



NetScaler SD-WAN Center 9.3

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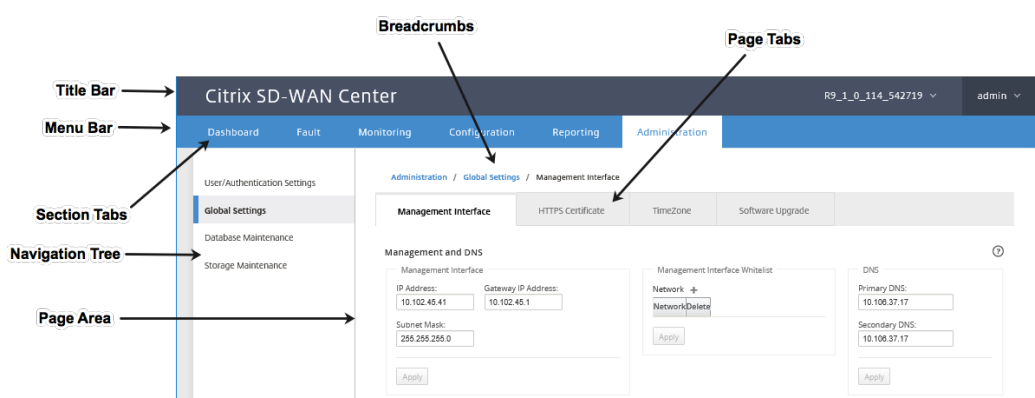
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Overview

September 12, 2018

NetScaler SD-WAN Center is a centralized management system that enables you to configure, monitor, and analyze all the NetScaler SD-WAN appliances on your WAN. It reduces the configuration errors and the time taken to deploy SD-WAN appliances. It also provides visibility into the SD-WAN network and application performance by allowing you to generate reports and statistics across multiple NetScaler SD-WAN appliances.

The NetScaler SD-WAN Center web interface allows you to easily navigate and view various graphs and reports. It also allows you to easily configure the SD-WAN Center.



The basic navigation elements are as follows:

- **Title bar** – The dark grey bar at the top of every SD-WAN Center Web Interface page displays the software version currently running on the appliance, and the user name for the current login session. Click the down-arrow next to the version number to see the IP address and version number of the SD-WAN Center. Click the down-arrow next to the user name and select Logout to log out of SD-WAN Center.
- **Main menu bar** – The blue bar below the title bar on every SD-WAN Center Web Interface screen contains the section tabs.
- **Section tabs** – The section tabs in the blue main menu bar at the top of each page provide access to the top-level categories for the SD-WAN Center Web Interface pages and forms. Each section has its own navigation tree for navigating the page hierarchy in that section. Click a section tab to display the navigation tree and default page for that section.
- **Navigation tree** – The navigation tree for the currently selected section appears in the left pane, below the main menu bar. Click a section tab to display the navigation tree for that section. Click a branch (topic) in the tree to reveal the default page for that topic.
- **Breadcrumbs** – At the top of each page, just below the main menu bar, breadcrumbs show the

navigation path to the current page. Active navigation links are blue. The name of the current page is black.

- **Page area** – The right pane displays the work area for the selected page. Select an item in the navigation tree to display the default page for that item.
- **Page tabs** – Some pages contain tabs for displaying child pages for that topic or configuration form. These are usually located at the top of the page area, just below the breadcrumbs.
- **Page area resizing** – For some pages, you can grow or shrink the width of the page area (or sections of it) to reveal additional fields in a table or form. Where this is the case, a gray, vertical resize bar appears on the right border of the page area pane, form, or table. You can roll your cursor over the resize bar until the cursor changes to a bidirectional arrow, and then click and drag the bar to the right or left to grow or shrink the width of the area.

If the resize bar is not available for a page, you can click and drag the right edge of your browser to display the full page.

Before You Begin

January 9, 2019

Before you install NetScaler SD-WAN Center on a VM, make sure that you must understand the hardware and software requirements and have met the prerequisites.

Hardware Requirements

NetScaler SD-WAN Center has the following hardware requirements.

Processor

- 4 Core, 3 GHz (or equivalent) processor or better for a server managing up to 64 sites.
- 8 Core, 3 GHz (or equivalent) processor or better for a server managing up to 128 sites.
- 16 Core, 3 GHz (or equivalent) processor or better for a server managing up to 256 sites.
- 32 core, 3 GHz (or equivalent) processor or better for a server managing up to 550 sites.

Memory

- A minimum of 8GB of RAM is strongly recommended for a VM managing up to 64 sites.
- A minimum of 16GB of RAM is strongly recommended for a VM managing up to 128 sites.
- A minimum of 32GB of RAM is strongly recommended for a VM managing up to 256 sites.
- A minimum of 32GB of RAM is strongly recommended for a VM managing up to 550 sites.

Disk space requirements

The following table provides some guidelines for determining the disk space requirements for NetScaler SD-WAN Center data storage. Use direct access storage.

Estimated disk space requirement

# Client Sites	Average # WAN Links per Site	Average # In-tranet/Internet Services per Site	Average # Virtual Paths per Site	Database Size (TB) for 1 Year
32	2	2	2	1.2T
32	4	4	4	1.8T
32	8	8	8	5.3T
64	2	2	2	1.5T
64	4	4	4	2.6T
64	8	8	8	9.6T
96	2	2	2	1.8T
96	4	4	4	3.3T
96	8	8	8	14.0T
128	2	2	2	2.0T
128	4	4	4	4.1T
128	8	8	8	18.0T
192	2	2	2	2.6T
192	4	4	4	5.6T
192	8	8	8	27.0T
256	2	2	2	3.0T
256	4	4	4	7.2T
256	8	8	8	35.0T
550	2	2	2	15.9T
550	4	4	4	41.9T
550	8	8	8	195.6T

Network bandwidth

The following table provides some guidelines for determining network bandwidth requirements for the NetScaler SD-WAN Center VM.

Estimated network bandwidth requirements

# Client Sites	Average # WAN Links	Average # Virtual Paths per Site	Total VWAN Data per 5-min Poll (MB)	Bandwidth Rate to Configure per 5-min Poll (Kbps)
32	2	2	1.2	Default 1000
32	4	4	3.6	Default 1000
32	8	8	20.0	Default 1000
64	2	2	2.3	Default 1000
64	4	4	7.2	Default 1000
64	8	8	40.0	2000
96	2	2	3.5	Default 1000
96	4	4	10.8	Default 1000
96	8	8	60.0	3000
128	2	2	4.6	Default 1000
128	4	4	14.4	Default 1000
128	8	8	80.0	4000
192	2	2	6.9	Default 1000
192	4	4	21.6	2000
192	8	8	120.0	6000
256	2	2	9.2	Default 1000
256	4	4	28.8	2000
256	8	8	160	10000
550	2	2	34.0	2000
550	4	4	89.3	6000
550	8	8	415.7	24000

Software

NetScaler SD-WAN Center VPX can be configured on the following platforms :

Hypervisor

- VMware ESXi server, version 5.5.0 or higher.
- NetScaler XenServer 6.5 or higher.
- Microsoft Hyper-V 2012 R2 or higher.

Cloud Platform

- Microsoft Azure

Browsers must have cookies enabled, and JavaScript installed and enabled.

The NetScaler SD-WAN Center Web Interface is supported on the following browsers:

- Google Chrome 40.0+
- Microsoft Internet Explorer 11+
- Mozilla Firefox 41.0+

Prerequisites

Following are the prerequisites for installing and deploying NetScaler SD-WAN Center:

- The SD-WAN Master Control Node (MCN) and existing client nodes must be upgraded to the latest NetScaler SD-WAN software version.
- It is recommended to have a DHCP server available and configured in the SD-WAN network.
- You must have the NetScaler SD-WAN Center installation files.

Note

You cannot customize or install any third party software on NetScaler SD-WAN Center. However, you can modify the vCPU, memory and storage settings.

Download NetScaler SD-WAN Center software

Download the NetScaler SD-WAN Center Management Console software installation files, for the required release and platform, from the [Downloads](#) page.

The NetScaler SD-WAN Center installation files use the following naming convention:

ctx-sdwc-version_number-platform.extension

- *version_number* is the NetScaler SD-WAN Center release version number.
- *platform* is the platform type, hypervisor, or cloud platform name.
- *extension* is the installation file extension.

Platform	File extension
NetScaler XenServer	.xva
VMware ESXi	-vmware.ova
Microsoft Hyper-V	-hyperv.vhd.zip
Microsoft Azure	-azure.vhd.zip

Gather the NetScaler SD-WAN Center installation and configuration information

This section provides a checklist of the information you will need to complete your NetScaler SD-WAN Center installation and deployment.

Gather or determine the following information:

- The IP address of the ESXi server, XenServer, Hyper-V server, or Azure that hosts the NetScaler SD-WAN Center Virtual Machine (VM).
- A unique name to assign to the NetScaler SD-WAN Center VM.
- The amount of memory to allocate for the NetScaler SD-WAN Center VM.
- The amount of disk capacity to allocate for the virtual disk for the VM.
- The Gateway IP Address the NetScaler SD-WAN Center will use to communicate with external networks.
- The subnet mask for the network in which the NetScaler SD-WAN Center VM will be installed.

Deploying NetScaler SD-WAN Center

September 12, 2018

You can download the NetScaler SD-WAN Center software from the Citrix website and can install it on the VMware ESXi 5.5 Server or the Citrix XenServer 6.5 Server and above.

Downloading the NetScaler SD-WAN Center Software

You can install SD-WAN Center on either a VMware ESXi or XenServer server. For a VMware ESXi server, download the NetScaler SD-WAN Center OVA template (.ova file). For XenServer download the NetScaler SD-WAN Center XVA file (.xva file).

The NetScaler SD-WAN Center installation files use the following naming convention:

cb-vwc-version_number-server.extension

where:

- *version_number* is the NetScaler SD-WAN Center release version number.
- *server* is the Virtual server type, either VMware ESXi or Citrix XenServer
- *extension* is the file name suffix.
 - *.ova* indicates an OVF template file for ESXi server.
 - *.xva* indicates an XVA file for XenServer

To download the NetScaler SD-WAN Center installation files, go to the following URL:

<http://www.citrix.com/downloads.html>

Gathering the SD-WAN Center Installation and Configuration Information

This section provides a checklist of the information you will need to complete your SD-WAN Center installation and deployment.

Information Checklist

Gather or determine the following information:

- The IP address of the ESXi server or XenServer that will host the SD-WAN Center Virtual Machine (VM).
- A unique name to assign to the SD-WAN Center VM.
- The amount of memory to allocate for the SD-WAN Center VM.
- The amount of disk capacity to allocate for the virtual disk for the VM.
- The Gateway IP Address the SD-WAN Center will use to communicate with external networks.
- The subnet mask for the network in which the SD-WAN Center VM will reside.

Installing and Configuring the NetScaler SD-WAN Center on ESXi Server

October 25, 2018

To install and configure the NetScaler SD-WAN Center on ESXi, do the following:

1. Gather the SD-WAN Center installation and configuration information.
 - For instructions, see [Gathering the SD-WAN Center Installation and Configuration Information](#).
2. Install the VMware vSphere Client.
3. Create an SD-WAN Center VM by using the OVF template.
4. View and record the SD-WAN Center management IP address.

5. Configure the Management Interface settings.

For instructions, see [Configuring the Management Interface Settings](#).

6. Install the SD-WAN Center certificate.

For instructions, see [Installing the SD-WAN Center Certificate](#).

7. Specify the MCN and test the connection to the MCN.

For instructions, see [Specifying the MCN and Testing the Connection](#).

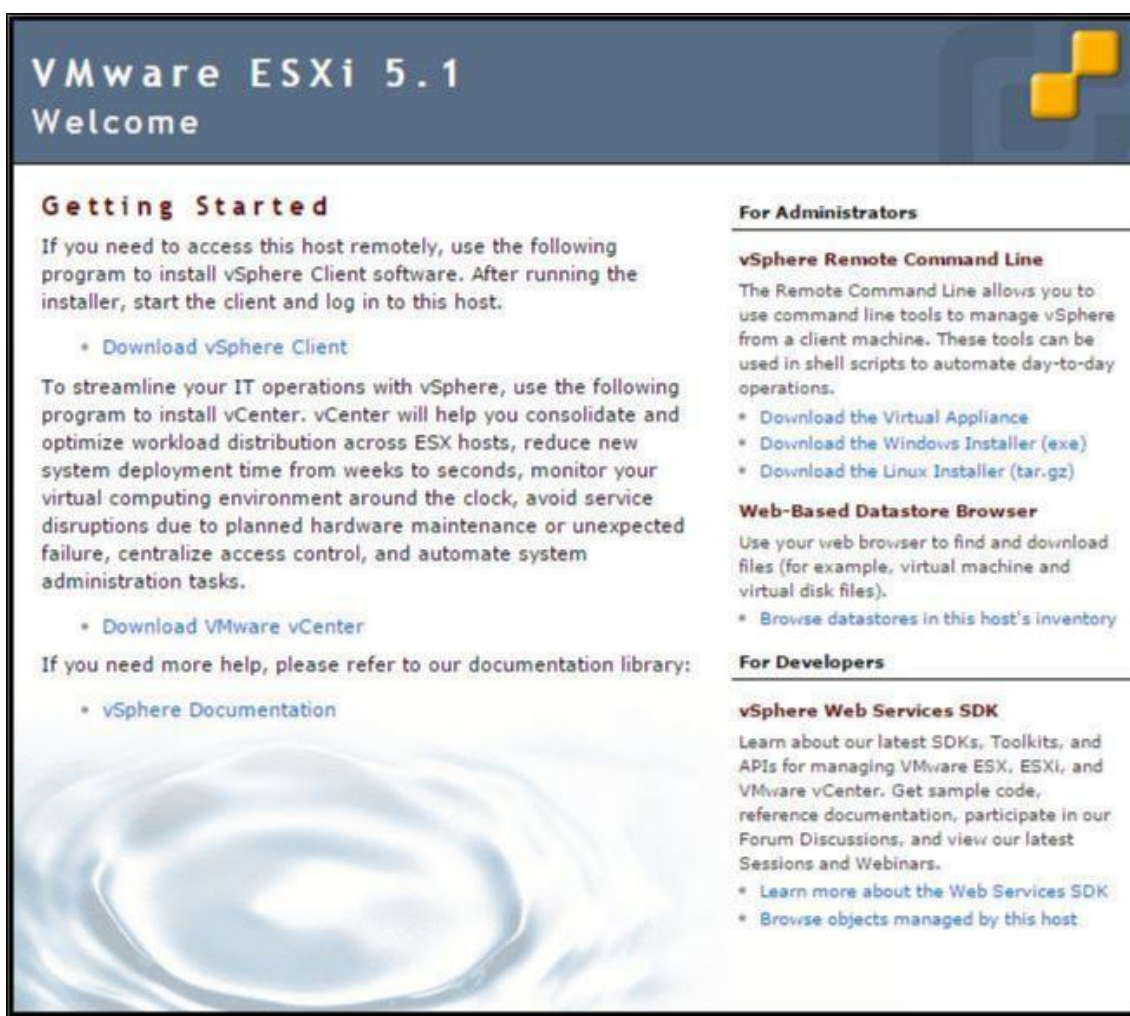
Installing the VMware vSphere Client

Following are basic instructions for downloading and installing the VMware vSphere client that you will use to create and deploy the SD-WAN Center Virtual Machine. For more information, see VMware vSphere Client documentation.

To download and install the VMware vSphere Client, do the following:

1. Open a browser and navigate to the ESXi server that will host your vSphere Client and SD-WAN Center Virtual Machine (VM) instance.

The VMware ESXi Welcome page appears.

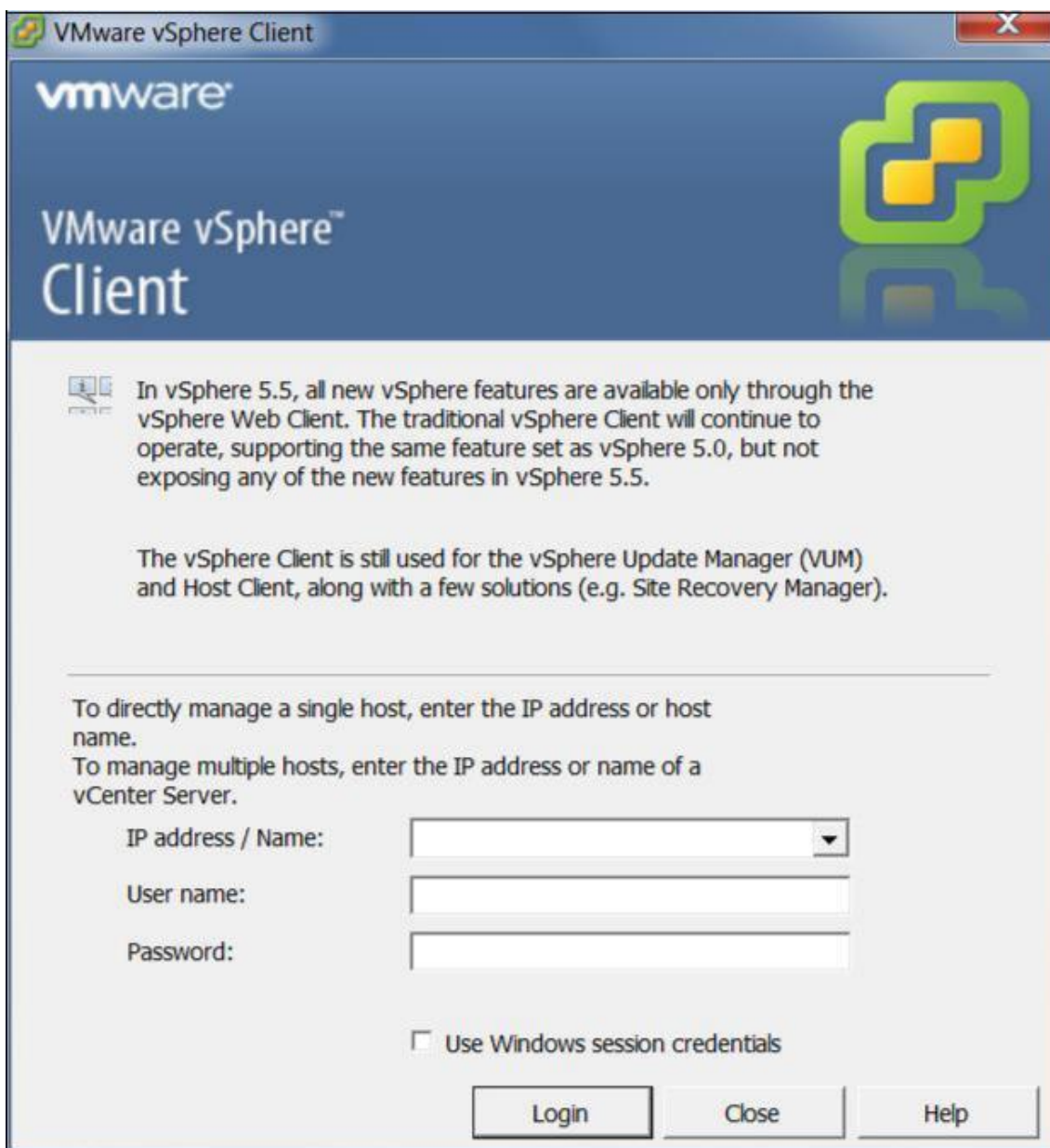


2. Click the **Download vSphere Client** link to download the vSphere Client installation file.
3. Install the vSphere Client.

Run the vSphere Client installer file that you just downloaded, and accept each of the default options when prompted.

4. After the installation completes, start the vSphere Client program.

The VMware vSphere Client login page appears, prompting you for the ESXi server login credentials.

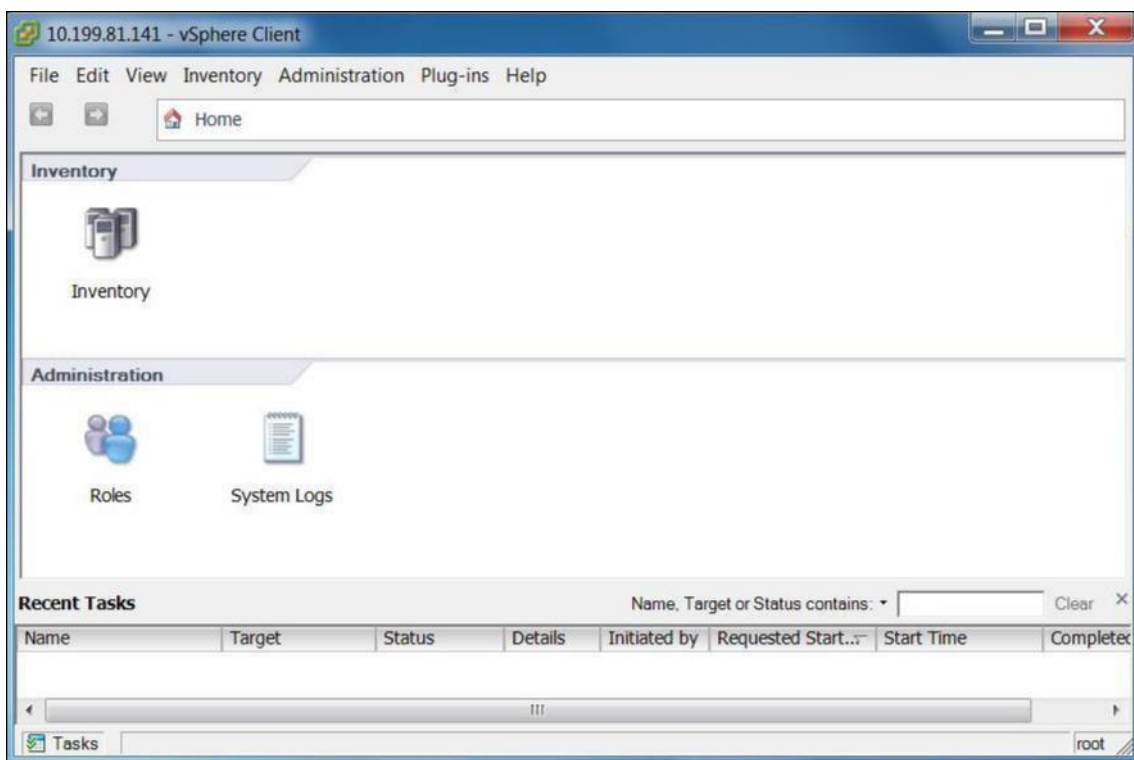


5. Enter the ESXi server login credentials:

- **IP address / Name:** Enter the IP Address or Fully Qualified Domain Name (FQDN) for the ESXi server that will host your SD-WAN Center VM instance.
- **User name:** Enter the server administrator account name. The default is root.
- **Password:** Enter the password associated with this administrator account.

6. Click **Login**.

The vSphere Client main page appears.



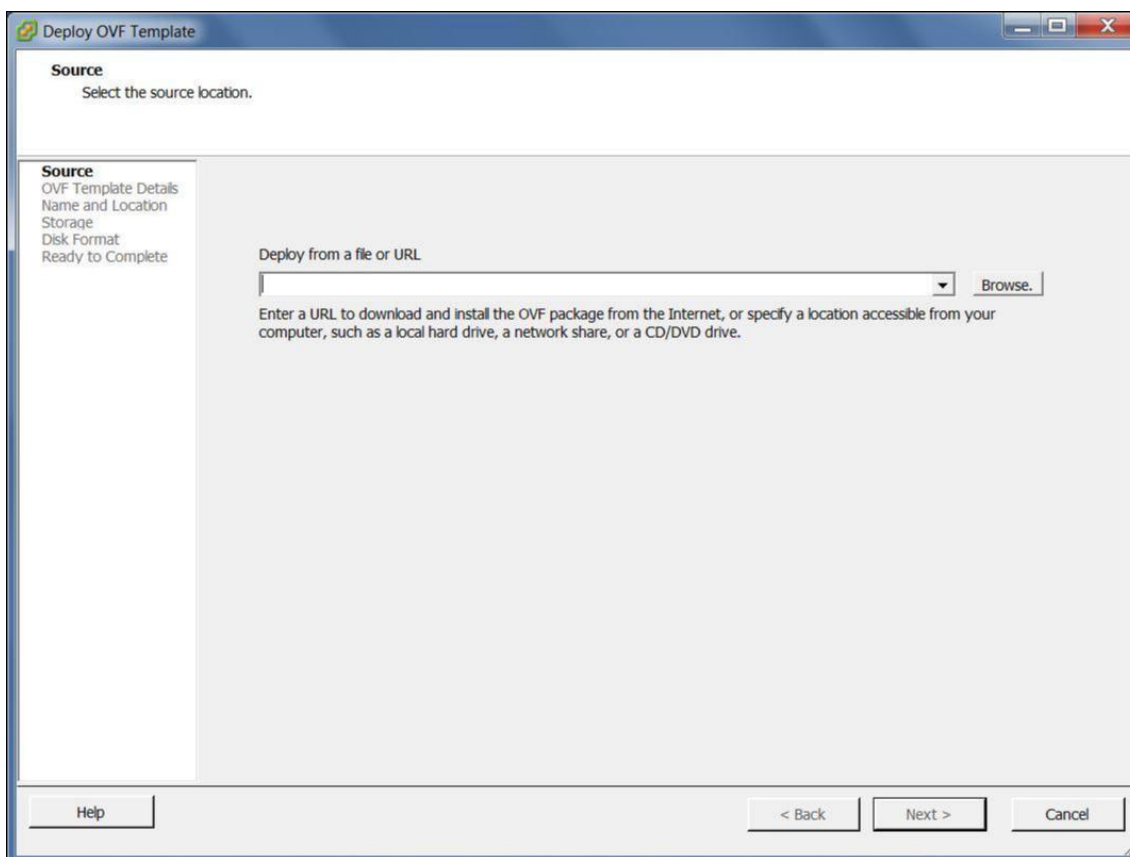
Creating the SD-WAN Center VM by using OVF Template

After installing the VMware vSphere client, create the SD-WAN Center virtual machine.

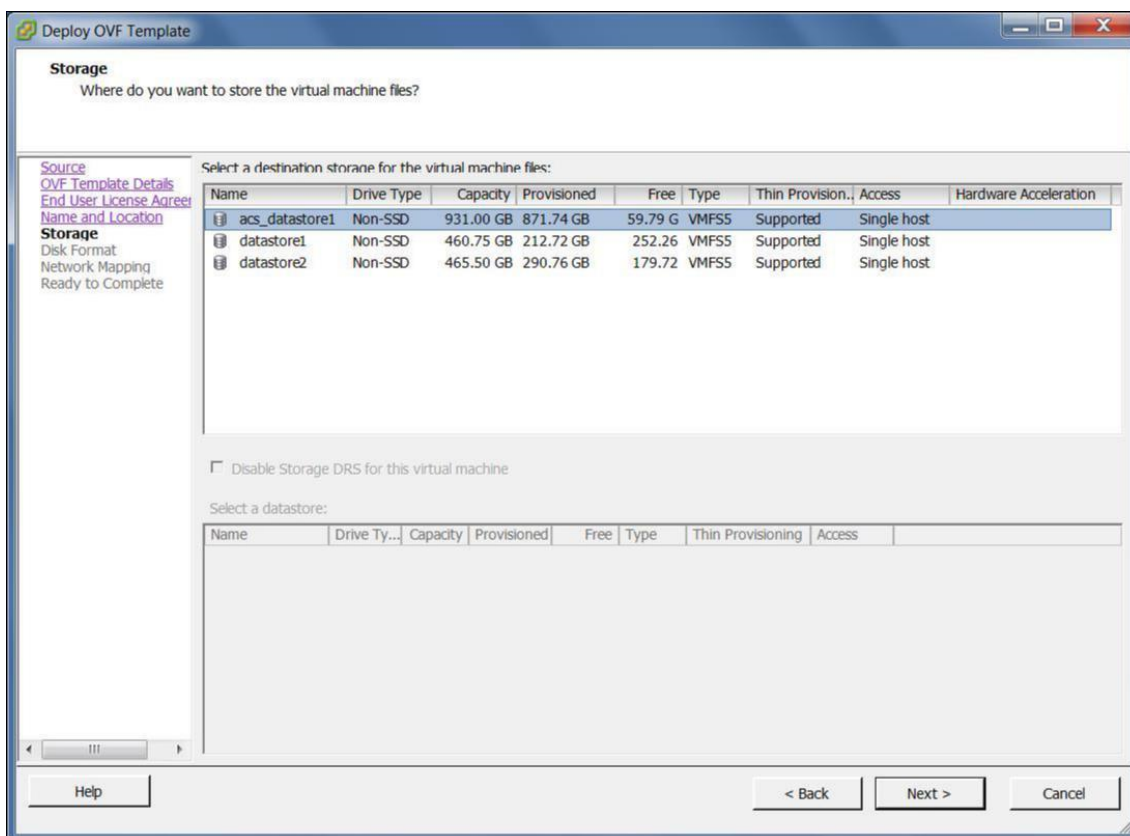
1. If you have not already done so, download the SD-WAN Center OVF template file (.ova file) to the local PC.

For more information, see [Downloading the NetScaler SD-WAN Center Software](#).

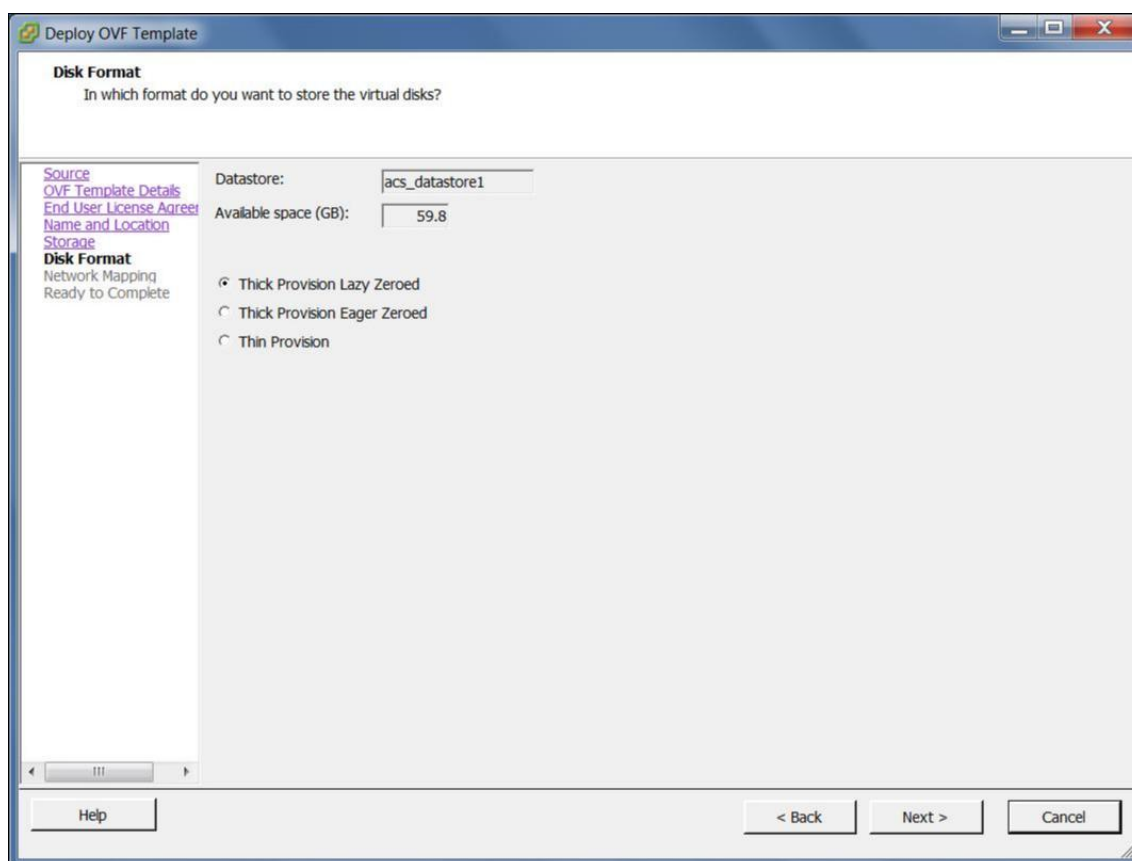
2. In the vSphere Client, click **File**, and then select **Deploy OVF Template** from the drop-down menu.
3. The **Deploy OVF Template** wizard appears.



4. Click **Browse** and select the SD-WAN Center OVF template (.ova file) that you want to install.
5. Click **Next**.
The ova file is imported and the OVF Template Details page appears.
6. Click **Next**.
7. On the End User License Agreement page, click **Accept**, and then click **Next**.
8. On the Name and Location page, enter a unique name for the new VM (or accept the default value).
The name must be unique within the current **Inventory** folder, and can be up to 80 characters in length.
9. Click **Next**.
The Storage page appears.



10. For now, accept the default storage resource by clicking **Next**. You can also configure the datastore. For more information see **Adding and Configuring the Datastore on ESXi Server** section.



11. On the Disk Format page, accept the default settings, and click **Next**.
12. On the Network Mapping page, accept the default (VM Network) and click **Next**.
13. On the Ready to Complete page, click **Finish** to create the VM.

Note: Decompressing the disk image onto the server could take several minutes.

14. Click **Close**.

Viewing and Recording the Management IP Address on ESXi Server

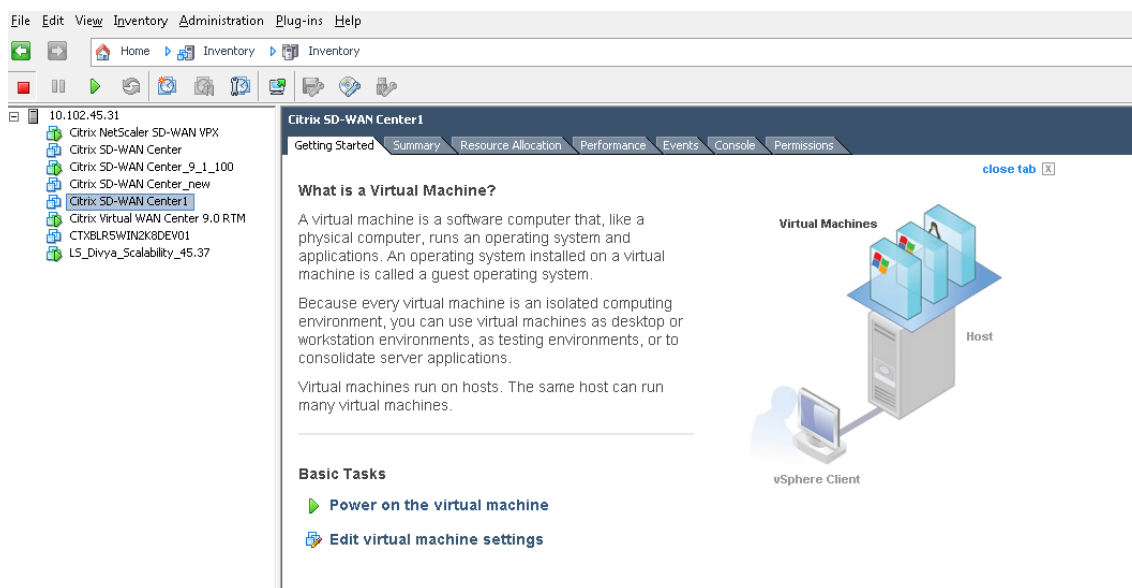
The management IP address is the IP address of the SD-WAN Center VM, use this IP address to log into the SD-WAN Center Web UI.

Note

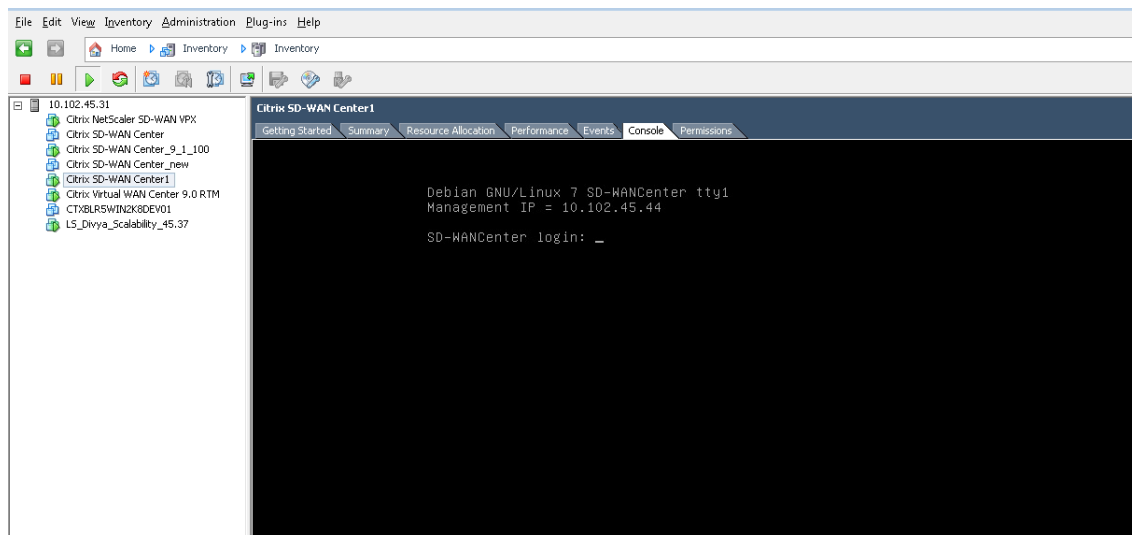
The DHCP server must be present and available in the SD-WAN network.

To display the management IP address, do the following:

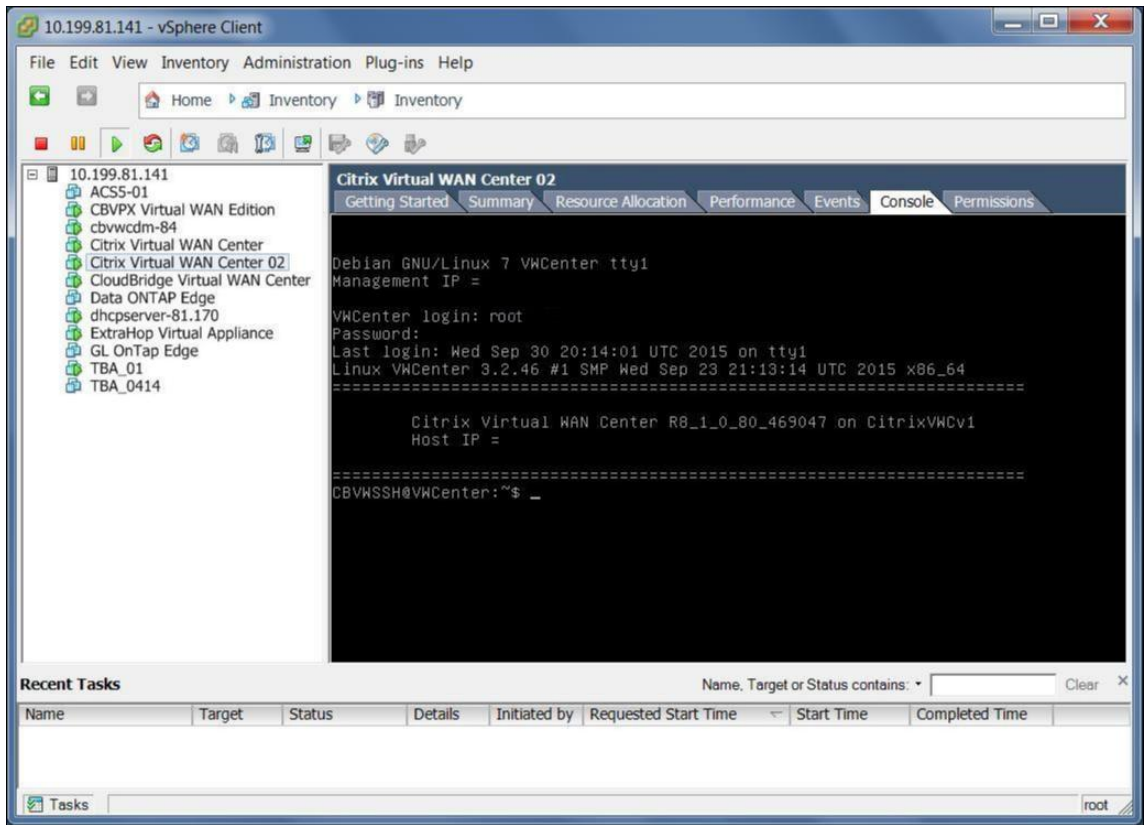
1. On the vSphere client Inventory page, select the new SD-WAN Center VM in the **Inventory** tree (left pane).



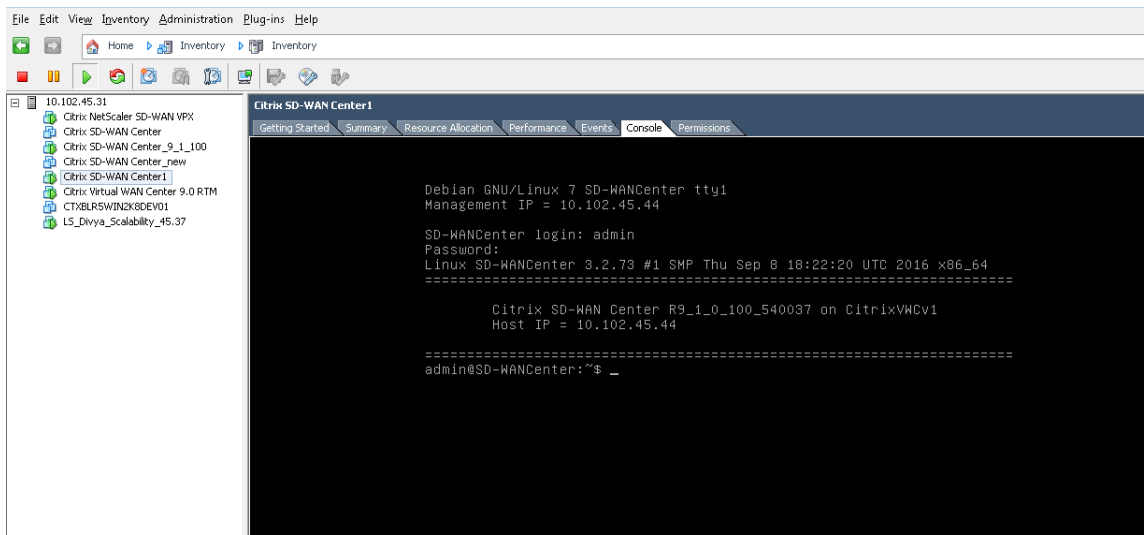
2. On the Citrix SD-WAN Center page, under Basic Tasks, click **Power on the Virtual Machine**.
3. Select the **Console** tab, and then click anywhere inside the console area to enter console mode.
This turns control of your mouse cursor over to the VM console.
Note: To release console control of your cursor, press the <Ctrl> and <Alt> keys simultaneously.
4. Press **Enter** to display the console login prompt.



5. Log into the VM console.
The default login credentials for the new SD-WAN Center VM are as follows:
 - Login: admin
 - Password: password



- Record the SD-WAN Center VM's management IP address, which is shown as the Host IP address in a welcome message that appears when you log on.



Note

The DHCP server must be present and available in the SD-WAN network, or this step cannot be completed.

If the DHCP server is not configured in the SD-WAN network, you have to manually enter a static IP

address.

To configure a static IP address as the management IP address:

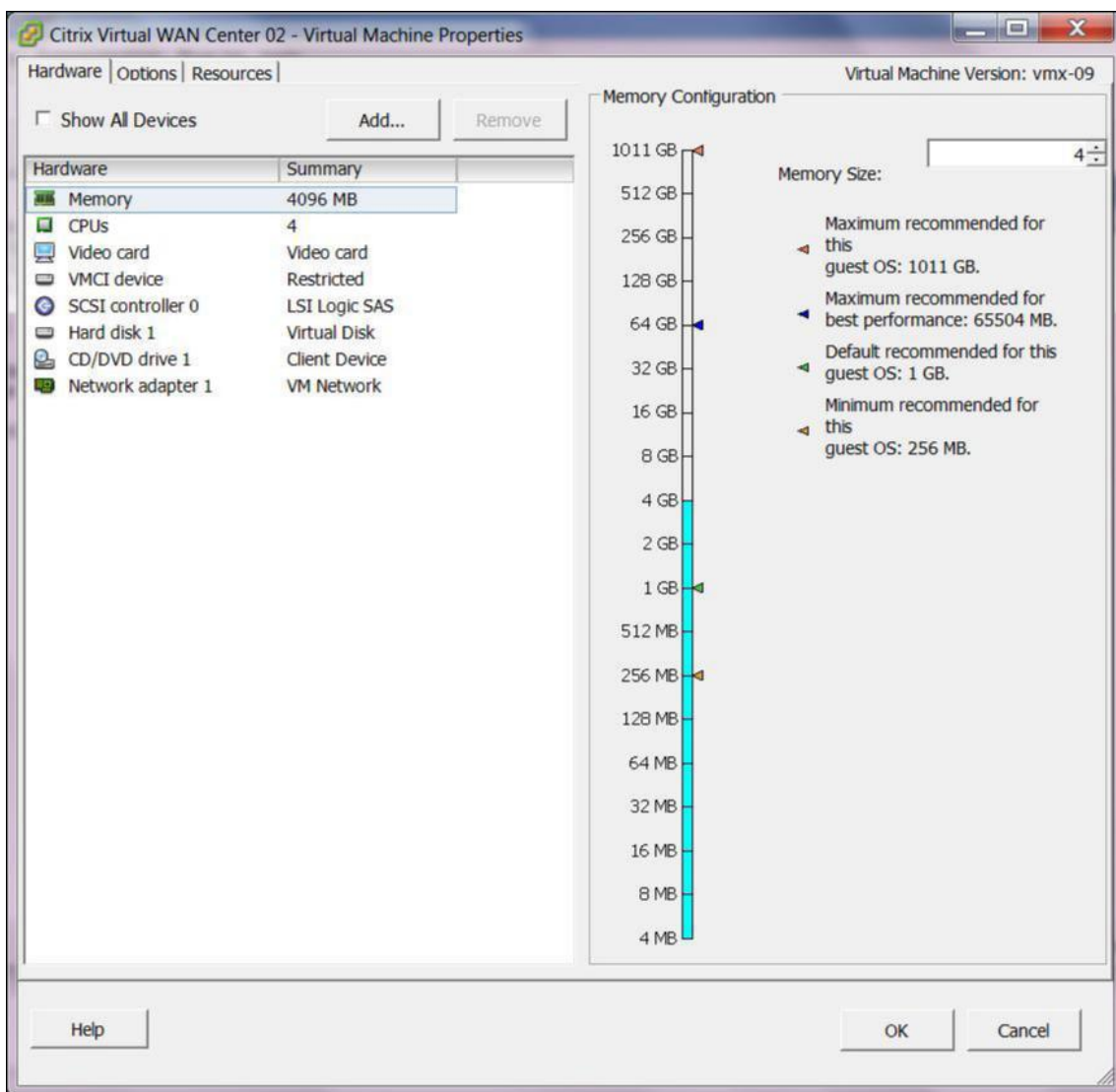
1. When the VM is started, click the **Console** tab.
2. Log into the VM. The default login credentials for the new SD-WAN Center VM are as follows:
Login: admin
Password: password
3. In the console enter the CLI command **management_ip**.
4. Enter the command **set interface <ipaddress> <subnetmask> <gateway>**, to configure management IP.

Adding and Configuring the Datastore on an ESXi Server

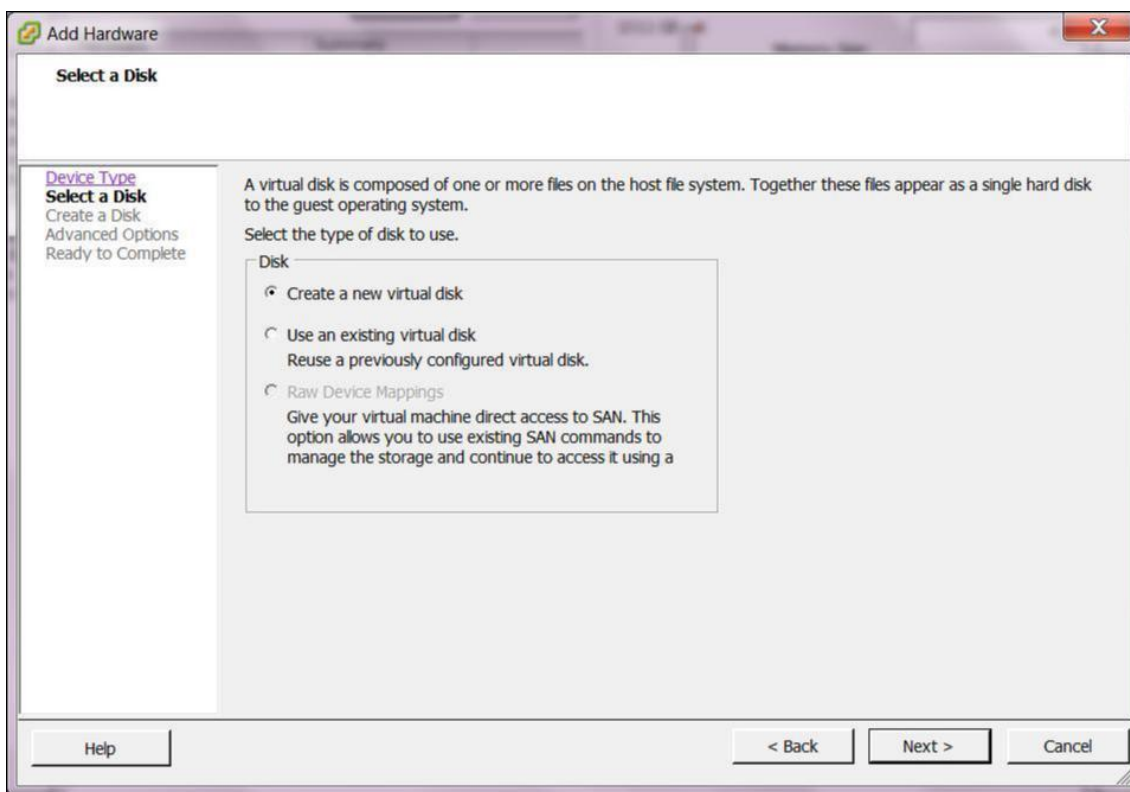
You can add and configure datastore to store statistics from SD-WAN center.

To add and configure the datastore:

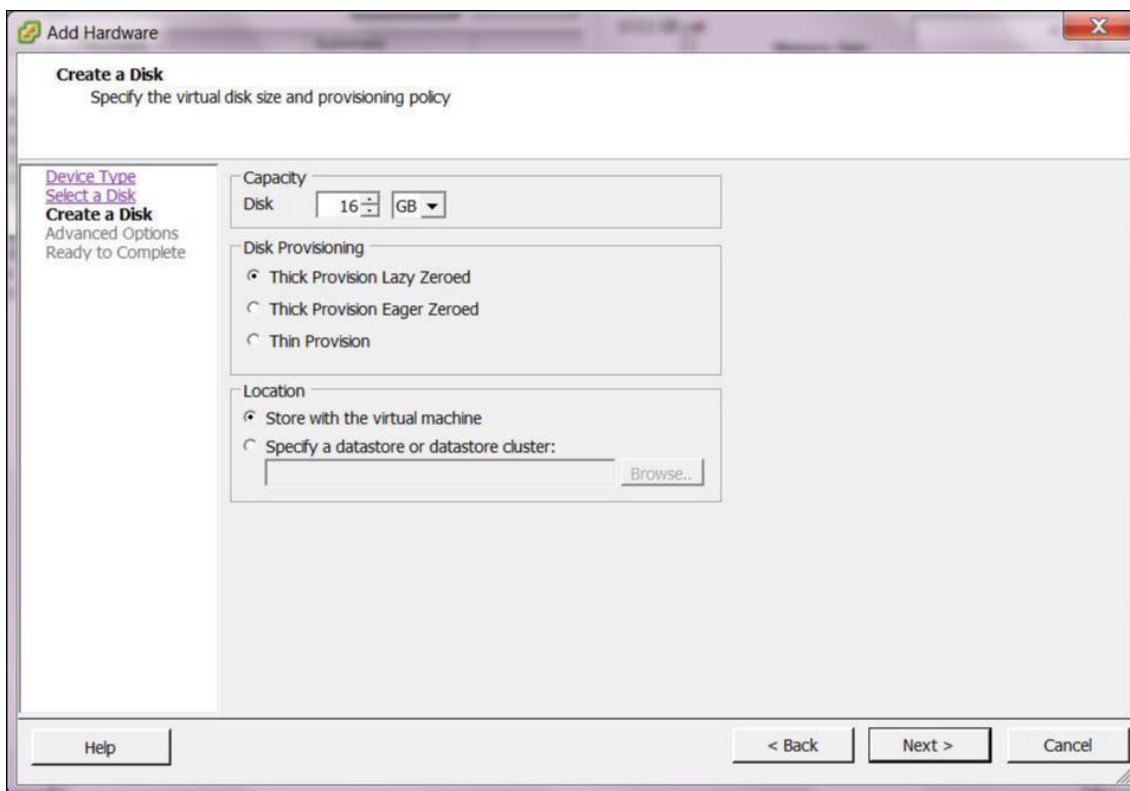
1. In the vSphere client, click the **Inventory** icon to open the Inventory page.
2. Expand the **Inventory** tree branch for the SD-WAN Center VM host server.
3. In the left pane, click **+** next to the IP Address for the server hosting the SD-WAN Center VM you just created.
4. Open the new SD-WAN Center VM for editing.
5. In the **Inventory** tree, right-click on the name of the SD-WAN Center VM you just created and select **Edit Setting** from the drop-down menu.



6. In the Memory Size field, enter the amount of memory to allocate for to this VM.
For more information, see [Memory Requirements](#).
7. Click **Add**.
8. On the Device Type page of the Add Hardware wizard, select **Hard Disk** and then click **Next**.



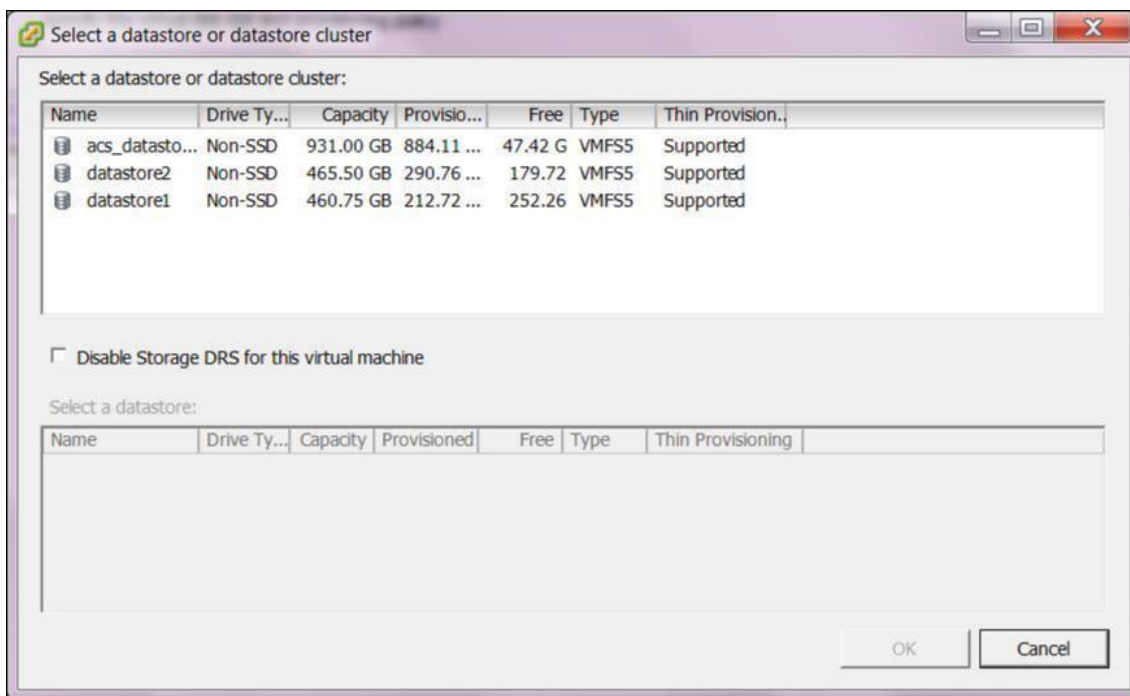
9. On the Select a Disk page, select **Create a new virtual disk** and click **Next**.



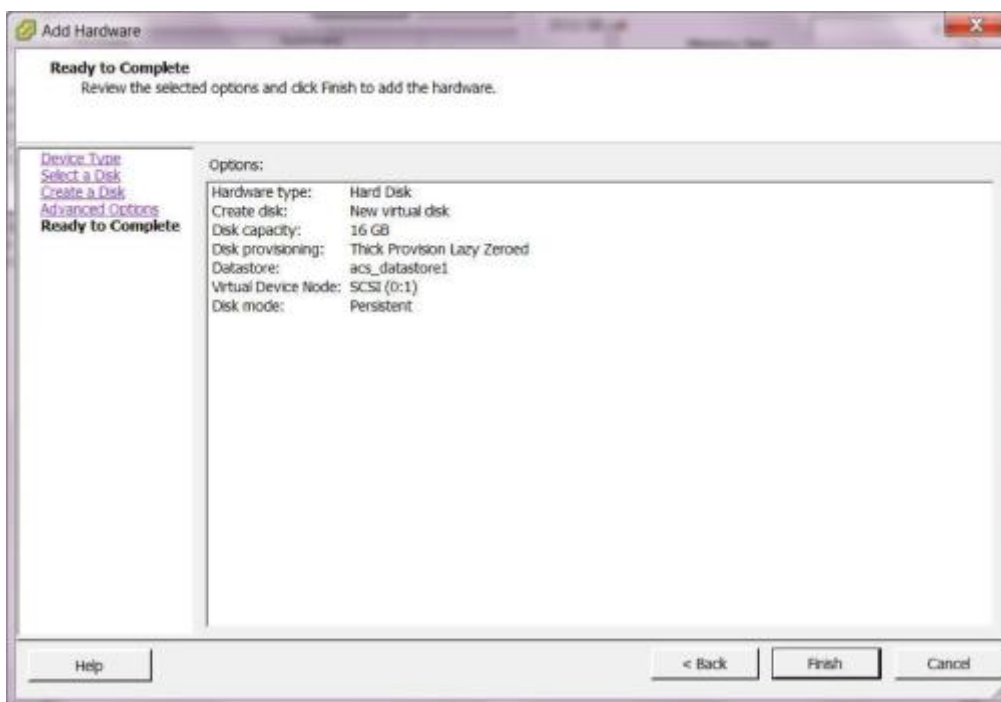
10. On the Create a Disk page, in the **Capacity** section, select the disk capacity for the new virtual

disk.

11. In the Disk Provisioning section, select **Thick Provision Lazy Zeroed** (the default).
12. In the Location section, select **Specify a datastore or datastore cluster**.
13. Click **Browse**.



14. Select a datastore with sufficient available space, and click **OK**.
15. Click **Next**.
16. On the Advanced Options page, accept the **Advanced Options** default settings and click **Next**.

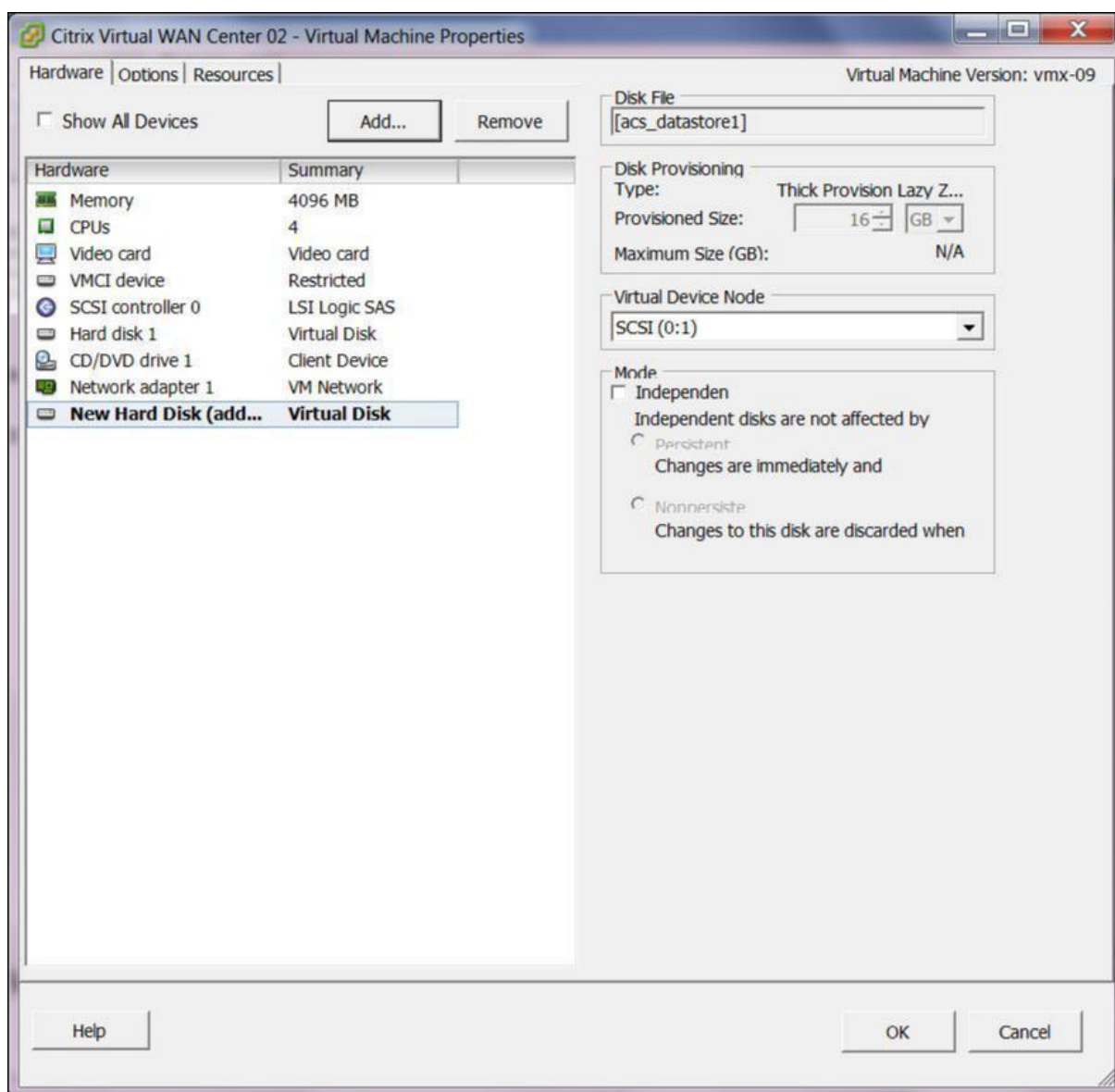


17. Click **Finish**.

This adds the new virtual disk, dismisses the Add Hardware wizard, and returns you to the Virtual Machine Properties page.

18. Click **OK**.

In the SD-WAN Center web interface, switch the active storage to the new datastore. For more information, see [Switching the Active Storage to the New Datastore](#).



Installing and Configuring the NetScaler SD-WAN Center on XenServer

September 12, 2018

Before installing the NetScaler SD-WAN Center virtual machine on a XenServer server, gather the necessary information as described in Gathering the SD-WAN Center Installation and Configuration Information.

To install and configure the VM, perform the following tasks:

1. Install the XenServer server.

For instructions, see [Installing the XenServer](#).

2. Create an SD-WAN Center VM by using the XVA file.

For instructions, see [Creating the SD-WAN Center VM using XVA file](#).

3. Record the SD-WAN Center management IP address.

For instructions, see [Viewing and Recording the SD-WAN Center Management IP Address on XenServer](#).

4. Configure the Management Interface settings.

For instructions, see [Configuring the Management Interface Settings](#).

5. Install the SD-WAN Center certificate.

For instructions, see [Installing the SD-WAN Center Certificate](#).

6. Specify the master control node (MCN) and test the connection to the MCN.

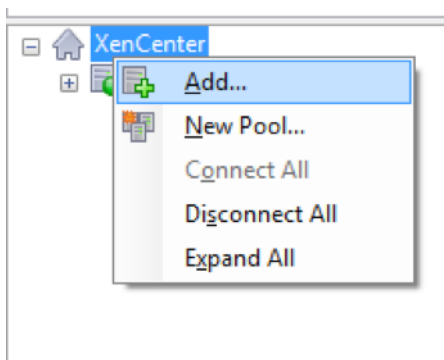
For instructions, see [Specifying the MCN and Testing the Connection](#).

Installing the XenServer Server

To install the Citrix XenServer server on which you will deploy the SD-WAN Center virtual machine, you must have XenCenter installed on your computer. If you have not already done so, download and install XenCenter.

To install a XenServer server:

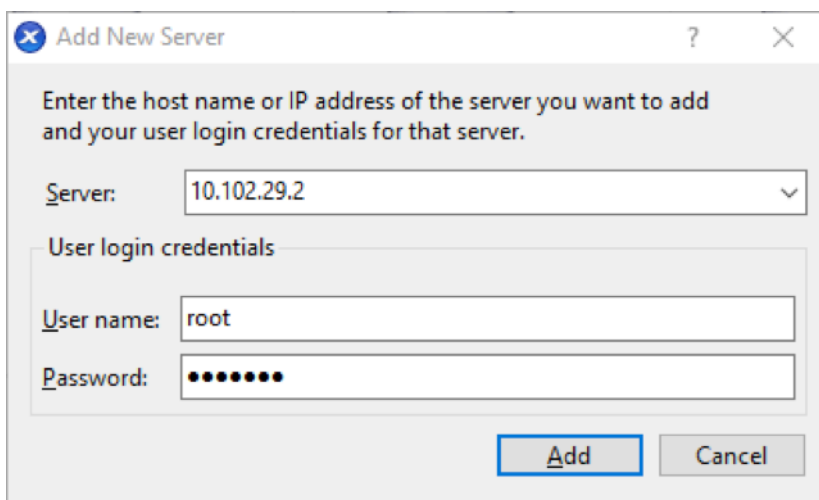
1. Open the XenCenter application on your computer.
2. In the left tree pane, right-click on **XenCenter** and select **Add**.



3. In the **Add New Server** window, enter the required information in the following fields:

- **Server:** Enter the IP Address or Fully Qualified Domain Name (FQDN) of the XenServer server that will host your SD-WAN Center VM instance.
- **User name:** Enter the server administrator account name. The default is root.

- **Password:** Enter the password associated with this administrator account.



4. Click **Add**.

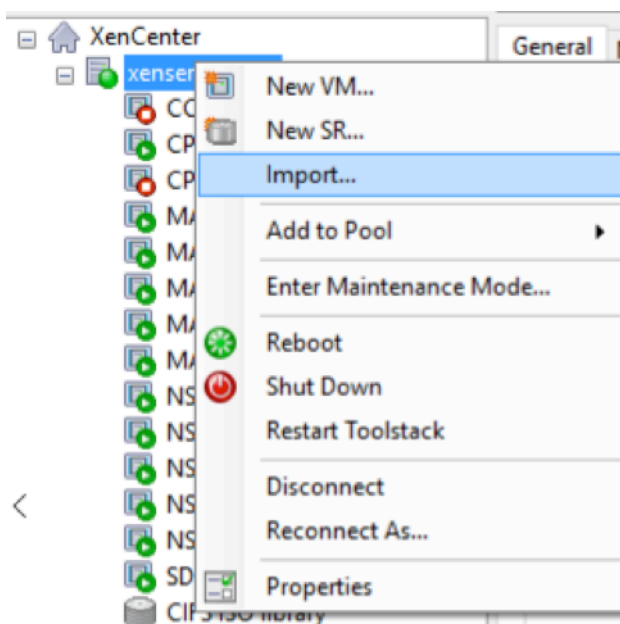
The new server's IP address appears in the left pane.

Creating the SD-WAN Center VM by using the XVA file

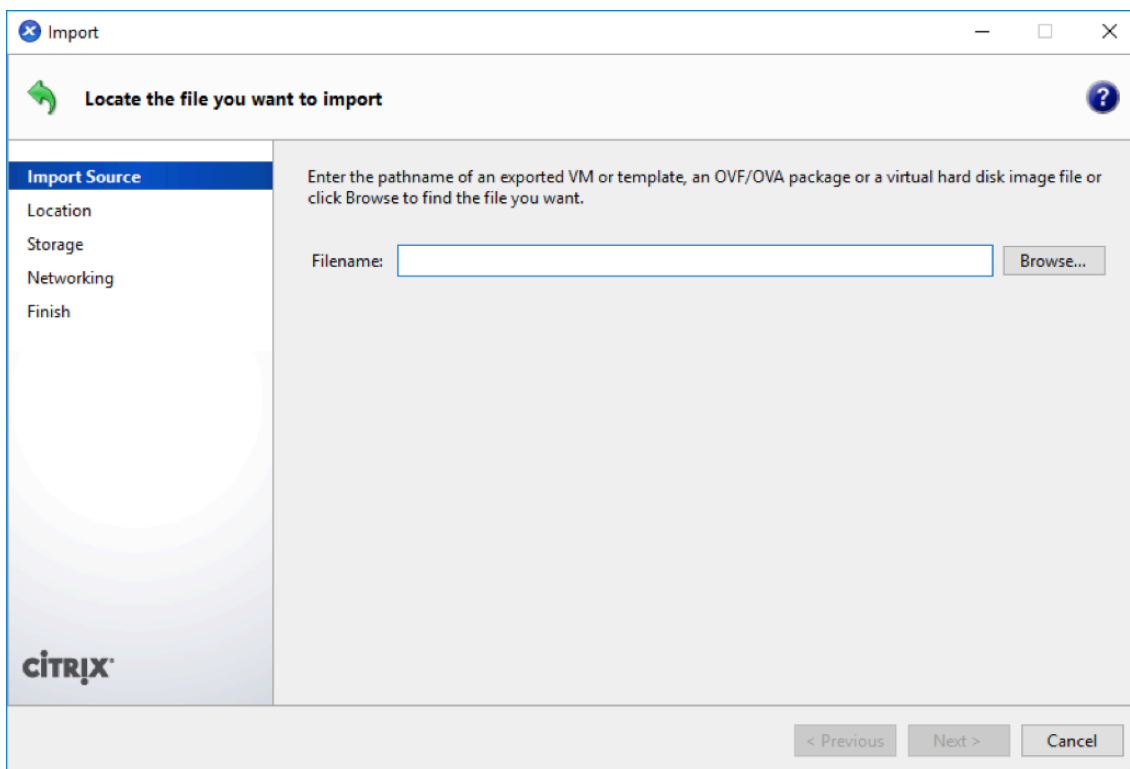
The NetScaler SD-WAN Center virtual machine software is distributed as an XVA file. If you have not already done so, download the .xva file. For more information, see [Downloading the NetScaler SD-WAN Center Software](#)

To create the SD-WAN Center VM:**

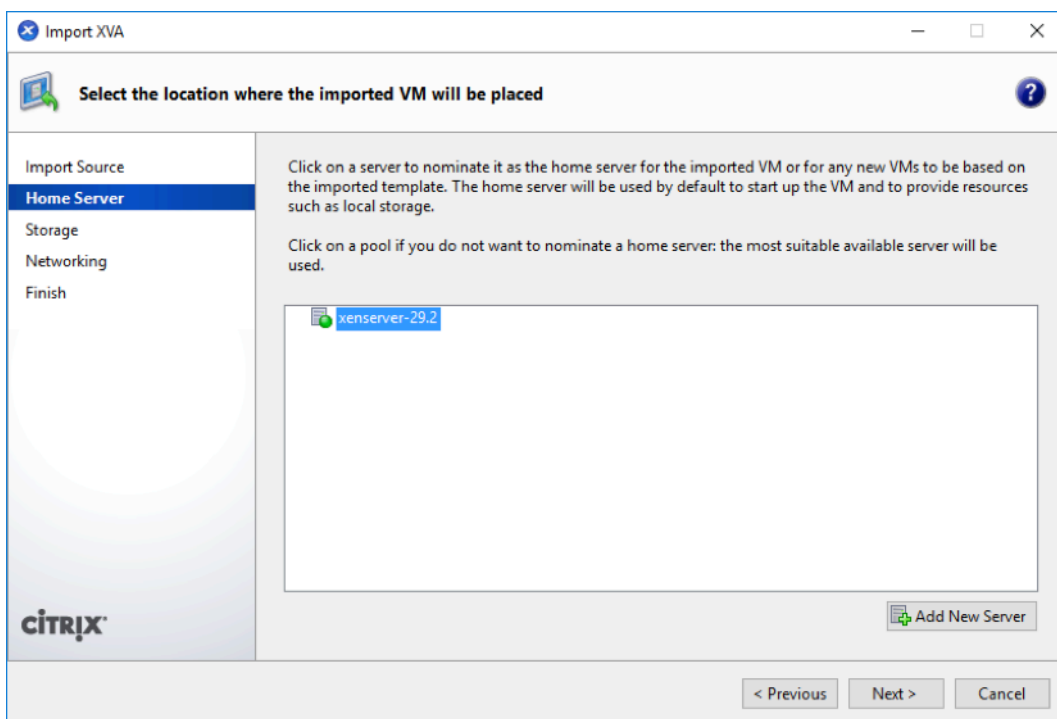
1. In XenCenter, right-click **XenServer** and click **Import**.



2. Browse to the downloaded .xva file, select it, and click **Next**.



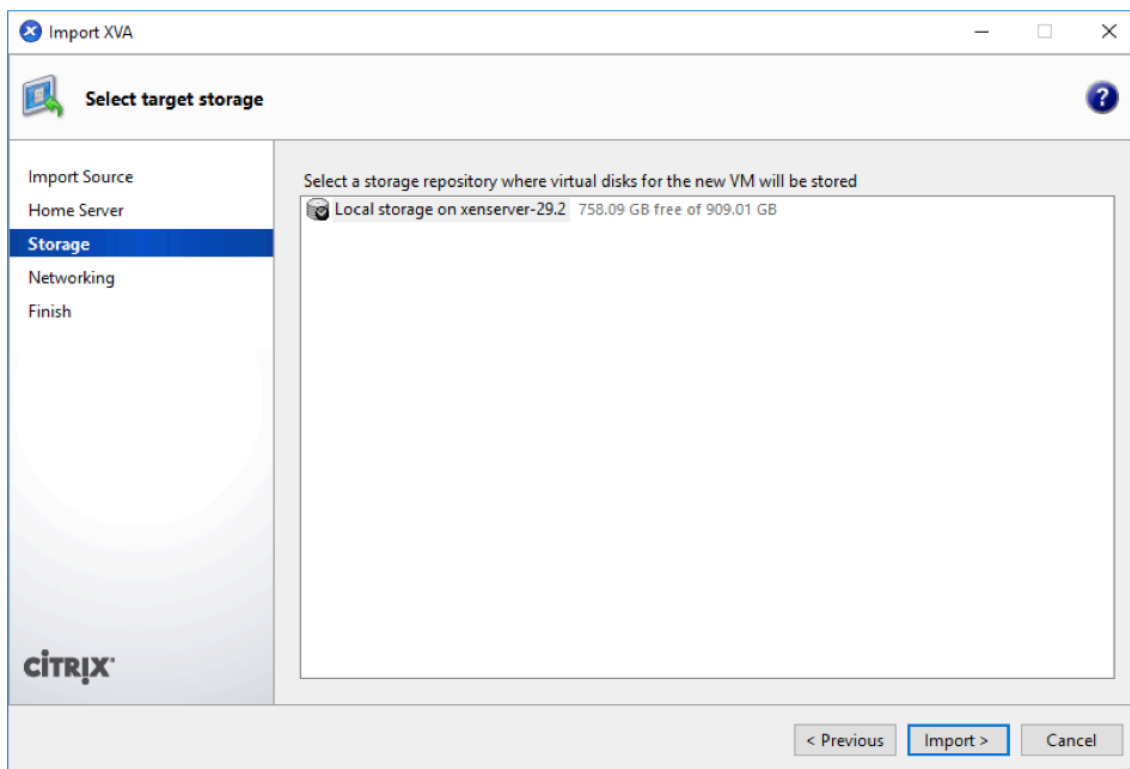
3. Select a previously created XenServer server as the location to which to import the VM, and click **Next**.



4. Select a storage repository where the virtual disk for the new VM will be stored, and click **Im-**

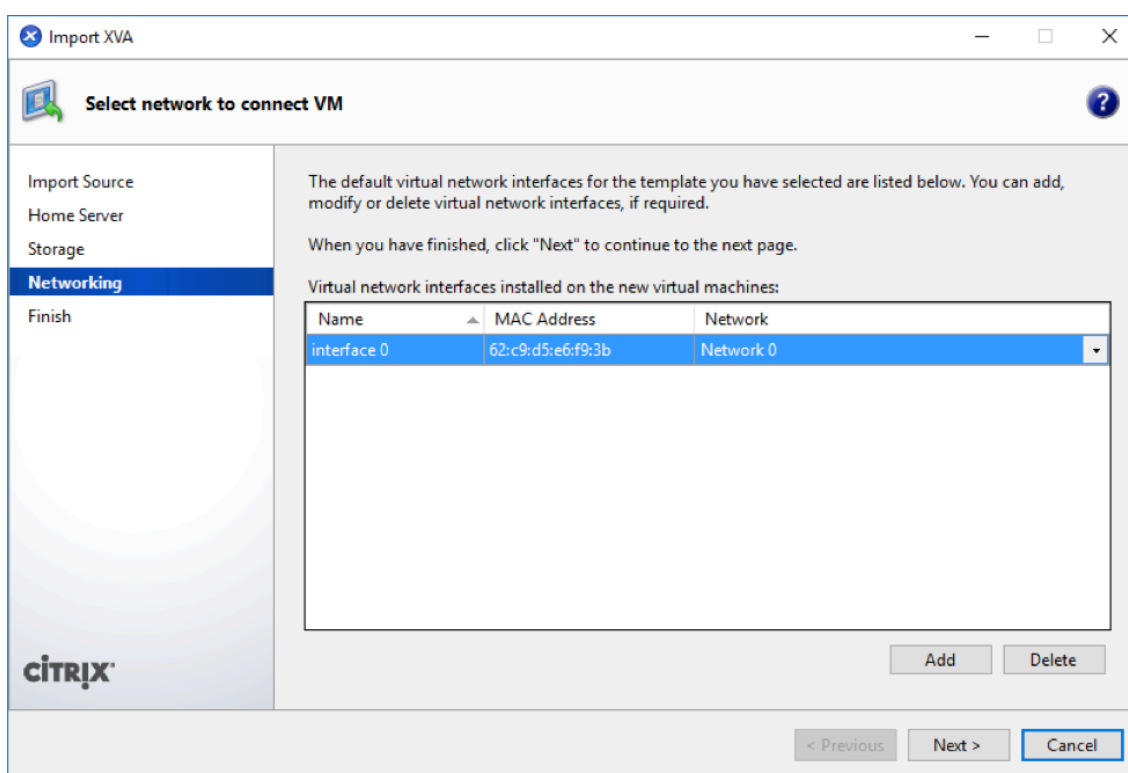
port.

For now, you can accept the default storage resource. Or you can configure the datastore. For more information see [Adding and Configuring the Datastore on XenServer](#).



The imported SD-WAN Center VM appears in the left pane.

5. Select a network to which to connect the VM, and click **Next**.



6. Click **Finish**.

Viewing and Recording the Management IP Address on XenServer

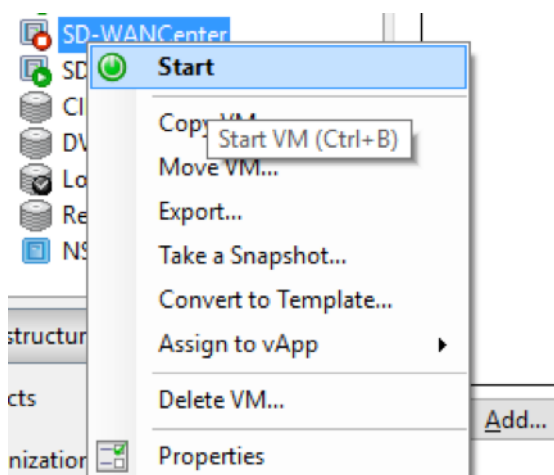
The management IP address is the IP address of the SD-WAN Center VM, use this IP address to log into the SD-WAN Center Web UI.

Note

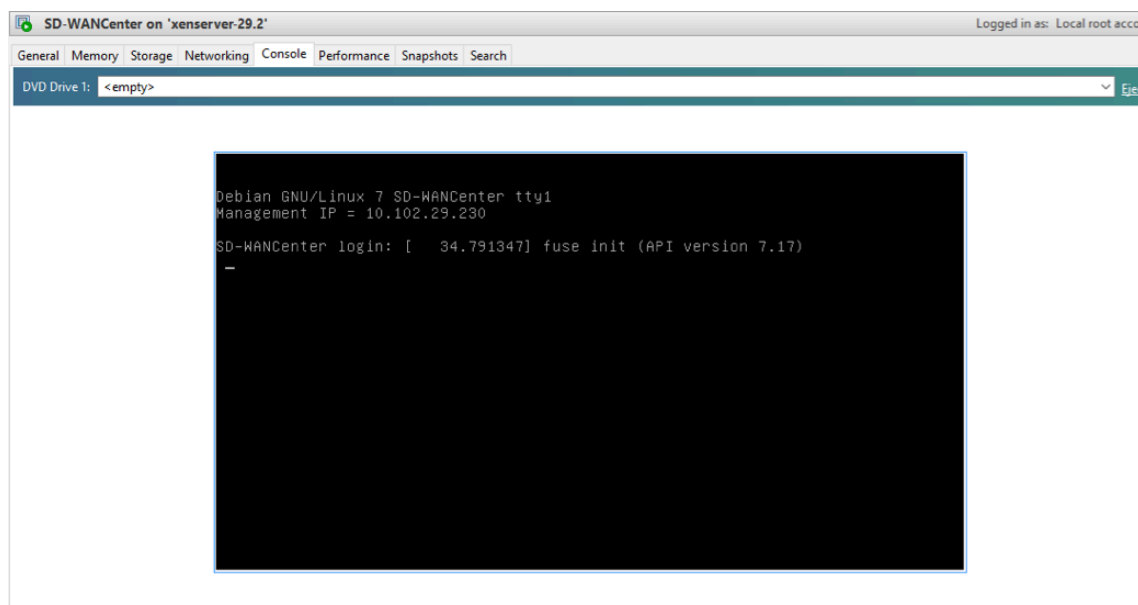
The DHCP server must be present and available in the SD-WAN network.

To display the management IP Address:

1. In the XenCenter interface, in the left pane, right-click the new SD-WAN Center VM and select **Start**.



2. When the VM is started, click the **Console** tab.



3. Make a note of the management IP address.

Note

The DHCP server must be present and available in the SD-WAN network, or this step cannot be completed.

4. Log into the VM. The default login credentials for the new SD-WAN Center VM are as follows:

Login: admin

Password: password

If the DHCP server is not configured in the SD-WAN network, you have to manually enter a static IP address.

To configure a static IP address as the management IP address:

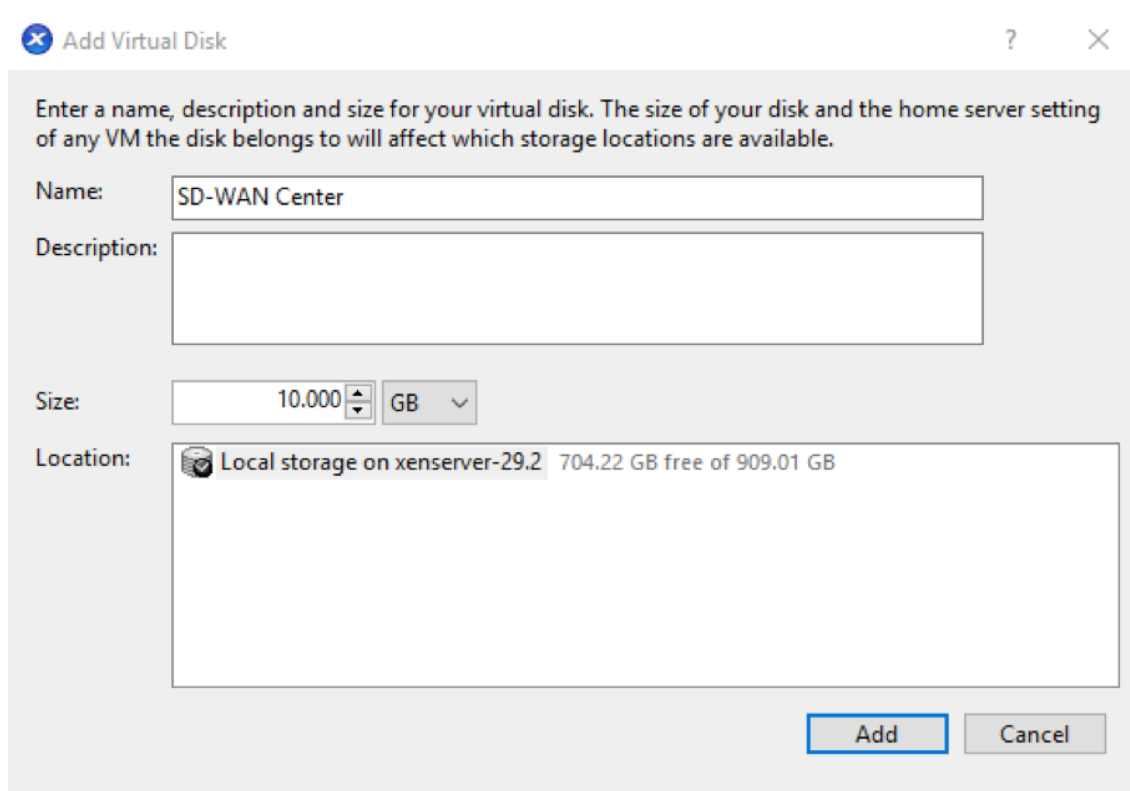
1. When the VM is started, click the **Console** tab.
2. Log into the VM. The default login credentials for the new SD-WAN Center VM are as follows:
Login: admin
Password: password
3. In the console enter the CLI command **management_ip**.
4. Enter the command **set interface <ipaddress> <subnetmask> <gateway>**, to configure management IP.

Adding and Configuring the Data Storage for a XenServer Server

You can add and configure data storage to store statistics from SD-WAN center.

To add and configure the data storage:

1. In XenCenter, shut down the SD-WAN Center VM.
2. On the **Storage** tab, click **Add**.



3. In the **Name** field, enter a name for the virtual disk.
4. In the **Description** field enter a description of the virtual disk.
5. In the **Size** field select the size required.

6. In the **Location** field select the local storage.
7. Switch the active storage to the new data store in the SD-WAN center web interface. For more information, see [Switching the Active Storage to the new data store](#).

Configuring the Management Interface Settings

September 12, 2018

You can use the SD-WAN web interface to configure the management interface settings.

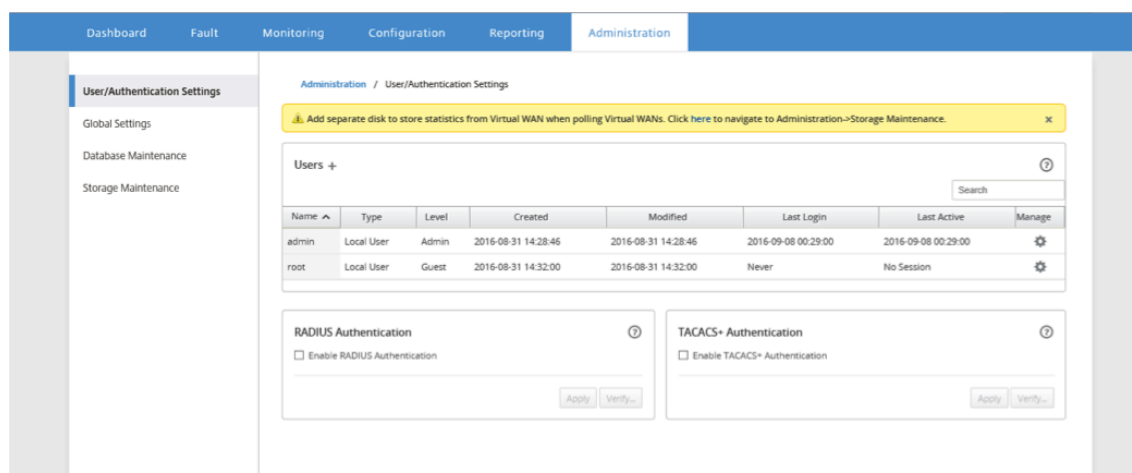
The management Interface settings include the following:

- SD-WAN Center Management IP Address
- Gateway IP Address
- Subnet Mask
- Primary DNS
- Secondary DNS

To configure the management interface settings:

1. In the SD-WAN Center web interface, select the **Administration** tab.

By default, the **User/Authentication Settings** page appears.



2. In the navigation tree, select **Global Settings**.
3. Configure the Management and DNS settings.

In the **Management and DNS** section, add the required information to the following fields:

- **IP Address:** Enter the IP Address for the SD-WAN Center.
- **Gateway IP Address:** Enter the Gateway IP Address the SD-WAN Center VM will use to communicate with external networks.

- **Subnet Mask:** Enter the subnet mask to define the network in which the SD-WAN Center VM resides.

4. Click **Apply**.

Note

Connectivity to the SD-WAN Center will be terminated when your changes are applied

Installing the SD-WAN Center Certificate

September 12, 2018

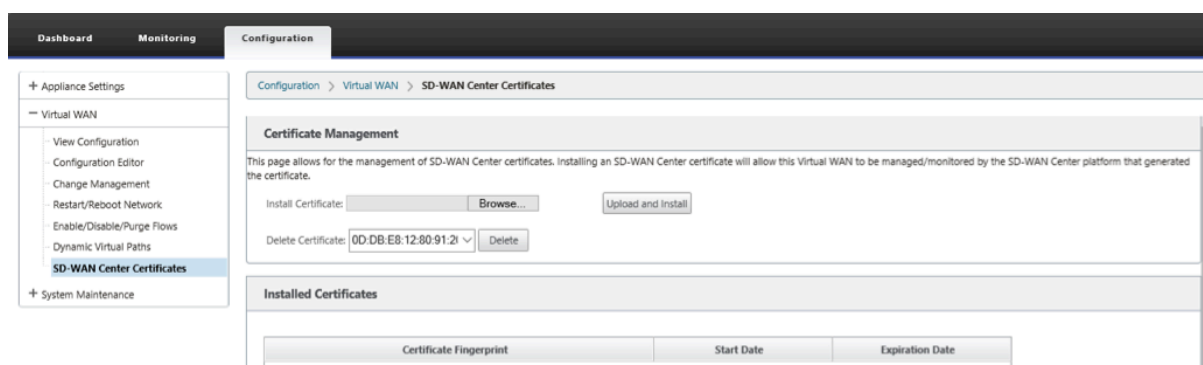
To establish a connection between the SD-WAN Center and the SD-WAN Master Control Node (MCN), download the SSL certificate from the SD-WAN Center and installing it on the MCN.

To download and install the SD-WAN certificate:

1. In the SD-WAN Center web interface, on the **Configuration** tab, select **Network Discovery**.
3. On the SSL Certificate page, click **Download Certificate**.

This opens a file browser on your computer for selecting the download location. Navigate to the desired location and save the certificate.

4. Log into the SD-WAN Master Control Node web interface.
5. Click the **Configuration** tab.
6. In the navigation tree (left pane), click the **+** icon next to the **Virtual WAN** branch.
7. Select **SD-WAN Center Certificates**.



8. On the SD-WAN Center Certificates page, next to the **Install Certificate** field, click **Browse**.

This opens a file browser on the local PC for selecting the file you want to upload. Select the certificate file you just downloaded, and click **Open**.

9. Click **Upload and Install**.

This uploads the certificate file to the master control node (MCN) and displays a success message when installation is complete.

10. Click **Continue**.

This displays the MCN Management Web Interface Dashboard page. At this point, you can log out of the MCN (optional).

Specifying the MCN and Testing the Connection

September 12, 2018

Once the connection is established between the SD-WAN Center and the SD-WAN Master Control Node (MCN), you can discover the MCN and test the connection.

To specify the MCN and test the connection:

1. Log into the SD-WAN Center web interface.
2. Select the **Configuration** tab.
3. In the navigation tree (left pane), select **Network Discovery**.

This displays the **Network Discovery** page. By default, the **SSL Certificate** tab is preselected.

4. Select the **Discovery Settings** tab.

The screenshot shows the NetScaler SD-WAN Center web interface. At the top, there is a navigation bar with tabs: Dashboard, Fault, Monitoring, Configuration (selected), Reporting, and Administration. On the left, there is a navigation pane with items: Network Discovery (selected), Network Configuration, Change Management, and Appliance Settings. The main content area displays the 'Discovery Settings' page. It has a breadcrumb trail: Configuration / Network Discovery / Discovery Settings. Below this, there are three tabs: SSL Certificate, Discovery Settings (selected), and Inventory And Status. The 'Discovery Settings' tab contains the following fields and buttons:

- Master Control Node MGT IP Address:** A text input field containing '10.106.37.60' and a 'Test' button.
- Rediscover:** A button.
- Polling Configuration:**
 - Polling Interval (min):** A text input field containing '5'.
 - Bandwidth Limit (kbps):** A text input field containing '1000'.
 - Apply:** A button.

5. In the **Master Control Node MGT IP Address** field, enter the management IP address of the associated MCN.

6. Click **Test**.

If the connection succeeds, a green check mark appears. A success message indicates that the connection is established, and that the appliance is eligible to become the MCN.

7. Click **Discover**. Once you have already discovered an MCN, this option changes to **Rediscover**.

8. After the discovery operation completes, select the **Inventory and Status** tab.

The **Inventory and Status** table displays the status information for all the discovered SD-WAN Appliances.

9. Select the **Poll** checkbox in the top left corner of the table heading.

This selects the **Poll** checkbox for each appliance listed in the table. To exclude an appliance from the polling list, clear its check box.

10. Click **Apply**.

Switching the Active Storage to the New Data storage

September 12, 2018

In SD-WAN Center, you can switch the active storage to the data store you created on your virtual server. This allows you to store more statistics data obtained by polling all the SD-WAN appliances in the WAN. For information on creating a datastore on ESXi server, see [Adding and Configuring the Datastore on ESXi Server](#). For information on creating a datastore on XenServer, see [Adding and Configuring the Data Storage on XenServer](#).

To specify the active storage for the SD-WAN Center VM:

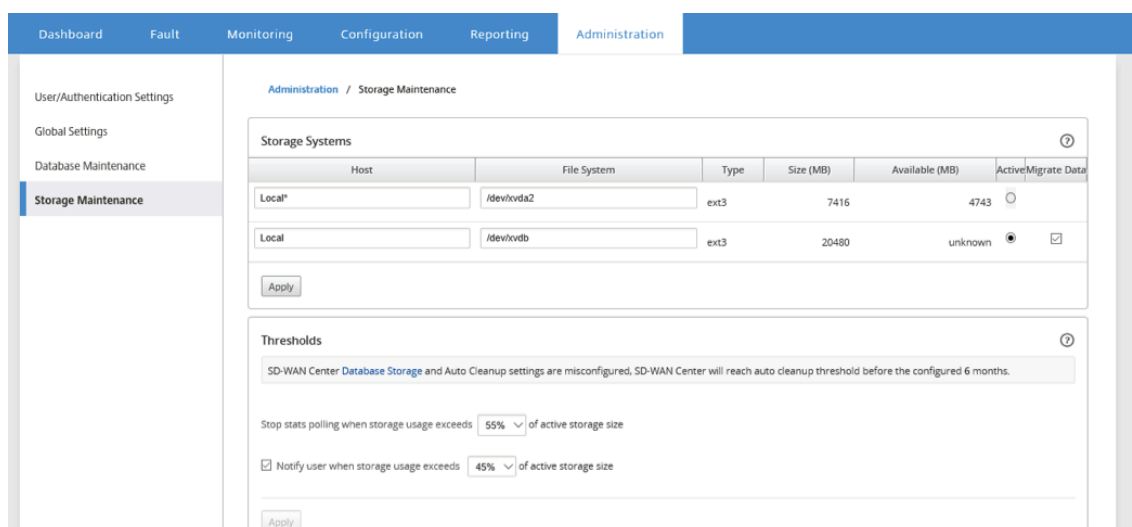
1. Log into the SD-WAN Center VM.

The default login credentials for the SD-WAN Center are as follows:

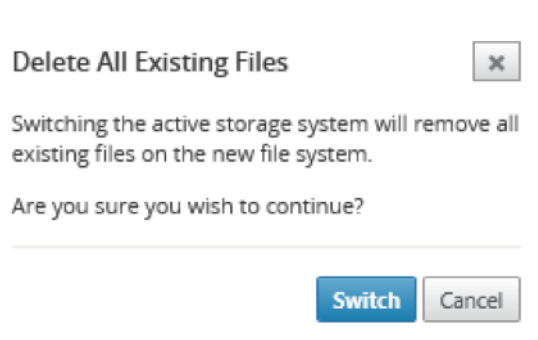
Login: admin

Password: password

2. Click the **Administration** tab and then click **Storage Maintenance**.



3. In the **Active** column of the Storage Systems table, select the storage you created.
4. Select **Migrate Data** and click **Apply**.
5. The **Delete All Existing Files** message appears, click **Switch**.



This places the SD-WAN Center into **Maintenance Mode** and displays a progress bar in the main page area.

6. When the activation completes, click **Continue**.

This dismisses the progress bar and returns to the main **Storage Maintenance** page.

The SD-WAN Center Dashboard

September 12, 2018

The SD-WAN Center Dashboard displays a subset of the common statistics at a glance. The application and site specific statistics are obtained from the MCN that is discovered in the SD-WAN Center. The following widgets are available on the **Dashboard**.

- Network Map
- Top Application and Top Application Families
- Network HDX: Quality Summary
- Network HDX: Users and Sessions
- Network HDX: Bottom 5 Sites
- Site HDX: Users
- Site HDX: Sessions
- Site HDX: QoE
- Network Health: Virtual Path Report
- Current Events
- Inventory Manager
- SD-WAN Center: Alarm Summary
- SD-WAN Center: Database Usage
- SD-WAN Center: Active OS Usage

All the widgets are displayed on the dashboard by default. You can customize the dashboard by closing the widgets that you do not want to view and by arranging the widgets as per your requirement. To view all the widgets as per the default settings, click **Reset Dashboard**.

The SD-WAN Center Dashboard is refreshed based on the configured polling interval. The default polling interval is 5 minutes. For more information see, [How to Configure Polling Interval](#).

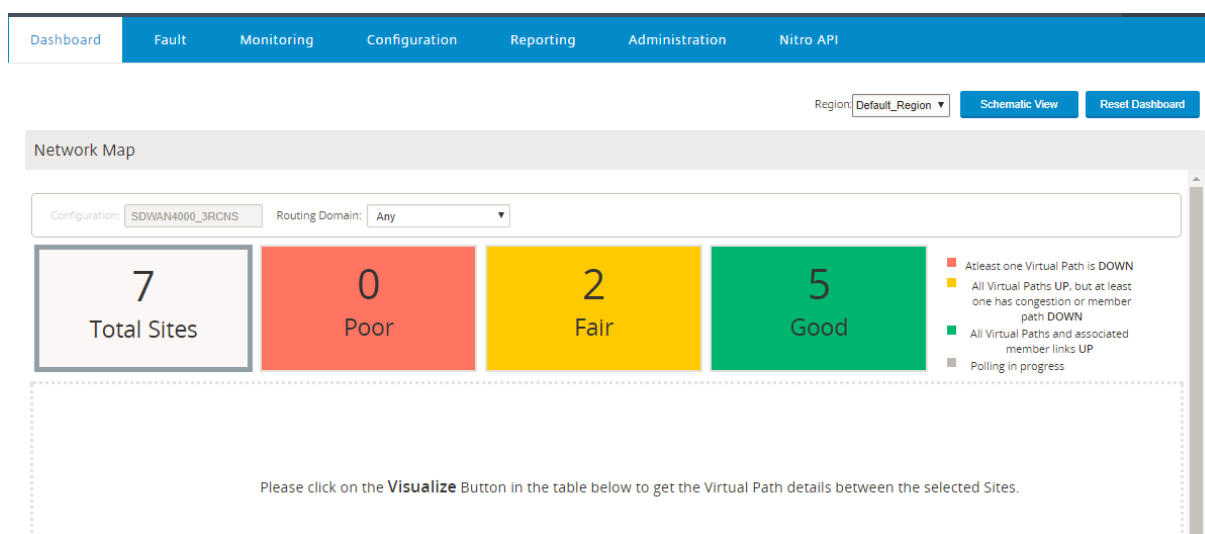
Network Map

The network map provides a graphical view of the SD-WAN network. The information displayed in this section is updated depending on the selected configuration and routing domain. In order to view a network map here, you must import the network configuration and Network maps from the Master Controller Node (MCN). For more information, see [How to Import Network Configuration from MCN to SD-WAN Center](#).

Top Applications and Top Application Families

Deep packet inspection (DPI) allows the SD-WAN appliance to parse the traffic passing through it and identify the application and application family types. The top results of the parsed traffic is displayed in this widget.

The SD-WAN Center dashboard displays the top applications and top application families. You can select the site and time interval as last 24 hours, last 1 hour, or last 5 minutes.



Network HDX: Quality Summary

Quality of Experience (QoE) is a calculated index that helps you understand your ICA quality of experience. This index is calculated for all ICA application traffic traversed from WAN to the site. Statistics of packet drop, jitter and latency are used in the QoE calculation. The QoE is an integer between [0, 100], the higher the number, the better the user experience. The jitter, latency and packet drop statistics are tracked on data paths during packet processing.

Sites in the entire network are categorized as good, fair, poor or no HDX traffic based on the QoE of HDX traffic. For more information, see [Application QoE](#).

The HDX traffic is classified into the following three quality categories:

Quality

QoE Range

Good

80-100

Fair

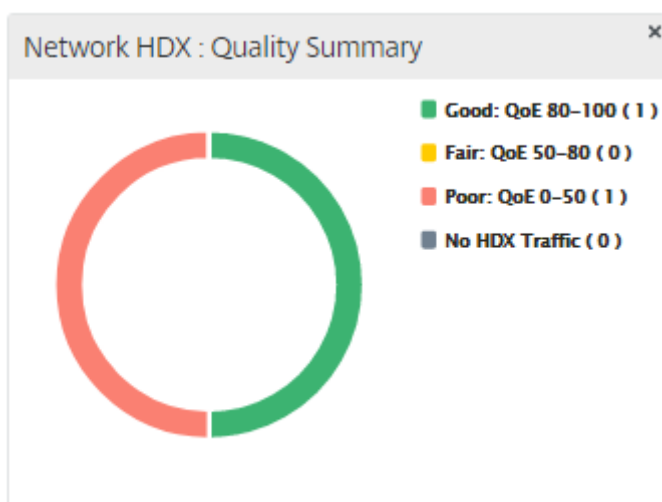
50-80

Poor

0-50

No HDX Traffic

N/A



You can click on the chart to view HDX reports per site. For more information, see [How to View HDX Reports](#).

Note

Sometimes, the HDX dashboard data and HDX reports from different sites may not seem to be in sync because each site statistics are polled independently. The out of sync could happen when some sites stats are polled and refreshed but other sites are not polled yet.

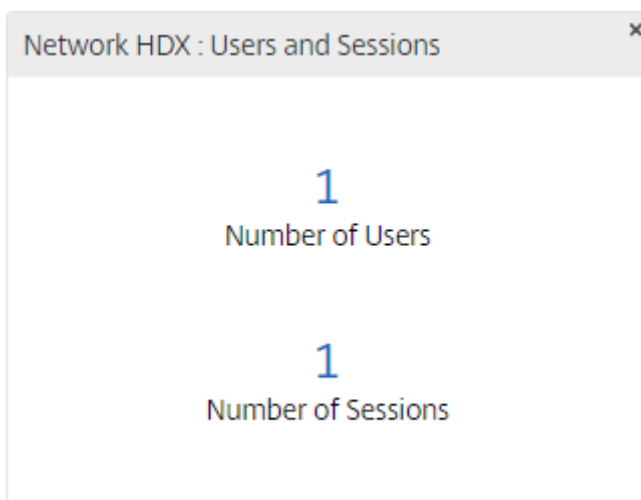
On HDX dashboard widgets, you may see a site with no HDX traffic, but there may be a non-zero number of HDX sessions and users. This could happen when the HDX sessions remain idle for that polling period, and still stay in open state.

Network HDX: Users and Sessions

This widget provides information on the number of active HDX users and sessions. The number of sessions is the total number of active Single Session ICA (SSI) and Multi Session ICA (MSI) sessions.

Note

In the current release, the number of users is not based on distinct user names. That is, two sessions started by a single user on two different machines is counted as two users.



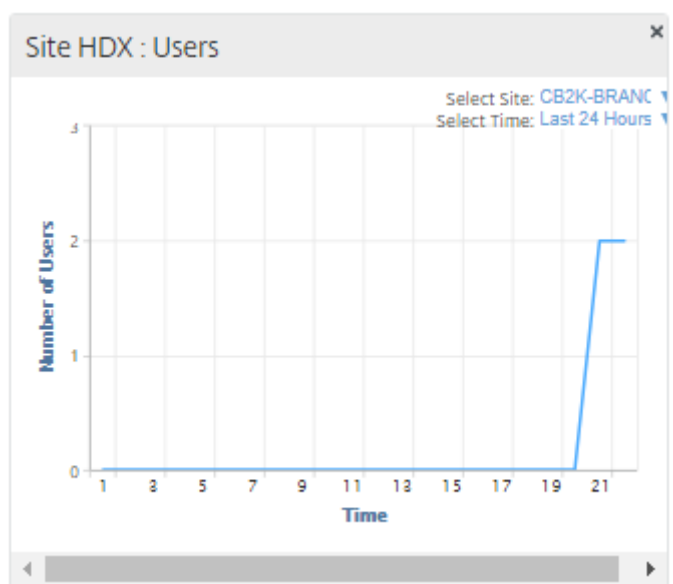
Network HDX: Bottom 5 Sites

This widget provides a list of the bottom 5 sites that have the least scoring QoE to help drive better end-user experience initiatives.

Site Name	Quality of Experience
Sanjose	0
MCN_VPX	0
Orlando	0
Bangalore	0
Dallas	0

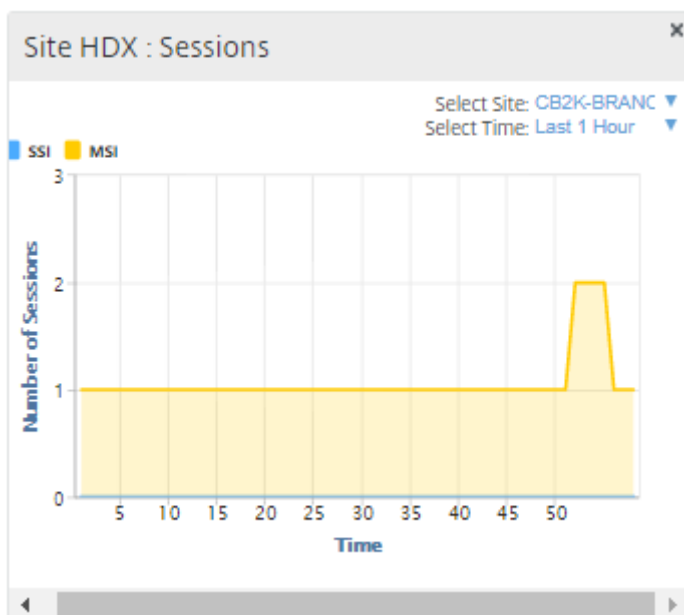
Site HDX: Users

This widget provides a graphical representation of the number of users that were active at a particular site for the selected time interval. You can select the site and the time interval as last 24 hours, last 1 hour, or last 5 minutes.



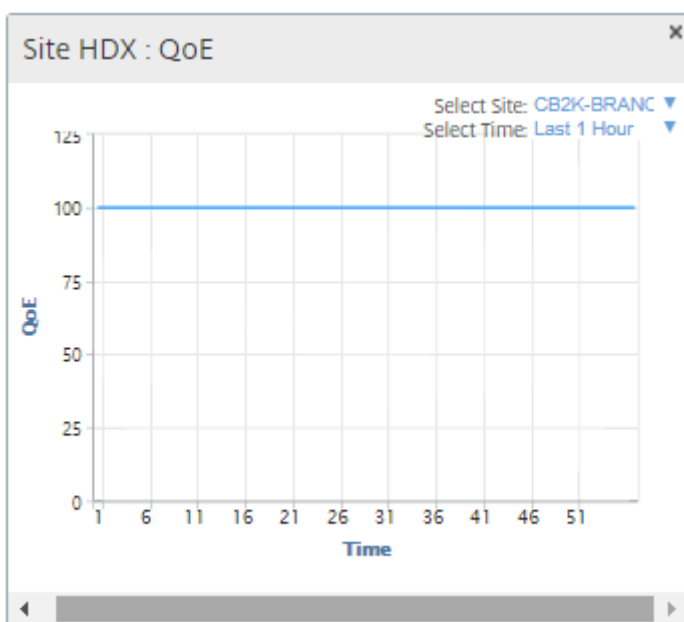
Site HDX: Sessions

This widget provides a graphical representation of the number of MSI and SSI sessions that are active at a particular site for the selected time interval. You can select the site and the time interval as last 24 hours, last 1 hour, or last 5 minutes.



Site HDX: Quality of Experience

This widget provides a graphical representation of the overall QoE at a particular site for the selected time interval. You can select the site and the time interval as last 24 hours, last 1 hour, or last 5 minutes.



Current Events

The Current Events section of the dashboard displays the events from all the discovered appliances in the network, that occurred in the last one hour. The output of events can be filtered using the **Routing Domain** drop-down menu. The information displayed in this section is gathered from the Fault tab. For more information, see [Events](#).

Current Events (Last 1 Hour)

Routing Domain:

25 / page Showing 1 - 25 of 596

Time	Site	Object Name	Object Type	Severity	Current State
09/26/16 19:49:30	SD-WAN Center	BR452.0	connection_to_virtual_wan	ALERT	STATS_ERROR
09/26/16 19:49:28	SD-WAN Center	BR425.0	connection_to_virtual_wan	ALERT	STATS_ERROR
09/26/16 19:49:27	SD-WAN Center	BR402.0	connection_to_virtual_wan	ALERT	STATS_ERROR
09/26/16 19:49:26	SD-WAN Center	BR376.0	connection_to_virtual_wan	ALERT	STATS_ERROR
09/26/16 19:49:25	SD-WAN Center	BR420.0	connection_to_virtual_wan	ALERT	STATS_ERROR
09/26/16 19:49:24	SD-WAN Center	BR408.0	connection_to_virtual_wan	ALERT	STATS_ERROR
09/26/16 19:49:21	SD-WAN Center	BR472.0	connection_to_virtual_wan	ALERT	STATS_ERROR
09/26/16 19:49:20	SD-WAN Center	BR445.0	connection_to_virtual_wan	ALERT	STATS_ERROR
09/26/16 19:49:17	SD-WAN Center	BR474.0	connection_to_virtual_wan	ALERT	STATS_ERROR

Inventory Manager

Once every 30 minutes, the Inventory Manager gathers the hardware information collected from all the SD-WAN appliances that have been discovered by the SD-WAN Center VM. The Inventory Manager page displays this data in columns that you select and filter. The following columns are available:

- **Site:** Name of the site found in the configuration running in the MCN. If the appliance is a secondary MCN, “(secondary)” appears next to the name. The name is a link to connect to the appliance management web console.
- **Connection Status:** Connectivity state to the appliance. A red icon appears when the connection is not reachable or not authenticated.
- **Management IP:** Management IP address of the appliance. The IP address is a link to the appliance management web console.
- **Model:** Hardware model of the appliance
- **Serial Number:** Serial Number of the appliance.
- **BIOS Version:** BIOS version of the appliance.
- **Days Since Memory Dump:** Time since last system-error memory dump. If the appliance dumped its memory in the past 4 days, an error icon appears next to the time. If the memory dump occurred between 5 and 10 days ago, a warning icon appears. N/A appears if no dump is available. Clicking on the time opens the log page of the SD-WAN.
- **Active OS:** The OS currently running on the appliance.
- **Backup OS:** The OS on the appliance’s backup partition.
- **RAM Size (GB):** Amount of Random Access Memory currently installed on the appliance in GB.
- **Drive Type:** Type of data-storage drive installed on the appliance. The value can be SSD (Solid State Drive) or HDD (Hard Disk Drive).
- **Drive Size (GB):** Size of the data-storage drive currently installed on the appliance in GB.

The screenshot shows the 'Inventory Manager' window with a table of appliance details. The table has columns for Site Name, Connection State, Management IP, BIOS Version, Model, Serial Number, Days Since Memory Dump, Active OS, Backup OS, RAM Size (GB), Drive Type, and Drive Size (GB). There are 6 rows of data, with the second row (Bangalore (secondary)) showing a red error icon in the 'Days Since Memory Dump' column.

Site Name	Connection State	Management IP	BIOS Version	Model	Serial Number	Days Since Memory Dump	Active OS	Backup OS	RAM Size (GB)	Drive Type	Drive Size (GB)
Bangalore	Stats In Sync	10.102.72.62	4.1.5	cbvpx	96555e96-ddae-27a1-8e51-5df4caf3d53e	N/A	4.6	4.6	4	N/A	41
Bangalore (secondary)	Stats In Sync	10.102.72.52	4.1.5	cbvpx	a82a1923-9d9e-e3ac-c39f-c03a871d46ae	4	4.6	4.6	4	N/A	41
Beijing	Stats In Sync	10.102.72.53	4.1.5	cbvpx	9223fcc0-8500-5647-69c0-239f906a2e49	N/A	4.6	4.6	4	N/A	41
Dallas_MCN	Stats In Sync	10.102.72.103	4.1.5	cbvpx	6c9315d4-81e0-63df-6134-f90390d69e12	N/A	4.6	4.6	4	N/A	41
Dallas_MCN (secondary)	Stats In Sync	10.102.72.61	4.1.5	cbvpx	15a9b78a-0166-6f19-b544-f37291733c6a	N/A	4.6	4.6	4	N/A	41

Network Health: Virtual Path Report

The Virtual Path Reports section of the dashboard displays virtual path level statistics for every virtual path in virtual WAN network that was measured as an average over the last 24 hours. The output can be filtered based on the selected routing domain.

For more information, see [Reports](#).

Network Health: Virtual Path Report (Last 24 Hours)

Routing Domain: Any

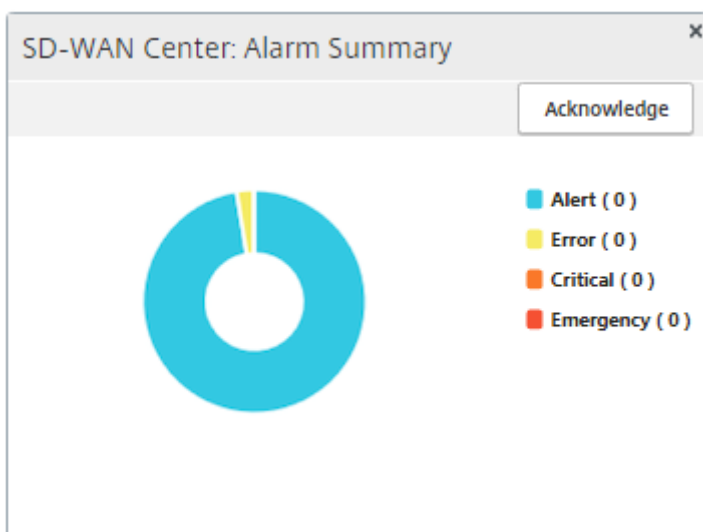
10 / page Showing 1 - 10 of 10

Name ^	Worst State	Up Time (%)
Bangalore-Beijing	GOOD	100.0
Bangalore-Beijing	GOOD	100.0
Bangalore-Dallas_MCN	GOOD	100.0
Bangalore-Dallas_MCN	GOOD	100.0
Beijing-Dallas_MCN	GOOD	100.0
Beijing-Dallas_MCN	GOOD	100.0
Beijing-Sanjose	GOOD	100.0
Beijing-Sanjose	GOOD	100.0
Dallas_MCN-Sanjose	GOOD	100.0
Dallas_MCN-Sanjose	GOOD	100.0

Data from 07/04/17 3:02pm to 07/05/17 3:02pm

SD-WAN Center: Alarm Summary

The Alarm Summary section of the dashboard gives a graphical overview of the type and quantity of events. You can click on the graph to view the events on the Fault page. The display also outlines how many events are in each category. Alarm triggers can be configured on the individual SD-WAN Appliances. For more information see, [Configuring Alarms](#).



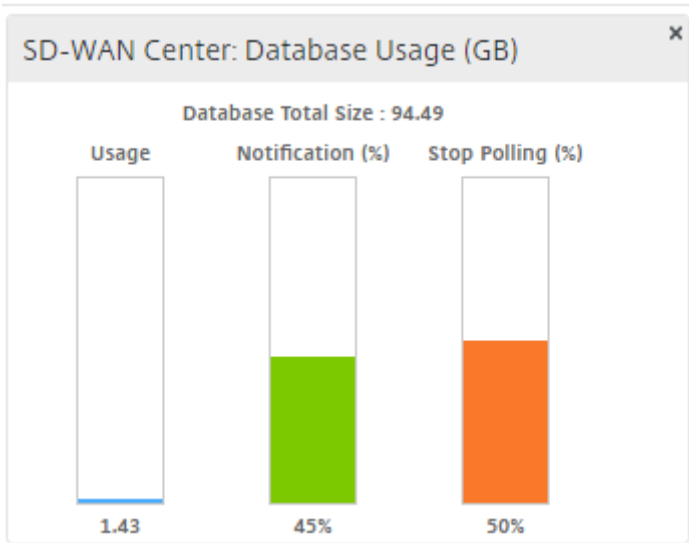
SD-WAN Center: Database Usage

The Database Usage section of the dashboard displays a graphical overview of the database-resource usage and the thresholds for sending notifications or halting the collection of data. You can click on the graph to view the details on the Database Maintenance page.

- **Usage:** Database capacity currently being used, in GB.

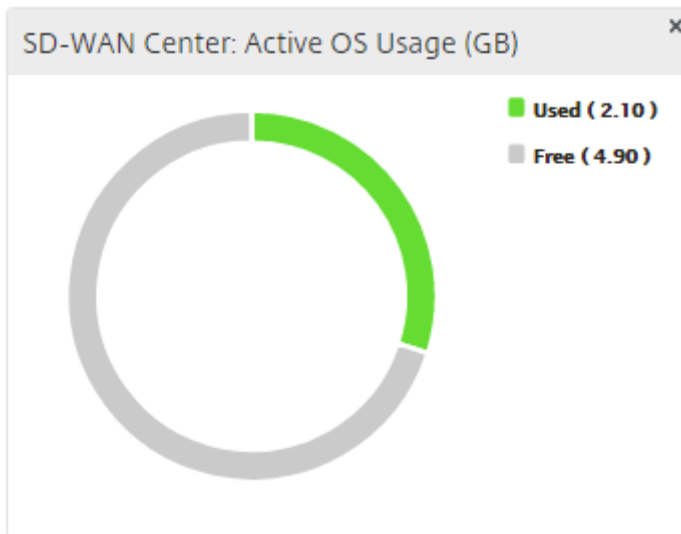
- **Notification:** Threshold for generating a database usage notification. The threshold is a percentage of the maximum size of the database. If an email alert is configured, an email notification is sent when the size of the database exceeds this threshold. For more information, see [Setting Notifications](#).
- **Stop Polling:** Threshold for halting statistics polling. The threshold is a percentage of the maximum size of the database. Polling stops when the size of the database exceeds this threshold.

For more information,
[How to Manage Database](#).



SD-WAN Center: Active OS Usage

The Active OS Usage section of the dashboard gives a graphical overview of the used and available storage space in GB. You can click on the graph to view the details in the Storage Maintenance page.



Events

September 26, 2018

SD-WAN Center collects event information from all the discovered appliances in the network. This event information can be filtered and viewed in the **Event Viewer** page.

The event details include the following information.

- **Time:** The time the event was generated.
- **Site:** The name of the site on which the event originated.
- **Appliance ID:** Shows whether the appliance from which the event originated is a primary (**0**) or secondary (**1**) appliance.

Note

The Appliance ID column is hidden by default. To display the column, click **Show/Hide** (gear icon) and select the **Appliance ID** checkbox from the drop-down menu

- **Object Name:** The name of the object generating the event.
- **Object Type:** The type of object generating the event.
- **Severity:** The severity level of the event.
- **Previous State:** The state of the object before the event. The state will be listed as **unknown** if not applicable.
- **Current State:** The state of the object at the time of the event.
- **Description:** A text description of the event.

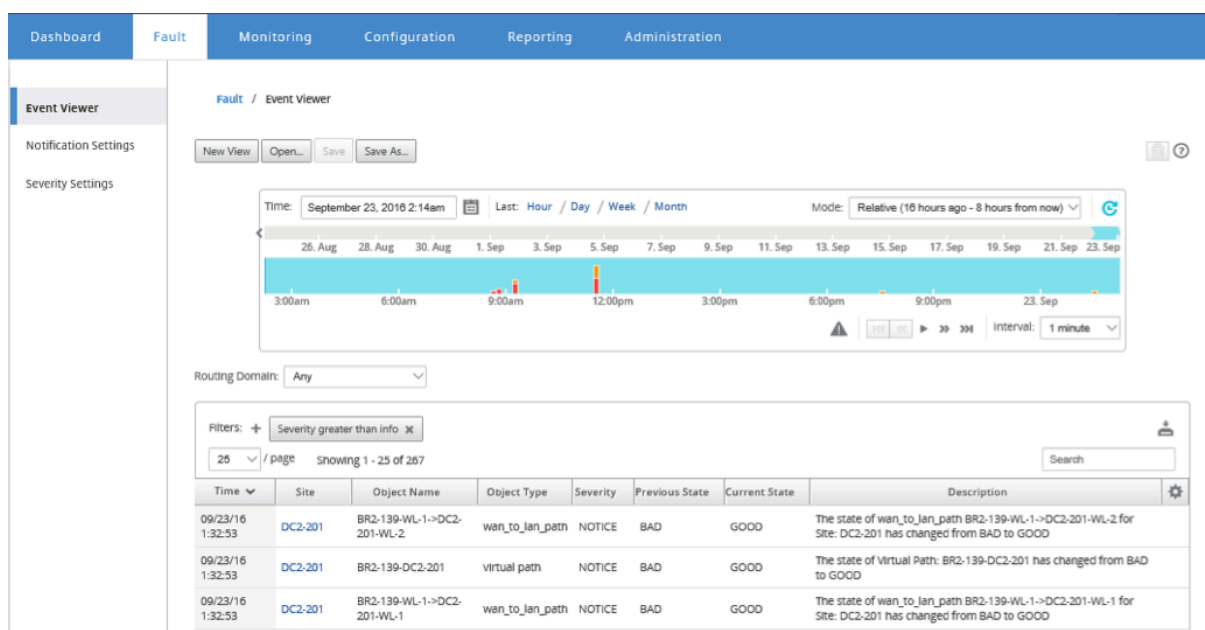
Viewing events

You can view the events, filter it and also download it from the Event Viewer page.

To access the event viewer page.

In the SD-WAN Center web interface click the **Fault** tab.

The Event Viewer page appears by default.



You can select and view events of a particular time frame by using the timeline controls. For more information, see, [How to use timeline controls](#).

You can also create, save and open event views. For more information, see, [How to manage views](#)

You can create custom filters for narrowing the Events table results.

Using Filters

To create and apply a filter:

1. Click **+** icon to the right of the **Filters** section label.
2. Select a category from the drop-down menu.

The options available are:

- Size
- Object Name
- Object Type
- Severity
- Previous State
- Current State**

3. Select an operator from the middle drop-down menu.

The options are as follows:

- is
- is not

- is one of
- contains
- does not contain
- less than
- less than or equal to
- greater than
- greater than or equal to**

4. Enter the string or value by which to delimit the filter.

Note

This field is case sensitive.



Note

You can create and apply multiple filters.

To download the events table as a CSV file:

Click the Download icon at the upper right corner of the events table.

You can configure SD-WAN Center to send external event notifications for different event types as email, SNMP traps or syslog messages. For more information, see [How to Configure Event Notifications](#).

For more information on event statistics, see [How to View Event Statistics](#).

Reports

September 26, 2018

SD-WAN Center provides the following reports:

- **Applications:** Displays details about incoming traffic, outgoing traffic and total traffic of the top applications, sites, and application families.
- **HDX:** Displays detailed HDX data for every site.
- **Sites:** Displays site level statistics for every site in the Virtual WAN. Sites rows expand to show the **Services** table filtered for the Site.
- **Service:** Displays summary statistics by service type (Virtual Path, Internet, Intranet and Pass-through) for every site in the Virtual WAN. Services rows expand to show the individual Services for the Service type.**

- **Virtual Paths:** Displays Virtual Path level statistics for every Virtual Path in the SD-WAN. **** Virtual Paths rows expand to show the Paths contained within the Virtual Path****

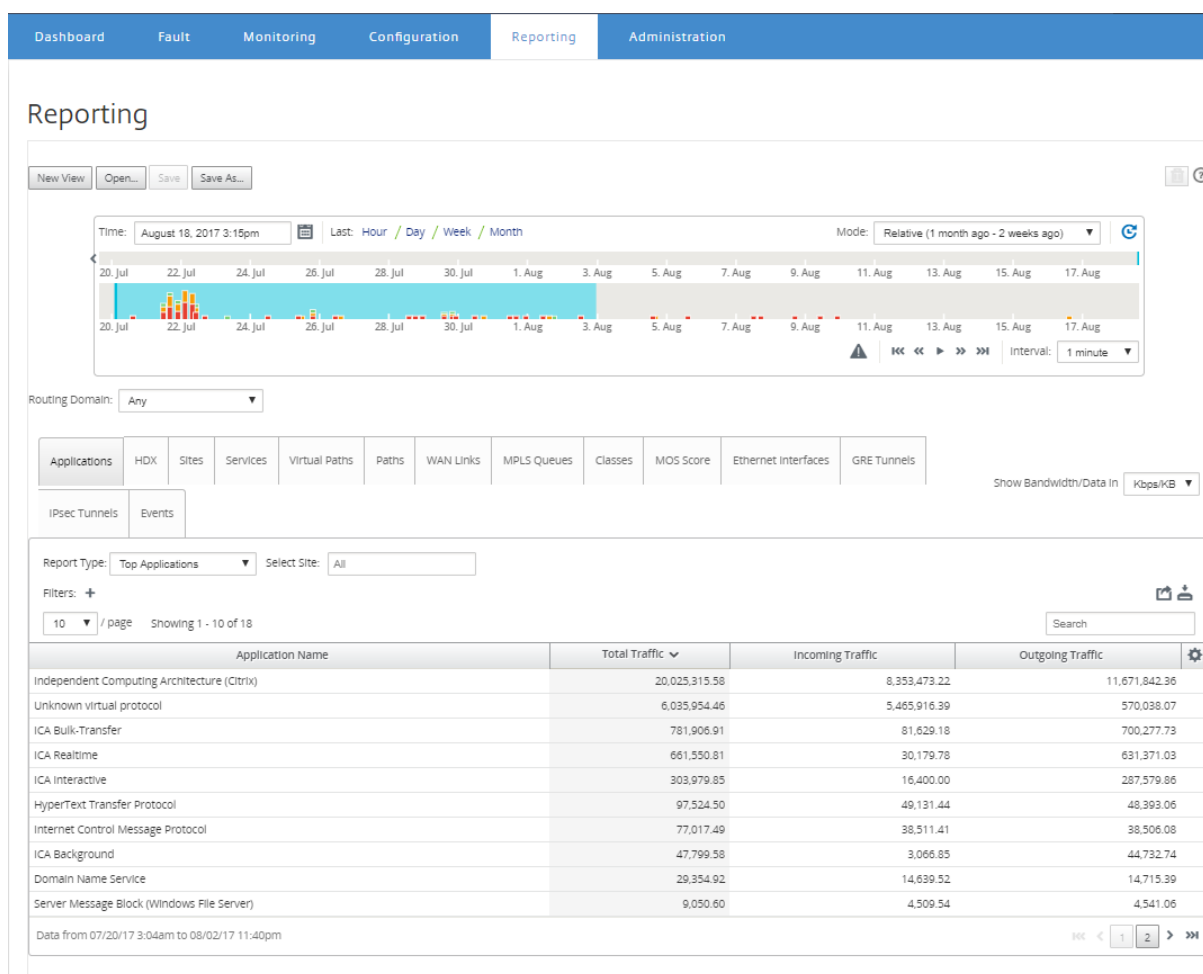
Note

Virtual Path data is recorded from the perspective of both endpoints, as such, each Virtual Path may have two rows identified by the Site that recorded the statistics.

- **Paths:** Displays Path level statistics for every Path in the Virtual WAN.
- **WAN Links:** Displays WAN Link level statistics for every WAN Link at each Site in the Virtual WAN. WAN Links rows expand to show a Usage Summary for each Service type for that WAN Link. Each Service type row will then expand to show usages for each Service of that type. If the WAN Link is a Private MPLS link, a second table will be shown showing the MPLS Queues for the WAN Link.
- **MPLS Queues:** The MPLS Queues rows expand to show a usage summary for each Service type for that Queue. Each Service type row will then expand to show usages for each Service of that type.
- **Classes:** Displays Class level statistics for every Class for each Virtual Path in the Virtual WAN.
- **MOS Score:** The mean opinion score (MOS) provides a numerical measure of the quality of the experience that an application delivers to end users.
- **Ethernet Interfaces:** Displays Ethernet Interface level statistics for every Interface at each Site in the Virtual WAN.
- **GRE Tunnels:** Displays statistics of every LAN GRE tunnel at each site in the WAN.
- **IPsec Tunnels:** Displays statistics of every IP security tunnel at each site in the WAN.
- **Events:** Displays summary counts of events occurring at each Site in the Virtual WAN. **Events** rows expand to show summary counts by Object Type for that Site. Each Object Type will then expand to show summary counts for each Object of that type.

Viewing Reports

On the **Reporting** tab of the SD-WAN Center web interface, you can view all reports or selected reports. You can also download reports.



You can select and view reports of a particular time frame by using the timeline controls. For more information, see, [How to use timeline controls](#).

You can also create, save and open report views. For more information, see, [How to manage views](#).

For more details on viewing different reports, see the following topics:

[How to View Application Statistics](#)

[How to View HDX Reports](#)

[How to View Bandwidth Statistics](#)

[How to View Link Performance Statistics](#)

[How to View IPsec Tunnel Statistics](#)

[How to View GRE Tunnel Statistics](#)

[How to View MPLS Queues statistics](#)

[How to view MOS for Applications](#)

[How to View Event Statistics](#)

[How to View Class Statistics](#)

[How to View Ethernet Interface Statistics](#)

The Change Management Wizard

September 12, 2018

The Change Management wizard guides you through the process of uploading, downloading, staging, and activating the SD-WAN software and configuration on the Master Control Node (MCN) appliance and client appliances.

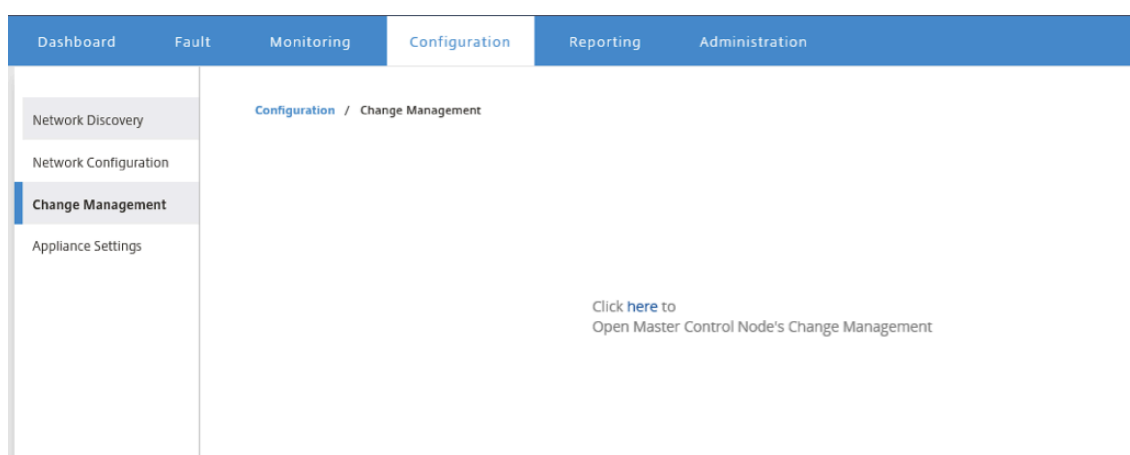
The Change Management wizard is a component of the SD-WAN Management Web Interface running on the MCN, and is not part of the SD-WAN Center. However, you can use the SD-WAN Center to connect to the specified MCN, and access the Change Management wizard.

Note

You must specify the MCN for the SD-WAN Center virtual machine before you can use SD-WAN Center to access the Change Management wizard on that MCN. For instructions, see, [Specifying the MCN and Testing the Connection](#).

To open the Change Management Wizard:

1. In the SD-WAN Center web interface, click the **Configuration** tab.
2. Click **Change Management**.

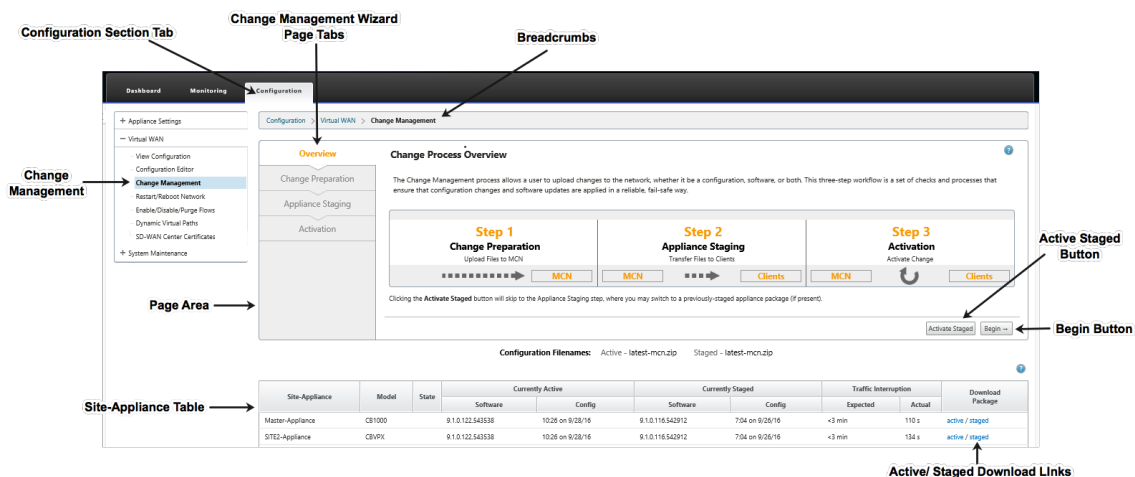


3. At the Click **here** to Open Master Control Node's Change Management prompt, click the **here** link.

The Login page for the SD-WAN Management Web Interface running on the associated MCN appears.

4. Log into the Management Web Interface on the MCN appliance.
5. Select the **Configuration** tab.
6. In the navigation tree (left pane), click **+** next to the **Virtual WAN** branch to expand that branch.
7. Click **Change Management**.

This displays the first page of the **Change Management** wizard, the **Change Process Overview** page, as shown in the figure below.



8. To start the wizard, click **Begin**.

Note

For complete instructions on using the wizard to upload, stage, and activate the SD-WAN software and configuration on the appliances, please see the SD-WAN 9.1.0 User Guide.

The **Change Management** wizard has the following navigation elements:

- **Page area:** Displays the forms, tables, and activity buttons for each page of the **Change Management** wizard.
- **Change Management wizard page tabs:** On the left side of the page area, on each page of the wizard, tabs are listed in the order in which the corresponding steps occur in the wizard process. When a tab is active, you can click it to return to a previous page in the wizard. An active tab displays its name displays in a blue font. A gray font indicates an inactive tab. Tabs are inactive until all dependencies (previous steps) have been fulfilled without error.
- **Appliance-Site table:** At the bottom of the wizard page area, this table contains information about each configured appliance site, and links for downloading the active or staged appliance packages for that appliance model and site. A package in this context is a zip-file bundle containing the appropriate SD-WAN software package for that appliance model, and the specified configuration package. The Configuration Filenames section above the table shows the package name for the current active and staged packages on the local appliance.

- **Active/Staged download links:** In the **Download Package** field (far right column) of each entry in the **Appliance-Site** table, you can click a link in an entry to download the active or staged package for that appliance's site.
- **Begin button:** Click **Begin** to initiate the **Change Management** wizard process and proceed to the **Change Preparation** tab page.
- **Activate Staged button:** If this is not an initial deployment, and you want to activate the currently staged configuration, you have the option of proceeding directly to the **Activation** step. Click **Activate Staged** to proceed directly to the **Activation** page and initiate activation of the currently staged configuration.

The Configuration Editor

September 12, 2018

The Configuration Editor is available as a component of the SD-WAN Center Web Interface, and in the SD-WAN Management Web Interface running on the Master Control Node (MCN) of the SD-WAN.

Note

You cannot push configurations to the discovered appliances directly from SD-WAN Center.

You can use the Configuration Editor to edit the configuration settings and to create a configuration package. When the configuration package has been created, you can export it to the MCN and install it. The changes are then reflected in the MCN.

Note

You have to log on with administrative rights to the SD-WAN Center appliance and the MCN, to edit the configurations on SD-WAN center and to export and install the configurations on the MCN.

For detailed instructions on using the Configuration Editor to configure your SD-WAN, see [SD-WAN](#) documentation.

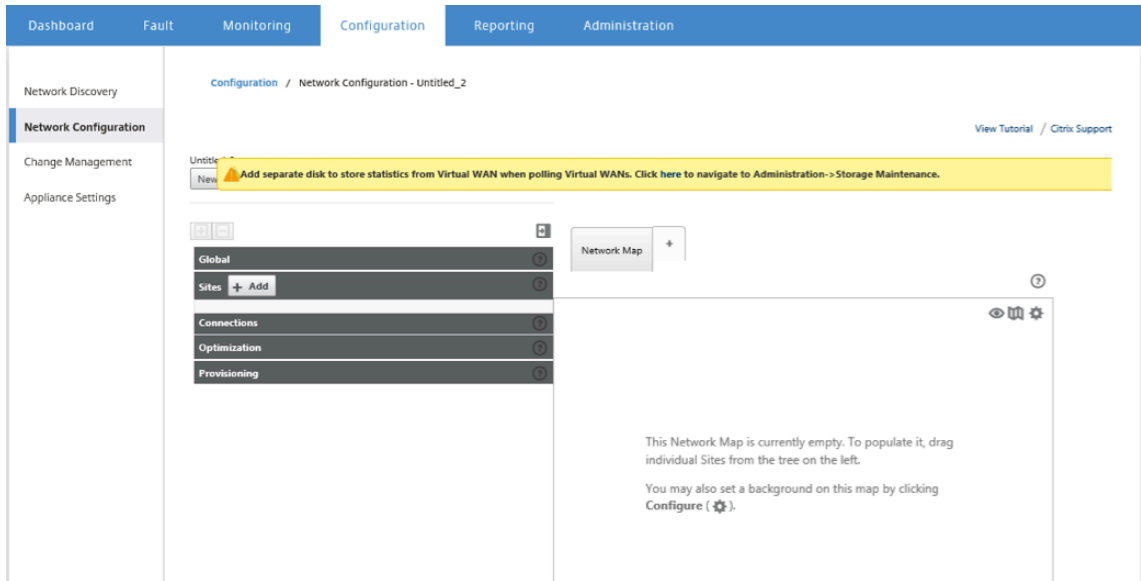
The Configuration Editor enables you to do the following:

- Add and configure SD-WAN Appliance sites and connections.
- Provision the SD-WAN appliance.
- Create and define SD-WAN Configuration.
- Define and view Network Maps of your SD-WAN system.

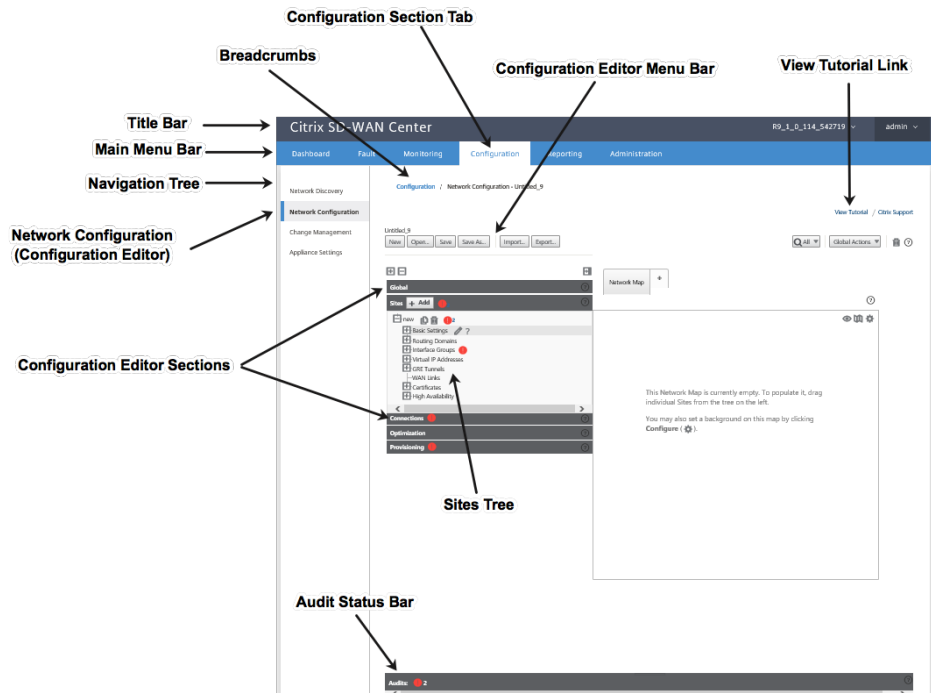
To open the Configuration Editor:

1. In the SD-WAN Center web interface, click the **Configuration** tab.

2. Click **Network Configuration**.



The below figure outlines the basic navigation and page elements of the **Configuration Editor**, and the terminology used in this guide to identify them.



The primary screen of the Configuration Editor has the following navigation elements:

- **Configuration Editor menu bar:** Contains the primary activity buttons for Configuration Editor operations. In addition, at the far right edge of the menu bar is the **View Tutorial** link button for initiating the Configuration Editor tutorial. The tutorial walks you through a series of bubble descriptions for each element of the Configuration Editor display.

- **Configuration Editor sections tree:** The stack of dark grey bars located in the left pane of the **Configuration Editor** page area. Each grey bar represents a top-level section. There are five sections: **Global**, **Sites**, **Connections**, **Optimization** and **Provisioning**. Click a section bar to expand a section and reveal the configuration tree for that section. Click the bar again to collapse the section.
- **Section tree branches:** Click the + (plus sign) icon at the left of a section branch name in the section tree to open a section branch. Click - (minus sign) to close a branch. Each section branch includes one or more sub-branches of configuration categories and forms, which in turn can contain additional child branches and forms.
- **Sites tree:** Lists the site nodes that have been added to the configuration and are currently opened in the Configuration Editor. In the section tree, click the + icon at the left of **Sites** to open the **Sites** tree. Click + to the left of a site name to open the branch for that site. Click - (minus sign) to close a branch.
- **Audits status bar:** The dark grey bar at the bottom of the Configuration Editor page, and spanning the entire width of the Configuration Editor page. The **Audits** status bar is available only when the **Configuration Editor** is open. An Audit Alert icon (red dot or goldenrod delta) at the far left of the status bar indicates one or more errors present in the currently opened configuration. Click the status bar to display a complete list of all unresolved audit alerts for that configuration.
- **Resize bar:** The thin, grey, vertical bar on the right border of the main page area pane is available in most of the Configuration Editor pages. You can use the resize bar to grow or shrink the width of the page area to reveal or truncate content in a table, tree, or form. Roll your cursor over the resize bar until the cursor changes to a bidirectional arrow. Then click and drag the bar to the right or left to grow or shrink the area width.

If the resize bar is not available for a page area, you can click and drag the right edge of your browser to display the full page.

Mobile Broadband Page for LTE Network

The **Mobile Broadband** page under the **Configuration** tab in the SD-WAN Center GUI displays information about the LTE modem configuration. You can perform the LTE modem operations using the same options or buttons displayed in the SD-WAN 210-SE appliance GUI configuration for mobile broadband settings. The LTE summary table lists 210-SE LTE appliances and you can select either single or multiple appliances to perform LTE modem operations.

You upload modem firmware for only one site at a time from the **Mobile Broadband** page.

Note

Multi-region site support for uploading modem firmware is not available in release 9.3 version 5.

Dashboard
Fault
Monitoring
Configuration
Reporting
Administration
Nitro API

Configuration / Network Discovery / SSL Certificate

SSL Certificate
Discovery Settings
Inventory And Status

Initial Setup ?

Before SD-WAN Center can begin Initial discovery of your network, an SSL certificate must be installed on the active Master Control Node. Click the Download Certificate button below, then upload the certificate to the Master Control Node's Web Console, under Configuration > Virtual WAN > SD-WAN Center Certificates.

Certificate Fingerprint: 8D:15:D2:15:B9:0E:07:33:A3:AA:C3:8E:89:7D:86:3C:4C:C4:D0:A2
 Start Date: May 4 06:42:53 2018 UTC Expiration Date: May 1 06:42:53 2028 UTC

Download Certificate
Regenerate Certificate

Remote Management and LTE Site Support

Modem Actions: Enable Disable Reboot APN Firmware Refresh SIM Card ?

Show entries Showing 1 to 1 of 1 entries | row selected Search:

Site Name	Available Firmware	Model	Modem Status	Radio Interface	Home Network	Signal Strength	APN	Session State	IP Address	IMEI	Active Firmware	Details
<input type="checkbox"/> br210	AUTO-SIM	210-LTE-R2	Enabled	UMTS	AT&T	Excellent	nxtgenphone	CONNECTED	10.2.122.72	359075060212577	02.24.05.06_ATT	<input type="checkbox"/>

Modem

Manufacturer: Sierra Wireless, Incorporated Model ID: EM7430 Firmware Revisions: SWI9X30C_02.24.05.06 r7040 CARMD-EV-FRMWR2.2017/05/19 06:23:09

Boot Revisions: SWI9X30C_02.24.05.06 r7040 CARMD-EV-FRMWR2.2017/05/19 06:23:09 PRI Revision: 9905178 001.004 Generic PRL Version: 1

PRL Preference: 0 IMSI: 310410090919083 ESN Number: 0

IMEI Number: 359075060212577 ICCID Number: 89014103270909190837 MEID Number: 35907506021257

Hardware Revision: 1.0 Modem State: READY

Cellular Network

Home Network: AT&T Roaming Status: Home Session State: CONNECTED

Data Bearer: CDMA 1XRTT Dormancy Status: Traffic Channel Active LU Reject Cause: 0

Card State: Present

RF Information

Radio Interface: UMTS Active Band Class: 84 Active Channel: 4385

Signal Strength: Excellent ECIO: 5 IO: 0

SINR: 0 RSRQ: 0

Profile

PDP Type: IPv4 Authentication: 0 Profile Name:

APN Name: nxtgenphone User Name: IP Address: 10.2.122.72

Primary DNS: 172.26.38.1 Secondary DNS: 255.255.255.255 Gateway Address: 10.2.122.73

Call Statistics

Call Status: CONNECTED Bytes Transferred: 10256352 Bytes Received: 0

How-to Articles

September 26, 2018

NetScaler SD-WAN Center "How-to Articles" are simple, relevant, and easy to implement articles on the features of NetScaler SD-WAN Center. These articles contain procedures on how to perform certain tasks using SD-WAN Center.

Administration

[How to View and Add User Accounts](#)

[How to Configure RADIUS Authentication](#)

[How to Configuring TACACS+ Authentication](#)

[How to Manage HTTPS Certificates](#)

[How to Perform a Software Upgrade](#)

[How to Configure Date and Time](#)

[How to Manage Database](#)

[How to Configure and Export Appliance Settings to Managed Appliances](#)

Configuration

[How to Import the MCN Configuration to SD-WAN Center](#)

Analytics

[How to View Application Statistics](#)

[How to View HDX Reports](#)

[How to View Bandwidth Statistics](#)

[How to View Link Performance Statistics](#)

[How to View GRE Tunnel Statistics](#)

[How to View IPsec Tunnel Statistics](#)

[How to View MPLS Queues statistics](#)

[How to View Class Statistics](#)

[How to View MOS for Applications](#)

[How to View Event Statistics](#)

[How to View Ethernet Interface Statistics](#)

Monitoring

[How to Configure Polling Interval](#)

[How to View Log Files](#)

[How to Create and Manage Diagnostic Packages](#)

[How to View the System Information](#)

[How to Manage Memory Dumps](#)

[How to Configure Event Notifications](#)

General

[How to Use Timeline Controls](#)

[How to Manage Views](#)

Zero Touch Deployment

March 1, 2019

Zero Touch Deployment (ZTD) Service is a Citrix operated and managed cloud service which allows discovery of new appliances in the NetScaler SD-WAN network, and automates the deployment process for branch offices. The ZTD Cloud Service is accessible from any node in the network via Internet, and over Secure Socket Layer (SSL) protocol.

For information on appliance, AWS and Azure deployment with zero touch, see [Zero Touch Deployment](#) topic in SD-WAN documentation.



Locations

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