Dell™ Secure Mobile Access 11.2

Central Management Server (CMS) Administration Guide

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Legend

CAUTION: A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.

WARNING: A WARNING icon indicates a potential for property damage, personal injury, or death.

IMPORTANT NOTE, **NOTE**, **TIP**, **MOBILE**, or **VIDEO:** An information icon indicates supporting information.

Dell SMA 11.2 Central Management Server (CMS)
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Part 1

Introduction

- Overview

1

Overview

This sections contains an introduction to the Central Management Server (CMS) and important concepts associated with it. The section contains the following:

Central Management is an add-on product for managing multiple Dell Secure Mobile Access (SMA) VPN appliances. It gives companies with multiple appliances a single administrative user interface from where they can manage all their VPN appliances. The Central Management Server (CMS) is a virtual machine used to interact with all their managed VPN appliances. The CMS reduces the total cost of operation and simplifies the management of multiple VPN appliances for enterprise companies.

The VPN Administrator uses the Central Management Console (CMC) of the CMS to manage all the VPN appliances regardless of location in the world. There is close integration between the CMS and the managed appliances through a secure tunnel with native communications.

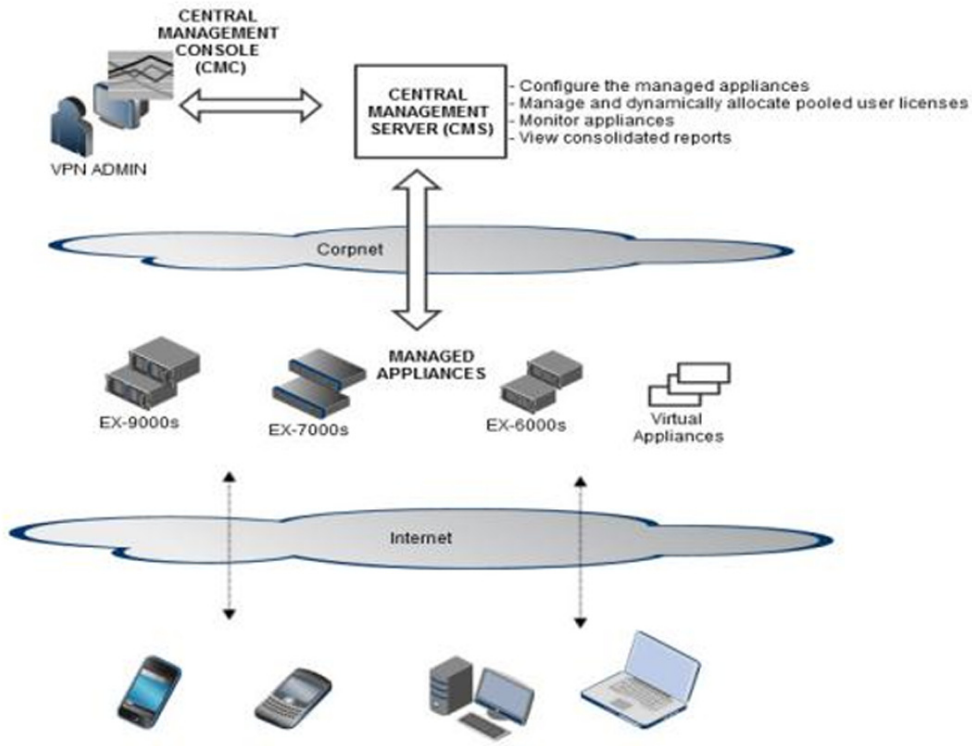
Central Management:

- Provides enterprise customers a single plane of glass (the Dashboard) to manage their distributed VPN infrastructure.
- Reduces Total Cost of Operation (TCO) and operator errors associated with the management of multiple appliances.
- Provides a Central Management Console (CMC) to configure, maintain and monitor appliances.
- Simplifies license management with a centralized license that eliminates the need for separate appliance licenses.
- Optimizes license usage, that is, licenses are dynamically allocated to appliances based on user load.
- Facilitates centralized alerts via the console dashboard and SNMP traps.
- Requires no dedicated appliance or hardware (The Central Management Server is a virtual machine.)

This dashboard view in the CMC gives the Administrator a summarized view of all managed appliances.

Administrators can apply a common configuration to managed appliances from the CMC. Consolidated monitoring and reporting gives the Administrator an overview of all the appliances that are being managed.

An administrator can click on a single appliance in the CMS to launch the Appliance Management Console (AMC) for that appliance because of a single-sign on system.



The Central Management Server

The Central Management Server (CMS) is only available as a virtual machine and supports the following VM host environments:

- VMWare ESXi 4.0 Update 1 (Build 208167) and newer
- VMWare ESX 4.0 Update 1 (Build 208167) and newer
- VMWare ESXi 5.0 (and newer)
- Windows Server 2012 R2 Hyper-V (and newer)

A CMS can manage up to 100 appliances (physical and virtual appliances), but before an appliance can be managed it must be registered with CMS.

The CMS communicates with each managed appliance over a secure SSL tunnel to receive:

- Data on the Control channel for configuring, licensing, maintaining appliances.
- Periodic health and status information from managed appliances.

The CMS also becomes an NTP server for managed appliances.

The CMS periodically communicates with MySonicWall for license validation. This ensures correct system wide timing and use of licenses.

CMS Access to Other Services

The CMS requires access to the following two online services:

SonicWall Licensing Server:

FQDN: software.sonicwall.com

IP: 204.212.170.115

217.149.45.76

ports 80, 443

SonicWall Geo Server:

FQDN: geows.global.sonicwall.com

IP: 208.17.117.116

Ports: 80, 443

The Central Management Console

The Central Management Console (CMC) provides the user with a single screen (called the Dashboard) to show Active alerts, Appliance status, License status, and Geographic View of all appliances on a map of the world. The Dashboard also allows you, from a single point to:

- Configure appliances (using push configuration settings).
- Maintain appliances, that is, Upgrade/hotfix, EPC update, and Restart.
- Use a one-click (single sign-on) to the AMC of managed appliance.
- View health history and reports for all appliances.
- Configure alerts, manage alert notifications for appliances or CMS.
- Configure user licenses and spike licenses (Start/Pause) on managed appliances.

Managed Appliances

Managed appliances are SMA appliances that are registered with the CMS so that they can be centrally managed.

Each managed appliance must be an SMA Version 11.2 (or later) VPN appliance, but can be any combination of physical or virtual appliances, such as EX6000, EX7000, EX9000, SMA 6200, SMA 7200, and SMA-Virtual appliances.

Each appliance, when configured to do so, accepts configurations pushed from the CMS. Each appliance also accepts dynamically allocated leased licenses from the CMS (based on the number of user connections).

Managed appliances maintain a secure communication channel with the CMS to accept configuration and maintenance commands, and send health and status information.

GMS and CMS

In the 11.2.0 release, SMA appliances can be managed by either the Dell Global Management System (GMS) or by the Dell Central Management Server (CMS), but not by both. Once an appliance registers with CMS, all GMS related functions are not available. CMS does not interact with GMS. SMA support for GMS is being deprecated. After the 11.2.0 release, GMS will no longer be supported.

HA, FIPS, and CMS

CMS does not run in High Availability (HA) Cluster mode.

- You cannot use CMS to manage HA pairs.

CMS is not FIPS compliant.

- You cannot use CMS to manage a FIPS appliance.
- A FIPS appliance cannot be configured to be centrally managed.
- A FIPS appliance configuration cannot be imported into the CMS.

Pooled Licenses

CMS supports a new pooled licensing model that allows user licenses to be centralized on the CMS and distributed and reallocated dynamically among the managed appliances, based on demand. User licenses no longer have to be applied to individual VPN appliances. Companies with appliances that are globally distributed can benefit from the fluctuating demands for user licenses due to time differences. The CMS reallocates licenses to managed appliances where user demands have peaked from appliances where usage has fallen due to off-work/night hours. Companies with appliances that are behind load balancers can also benefit from the dynamic distribution of licenses across managed appliances since the load balancer distributes connection requests across the managed appliances. For more information, refer to Pooled Licensing on page 57.

Getting Started in Four Steps

1 Install and configure the CMS and apply the CMS license.
Refer to Installing/Configuring the Central Management Server (CMS) on page 12.

2 Setup the VPN appliances to be managed.
Refer to Configuring Appliances for Central Management on page 21.

3 Define the collection of managed appliances.
Refer to Defining a Collection of Managed Appliances on page 49.

4 Monitor and manage appliances from the CMC Dashboard.
Refer to Using the CMC Dashboard on page 25.

Contents of this Guide

This *CMS System Administrator Guide* contains installation procedures and configuration guidelines for deploying Dell's Central Management Server (CMS) for Secure Mobile Access (SMA) appliances and additional descriptive information in the following sections:

- **Section 1 Introduction:** This section describes the concept of Central Management, Managed Appliances and Pooled Licenses.
- **Section 2 Installing/Configuring the Central Management Server:** This section includes procedures for setting up and installing the CMS, setting up VPN appliances to be managed, defining the collection of managed appliances, and monitoring appliances from the CMS Dashboard.
- **Section 3. Configuring Appliances for Central Management:** This section includes information about configuring appliances for central management.
- **Section 4. Using The CMC Dashboard:** This section includes definitions of the major panes and views of the Dashboard, that is, Alerts pane, Appliances pane, Table view and Geographic view, Current users pane, Per Appliance view and Pie Chart view, License usage view, About window.

- **Section 5. Using the CMS Menus:** This section explains the choices available with the CMS menus for operating and controlling the CMS and Managed Appliances. This includes information about Alerts, Configuration, Monitoring, and Maintenance.
- **Section 6. Pooled Licensing:** This section includes information about the following: Pooled licensing concepts, a CMS License, a CMS Spike license, a Leased license.
- **Section 7. Alerts and SNMP:** This section contains information about how the CMS provides a new SNMP MIB that queries the CMS and managed appliances to get health and metrics data associated with the CMS as well as generating SNMP traps for critical alerts.
- **About Dell:** Information about contacting Dell technical support.

Guide Conventions

The following conventions are used in this guide.

Table 1. Guide Conventions

Convention	Use
Bold Text	Highlights field, button, and tab names. Also highlights window, dialog box, and screen names. Also used for file names and text or values you are being instructed to type into the interface.
Italic Text	Indicates the name of a technical manual, emphasis on certain words in a sentence, or the first instance of a significant term or concept.
Menu Item > Menu Item	Indicates a multiple step Management Interface menu choice. For example, **System > Status** means select the **Status** page under the **System** menu.

Part 2

Installation and Configuration

- Installing/Configuring the Central Management Server (CMS)
- Configuring Appliances for Central Management

2

Installing/Configuring the Central Management Server (CMS)

This section contains the following sections:

Overview

A CMS is located inside a corporation's intranet. CMS requires a new type of license called a CMS License that is issued by Dell.

The CMS runs as a virtual machine that can be hosted on VMware ESX/ESXi or Microsoft Hyper-V. CMS is not designed to run on custom hardware such as VPN appliances.

Core CMS provides the following features:

- Central Management Console (CMC) to monitor, maintain, and configure Dell SMA appliances.
- Simplified license management with a centralized license that eliminates the need for individual appliance licenses.
- Centralized alerts via the console dashboard and SNMP traps.

Supported Platforms for CMS

CMS runs as a virtual machine on the following hypervisor platforms:

Table 1. Supported Platforms

VMWare	Microsoft
ESXi 5 and newer	Windows Server 2012 R2 Hyper-V and newer
ESXi 4.0 Update 1 (Build 208167) and newer	
ESX 4.0 Update 1 (Build 208167) and newer	

Hardware Resource Requirements

The virtual instance of CMS requires the following hardware resources:

- 2 GB RAM
- 2 CPU
- 64 GB HDD

If you are managing more than 50 appliances, the virtual instance of CMS requires the following hardware resources:

- 4 GB RAM
- 2 CPU
- 100 GB HDD

Installation Files

Central Management is supported on Version 11.2 and later of Dell's Secure Mobile Access (SMA) firmware.

- To install on VMware hypervisors, the Open Virtual Appliance (.OVA) file with the following file name format is available for import and deployment to your ESX/ESXi server: ex_sra_vm_11.2.x-xxx.ova
- To install in a Microsoft Hyper-V environment, use an International Organization for Standardization (.ISO) file such as: 11.2.0-xxx.iso.

The 11.2.x indicates the release version and x's represent a build number.

NOTE: The same firmware is used for both the CMS and the SMA-Virtual appliance. The Central Management feature is enabled during the setup process.

For information on installing SMA-Virtual appliances, refer to the *Dell SMA-Virtual Getting Started Guide*.

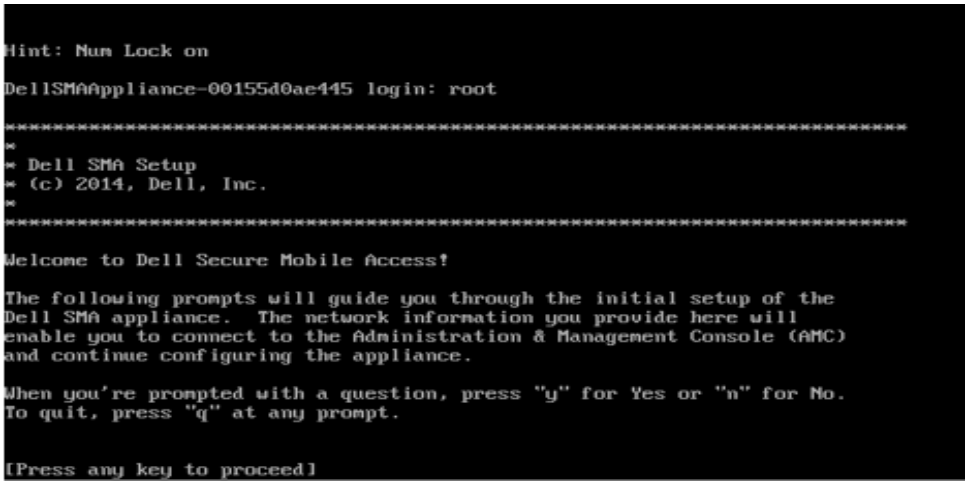
Setting up a CMS

To setup a Centrally Managed VPN infrastructure:

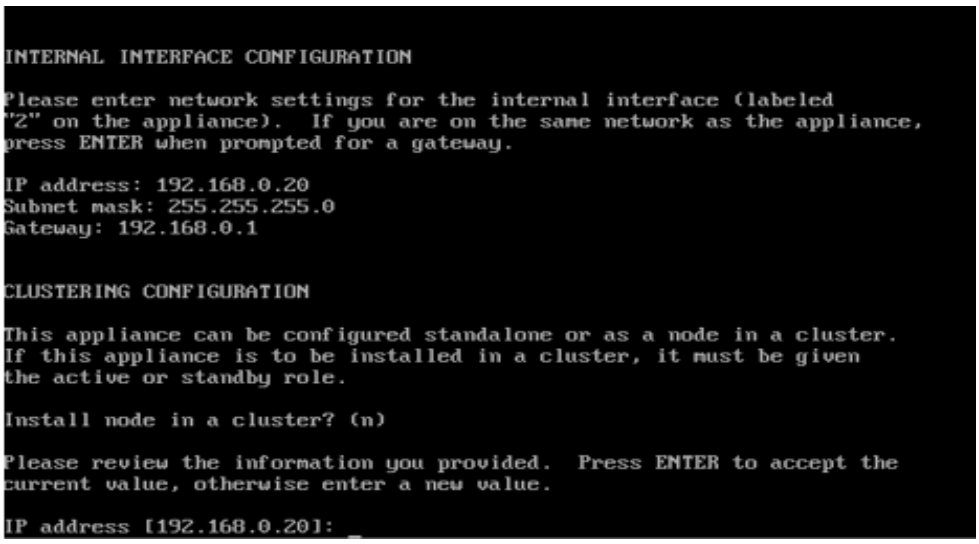
1 Setup a virtual instance (ESX or Hyper-V) of the release firmware.

2 Start the virtual machine and wait for a login prompt to appear.

3 Login as "root" (no password is required). A display similar to the following appears.

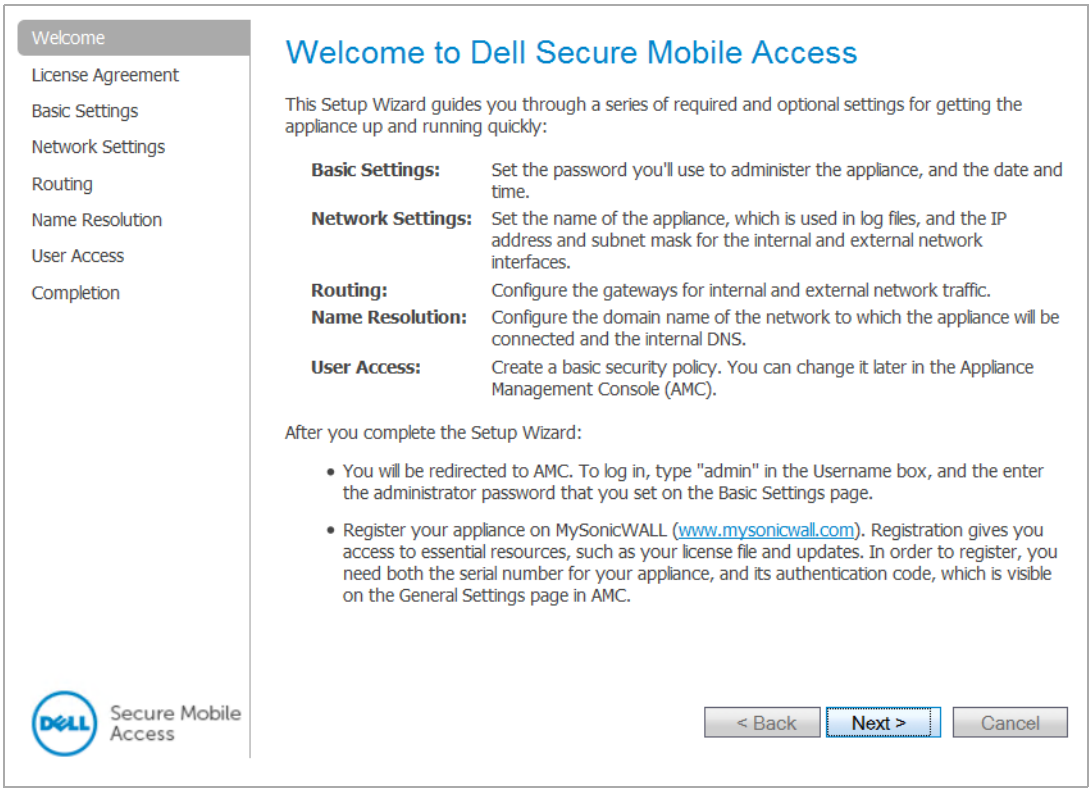


4 Press any key.

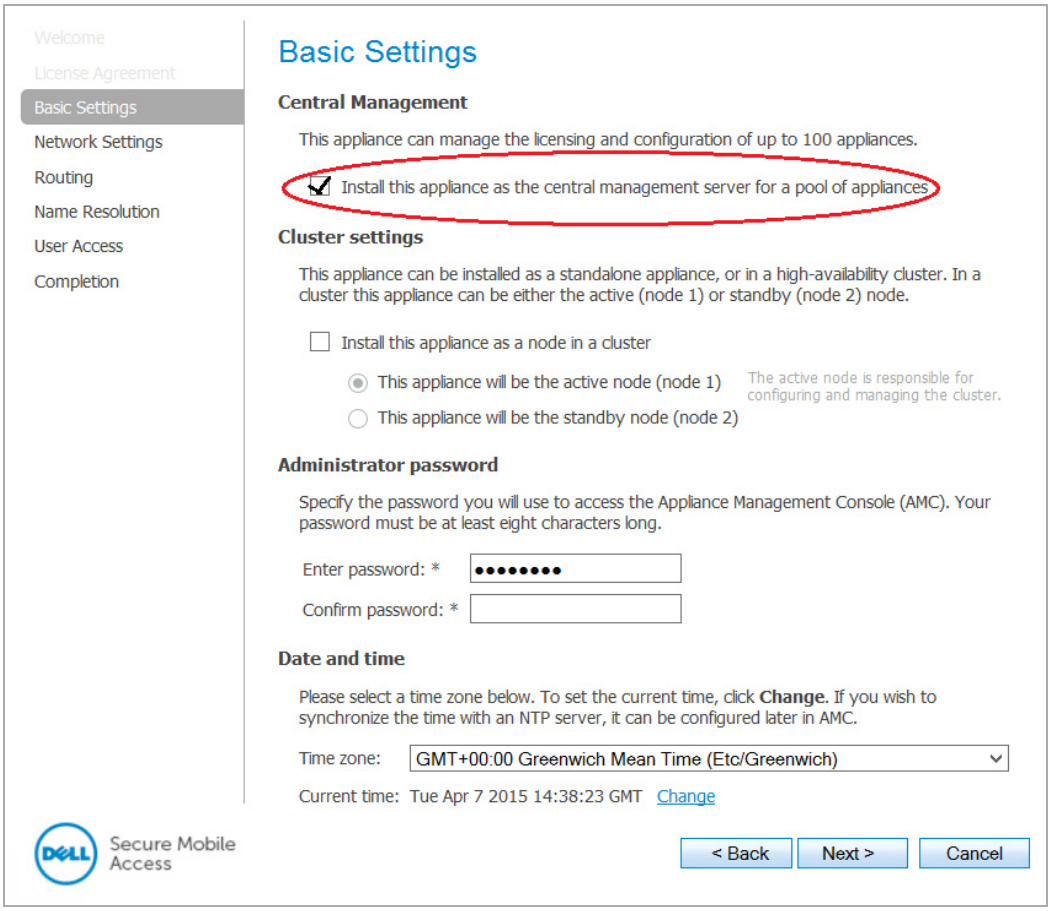


5 Configure the internal interface settings and save the configuration settings.

6 Continue until instructed to access the console from a browser at *https://<Internal-IP-Address>:8443*. The following screen appears.

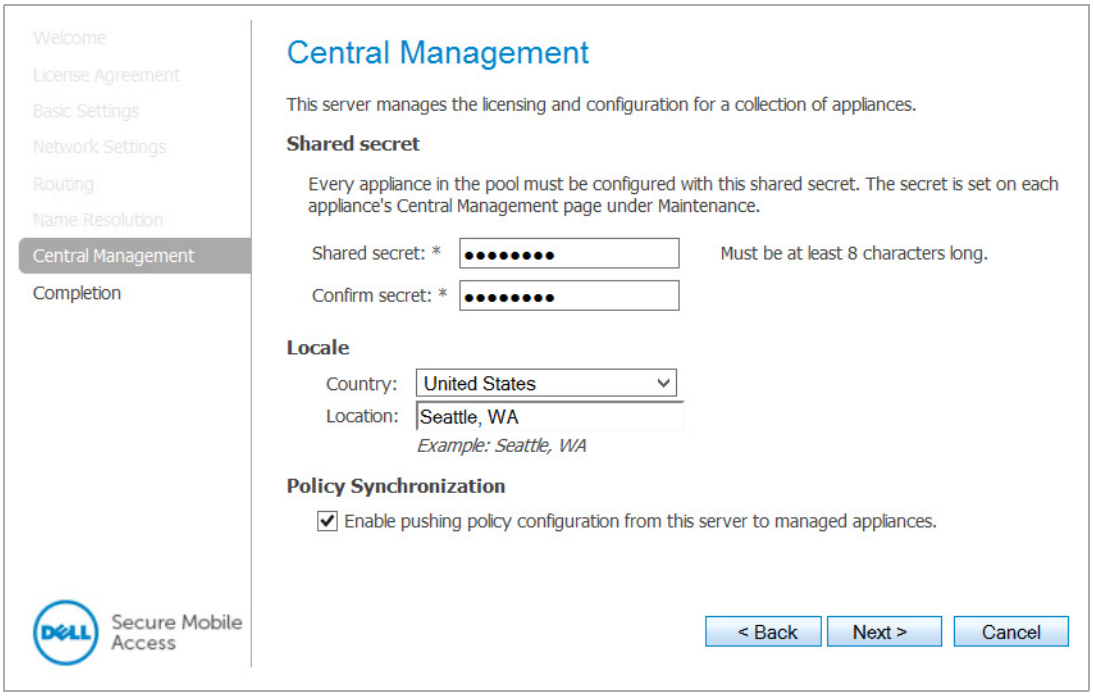


7 Read and if appropriate, accept the EULA and click **Next**. The **Basic Settings** page appears.



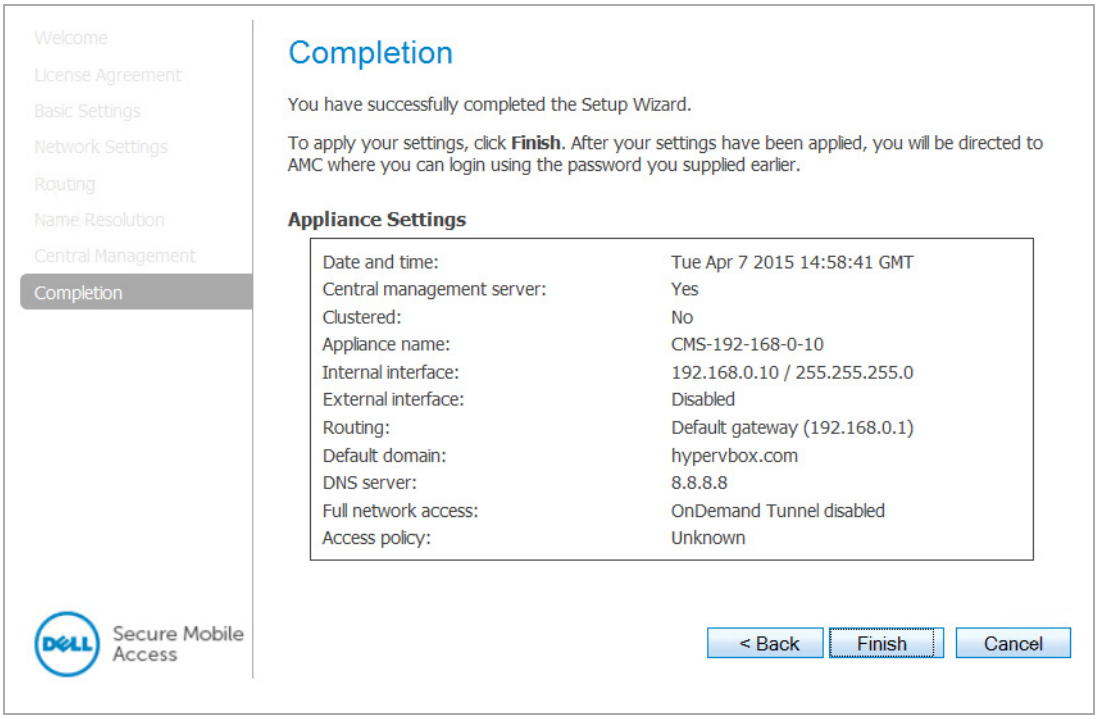
8 Configure the virtual computer as a Central Management Server using the check-box circled in red above.

9 Configure the Shared Secret and Locale.

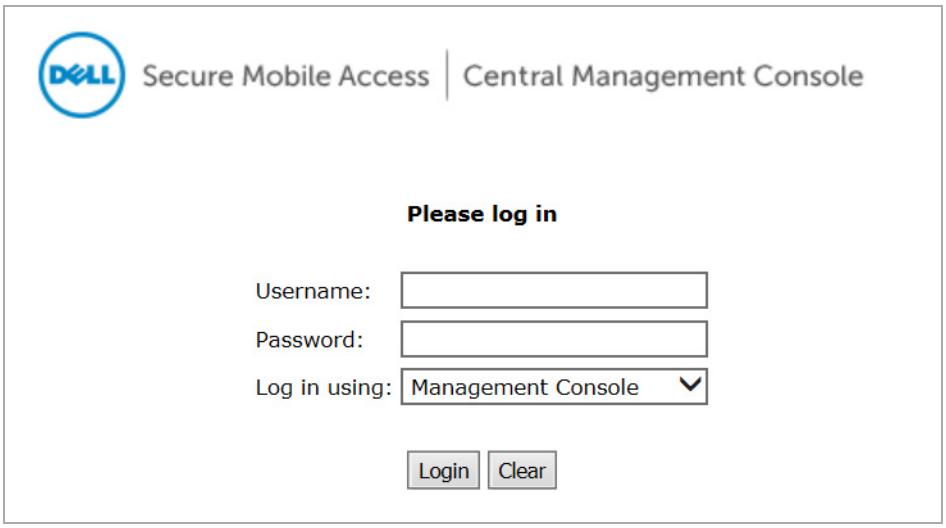


10 Make additional configuration selections, as required.

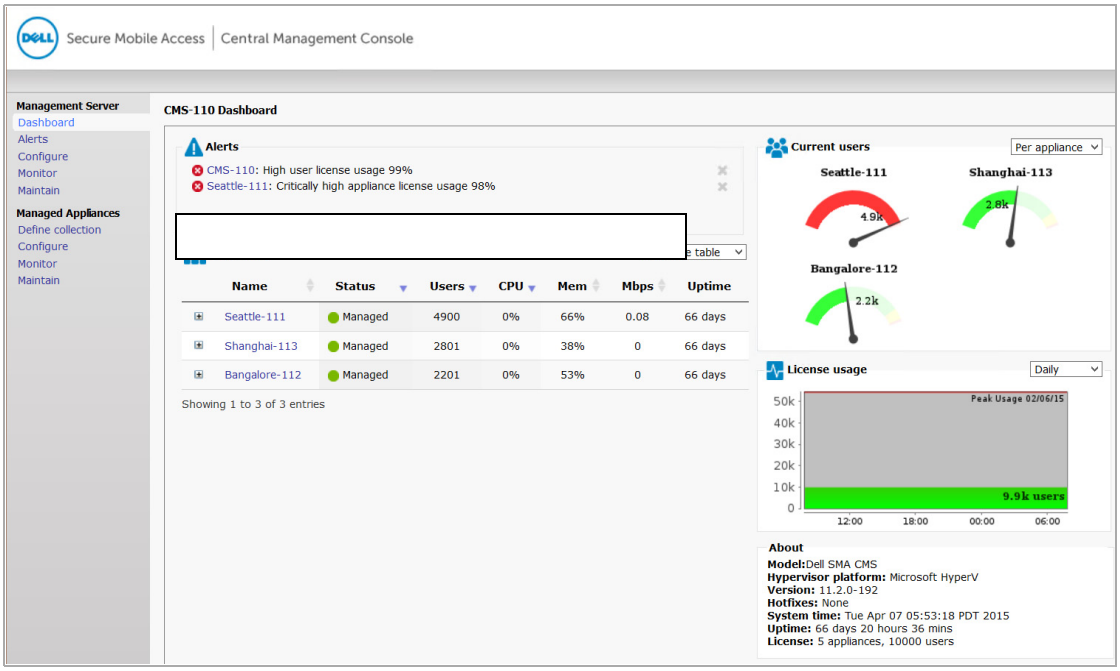
11 Upon successful completion, click **Next**. The **Completion** page appears.



12 Click **Finish.** The configuration changes are applied and a **Logon** screen appears.



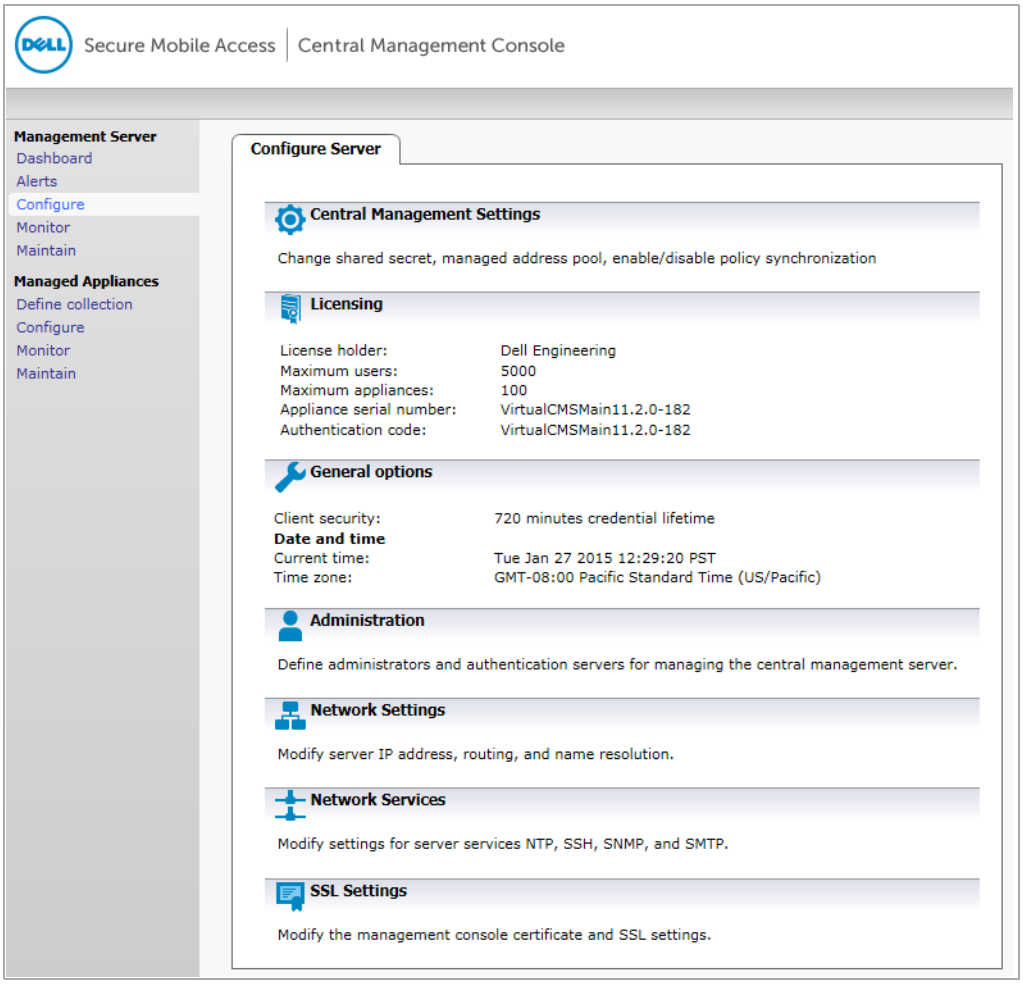
13 Login with username "admin" and the password that you just configured. The **Central Management Console (CMC) Dashboard** Page appears.



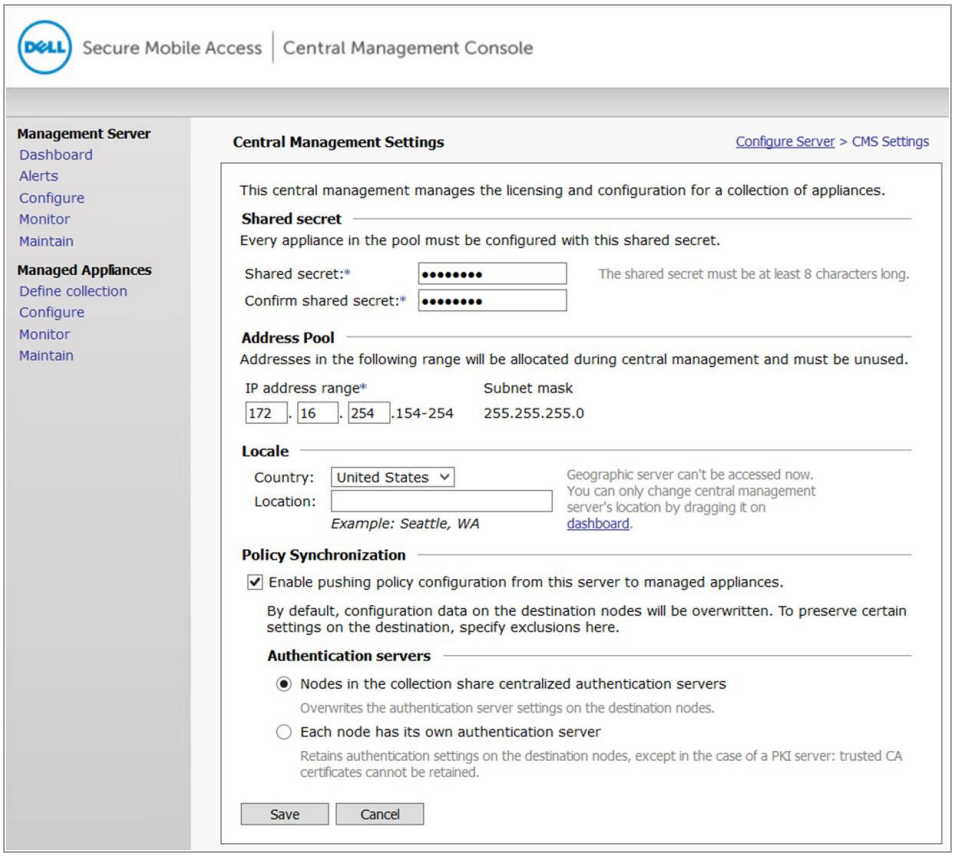
14 Download a CMS license from MySonicWall.com

15 On the menu selection **Management Server > Configure > Licensing** page, apply the downloaded CMS license to the CMS.

16 From the menu on the left side of the screen, select **Management Server > Configure.** The **Configure Server** page appears.



17 Click **Central Management Settings**. The **Central Management Settings** page appears.



18 Configure your CMS from this page follows:

a Review the range of 100 IP addresses that will be used to communicate with managed appliances. In most cases the defaults work, so this is only necessary if the private address space that is filled in overlaps with existing addresses.

The administrator can configure the private address space (IP address pool) for the CMS tunnel so that it does not overlap or conflict with the IP addresses of resources in the private corporate network (such as host, IP range, or subnet).

NOTE: The CMC and the AMC do not check for private IP address range overlaps or conflicts.

19 Enable the **Policy Synchronization** option by clicking the check box. Use this option ONLY if you want to transfer settings from the CMS to the managed appliance and overwrite the appliance's current configuration settings. Use this option if your appliances have the same configuration settings, and you plan to manage the appliance configuration centrally. You can change this option later.

20 Select whether the managed appliances will use the same authentication servers, by selecting either the **Nodes in the collection share centralized authentication servers** option or the **Each node has its own authentications server** option.

21 Click **Save**.

3

Configuring Appliances for Central Management

This section explains how to configure appliance for central management, that so they become managed appliances. The section contains the following topics:

Overview

A CMS can manage up to 100 appliances. Managed Appliances can be any combination of physical and virtual appliances (for example, EX6000, EX7000, EX9000, SMA 6200, SMA 7200, and SMA-Virtual). High Availability (HA) pairs cannot be managed by CMS.

A Shared Secret is used to bootstrap a secure communication channel between the CMS and the appliance. Once a secure SSL tunnel is established, all subsequent communications between the appliances and CMS take place through the tunnel.

Firmware Compatibility with the CMS

Managed Appliances must be running firmware that is compatible with CMS.

Table 1. Firmware Compatibility

Appliance Type	CMS Version 11.2
SRA Appliance Version 10.x	Not Supported
SMA Appliance Version 11.1	Not Supported
SMA Appliance Version 11.2	Supported

Enabling Central Management and Registering an SMA Appliance with the CMS

Before an appliance can be registered with the CMS, it must first be enabled for Central Management. In addition, the CMS must have an unused appliance license (obtained from the CMS license) before an SMA Appliance can be registered. The administrator must enable Central Management and type the shared password into the console of the SMA appliance. In addition the administrator must register the appliance with the CMS.

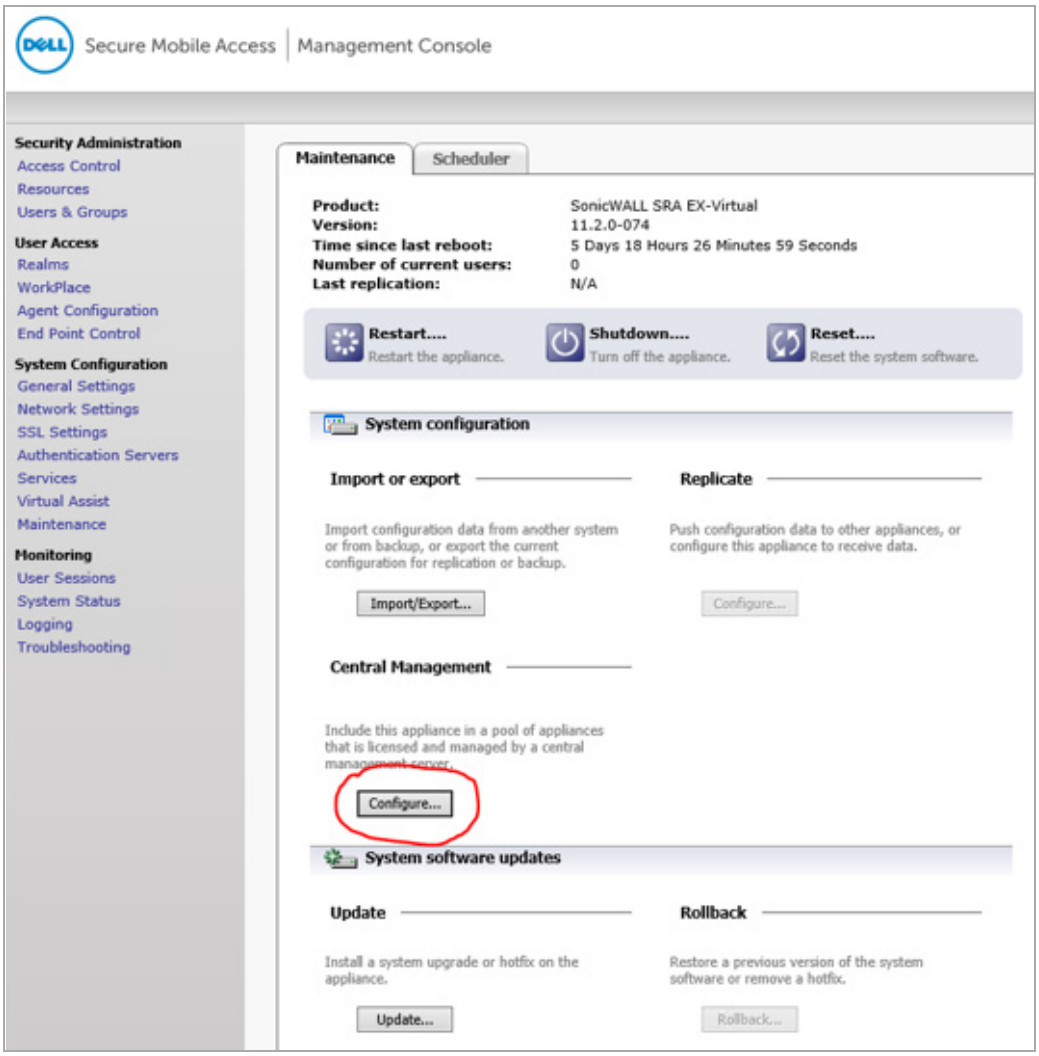
The shared password is used to bootstrap the secure tunnel, and all subsequent communications go through the secure tunnel. The appliance uploads its information (model, version, serial#) to the CMS. The CMS pushes a Leased License to the appliance, and then (if configured), pushes the configuration settings to the appliance.

The managed appliance is now online and ready to accept VPN connections.

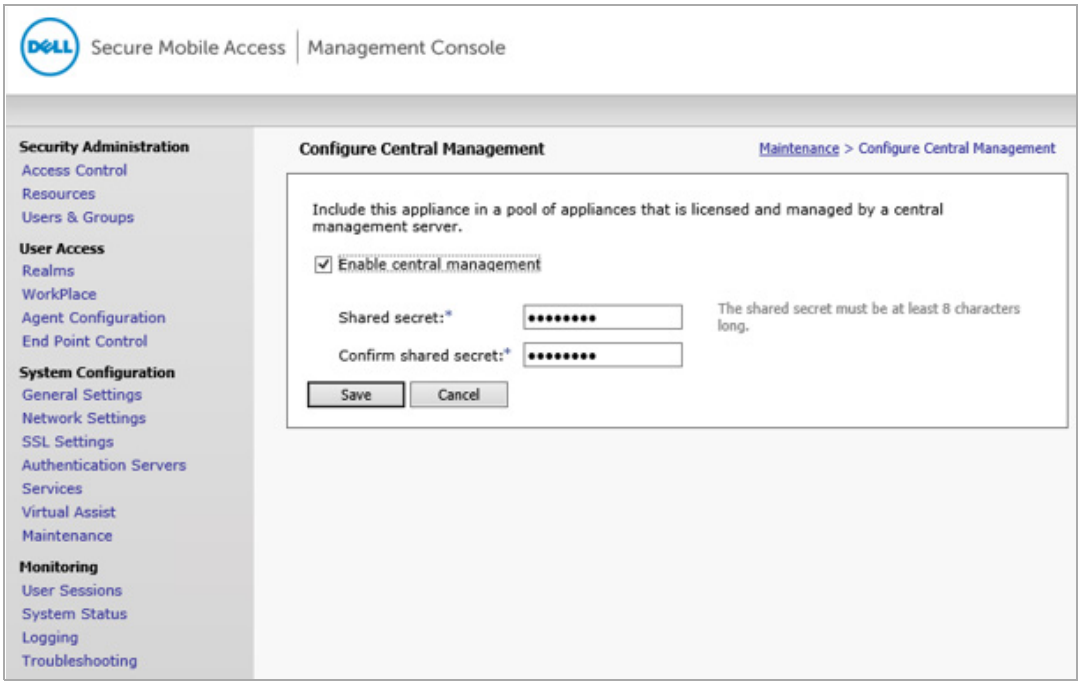
To enable central management:

1 Access the AMC console of the appliance to be registered.

2 Select **System Configuration > Maintenance**.



3 Click **Configure** in the **Central Management** panel. The **Configure Central Management** page appears.



4 Click **Enable central management**.

5 Click **Save** to apply pending changes.

6 Ensure that the appliance has a network connection.

7 Enter the Shared Secret that you entered on the CMC and then enter it again to confirm it.

NOTE: The appliance must next be registered with the CMS.

8 Click **Save**.

Previously Configured Appliances

Standalone appliances that were originally configured from their AMC can be registered with a CMS without affecting the appliance's policy settings.

For information on how to synchronize (or not) policy on an appliance from the CMS, refer to Configuring a Managed Appliance on page 50.

Part 3

Dashboard and Menus

- Using the CMC Dashboard
- Using the CMC Menus

4

Using the CMC Dashboard

This section explains how to use the CMS Dashboard. It contains the following topics:

Overview

A VPN administrator uses the Central Management Console (CMC) of the CMS to manage all registered VPN appliances. The CMC gives Administrators a single screen from where they can configure and monitor all their managed appliances. The CMC provides the following capabilities:

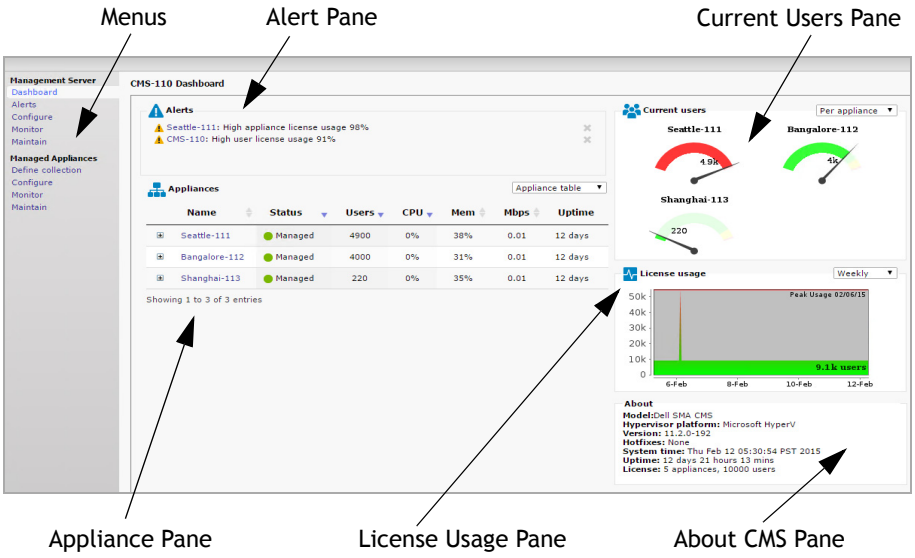
- A dashboard view of the VPN infrastructure.
  Refer to Viewing the CMS Dashboard on page 25.
- Enroll, maintain, configure and monitor managed appliances.
  Refer to Using the Appliance Pane on page 27.
- Monitor license usage and consolidated user sessions.
  Refer to Monitoring a Managed Appliance on page 53.
- Manage appliance configuration/policy settings.
  Refer to Using the Appliance Pane on page 27.
- Configure the CMS.
  Refer to Configuring the CMS on page 37.

Viewing the CMS Dashboard

Use the dashboard to review system statistics and use the menus on the left to configure and maintain your system.

The **Dashboard** page is the first screen that appears after you log in. You can also access it anytime by clicking **Management Server** > **Dashboard** from the menus.

The Dashboard is divided into the sections illustrated and explained below.



This Dashboard contains the following areas:

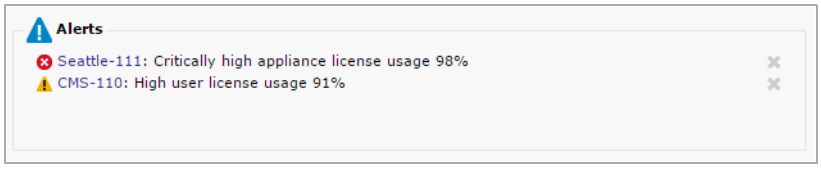
- **Menu selections** - Click a selection under one of the two main categories:
  - **Management Server** - Contains the following selections: Dashboard, Alerts, Configure, Monitor, Maintain.
  - **Managed Appliances** - Contains the following selections: Define collection, Configure, Monitor, Maintain.
- **Alert Pane** - Contains a list of currently active alerts. Click an Alert to view information about alerts.
- **Appliance Pane** - Shows all online appliances. Select a managed appliance to view information about it Appliances are sorted starting with the appliance with the most users.
- **Current Users Pane**- Displays the activity on current users
- **License Usage Pane**- Displays information about license usage.
- **About Pane** - Displays CMS Information consisting of Model, Hypervisor platform, Version, Hotfixes, System Time, Uptime, License.

Each pane is independently refreshed with updated information/status.

Dashboard panes use the following color codes: Green (OKAY), Yellow (WARNING), and Red (ERROR).

Using the Alerts Pane

The Alerts Pane shows all currently active alerts that have not been acknowledged by the administrator. When specific alert thresholds are met, a Warning or an Error alert is shown on the CMC dashboard.



The Alerts pane gives an administrator a consolidated view of all Errors and Warnings across the VPN infastructure. It contains Error and Warning messages (that is appliance offline, license consumption greater than 75%, and so on). Refer to Pre-Configured Alerts on page 61 for more information about alerts and their parameters. The Alerts pane consists of a table with the following columns:

- Colored icon representing the severity of the Alert
  - Red — Critical
  - Yellow — Warning
- Description of the Alert

An acknowledged alert will re-appear if the state changes. Error alerts are listed first, followed by Warnings. Alerts are sorted by time (most recent on top) within the categories. If there are no active alerts, a "No Alerts" message is displayed in the pane.

Alerts can be acknowledged by the Administrator by clicking on the X to the right of the alert. An acknowledged alert will no longer appear in the dashboard, but can be seen in the Alerts section.

An acknowledged alert will re-appear if the state changes (on to off to on). Alerts are automatically removed if the cause of the alert ceases, for example if an appliance that was Offline starts communicating with the CMS, the error alert is no longer valid and is removed from the Alert pane.

To view an individual alert, click on the Alert.

For more information about this area, refer to Alerts and SNMP on page 60.

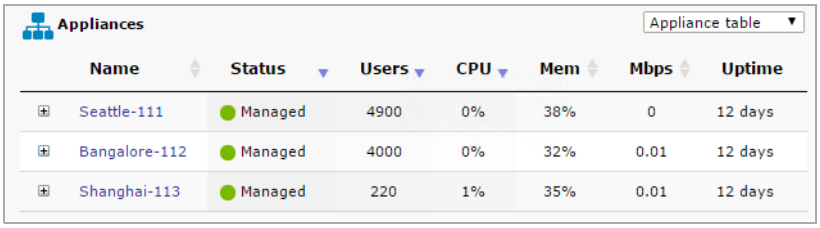
To view and configure all alerts, select **Management Server > Alerts**. Refer to Using Alerts on page 32.

Using the Appliance Pane

The Appliance Pane displays real-time, online, managed appliances with data in the following columns: Name, Status, Users, CPU usage, Memory usage, Mbps, Uptime. This gives a quick overview of the appliance managed.

On the top of the pane, on the right side is a drop down menu with the following selections:

- Appliance Table: This is the default view and is the one shown here.
- Geographic View: This shows the geographic location of each appliance on a separate display. Refer to Geographic View

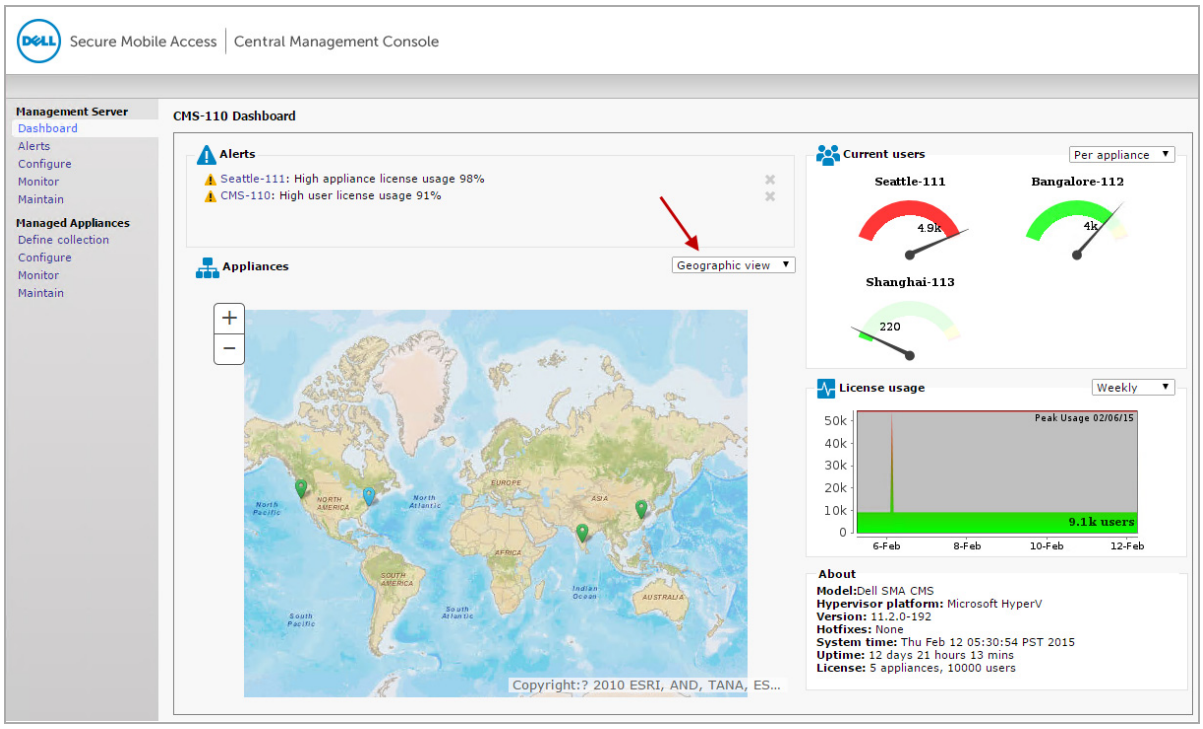


Click the + at the beginning of each line to display the following information about the appliance: Host, Platform, Serial Number, Version, Hotfixes.

To directly start the AMC for an appliance (without entering credentials), click the name of the appliance.

Using the Geographic View

This view of the appliances managed by the CMS, is accessed from the Geographic view drop-down menu on the title bar of the Appliances pane (shown here with an arrow).

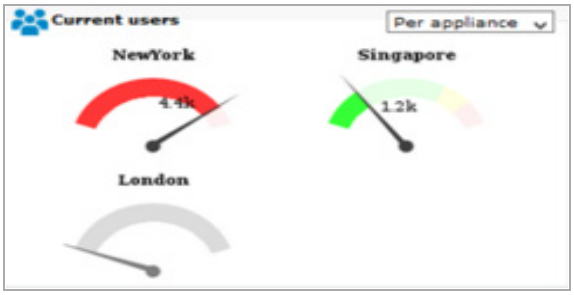


This selection changes the list of managed appliances into a geographic representation of the devices. An appliance is located on the map based on its city/country obtained during configuration. You can reposition the icon for an appliance on the map by dragging and dropping the icon. You may need to do this if the icon for an appliance is not correctly positioned on the map, or if multiple appliance icons are positioned too close to each other. You can drag the appliance to locate it in a different location on the map. Move your cursor across the colored icons on the map and information about that equipment appears:

- A blue icon represent the CMS Server and displays Host name and address.
- A green icon represents a selected managed appliance that is online and displays Host, Status, Users, CPU, Memory, Bandwidth.
- A red icon represents an appliance that is offline.
- Zoom (+) and UnZoom (-) buttons allow the map view to be changed. The last map viewed is saved.

Using the Current Users Pane

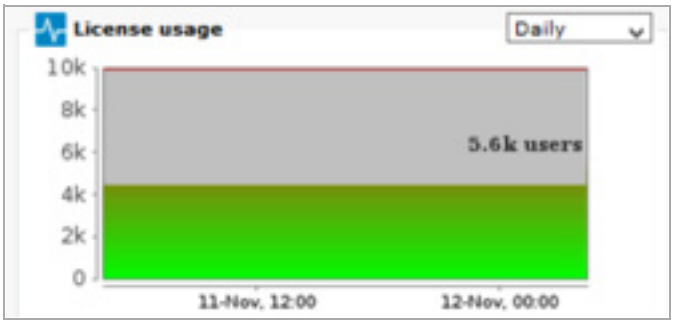
This pane displays the current distribution of all the connected users across the managed appliances. It also indicates how appliances are loaded relative to their maximum configured license settings.



- The drop-down menu at the top of this pane lets you choose to display the data in either of the following two ways:
  - Appliance dial gauge view
  - Pie chart view
- Red indicates that the managed appliance license usage is close to the maximum configured license setting for the appliance.
- Yellow is a warning.
- Green indicates okay.
- The number shows the number of users connected through the appliance.

Using the License Usage Pane

This pane displays the history of CMS user license consumption relative to the maximum license capacity.

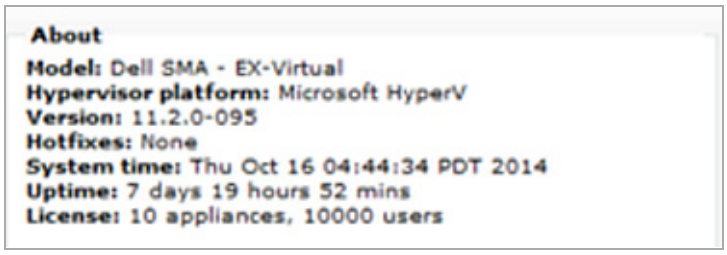


- A drop-down menu allows you to change the display to show usage Now, Hourly, Daily, Weekly, Monthly, Quarterly.
- The graph displays number of users as a function of time.
- The actual number of users (based on the number allowed by the number of licenses) is represented by the bar graph and indicated on the x axis of the graph.
- Colors: Green indicates that the CMS license usage is running within the pooled licensed capacity. If it gets to 75% (default warning alert setting for CMS license usage warning) it turns yellow. If it gets to 90% (default alert setting for CMS license usage) it turns red.

Using the About Pane

This pane display the following information about an Individual Appliance highlighted from the list in the Appliance Pane:

- Model
- Hypervisor platform
- Version
- Hotfixes
- System time
- Uptime
- License



5

Using the CMC Menus

A VPN Administrator uses the Central Management Console (CMC) of the CMS to manage all the VPN appliances. This sections contains information about the menus of the CMC.

Using the Management Server Menus

This section provides the following information:

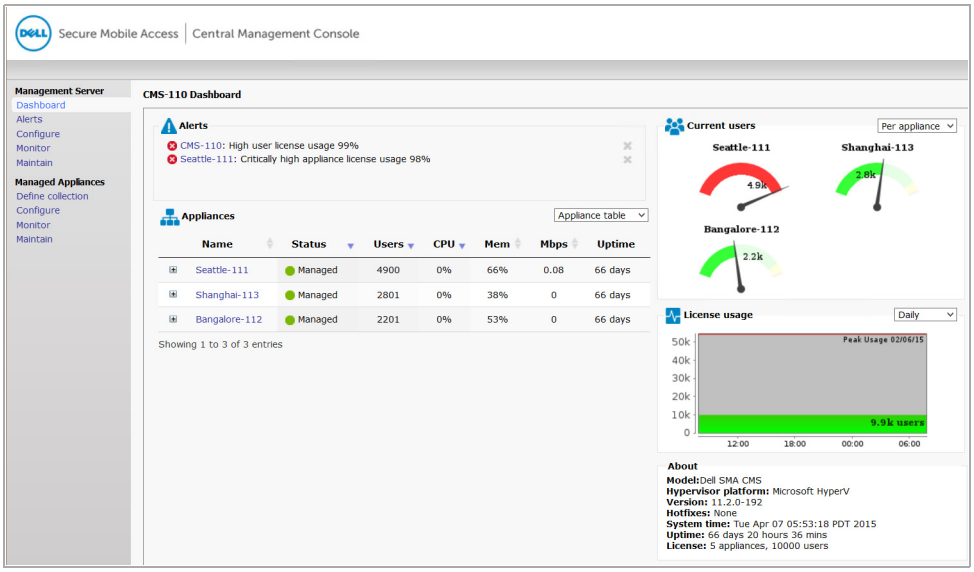
- Using the Dashboard
- Using Alerts
- Configuring the CMS
- Monitoring the CMS
- Maintaining the CMS

Using the Dashboard

For detailed information about the dashboard, refer to Viewing the CMS Dashboard on page 25.

To view the Dashboard:

- Select **Management Server > Dashboard**:
  The CMS Dashboard appears.

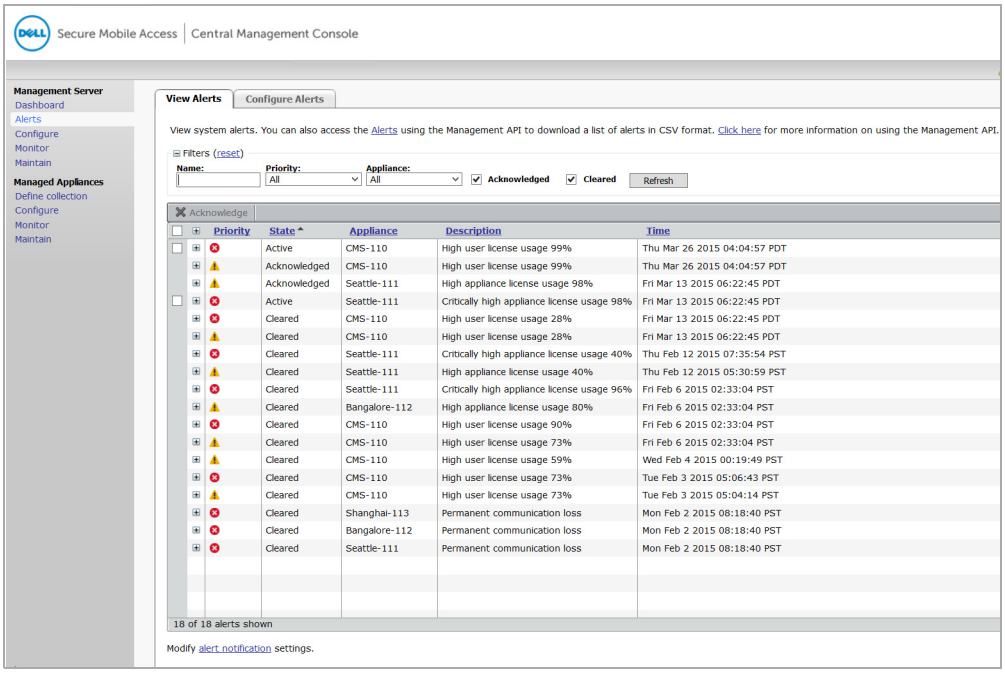


Using Alerts

For detailed information about the type of Alerts, refer to Alerts and SNMP on page 60.

To view and configure alerts:

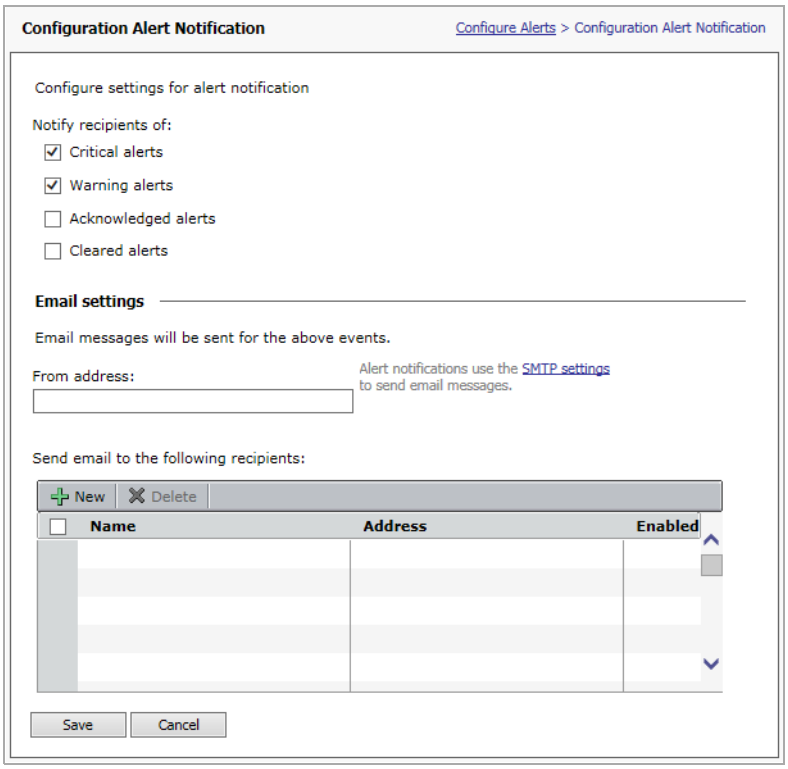
- Select **Management Server > Alerts**. This page has two tabs: **View Alerts** and **Configure Alerts**.



Viewing Alerts

The **View Alerts** tab provides a way to determine the type of information that you want to view:

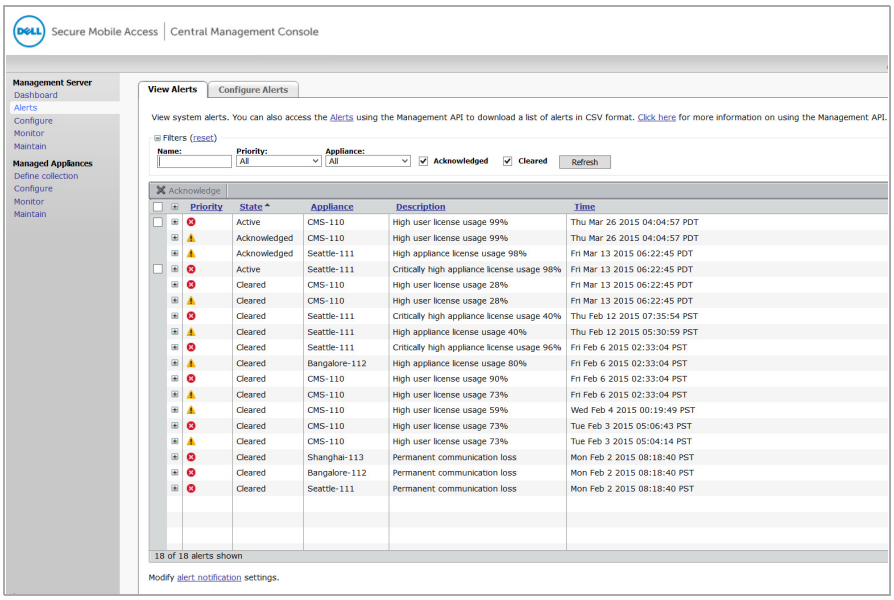
- You can filter the alerts that are displayed by Name, Priority and Appliance.
- Alerts that were acknowledged from the dashboard can be viewed by checking the **Acknowledged alerts** checkbox.
- Alerts that cleared (by the alert condition going away) can be viewed by checking the **Cleared alerts** check box.



To view alerts:

1 Go to the **Management Server > Alerts** page.

2 Click the **View Alerts** tab.

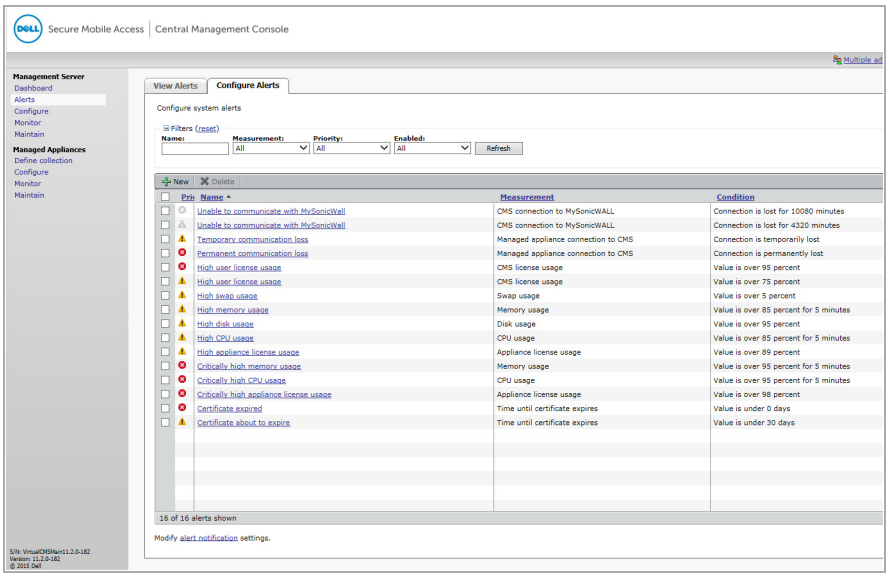


Configuring Alerts

To add an alert trigger:

1 Go to the **Configure Alerts** tab

2 Click the green plus mark. The **Add Alert Trigger** dialog appears.

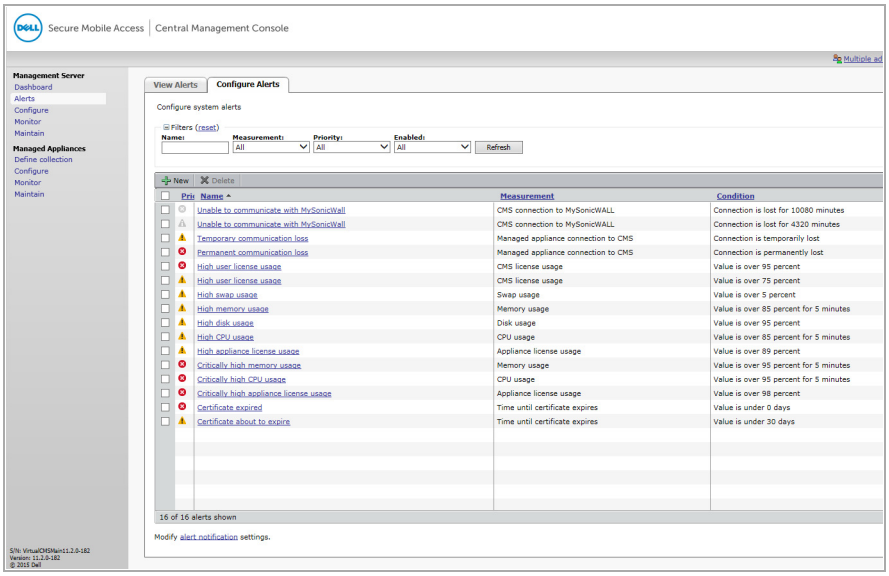


3 Fill in the required information and click **Save**.

To configure alerts:

1 Go to the **Management Server > Alerts page.**

2 Click the **Configure Alerts** tab.

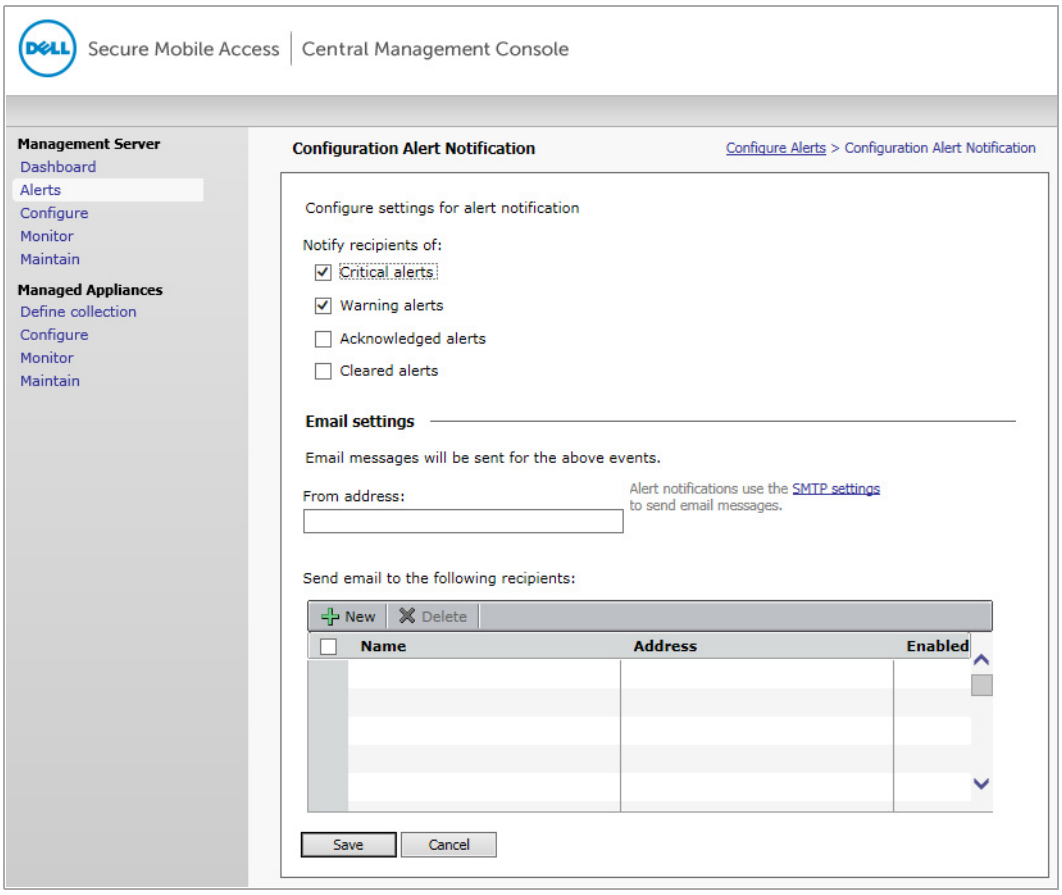


The **Configure Alerts** tab provides a way to configure the type of information that you want:

- Click the +/- to the left of Filters. This displays/hides a field for Name, Measurement, Priority (a drop-down for All, Warning, Critical, Appliance (All, Enable, Disabled).
- Use the check box on the left-hand side to select an Alarm.
- Information is displayed in the following columns: Priority, Measurement, Condition. Use the check box to Check all items and the +/- box to Expand all items.

To modify Alert notification settings:

1 Click **alert notification** and the bottom of the page. The **Configure Alert Notification** appears.



2 Fill in the required information and click **Save**.

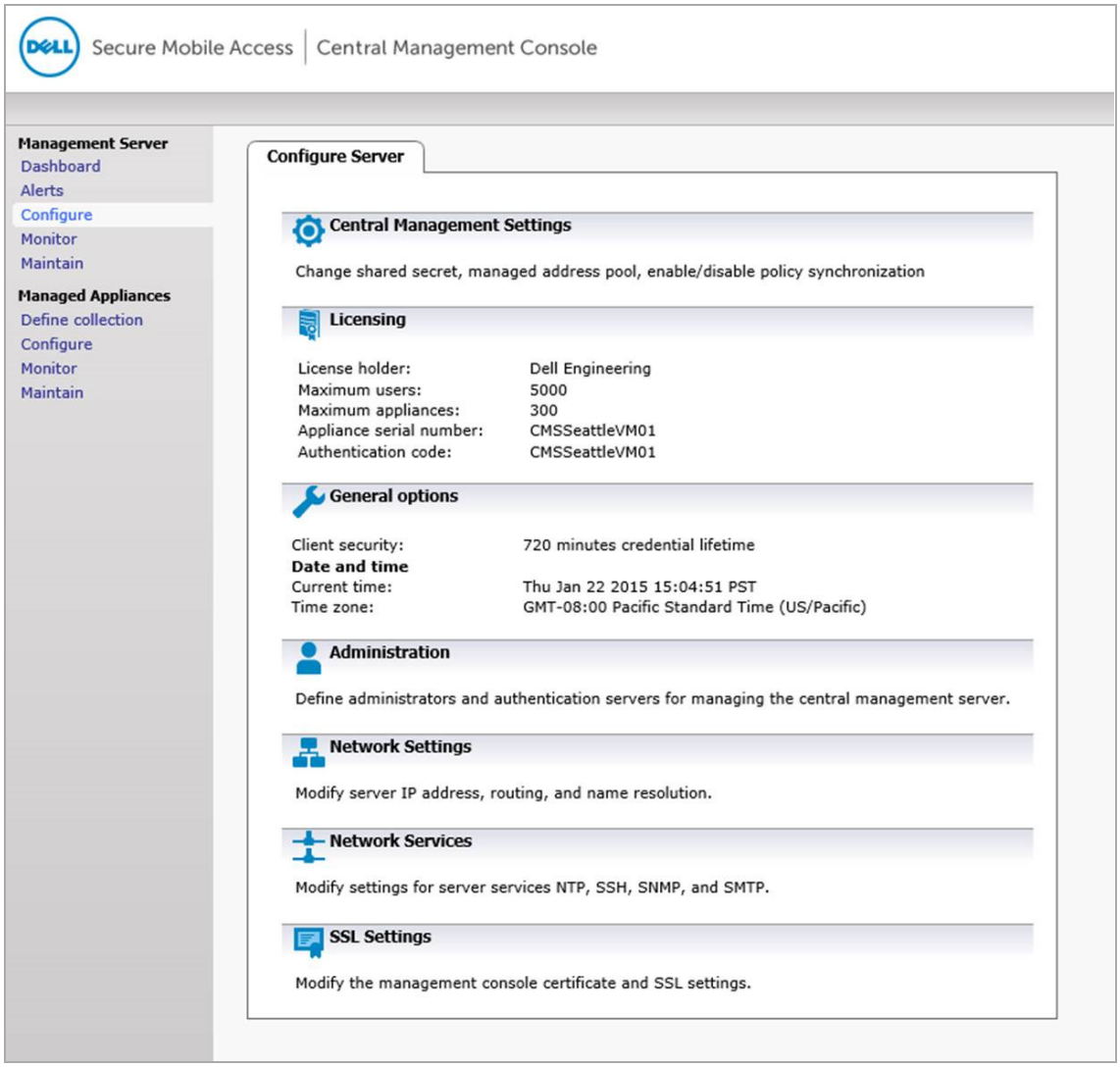
Configuring the CMS

To configure the CMS:

- Select **Managed Server > Configure**.

This page provides the following information and activities as shown below:

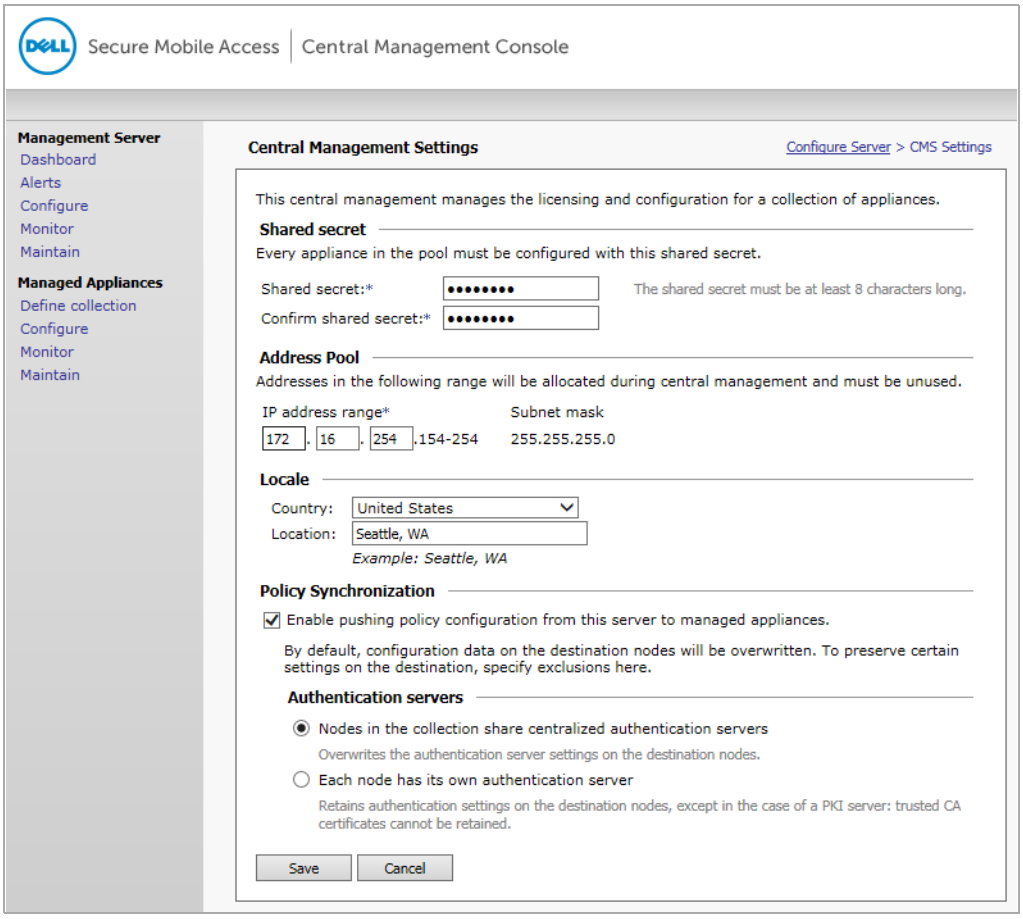
- Central Management Settings Page
- Licensing Pages
- General Options Page
- Administration Page
- Network Settings Page
- Network Services Page
- SSL Settings Page



Central Management Settings Page

To access the Central Management Settings page:

1 Select **Management Server > Configure > Central Management Settings**.
The Central Management Settings page appears.



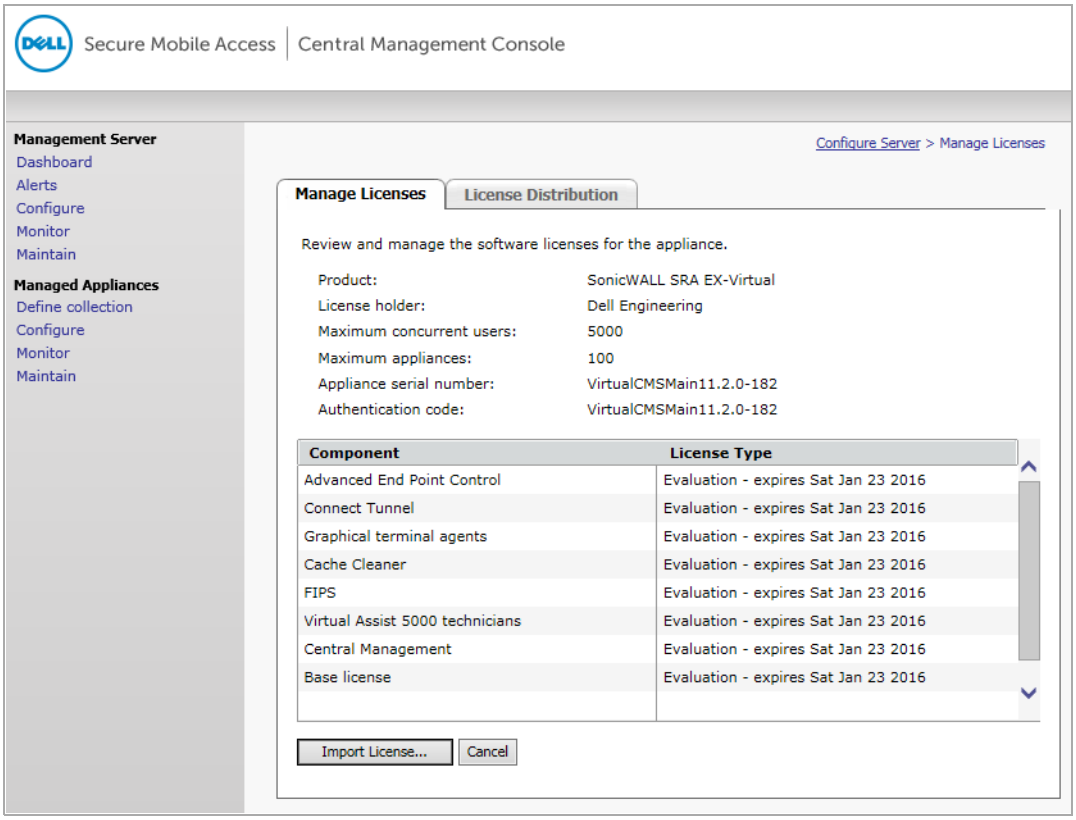
2 Make the desired changes.

3 Click **Save**.

Licensing Pages

To manage your licenses for CMS:

1 Go to the **Management Server > Configure > Licensing** page.
The **Manage Licenses** page appears.

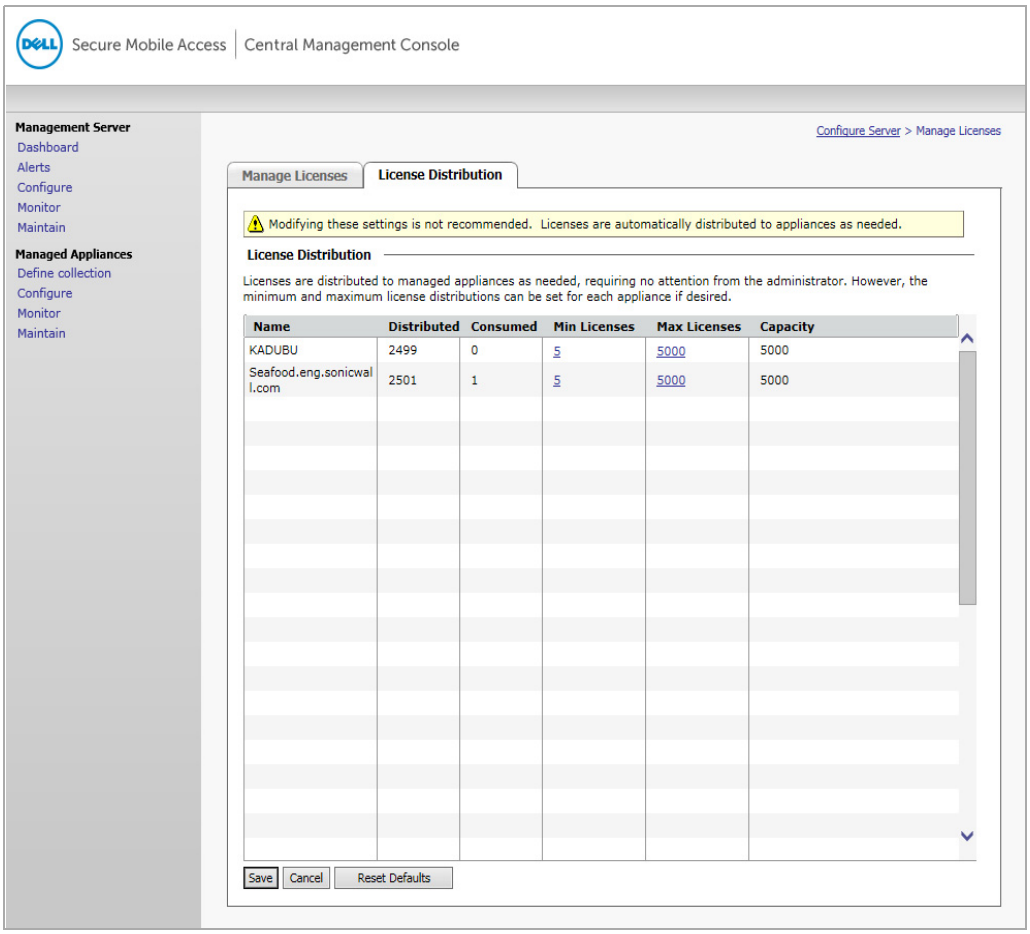


2 Select the desired License(s).

3 Click **Import Licence...**.

4 Click the **License Distribution** tab.

This page allows you to set the minimum and maximum number of leased licenses that should be distributed to each managed appliance. The default settings for Max Licenses are based on the appliance model.



5 Click **Save**, **Cancel**, or **Reset Defaults**.

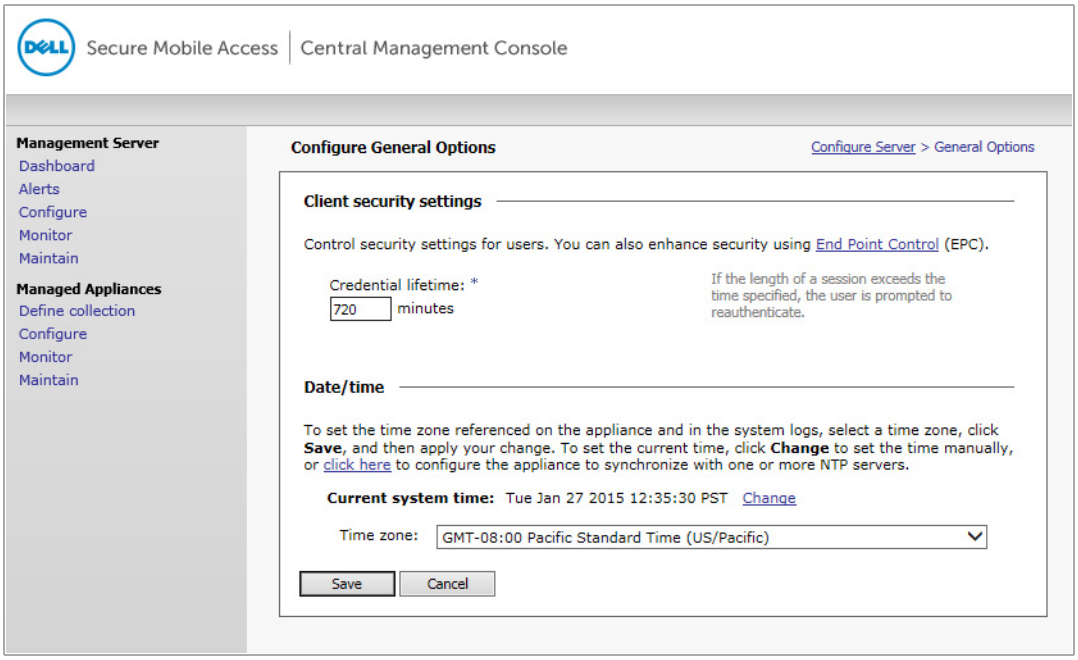
CMS will attempt to distribute all user licenses between the managed appliances and will not hold on to any user licenses. It uses criteria like Min and Max settings, number of users connected in order to determine how to distribute the licenses.

You can also see the actual number of leased licenses that have been distributed at any time to each appliance on this screen.

General Options Page

To access the General Options page:

1 Select **Management Server > Configure > General Options**.
The **Configure General Options** page appears.



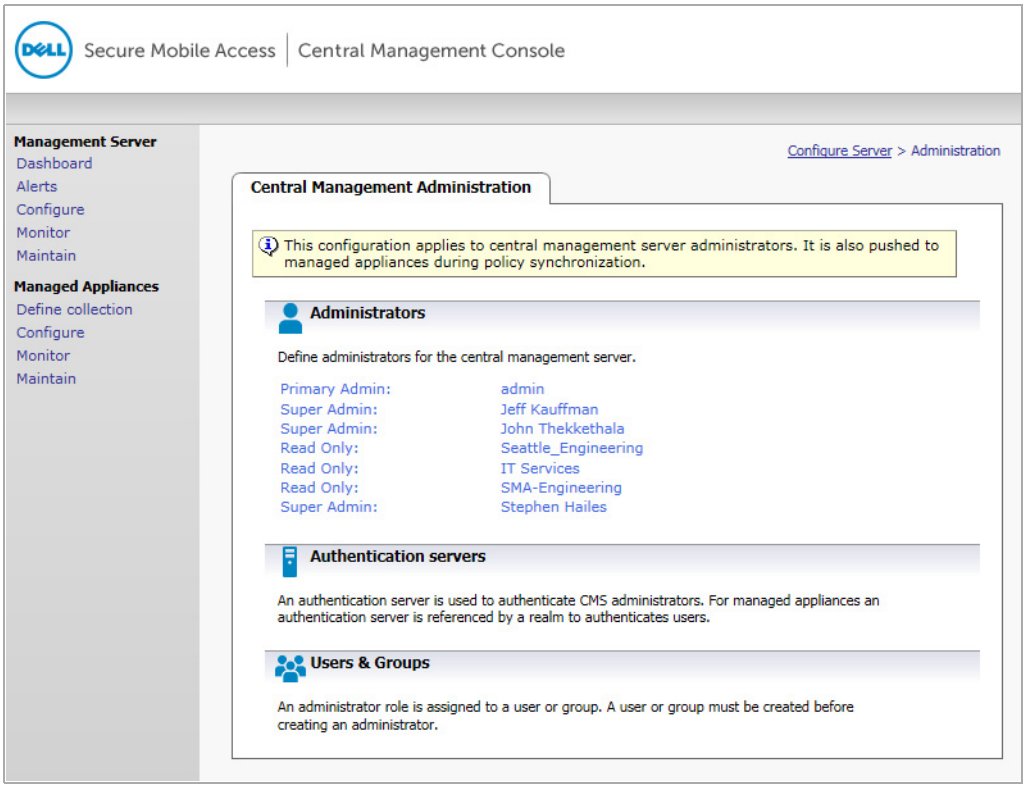
2 Make the desired changes.

3 Click **Save**.

Administration Page

To configure the settings for Administrators, Authentication servers, or Users & Groups:

1 Select **Management Server > Configure > Administration**.
The **Administration** page appears.



2 Select any of the three items: **Administrators**, **Authentication servers**, and **Users & Groups**.

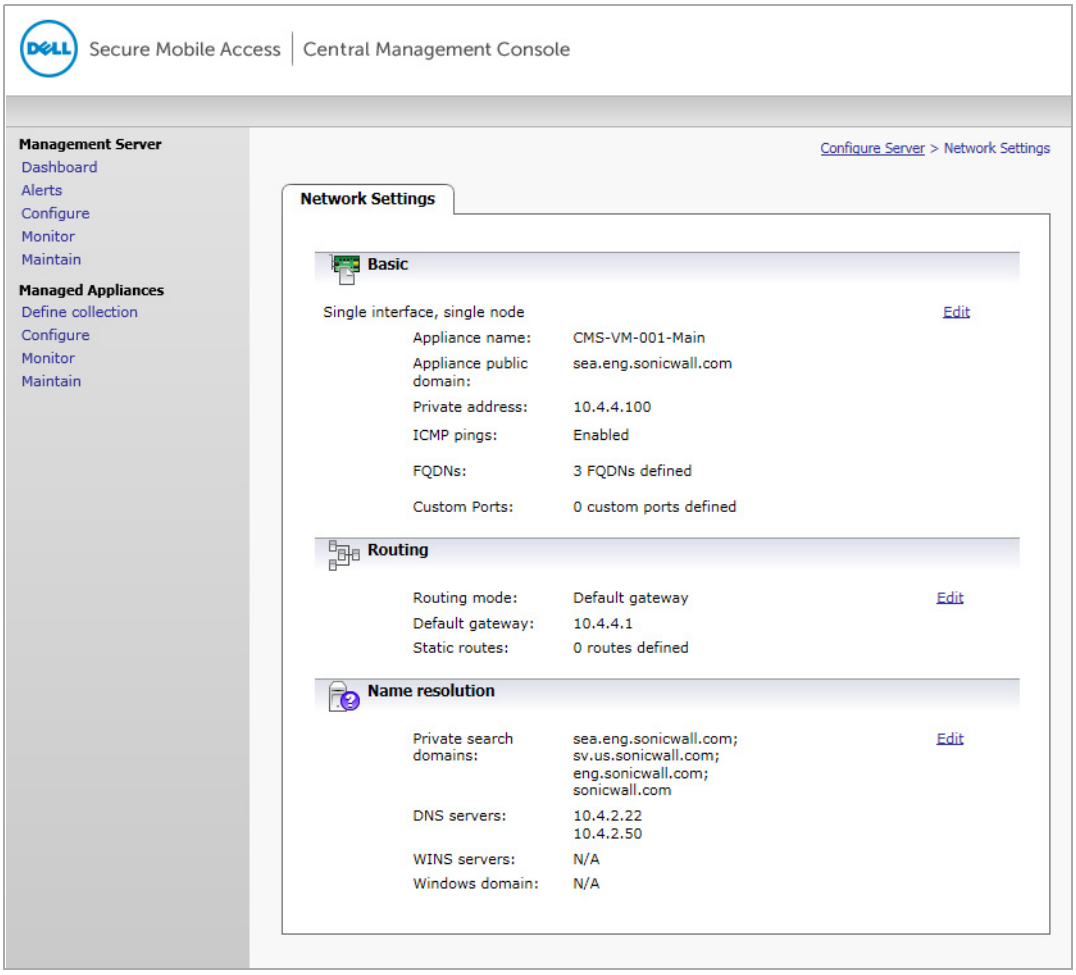
3 Make the changes you want.

4 When finished, click **Save**.

Network Settings Page

To configure the Basic, Routing, or Name resolution network settings:

1 Select **Management Server > Configure > Network Settings**.
The **Network Settings** page appears.



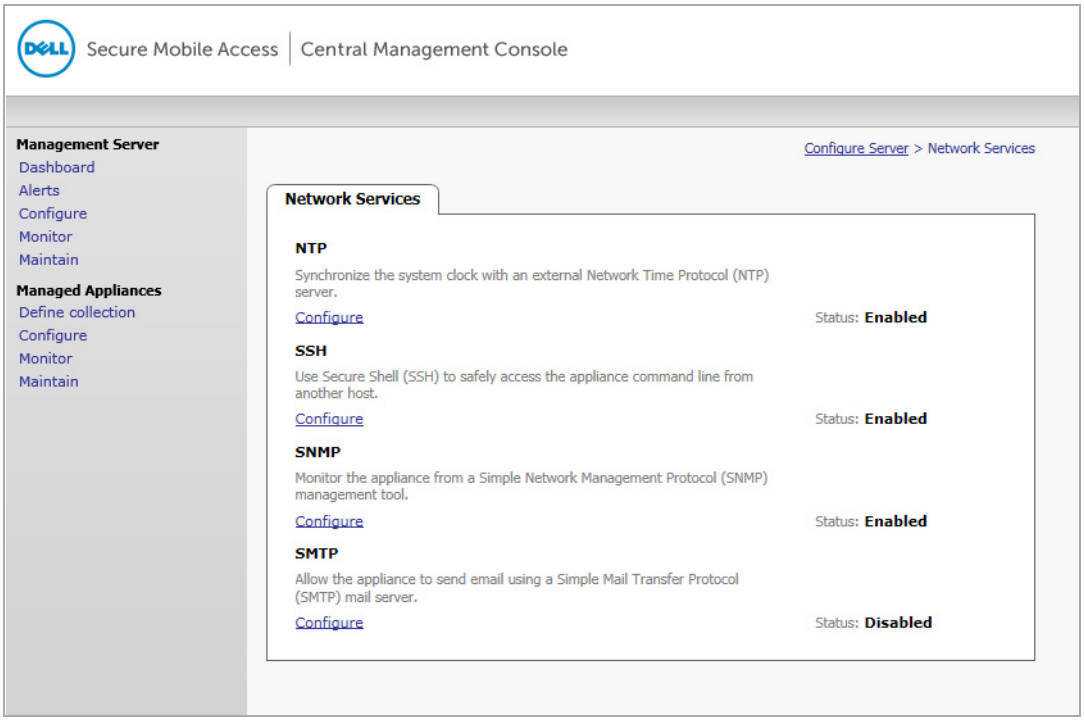
2 Click **Edit** to configure any of the **Basic**, **Routing**, or **Name resolution** settings.

3 When finished, click **Save**.

Network Services Page

To configure NTP, SSH, SNMP, or SMTP:

1 Select **Management Server > Configure > Network Services**.
The **Network Services** page appears.



2 Click **Configure** for the item you want to configure: **NTP**, **SSH**, **SNMP**, or **SMTP**.

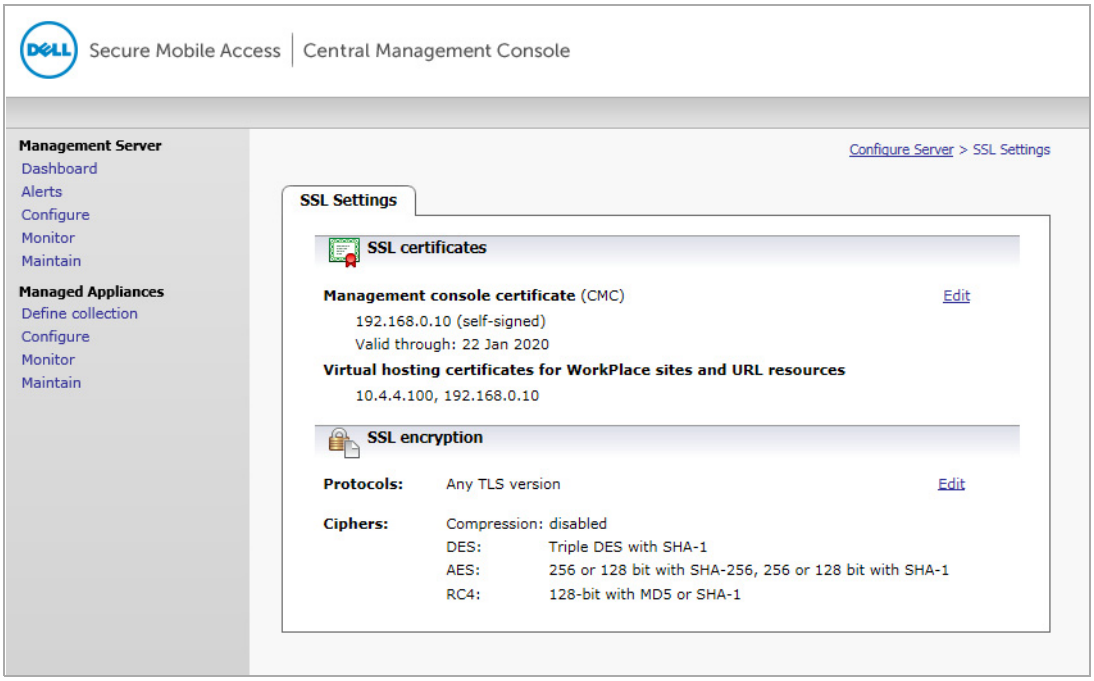
3 Make the desired changes.

4 When finished click **Save**.

SSL Settings Page

To configure SSL certificates or SSL encryption:

1 Select **Management Server > Configure > SSL Settings**.
The **SSL Settings** page appears.



2 Click **Edit** for the item you want to edit: **SSL certificates** or **SSL encryption**.

3 Make the desired changes.

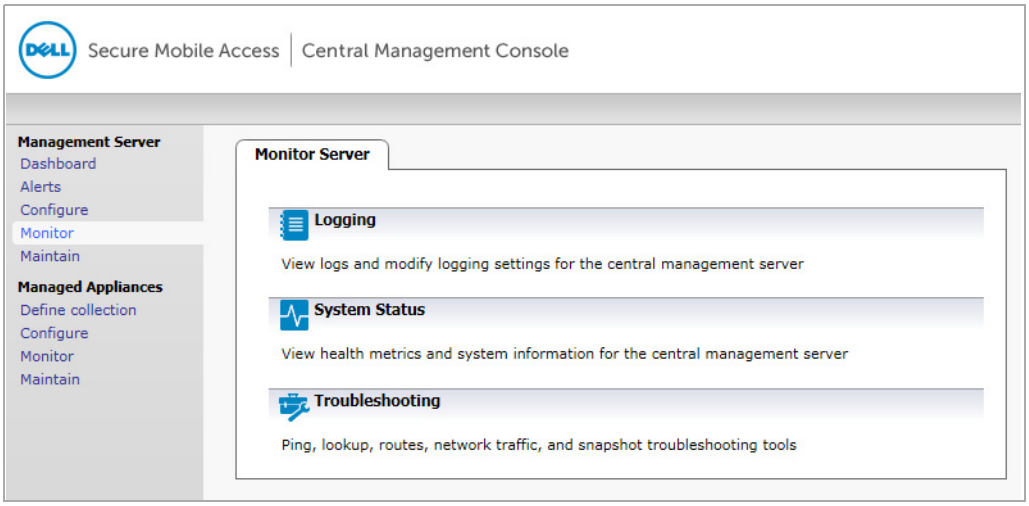
4 When finished, click **Save**.

Monitoring the CMS

To monitor the CMS:

1 Select **Management Server** > **Monitor**.

2 The **Monitor Server** page appears. From the **Monitor Server** page, you can select to view and edit the settings for **Logging**, **System Status**, and **Toubleshooting**.



3 To view or edit logging settings for the CMS, click **Logging**.

   a Make the changes you want and click **Save**.

4 To view health metrics and system information for the CMS, click **System Status**.

   a Make the changes you want and click **Save**.

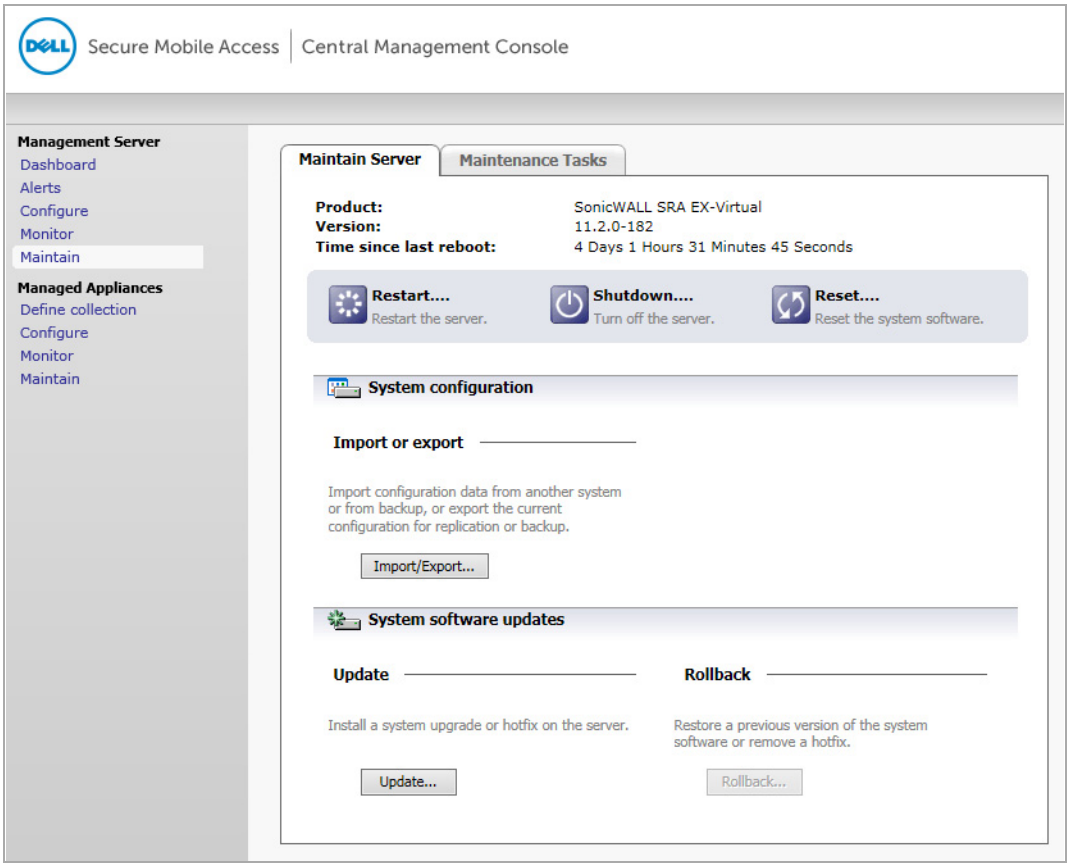
5 To ping, lookup, view network traffic or use snapshot troubleshooting tools, click **Troubleshooting**.

   a Make the changes you want and click **Save**.

Maintaining the CMS

To maintain the CMS:

1 Select **Management Server > Maintain**.
This page has two tabs: **Maintain Server** and **Maintenance Tasks**.



2 Do any of the following:

   a To restart the CMS, click **Restart**.

   b To shutdown the CMS, click **Shutdown**.

   c To reset the CMS, click **Reset**.

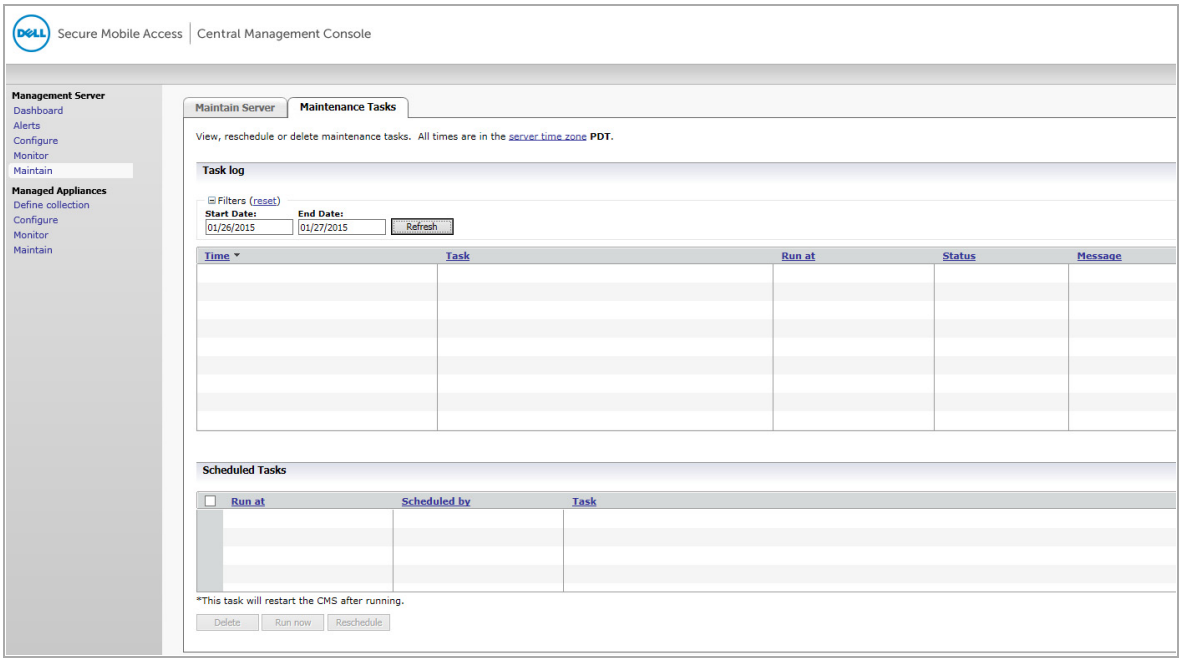
3 To import or export a system configuration file, click **Import/Export**

   a Enter the path name for the system configuration file.

4 To update the system software to a newer version, click the **Update** button.

5 To rollback the system software to a previous version, click the **Rollback** button.

6 Click the **Maintenance Tasks** tab.



7 In the **Task log** panel, you can view the tasks that are scheduled.

8 In the **Scheduled Tasks** panel, you can select a task and **Delete**, **Run now**, or **Reschedule** that task.

Using the Managed Appliances Menu

This section describes the following procedures:

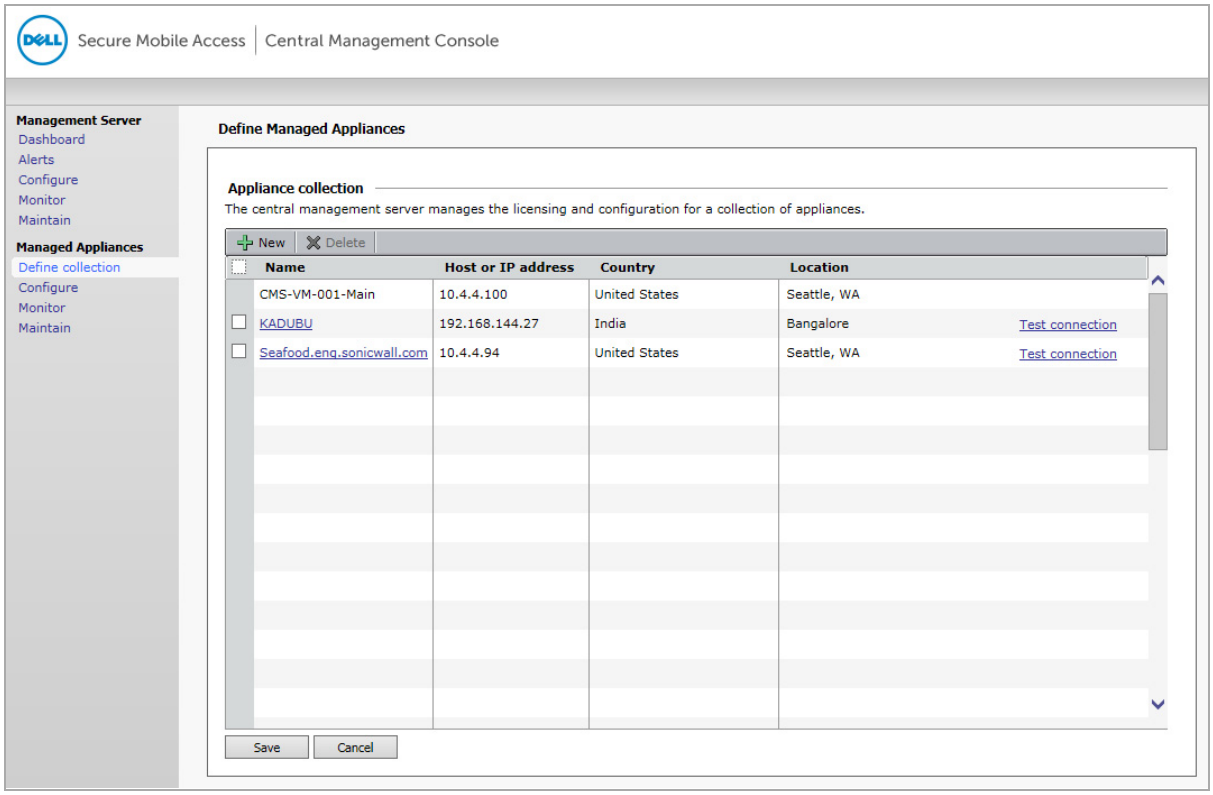
- Defining a Collection of Managed Appliances
- Configuring a Managed Appliance
- Monitoring a Managed Appliance
- Maintaining a Managed Appliance

Defining a Collection of Managed Appliances

To define a collection of managed appliances:

- Select **Managed Appliances > Define collection**.

  This page displays all appliances currently managed by the CMS, and allows you to add or delete new appliances.



To add a new appliance:

1. Click the **New** button with the green plus sign.
   The **Add Appliance** dialog appears.
2. Enter the appropriate information in the required fields.
3. Click **OK**.
4. Click **Save** at bottom of the **Define Managed Appliances** page.

To Delete a current appliance:

1. Select the appliance you want to delete.
2. Click the **Delete** button.
3. Click **OK**.
4. Click **Save** at the bottom of the **Define Managed Appliances** page.

Configuring a Managed Appliance

An administrator can import policies from an existing appliance and define configurations. Policies can be applied to all (or a collection) of appliances. Services do not need to be restarted after this configuration.

An existing managed appliance configuration may be partially imported into the CMS to startup the CMS global configuration.

The first time the CMS synchronizes a policy with an appliance, it overwrites the policy on the appliance. This is equivalent to the appliance partially importing the CMS configuration. After the initial policy synchronization, further policy synchronizations replicate the CMS configuration onto the appliance.

Also, after the initial policy synchronization, the administrator can manually modify the address pools of the appliance and the authentication servers. The administrator changes are not overwritten during subsequent CMS policy synchronizations.

The policy settings that are replicated during synchronization are:

- Security policy, including access control rules and EPC configuration
- Network resources
- Users and groups
- Realms
- Authentication servers (the authentication server names should match those on the sending node, even if the IP addresses do not).

  When you define a collection of appliances, you have the option of either overwriting authentication server settings (which would be typical in a deployment where there is a shared, central server), or excluding server settings from being overwritten during replication.
- WorkPlace shortcuts
- CA certificates
- Certificate revocation lists downloaded from a remote CDP (CRL distribution point)
- Agent configuration, including graphical terminal agents (Citrix and Windows Terminal Server) and Web browser profiles
- Local user accounts
- Single sign-on profiles

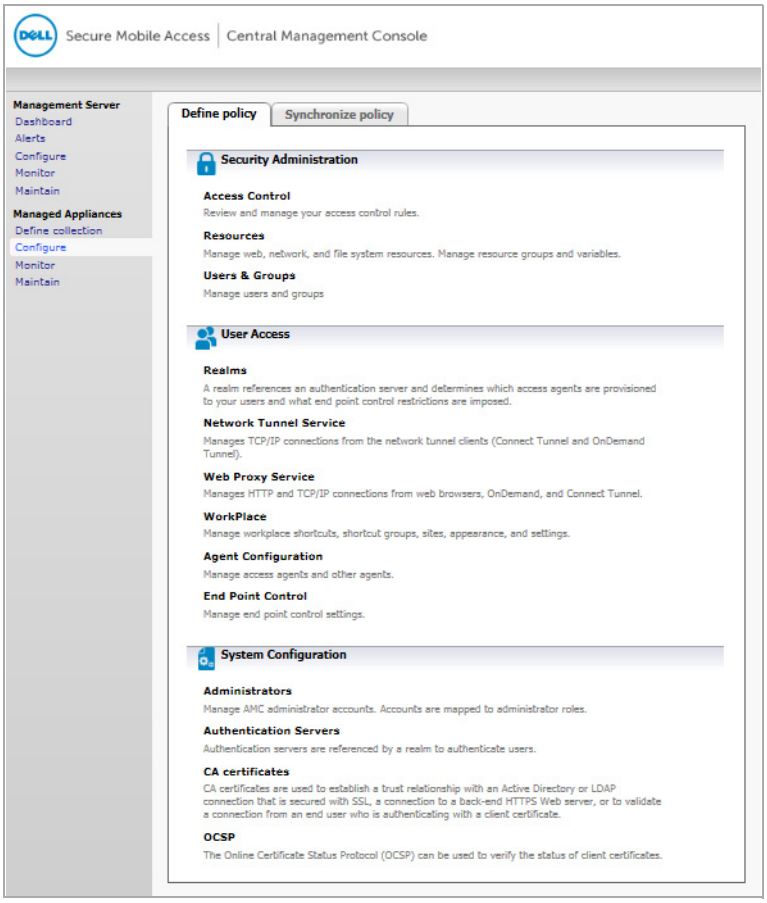
The policy settings that are not replicated during synchronization are:

- Network settings, including IP addresses, routing information, name resolution settings (DNS and WINS), and the settings for the network services (NTP, SSH and SNMP)
- If you have configured fallback servers for your Connect Tunnel users, each appliance has a unique list that is not replicated on the other servers
- License files
- SSL certificates
- WorkPlace configuration data (customized templates)
- Administrator user accounts and role definitions
- (Optional) You can exclude authentication server settings from being overwritten during replication, which is typical for a deployment where each appliance has its own authentication server.

To configure a managed appliance:

1 Go to the **Managed Appliance > Configure** page.

The **Define policy** tab provides access to the **Security Administration**, **User Access**, and **System Configuration** policy pages:



2 Click **Security Administration** to define access control, resources (web, file, group and variables), users and groups.

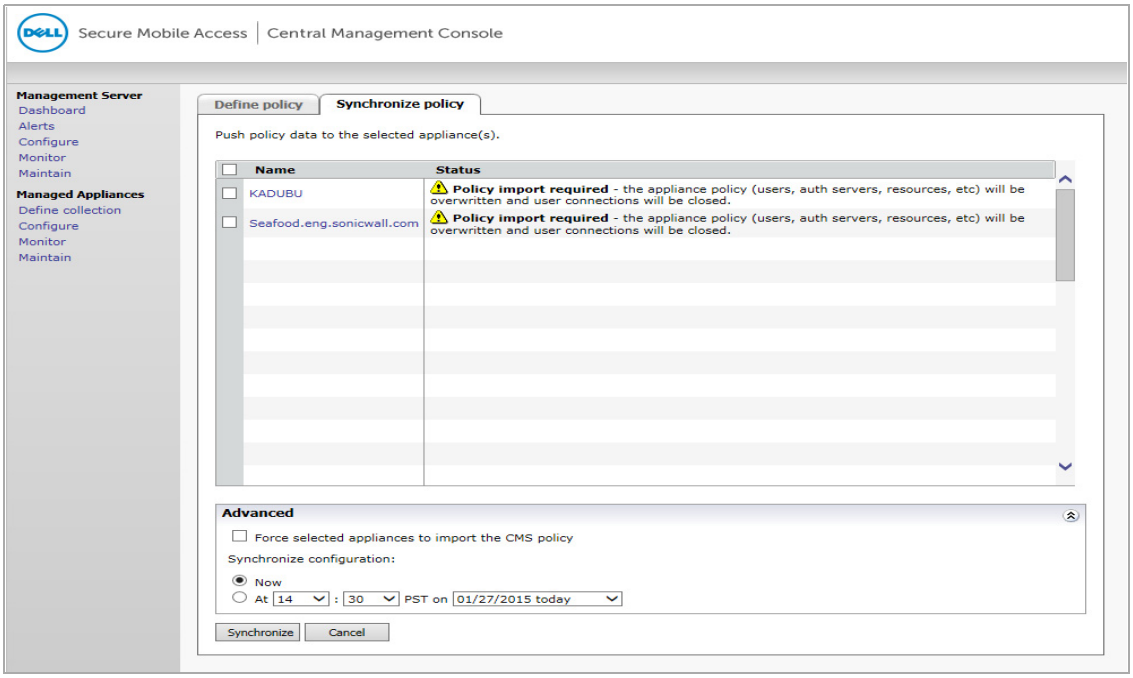
3 Click **User Access** to define realms, network tunnel service, WorkPlace, agent configuration, and end point control.

4 Click **System Configuration** to define administrators, authentication servers, CA certificates, and Online Certificate Status Protocol (OSCP).

5 When you are finished defining a policy, click **Save** or **OK**.

6 Click the **Synchronize policy** tab.

Use this page to push policy data to selected appliances.



7 Click **Advanced** to open the **Advanced** panel.

8 Select the **Force selected appliance to import the CMS policy** checkbox.
This triggers the next synchronization (or scheduled sync) to overwrite the policies of the selected appliances with the CMS policy (just as the initial policy synchronization would). This is a way to reset appliance policy to the baseline CMS policy.

9 Select **Now** if you want to synchronize immediately.
or
Select **At** and choose the time and date from the drop-down menus when you want the synchronization to take place.

10 Click **Synchronize**.

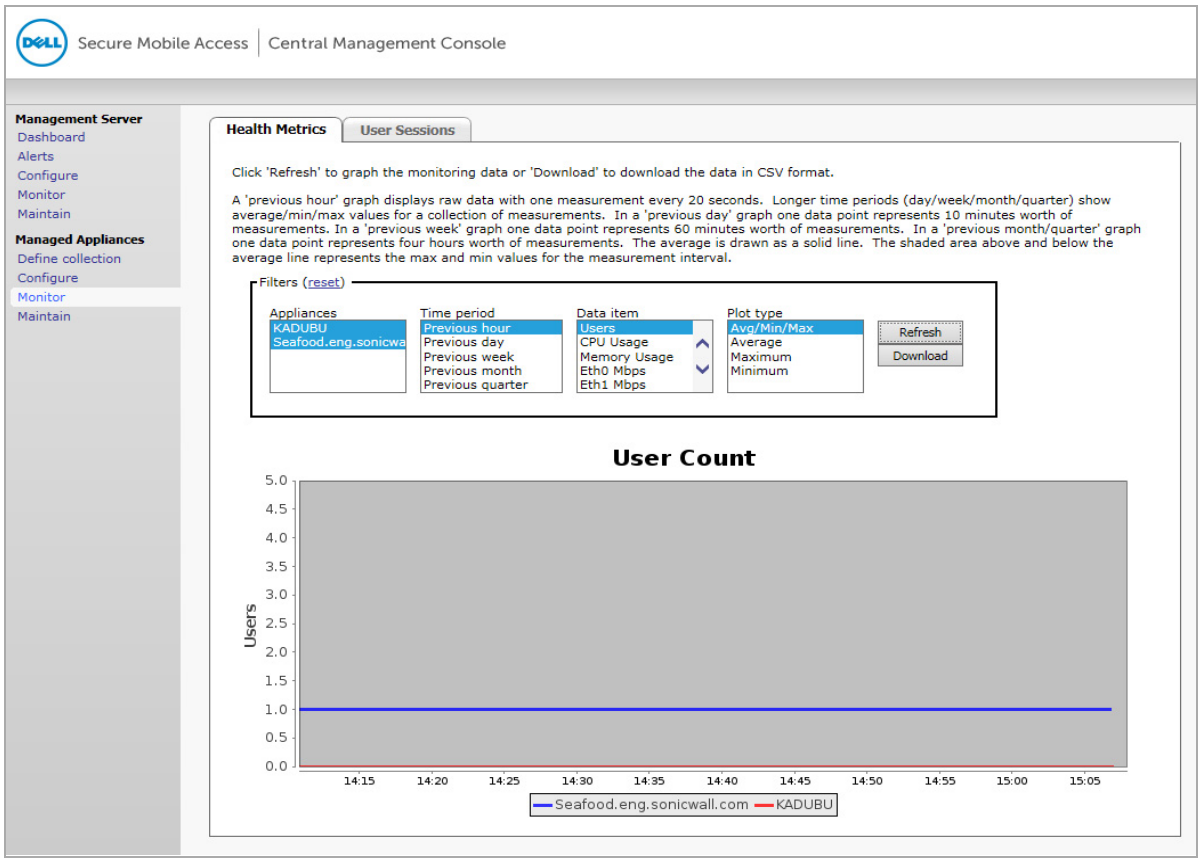
Replicating a policy does not usually terminate existing user sessions. If the next sync will terminate user sessions an appropriate warning message is displayed for that appliance on the Sync Policy page.

Monitoring a Managed Appliance

Each managed appliance streams monitoring events to the CMS and the CMC provides a view of aggregated events from managed appliances on the Dashboard. The Dashboard also provides a view of VPN infrastructure. It displays key CMS/appliance parameters such as license usage, CPU, memory, bandwidth, swap activity, and disk activity.

To monitor a managed appliance:

1 Go to the **Managed Appliances > Monitor** page.
This page provides two tabs: **Health Metrics** and **User Sessions**. From this page, you can monitor the health metrics on a graph that charts users against time.



2 From the **Appliances** menu, select the appliance you want to graph.

3 From the **Time period** menu, select the time period you want the graph to display.

4 From the **Data item** menu, select the data you want the graph to display.

5 From the **Plot type** menu, select the type of graph you want to plot.

User Sessions

On the **User Sessions** page, you can view current and past user sessions and terminate current sessions.

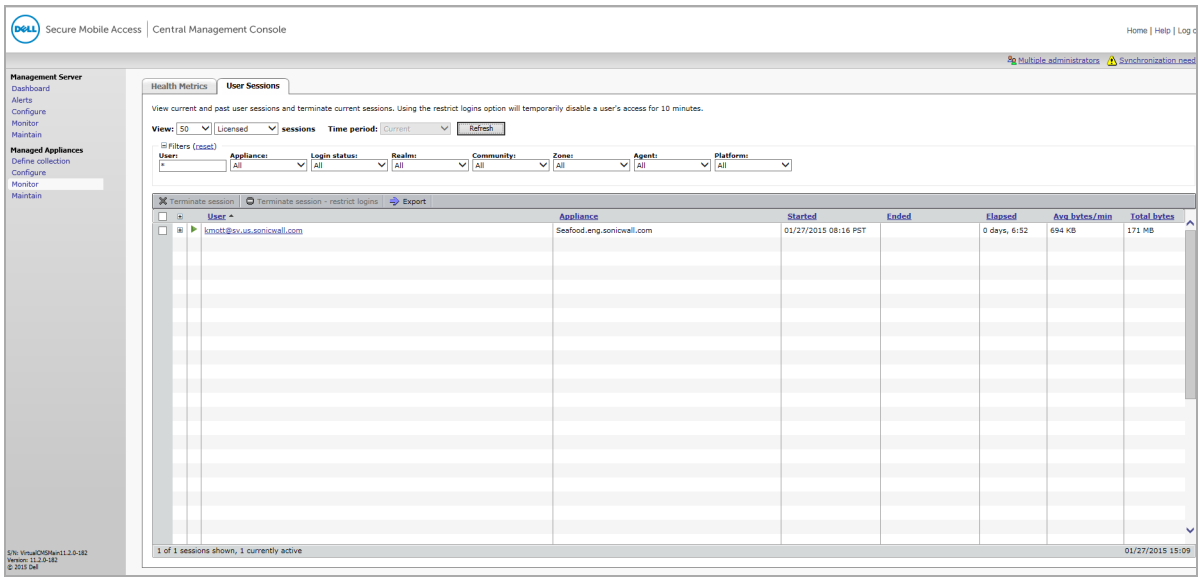
If you select a session and then select the **Terminate session-restrict logins** option, it temporarily disables the user's access for up to 10 minutes.

To view and manage user sessions:

1 Go to the **Managed Appliances > Monitor** page.

2 Click the **User Sessions** tab.

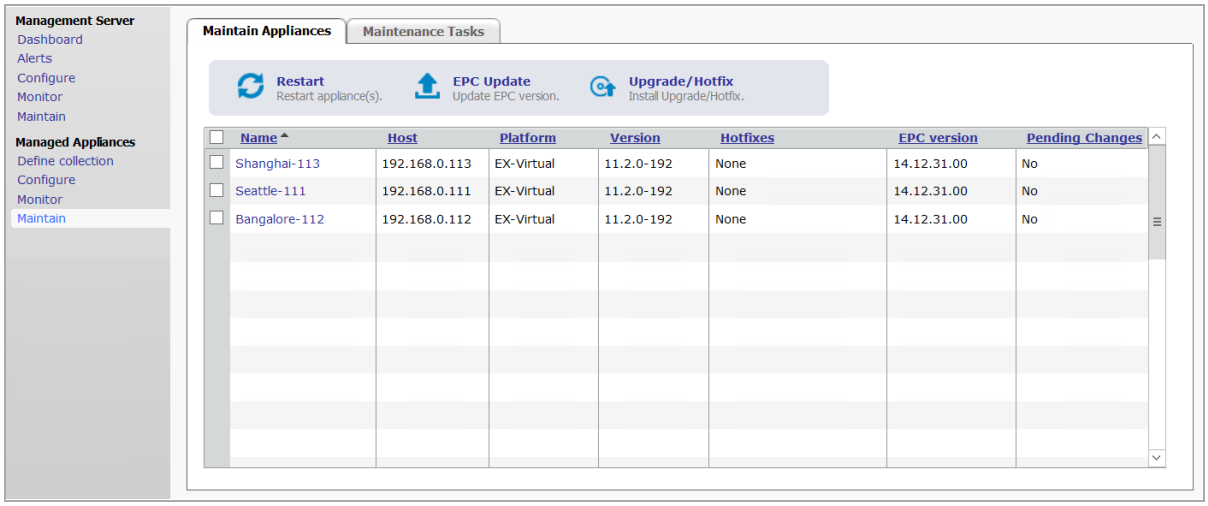
3 From the drop-down menus, select the items you want to view or manage.



Maintaining a Managed Appliance

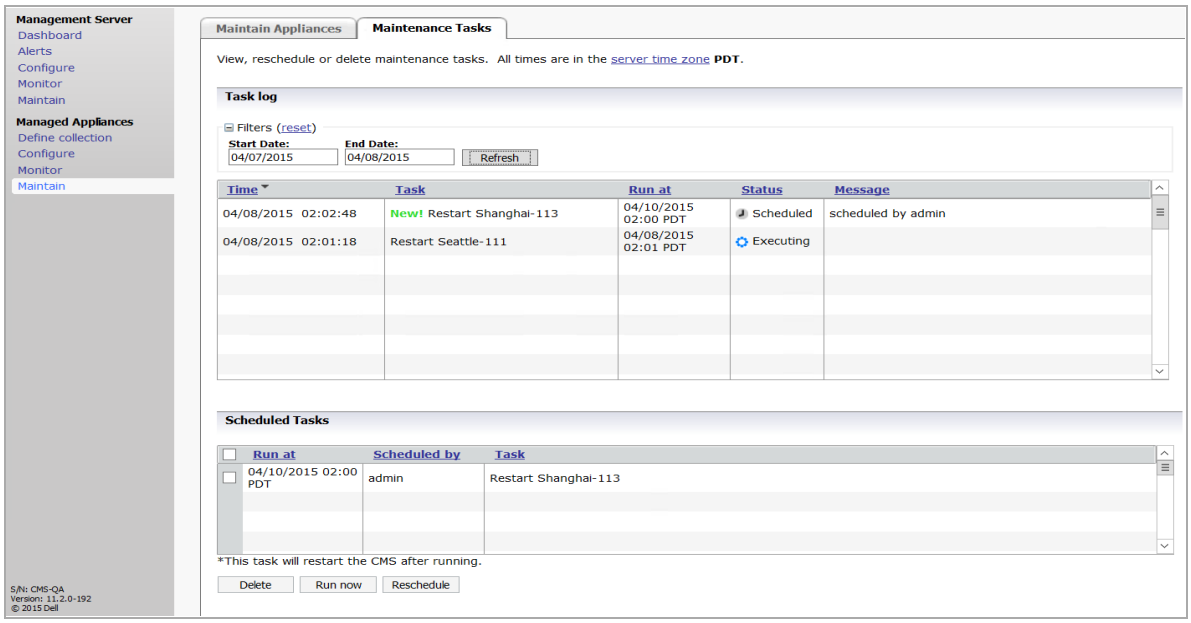
To maintain a managed appliance:

1 Go to the **Managed Appliances > Maintain** page.
This page has two tabs: **Maintain Appliances** and **Maintenance Tasks**.



2 Under the **Maintain Appliances** tab, select the checkbox for an appliance and use the top buttons to perform any of the following tasks: **Restart**, **EPC Update**, **Upgrade/Hotfix**.

3 Select the **Maintenance Tasks** tab.



4 In the **Task log** panel, you can view the tasks that are scheduled.

5 In the **Scheduled Tasks** panel, you can select a task and **Delete**, **Run now**, or **Reschedule** that task.

Part 4

Licensing and Alerts

6

Pooled Licensing

This section contains information about pooled licensing and the CMS in the following sections:

Overview

Appliances that are globally located have fluctuating demands for user licenses due to time differences.

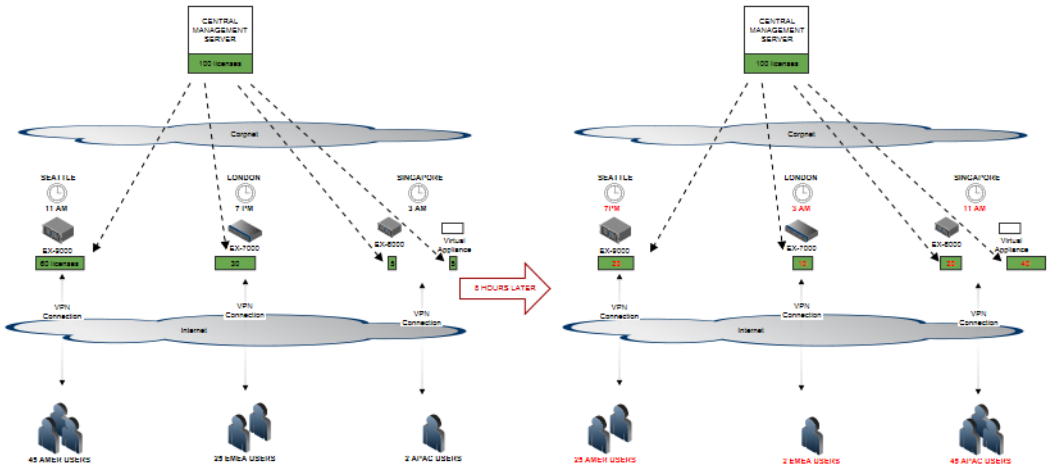
A Central Management Server (CMS) can manage a pool of user licenses and dynamically allocate them among managed appliances. Managed appliances do not have their own user licenses and use the allocated licenses. The CMS distributes the pool of licenses between the managed appliances based on demand. The CMS requires a CMS license in order to be functional.

Each CMS license permits the management of up to 3 managed appliances (default). Customers may choose to purchase additional licenses for managed appliances.

How CMS Pooled Licenses Work

User licenses no longer have to be applied to individual VPN appliances. A new central licensing model allows CMS licenses for users to be distributed and reallocated dynamically among the managed appliances based on user demand. Customers with appliances that are globally distributed can benefit from the fluctuating demands for user licenses due to time differences. The CMS reallocates licenses to managed appliances where user demands have peaked from appliances in a different geographic area where usage has fallen due to off-work/night hours. Customers with appliances that are behind load balancers can benefit from the dynamic distribution of licenses across managed appliances as the load balancer distributes connection requests across the managed appliances.

The following drawing illustrates centrally managed licenses for globally located VPN appliances.



CMS creates "leased licenses" for a number of users based upon usage demand. The administrator defines the maximum and minimum for each managed appliance. CMS redistributes the leased license periodically based on usage, thereby changing the number of licensed users allowed for each managed appliance.

NOTE: The configured maximum number of user licenses is not a hard limit. A small percentage of additional connections to a managed appliance are allowed. When the number of connections to a managed appliance exceeds the configured maximum, the number of consumed licenses that is shown on the CMC license distribution page can be up to 10% higher than the number of distributed licenses. Alerts may also report license usage up to 110%.

CMS attempts to allocate all available user licenses. Leased licenses have a validity of 7 days.

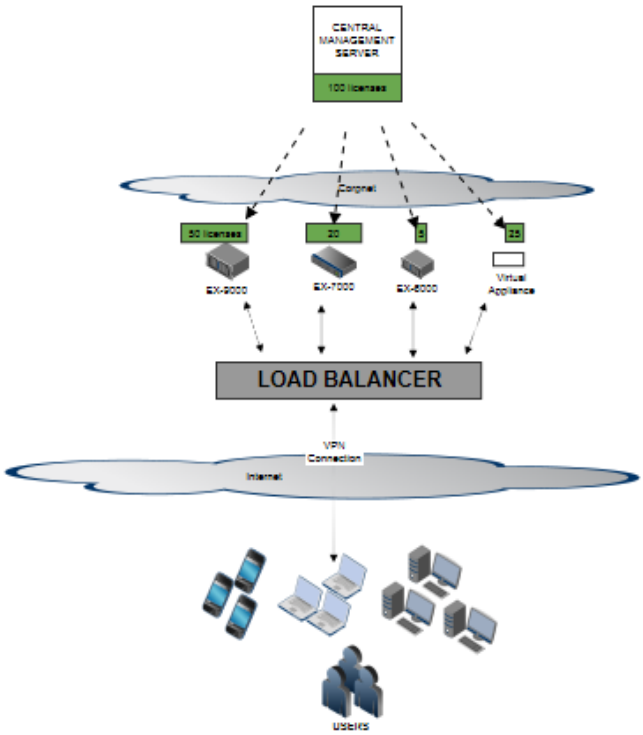
CMS Spike licenses are stackable user licenses obtained from MySonicWALL and are commonly valid for 10 to 30 days. Spikes license add to the license pool and are redistributed based on user demand. They can be started and paused from the CMC.

In the event of a **communication loss between CMS and a Managed Appliance**:

- Appliance: Continues with a leased license until the lease expires (7 days) or comminications are re-established.
- CMS: Recovers lost licenses after 24 hours.

In the event of **a communications loss between the CMS and MySonicWall**: The CMS continues to generate leased licenses for up to 30 days.

The following drawing shows centrally managed licenses for VPN appliances behind a load balancer.



Types of Licenses

There are two types of license:

- **CMS License** - A new type of license issued from MySonicWall.com that gets applied to the CMS. It has two dimensions – user licenses and appliance licenses.
- **CMS Spike License** - A spike license that is issued from MySonicWall.com and can be applied to the CMS. A CMS Spike license consists of stackable (adds to the pool) user licenses that can be added to currently existing licenses in the pool and distributed automatically based on demand.The license can be paused or stopped from the CMC. After a 24 hour period of no activity, the CMS recovers the Spike license and reassigns it to a different appliance.

7

Alerts and SNMP

This section contains detailed information about alerts and the use of SNMP in the CMS. It consists of the following topics:

Overview

The CMS generates alerts that are either Warnings or Errors. Alerts are displayed prominently on the CMS dashboard. Alerts can originate from a condition that occurs on the CMS, or from a managed appliance.

Alerts can be configured to generate SNMP traps that are monitored by any IT infrastructure Network Management System (NMS).

Pre-Configured Alerts

The Table of Pre-Configured Alerts below has a fixed set of conditions that can trigger alerts.

NOTE: The Priority symbols represent a Warning or an Error .

Table 1. Table of Pre-Configured Alerts

Priority	Name	Measurment	Condition
	Unable to communicate with MySonicWall	CMS connection to MySonicWALL	Connection is lost for 10080 minutes
	Unable to communicate with MySonicWall	CMS connection to MySonicWALL	Connection is lost for 4320 minutes
	Temporary communication loss	Manage appliance connection to CMS	Connection is temporarily lost
	Pertmanent communication loss	Managed appliance connection to CMS	Connection is permanently lost
	High user license usage	CMS license usage	Value is over 95 percent
	High user license usage	CMS license usage	Value is over 75 percent
	High swap usage	Swap usage	Value is over 5 percent
	High memory usage	Memory usage	Value is over 85 percent for 5 minutes
	High disk usage	Disk usage	Value is over 95 percent
	High CPU usage	CPU usage	Value is over 85 percent for 5 minutes
	High appliance license usage	Appliance license usage	Value is over 89 percent
	Critically high memory usage	Memory usage	Value is over 95 percent for 5 minutes
	Critically high CPU usage	CPU usage	Value is over 95 percent for 5 minutes
	Critically high appliance license usage	Appliance license usage	Value is over 98 percent
	Certificate expired	Time until certificate expires	Value is under 0 days
	Certificate about to expire	Time until certificate expires	Value is under 30 days

The administrator can edit the pre-configured alerts as follows:

- Modify or customize these pre-configured default alerts.
- Disable them
- Make changes to the threshold, duration and message.
- Configure additional alerts. The Table of Alerts lists all the conditions that can be used to configure Alerts.

For these activities, use the following guidelines:

- When an appliance-related alert is configured, it applies to all the managed appliance, that is, alerts cannot be individually configured/tailored for a specific appliance.
- The maximum number of alerts that can be configured by the Administrator on a CMS is 100.

Alerts shown on the dashboard can be dismissed by the Administrator. Dismissed alerts will no longer be displayed in the dashboard view, but can be seen in the Alerts page. If the alert condition toggles (ON->OFF->ON), a new alert for the same condition will be raised in the dashboard.

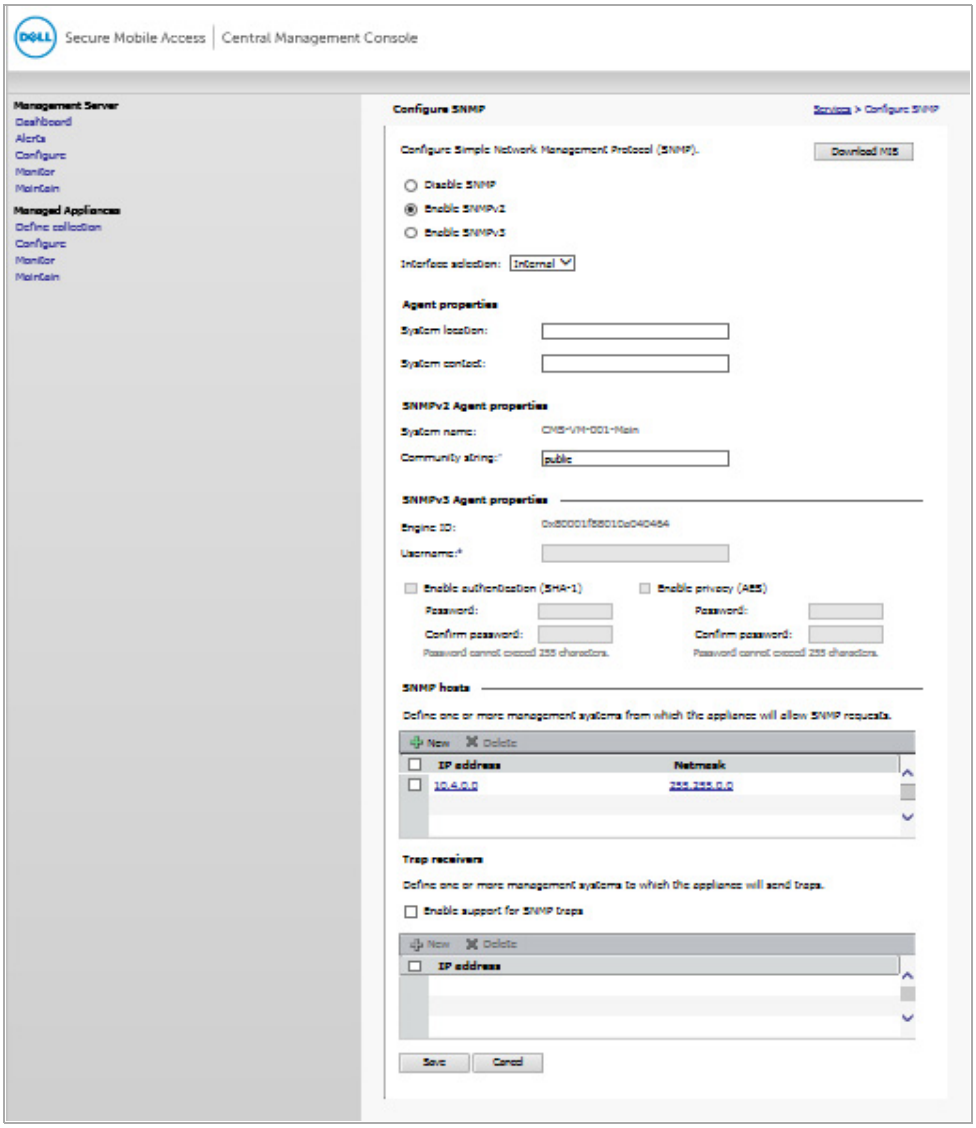
All alerts are stored in the Alerts Database. A rolling history of 90 days worth of alerts are retained in the Alerts Database. An Alerts View allows the Administrator to see all Alerts in the past Day, Week, Month or Quarter.

Configuring SNMP

To enable SNMP:

1 Click **Management Server > Configure > Network Services.**

2 Under SNMP, click **Configure.**



3 Enter the information you want in the appropriate fields.

4 Click **Save.**

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The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. In addition, the portal provides direct access to product support engineers through an online Service Request system.

The site enables you to:

- Create, update, and manage Service Requests (cases)
- View Knowledge Base articles
- Obtain product notifications
- Download software. For trial software, go to Trial Downloads.
- View how-to videos
- Engage in community discussions

Chat with a support engineer