Installing Your System Using Automatic Deployment

General Concepts For Your System Deployment

System Sizes

- 50 concurrent users system

  ◦ Typically supports a company between 500 and 1000 employees

  ◦ Primary system (without HA) comprises an Admin virtual machine and an optional Internet Reverse Proxy (for public access)

- 250 concurrent users system

  ◦ Typically supports a company between 2500 and 5000 employees

  ◦ Primary system (without HA) comprises an Admin virtual machine, a media virtual machine, and an optional Internet Reverse Proxy (for public access)

- 800 concurrent users system

  ◦ Typically supports a company between 8000 and 16,000 employees

  ◦ Primary system (without HA) comprises an Admin virtual machine, a media virtual machine, and an optional Internet Reverse Proxy (for public access)

- 2000 concurrent users system

  ◦ Typically supports a company between 20,000 and 40,000 employees

  ◦ Primary system (without HA) comprises an Admin virtual machine, 3 media virtual machines, 2 web machines, and an optional Internet Reverse Proxy (for public access)

Terms Used During the Deployment

Field Name	Description
WebEx Site URL	Secure http URL for users to host and attend meetings.
WebEx Administration URL	Secure http URL for administrators to configure, monitor, and manage the system.
Public VIP	IP address for the WebEx site URL
Private VIP	• IP address for the Administration site URL • IP address for the WebEx site URL (for internal users only, if you have a split-horizon DNS).

Installation Checklist

Networking Changes

See the appropriate networking checklist for your deployment. There are two considerations:

- Public access: whether or not users external to your firewall, can host and access meetings from the Internet or mobile devices.

  Cisco recommends public access as it results in a better user experience for your mobile workforce.

- Type of DNS setup at your company: split-horizon DNS or a non-split horizon DNS (most common DNS configuration).

  For more information about these types of DNS setup, see the *Cisco WebEx Meetings Server Planning Guide*.

- Open port 10200 from the administrator's desktop to the Admin virtual machine.

  Port 10200 is used by the web browser during the deployment.

Select the right checklist for your deployment:

- Networking Checklist for a System with Public Access and Non-Split-Horizon DNS
- Networking Checklist for a System With No Public Access
- Networking Checklist for a System with Public Access and Split-Horizon DNS

Required Information

Note The required information varies if you are doing an automatic deployment (supported for 50 concurrent users, 250 concurrent users, and 800 concurrent users) systems or manual deployment (supported for all system sizes). Cisco recommends you select an automatic deployment unless you are deploying a 2000 user system, that requires a manual deployment. Refer to the appropriate link below.

Choose one of the following for a checklist of information required for your deployment type:

- Required Information For an Automatic Deployment, on page 3
- Required Information For a Manual Deployment

Required Information For an Automatic Deployment

This is the information required for your system, in order.

Note Be sure to add the virtual machine FQDNs, IP addresses, WebEx and Administration site URLs, and VIP addresses to your DNS servers before you start the system deployment. We will use this information to look up IP addresses for you during the deployment.

Field Name	Description	Value For Your System
vCenter URL	Secure http address of the vCenter server for the virtual machines in your system.	
vCenter Username	Username to deploy the virtual machines for your system. This user must have administrator privileges: to deploy, configure, power on or off, and delete virtual machines.	
vCenter Password	Password of the vCenter user.	
(250 and 800 concurrent user systems only) ESXi Host	ESXi host for the media virtual machine. **Note** This ESXi host must be on the same vCenter, as the vCenter URL above.	
(250 and 800 concurrent user systems only) Datastore	Datastore for the media virtual machine.	
(250 and 800 concurrent user systems only) Virtual Machine Port Group	Port group for the media virtual machine. **Note** Cisco recommends you choose the same port group that you selected for the Admin virtual machine.	
(250 and 800 concurrent user systems only) FQDN for the media virtual machine	Fully qualified domain name for the media virtual machine.	
(250 and 800 concurrent user systems only) IPv4 address for the media virtual machine	IPv4 address for the media virtual machine. We will automatically look up the corresponding IPv4 address for this media virtual machine.	
(Public access only) ESXi host	ESXi host for the Internet Reverse Proxy virtual machine. **Note** Cisco recommends that you select a different ESXi host than you chose for the Admin and other internal virtual machine. To enable traffic to the Internet Reverse Proxy, be sure the ESXi host is configured with a port group that can route the VLAN whose IP address is used by the Internet Reverse Proxy.	
(Public access only) Datastore	Datastore for the Internet Reverse Proxy virtual machine.	

Field Name	Description	Value For Your System
(Public access only) Virtual Machine Port Group	Port group for the Internet Reverse Proxy virtual machine. **Note** For security reasons, Cisco recommends that you select a different port group than you chose for the Admin virtual machine.	
(Public access only) FQDN for the Internet Reverse Proxy	Fully qualified domain name for the Internet Reverse Proxy virtual machine.	
(Public access only) Internet Reverse Proxy IPv4 Address	IPv4 address for the Internet Reverse Proxy virtual machine. We will automatically look up the corresponding IPv4 address for this Internet Reverse Proxy virtual machine.	
(Public access only) IPv4 Gateway	IPv4 gateway for the Internet Reverse Proxy virtual machine.	
(Public access only) IPv4 Subnet Mask	Subnet mask for the Internet Reverse Proxy virtual machine.	
(Public access only) Primary DNS Server IPv4 Address	DNS server for the Internet Reverse Proxy virtual machine.	
(Public access only) Secondary DNS Server IPv4 Address	(Optional) Additional DNS server for the Internet Reverse Proxy virtual machine.	
Public VIP	IP address for the WebEx site URL (site users access to host and attend meetings)	
Private VIP	• IP address for the Administration site URL (for administrators to configure, monitor, and manage the system) • IP address for the WebEx site URL (for internal users only, if you have a split-horizon DNS).	
WebEx Site URL	Secure http URL for users to host and attend meetings.	
WebEx Administration URL	Secure http URL for administrators to configure, monitor, and manage the system.	

What To Do Next

With this information, start the system deployment by entering the deployment URL in a browser window. (The deployment URL is displayed in the console window for the Admin virtual machine.)

Note   If the system is rebooted before the configuration is complete, a new passcode is generated and you must use the deployment URL with the new passcode.

Deploying the OVA File From the VMware vSphere Client

Before deploying your system, you must use the VMware vSphere client to deploy the Admin virtual machine for your system.

Note   The following procedure is provided as a general guidance. The exact screens you see during the OVA deployment depends upon your vCenter, storage, and networking configuration, and may differ slightly from this procedure. See your VMware vSphere documentation for complete information on the OVA wizard.

Before You Begin

Obtain the Cisco WebEx Meetings Server OVA file for your system and place it in a location that is accessible from VMware vSphere

Procedure

Step 1   Sign in to your VMware vSphere client.
Be sure to sign in as a user that includes administrator privileges: to deploy, configure, power on and off, and delete virtual machines.

Step 2   Select **File** > **Deploy OVF Template...**
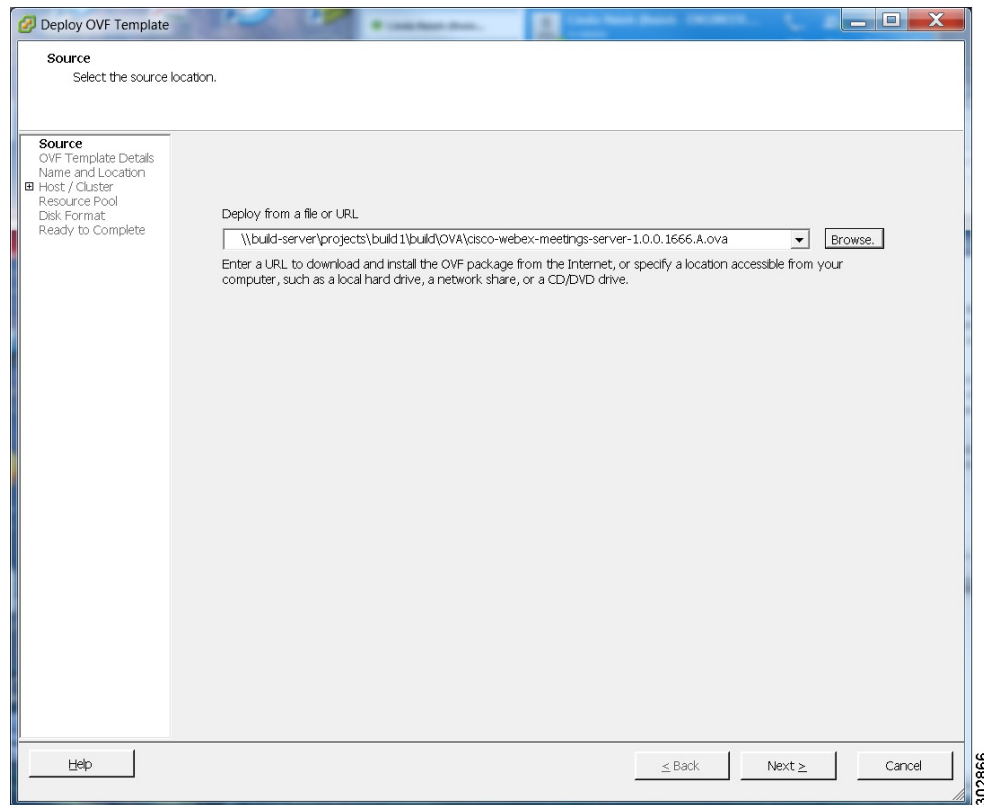
Step 3 Select **Browse** to navigate to the location where you have the OVA file. Select **Next**.
You may select the **Cisco WebEx Meetings Server** link to go to a Web page with detailed information about this system.
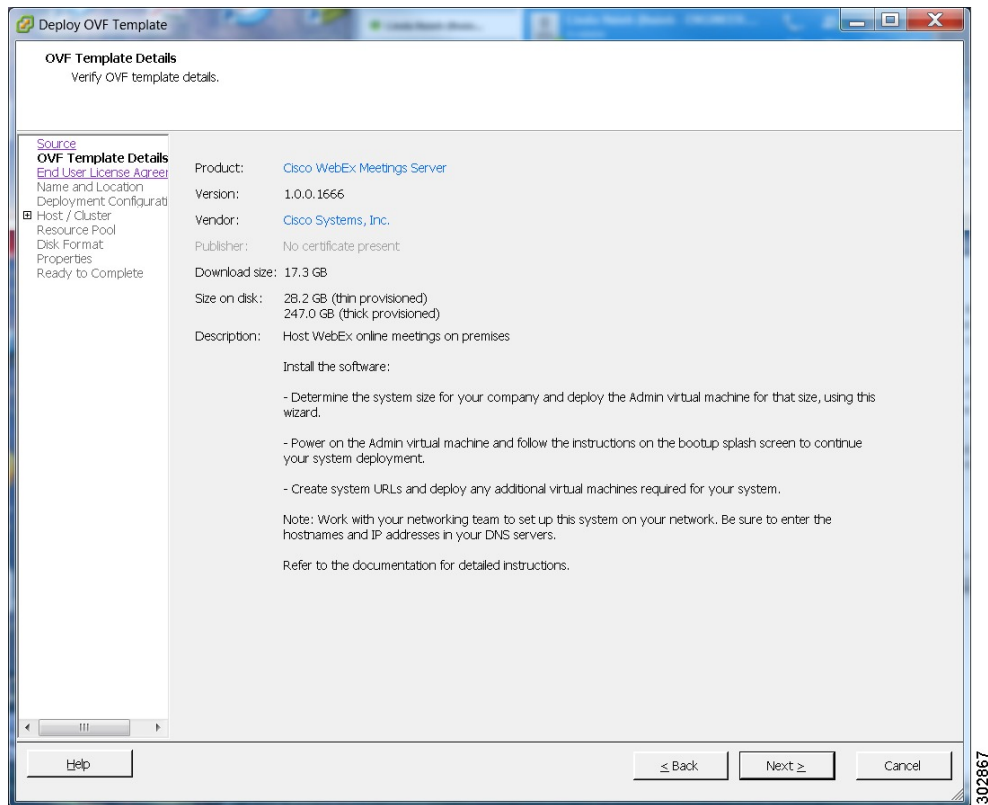
Step 4 Read the End User License Agreement and select **Accept**, then select **Next**.

Step 5 Navigate to, and select the location, in the vCenter inventory, where you'd like to place the Admin virtual machine.

Step 6 Enter the name of the virtual machine for your system size and select **Next**. For more information on selecting the correct size for your company, see System Sizes, on page 2.

> **Note** You must deploy the Admin virtual machine before any other virtual machines. If you select automatic deployment (recommended), then we will deploy the other virtual machines for you. If you choose manual deployment (required for 2000 concurrent users system), then you will deploy the other virtual machines, using this same wizard, after you finish the deployment of the Admin virtual machine.

Cisco recommends you include the type in the virtual machine name; for example, "Admin" in your Admin virtual machine name, to identify it easily in your vCenter inventory.

> **Note** All the internal virtual machines for your system must be in the same subnet as the Admin virtual machine. (Depending on the system size you select, you may need one or more media and web internal virtual machines.)
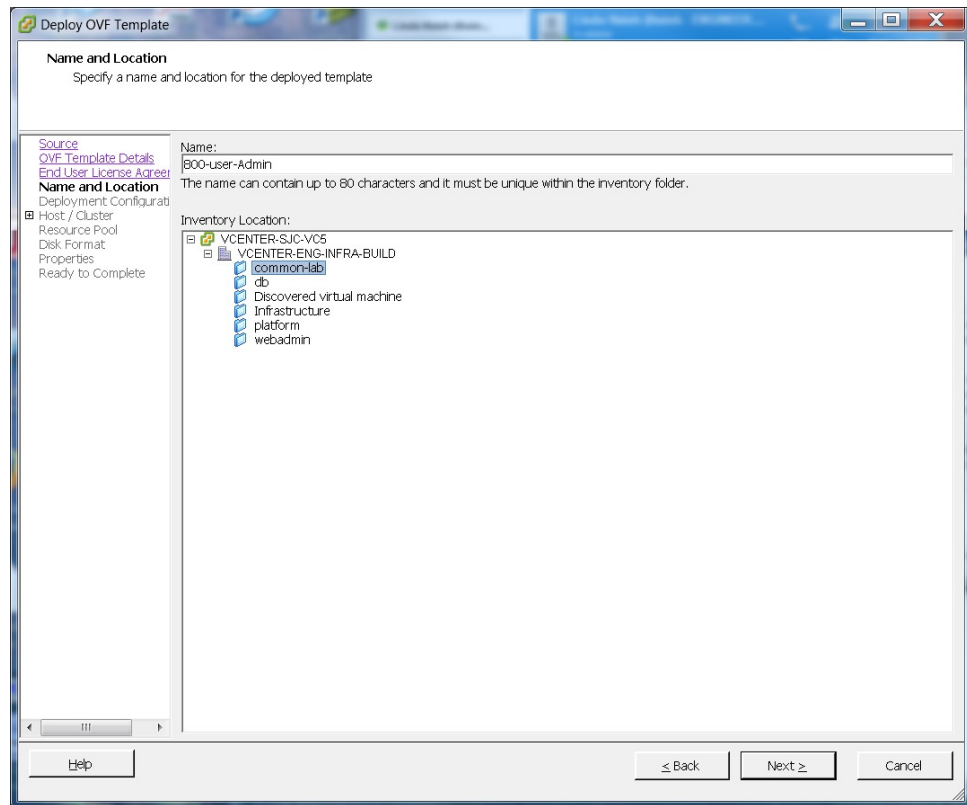
Step 7 From the drop-down list, select the virtual machine for your system size then select **Next**.
Be sure to deploy the Admin virtual machine before any other virtual machines in your system.
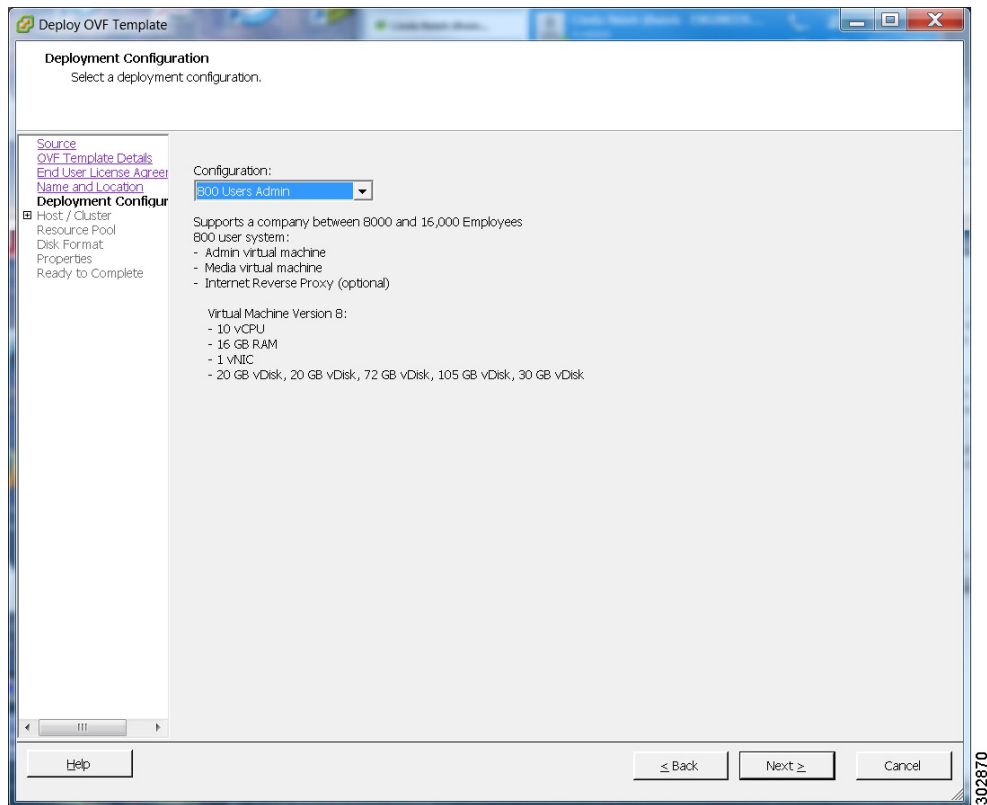
Step 8 Navigate thru the vCenter inventory and select the ESXi host or cluster where you want to deploy the virtual machines for your system. Select **Next**.
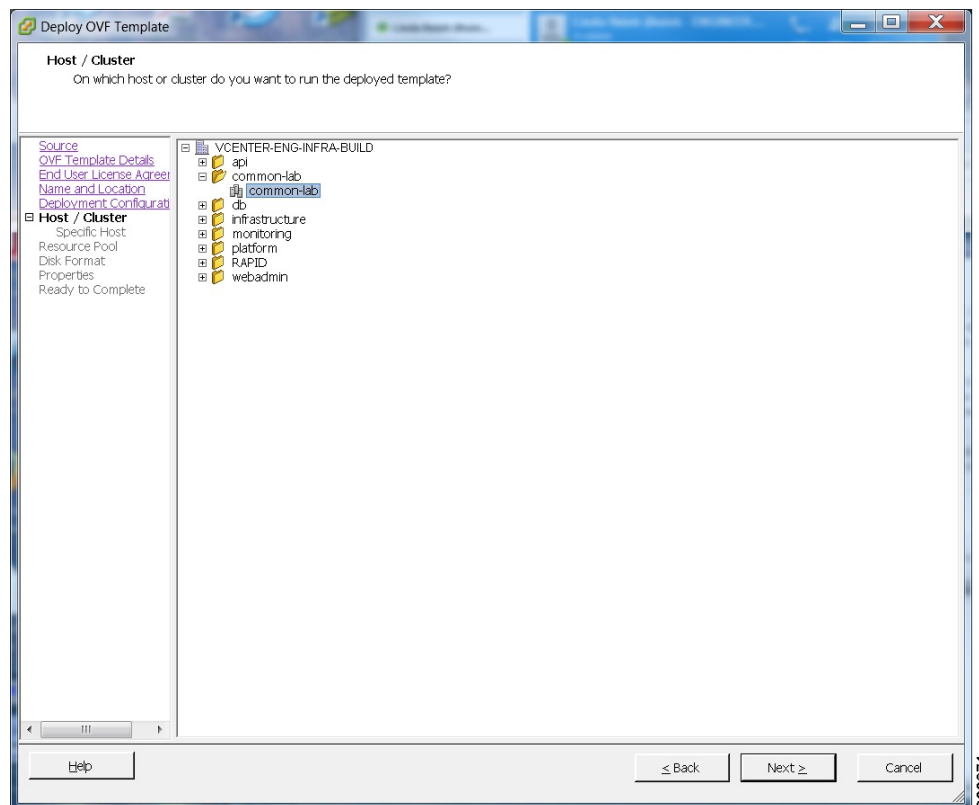
Step 9   If the cluster contains a resource pool, then select the resource pool where you want to deploy the OVA template and select **Next**.
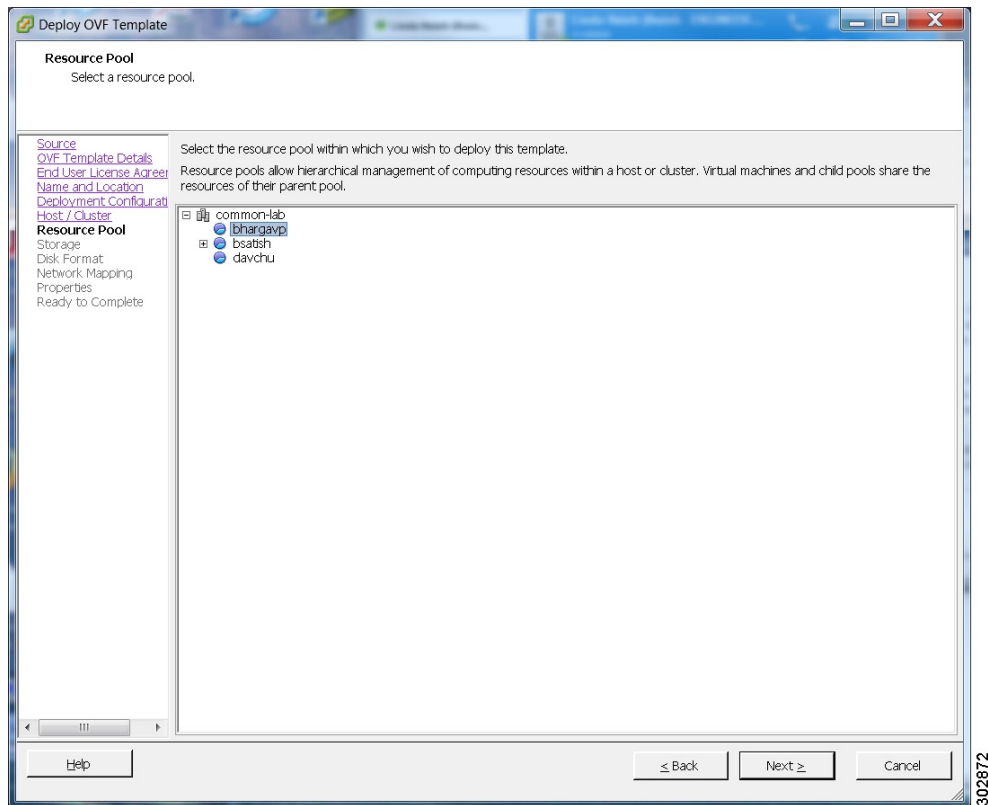
Step 10 Select the datastore for your virtual machine and the kind of provisioning for your virtual machine.
You must select thick provisioning and create the maximum virtual disk space required for your system. With **Thin Provision**, VMware allocates the file system space on an "as-needed" basis, resulting in poor performance.
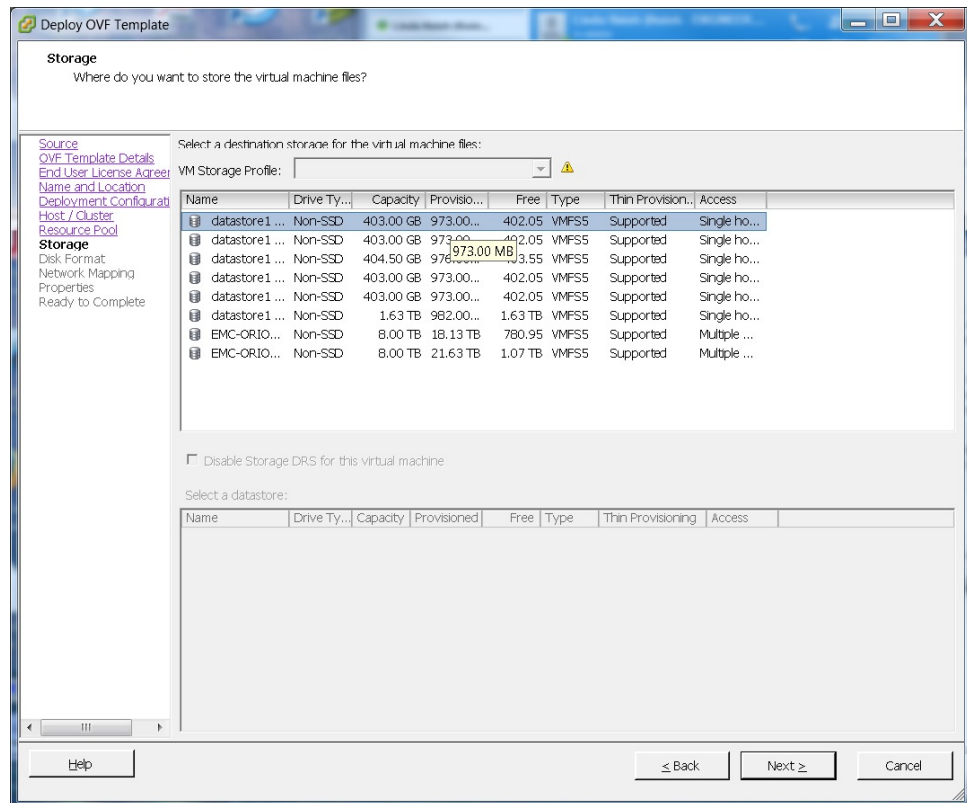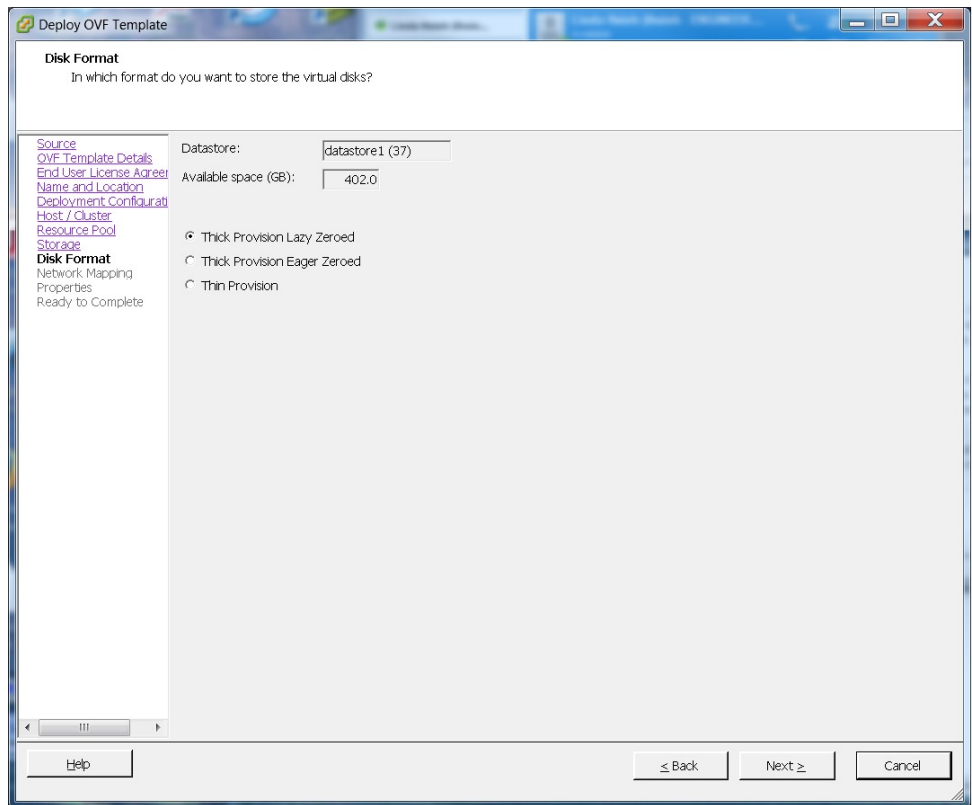
Step 11 Set up network mapping. For each source network, select a destination network from the drop-down list in the **Destination Networks** column. Select **Next**.

Note Both the "VM Network" and the "VIP Network" must be mapped to the same value in the "Destination Network" column. You can ignore the warning message about multiple source networks mapped to the same host network.
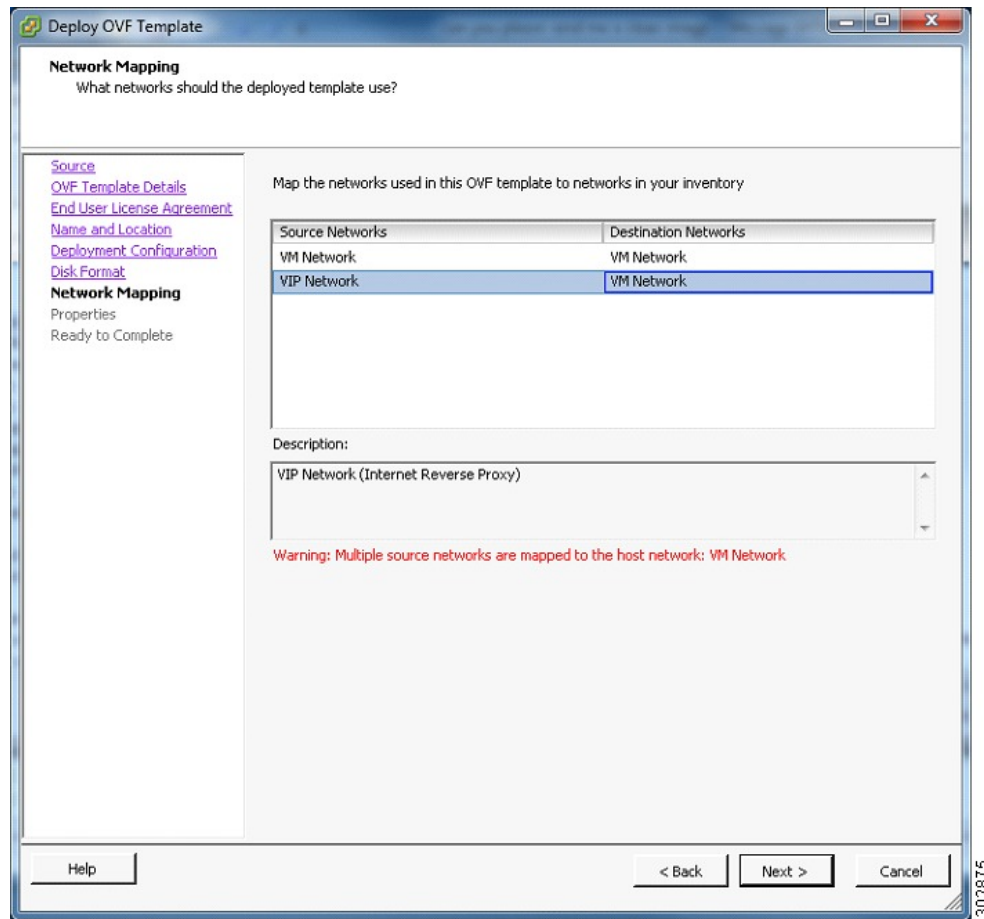
Step 12 Enter the following information for the virtual machine, then select **Next**:

- Hostname of the virtual machine (do not include the domain as you will enter this in the next field)

- Domain for the virtual machine

- IPv4 address (Eth0) of the virtual machine

- Subnet mask of the virtual machine

- Gateway IP address

- Primary DNS server that contains entries for the hostname and IP address of this virtual machine

- Secondary DNS server that contains entries for the hostname and IP address of this virtual machine

- Language displayed during the install process, following the power on of this virtual machine

Step 13 Confirm the information that you have entered. If there are any mistakes, select **Back** and fix those mistakes.

Step 14 Check the **Power on after deployment** check box, then select **Finish**.
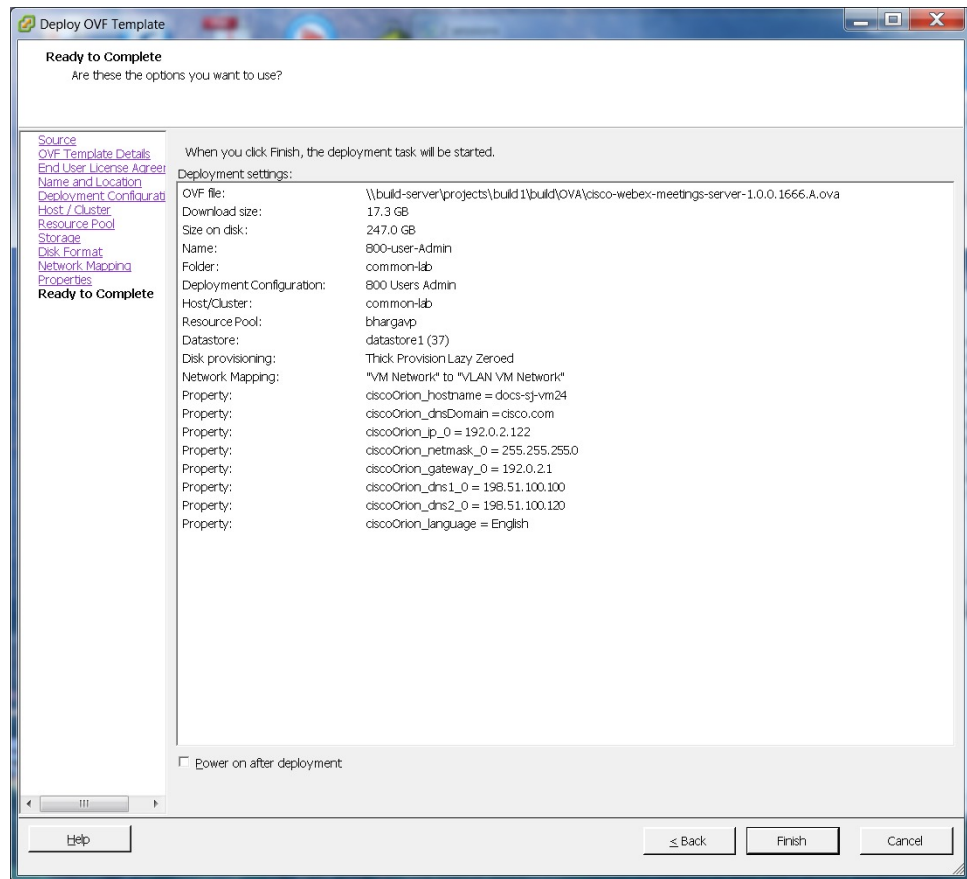
Step 15   If you are deploying an Admin virtual machine, go to vCenter and open a console window for the virtual machine. Once it powers on, we will check the networking information you entered during the OVA deployment.

   • If we are able to confirm connectivity, a green check mark is displayed.

   • If there is a problem, a red X mark is displayed. Fix the error and reattempt the OVA deployment.

Step 16   Once all the information is confirmed, write down the case-sensitive URL displayed in the console window. A software administrator will type this URL into a web browser, and continue the system deployment.

Note   If the system is rebooted before the configuration is complete, a new passcode is generated and you must use the URL with the new passcode.

What to Do Next

   • If you are doing a manual deployment, then you may choose to deploy all the virtual machines for your system at this time.

   • If the deployment is successful, then continue with system deployment in a browser window.

   • If the deployment has failed, see Checking Your Networking Configuration After a Failed OVA Deployment, on page 18

Checking Your Networking Configuration After a Failed OVA Deployment

Confirm the networking entries for the virtual machine.

Important Do not use **Edit Settings...** for any of the virtual machines in your system, other than after a failed deployment. Once the system is up and running, you must use the WebEx Administration site to make any further edits to virtual machine settings. If you use your vSphere client, those changes will not be accepted by the system.

Note For detailed steps, see your VMware vSphere documentation.

Procedure

Step 1 In the vSphere client, select **Power** > **Shut Down Guest** on the virtual machine.

Step 2 Find the virtual machine in the Inventory and right-click **Edit settings...**.

Step 3 Select the **Options** tab.

Step 4 Select **Properties** and confirm that all the networking information has been entered correctly. If any changes are required, redeploy the OVA with the correct settings.
One possible networking issue is that the VLAN routing is not set up correctly for the ESXi host. Because the virtual machine is on that VLAN, the virtual machine won't have network connectivity. From the network where the ESXi host resides, you should be able to ping the default gateway IP address of the VLAN you will be using for the virtual machines in your system.

Selecting Your Language for Setup

Determine your preferred language for setting up the system.

Note Do not close this browser window until the system deployment is complete. If you close the browser early, you may have to restart the deployment.

Before You Begin

Be sure you have deployed the Admin virtual machine from VMware vCenter. See Deploying the OVA File From the VMware vSphere Client, on page 6

Procedure

Step 1   Select the language from the drop-down menu.

Step 2   Select **Next**.

Confirming the Size of Your System

You selected the size of your system when you deployed the Admin virtual machine by using the OVA file.

- Confirm that the system size you selected during the OVA deployment is correct.

    ◦ If the system size you selected is correct, then select **Next**.

    ◦ If the system size you selected is incorrect, then select **I want to change System Size**.

    a) Using your VMware vSphere client, select **Power** > **Shut Down Guest** for the Admin virtual machine with the incorrect system size.
    b) Right-click the virtual machine and select **Delete from Disk**.
    c) Redeploy the OVA file and select the Admin virtual machine for the correct system size.

Choosing What System to Install

Procedure

Step 1   Determine the type of installation.

- If you are installing this system for the first time, then choose **Install a primary system**.

- If you have already installed a primary system and want a redundant High Availability system, then choose **Create a High Availability (HA) redundant system**.
    Note   You should not install a HA system before installing the primary system, as you cannot use the HA system unless the primary system has been installed.

Step 2   Select **Next**.

Choosing the Type of System Deployment

Determine how you want to deploy any other virtual machines that are required for your system. If you selected a 2000 user system, then you must select a manual deployment.

Procedure

Step 1 Select whether you want to deploy the virtual machines yourself, or you want us to deploy them for you.

- **Automatic**: This is the fastest installation method. We deploy all the virtual machines required for your system.
  Cisco recommends you select **Automatic** unless you are deploying a 2000 user system that requires a manual deployment.

  Note By using Cisco WebEx Administration, you can still make changes to your system, following deployment.

- **Manual**: You must manually deploy each virtual machine using VMware vCenter. After answering a few more questions about your system, we will provide a list of virtual machines required for your system.

Your decision about automatic or manual deployment depends upon the following:

- If you have time constraints, an automatic deployment is faster than a manual deployment.

- If you prefer step-by-step guidance, then select an automatic deployment.

- If you are familiar with VMware vCenter and do not want to provide your vCenter credentials, then select manual deployment.

Step 2 Select **Next**.

Providing VMware vCenter Credentials

If you select an automatic deployment, then we require your vCenter credentials to deploy the virtual machines for you.

Before You Begin

Note the following:

- All the virtual machines for your system must belong to the same VMware vCenter.

- The vCenter username and password you enter below must include administrator privileges: to deploy, configure, power on and off, and delete virtual machines.

Procedure

Step 1 Enter the secure https URL for the vCenter where your system will be deployed.

Step 2 Enter the username that we will use to deploy the virtual machines.

Step 3 Enter the password for the username entered previously.

Step 4 Confirm that you entered the vCenter information correctly and select **Next**.

Choosing vCenter Settings for your Media Virtual Machine

The media virtual machine is required for 250 user and 800 users system deployments.

Procedure

Step 1	From the drop-down list, choose the ESXi host for the media virtual machine.
Step 2	Choose the datastore for the media virtual machine.
Step 3	Choose the virtual machine port group for the media virtual machine. Cisco recommends you choose the same port group that you selected for the Admin virtual machine.
Step 4	Select **Next**.

Entering Networking Information for the Media Virtual Machine

By entering the fully qualified domain name of the media virtual machine, we will attempt to populate the networking information for you.

Note The media virtual machine must be on the same subnet as the Admin virtual machine. Therefore, you cannot edit the domain, IPv4 gateway, subnet mask, and DNS servers for the media virtual machine.

Procedure

Step 1	Enter the FQDN of the Media virtual machine. You should have already entered the hostname and IP address of the media virtual machine in your DNS servers. We will look up and populate the **Ipv4 Address** field.
Step 2	Select **Next**.

Adding Public Access

If you add public access, users can host or attend meetings from the Internet or mobile devices. For additional information on setting this up for your company, see the *Cisco WebEx Meetings Server Planning Guide*.

Note You can always change this option later, through the WebEx Administration site.

Procedure

Step 1   Choose whether or not external users can host or attend meetings.

- If you want to add public access, confirm that the **Create an Internet Reverse Proxy virtual machine** check box has a check.

- If you want only internal users (behind your company's firewall) to host or attend meetings, then uncheck the **Create an Internet Reverse Proxy virtual machine** check box.

Step 2   Select **Next**.

What to Do Next

- With public access: Choosing vCenter Settings for your Internet Reverse Proxy, on page 22

- Without public access: Entering the Private VIP Address, on page 24

Choosing vCenter Settings for your Internet Reverse Proxy

Public access requires an Internet Reverse Proxy virtual machine. Enter the values you wrote down in your installation checklist.

Although this is not mandated, for security reasons, Cisco recommends that you place the Internet Reverse Proxy on a different subnet from the Admin virtual machine. This ensures network level isolation between the Internet Reverse Proxy and your internal (Admin and media, if applicable) virtual machines. This is a good security practice for isolating your DMZ network from your internal network.

Procedure

Step 1   From the drop-down list, choose the ESXi host for the Internet Reverse Proxy virtual machine.

Step 2   Choose the datastore for the Internet Reverse Proxy.

Step 3   Choose the virtual machine port group for the Internet Reverse Proxy.

Step 4   Select **Next**.

Entering the Networking Information for the Internet Reverse Proxy

The Internet Reverse Proxy enables users to host or attend meetings from the Internet or mobile devices. Cisco recommends you use a different subnet than your internal (Admin and media, if applicable) virtual machines.

Before You Begin

- For security reasons, Cisco recommends the Internet Reverse Proxy should be located on your DMZ network.

- Enter the hostname and IP address of the Internet Reverse Proxy in your DNS servers to enable lookup from an external network.

Note If you have DNS servers that enable look up from internal networks, then enter the hostname and the IP address of the Internet Reverse Proxy in these DNS servers as well. This enables a secure connection between your internal virtual machines (Admin, and media, if applicable) and the Internet Reverse Proxy.

- Enter the following for the Internet Reverse Proxy and select **Next**:

  ◦ Fully qualified domain name (FQDN)
    You should have already entered the hostname and IP address of the Internet Reverse Proxy virtual machine in your DNS servers. We will look up and populate the **Ipv4 Address** field for you.

  ◦ IPv4 gateway

  ◦ IPv4 subnet mask

  ◦ Primary DNS server IPv4 address

  ◦ (Optional) Secondary DNS server IPv4 address

Entering the Public VIP Address

- This public VIP address must be visible from both the Internet and the internal network (split-horizon DNS only).

- This public VIP address must be on the same subnet as the Internet Reverse proxy.

- If you do not have a split-horizon DNS, then all users use the Public VIP address to host and attend meetings.

- If you have a split-horizon DNS, and added public access, then external users use the Public VIP address to host and attend meetings.

For more information on non-split horizon and split-horizon DNS, and public access, see the *Cisco WebEx Meetings Server Planning Guide*.

Note If you are creating a High Availability (HA) system, you do not need to reenter this information, as we will use the information you entered for the primary system.

- Enter the public VIP IPv4 address and select **Next**.

Entering the Private VIP Address

Administrators configure, monitor, and maintain the system from the Administration site URL that maps to the private VIP address.

Note If you have a split-horizon DNS, then internal users also use the Private VIP address to host and attend meetings.

Note If you are adding a High Availability (HA) system, you do not need to reenter this information, as we will use the information you entered for the primary system.

Before You Begin

The private virtual IP (VIP) address must be on the same subnet as your internal (Admin and Media, if applicable) virtual machines.

- Enter the IPv4 private VIP address and select **Next**.

WebEx Site and WebEx Administration URLs

WebEx Site URL

End users access the WebEx site URL to host or attend meetings. This URL resolves to either the private VIP address or the public VIP address, depending on whether or not you are using a split-horizon DNS.

- Resolves to the public VIP address for all users, when you do not have "split-horizon" DNS.

- Resolves to the public VIP address for external users when you have split-horizon DNS.

- Resolves to the private VIP address for internal users when you have split-horizon DNS.

WebEx Administration URL

Administrators access the WebEx Administration URL to configure, manage, and monitor the system. This URL resolves to the private VIP address.

Names for the WebEx Site and WebEx Administration URLs

You may choose almost any names for these URLs. However, you cannot use the following as the hostname in the site URLs:

- the same name as the hostnames for any of the virtual machines comprising the system

- authentication

- client

- companylogo

- dispatcher

- docs

- elm-admin

- elm-client-services

- emails

- maintenance

- manager

- orion

- oriondata

- oriontemp

- nbr

- npp

- probe

- reminder

- ROOT

- solr

- TomcatROOT

- upgradeserver

- url0107ld

- version

- WBXService

- webex

Entering the WebEx Site and Administration URLs

- You cannot reuse the hostnames of the virtual machines in your system in the hostname portion of the Administration or WebEx site URLs.

- The WebEx Site URL must be different from the WebEx Administration URL.

Note   If you are adding a High Availability (HA) system, you do not need to reenter this information, as we will use the information you entered for the primary system.

- Enter the following secure (https) URLs and select **Next**.

  ◦ WebEx site URL for users to host and attend meetings

◦ WebEx Administration URL for system administrators to manage your system

Confirming That Your Network is Configured Correctly

This screen provides links to online help for the networking changes required for your system. The online help provides details on DNS server changes as well as firewall settings.

> **Note** You must make the necessary DNS server and firewall changes, as we will test network connectivity in the next step.

- If you have not done so already, complete the networking configuration and select **Next**. Once you select **Next**:
  - Automatic deployment: We will start deploying the virtual machines required for your system.
  - Manual deployment: On the next screen, you will enter the hostnames for your virtual machines and deploy them, if you have not deployed them already. If you have already deployed them, then power them on and verify all the virtual machines power on successfully.

Deploying Your Virtual Machines

Based on the information you entered earlier, we are deploying the virtual machines required for your system.

> **Note** The deployment takes several minutes to complete. Do not leave this page until all the virtual machines have deployed and powered on successfully, or the deployment failed, with error messages indicating the problem.

- Complete one of the following
  - If there are no errors, then when the status shows all green checks, select **Next.**
  - If you see errors, fix the errors and select **Next**.

> **Note** You may want to select **Download log file** to obtain the log file for this deployment. This enables you to have a record of the deployment, which you may use to troubleshoot a failed deployment.

> **Note** Before redoing the deployment, be sure to power off and delete any virtual machines with errors. Otherwise, you may see error messages about existing virtual machines when you redo the system deployment.

Checking Your System

Based on the information you entered earlier, we are checking the configuration of your system. We are confirming that the virtual machines have the required minimum configuration, and are validating the WebEx site and WebEx Administration URLs.

Note   The system check takes several minutes to complete. Do not leave this page until all the checks have been completed successfully, or the system check fails, with error messages indicating the problem.

Note   If you reload the page before the checks have completed, you will be returned to the first page of this system deployment. However, if the checks have completed, you are taken to the first page of basic configuration (where you set up the mail server and an administrator).

- Complete one of the following:
  - If there are no errors, then when the status shows all green checks, select **Next**. Continue with Setting Up the Mail Server For Your System.
  - If there is a problem with network connectivity, then check that your WebEx Site and Administration URLs and IP addresses were entered correctly. Check that these sites are in the correct subnet, and have been entered in your DNS servers correctly.
  - If there are problems with your system meeting the minimum system capacity, then you have two choices.
    - We recommend you power down all the virtual machines from VMware vCenter and manually delete them. Then reattempt the system deployment on a system with resources that meet or exceed the minimum requirements.
    - You may choose to proceed with your current installation. If you do you, you must acknowledge that you forgo the right to request technical support from Cisco. Confirm by checking the error message check box, and select **Next**.
  - If there are other problems with one or more of your virtual machines, then from VMware vCenter, power off these virtual machines with errors and manually delete them. Then reattempt the system deployment after fixing the problems.

Note   Before redoing the deployment, be sure to power off and delete any virtual machines with errors. Otherwise, you may see error messages about existing virtual machines when you redo the system deployment.

  - In rare cases, you may see **Not tested**.
    This does not mean that there is any problem with your virtual machines. It simply states that we did not complete system checks; for example, due to a temporary loss of network connectivity. Once you complete the deployment, you can sign in to the Administration site and check these resources.

- Select **Continue** to go to the first page of basic configuration (where you set up the mail server and an administrator). If another administrator will do the basic configuration, then write down and send this URL to the software administrator.