---|---|---|
| Main Page | Yes | Yes | Yes |
| Security Management Page (Quantum Page) | Yes (users, roles, sessions, and policies management) | Yes (can only change the user password) | Yes (can only change user password) |
| Device and Server | Yes (read and write) | Yes (read only) | Yes (read only) |

| Component | NetworkAdministrator | UCMSystemAdministrator | UCMOperator |
|---|---|---|---|
| Credentials Page | | | |
| Backup and Restore Commands (no UI; only runs from the command line) | Yes (the OS user must be in the Administrators or root group) | Yes (the OS user must be in the Administrators or root group) | Yes (the OS user must be in the Administrators or root group) |
| License Page | Yes | Yes | Yes (read only) |

The following table outlines the functionality of different UCM roles on COM.

**Table 7: Functionality of UCM roles on COM**

| Functionality | Full or Node-basedapplication license /UserRole =NetworkAdministrator(default admin user) | Full or Node-basedapplication license / UserRole =UCMSystemAdmin | Full or Node-based applicationlicense /UserRole =Operator |
|---|---|---|---|
| Dashboard with topology | Yes | Yes | Yes |
| Device View (Inventory grid) | Yes | Yes | Yes |
| Discovery | Yes | Yes | No |
| EDM Plugin management | Yes | Yes | No |
| Plugin Launch | Yes | Yes | Yes |
| User Management | Yes | No | No |
| Device Group Manager | Yes | Yes | No |
| MEM assignment to User | Yes | Yes | No |
| MEM Usage (includes VRF Manager) | Yes | Yes | Yes, if access has been allowed to a specific MEM. |
| Device and Server Credentials Page | Yes | No | No |

| Functionality | Full or Node-basedapplication license /UserRole =NetworkAdministrator(default admin user) | Full or Node-basedapplication license / UserRole =UCMSystemAdmin | Full or Node-based applicationlicense /UserRole =Operator |
|---|---|---|---|
| SysLog, Traps Configurations | Yes | Yes | No |
| SysLog / Trap Viewers | Yes | Yes | Yes |
| Application Logs | Yes | Yes | Yes |
| Trouble Shooting Tools | Yes | Yes | Yes |
| Global Preferences | Yes | Yes | No |
| Backup and Restore Commands (no UI; only runs from the command line) | Yes | Yes | No |
| Wizard, template and scheduler | Yes | Yes | Yes, if access to a relevant manager has been provided. |

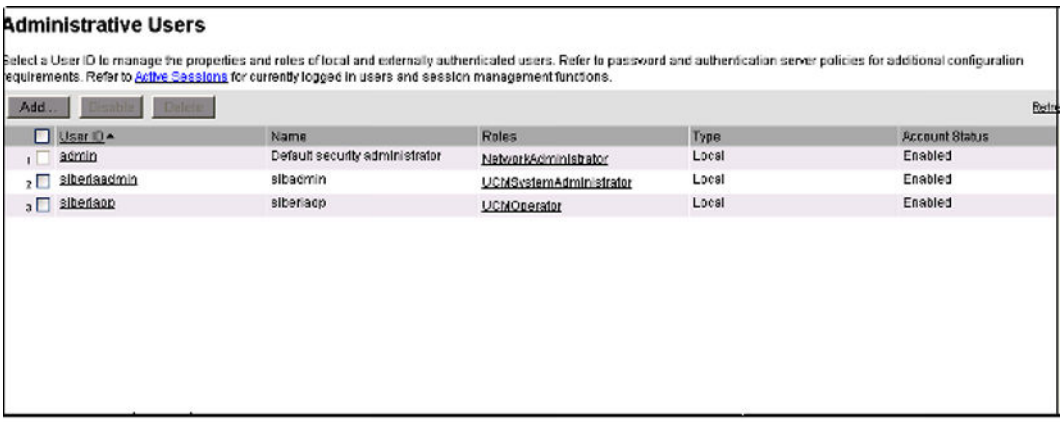
# Viewing existing users

Perform the following procedure to view the users who are configured for UCM access.

### Procedure steps

1. In the Navigation pane, expand **Admin**, and then click **User Management**.

   The Administrative Users page lists users configured for access to UCM.




2. View the information for existing users.

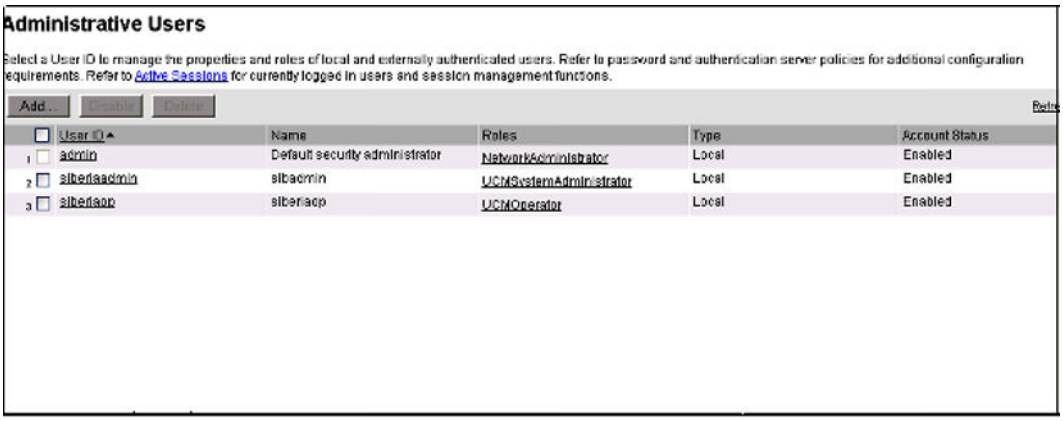
# Adding a new local or external user

Perform the following procedure to create a new user of UCM and to assign roles to the new user.

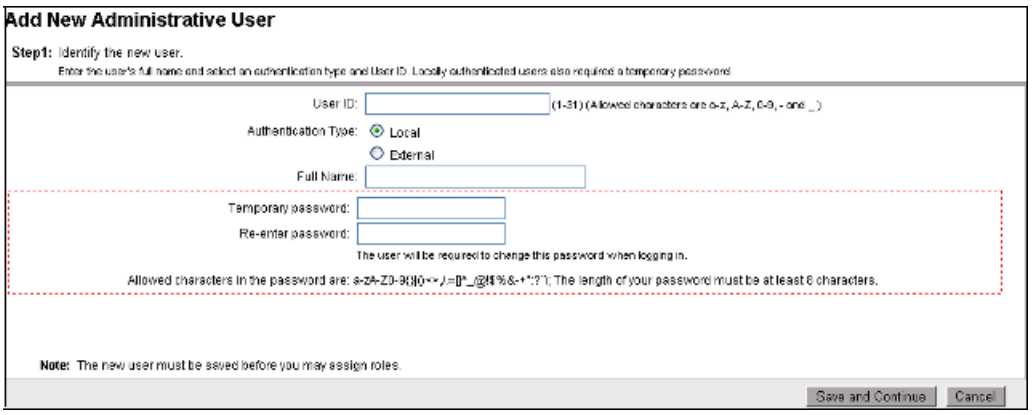
### Procedure steps

1. In the Navigation pane, expand **Admin**, and then click **User Management**.

   The Administrative Users page lists users configured for access to UCM.




2. Click **Add**.

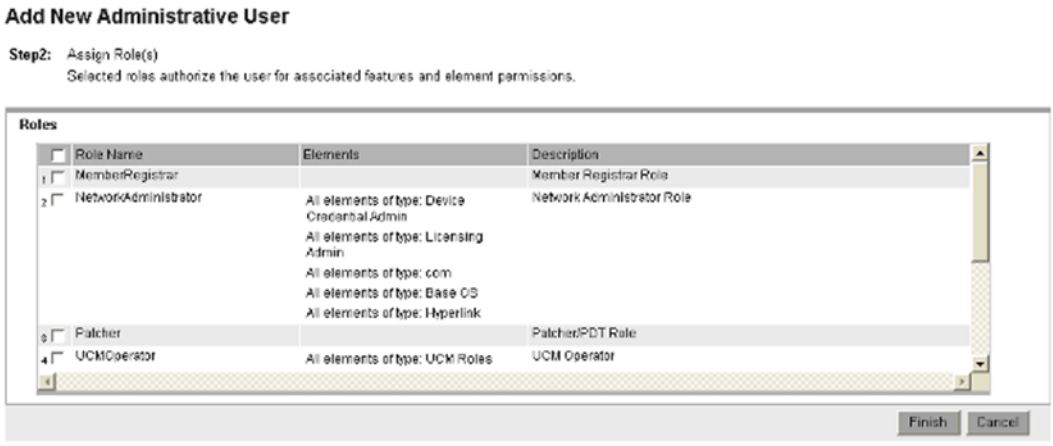



3. In the **User ID** field, enter the user ID.
4. For the **Authentication Type** choose one of the following types:
   - Local
   - External
5. In the **Full Name** field, enter the full name of the user.
6. In the **Temporary password** field, enter the temporary password.

**Important:**

The password that you enter for the new local user is temporary. After the new user logs on to UCM for the first time, the user must change this password. Therefore, Avaya recommends that users record the new password in a secure place.

7. In the **Re-enter password** field, reenter the temporary password, and then click **Save and Continue**.




8. In the Role Name column, select the check boxes for the role that you want to assign to the user.
9. Click **Finish**.

   The new user appears in the users list.

**Important:**

The valid users are Network administrator, UCM System Administrator, and UCM operator.

# Variable definitions

| Variable | Value |
|---|---|
| User ID | User identification. This field accepts up to 31 characters, and allows characters such as lowercase letters (a–z), uppercase letters (A–Z), numbers (0–9), and special characters (- and _). |
| Authentication type | Type of user. Local user or External user. |
| Full Name | Full name of the user. |
| Temporary password | New password for the user. This field allows characters such as lowercase letters (a–z), uppercase letters (A–Z), numbers (0–9), and special characters ({}\|()<>,/.=[]_@!$ %-+":?‘\; ). The minimum length of the password is 8 characters. |
| Re-enter password | Reenter the new password for the user. |
| Role Name | Roles that a new user can perform. |

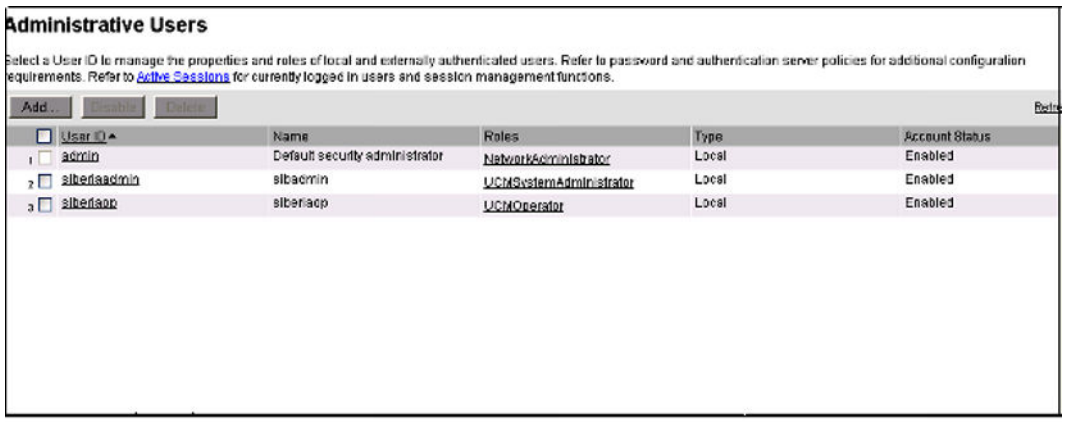
# Disabling a user

Perform the following procedure to disable a user in the UCM network.

### Procedure steps

1. In the Navigation pane, expand **Admin**, and then click **User Management**.

   The Administrative Users page lists users configured for access to UCM.




2. In the User ID column, select the check box for the user you want to disable, and then click **Disable**.

   The Account Status for the user you selected changes to Disabled.

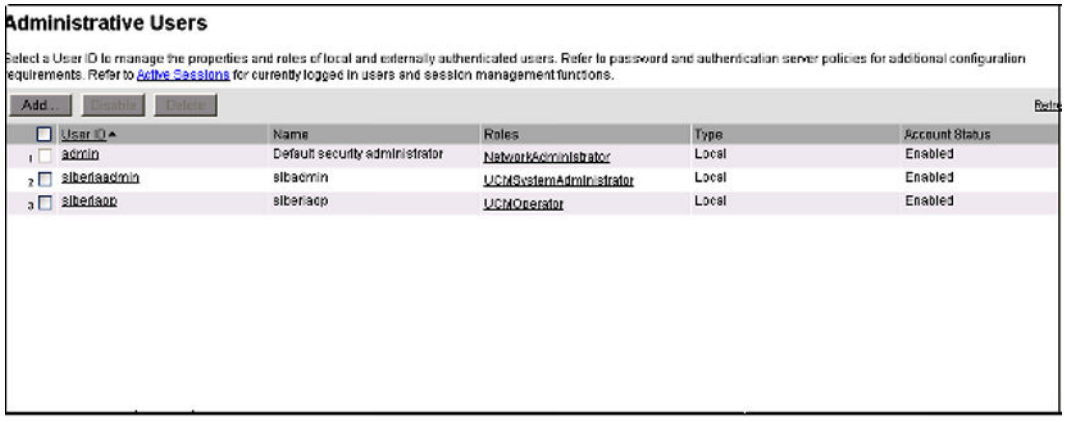
# Deleting a user

Perform the following procedure to delete a user in the UCM network.

### Procedure steps

1. In the Navigation pane, expand **Admin**, and then click **User Management**.

   The Administrative Users page lists users configured for access to UCM.




2. In the User ID column, select the check box for the user you want to delete, and then click **Delete**.
3. After you are prompted to confirm the deletion of user, click **Delete**.

**Important:**

Users cannot delete their own account.

# Chapter 7: Licensing

This chapter provides information about adding a license file, exporting a license file, generating a license report, and refreshing license information.

**Navigation**



## License restriction

Although you may discover more than licensed devices, you can only manage the devices you select. You can select the devices you want to manage from the pop up window that appears, or you can select multiple devices from the topology map, and right-click to select manage. After you select the devices, you must submit the devices.

## Node based licensing for COM

Configuration and Orchestration Manager (COM) supports node based licensing that permits COM to manage the number of devices that you purchase a license for. An Enterprise license is available which provides COM 1500 node count support and a packaged Bulk Configuration Manager (BCM) base license.

After each discovery, you must select managed devices. Only the licensed number of devices are available to COM. The unselected devices are discarded. After a new discovery, you can change the device selection.

**Note:**

If you upgrade COM from an earlier version, you must acquire a new COM 3.0.1 base license, because COM 2.3 base or earlier license files do not permit access to COM. However, upgrade licenses are valid between releases and work on COM 3.0.1.

Use the following table to determine whether or not you require a new license to upgrade to Avaya Configuration and Orchestration Manager (COM) 3.0.1 from an earlier version.

| Old release installed | Server type | New license required |
|---|---|---|
| 2.3 or 2.3.x | Physical machine | Yes |
| 2.3 or 2.3.x | VMWare virtual machine | Yes |
| 2.3 or 2.3.x | Non VMWare virtual machine | Yes |
| 3.0 | Physical machine | No |
| 3.0 | VMWare virtual machine | Yes |
| 3.0 | Non VMWare virtual machine | No |

The following list outlines the types of COM node based licenses:

- COM_50_base—This is the base license in node-based licensing; manages 50 nodes only.
- COM_Upgrd50_250_base—This is an upgrade from a 50 to 250 nodes; manages 250 nodes only.
- COM_Upgrd50_1200_base—This is an upgrade from a 50 to 1200 nodes; manages 1200 nodes only.
- COM_Upgrd250_1200_base—This is an upgrade from 250 to 1200 nodes; manages 1200 nodes only.
- COM_Upgrd1200_1500_base—This is an update from 1200 to 1500 nodes; manages 1500 nodes only.

**Important:**

You can combine any of the preceding licenses. However, you cannot have a 50_base and then a 250_1200_base license. The upgrade must go from 50 to 1200, or from 50 to 250 to 1200.

# Adding a license

Perform the following procedure to add a license.

### Procedure steps

1. In the Navigation pane, expand **Admin** panel, and then select **Licensing**.
2. From the Licensing Administration page, click **Add License**.
3. From the Add License dialog box, in the **License** field, browse to locate the license file.
4. Select the **License Host**, and then click **Add**.

## Exporting a license

Perform the following procedure to export a license file.

### Procedure steps

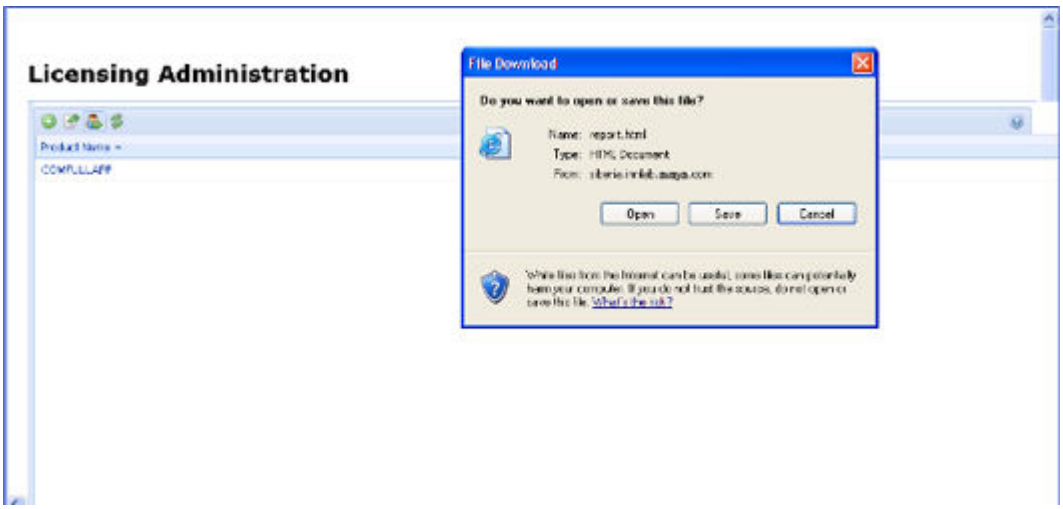
1. In the Navigation pane, expand the **Admin** panel, and then click **Licensing**.
2. From the Licensing Administration page, in the product name table, select the product license to be exported.
3. Click **Export License**.
4. In the File Download dialog box, click **Save**.

## Generating a licensing report

Perform the following procedure to generate a licensing report.

### Procedure steps

1. In the Navigation pane, expand the **Admin** panel, and then click **Licensing**.
2. From the Licensing Administration page, in the product name table, select the product license to be exported.
3. Click **Report**.




4. In the File Download dialog box, click **Save**.

# Refreshing the license information

Perform the following procedure to refresh the license information.

### Procedure steps

1. In the Navigation pane, expand the **Admin** panel, and then click **Licensing**.
2. From the Licensing Administration page, in the product name table, select the product license to be exported.
3. Click **Refresh**.

# Chapter 8: Configuration and Orchestration Manager administration

This chapter provides information about how to administer Avaya Configuration and Orchestration Manager (COM).

**Navigation**



## Access Control

The Access Control tab contains the MultiElementManager Assignment tab you use to assign Multi-Element Managers.

The Access Control service retrieves the role of the user from UCM-CS, and the access to other components is based on users role and licenses.

See the following sections to manage access control components.



### Assigning MultiElement Manager

Perform the following procedure to assign the MultiElement Manager to the selected Configuration and Orchestration Manager (COM) user.

### Prerequisites

- Ensure that you are logged on to COM as an administrator.

### Procedure Steps

1. From the Navigation pane, expand the **Admin** pane, and then click **Access Control**.
2. From the MultiElement Manager Assignment tab, select a user.
3. In the **Multi-Element Manager Assignment** section, from the **Available MEM** list, do one of the following:
   - To assign one element manager, select the element manager that you want to assign, and then click the **Right Arrow**.
   - To assign several element managers, press and hold **Ctrl**, select the element manager, release **Ctrl**, and then click the **Right Arrow**.
   - To assign a contiguous block of element managers, press and hold **Shift**, select the first element manager and the last element manager, release **Shift**, and then click the **Right Arrow**.
   - To assign all the element managers, click the **Double right arrow**.
4. To remove one or more element mangers, select them from the **Selected MEM** list, and then click **Left Arrow**.

   To remove all the element managers, click **Double Left Arrow**.
5. Click **Apply**.

## Resetting MultiElement Manager assignment

Perform the following procedure to reset the MultiElement Manager assignment for the selected Configuration and Orchestration Manager (COM) user.

### Prerequisites

- Ensure that you log on to COM as an administrator.

### Procedure Steps

1. From the Navigation pane, expand the **Admin** pane, and then click **Access Control**.
2. From the MultiElement Manager Assignment tab, select a user.
3. Click **Reset**.

## Clearing MultiElement Manager assignments

Perform the following procedure to clear the MultiElement Manager assignments for the selected Configuration and Orchestration Manager (COM) user.

### Prerequisites

- Ensure that you log on to COM as an administrator.

### Procedure Steps

1. From the Navigation pane, expand the **Admin** pane, and then click **Access Control**.
2. From the MultiElement Manager Assignment tab, select a user.
3. Click **Clear User Assignments**.

## Refreshing the available MultiElement manager list

Perform the following procedure to refresh the available MultiElement manager list.

### Prerequisites

- Ensure that you log on to COM as an administrator.

### Procedure Steps

1. From the Navigation pane, expand the **Admin** pane, and then click **Access Control**.
2. From the MultiElement Manager Assignment tab, select a user.
3. Click **Refresh**.

# Preferences

The Preferences option manages a set of Configuration and Orchestration Manager (COM) server preferences. For more information about discovering devices and configuring general and logging preferences, see the following sections.


- Data persistence for COM managers on page 46
- Configuring a network discovery on page 47
- Scheduling a discovery on page 48

- Configuring general system preferences on page 49
- Configuring logging information on page 50


# Data persistence for COM managers

You can save the discovery information for managers into the database, and reload the discovery information for managers when a manager is opened.

## Enabling the data persistence feature for COM managers

The manager discovery data is saved in MySQL database in the form of serialized Java objects, and uses the existing DeviceDataPersistence interface which is currently used to keep the discovery data in the memory as stateful session beans.

To enable or disable the database persistence feature, you must use the global preference Cache Manager Data. By default the feature is disabled. When the feature is disabled, the workflow of manager discovery and configuration is unchanged.

When you enable the database persistence feature, a warning message pops up. The message explains how the database persistence works and only recommends it for a static network.

The manager data in the database is identified by user and manager; for example, the same user can only have one copy of the manager data for each manager.

After you launch a manager, if there is no data saved in the database, a regular discovery begins. At the end of the discovery, the discovery information is automatically saved into the database.

When there is persistence data saved in the database, at the beginning of launching a manager, you are asked if you want to use the old persistence data, and are warned that you might not get the latest information from the network. If you select yes, the persistence data is loaded into the manager without a new discovery.

When you try to add, modify, or delete configurations within a manager, the manager sends the configuration changes to the devices and, if successful, saves the serialized DeviceDataPersistence Java object into the database to keep the database synchronized with the network.

There is no Save button for database persistence. All database saves happens automatically.

The following is the list of managers that support database persistence:

- MLT Manager
- VLAN Manager
- Routing Manager

# Configuring a network discovery

You can configure the Configuration and Orchestration Manager (COM) application to perform a discovery to manage devices on your network. The discovery preferences that you set can determine the type of discovery the system performs and the landing page the system uses to display discovery results. Configuration and Orchestration Manager uses the information that you configure to discover devices and to create a topology map or an inventory grid.

You have the option to launch a new or merged network discovery. The new or merged discovery creates or updates the topology map or inventory grid, respectively.

Perform the following procedure to configure a network discovery.

### Procedure steps

1. From the Navigation pane, open **Admin**, and then select **Preferences**.

   Or

   Navigate to the **Home** tab tool bar, and click **Set Discovery Preferences**, represented by a wrench.
2. Specify whether you want to configure a new or merged discovery:
   - New discovery—Run a new discovery when you want to introduce a device to your network.
   - Merged discovery—Run a merged discovery when you want to amend your device inventory without a new discovery.
3. In the **New Discovery Seed IP Address(es)** field, enter the IP address of one, or more than one, device in the network.

   Separate multiple IP addresses with a comma.
4. In the **Max Hops** field, enter the maximum number of hops.
5. Choose a landing page by selecting the corresponding **Landing Page** option.

   The default value is set to Topology. If you select the Inventory value, you are directed to the device inventory grid at log in.
6. Select the **Discover IP Phones** check box to discover the IP phones and to appear in the topology map.
7. Select the **Discover Unsupported Devices** check box to enable discovery of unsupported devices.
8. Select the **Save topology layout across discovery** check box to save the topology map.
9. Select the **Restrict Discovery** check box to restrict device discovery to only the devices entered in the subnets.

   In the IP Address/addrLen dialog box, perform one of the following procedures:

- Click **Insert** to enter IP addresses.
- Click **Delete** to delete IP address.

10. Click **Save Preferences** or **Save and Run Discovery**.

## Scheduling a discovery

You can configure the Configuration and Orchestration Manager (COM) application to run scheduled network discovery jobs. You can set your discovery launch to occur one time, or repeatedly according to specific months, days of the week, date, and time. By scheduling your discovery event, you can run the discovery process without manual intervention. You also can schedule the discovery process to occur during off hours, therefore freeing up network resources.

Perform the following procedure to schedule a network discovery.

### Procedure

1. From the Navigation pane, open **Admin**, select **Preferences**, and from the Discovery tab, click **Schedule Discovery**.

   Or

   Navigate to the Home tab tool bar, and select **Discover Topology** > **Schedule a Discovery**.
2. In the **Task Name** field, enter a value to identify the task name.
3. In the **Schedule Name** field, enter a value to identify the discovery schedule.
4. In the Schedule section, select one of the following scheduling interval options:
   - One Time Only
   - Every Month on The: x Day.
   - Every Week on: x
   - Every: x Days.
   - Every Day.
5. In the Date section, specify the starting date and time values for the scheduled event in the **Date** and **Time** fields.
6. Click **Set**.

### Next steps

You can manage a scheduled discovery event on the View Scheduled Task tab. You have the option to delete, stop, reschedule, or run a scheduled discovery event.

## Clearing a discovery

Perform the following procedure to clear a discovery. If you clear a discovery, you clear all the devices in the topology map.

### Procedure

1. From the COM Navigation pane open **Admin**, and then click **Preferences**.
2. From the Discovery tool bar, click **Clear Discovery**.
3. Click **Yes**.

## Viewing a discovery log

Perform the following procedure to view a discovery log.

### Procedure

1. From the COM Navigation pane, open **Admin**, and then click **Preferences**.
2. From the Discovery tab tool bar, click **View Discovery Log**.
3. Select **Open with** or **Save File** to open the COM Discovery log.
4. Click **OK**.

## Configuring general system preferences

Perform the following procedure to configure the general system preferences.

### Procedure

1. From the Navigation pane, open **Admin**, and then select **Preferences**.
2. Click the **General** tab.
3. As appropriate, enter field values in the following panes:
    - **SNMP**
    - **Database Clean-up**
    - **TFTP/SFTP**
    - **Manager**

- **Email Server**
- **BCM Task Preference**

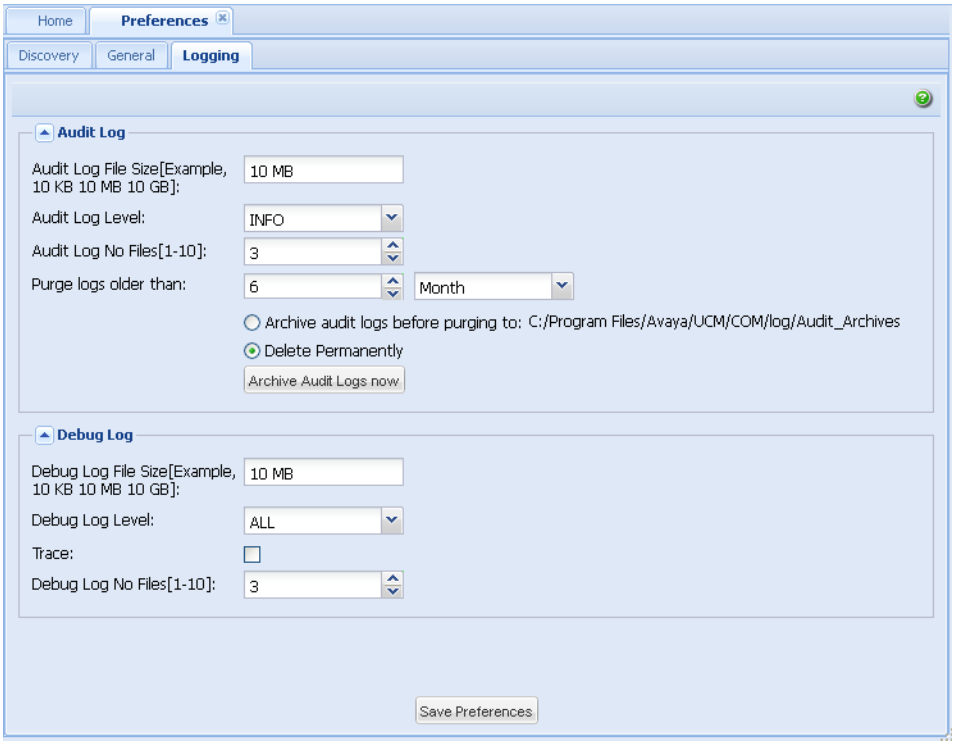
4. Click **Save Preferences**.

## Configuring logging information

Perform the following procedure to configure logging.

### Procedure steps

1. From the Navigation pane, open **Admin**, and then select **Preferences**.
2. Click the **Logging** tab.




3. Enter information in all the fields in the Logging dialog box as appropriate.
4. Click **Save Preferences**.

## Job aid

The following table describes the fields in the Preferences tabs.

**Table 8: Preferences fields**

| Tab/Panel | Item | Description |
|---|---|---|
| Discovery | Discovery Mode | The options are:<br>• New<br>• Merge |
| | Discovery Seed IP Address(es) (comma separated)<br>For New or Merge Discovery mode. | The IP addresses of one or more devices that COM queries using SNMP to start the discovery process. For more information about supported devices, see *Avaya Configuration and Orchestration Manager Administration* (NN47226-600).<br>**Important:**<br>If the devices you want to monitor and configure are not connected to the same network, you can specify multiple seed addresses, separated by commas. Separate networks do not appear to be connected in the network topology map. |
| | Max Hops [1–20] | The number of hops, between 1 and 20, that a data packet travels from one router or intermediate point to another in the network. The default value is 5 hops. |
| | Landing Page | The options are:<br>• Topology<br>• Inventory |
| | Discover IP Phones | If selected, IP phones are discovered and appear in the topology map. |
| | Discover Unsupported Devices | If selected, unsupported devices are discovered and appear in the topology map. |
| | Save topology layout across discovery | If selected, COM saves the topology layout across discovery. |
| | Restrict Discovery | Opens the Restrict Discovery dialog box to restrict device discovery to only the devices in the subnets entered. |
| General SNMP panel | Retry Count [0..5] | The number of times, between 0 and 5, that COM tries to connect to a device using SNMP. The default value is 1. |
| | Timeout [3..120 seconds] | The amount of time, between 3 and 10 seconds, that COM waits before trying to connect to a device again. The default value is 5. |

| Tab/Panel | Item | Description |
|---|---|---|
| | Max Outstanding Requests[20..250] | The number of SNMP requests, between 20 and 250, that COM maintains as open or outstanding. The default value is 100. |
| | Listen for Traps | If checked, COM receives traps for all the devices managed through COM. |
| | Listen for Syslogs | If checked, COM receives logs for all the devices managed through COM. |
| | Trap Listener Port[1–65535] | The port on the COM server where the COM software listens for traps. |
| | System Log Listener Port[514..530] | The port on the COM server where the COM software listens for syslogs. |
| | Trap Poll Interval[5..60 min] | The trap poll interval is associated with the trap parser in the Trap Viewer Manager. As you build a parser, you can select to have devices automatically highlighted on the topology map after the trap is received in the database. The poll interval informs the browser how often to go to the database to look for traps that have come in. The values are 5 minutes to 60 minutes. |
| General Database Clean-up panel | Trap/Syslog Storage (days) [1..365] | The number of days, between 1 and 365, that COM tries to connect to Trap/Syslog storage to purge the database. The default value is 90. |
| | Trap/Syslog Check Time (Hour)[0..23] | The number of hours, between 0 and 23, that COM tries to connect to a storage to purge the database. The default value is 1. |
| | Trap/Syslog Check Time (Min.)[0..59] | The number of times, between 0 and 59, that COM tries to connect to a storage to purge the database. The default value is 0. |
| | Trap/Syslog Check Frequency (days) [1..30] | The number of days, between 1 and 365, that COM tries to connect to Trap/Syslog storage to purge the database. The default value is 90. |
| General TFTP/SFTP panel | TFTP/SFTP Server | Allows you to enter the IP address of the default TFTP or SFTP server used by submanager applications. |
| General Manager panel | Cache Manager Data | Applies only to the MultiLink Trunking Manager, Routing Manager, and VLAN Manager, and is optional. If you check the Cache Manager Data check box, you permit the managers to cache the device data that the managers discover the first time. Therefore, if you reopen the managers, COM does not perform another discovery, but displays the data |

| Tab/Panel | Item | Description |
|---|---|---|
| | | from the first discovery. Avaya recommends that you use this feature for very static networks only.<br>If you check the Cache Manager Data check box, a dialog box appears to explain the feature and ask you if you want to proceed. |
| General<br>EMail Server | SMTP Host | The name of the SMTP host. |
| | SMTP User Name | The SMTP user name. |
| | SMTP Password | The SMTP password. |
| | From User | The e-mail address of the sender. |
| | To Recipient | The e-mail address of the recipient. |
| | Port | The port number. |
| | Enable Email | If checked, enables the e-mail function. |
| | Test Email | Click to test the EMail server. |
| General<br>BCM Task Preference | BCM Task Concurrent Device Operations Limit 1–10 | Controls the maximum number of concurrent operations on devices running in a task. The values are 1 to 10. |
| Logging<br>Audit Log | Audit Log File Size [Example, 10 KB 10 MB 10 GB] | You can specify the Audit Log File Size. The default value is 10 MB. |
| | Audit Log Level | You can specify the Audit Log Level. The default value is INFO. |
| | Audit Log No Files[1–10] | The number of files which are audited. The default value is 3. |
| | Purge logs older than | You can specify the length of time audit logs remain in the database before they are archived, in weeks or months. The default value is 6 months. |
| | Archive audit logs before purging to | If selected, you can specify the location to save the audit log backup file, in CSV format. |
| | Delete Permanently | If selected, deletes audit log files without creating backup files |
| Logging<br>Debug Log | Debug Log File Size [Example, 10 KB 10 MB 10 GB] | You can specify the Debug Log File Size. The default value is 10 MB. |
| | Debug Log Level | You can specify the Debug Log Level. The default value is ALL. |
| | Trace | If checked, additional SNMP information is written to the COM error log, and can provide assistance in troubleshooting. |

| Tab/Panel | Item | Description |
|---|---|---|
| | | **Important:**<br>Selecting Trace can slightly slow down performance as extra information is gathered |
| | Debug Log No Files[1–10] | The number of files which are debugged. The default value is 3. |

# Device credentials

The credentials service provides the necessary data to connect to a device, and can store credentials for the following protocols:

- SNMPv1/v2
- SNMPv3
- Telnet
- Common Information Management (CIM)
- Secure Shell (SSH)
- Netconf
- File Transfer Protocol (FTP)
- RLogin
- Windows User

Configuration and Orchestration Manager (COM) requires that you enter either SNMPv1/2 or SNMPv3 credentials. If you enter SNMPv3 credentials, the credential must be mapped to a management user. Configuration and Orchestration Manager also requires that you enter telnet credentials for the FIM module. The Bulk Configuration Manager (BCM) module within COM requires either Telnet and SSH credentials to be available.

The following table lists the categories of credential information that COM manages in the Device and Server Credentials Editor.

**Table 9: Device and Server Credentials Editor fields**

| Credential information | Attributes |
|---|---|
| Set Name | Credential set name. |
| IP Address or Range | Device/Server IP Address or Address Range. |
| SNMPv1/v2 | Read Community Write Community. |

| Credential information | Attributes |
|---|---|
| SNMPv3 | SNMPv3 User Authorization Protocol (MD5, SHA1, None) Authorization Key Privacy Protocol (AES128, DES, 3DES, None) Privacy Key. |
| Telnet | Telnet User name Telnet Password Telnet Port. |
| CIM | CIM User name CIM Password. |
| SSH | SSH User name SSH Password SSH Port. |
| NetConf | NetConf User name. |
| FTP | FTP User name FTP Password FTP Port. |
| RLogin | RLogin User name RLogin Password. |
| Windows User | Windows User name Windows Password Windows Domain. |

### Navigation


- Adding a credential set on page 55
- Adding a credential set for SNMPv3 on page 57
- Deleting a credential set on page 58
- Editing a credential set on page 59
- Importing a credential set on page 60
- Exporting a credential set on page 61

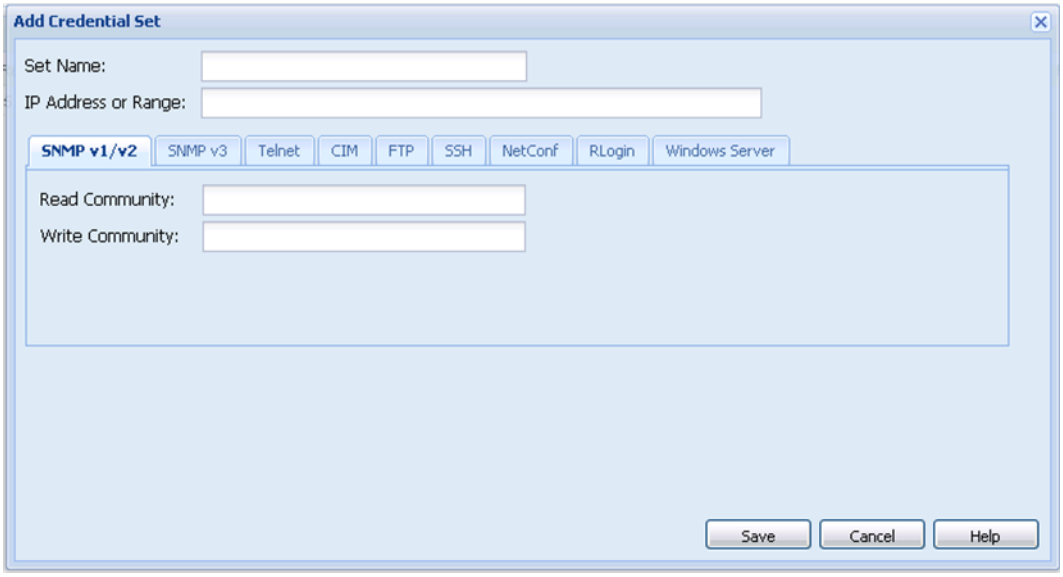

## Adding a credential set

Perform the following procedure to add a new credential set to Unified Communications Management (UCM). You must add a credential set for each device you want to manage. The set name accepts printable ASCII characters, but not special characters (%(/!\)). You can enter the space ( ), dash (-), and underscore (_) characters. The set name must be unique. If you add a new entry or rename an existing one with a set name already used in another entry, a warning message appears.

### Procedure steps

1. In the Navigation pane, expand **Admin**, and then click **Device Credentials**.


2. Click **Add Credential**.




3. In the **Set Name** field, enter the Set Name.
4. In the **IP Address/Range** field, specify the IP address information for the credential.
5. Add device credential information on the appropriate tab. For more information about the available tabs, see Table 9: Device and Server Credentials Editor fields on page 54.

   Each tab corresponds to an authentication protocol. The information you enter depends on the type of authentication your device uses.
6. Click **Save**.

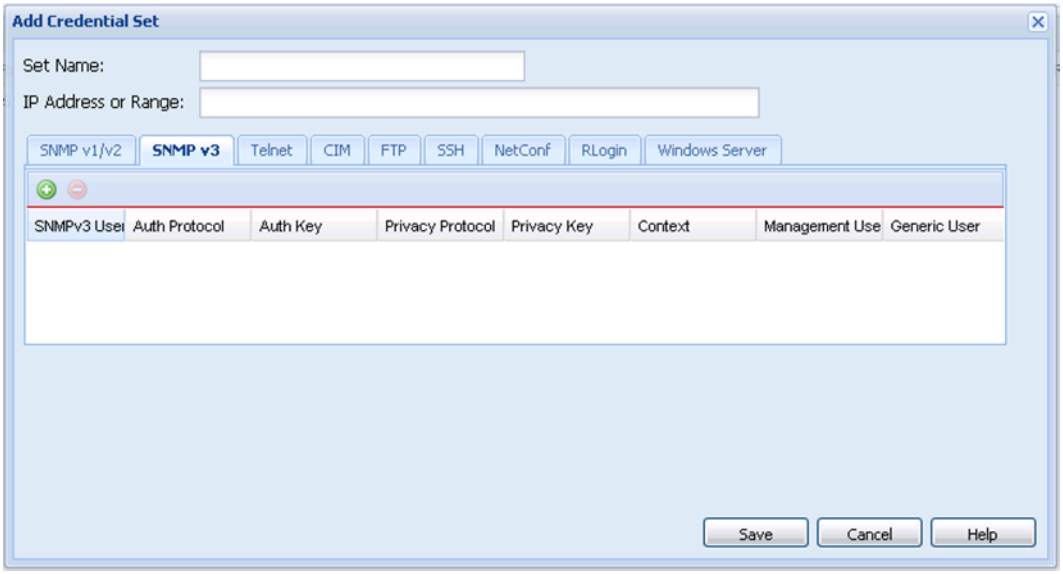
# Adding a credential set for SNMP v3

Perform the following procedure to add credentials for SNMP v3.

### Procedure steps

1. In the Navigation pane, expand **Admin**, and then click **Device Credentials**.


2. Click **Add Credential**.
3. In the **Set Name** field, enter the Set Name.
4. In the **IP Address/Range** field, specify the IP address information for the credential.
5. Click **SNMP v3**.



6. Click **Add User**.
7. Enter appropriate values for all the fields in the SNMP v3 tab. For the Context, Management User, and Generic User fields, follow the guidelines listed below:

   **Context**—If there is a VRF assigned to this user the VRF number should be configured in Context field.

   **Management User**—You must associate the device snmp v3 user to a UCM user, otherwise the entry will not take effect.

   **Generic User**—Ensure this field is set to true.
8. Click **Save**.

# Deleting a credential set

Perform the following procedure to remove a credential set from the Device and Server Credentials Editor.

### Procedure steps

1. In the Navigation pane, expand **Admin**, and then click **Device Credentials**.


2. Click the credential set that you want to remove. You can select several credential sets at once by pressing **Ctrl**, and then clicking the credential sets.
3. Click **Delete Credential Set(s)**.
4. After you are prompted to confirm the deletion of the credential set, click **Delete**.

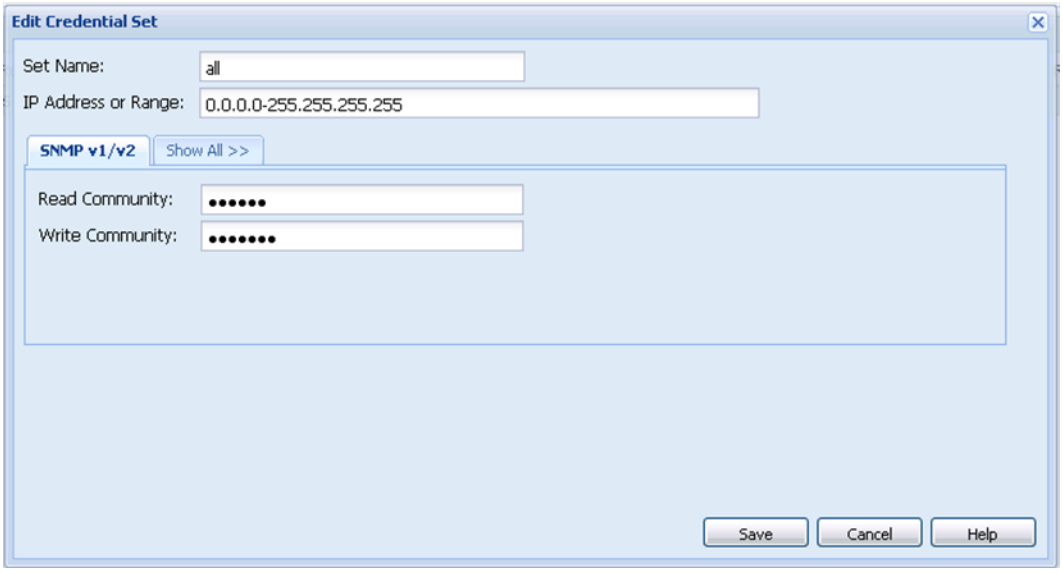
# Editing a credential set

Perform the following procedure to edit a credential set to change the set name, IP address, and device credential information for a credential set.

### Procedure steps

1. In the Navigation pane, expand **Admin**, and then click **Device Credentials**.


2. Click the credential set that you want to change.
3. Click **Edit Credential Set**.




4. Make changes to the credential set as required.

5. If you want to specify a different type of device credential information, click the **Show All** tab, and then type the new device credential information in the appropriate tab.
6. Click **Save**.

   Unified Communications Management validates all specified IP addresses after saving the changes.

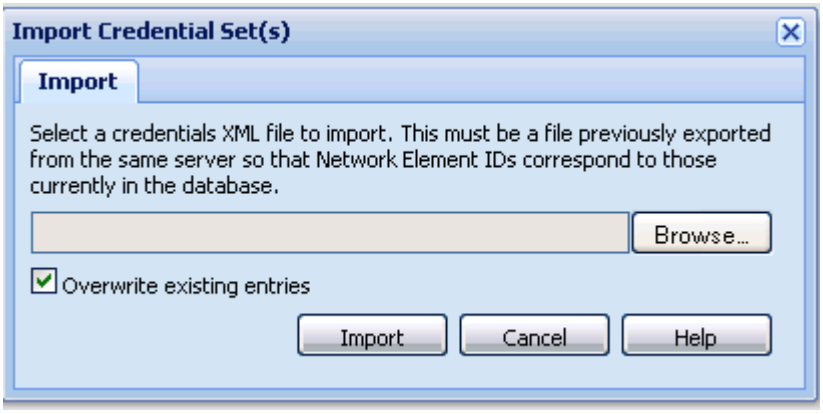
# Importing a credential set

Perform the following procedure to import the credential set to Unified Communications Management (UCM).

### Procedure steps

1. In the Navigation pane, expand **Admin**, and then click **Device Credentials**.


2. Click **Import Credentials**.




3. Click **Browse**, and then choose the credentials XML file to import.

4. To overwrite the existing entries of credential set, select the **Overwrite existing entries** check box.
5. Click **Import**.

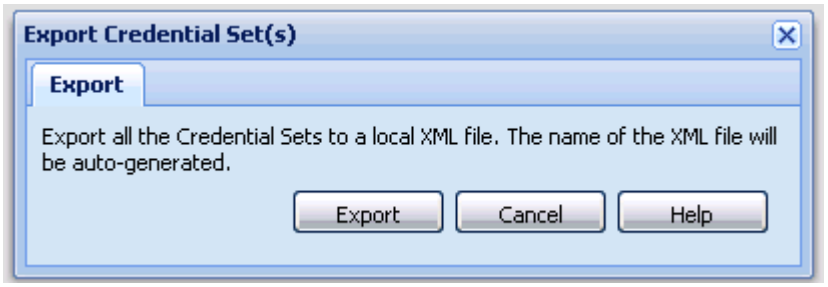
## Exporting a credential set

Perform the following procedure to export a credential set from the UCM to a local XML file.

### Procedure steps

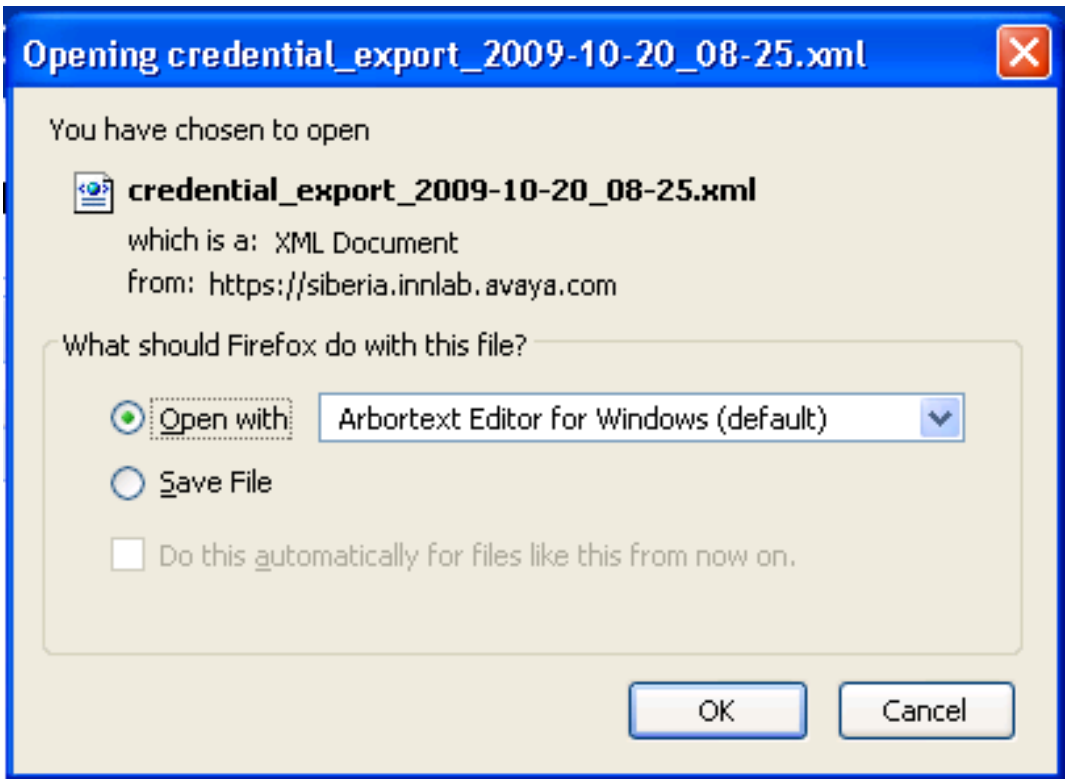
1. In the Navigation pane, expand **Admin**, and then click **Device Credentials**.


2. Click **Export Credentials**.




3. Click **Export**.

   The Credential Sets exports to a local XML file. The name of the XML file is autogenerated.




4. Click **Save**.

# Plugins inventory

The EDM plugin is a device plugin for a device version, or type, that you can install on an installed Configuration and Orchestration Manager (COM) base. You can install plugins on a Base or Complete application license. The user of the Network Administrator and UCM System Administrator roles can perform the Plugin management. You can install, uninstall, or view the EDM Plugin by accessing the Plugins Inventory.

EDM plugins offer device management capabilities. Therefore, if you want to perform QOS / Filters operation on a particular device, then you can manipulate this functionality from the Element Manager for this device. The Element Manager for the EDM plugins is a browser-based solution that is launched through the device inventory or from the topology map. To launch the Element Manager, right-click on a device. The EDM plugins are reused from the embedded EDM, or Element Manager, that is available in all the devices.

Configuration and Orchestration Manager displays the EDM Plugin Inventory with a table containing all the installed Plugins on the COM server. Each row in the table depicts an EDM plugin, which specifies which device type and version is run with the Plugin, as well as a list of supported device names.

**Navigation**

- Downloading EDM plugin on page 63
- Installing EDM plugin on page 63
- Uninstalling EDM plugin on page 65
- Refreshing the plugin inventory table on page 65
- Selecting the EDM preferences on page 66

# Downloading EDM plugin

Perform the following procedure to download an EDM plugin.

**Note:**

Use Firefox to download EDM plugin from the Avaya support site to the Configuration and Orchestration Manager (COM) server.

**Procedure steps**

1. Open a Web browser, and go to the Avaya support website: http://support.avaya.com.
2. Select the EDM Plugins section.
3. Download **EDM Plugin** for a specific device type and version.
4. Click **Save** to save the plugin file on to disk, where you are running the web-browser.

# Installing EDM plugin

Perform the following procedure to install an EDM plugin on Configuration and Orchestration Manager (COM).

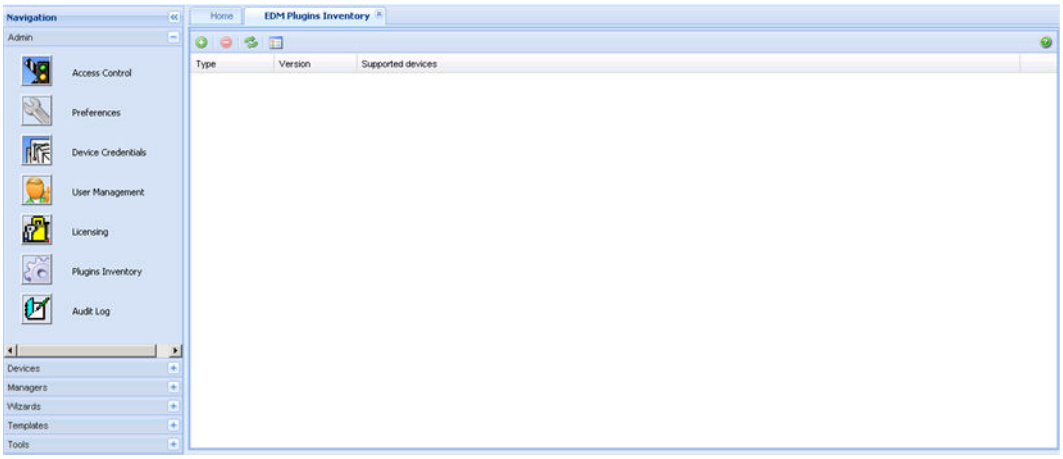
The installation process copies the file inside the JBoss deploy folder, adds the plugin related information in EDMsupportedDevices.xml file, which contains information about all the installed plugins, and copies the mib.dat file specific for the plugin at [COM_HOME]/dats/.

**Prerequisites**

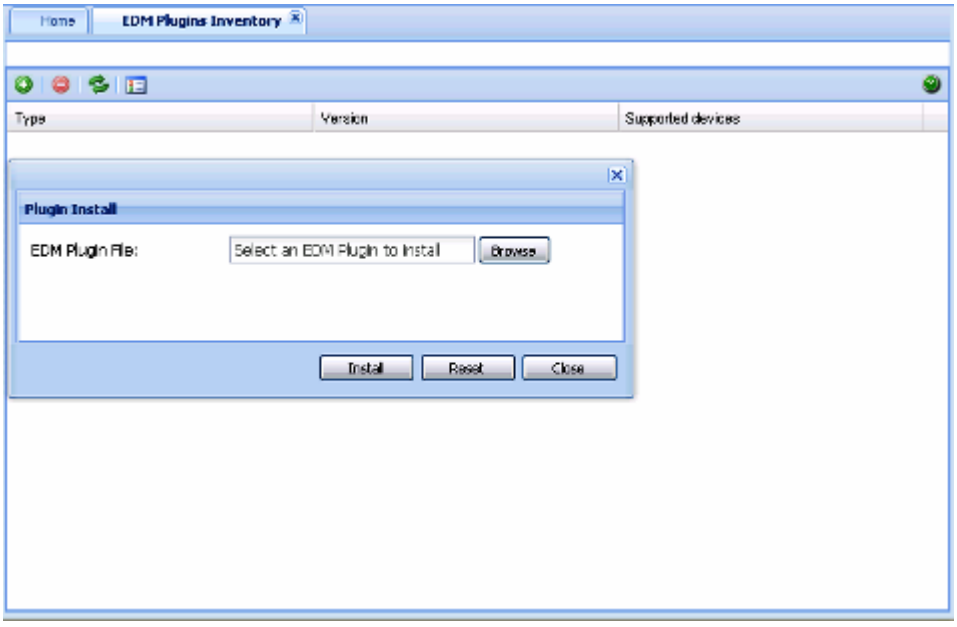
- You must have Network administrator role or UCM system administrator role rights to access the Plugins Inventory.
- Ensure that you log on to COM as an administrator.

### Procedure Steps

1. Download **EDM plugin** using the procedure, Downloading EDM plugin on page 63.
2. From the Navigation pane, expand the **Admin** pane, and then click **Plugins Inventory**.




3. Click **Install Plugin**.




4. To select the EDM Plugin file, click **Browse**.
5. Browse to the EDM plugin file, and then click **Open**.

   The file appears in the EDM Plugin File field.
6. To reset the EDM Plugin file, click **Reset**.
7. Click **Install**.

If the installation is successful, the plugin appears in the EDM Plugin Inventory table or an error message appears describing the problem.

## Uninstalling EDM plugin

Perform the following procedure to uninstall an EDM plugin from Configuration and Orchestration Manager (COM).

The uninstallation process deletes the war file from the JBoss deploy folder, removes information related to the plugin from the EDMsupportedDevices.xml file, and deletes the mib.dat file used by the plugin from [COM_HOME]/dats/.

**Prerequisites**

- You must have Network administrator role or UCM system administrator role rights to access the Plugins Inventory.
- Ensure that you log on to COM as an administrator.

**Procedure Steps**

1. From the Navigation pane, expand the **Admin** pane, and then click **Plugins Inventory**.
2. From the EDM Plugins Inventory table, select the plugin that you want to uninstall.
3. From the toolbar, click **Uninstall Plugin**.

   If the uninstallation is successful, COM displays the following message: “EDM Plugin uninstall” successful. If the uninstallation is not successful, COM displays an error message that describes the problem.

## Refreshing the plugin inventory table

Perform the following procedure to refresh the plugin inventory table.

**Prerequisites**

- You must have Network administrator role or UCM system administrator role rights to access the Plugins Inventory.
- Ensure that you log on to Configuration and Orchestration Manager (COM) as an administrator.

### Procedure Steps

1. Download **EDM plugin** using the procedure, Downloading EDM plugin on page 63.
2. From the Navigation pane, expand the **Admin** pane, and then click **Plugins Inventory**.
3. From the toolbar, click **Refresh Plugin Inventory**.

## Selecting the EDM preferences

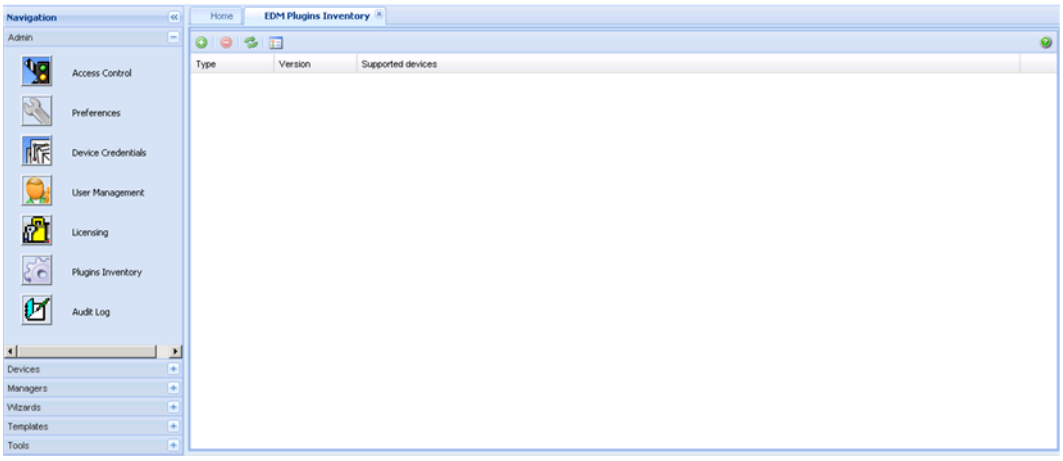
Perform the following procedure to use an EDM Plugin when launching the Single Element Manager.

### Prerequisites

- You must have Network administrator role or UCM system administrator role rights to access the Plugins Inventory.
- Ensure that you log on to Configuration and Orchestration Manager (COM) as an administrator.

### Procedure Steps

1. Download **EDM plugin** using the procedure, Downloading EDM plugin on page 63.
2. From the Navigation pane, expand the **Admin** pane, and then click **Plugins Inventory**.
3. From the toolbar, click **EDM Preferences**.




4. Select the check box for **Use EDM Plugin when launching Single Element Manager**.

   By default the check box for Use EDM Plugin when launching Single Element Manager is selected.

**Important:**

If you clear the check box for Use EDM Plugin when launching Single Element Manager, the device may have performance issues.

Click **Save**.

# Audit log

All managers, including Topology and Discovery, send log messages to audit and debug logs. In the audit log, you can configure and perform the following audit log functions:

- print logs
- export logs
- filter logs
- refresh log listings
- generate log reports
- archive logs
- delete logs

For more information about configuring and using the audit log feature, see *Avaya Configuration and Orchestration Manager Administration* (NN47226-600).

## Launching the audit log

Perform the following procedure to start the audit log.

### Procedure steps

1. From the Navigation pane, expand the **Admin** panel.
2. Click **Audit Log**.

### Audit Log Report Viewer tabs

The following table describes the Audit Log Report Viewer tabs.

**Table 10: Audit Log Report Viewer tabs**

| Tab | Description |
|---|---|
| Date Time | The date and time at which the event occurred. |

| Tab | Description |
|---|---|
| Audit Level | The audit level of the audit message, for example INFO, ERROR, or WARNING. |
| User | The COM user name. |
| Access Type | The type of access to the device, for example read or write. |
| Source | The module name from which the log messages originate, for example, MultiLink Trunking Manager, Multicast Manager, Multimedia Manager, Routing Manager, Security Manager, Trap/Log Inventory, VLAN Manager, VPN Manager, Virtual Routing Manager, BCM, and COM. |
| Device IP | The corresponding IP address of the device. |
| Message | The audit message. |

# Chapter 9: Device inventory and group management

With the Device Inventory View, you can manage the Avaya Configuration and Orchestration Manager (COM) inventory. Configuration and Orchestration Manager provides a device inventory view of all the devices that are currently discovered in the network. You can sort the inventory list based on various device attributes.

This feature is included in the COM_50_base license.

You use the Device Group Manager to create and manage device and group assignments. You can use device groups to group a number of discovered devices from a single repository. You can use group assignments to control access to these grouped devices through context settings. The context setting defines device group accessibility for users based on their domain of responsibility. The context setting also determines whether device map topologies render for users at login.

For more information about configuring device inventory view, device group manager, and inventory manager, see *Avaya Configuration and Orchestration Manager Administration* (NN47226-600).

**Navigation**



## Device Inventory View

You can use the toolbar options on the Device Inventory View tab to manage devices on the inventory grid. For example, you can launch the element manager, and perform device actions such as pinging and viewing connections.

You also can use the Device Inventory View tab to draw a device topology from the inventory grid.

The following table lists and describes the Device Inventory View tool bar options available.

**Table 11: Device Inventory View tool bar options**

| Option | Description |
|---|---|
| Perform Device Action | Use this option to perform the following actions on a topology map device:<br>• Show Port Status—View port status.<br>• Ping Device—Ping devices.<br>• Show Properties—View device properties.<br>• Dump Topology—View a topology dump.<br>• Learned Mac Address—View learned MAC addresses.<br>• Launch Element Manager—Open a new web page with the Element Manager for a device.<br>• Administrative Actions—Perform the following administrative functions:<br>- Update Device Topology<br>- Change IP Address<br>You also can access these options through the right-click menu of a device on the topology map or inventory grid. |
| Import/Export Inventory | Imports/Exports the inventory from, or to, a XML file. |
| Refresh | Refreshes the Device Inventory information. |
| Draw Topology | Use this option to create a network topology map from the inventory grid view. |
| Filter | Filters the inventory view based on the following:<br>• Device Type<br>• IP Address<br>• Version<br>• Name |
| Show All Inventory | Use this option to display all of the devices in the inventory as opposed to the ones in the device group. |

# Device Group Manager

You can use the toolbar options on the Device Group Manager tab to create and manage device and group assignments. For example, you can create device and user groups, edit devices or users in the individual groups, and highlight groups on a topology map.

You use device groups to group a number of discovered devices from the single repository. You then assign device groups to users. Each user can have multiple group assignments, but

only on context setting or device group. You can access the **Device Group Manager** tab by selecting the Device Group Manager icon in the Configuration and Orchestration Manager (COM) Navigation tree.

The following table lists and describes the Device Group Manager toolbar buttons in both the Devices and User Groups tabs.

**Table 12: Device Group Manager toolbar options**

| Option | Description |
|---|---|
| Refresh | Use this option to refresh the device and user group view. The COM application communicates with the server to get the latest list of device and user groups. |
| Add Device Group or Add User Group | Use this option to add a device group or a user group. When you select the Add Device Group button, COM displays the Add Group window. When you select the Add User Group button, COM displays the Add Group window. |
| Delete Device Group or Delete User Group | Use this option to delete a device group or a user group from the system. You can delete a group only if the group is not associated to a user. If you delete a user group, the current context of the user is also removed from the system; no device list is displayed. |
| Apply Changes | Use this option to apply any changes that you make to the device group or user group. |
| Revert Changes | Use this option to revert any changes that you make to the device group or user group. |
| Highlight on Topology | Use this option to highlight a device group on the topology map. |

# Adding a device group

Perform the following procedure to add a device group using the Device Group Manager.

### Before you begin

Ensure that you are logged on to Configuration and Orchestration Manager (COM) as a default admin.

### Procedure

1. From the Navigation pane, expand **Devices**, and then click **Device Group Manager**.
2. From the Groups toolbar, click **Add Device Group**.
3. In the Add Group dialog box, enter a **Group Name**.

   The Group Name field is required. Use letter, digit, underscore, or dash characters only.
4. In the Devices section, select one or more than one device from the Available list, and then click the right-pointing arrow to move the devices to the Selected list.
   - To select all devices, click the double right-pointing arrow.
   - To remove a device, highlight a device from the Selected list, and click the left-pointing arrow.
   - To remove all devices, click the double left-pointing arrow.

   Use the Search field to locate a device from the Available list.
5. Click **Save**.

## Deleting a device group

Perform the following procedure to delete a device group in the Device Group Manager.

### Before you begin

You must be logged on to Configuration and Orchestration Manager (COM) as an administrator.

### Procedure

1. From the Navigation pane, expand **Devices**, and then click **Device Group Manager**.
2. From the Groups table, select a group.
3. From the Groups toolbar, click **Delete Device Group**.
4. Click **Yes**.

# Adding a user group

Perform the following procedure to add a user group in the Device Group Manager.

### Before you begin

- You must be logged on to Configuration and Orchestration Manager (COM) as an administrator.
- You must have at least one administrative user assigned in the Avaya Unified Communications Manager (UCM) that is available for group assignment.

### Procedure

1. From the Navigation pane, expand **Devices**, and then click **Device Group Manager**.
2. Click the **Group Assignments** tab.
3. From the Group Assignments toolbar, click **Add User Group**.

   **Note:**

   An error message stating that all users have been associated with groups, indicates that there are no administrative users assigned in UCM that are available for group assignments.
4. In the **User** field, click the down arrow, and select a user.
5. In the **Current Context** field, click the down arrow to select a group.
6. In the Groups section, from the Available list, select one device, or more than one device, and click the right-pointing arrow to move the devices to the Selected list.
   - To select all devices, click the double right-pointing arrow.
   - To remove a device from the Selected list, select the device and click the left-pointing arrow.
   - To remove all devices from the selected list, click the double left-pointing arrow.

   **Note:**

   You can use the Search field to select from the available list based on a complete or partial group name.
7. Click **Save**.

# Editing a user group

Perform the following procedure to edit a user group in the Device Group Manager.

### Before you begin

You must be logged on to Configuration and Orchestration Manager (COM) as an administrator.

### Procedure

1. From the Navigation pane, expand **Devices**, and then click **Device Group Manager**.
2. Click the **Group Assignments** tab.
3. In the Group Assignments table, click a field in the Assigned Groups column.
4. In the **User** field, enter a user name.
5. In the Groups section, from the Available list, select one device, or more than one device, and click the right-pointing arrow to move the devices to the Selected list.
   - To select all devices, click the double right-pointing arrow.
   - To remove a device from the Selected list, select the device and click the left-pointing arrow.
   - To remove all devices from the selected list, click the double left-pointing arrow.

   You can use the search field to search for a device in the Available list.
6. Click **Ok**.
7. Click **Apply Changes**.

# Deleting a user group

Perform the following procedure to delete a user group in the Device Group Manager.

### Before you begin

You must be logged on to Configuration and Orchestration Manager (COM) as an administrator.

### Procedure

1. From the Navigation pane, expand **Devices**, and then click **Device Group Manager**.
2. Click the **Group Assignments** tab.
3. Select a row, and click **Delete User Group**.
4. Click **OK**.

# Inventory Manager

Inventory Manager has two primary functions—file management and inventory management. With the Inventory Manager you can view the hardware and software configurations for different devices.

Use the Inventory Manager to perform the following actions for a device:

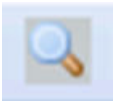
- view hardware configuration
- view software configuration
- edit Preferences
- download files from a device
- upload files to a device
- backup configuration files
- restore configuration files
- archive configuration files
- synchronize configuration files
- upgrade devices
- compare runtime configuration with existing configurations

For more information about Inventory Manager, see *Avaya Configuration and Orchestration Manager Administration* (NN47226-600).

# Toolbar commands

The following table describes the Inventory Manager toolbar commands.

**Table 13: Inventory Manager toolbar commands**

| Command | Toolbar button | Description |
|---|---|---|
| Reload / Discover |  | Rediscovers the inventory information and reloads the Inventory Manager with the latest information. |
| Find |  | Finds matching text strings in the navigation or contents panes. |
| Highlight on topology |  | Highlights devices of the selected family on the Configuration and Orchestration Manager (COM) topology map. |
| Preferences |  | Filters devices based on Family or Capabilities. |
| Export |  | Exports inventory information displayed in content panel grid in to a text file. |
| Help |  | Opens online Help for the current folder or tab. |

# Menu bar commands

The following table describes the Inventory Manager menu bar commands for the File menu and the Action menu.

**Table 14: Inventory Manager menu bar commands for the File menu and the Action menu**

| Command | Menu | Description |
|---|---|---|
| Reload | File | Use to reload the manager from the Device Inventory View. |
| Save Inventory Info | File | Use to save inventory files that you can load again later. |
| Open Inventory File | File | Use to load saved inventory files. |
| Save Inventory in tab delimited text file | File | Use to save network inventory information in a tab-delimited text file. |
| Download file to Device(s) | Action | Use to download configuration or image files or both to devices. |

| Command | Menu | Description |
|---|---|---|
| Upload file from Device(s) | Action | Use to upload configuration or image files or both from devices. |
| Backup Config File | Action | Use to create backup files that can be restored to devices in the event of a network. |
| Save Backed Up Config Files to Local | Action | Use to view, download, or copy files from the COM server to your local desktop or PC.<br>The backup files are always on the COM server. From a remote browser connection you can view the device files, or copy the device files locally. |
| Restore Config File | Action | Use to restore the configuration for the target device(s). |
| Archive Config File | Action | Use to archive the configuration for the target device(s). |
| Synchronize Config File | Action | Use to synchronize the configuration for the target device(s). |
| Device Upgrade | Action | Use to update the software for the specified device(s). |
| Device Upgrade Wizard | Action | Displays the Auto Upgrade form. |
| Compare Runtime Config With Existing Config | Action | Use to compare the runtime configuration for the specified device(s) with the external configuration file. |

# Chapter 10: Managers overview

Avaya Configuration and Orchestration Manager (COM) supports submanagers that provide detailed device information and management capabilities. The submanagers are designed to provide specialized information in an easy-to-use interface that is consistent in layout across the submanagers. A submanager can query COM and instruct the primary application to update the topology view with information relevant to the submanager view. For example, VLAN Manager can instruct COM to highlight all the devices in the view that include members of a particular VLAN.

The submanagers are described in the following sections.



## VLAN Manager

VLAN Manager enables you to manage VLAN and STG configurations across a single device or multiple devices. You can access the VLAN Manager only if the administrator has assigned this MEM role to you. In the VLAN Manager, you can only access the devices that are assigned to you by a security administrator.

With VLAN Manager you can perform the following tasks.

- add, delete, modify and monitor VLAN and Spanning Tree across one or more devices.
- view and edit VLAN nodes across the network.

- view and edit port membership information for ports not belonging to an STG.
- view and edit port membership information for ports belonging to one, or more than one STG.
- view and edit port membership information for individual routing ports and bridge routing ports.
- view Spanning Tree configuration information in the Configuration and Orchestration Manager (COM) topology map, such as the ports that are blocking or forwarding; the user device is the root of the Spanning Tree configuration.

For more information about the configuration of VLAN Manager, see *Avaya Configuration and Orchestration Manager Administration* (NN47226-600).

# MultiLink Trunking Manager

MultiLink Trunking is a point-to-point connection that aggregates multiple ports so that they logically act like a single port with the aggregated bandwidth. Grouping multiple ports into one logical link means achieving higher aggregate throughput on a switch-to-switch or server-to-server application.

With Configuration and Orchestration Manager (COM) you can configure MultiLink Trunking across multiple devices, and perform the following tasks.

- Create, delete, or modify MultiLink Trunks (MLT) and Split Multilink Trunks (SMLT).
- View or configure MLT configuration information such as port and VLAN membership.

For more information about the configuration of MultiLink Trunking Manager, see *Avaya Configuration and Orchestration Manager Administration* (NN47226-600).

# Security Manager

With Security Manager you can manage access to device and network management functions on network devices discovered by Configuration and Orchestration Manager (COM).

You can synchronize, change, and view security features for the following:

- Command Line Interface (CLI) access
- Web access
- Simple Network Management Protocol (SNMP) access
- Access policies
- Remote Access Dial-In User Services (RADIUS) properties

- SNMPv3 properties
- Secure Shell (SSH) bulk password
- Terminal Access Controller Access-Control System (TACACS)

You can configure the network access for each application using one or more security groups that you manage independently. If you want a group of devices to have the same passwords and access features, use security groups to group the devices together.

For more information about the configuration of Security Manager, see *Avaya Configuration and Orchestration Manager Administration* (NN47226-600).

# Routing Manager

With Routing Manager you can configure routing parameters for devices across a network.

Routing Manager supports the following protocols.

- IP Routing
- RIP
- OSPF
- ARP
- VRRP
- IPv6 Routing
- IPv6 OSPF

Use Routing Manager to perform the following tasks.

- Create, delete, or modify routes across multiple devices.
- View and configure routes and properties for IP, RIP, OSPF, VRRP, IPv6, and IPv6 OSPF.

For more information about the configuration of Routing Manager, see *Avaya Configuration and Orchestration Manager Administration* (NN47226-600).

# Trap/Log Manager

The Trap/Log Manager is a Configuration and Orchestration Manager (COM) submanager with which you can configure and view the traps or notifications, and the System Log. The Trap/Log Manager combines the functionality of the Trap Receiver and Log Manager

submanagers from previous releases, and provides additional capabilities to configure traps, notifications, and syslogs.

For more information about the configuration of Trap/Log Manager, see *Avaya Configuration and Orchestration Manager Administration* (NN47226-600).

# Virtual Routing Manager

With Virtual Routing Manager you can manage configurations across specific devices. Additionally, you can set the current configuration for each device.

To start Virtual Routing Manager, the administrator must perform the following tasks:

- assign the VRM to you in the MultiElementManager Assignment tab.
- assign devices to you.

With Virtual Routing Manager you can perform the following tasks:

- view all VRFs and VRF statistics configured for a specific device.
- edit single or multiple VRF configurations.
- add a new VRF to a device.
- delete a VRF from a device.
- set the current VRF configuration for each device.

For more information about the configuration of Virtual Routing Manager, see *Avaya Configuration and Orchestration Manager Administration* (NN47226-600).

# Multicast Manager

With the Avaya Configuration and Orchestration Manager (COM) Multicast Manager you can manage Avaya devices that support multicast. The Multicast manager displays multicast configurations across a network of devices. You can edit the Multicast Manager and highlight multicast information on the topology map; however, to fully configure the multicast network, you must use EDM or JDM.

The Multicast Manager displays the following multicast protocols supported on the devices discovered in the network topology:

- IGMP and IGMP Snoop
- DVMRP
- PIM-SM

- MSDP
- Multicast Route
- Policy

For more information about the Multicast Manager, see *Avaya Configuration and Orchestration Manager Administration* (NN47226–600).

# Bulk Configuration Manager

You can launch the Bulk Configuration Manager (BCM) from the Configuration and Orchestration Manager (COM) Managers panel to create tasks and import devices.

The BCM has the following tools that can be instantiated more than one time in more than one tab:

- Configuration Backup and Restore
- Configuration Update Generator
- Device Password Manager
- Inventory
- Log browser
- License
- Scheduler
- Software version Updater
- Tunnel Guard Distributer

For more information about Bulk Configuration Manager, see *Avaya Bulk Configuration Manager Fundamentals* (NN48014–100).

# VSN Manager

The Virtual Services Network (VSN) Manager is a multielement manager with which you can manage L2 Shortest Path Bridging MAC (SPBm) and L3 SPBms throughout the discovered network on ERS 8600 version 7.1 devices, and VSP 9000 devices. The VSN Manager provides a device-centric view of the VSNs, and a VSN-centric view of the networks.

With the VSN Manager you can perform the following tasks:

- configure and view L2 SPBms and L3 SPBms throughout the discovered network on ERS 8600 version 7.1 devices
- add, delete, or edit L2 SPBms and L3 SPBms across multiple devices

For more information about the VSN Manager, see *Avaya Configuration and Orchestration Manager Administration* (NN47226–600).

# Multimedia Manager

The Avaya Configuration and Orchestration Manager (Avaya COM) Multimedia Manager manages Auto Detection/Auto Configuration (ADAC) and 802.1ab parameters of the Avaya switch. With ADAC, a switch supports and prioritizes Avaya IP Phone traffic without administrator intervention. With ADAC enabled, the switch automatically detects an Avaya IP phone after the phone connects to the switch, and then automatically configures the VLAN, port, and QoS settings for the phone.

Multimedia Manager supports the following 802.1ab parameters.

- For LLDP—Globals, Ports, and Neighbor
- For Port dot1—Local VLAN Id, Local Protocol VLAN, and Local VLAN Name
- For Port dot3—Local PoE, Local Link Aggregate, and Local Max Frame
- For Port med—Local Policy, Local Location, Local PoE PSE, Neighbor Capabilities, and Neighbor Inventory

For more information about Multimedia Manager, see *Avaya Configuration and Orchestration Manager Administration* (NN47226–600).

# Trap Viewer

The Trap Viewer is a Configuration and Orchestration Manager (COM) tool with which you can view traps and notifications for devices. You can export information from the Trap Viewer to a text file; however, you cannot edit cells.

### Trap parser configuration

You can use the **Trap Viewer** tab to configure trap parsers and to assign colors to trapped OID values in the COM database. The color that you assign to an OID value represent its importance in the trap grid listings. You can visually manage the network by setting severities for network events or statuses according to OID values.

For example, you can specify that a trap containing a specific OID should be considered a high priority trap and should be highlighted in red. When configured correctly, the COM application displays the trapped OID value in red in the trap grid.

For more information about the Trap Viewer and trap parser configuration, see *Avaya Configuration and Orchestration Manager Administration* (NN47226–600).

# Syslog Viewer

The Syslog Viewer is a Configuration Orchestration Manager (COM) tool with which you can view the system log. You can export information from the Syslog Viewer to a text file; however, you cannot edit cells.

For more information about the Syslog Viewer, see *Avaya Configuration and Orchestration Manager Administration* (NN47226–600).

# Chapter 11: Wizards and templates overview

Avaya Configuration and Orchestration Manager (COM) wizards help you to configure complex network topologies and deployments using minimal procedure steps.

The template in COM contains a set of configuration attributes. You can create templates by operating COM configuration wizards. At any point while running the wizard, you can save the wizard configurations as a template. You can view the saved templates in the Templates dialog box, and use the templates to easily perform the same or similar configurations that the wizards perform.

## Wizards management

There are three types of wizards:

- **VLAN Wizard**—Use to configure STG and VLAN in multiple devices.

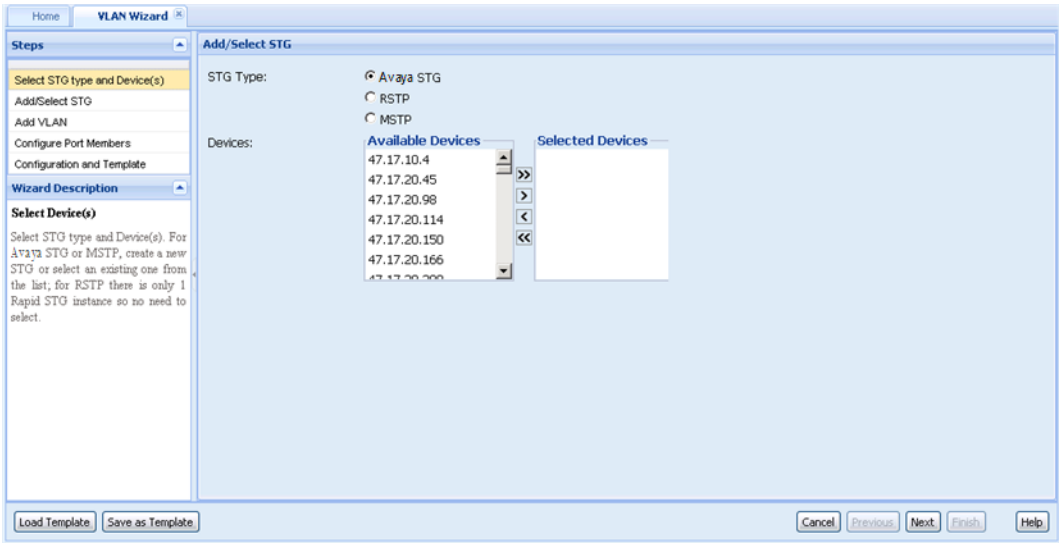



**Figure 5: VLAN Wizard**

- **SMLT Wizard**—Use to create trunks configurations including necessary VLAN creation, various protocol enabling, and miscellaneous device settings.

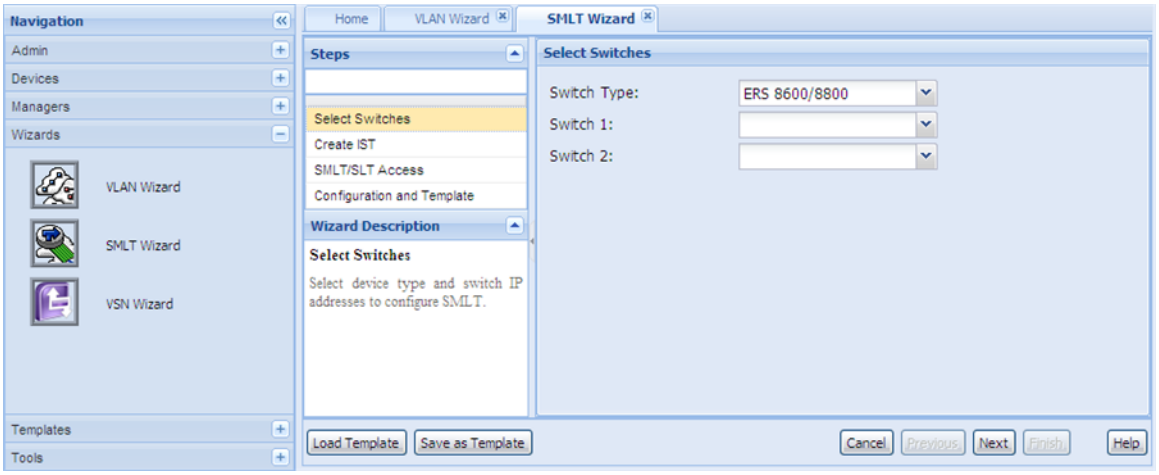



**Figure 6: SMLT Wizard**

- **VSN Wizard**—Use to configure VSN service on multiple devices. The VSN Wizard is composed of the following wizards:

  - SPB Infrastructure Wizard
  - L2 SPB Service Wizard
  - L3 SPB Service Wizard

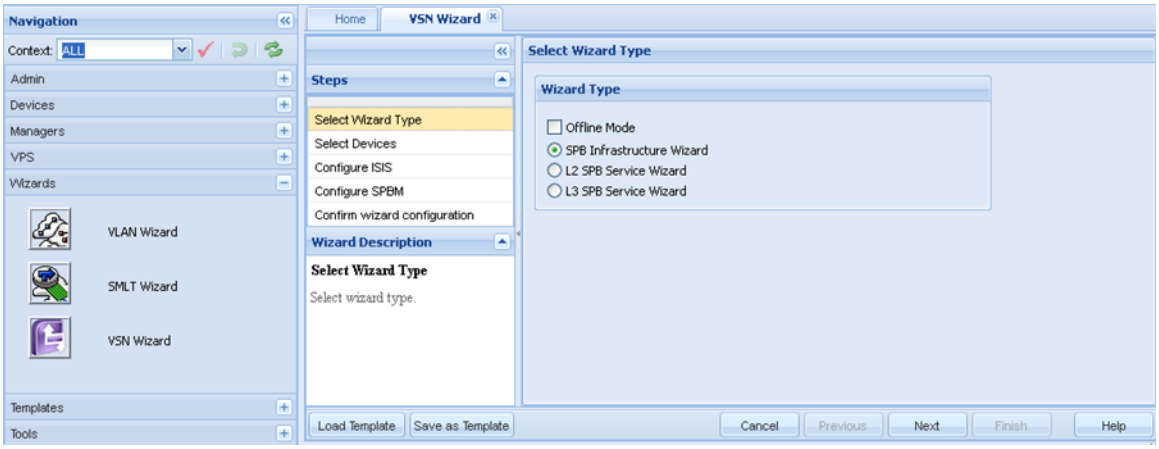



**Figure 7: VSN Wizard**

To select a wizard, from the COM navigation pane, select Wizards, and then click VLAN Wizard, SMLT Wizard, or VSN Wizard.

The following figure shows the Wizards panel in the Navigation pane.

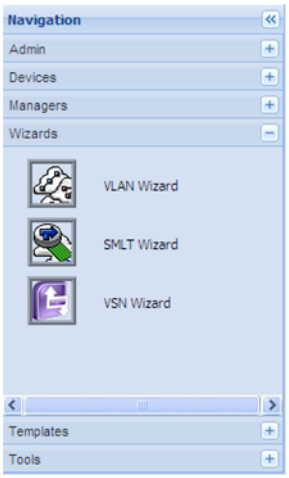



**Figure 8: Wizards panel**

For more information about the configuration of VLAN wizard, SMLT wizard and VSN wizard, see *Avaya Configuration and Orchestration Manager Administration* (NN47226-600).

# Templates management

There are three types of templates:

- **VLAN**—The VLAN template consists of one STG and multiple VLANs. You can select a VLAN template, and load it in to VLAN configuration wizard. In VLAN wizard, you can change the configurations which are loaded from the VLAN template, or add additional configurations for device specific attributes.
- **SMLT**—The SMLT template consists of SMLT/SLT and VLAN configuration. You can select a SMLT template, and load it in to SMLT configuration wizard. In SMLT wizard, you can change the configurations which are loaded from the SMLT template, or add additional configurations for device specific attributes
- **VSN**—You can save VSN wizard templates as L2 SPB service, L3 SPB service, and SPB infrastructure. Configuration and Orchestration Manager (COM) loads the data you save in a template file into each wizard type, and then programs the data on the device through a telnet connection. Because COM discovers data, and data may or may not exist on the device, some template data is not used. You can select a VSN template, and load it in to the VSN configuration wizard. In the VSN wizard, you can change the configurations which are loaded from the VSN template, or add additional configurations for device specific attributes.

To view the Templates dialog box, from the COM Navigation pane, select Templates, and then click Templates.

The following figure shows the templates dialog box.

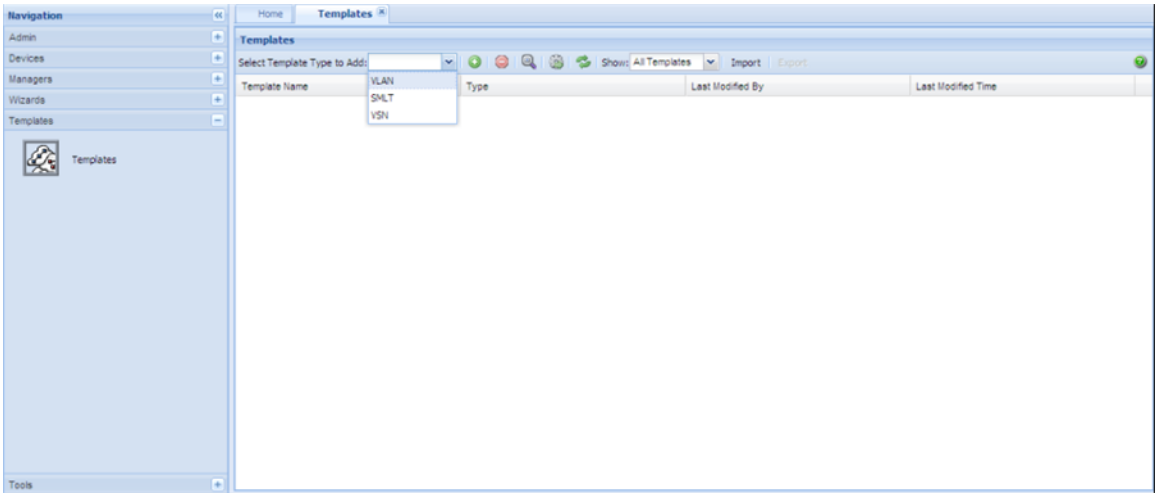



**Figure 9: Templates dialog box**

For more information about configuring templates, see *Avaya Configuration and Orchestration Manager Administration* (NN47226-600).

# Chapter 12: Maintenance

This chapter provides information about the tools supported by Avaya Configuration and Orchestration Manager (COM), including the SmartDiff Tool, TFTP Server, MIB Browser, Port Scanner, and Scheduled Tasks tools. Configuration and Orchestration Manager also provides a CLI manager and a Configuration Auditing Tool.

### Navigation

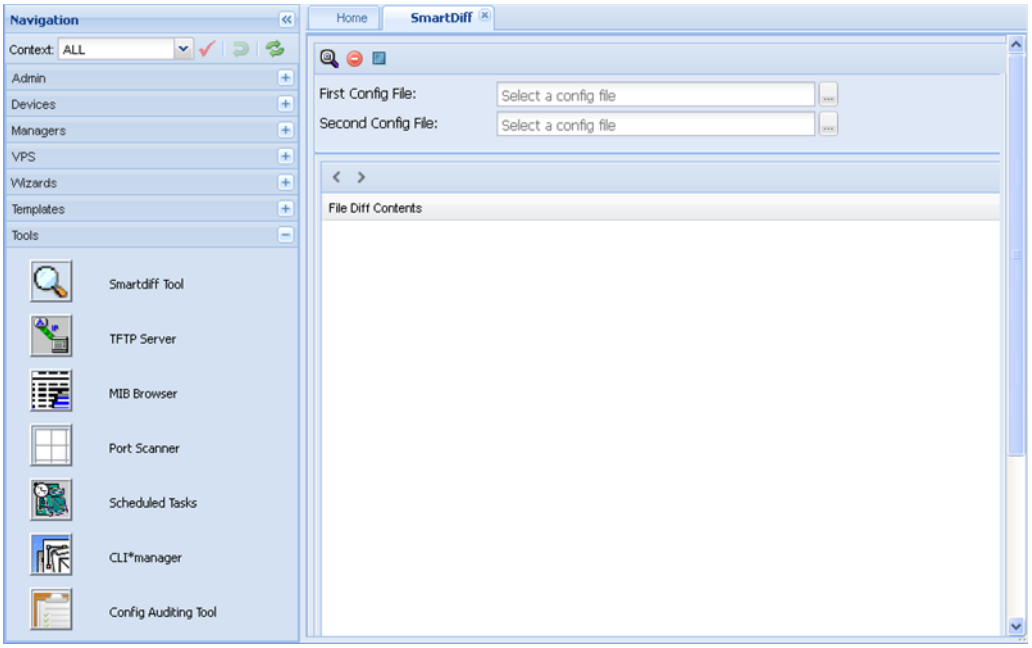


## Starting the SmartDiff Tool

With the SmartDiff tool you can compare two configuration files that have a .cfg extension. Perform the following procedure to start the SmartDiff tool.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel.
2. Click the **SmartDiff Tool** icon.




The following figure shows the SmartDiff toolbar.


**Figure 10: SmartDiff toolbar**

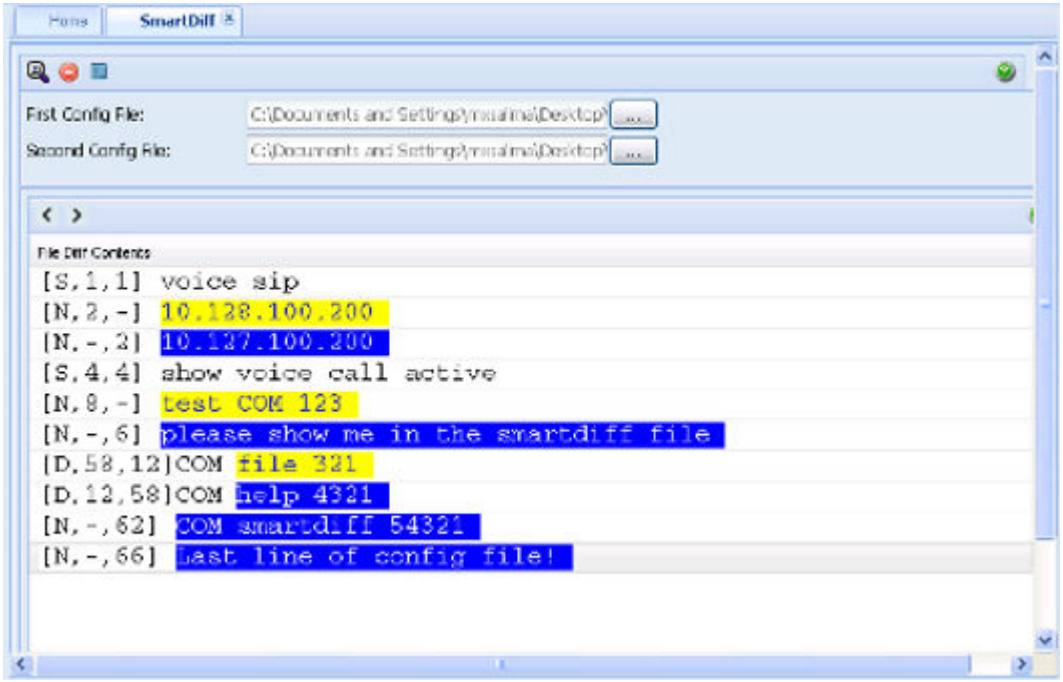
## Comparing configuration files

Perform the following procedure to compare two configuration files.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **SmartDiff Tool**.
2. In **First Config File** and **Second Config File** fields, enter the name of the configuration files you want to compare. Use the **...** buttons to browse the files.

   To reset the values in the **First Config File** and **Second Config File** fields, click **Reset the input controls**.
3. From the toolbar, click **Show differences between files**. The File Diff Contents panel contains the output of compare operation as shown in the following figure.




The Status bar displays the comparison report including whether the files are identical or different, and the number of different lines. SmartDiff Tool highlights the content in three colors—white, blue, and yellow. The significance of these colors are as follows:

- Black text in a white background indicates the matched text in a line.
- Blue Text in a yellow background indicates any different text in the first line.
- White text in a blue background indicates any different text in the second line
- Black text in a grey background indicates the modified lines in the file.

To navigate from one modified section to the next, use the arrows in the toolbar.

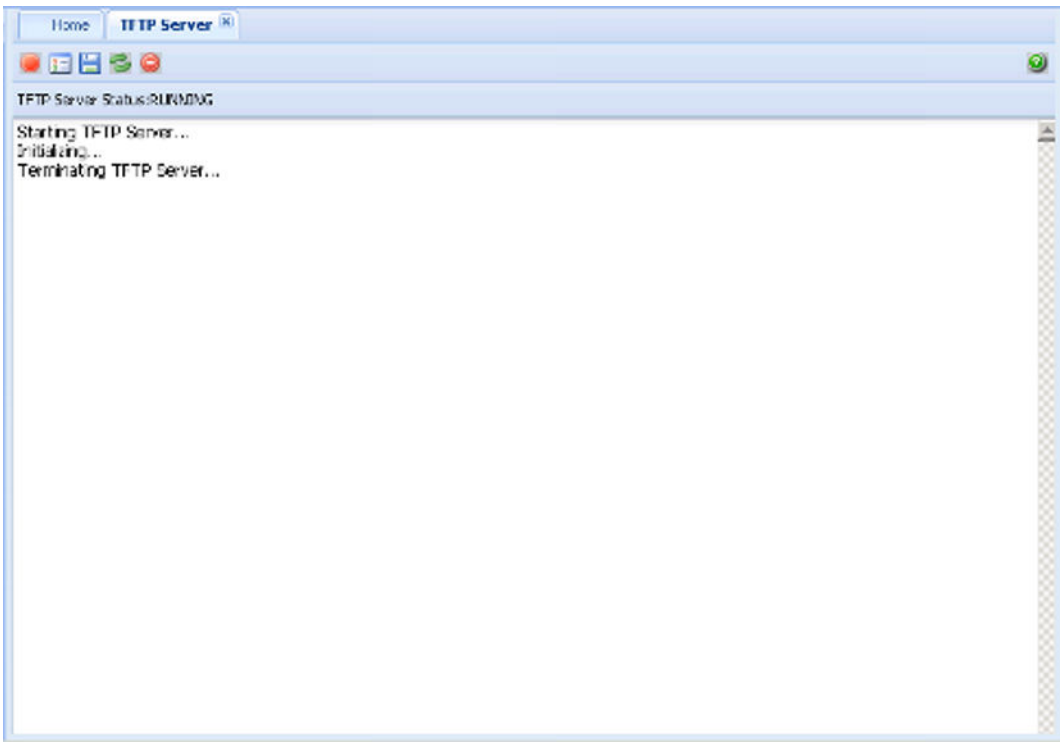
# Viewing the TFTP Server

With the TFTP Server tool, you can view the status of the TFTP server, start or stop the TFTP server, and manage logs.

Perform the following procedure to view the TFTP server.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel.
2. Click **TFTP Server**.




The following figure shows the TFTP Server toolbar.


**Figure 11: TFTP Server toolbar**

## Navigation

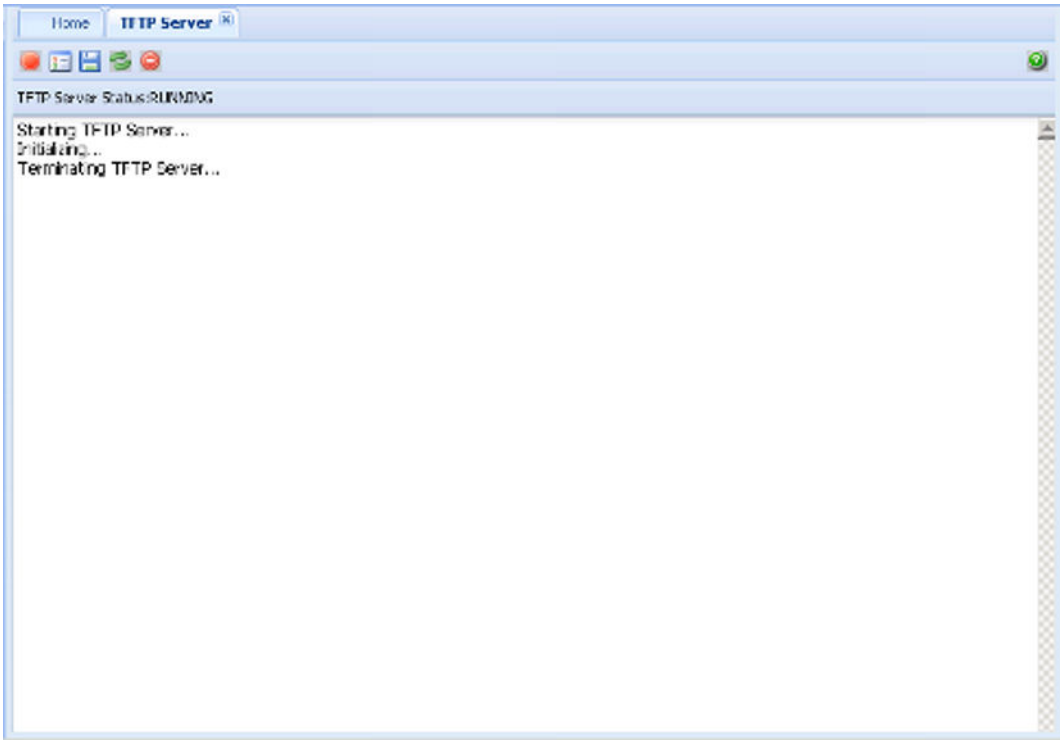
- Viewing the TFTP Server status on page 95
- Starting and stopping the TFTP Server on page 95
- Editing preferences on page 96
- Saving log messages on page 97
- Refreshing log messages on page 97
- Clearing log messages on page 97

## Viewing the TFTP Server status

Perform the following procedure to view the status of the TFTP server.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel.
2. Click **TFTP Server**.




## Starting and stopping the TFTP Server

Perform the following procedure to start or stop a TFTP server.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **TFTP Server**.
2. If the TFTP Server Status is running and you want to stop the TFTP Server, then from the toolbar, click **Stop TFTP Server**. After stopping the TFTP Server, this button turns to **Start TFTP Server**.

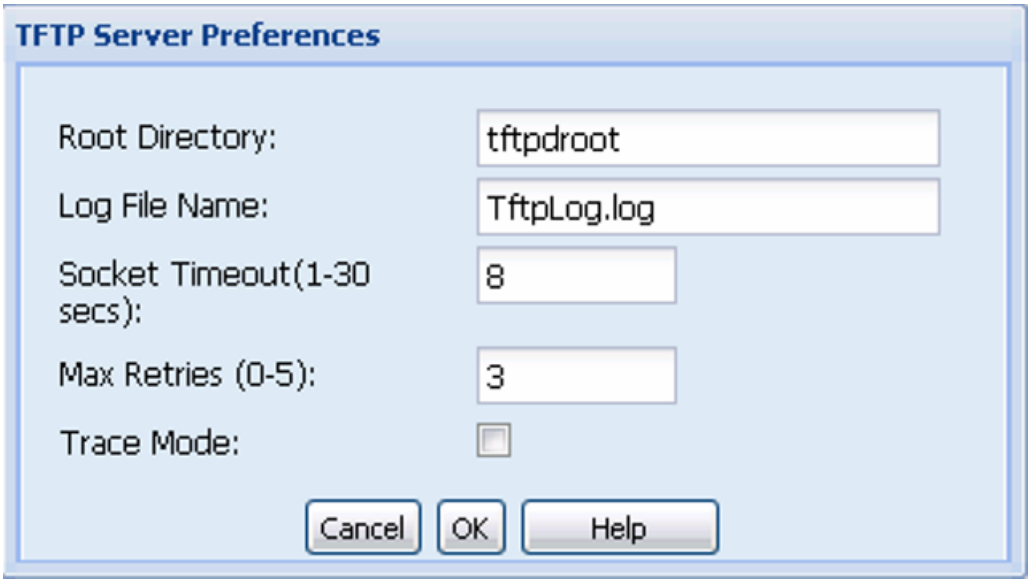
   If the TFTP Server Status is already stopped and you want to start the TFTP Server, then from the toolbar, click **Start TFTP Server**. After you start the TFTP Server, this button turns to **Stop TFTP Server**.

# Editing preferences

Perform the following procedure to edit TFTP Server preferences.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **TFTP Server**.
2. From the toolbar, click **Preferences**.




3. Update the field you want to modify, and then click **OK** to commit the changes, or click **Cancel** to discard the changes.

## Job aid

The following table describes the fields of the TFTP Server Preference dialog box.

**Table 15: TFTP Server Preferences table**

| Tab | Description |
|---|---|
| Root Directory | Specifies the root directory in the TFTP Server. |
| Log File Name | Specifies the log file name. |
| SocketTimeout (1–30 secs) | Specifies the socket timeout for the log files created. The default value is 8. |
| Max Retries (0–5) | Specifies the maximum retries for the log files. The default value is 3. |
| Trace Mode | Specifies the Trace Mode. |

## Saving log messages

Perform the following procedure to save the current TFTP server log.

**Procedure steps**

1. In the Navigation pane, select the **Tools** panel, and then click **TFTP Server**.
2. From the toolbar, click **Save Log Messages** to save the current TFTP server log.

## Refreshing log messages

Perform the following procedure to refresh the current TFTP server log.

**Procedure steps**

1. In the Navigation pane, select the **Tools** panel, and then click **TFTP Server**.
2. From the toolbar, click **Refresh Log** to refresh the current TFTP server log.

## Clearing log messages

Perform the following procedure to clear the TFTP server log.

**Procedure steps**

1. In the Navigation pane, select the **Tools** panel, and then click **TFTP Server**.
2. From the toolbar, click **Clear Log Messages**. After you are prompted to confirm the clearing of log messages, click **Yes** to clear the current TFTP server log.

# MIB Browser

With the MIB Browser you can manage SNMP-enabled network devices and applications. You can load, browse, and search MIBs, walk the MIB tree, and perform all other SNMP-related functions using the MIB Browser. You can also view and operate the data available through an SNMP agent in a managed device.

The following figure shows the MIB Browser tab.

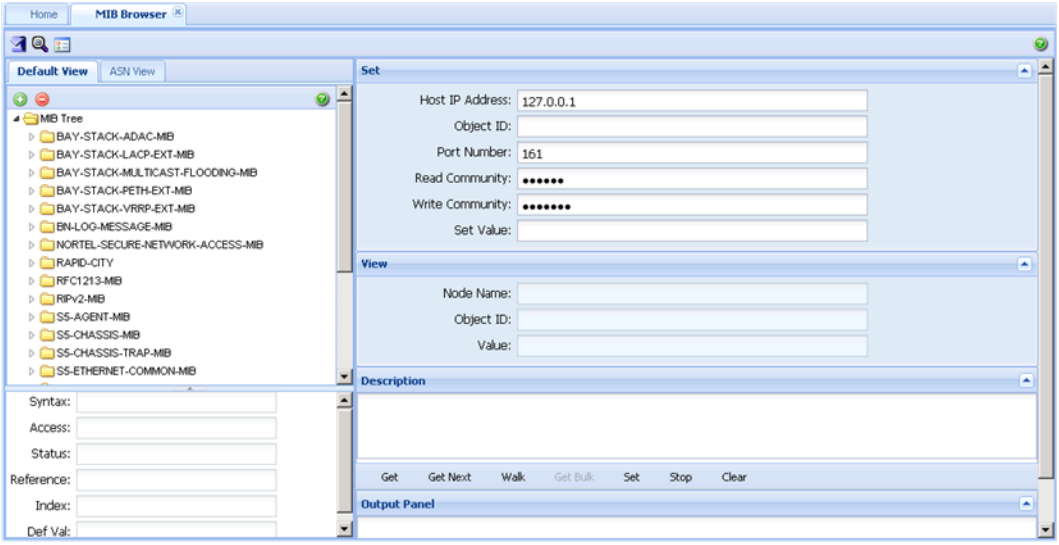



**Figure 12: MIB Browser**

The following table describes the parts of the MIB Browser tab.

**Table 16: Parts of the MIB Browser tab**

| Part | Description |
|---|---|
| Views | Displays the currently loaded MIBs. The available views are: Default view, and ASN view. The ASN view shows all MIBs in ASN format. |
| Set panel | Use to set the host IP to which you want to communicate . |
| View panel | Displays the details of the selected MIB name. |
| Description panel | Displays the description of the selected MIB. |
| Menubar | Provides quick access to commonly used SNMP commands. |
| Output Panel | Displays output of the operation performed using menubar options. |

The following table describes the tools available for the MIB Browser tab.

**Table 17: MIB Browser tools**

| Tool | Icon | Description |
|---|---|---|
| Load MIB |  | Use to load an MIB. |
| Unload MIB |  | Use to unload an MIB. |
| Set SNMP Version |  | Use to set the SNMP version. The available versions are as follows: |

| Tool | Icon | Description |
|---|---|---|
| | | • SNMP v1<br>• SNMP v2c<br>• SNMP v3 |
| SNMP Bulk Settings |  | Opens Get Bulk Panel. |
| SNMPV3 Settings |  | Opens SNMPV3 Panel. |
| Help |  | Opens Online Help. |

### Navigation

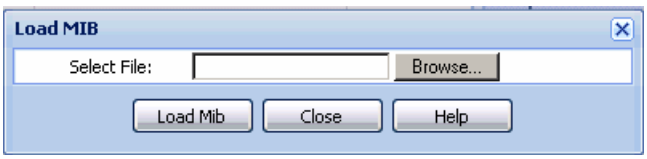

- Loading an MIB on page 99
- Unloading an MIB on page 100
- Setting SNMP version on page 100
- Retrieving data of an MIB node on page 101
- Traversing the MIB tree on page 101
- Retrieving the value of a subtree on page 102
- Retrieving data from a large table on page 102
- Editing data for an MIB node on page 103


## Loading an MIB

Perform the following procedure to load an MIB.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **MIB Browser**.
2. Click the **Default View** or **ASN View** tab.
3. From the toolbar, click the **Load MIB** icon (+).




4. In Select File field, enter the MIB file you want to load. Use Browse to select the MIB file.
5. Click **Load MIB** to load the selected MIB.

   The loaded MIB appears at the end of the MIB tree in Default View.

You can click **Close** to cancel the loading.

## Unloading an MIB

Perform the following procedure to unload an MIB.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **MIB Browser**.
2. Click the **Default view** tab, and select the MIB node you want to delete.
3. From the toolbar, click the **Unload MIB**.
4. Click **Yes** to unload the selected MIB.

   To cancel the unload operation, click **No**.

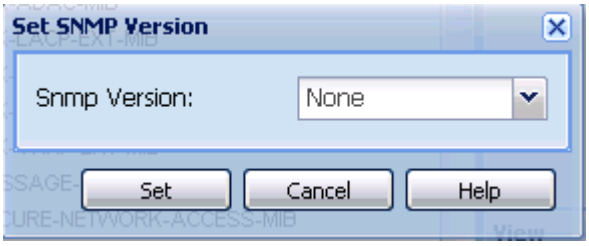
   If you click Yes, the MIBs are removed from the tree.

## Setting SNMP version

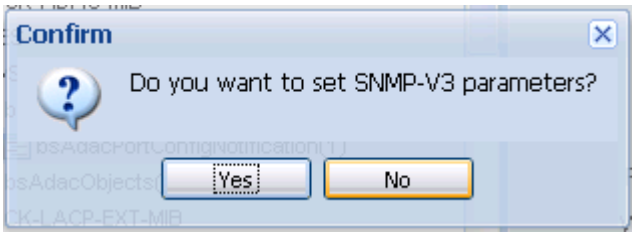
Perform the following procedure to set SNMP version of a MIB.

### Procedure steps

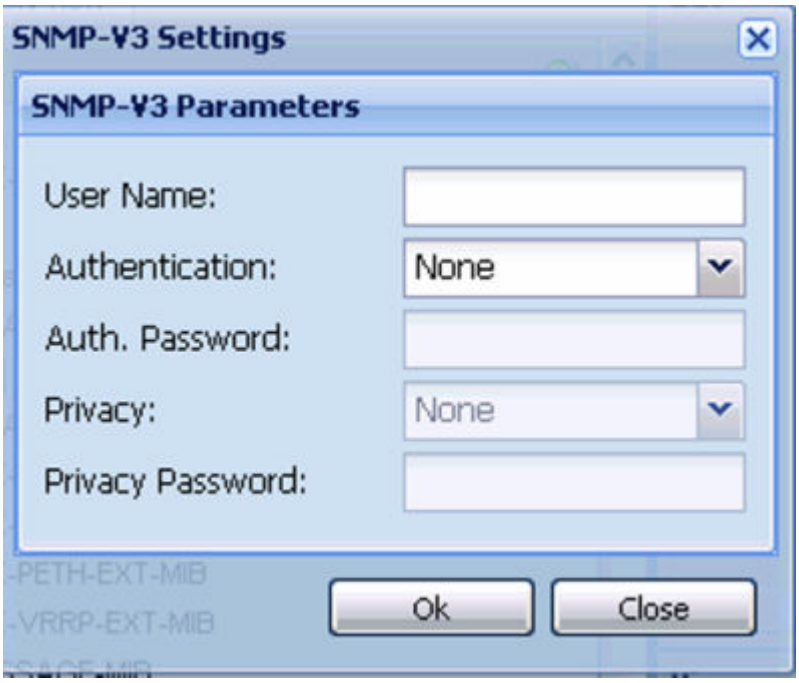
1. In the Navigation pane, select the **Tools** panel, and then click **MIB Browser**.
2. Click the **Default view** or **ASN View** tab, and then select an MIB which SNMP you want to change.
3. From the toolbar, click **Set SNMP Version**.




4. Choose the version that you want to set in the **Snmp Version** field.
5. Click **Set**.



6. In the Confirm dialog box, click **Yes**.




7. Complete the fields in the SNMP-v3 Settings dialog box as appropriate, and then click **Ok**.

   In the Set Panel, the **Read Community** and **Write Community** parameters of SNMP V1 and SNMP V2C are replaced by the SNMP-v3 parameters **Context Name** and **Context Engine**. The Set Panel is updated with the new settings.

8. Enter the value of fields in **Set** panel as appropriate.

## Retrieving data of an MIB node

Perform the following procedure to retrieve the value of the leaf object from the managed objects.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **MIB Browser**.
2. Select a node from the MIB tree.
3. Click **Get** from the menubar.

## Traversing the MIB tree

Perform the following procedure to retrieve the value of the next OID in the MIB tree.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **MIB Browser**.
2. Select a node from the MIB tree.
3. Click **Get Next** from the menubar.

## Retrieving the value of a subtree

Perform the following procedure to retrieve the value of all child nodes of the MIB node your select.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **MIB Browser**.
2. Select a node from the MIB tree.
3. Click **Walk** from the menubar.

## Retrieving data from a large table

Perform the following procedure to retrieve data from a large table.

**Important:**

The GetBulk operation is applicable only on SNMPv2c and SNMPv3.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **MIB Browser**.
2. Select a node from the MIB tree.
3. Ensure that the SNMP version is set to either SNMPv2c or SNMPv3. For more information on changing SNMP version, see Setting SNMP version on page 100.
4. From the toolbar, click **SNMP Bulk Setting**.
5. Select a node from the MIB that you want to add to the variable-bindings list, and then click **Add**.
6. Enter the value in the **Max. Repetitions** and **Non Repeaters** fields.
7. Click **Get Bulk** from the menubar to the bulk SNMP data.

   The MIB Browser retrieves the sequence of next objects immediately after the specified object. The number of object instances returned is equal to the Max-Repetitions field.

## Editing data for an MIB node

Perform the following procedure to modify the data for one or more MIB variables.

**Important:**

You can perform the Set operation only on a node that has read-write access.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **MIB Browser**.
2. Select a node from the MIB tree.
3. From the Set panel, enter the value you want to configure in the Set Value field.
4. From the menu bar, click **Set**.

## Job aid

The following table describes the fields of the Get Bulk Panel.

**Table 18: Get Bulk Panel**

| Field | Description |
|---|---|
| Max. Repetitions | Specifies the number of lexicographic successors to be returned for the remaining variables in the variable-bindings list. |
| Non Repeaters | Specifies the number of variables in the variable-bindings list for which a single lexicographic successor is to be returned. |
| Add | Adds the selected MIB variable to the variable-bindings list. |
| Delete | Removes the selected node from the variable-bindings list. |
| Done | Closes the GetBulk Settings pane. |

## Job aid

The following table describes the fields of the SNMP-V3 Settings dialog box.

**Table 19: SNMP-V3 Settings dialog box**

| Field | Description |
|---|---|
| User Name | Specifies the SNMPv3 user name. |
| Authentication | Specifies the Authentication protocol used. |

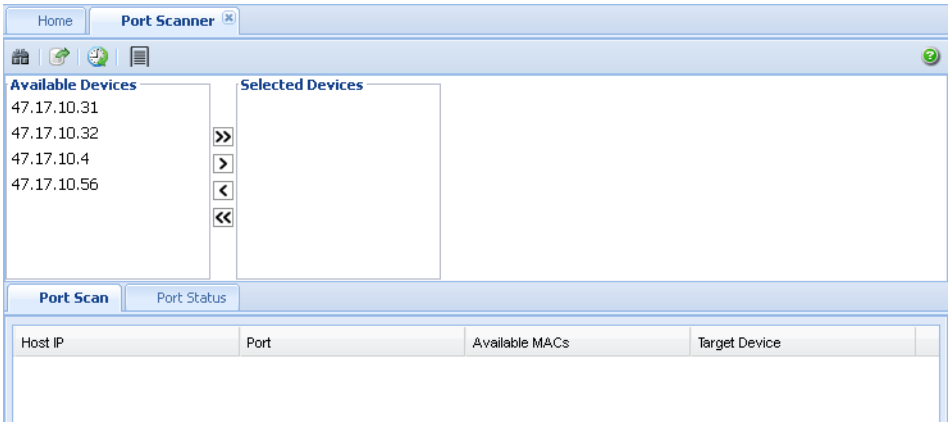
| Field | Description |
|---|---|
| Auth Password | Specifies the password that is used for authentication purposes. |
| Privacy | Specifies the privacy protocol used. |
| Privacy Password | Specifies the password that is used for privacy purposes. |

# Accessing the Port Scanner

With the Port Scanner you can scan the target devices. Port Scanner enables parameters to configure periodic port scan, and store exported port scan data into files. Perform the following procedure to view the Port scanner dialog box.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel.
2. Click **Port Scanner**.




# Navigation

- Scanning Ports on page 105
- Exporting a report of port scan on page 105
- Scheduling a scan on page 105
- Viewing scan results on page 106

## Scanning Ports

Perform the following procedure to scan ports of the selected device.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **Port Scanner**.
2. In the **Available Device** field, select the devices you want to scan and use **>** or **>>**to move the devices to **Selected Devices** field.
3. From the toolbar, click **Scan Ports**.

   The result appears in the content pane, in both the Port Scan tab and the Port Status tab.

## Exporting a report of port scan

Perform this procedure to export the report of port-scan.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **Port Scanner**.
2. In the **Available Device** field, select the devices you want to scan, and use **>** or **>>** to move the devices to the **Selected Devices** field .
3. From the toolbar, click the **Scan Ports**.
4. To export the report, from the toolbar, click **Export**.
5. Select **Text** or **Html**.
6. Select **port scan** or **port status**, or both **port scan** and **port status**.
7. Click **Ok**.

## Scheduling a scan

Perform the following procedure to schedule a scan of a device or devices.

### Procedure

1. From the Navigation pane, open the **Tools** panel, and then click **Port Scanner**.
2. In the Available Devices field, select the devices you want to scan, and click the right-pointing arrow.
   - To select all devices, click the double right-pointing arrow.

- To remove a device from the Selected Device list, select the device and click the left-pointing arrow.
- To remove all devices from the Selected Device list, click the double left-pointing arrow.

3. Click **Schedule Scan**.
4. Enter the Task Name.
5. Enter the Schedule Name.
6. Select a scheduled time frame of the scan.
7. Select the date and time of the scan.

   If you select a schedule that does not require a date entry, the date field is unavailable.
8. Click **Set**.

## Viewing scan results

Perform the following procedure to view scan results.

### Before you begin

- You must schedule a scan before you can view the scan results.

### Procedure

1. From the Navigation panel, open the **Tools** panel, and then click **Port Scanner**.
2. In the Available Devices field, select the devices you want to scan, and click the right-pointing arrow.
   - To select all devices, click the double right-pointing arrow.
   - To remove a device from the Selected Device list, select the device and click the left-pointing arrow.
   - To remove all devices from the Selected Device list, click the double left-pointing arrow.
3. From the Port Scanner tool bar, click **Schedule Scan**.
4. Enter the Task Name.
5. Enter the Schedule Name.
6. Select a scheduled time frame of the scan.
7. Select the date and time of the scan.

If you select a schedule that does not require a date entry, the date field is unavailable.

8. Click **Set**.
9. From the Port Scanner tool bar, click **View Scan Results**.
10. To close the window, click **Ok**.

## Job aid

The following table describes the parts of Port Scanner tab.

**Table 20: Port Scan tab**

| Part | Description |
|---|---|
| Toolbar | Provides you with the following Port Scanner tools:<br>• Scan Ports—scans the target devices.<br>• Export—exports the result in text format.<br>• Schedule Scan—schedules a scan.<br>• View Scan Results—displays results of a port scan. |
| Available Devices | Contains a list of assigned devices. |
| Selected Devices | Contains devices selected from the Available Devices list. |
| >> | Use to move all the devices from the Available Devices list into the Selected Devices list. |
| > | Use to move the selected device from the Available Devices list into the Selected Devices list. |
| < | Use to move the selected device from the Selected Devices list to the Available Devices list. |
| << | Use to move all the devices in the Selected Devices list to the Available Devices list. |
| Host IP | Specifies the IP addresses of the target devices. |
| Port | Specifies the device ports. |
| Available MACs | Specifies the MAC addresses of device ports. |
| Target Devices | Specifies the IP address if the available MAC. |

## Job aid

The following table describes the parts of the Port Status tab.

**Table 21: Port Status tab**

| Part | Description |
|---|---|
| Host IP | Specifies the IP addresses of the target devices. |
| Port | Specifies the device ports. |
| Port Status | Specifies the status of the port. |
| Last Change | Specifies when the last port status change occurred. |

# Managing Scheduled Tasks

With the Scheduled Tasks tool, you can view, delete, cancel or reschedule tasks from the Inventory Manager. Perform the following procedure to view the scheduled tasks.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel.
2. Click **Scheduled Tasks**.

The following table describes the tools of Scheduled Tasks tab.

**Table 22: Scheduled Tasks tools**

| Tool | Description |
|---|---|
| Refresh | Refreshes the scheduled task list. |
| Delete Task | Deletes the selected scheduled task. |
| Cancel Task | Cancels the selected scheduled task. |
| Reschedule Task | Reschedules the selected scheduled task. |
| Run Task | Immediately runs the selected scheduled task. |

## Navigation



## Refreshing the scheduled task list

Perform the following procedure to refresh the scheduled task list.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **Scheduled Tasks**.
2. Click **Refresh**.

## Deleting a scheduled task

Perform the following procedure to delete a scheduled task.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **Scheduled Tasks**.
2. Select the task that you want to delete, and then click **Delete Task**.

## Canceling a scheduled task

Perform the following procedure to cancel a scheduled task.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **Scheduled Tasks**.
2. Select the task that you want to cancel, and then click **Cancel Task**.

## Rescheduling a scheduled task

Perform the following procedure to reschedule a scheduled task.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **Scheduled Tasks**.
2. Select the task that you want to reschedule, and then click **Reschedule Task**.

## Running a scheduled task

Perform the following procedure to run a scheduled task.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **Scheduled Tasks**.
2. Select the task that you want to run, and then click **Run Task**.

# Launching CLI*manager

CLI*manager speeds up and simplifies operations and provisioning for a large number of Avaya device types. CLI*manager offers a set of basic features for all device type, and enhanced features for specific device types. The basic feature set includes simultaneous control of multiple devices, proxy connections, WATCH monitoring, automation, scripting, tabbed sessions, and logging.

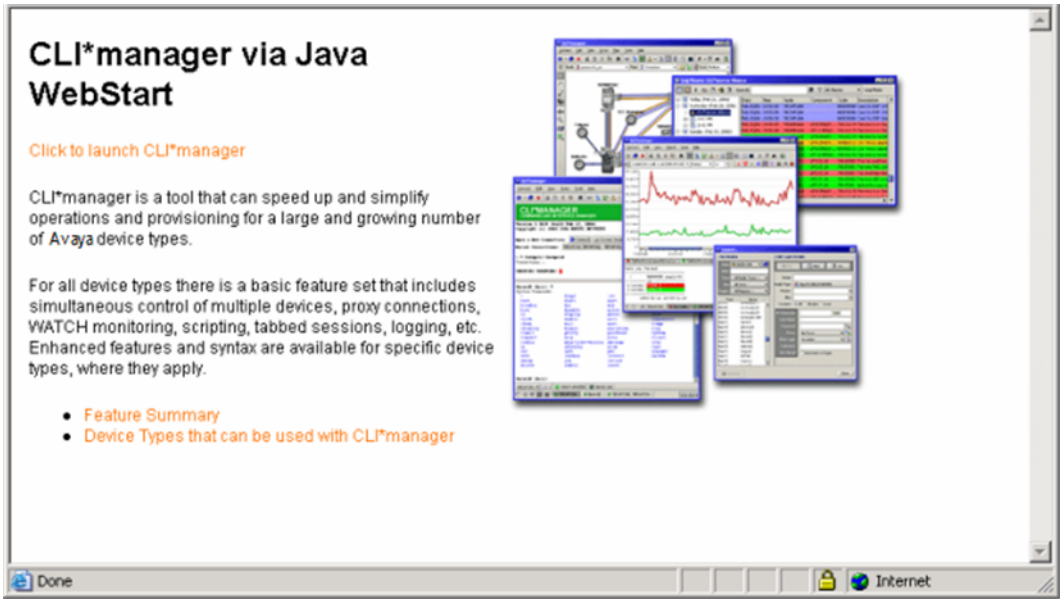
### Prerequisites

- You must install Java Virtual Machine (JVM).

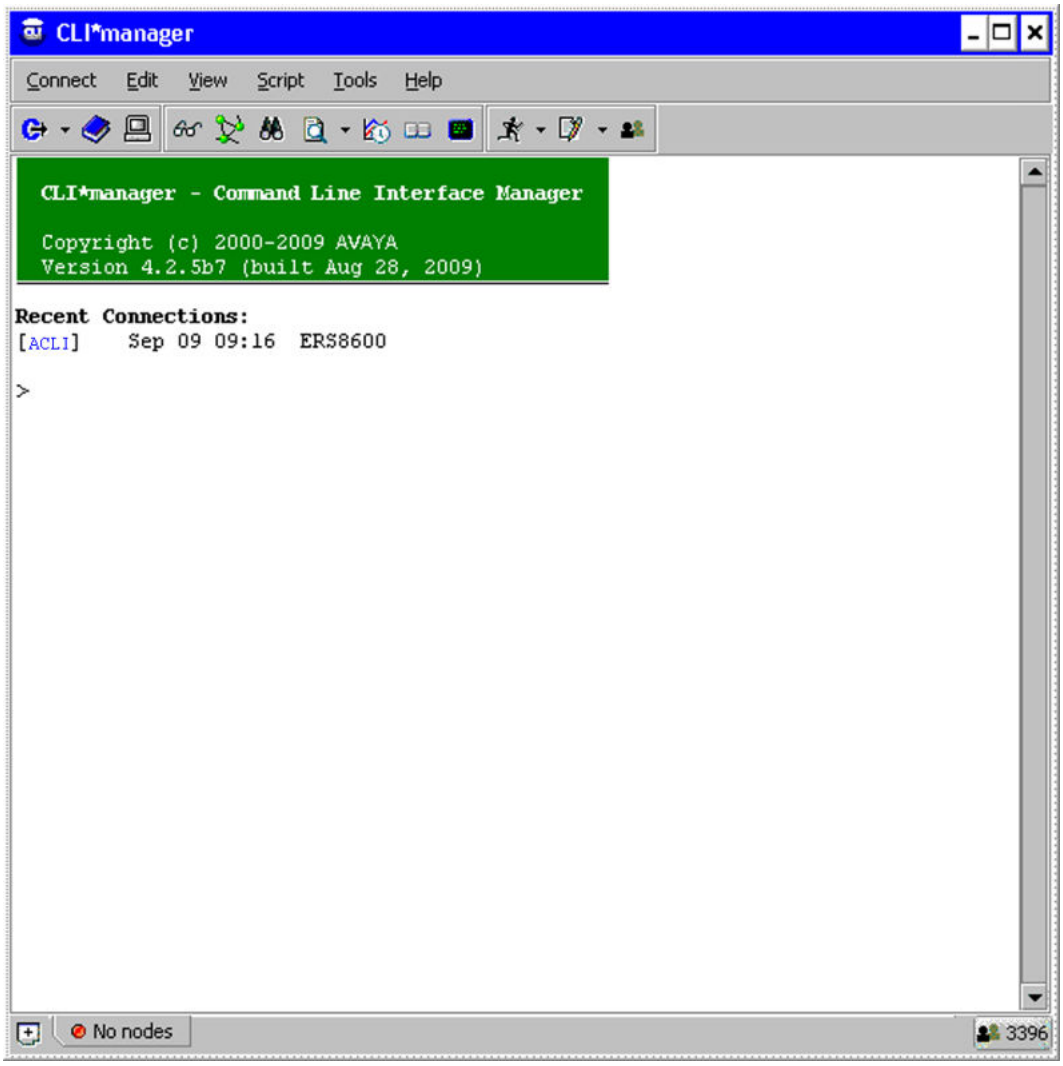
Perform the following procedure to launch the CLI*manager.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **CLI*manager**.




2. Click the **Click to launch CLI*manager** link.
3. In the Warning — Security dialog box, click **Yes**.




## Navigation


- CLI*manager user interface on page 113
- Connection set up on page 113
- Supported device type on page 114

## CLI*manager user interface

The CLI*manager user interface has the following features:

- Main toolbar—Provides quick access to commonly-used features.
- Options window—Enables the change of many properties of the CLI*manager interface.
- Session tabs—Represent active CLI sessions. Each tab shows the names of the active devices in a session, along with a small icon showing the current status of the session. With session tabs, you can quickly switch between multiple active CLI sessions.
- User buttons—An optional toolbar that appears at the bottom of the main CLI*manager window.
- Node tree—Displays a graphical tree for components in the connected MSS, and shows trees based on saved ASCII provisioning files.
- Flowcharts—Help you to draw flowcharts that integrate with the command-line. Buttons on the flowchart symbols can run commands and scripts, and can link to other flowcharts.
- FTP/SFTP window—Transfers files to and from remote devices. You can specify the remote device using either an address book entry, or manually by providing an address, user name, and password.
- File Server profiles—Used by a number of features in CLI*manager including Shared Address Books and autouploading Log Files.
- File synchronization—Copies sets of CLI*manager files from remote file server directories into local CLI*manager directories, and checks for updates either periodically or on demand.
- Table viewer—Displays tables from MSS commands and TL1 commands on optical nodes in a graphical, spreadsheet format.
- Command history—Recalls previous commands. Use the standard up-and-down arrow keys to open a pop-up window for browsing to recent commands.
- Search—Finds specified text anywhere in the CLI window.

## Connection set up

Login information is stored in encrypted Address Books that can be shared among groups of users and updated from within CLI*manager using centralized File Server Profiles. Connections are made using both IP (Telnet, SSH, and Rlogin) and Serial (local port or modem). Many different kinds of Proxies are used to set up connections through gateways, firewalls, and modem pools. File transfers are done using FTP, SFTP, and TFTP. SSH Tunnels can be used to tunnel through intermediate SSH devices. SSH X11 port forwarding allows X

applications to run through an encrypted SSH channel. Any number of users can collaborate by sharing sessions with each other and typing on the same command line.

## Supported device type

CLI*manager is used with a large and growing number of device types. CLI*manager provides a set of basic features available for all types, and some enhanced features and syntax available for specific device types.

- Application Switches
  - Alteon Switch Firewall System
  - Alteon Web Switch 184/AD3/AD4
- Ethernet Switches / Routers
  - BayStack 450/460/470
  - Business Policy Switch (BPS)
  - Centillion
  - Ethernet Routing Switch 1200/1600/4500/5500/8100/8600/8800
  - Metro Ethernet Switching Unit 1800/1860
  - Avaya Secure Router 1000, 3120, 6230,6280
  - Virtual Services Platform (VSP) 9xxx
- MultiProtocol Routers
  - Access Remote Node (ARN)
  - Access Stack Node (ASN)
  - Backbone Concentrator Node (BCN)
  - Backbone Link Node (BLN)
- MultiService Switches / Edge
  - Avici
  - MPE 9000
  - Passport 4400 Multiservice Access
  - Passport 6400 Multiservice Edge
  - Passport Multiservice Switch 7400/15000/20000
  - Services Edge Router 5500
- Non-Avaya
  - Airvana DOM/RNC

- CVX
- IOS
- Juniper T/M/J Series

• Optical

- Common Photonic Layer
- EC1
- HDX
- Long Haul 1600
- OC12
- OC192
- OC48
- Operations Controller (OPC)
- OPTera DX
- Optical Metro 1000/3300/3400/3500/5000
- Optical Multiservice Edge 1010/1030/1060/6500/6500BB
- Optical Packet Edge (OPE)
- Transport Node TN4X/TN16X/TN64X

• Other

- Generic Secure Shell (SSH)
- Generic Telnet
- UNIX / Linux
- VSE Platform

• Storage Networking

- BCS3000 (Business Continuity System)

• Voice / Multimedia

- Border Control Point 7100/7200
- CICM
- Communication Server 1000/1500/2000
- DMS
- IEMS
- ITG
- MCS 5100

- Media Gateway 9000
- Meridian-1
- MG9K Element Manager
- Neura BTX Media Gateway
- Neura NetConductor
- SAM21 Shelf Controller
- Session Server Lines/Trunks
- Signaling Server
- Spectrum Peripheral Module
- Succession GWC
- Succession Media Card
- USP
- XA-Core

• VPN Routers

- Contivity 1000

• Wireless Networks

- ASG 5000
- BTS (Base Transceiver System)
- DMS-MSC
- DMS-MTX
- GGSN (GPRS Support device)
- GSM / UMTS Media Gateway R4/R5
- InterWorking Function (IWF)
- Media Gateway (CDMA)
- PCUSN
- PDSN – Shasta
- PDSN 16000
- RNC (Radio Network Controller)
- SGSN (GPRS Support device)
- ST CPE
- Wireless AP 7220
- Wireless AP 8120

- WLAN Access Point 2220/2221/2300
- WLAN Security Switch 2700
- Wireless Controller (WC) 8180

# Launching the Configuration Auditing Tool

With the Configuration Auditing Tool you can retrieve configuration information from a device and compare it to reference data. You can retrieve the configuration information by entering the IP address of a device in the Configuration Auditing Tool. The Configuration Auditing Tool uses telnet credentials.

Use the following procedure to launch the Configuration Auditing Tool.

### Procedure steps

1. In the Navigation pane, select the **Tools** panel, and then click **Config Auditing Tool**.
2. Click **Configuration Audit**.
3. Enter the IP address of the device you want to audit.
4. Click **Audit**.

   A status dialog indicates that the audit is in progress. When the audit is complete, the tool displays information about the device configuration, as described in the table below.
5. To save the audit information in PDF format, click **Export** on the upper left of the panel, and then select **PDF**.

**Table 23: Job aid**

| Item | Description |
|---|---|
| Issue | Specifies the configuration issue, and a recommendation for addressing the issue. For example, checksum settings, card status, and other settings are displayed. |
| Priority | Specifies the severity of the issue. For example, whether the issue identified is a warning, or a critical issue. |
| Device address | Specifies the IP address of the device audited. |
| Device type | Specifies the type of device audited. |
| Agent version | Specifies the agent version of the device audited. |

# Chapter 13: Supported devices

The following table lists the supported devices and device image versions.

**Table 24: Device Requirements**

| Product family | Model | Versions |
|---|---|---|
| Belden L2E Switch | Hirschmann MICE-L2E | v.6.0.2 |
| Belden L2P Switch | Hirschmann Railswitch –L2P | v.6.0.2 |
| Belden L3P Switch | Hirschmann MACH-L3P | v.6.0.2 |
| Avaya Ethernet Routing Switch | 8600 series | v.4.0, v.4.1, v.5.0, v.5.1, v.7.0, v.7.1, and v.7.1.3 |
| Ethernet Routing Switch | 8800 series | v.4.0, v.4.1, v.5.0, v.5.1, v.7.0, v.7.1, and v.7.1.3 |
| Ethernet Routing Switch | 5510 series | v.5.1, v.6.0, v.6.1, v.6.2, and v.6.3 |
| Ethernet Routing Switch | 5520 series | v.5.1, v.6.0, v.6.1, v.6.2, and v.6.3 |
| Ethernet Routing Switch | 5530 series | v.5.1, v.6.0, v.6.1, v.6.2, and v.6.3 |
| Ethernet Routing Switch | 56xx series | v.5.1, v.6.0, v.6.1, v.6.2, and v.6.3 |
| Ethernet Routing Switch | 45xx series | v.5.2, v.5.3, v.5.4, v.5.5, v.5.6, 5.6.1 (limited), and 5.6.2 (limited) |
| Ethernet Routing Switch | 48xx | v.5v.5.2, v.5.3, v.5.4, v.5.5, v.5.6, 5.6.1 (limited), and 5.6.2 (limited).2, v.5.3, v.5.4, v.5.5, and 5.6 |
| Ethernet Routing Switch | 3500 | v.5.0 |
| Ethernet Routing Switch | 25xx series | v.4.1.x , v.4.2, v.4.3, and v.4.4 |
| Ethernet Routing Switch | 16xx series | v.2.1.5.x and v.2.1.6.x |
| Virtual Services Platform | 7024 | v.10.1 and 10.2 |
| Virtual Services Platform | 9000 series | v.3.0, v. 3.1, v.3.2, and v.3.3 |
| Wireless Controller | 8180 | v.1.0, v.1.1, and v.1.2 |

| Product family | Model | Versions |
|---|---|---|
| Wireless LAN AP | 23xx. AP 23xx | v.1.3 |
| Wireless LAN AP | 8120 | v.1.0, v.1.1, and v.1.2 |
| Wireless Lan | 81xx | v.1.0, v.1.1, and v.1.2 |

**Important:**

For ERS 3500 devices, COM 3.0.1 supports discovery, inventory device right-click menus, and EDM plugin only. The COM managers do not discover the ERS 3500 devices.

The earlier versions of ERS devices are also available. However, the official testing has happened against the devices in the list above only.

For the up to date device support information please refer to the Release Notes.

# Chapter 14: Appendix Recommendations and deployments

The following sections describe how to resolve Avaya Configuration and Orchestration Manager (COM) problems, and also describe the recommendations and deployments for those errors.



## COM installation server

There may be scenarios in which the Configuration and Orchestration Manager (COM) installation server is in the same local area network (LAN) as devices, or outside the network. Following are some of the recommendations for installing COM server.

- If the COM installation server is outside, then the installation requires VPN secure access to reach the device.
- COM uses several protocols to communicate to the devices and these should be allowed across all the devices.
- Avaya recommends that the COM server chosen is as close as possible to the device, that is, the lesser the hops to access the device the better.
- The TFTP traffic typically does not pass through a firewall, and therefore the TFTP server must run on subnets where the devices are located.

## Rediscovery of devices

If you discover devices, add the discovered devices to groups, and then perform additional discoveries to remove the devices; the rediscovered devices appear in red. The rediscovered devices continue to appear in red until you perform another discovery or remove the devices from the device group manager.

# Internet browser Settings

Certain security settings in Internet Explorer (IE) do not allow Java script execution. In this case, the login page does not display the login button.

Use the following settings for IE:

- To allow Java script execution, set the IE security settings to at least medium high or lower, as shown in the following figure.

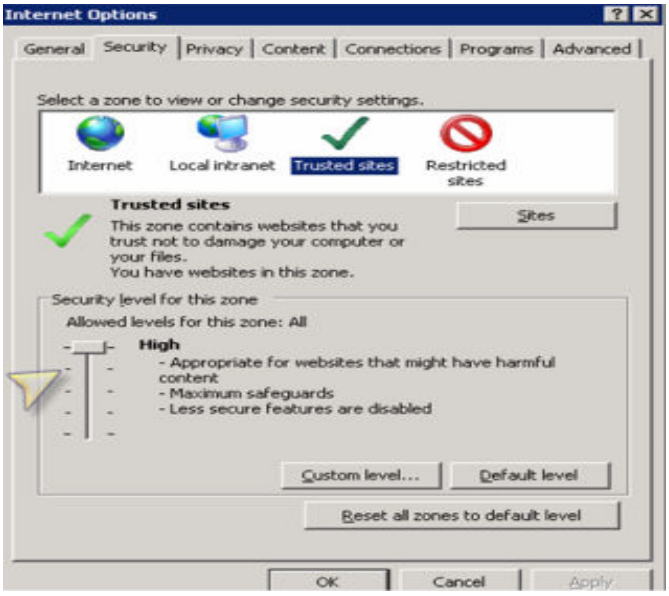



**Figure 13: IE settings**

- Additional settings for group policies that disable execution of scripts. Use the same functionality in Firefox, if a problem persists.