



# Wyse Datacenter Appliance XC for Citrix XenDesktop

## Deployment Guide

Dell Engineering  
November 2014

## Revisions

Date	Description
November 2014	Initial release

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# 1 Overview

## 1.1 Purpose of this Document

The document describes the following:

- Configuring Storage containers on Nutanix Prism
- Installing vCenter Appliance & ESXi
- Tasks to be performed to Citrix XenDesktop 7.5
- Tasks to be completed to install the Citrix Server VDA Agent on a master image
- Installing Server 2012 RDS
- Creating a Catalog and Delivery group for XenDesktop
- Installing a Citrix Storefront Server
- Preparing a master image for use in a VDI environment

## 1.2 Scope

The objectives of this document are to:

- Provide the specific configuration required for XC720xd XenDesktop 7.5 VDI Solution by leveraging RDSH and Machine Creation Services
- Provide the Application recommendations
- Provide guidance for application publishing and adding RDSH Session hosts
- Provide configuration and optimization guidance for XD7.5
- Provide configuration and optimization guidance for a Windows 8.1 master image
- Create Desktop pools and provide a Delivery platform for sessions



## 2 Configuring Nutanix Storage Pool and Containers

To use the cluster storage, you must configure a storage pool and containers within the pool. Create only one pool consisting of all the disks in the cluster. Within the storage pool, we recommend creating multiple containers for a logical distinction between the compute and management storage layers.

1. To configure the storage pool and containers, log in to the Nutanix Web Console. From the **Home** drop-down menu, select **Storage**.

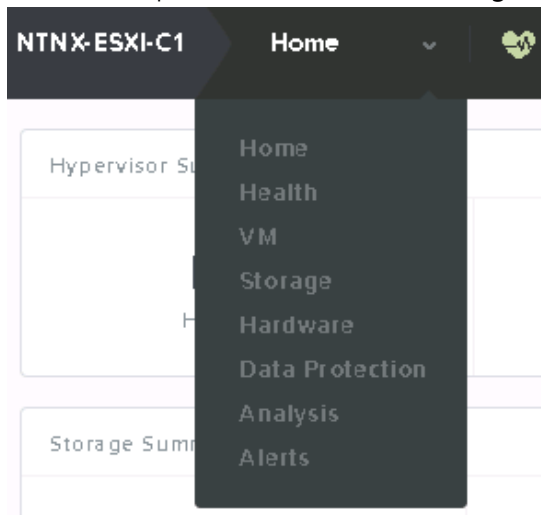


Figure 1 Nutanix Web Console

2. Click the **Create Container** link, and then click the plus symbol(+) under the **STORAGE POOL** section to create a pool.

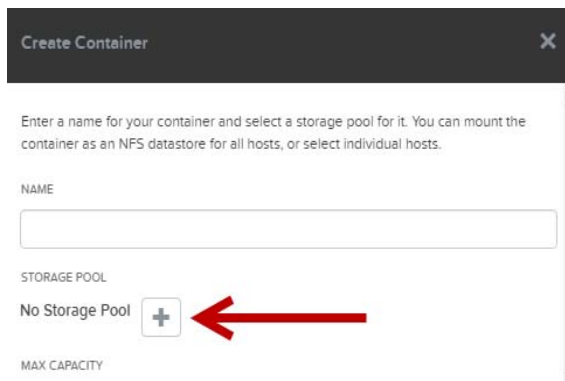


Figure 2 Create Container Wizard

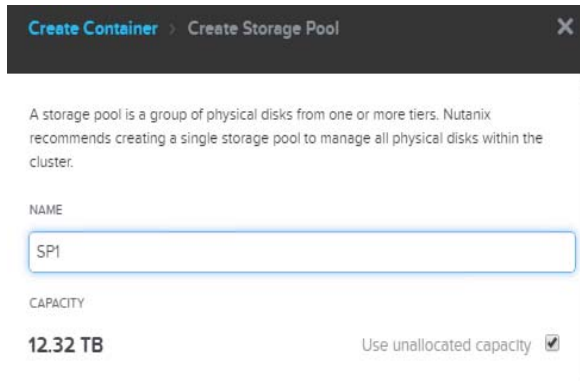


Figure 3 Creating Storage Pool

3. Provide a name for the pool (for example, SP1) and use all unallocated disk space. Click **Save**. On the **Create Container** page, to view additional settings, click the **Advanced Settings** button. The following are the recommended settings:
  - Replication Factor: 2
  - Reserved Capacity: 4096 GB (only for the “Compute” container that contains the persistent virtual desktops)
  - Compression: Disabled
  - Delay: 0 minutes
  - Perf Tier Deduplication: On
  - Capacity Tier Deduplication: On (Post-Process)
4. Type a name for the management container such as “ds\_mgmt”, and then click **Save**. Click **+ Container** to add another container for the compute/RDSH layer. Use the same advanced settings, provide a name (for example, ds\_compute or ds\_rdsh), and then click **Save**. If you are using desktops and RDSH on the same cluster, create an additional container for logical separation.



Figure 4 Adding container

## Hyper-V Hypervisor and SMB Shares

SMB shares are used to store the virtual machine disks and settings files. The cluster name is the “host” portion of the SMB share name. If not created during the Nutanix cluster setup, add a DNS entry for this name and point it to the cluster IP address. The container names that you created earlier are used as the share names. The resulting share name will be `\\{cluster-name}\{container-name}`. For example, `\\cluster\ds_mgmt`.

By default, only the cluster hosts have access to the SMB shares. To change this, you must modify the Whitelist on the cluster. At a minimum, the IP address of the System Center VMM host must be added. If you want all management hosts to be able to access, you can specify the network segment as instead of single IP address.

**NOTE:** The shares must be used only for storing VDI-related components.

To modify the Whitelist, go to the Nutanix Web Console, click the configuration wheel symbol in the upper-right corner, and then click **Filesystem Whitelists**.

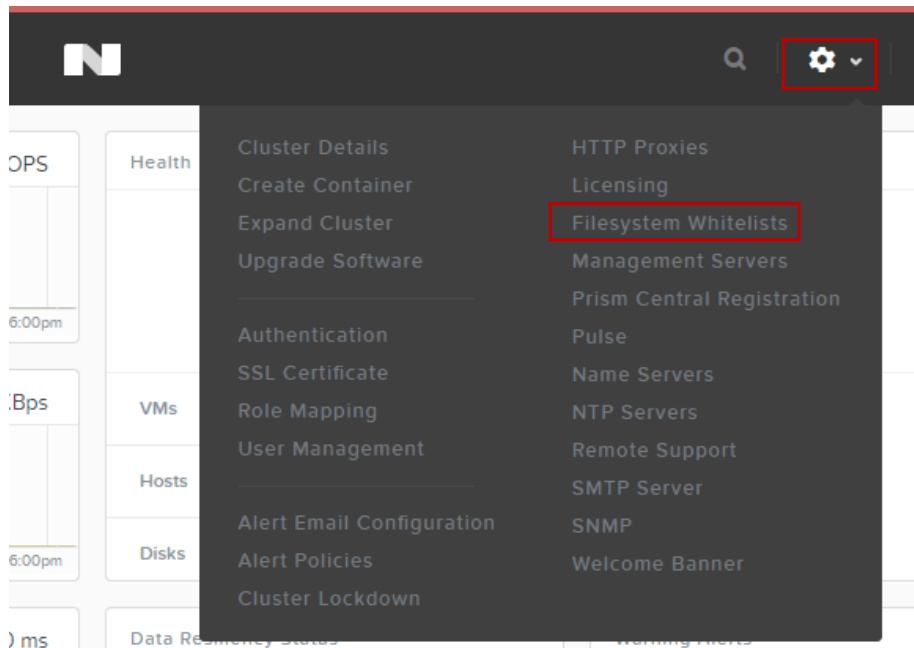


Figure 5 Filesystem Whitelists

5. Type the appropriate host IP address or network segment, and then click **Add**.



### 3 Installing vCenter Server Appliance

The deployment of desktop pools within VMware View requires that an install of the following VMware components is completed successfully: VMware vCenter Server Appliance, VMware View and VMware View Composer as well as an associated SQL server VM. The VMware vCenter VM will be created by using the VMware vCenter Server Appliance. The VMware vCenter Server Appliance is a preconfigured Linux-based virtual machine that is optimized for running vCenter Server and associated services. Go to the VMware website for information about downloading version 5.5.0 and licensing.

1. Connect to one of the Nutanix configured ESXi hosts using the VMware vSphere Client.
2. In VMware vSphere Client, select **File**, and then select **Deploy OVF Template**.

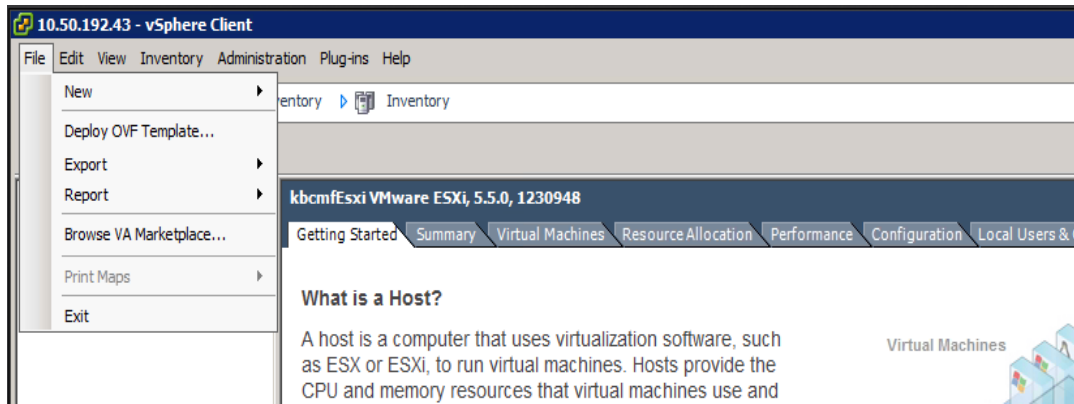


Figure 6 Deploy OVF Template



3. In the OVF deployment wizard, click **Browse** and select the vCenter Appliance OVF template file, and then click **Next**.

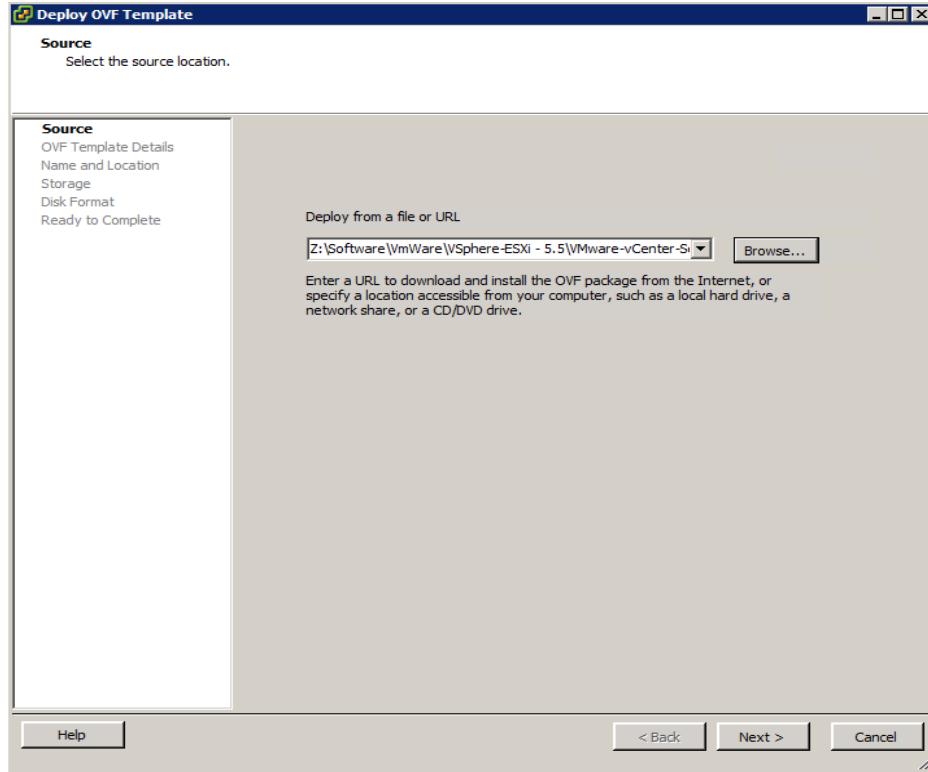


Figure 7 Select OVF Template file.

4. Confirm the template details, and then click **Next**.

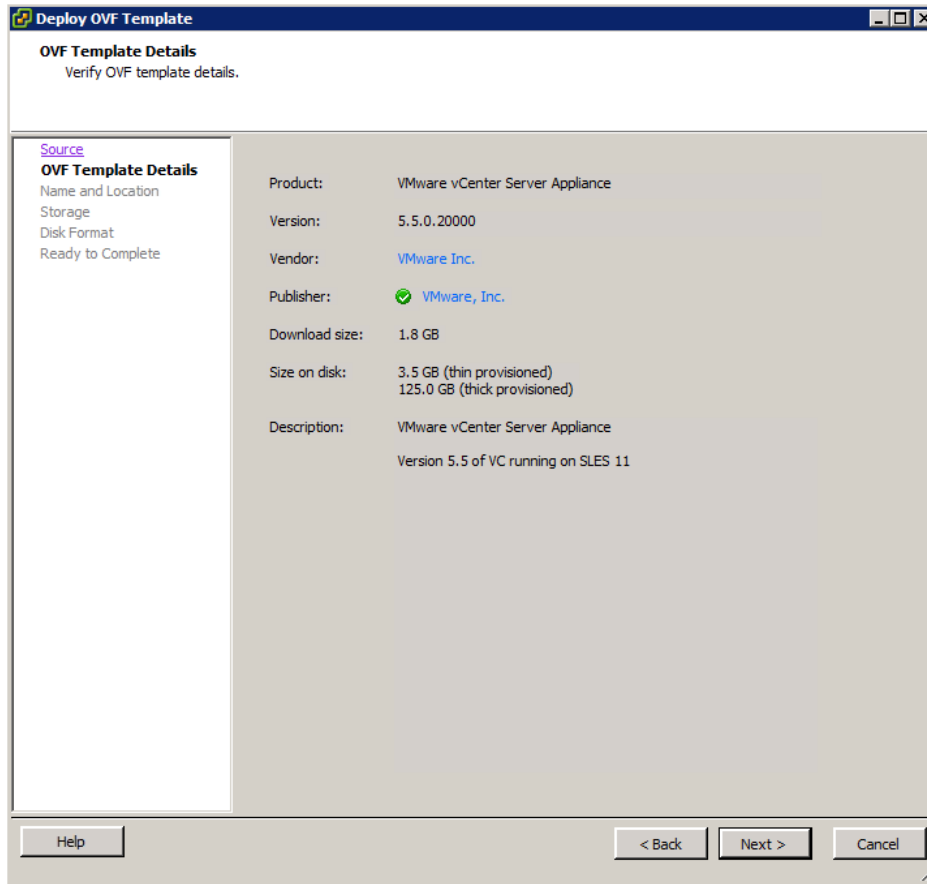


Figure 8 OVF Template Details

5. Assign a name for the vCenter Server Appliance VM, and then click **Next**.

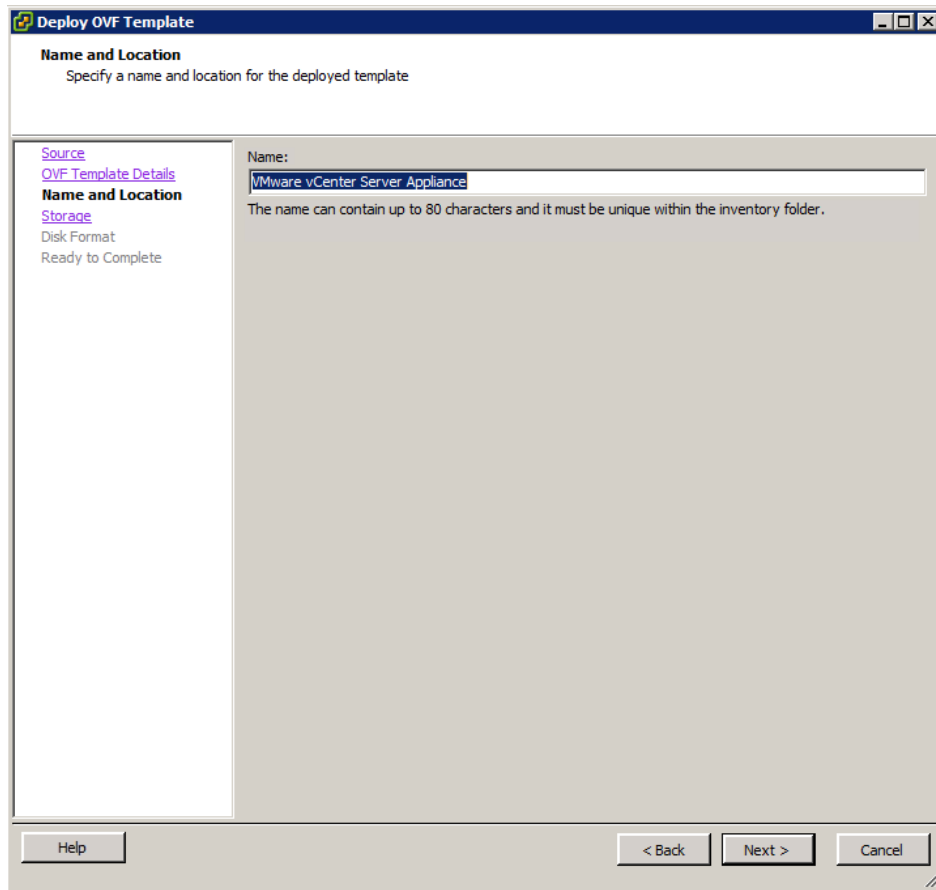


Figure 9 vCenter Appliance Name

6. Select a storage location, and then click **Next**.

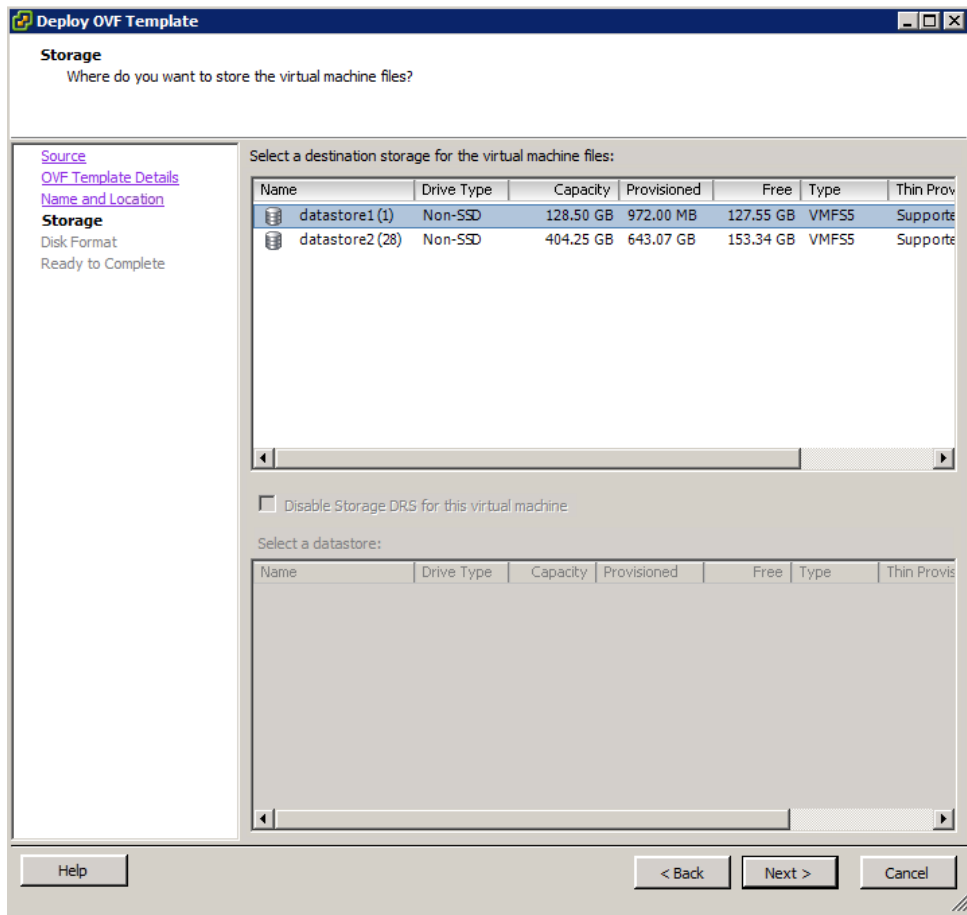


Figure 10 Select Storage

7. Select the required disk format, and then click **Next**.

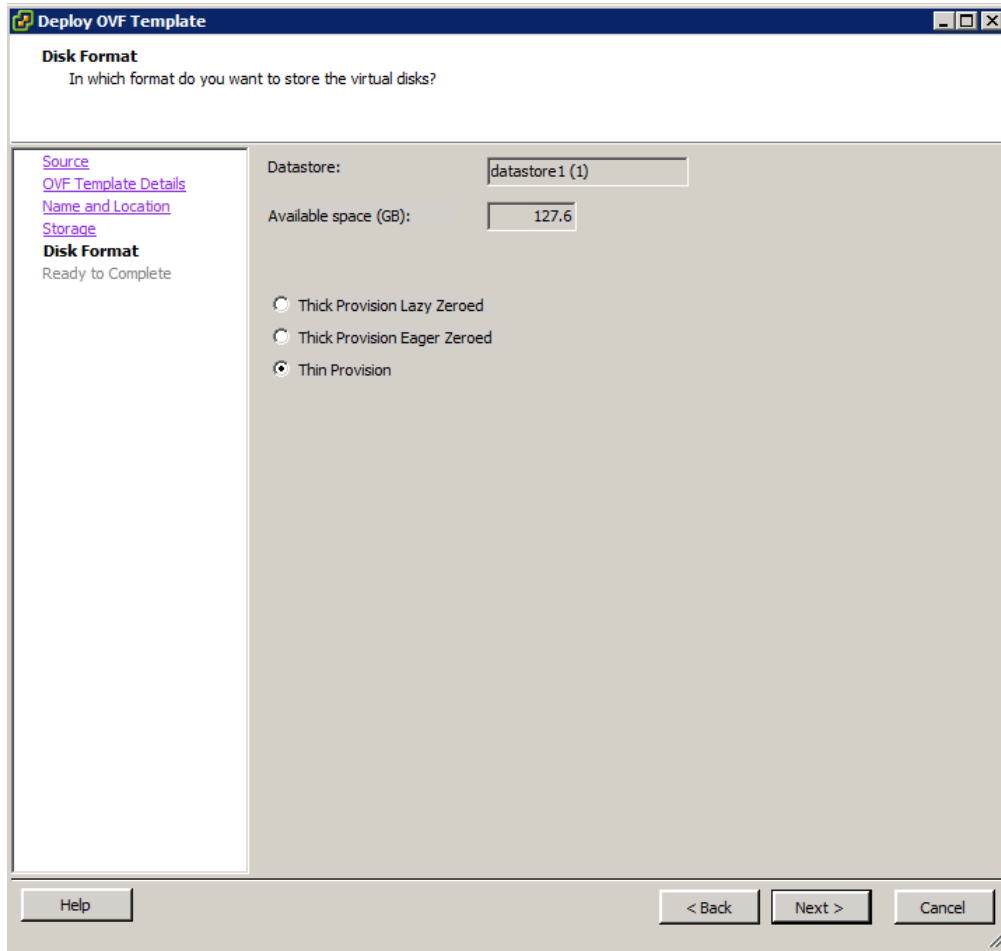


Figure 11 Disk Format

- Review the settings and click **Finish** to deploy.

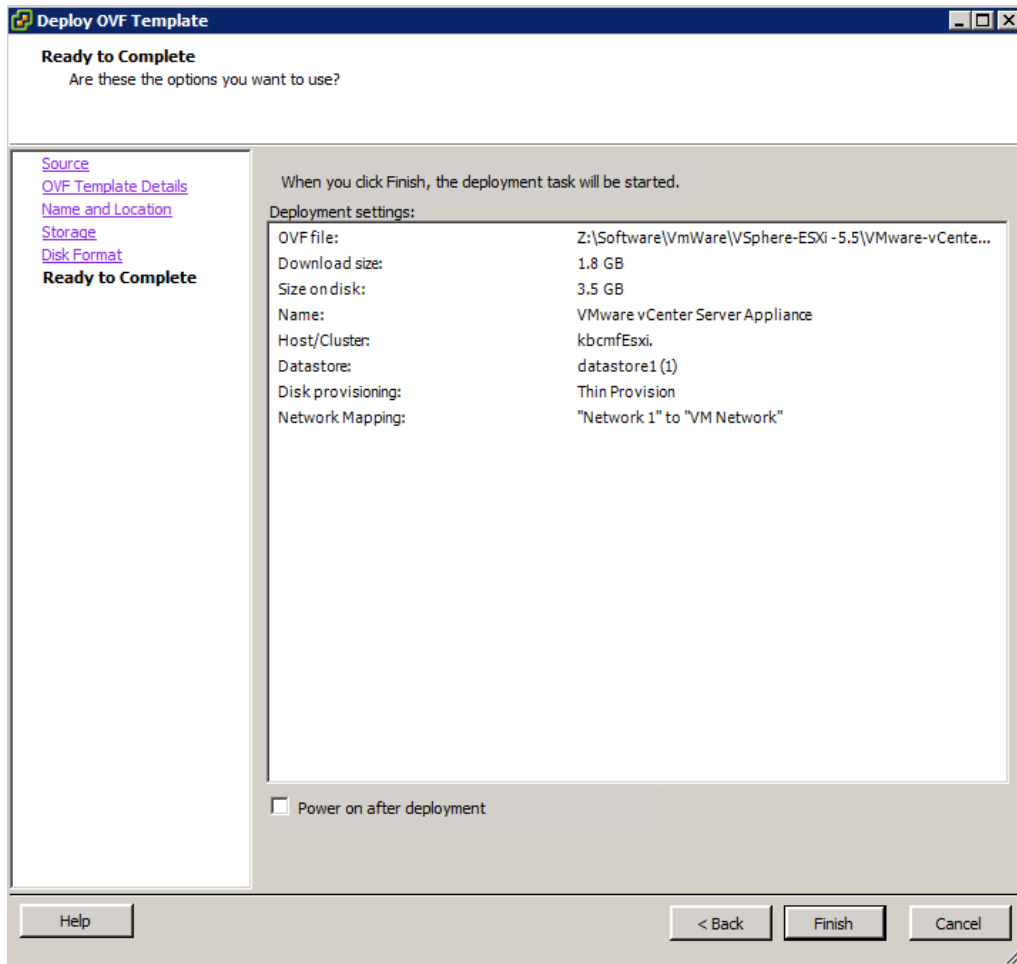


Figure 12 Finish OVF Deployment Wizard

- The vCenter Appliance deployment will run.

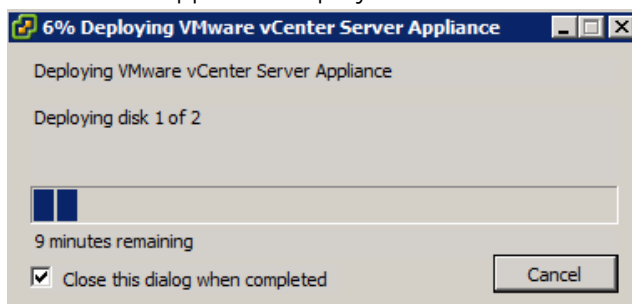


Figure 13 vCenter Appliance Deployment Progress

10. After deploying the vCenter Appliance, VM will be displayed listed under the ESXi host on the **vSphere Client** page.

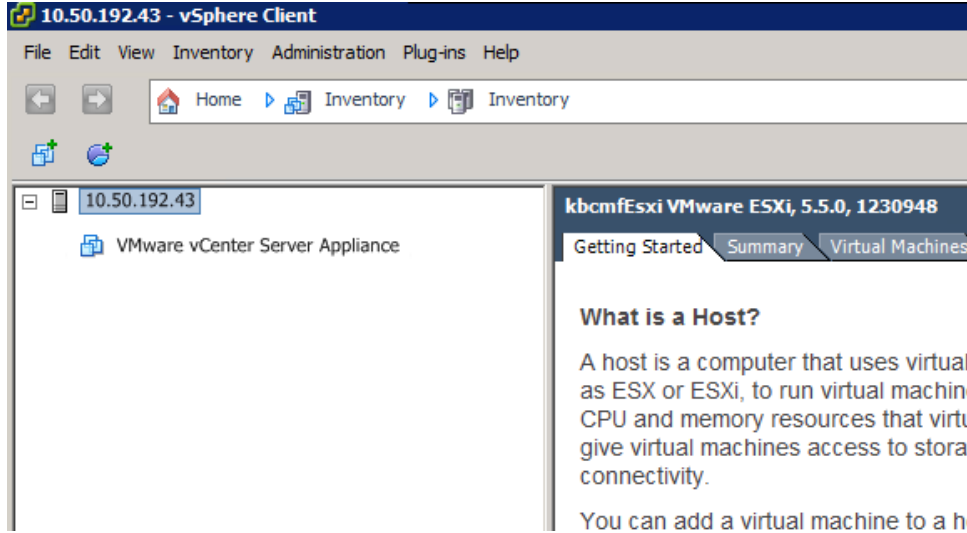


Figure 14 vCenter Appliance

11. Turn on the vCenter Appliance VM, and then click the **Console** tab to view the on-screen Quick Start Guide.

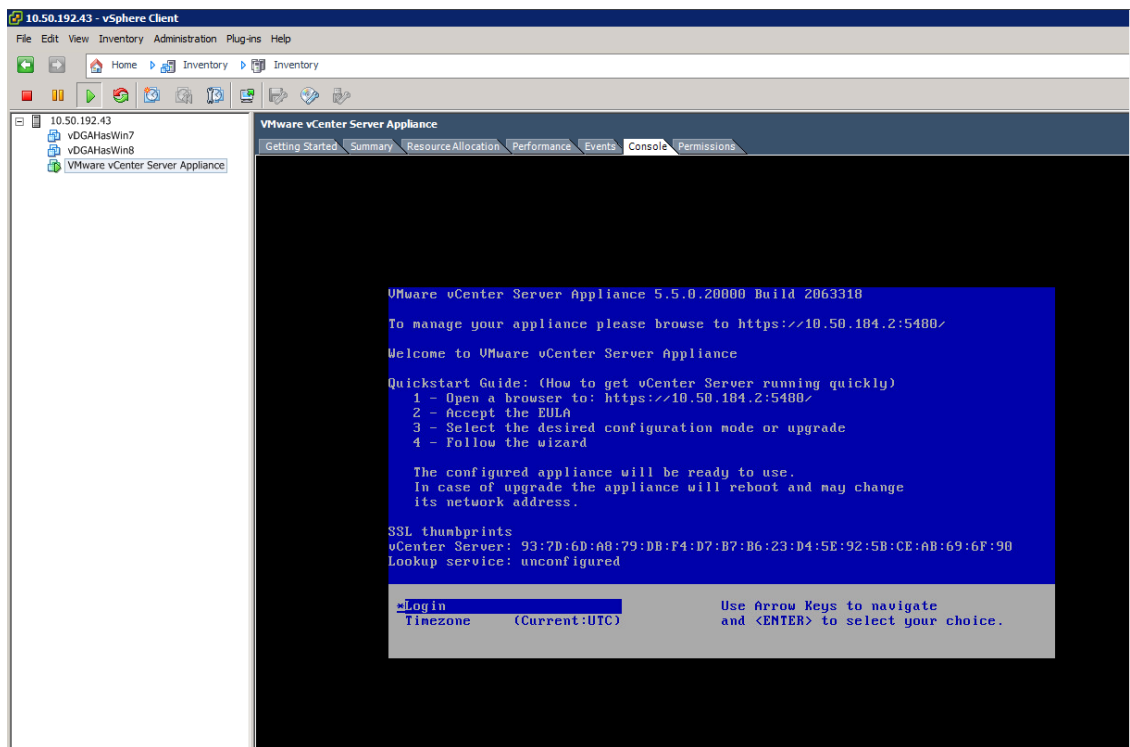


Figure 15 vCenter Appliance VM turned on





12. Open a web browser, type the URL indicated in the Quick Start Guide in the address bar, type the user name 'root' and password 'vmware', and then click **Login**.

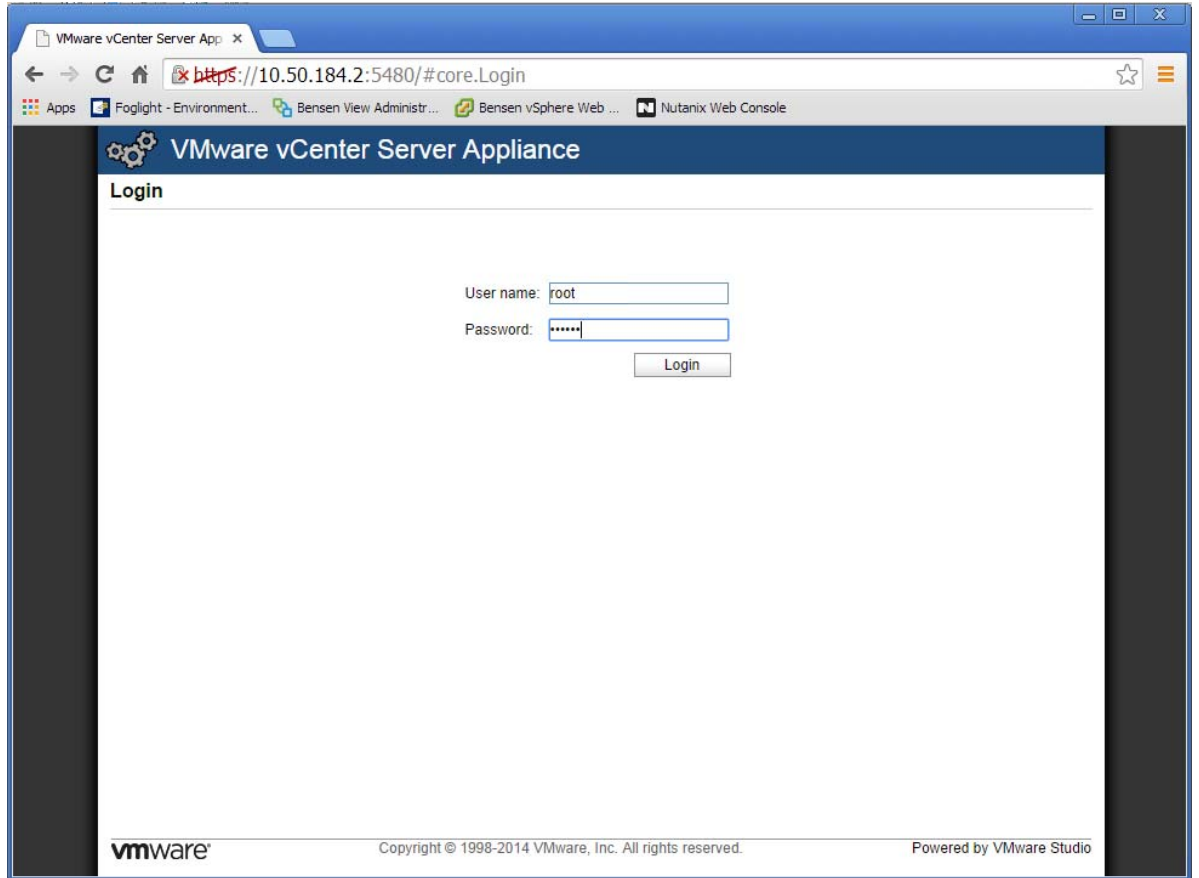


Figure 16 vCenter Appliance login screen

13. Accept the EULA, and then click **Next**.

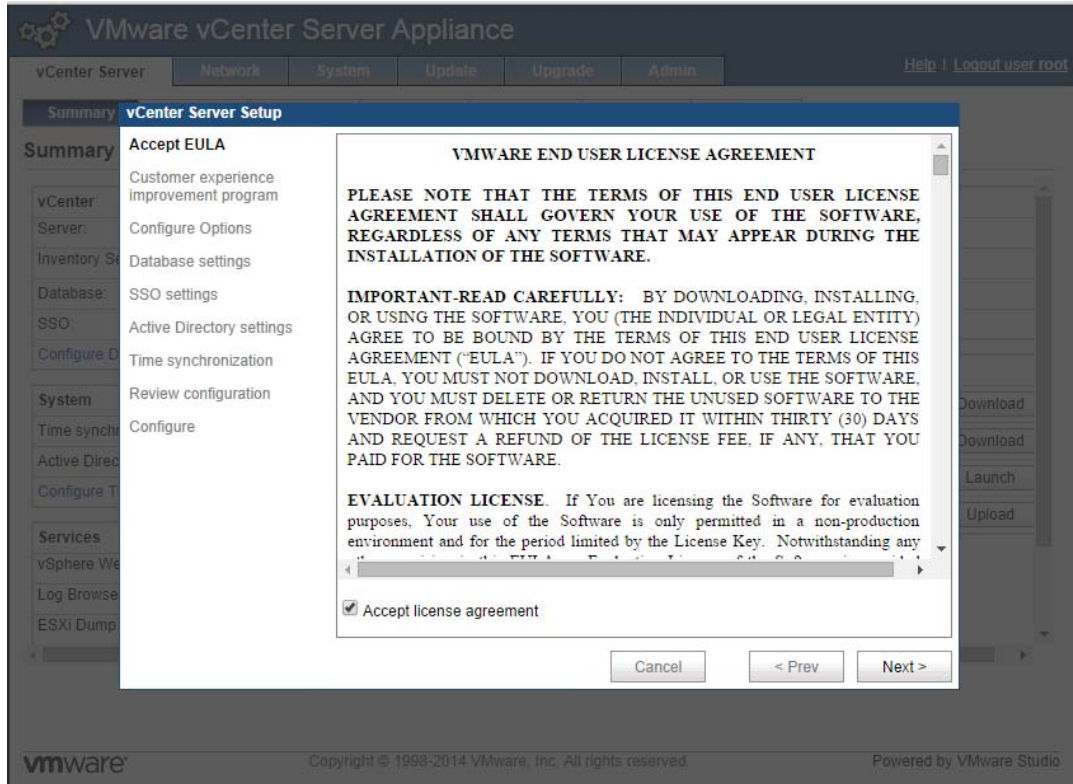


Figure 17 vCenter EULA



14. Click **Next** to skip the **Customer Experience Improvement Program** page.

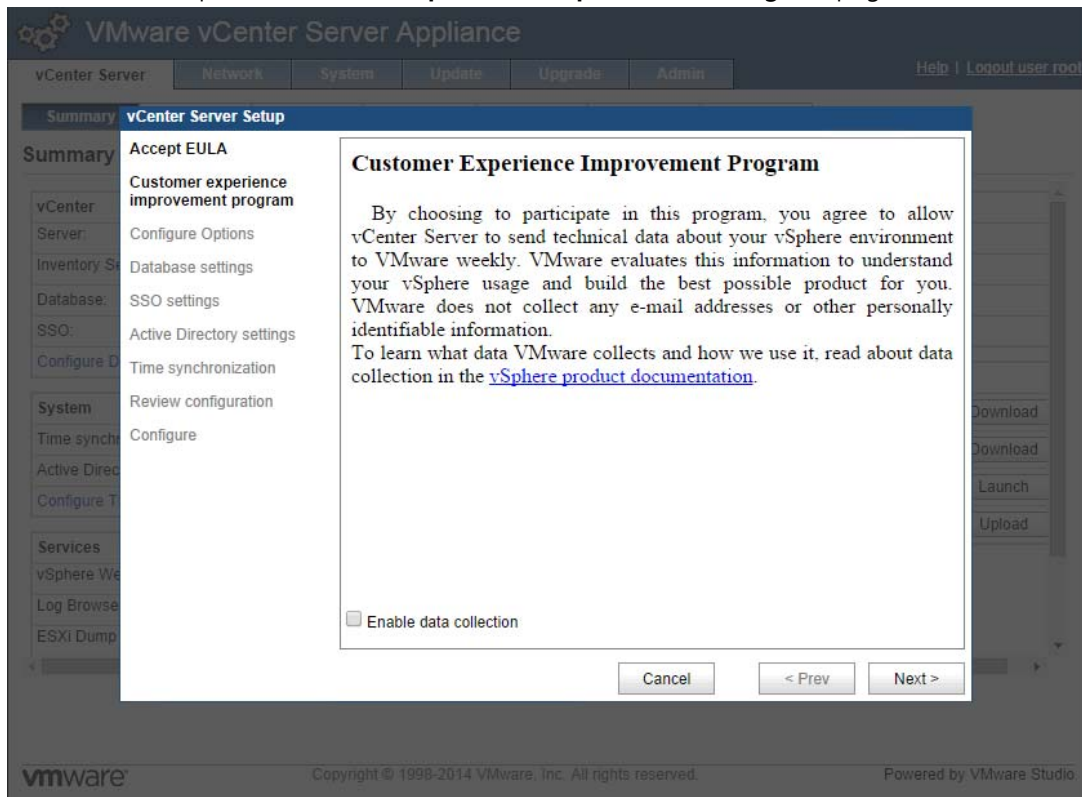


Figure 18 Customer Experience Program



- If you are using a static IP address, you must close the wizard and set a hostname. In this guide, a static IP Address is used. Click **Cancel** to close the wizard.

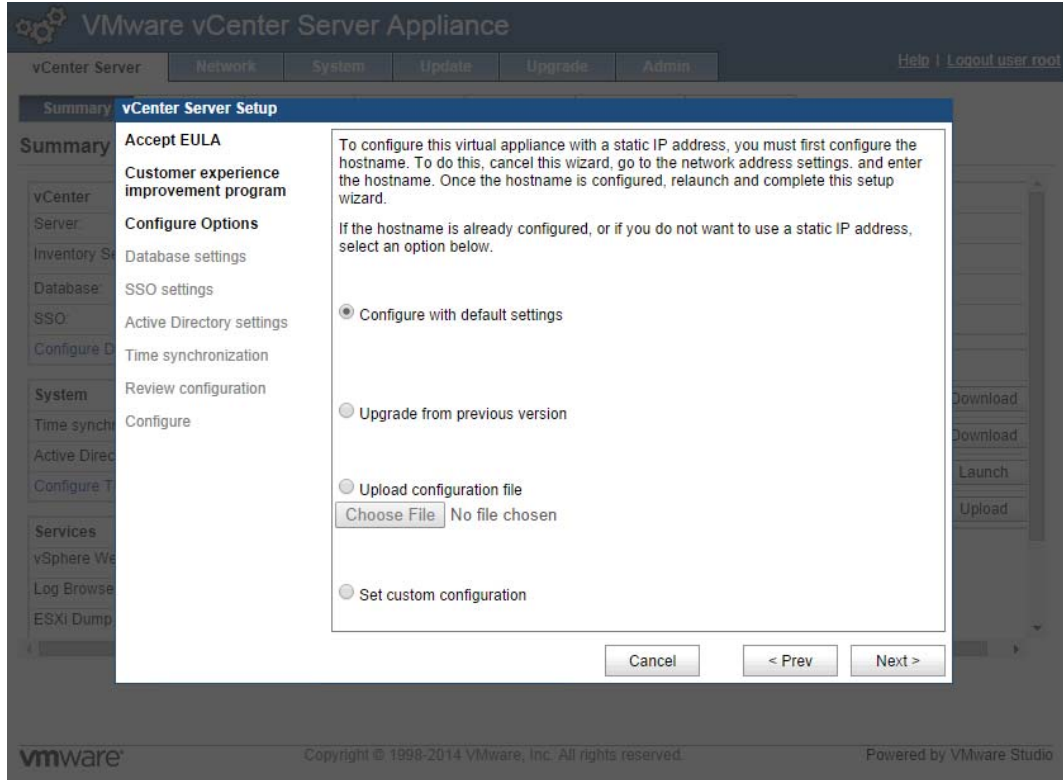


Figure 19 Cancel Wizard

- Click the **Network** tab, click **Address**, from the **IPv4 Address Type** drop-down menu, select **Static**.

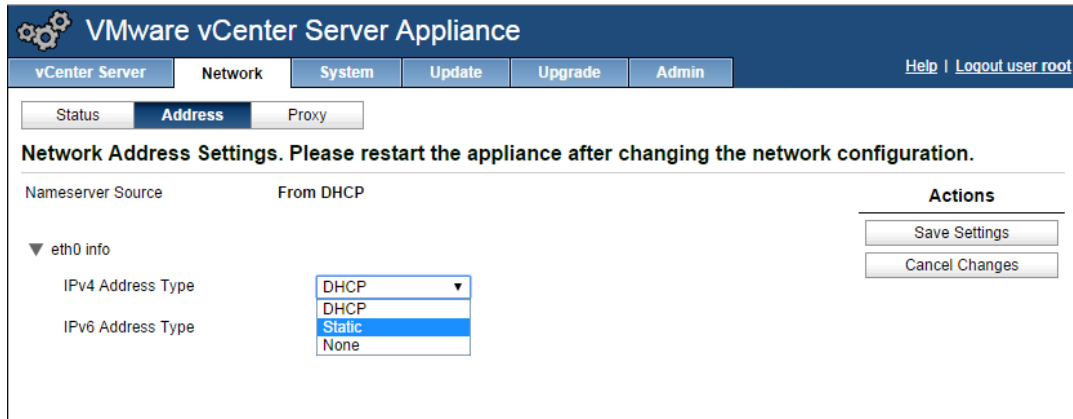


Figure 20 Static IP Address



17. Set the hostname and IPv4 address settings. Click **Save Settings**.

**Note:** The fully qualified domain name format must be used for the host name.

**VMware vCenter Server Appliance**

vCenter Server | **Network** | System | Update | Upgrade | Admin | [Help](#) | [Logout user root](#)

Status | **Address** | Proxy

**Network Address Settings. Please restart the appliance after changing the network configuration.**

Nameserver Source	From Configuration	<b>Actions</b>
Hostname	<input type="text" value="vCenter-App.test.com"/>	<input type="button" value="Save Settings"/>
IPv4 Default Gateway	<input type="text" value="10.50.181.1"/>	<input type="button" value="Cancel Changes"/>
IPv6 Default Gateway	<input type="text"/>	
Preferred DNS Server	<input type="text" value="10.50.121.61"/>	
Alternate DNS Server	<input type="text" value="10.50.121.11"/>	

▼ eth0 info

IPv4 Address Type	<input type="text" value="Static"/>
IPv4 Address	<input type="text" value="10.50.181.4"/>
Netmask	<input type="text" value="255.255.248.0"/>
IPv6 Address Type	<input type="text" value="Auto"/>

Figure 21 Set IPv4 Settings

18. When the network settings are saved, change the URL on the web browser to the static IP address, log in again using the login user name 'root' and password 'vmware', and then click the **Network** tab to verify your IPv4 settings.

**VMware vCenter Server Appliance**

vCenter Server | **Network** | System | Update | Upgrade | Admin | [Help](#) | [Logout user root](#)

Status | **Address** | Proxy

**Network Status**

Hostname:	vCenter-App.test.com	<b>Actions</b>
IPv4 Default Gateway:	10.50.184.1	<input type="button" value="Refresh"/>
IPv6 Default Gateway:		
Preferred DNS Server:	10.50.120.68	
Alternate DNS Server:	10.50.120.12	

Interface Name	IPv4 Info	IPv6 Info	Managed by VAMI
eth0	Type: Static Address: 10.50.184.4 Netmask: 255.255.248.0	Type: Unassigned Address: Prefix: Auto Address: Auto Prefix:	Yes

Figure 22 IPv4 Settings



- Click the **vCenter Server** tab and under the **Utilities** section, click the **Setup wizard Launch** button to restart the Setup wizard.

The screenshot shows the VMware vCenter Server Appliance management interface. The top navigation bar includes 'vCenter Server', 'Network', 'System', 'Update', 'Upgrade', and 'Admin'. Below this is a secondary navigation bar with 'Summary', 'Database', 'SSO', 'Time', 'Authentication', 'Services', and 'Storage'. The 'Summary' page is active, displaying several sections:

- vCenter**: A table showing the status of vCenter services.
 

Server:	Stopped	<a href="#">Start</a>
Inventory Service:	Stopped	<a href="#">Start</a>
Database:	not configured	
SSO:	not configured	
- Storage Usage**: A table showing storage usage for different components.
 

System:	38%
Database:	1%
Logs:	1%
Coredumps:	1%
- System**: A table showing system settings.
 

Time synchronization:	Disabled
Active Directory:	Disabled
- Services**: A table showing the status of various services.
 

vSphere Web Client:	Running	<a href="#">Stop</a>
Log Browser:	Stopped	<a href="#">Start</a>
ESXi Dump Collector:	Running	<a href="#">Stop</a>
Syslog Collector:	Running	<a href="#">Stop</a>
vSphere Auto Deploy:	Stopped	<a href="#">Start</a>
- Utilities**: A list of utility actions.
 

Support bundle	<a href="#">Download</a>
Configuration file	<a href="#">Download</a>
Setup wizard	<a href="#">Launch</a>
Sysprep files	<a href="#">Upload</a>

Figure 23 Setup wizard relaunch



20. The **Customer Experience Improvement Program** window, click **Next**.

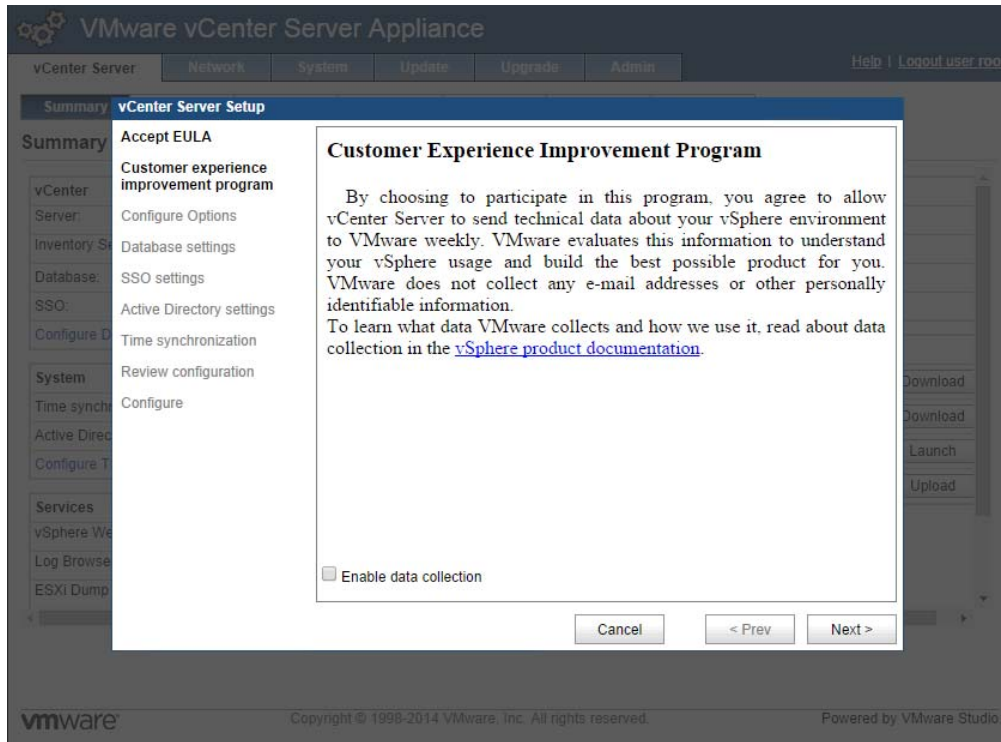


Figure 24 Customer Experience Improvement Program



21. Click **Set custom configuration**, and then click **Next**.

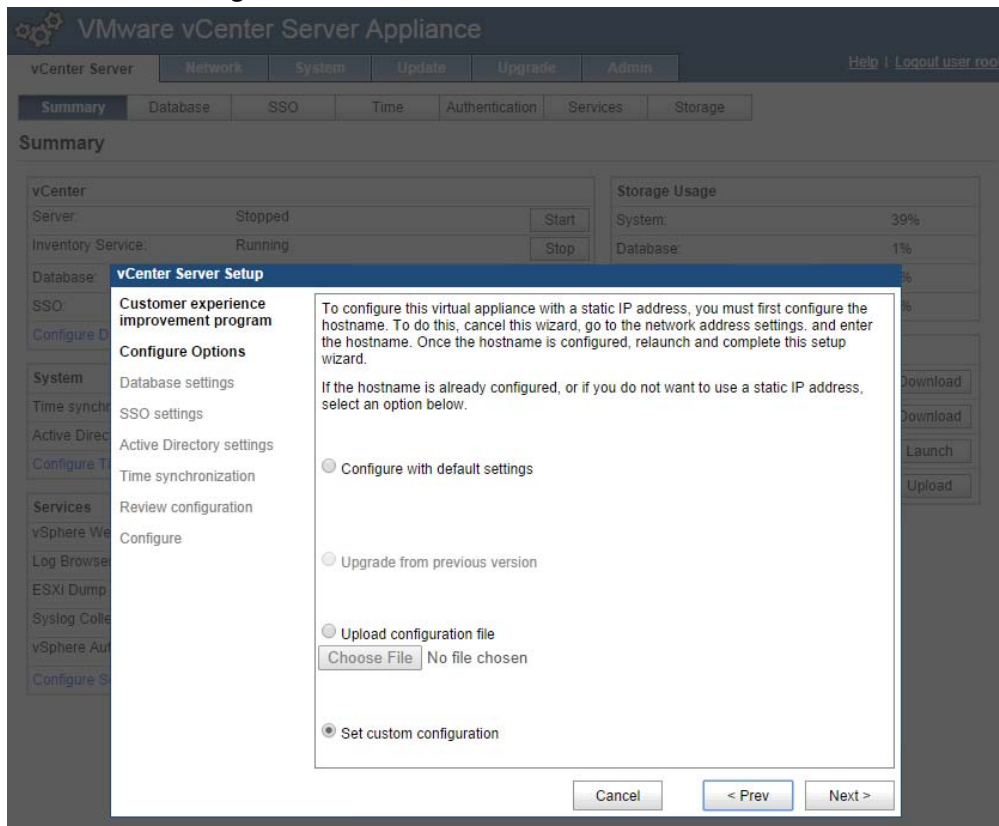


Figure 25 Set Custom Configuration





22. Accept the default database settings, and then click **Next**.

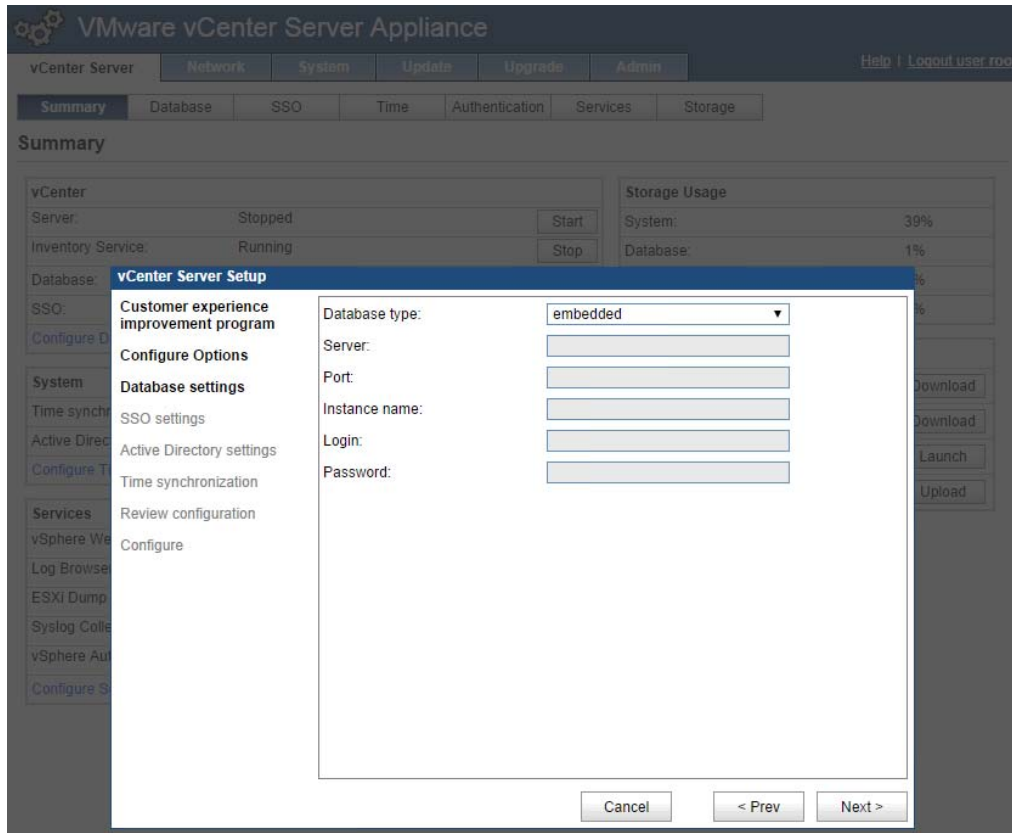


Figure 26 Database Settings



23. Select the embedded SSO deployment type and type a password for the **administrator@vsphere.local** user, and then click **Next**.

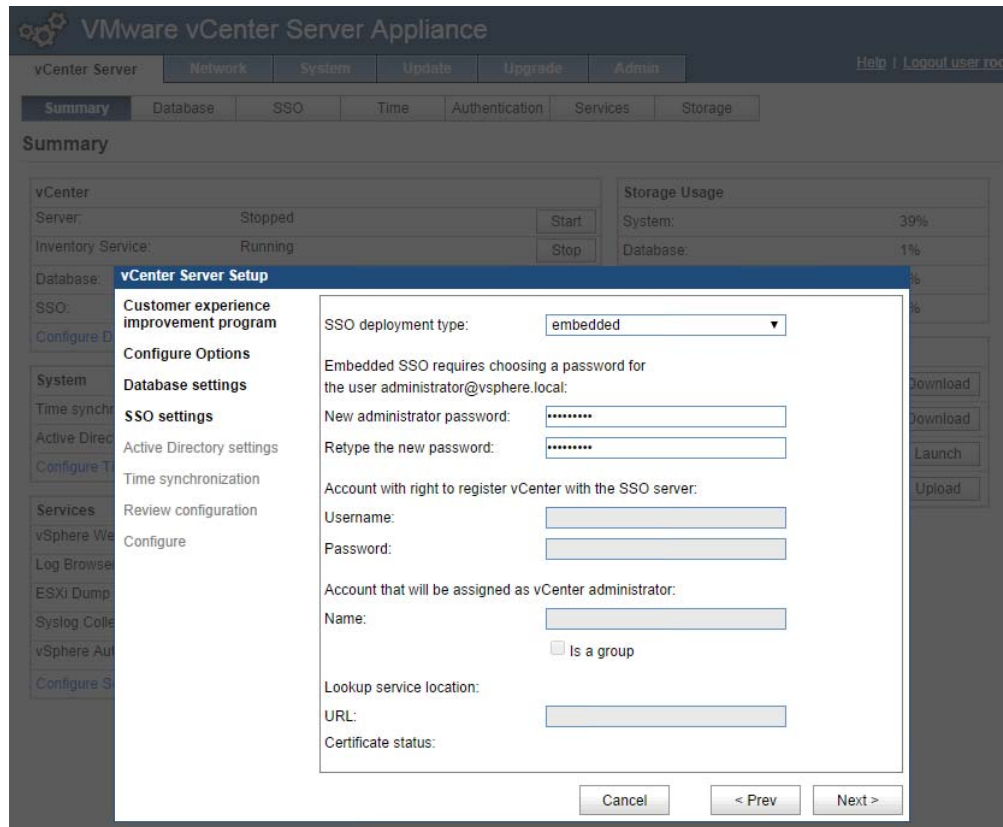


Figure 27 Single Sign-on



24. To configure Active Directory authentication, select the **Active Directory Enabled** check box, type the domain name to authenticate to, along with an administrative login user name and password for that domain. Click **Next**.

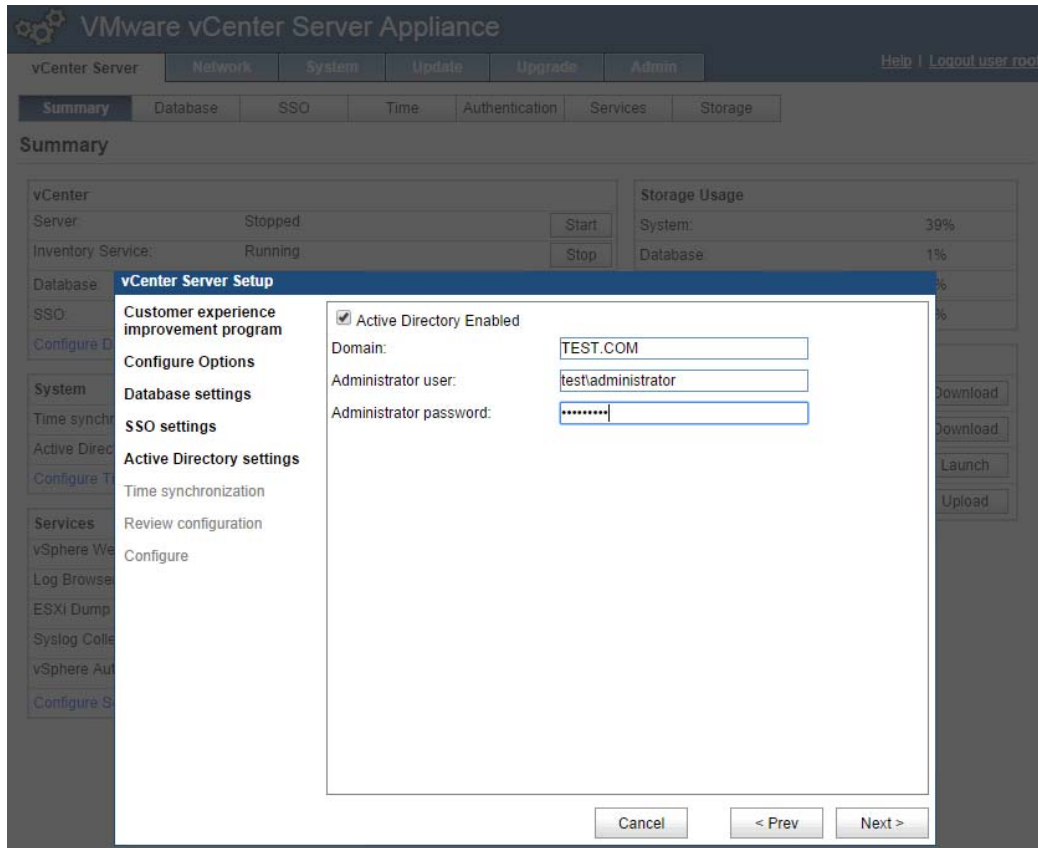


Figure 28 Active Directory



25. Review the configuration settings, and then click **Start**.

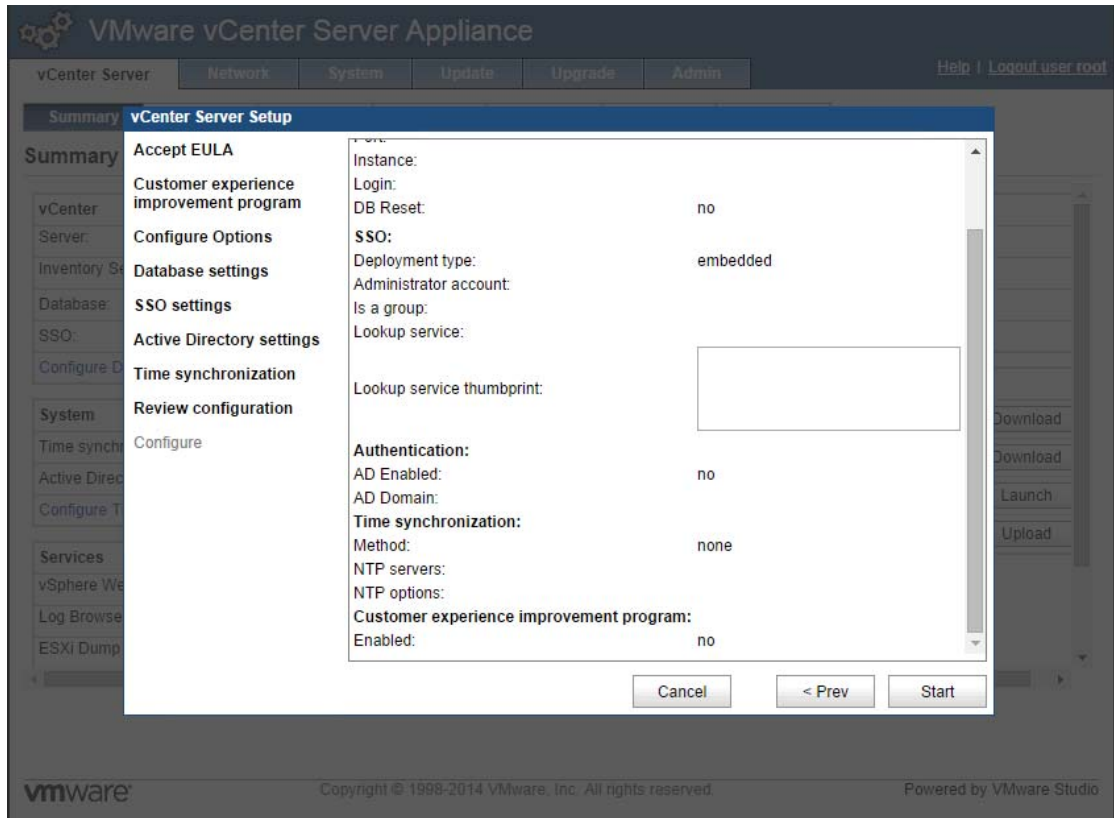


Figure 29 Complete Startup Wizard



26. When the setup wizard completes its configuration processes, click **Close**.

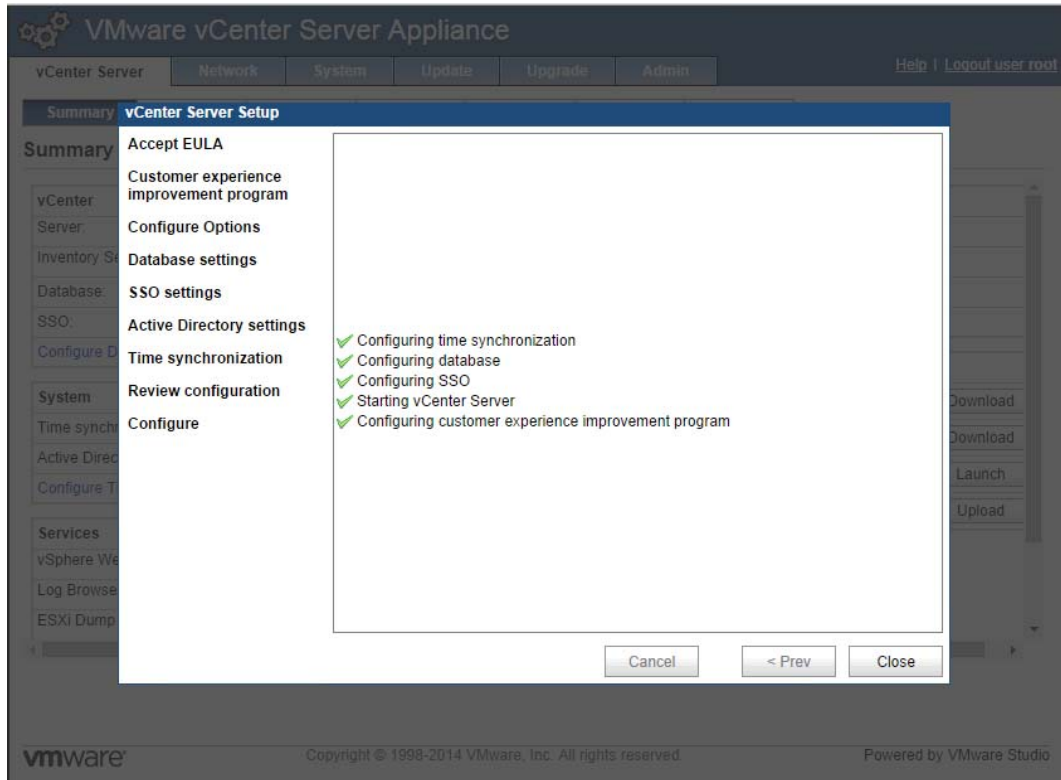


Figure 30 vCenter Setup Complete

27. To add the Nutanix configured ESXi hosts to be managed by vCenter, open the vSphere Client to attach to the vCenter Server Appliance, and then click **Create a datacenter** to add a datacenter and provide a name.

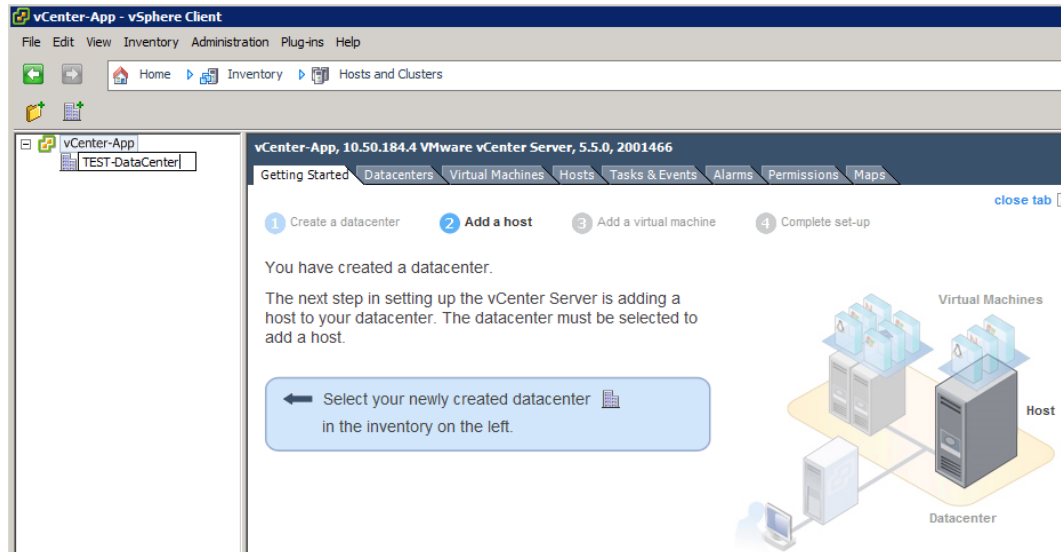


Figure 31 New Datacenter



28. Right-click the datacenter and select **New Cluster**.

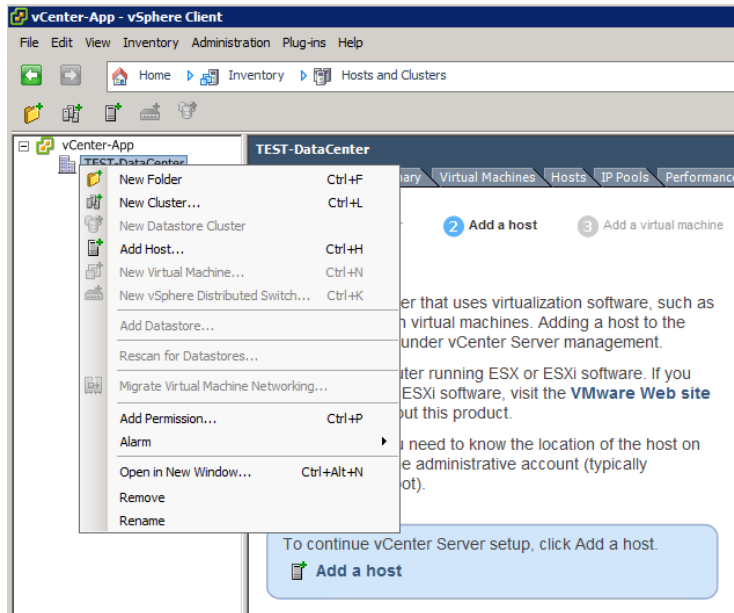


Figure 32 New Cluster

29. Provide a name to the new cluster. vSphere HA or DRS may be enabled at this point, if required, and then click **Next**.

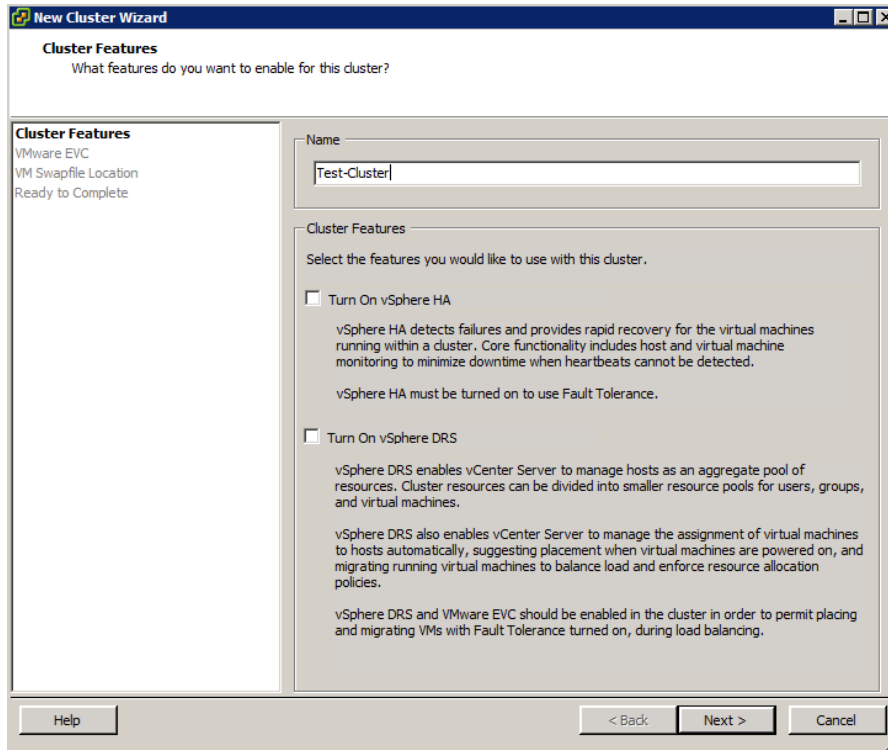


Figure 33 New Cluster Wizard



30. Configure Enhanced vMotion, if required, and then click **Next**.

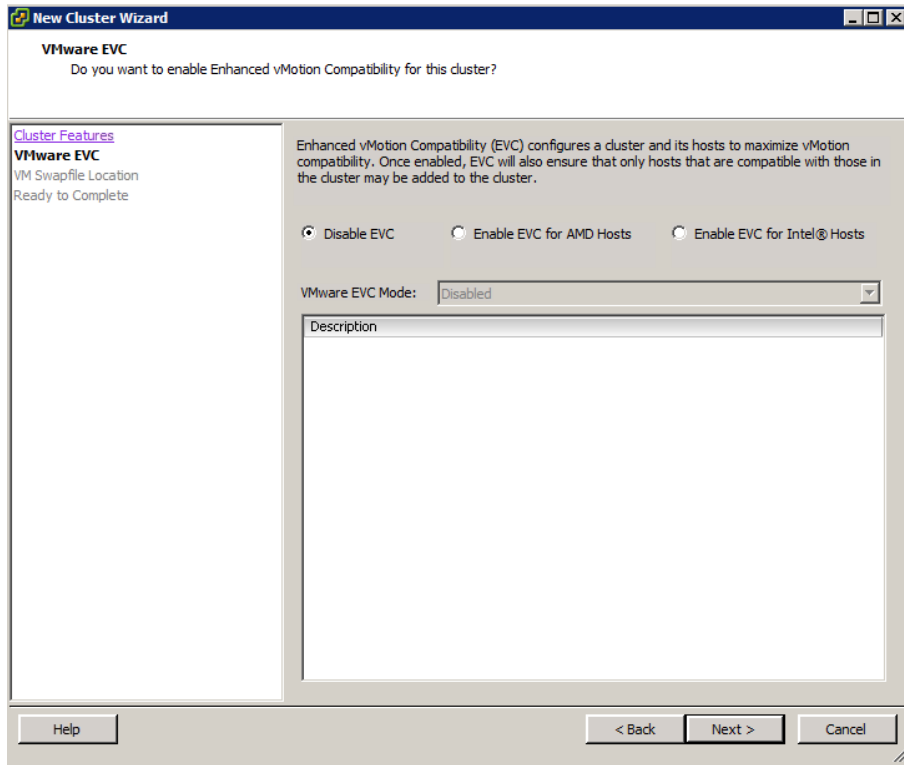


Figure 34 Enhanced vMotion

31. Set the VM swapfile policy, if required, and then click **Next**.

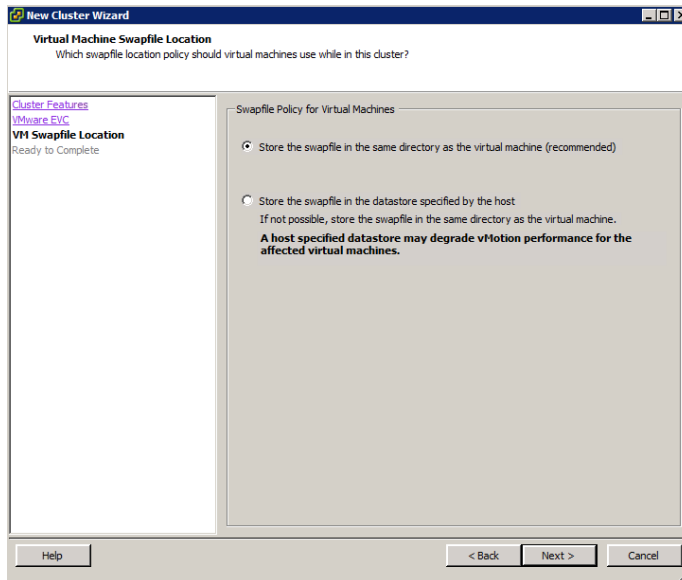


Figure 35 Swapfile Policy



32. Review and click **Finish** to complete the cluster setup.

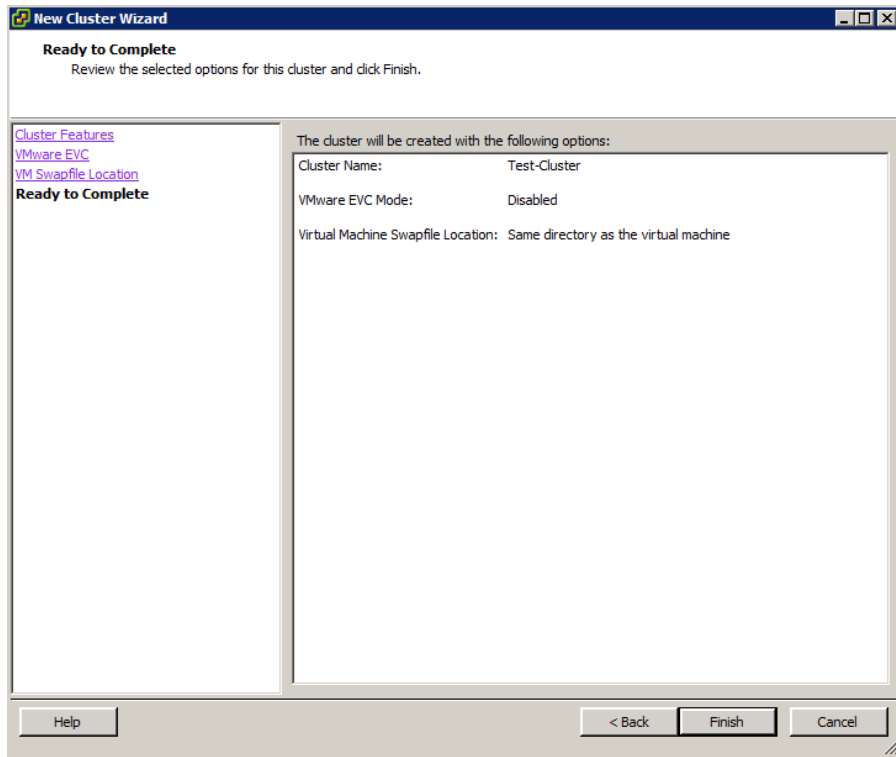


Figure 36 Complete Cluster Setup





33. Click the newly created cluster, click **Add a host**, type the ESXi host FQDN or IP address and the ESXi host user name and password in the wizard, and then click **Next**.

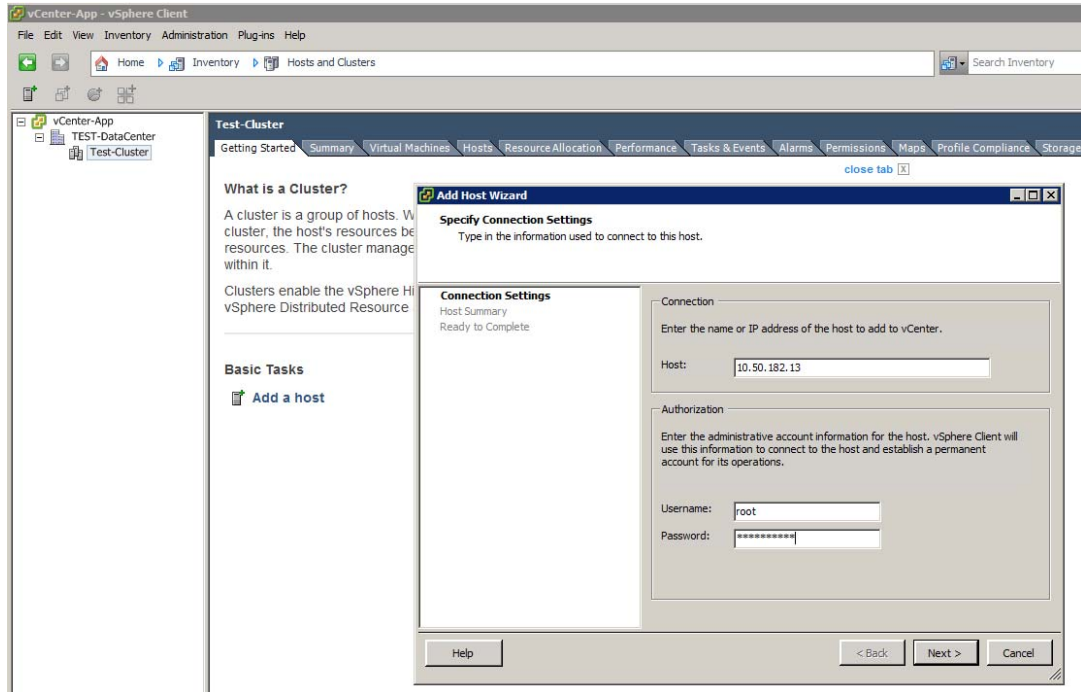


Figure 37 Add A Host

34. Review the host summary, and then click **Next**.

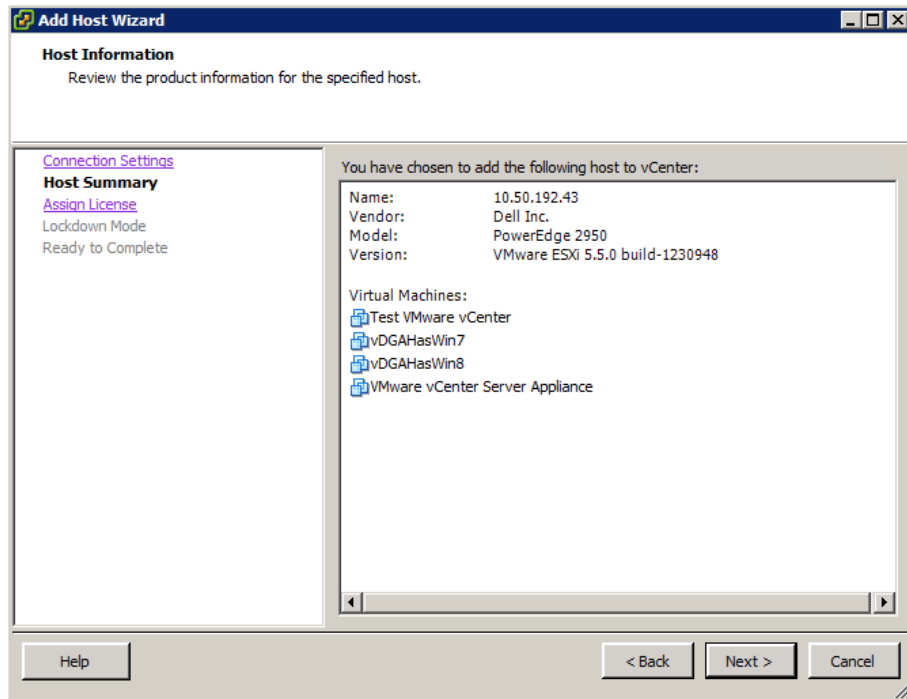


Figure 38 Host Summary



35. Assign a license key, if required, and then click **Next**.

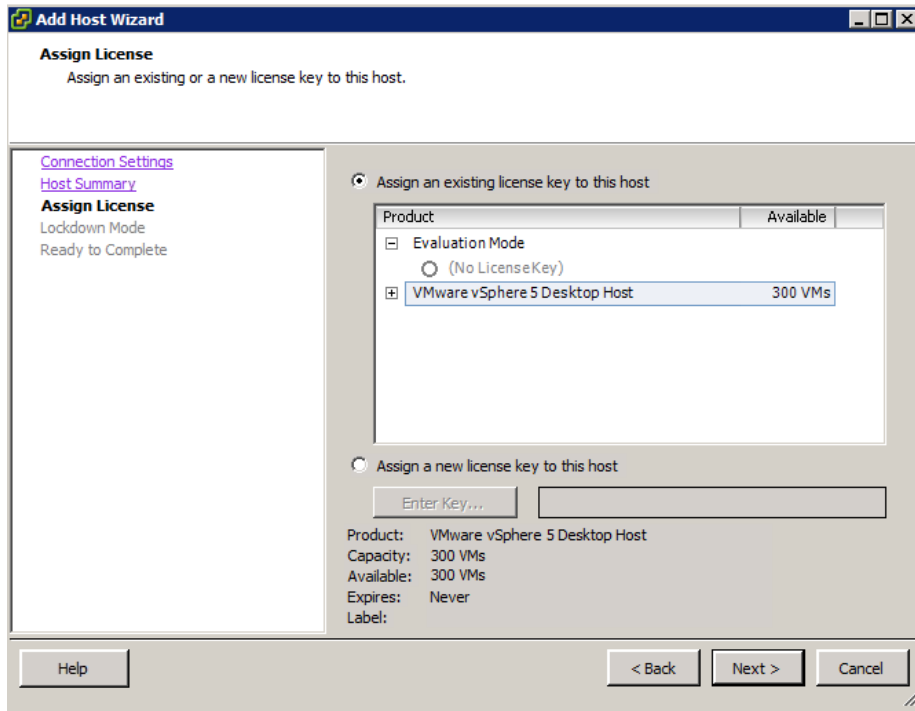


Figure 39 License Key

36. Set the Lockdown mode, if required, and then click **Next**.

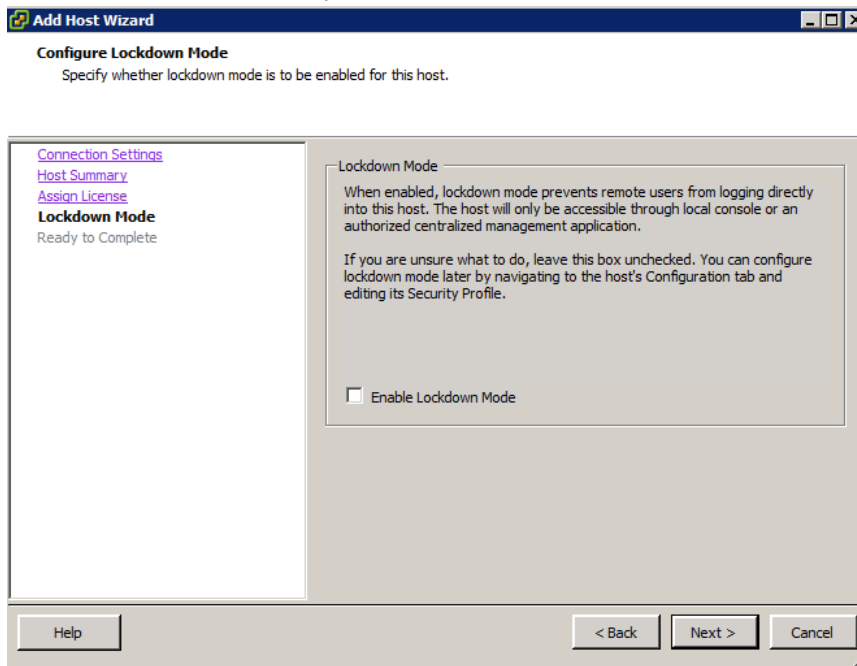


Figure 40 Lockdown Mode

37. Click **Finish** to add the ESXi host to the cluster. Repeat the process of adding the host for all Nutanix configured ESXi hosts.

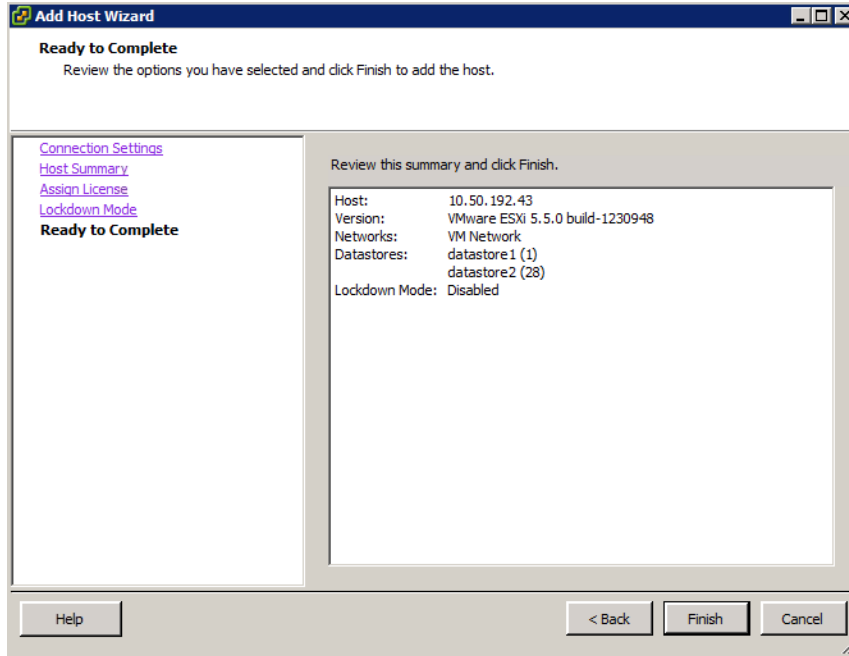


Figure 41 Finish Add Host Wizard

### 3.1 Adding Hosts to vCenter

1. To add the Nutanix configured ESXi hosts to be managed by vCenter, open the vSphere Client to attach to the vCenter Server Appliance, and then click **Create a datacenter** to add a datacenter and provide name.

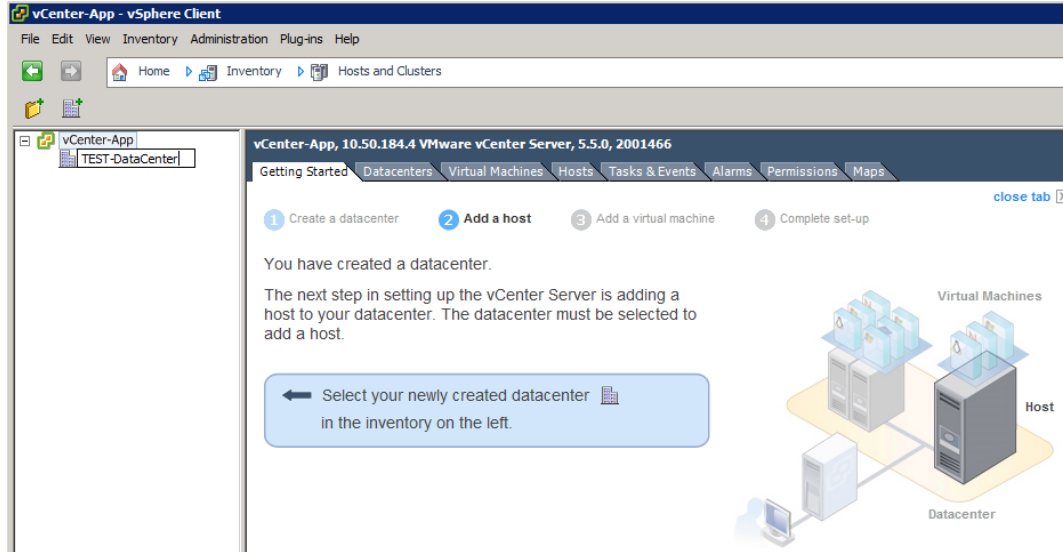


Figure 42 New Datacenter

2. Right-click the datacenter and select **New Cluster**.

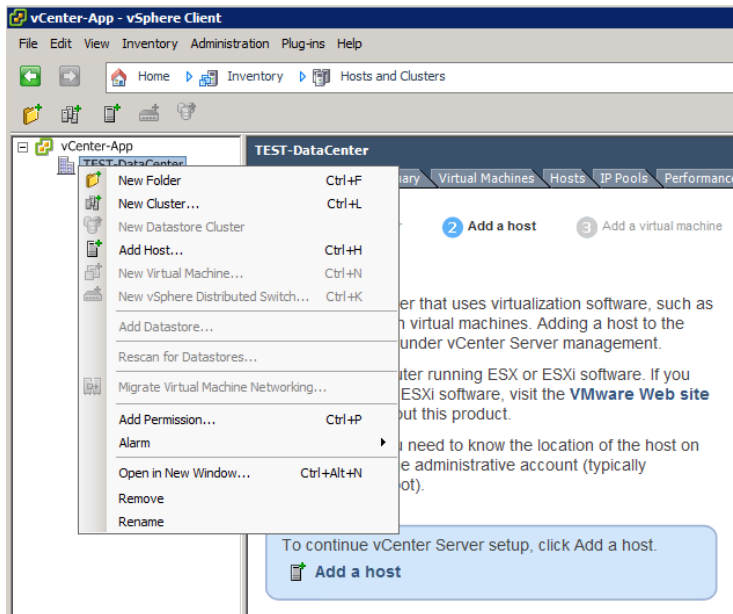


Figure 43 New Cluster



3. Provide a name to the new cluster. vSphere HA or DRS may be enabled at this point, if required, and then click **Next**. We recommend to turn these off after the pools have been deployed, because this feature set consumes a lot of CPU cycles.

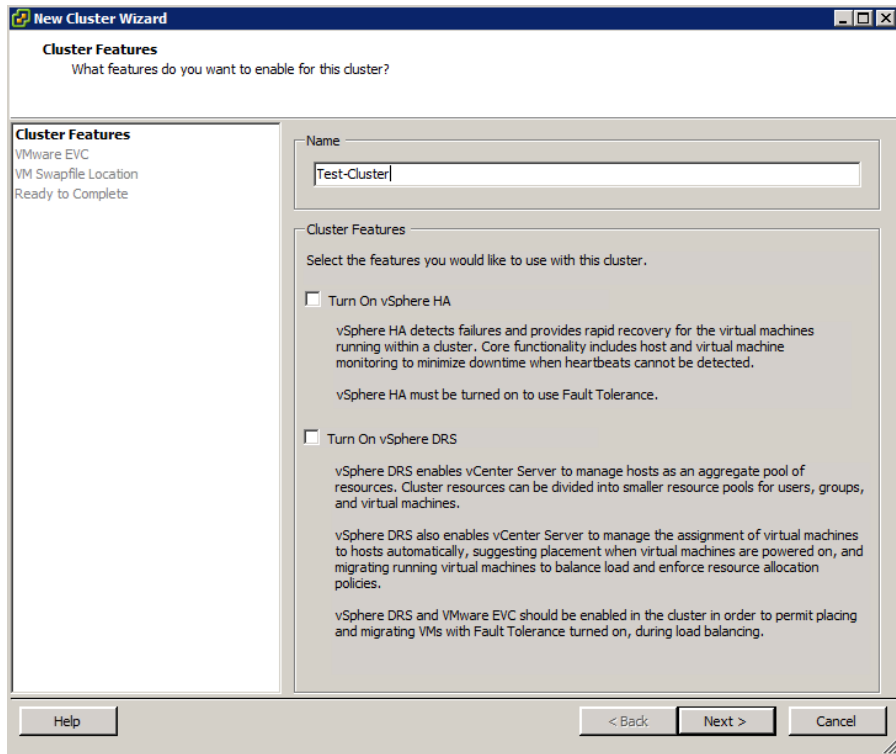


Figure 44 New Cluster Wizard

4. Configure Enhanced vMotion, if required, and then click **Next**.

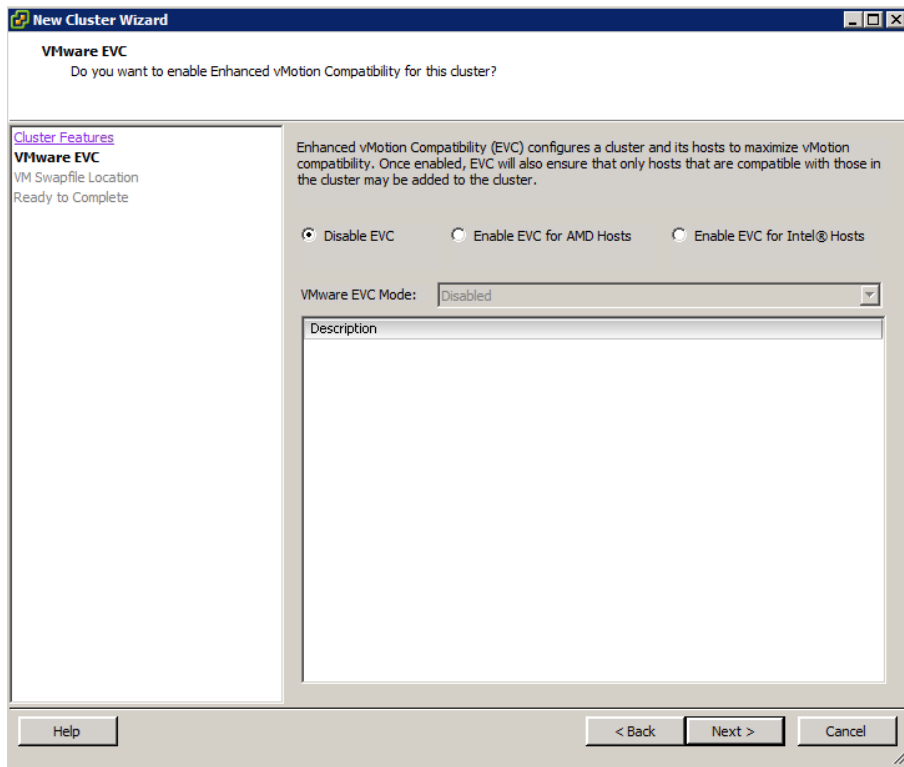


Figure 45 Enhanced vMotion



5. Set the VM swapfile policy, if required, and then click **Next**.

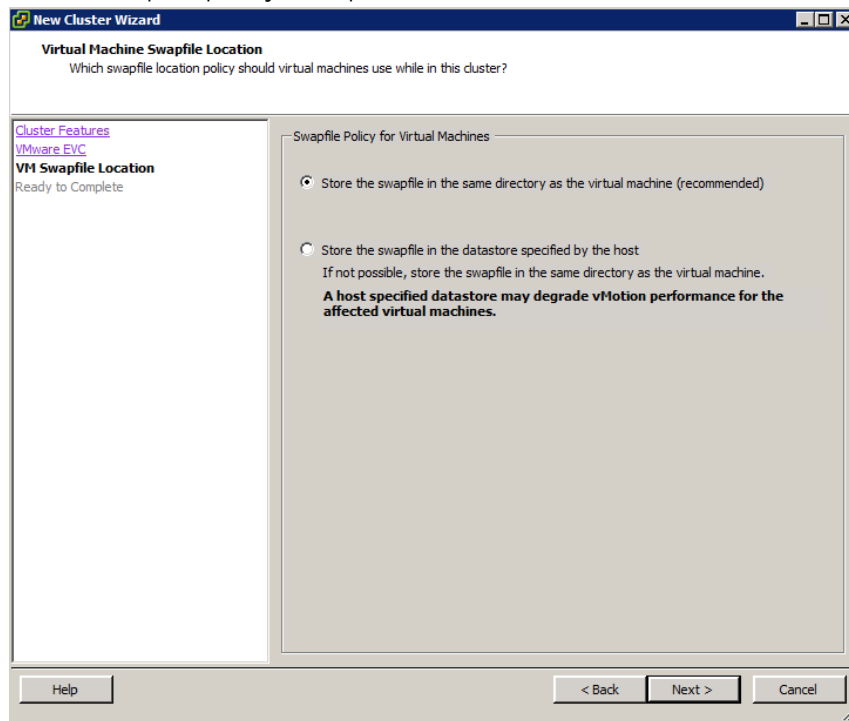


Figure 46 Swapfile Policy



- Review and click **Finish** to complete the cluster setup.

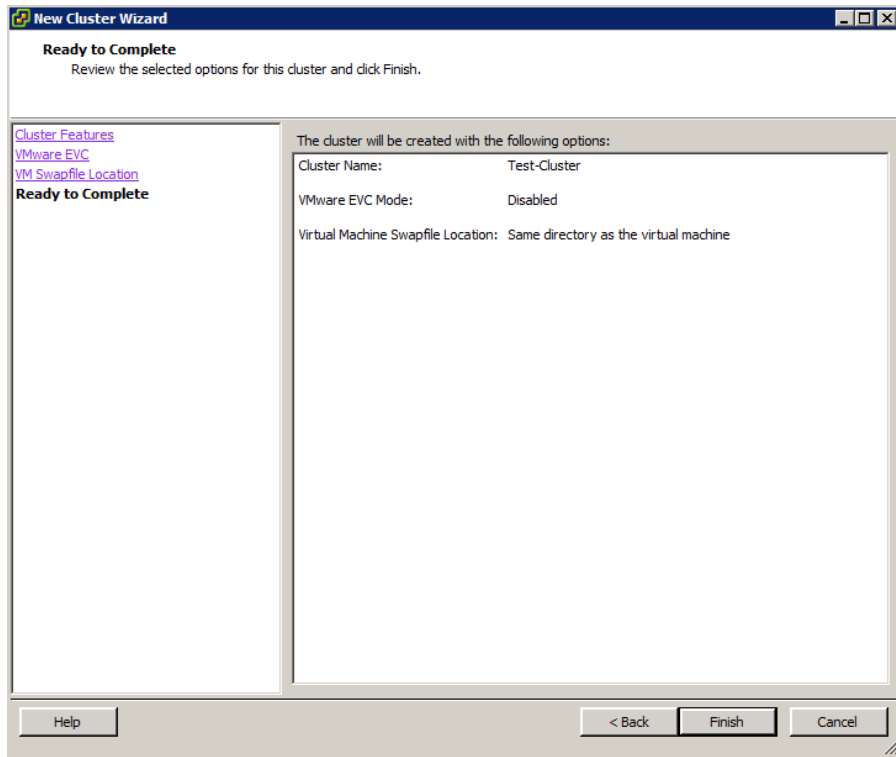


Figure 47 Complete Cluster Setup





- Click the newly created cluster, click **Add a host**, type the ESXi host FQDN or IP address and the ESXi host user name and password in the wizard, and then click **Next**.

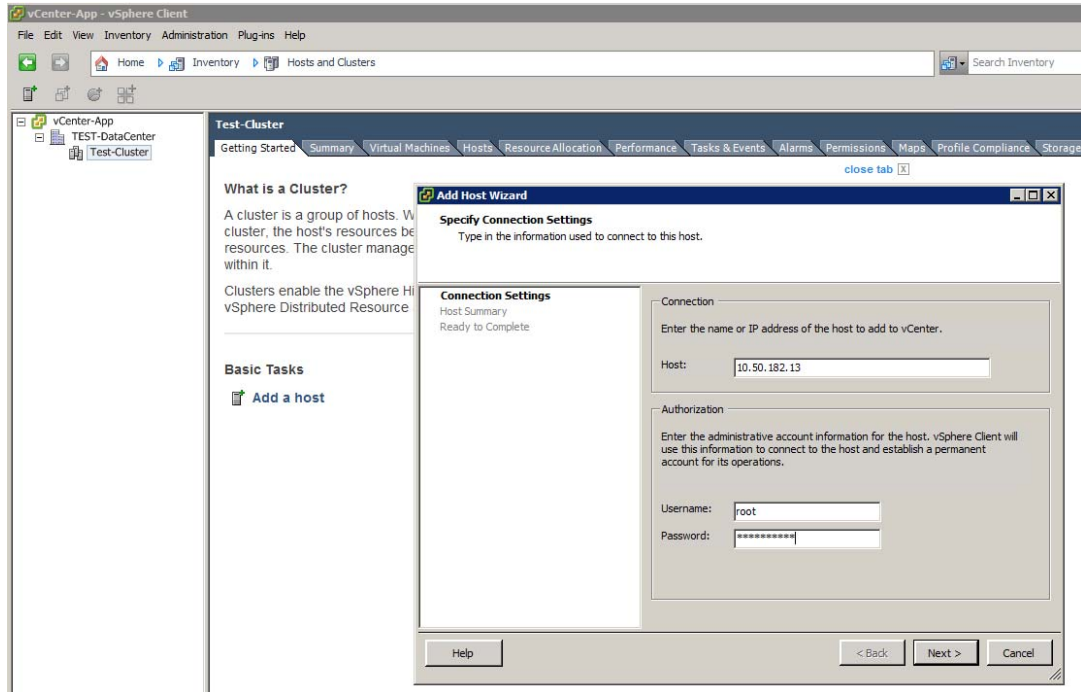


Figure 48 Add A Host

- Review the host summary, and then click **Next**.

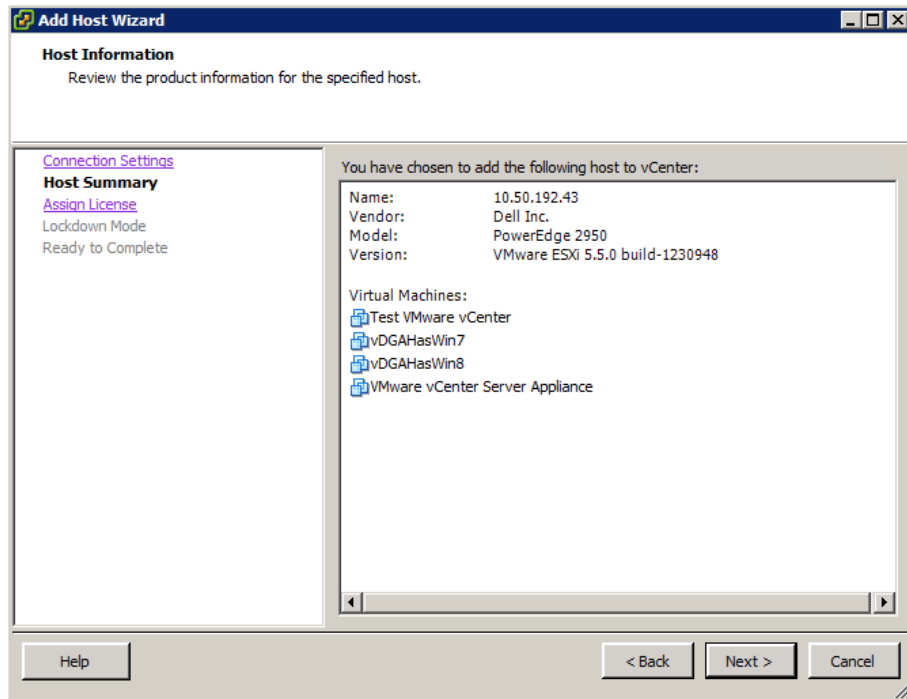


Figure 49 Host Summary



9. Assign a license key, if required, and then click **Next**.

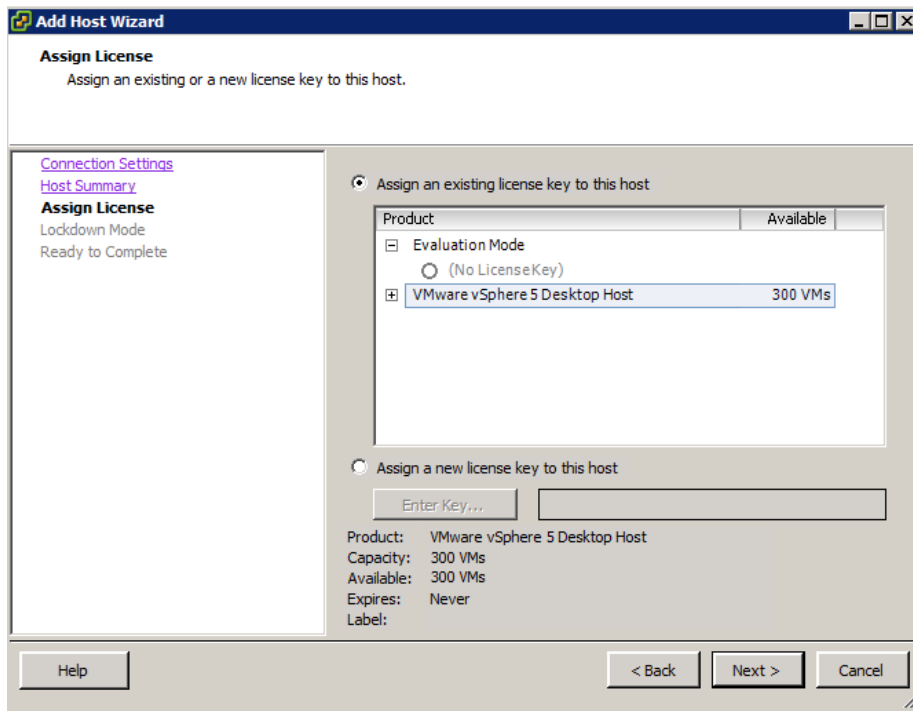


Figure 50 License Key

10. Set the Lockdown mode, if required, and then click **Next**.

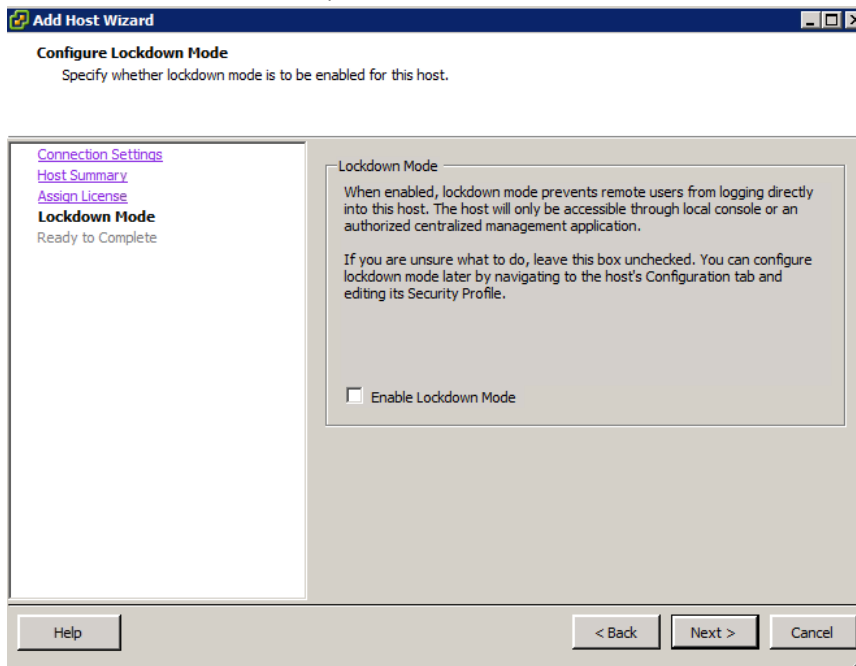


Figure 51 Lockdown Mode



11. Click **Finish** to add the ESXi host to the cluster. Repeat the process of adding the host for all Nutanix configured ESXi hosts.

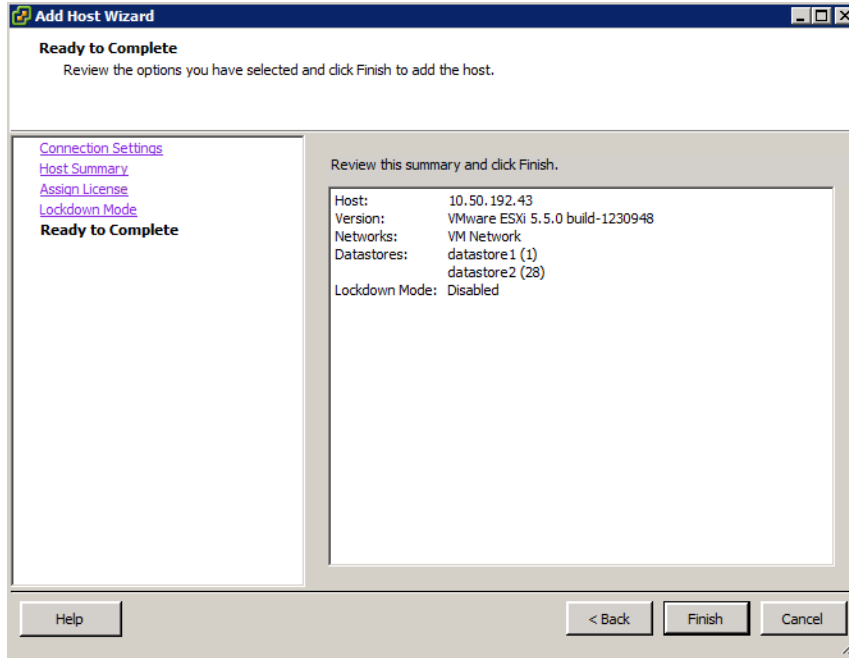


Figure 52 Finish Add Host Wizard

## 3.2 Setting up vCenter Networking

1. To add **Networking** in vCenter, click one of the host servers, click the **Configuration** tab, click **Networking**, and then click **Add Networking**. The vSphere Standard Switch view must be selected.

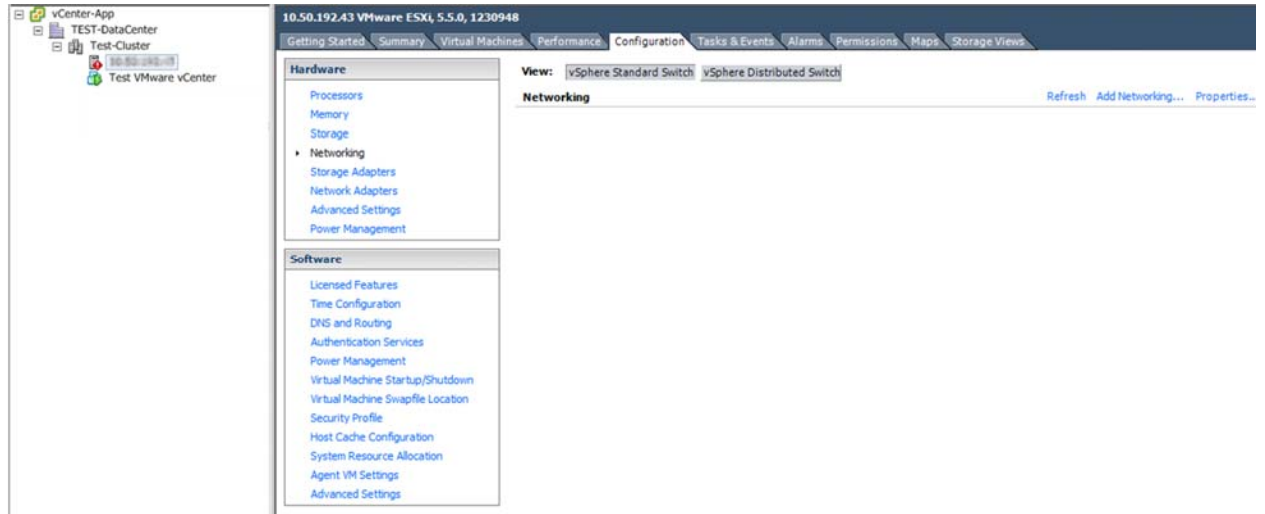


Figure 53 Networking setup

2. Click **Virtual Machine** connection type to create a Virtual Machine Port Group.

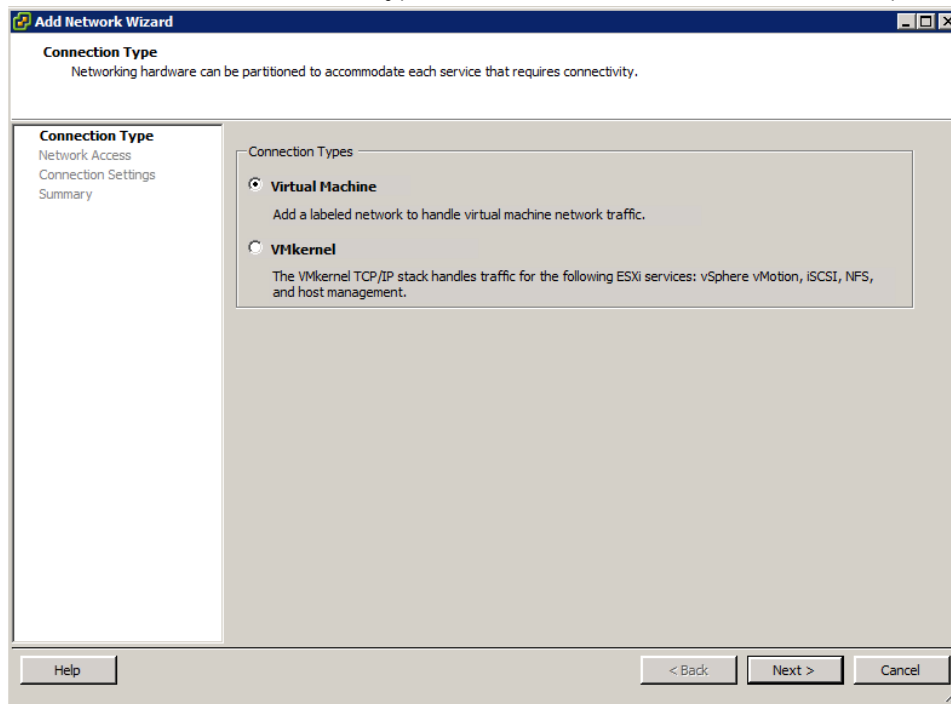


Figure 54 Connection Type

3. Create a standard vSwitch, select the two 10 Gb NICs, and then click **Next**.

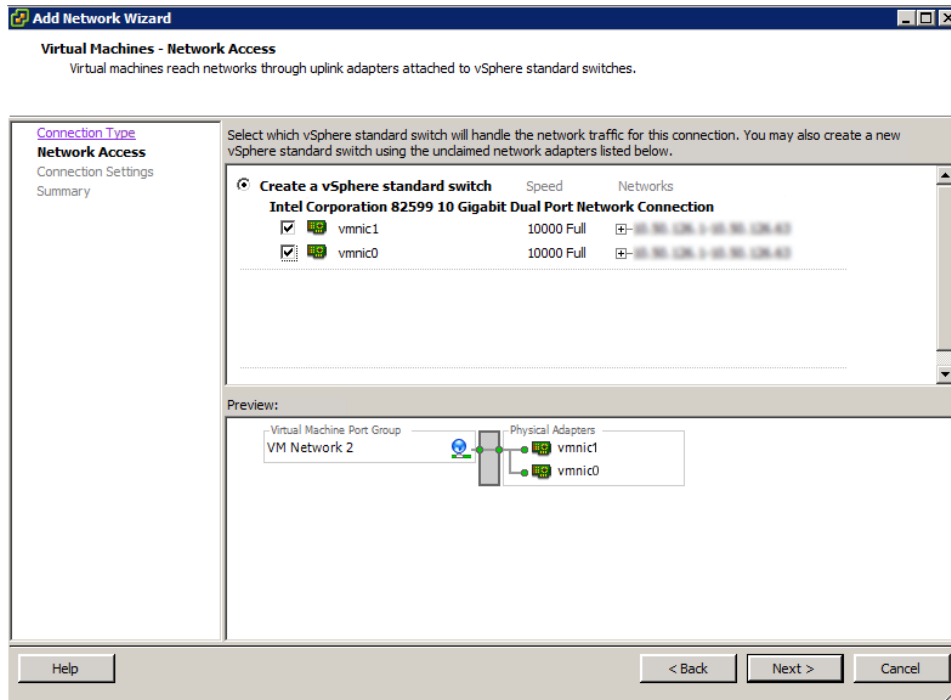


Figure 55 Network Access

4. Assign a name for the VDI VLAN that will host user virtual desktops and a VLAN ID, and then click **Next**.

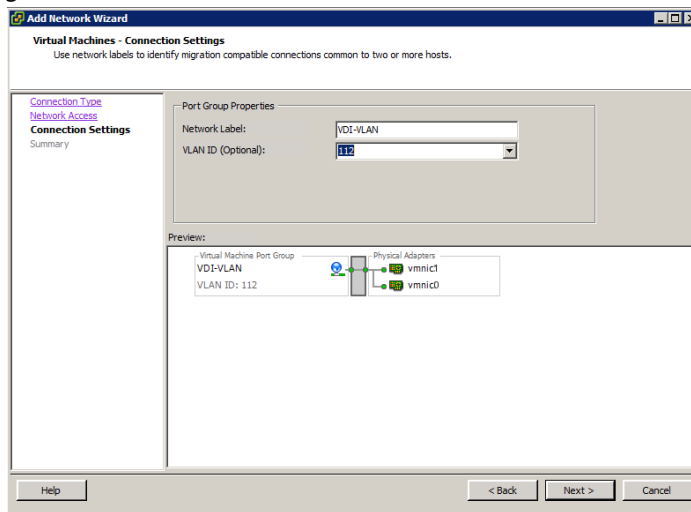


Figure 56 Connection settings



5. Click **Finish** to complete.

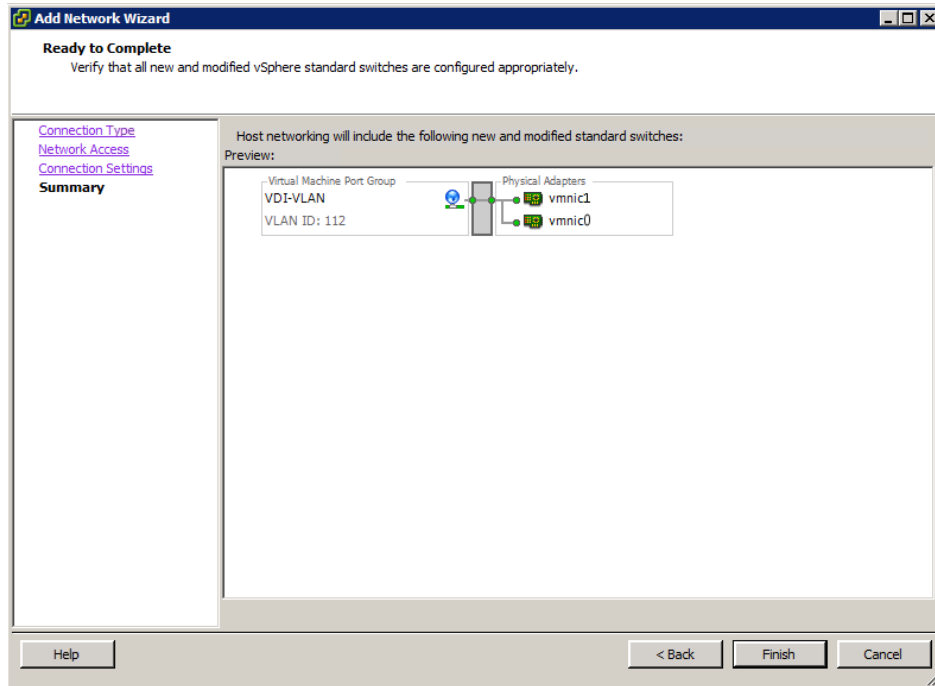


Figure 57 Summary

- Repeat tasks 1 and 2 to create a second Virtual Machine Port Group to host the Nutanix CVMs and vCenter VMs and use the previously created vSwitch.

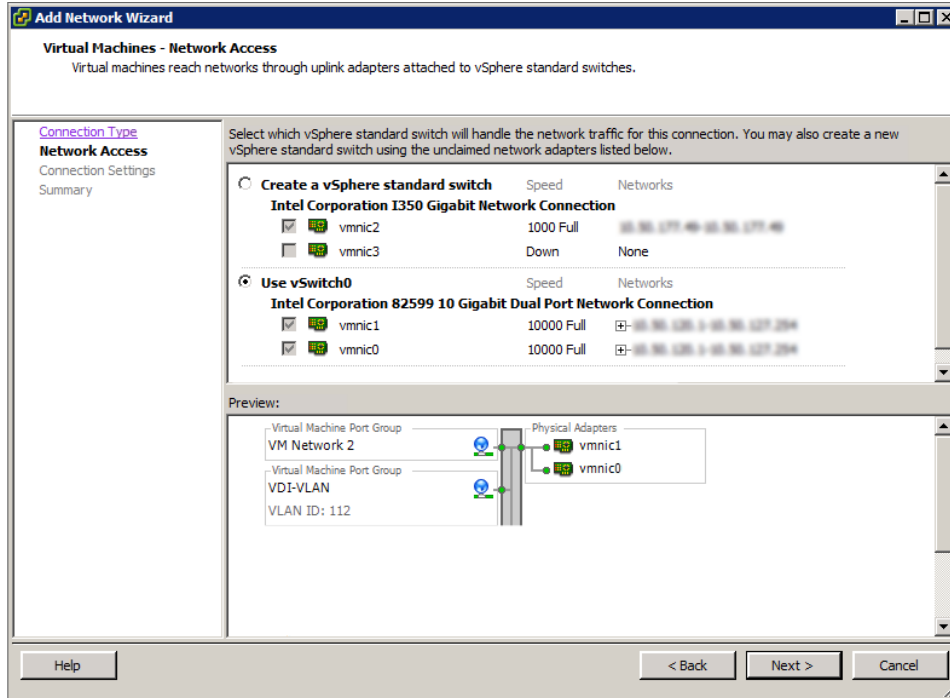


Figure 58 Network Access



7. Assign a name and VLAN ID, and then click **Next**.

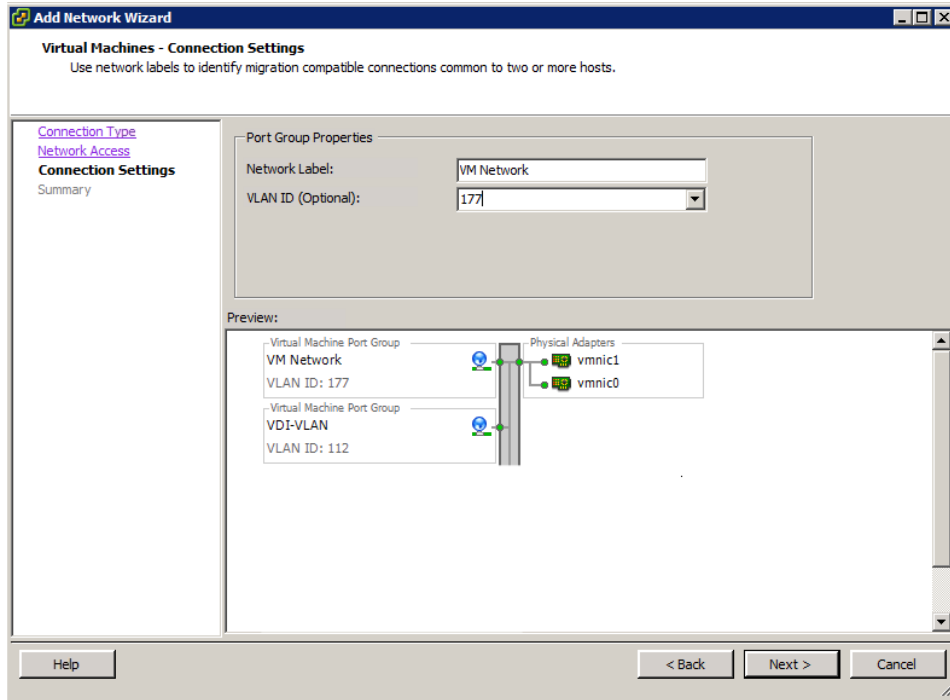


Figure 59 Connection Settings



- Click **Add Networking** again, click **VMKernel** connection type for the vMotion network, and then click **Next**.

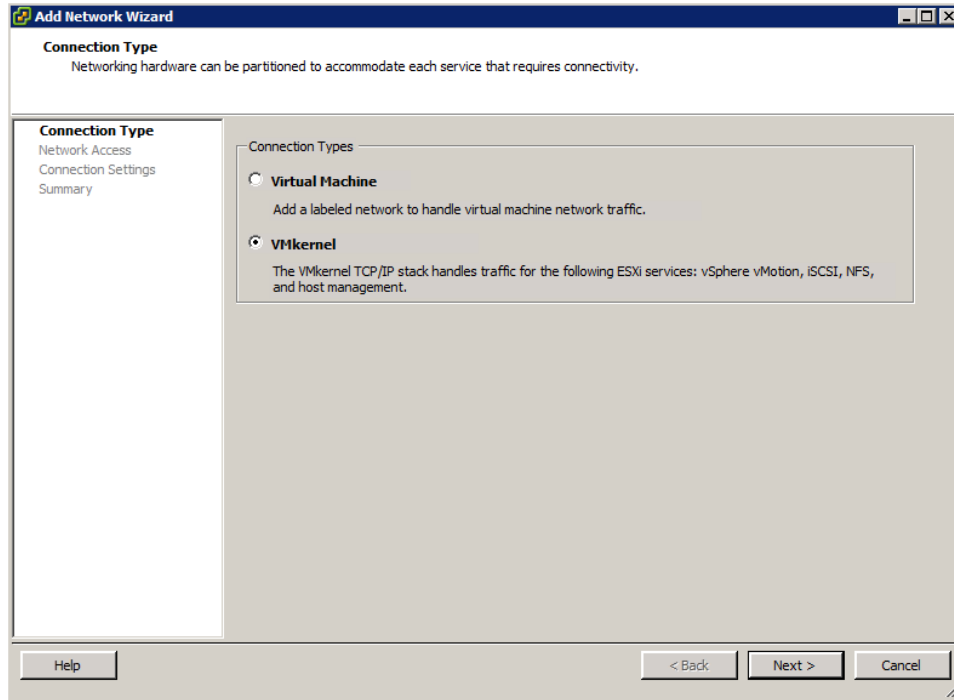


Figure 60 Connection Type

9. Select the existing vSwitch, and then click **Next**.

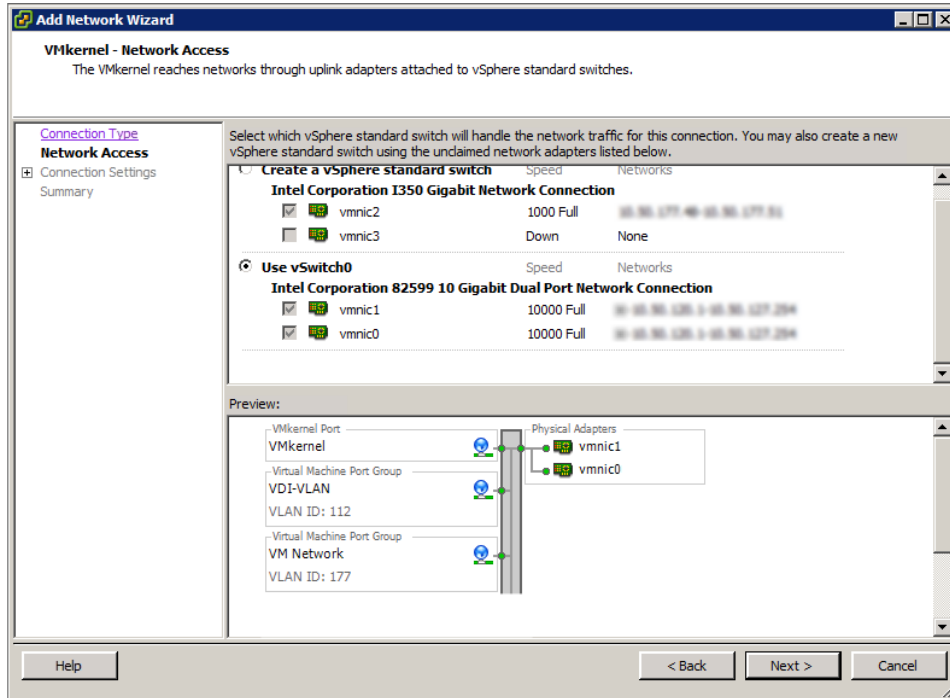


Figure 61 Network Access

10. Assign a name and VLAN ID, select **Use this port group for vMotion**, and then click **Next**.

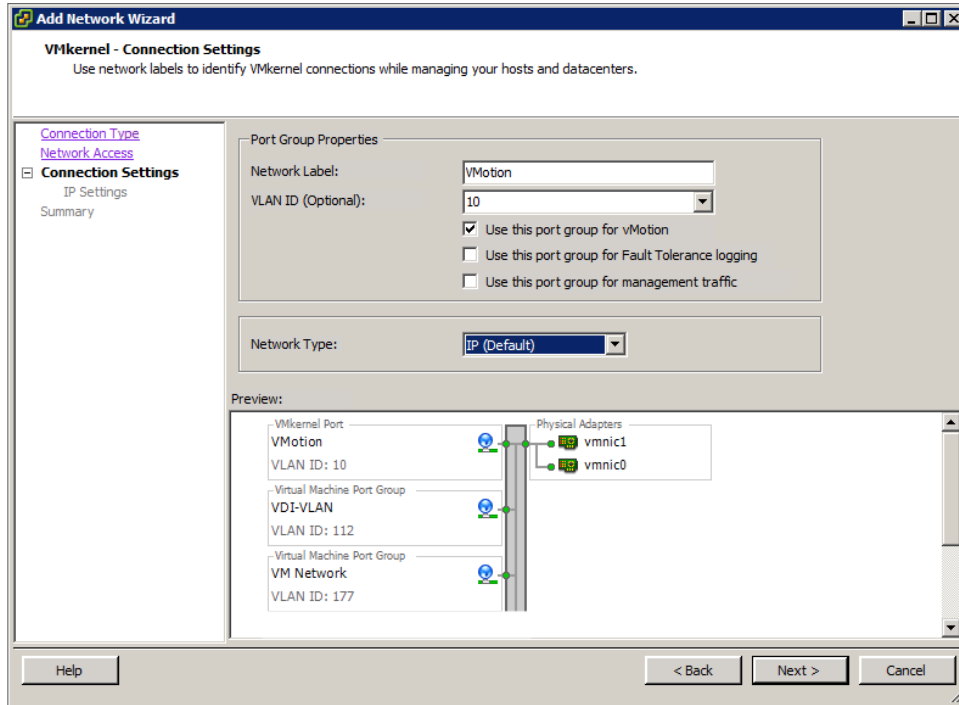


Figure 62 Connection Settings

11. Assign an IP address, and then click **Next**.

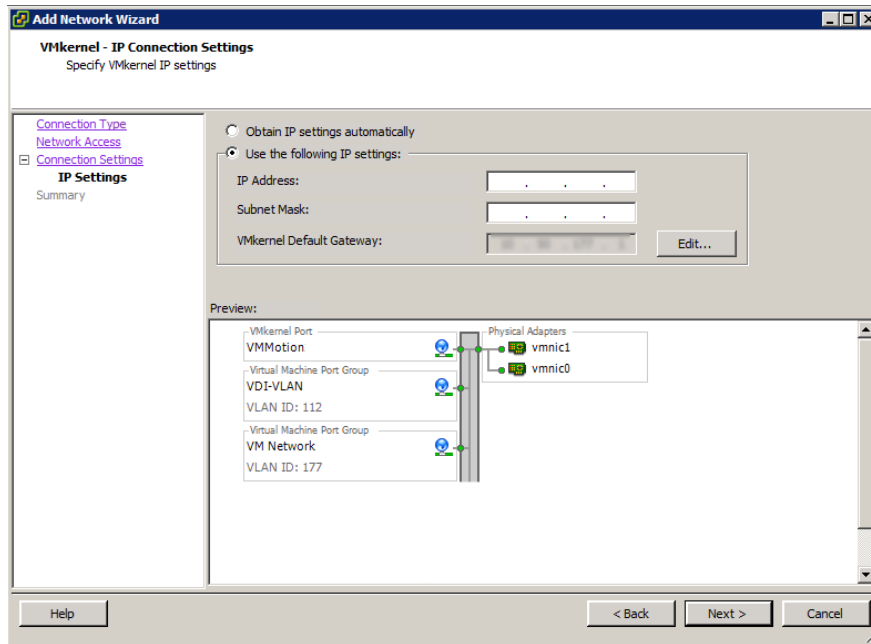


Figure 63 IP Settings

12. Click **Finish** to complete.

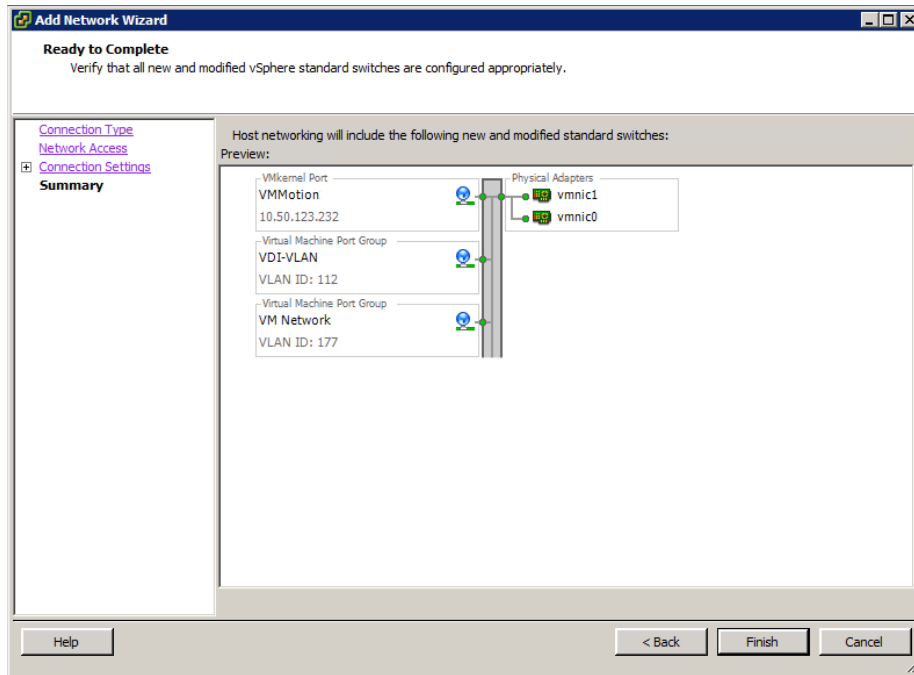


Figure 64 Summary

13. Repeat tasks 8 and 9 to create another VMkernel Port for the Management network.

14. Assign a name and VLAN ID, select **Use this port for vMotion** and **Use this port group for management traffic** check boxes, select **IP and IPv6** network type, and then click **Next**.

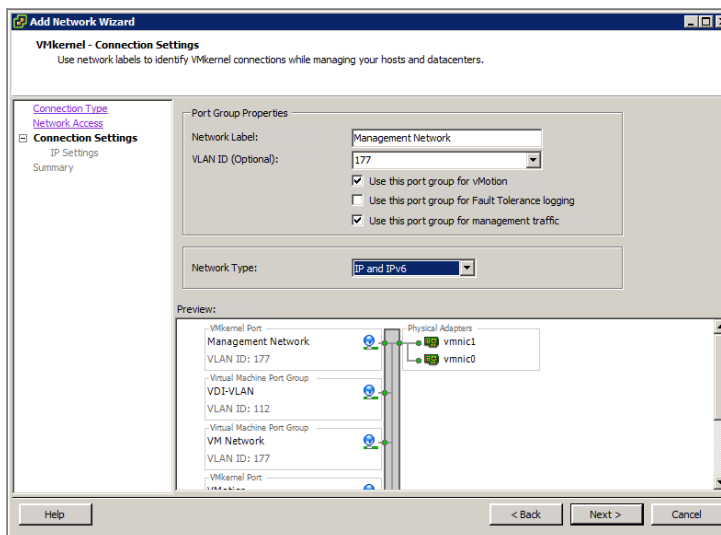


Figure 65 Connection Settings



15. Type an IP address, and then click **Next**.

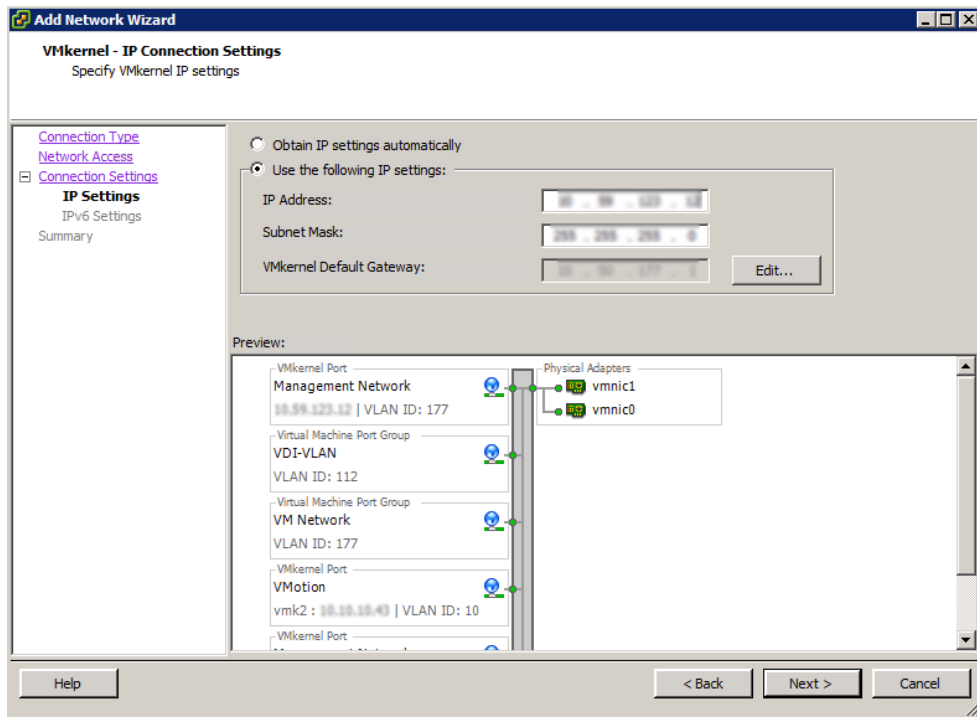


Figure 66 IP Settings

16. Select the Obtain IPv6 address automatically through Router Advertisement check box, and then click **Next**.

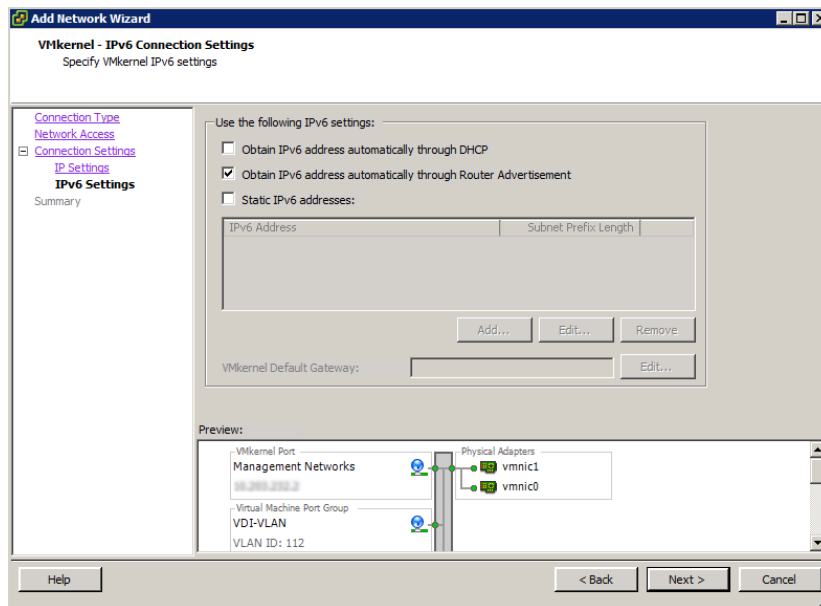


Figure 67 IPv6 Settings

17. Click **Finish** to complete.

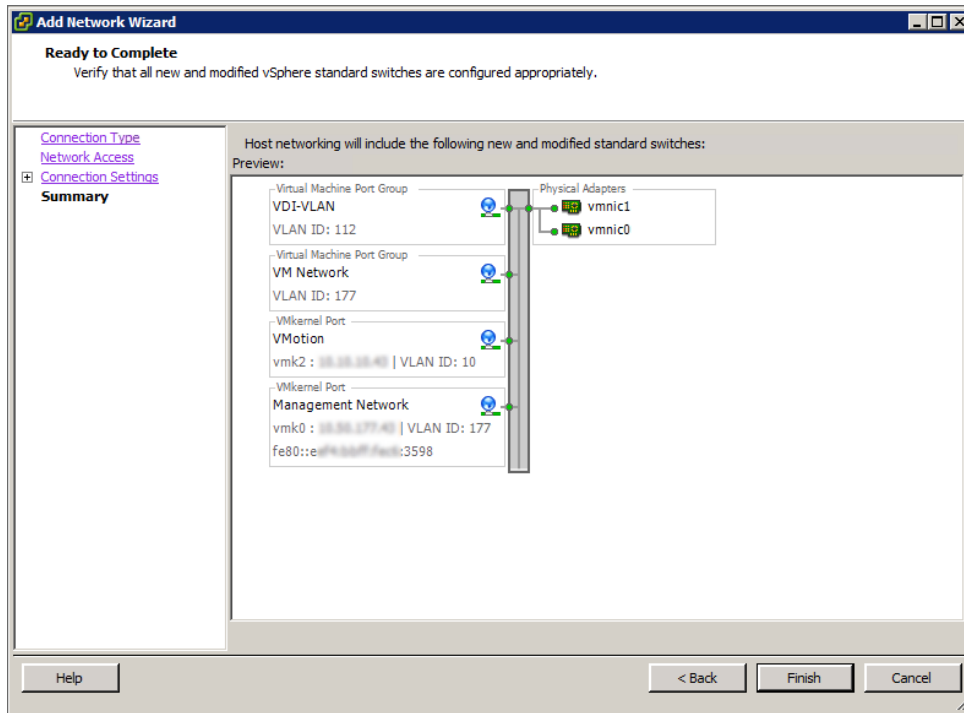


Figure 68 Summary

18. Click **Add Networking** to create a second switch for the internal CVM traffic, click **Virtual Machine** connection type, and then click **Next**.

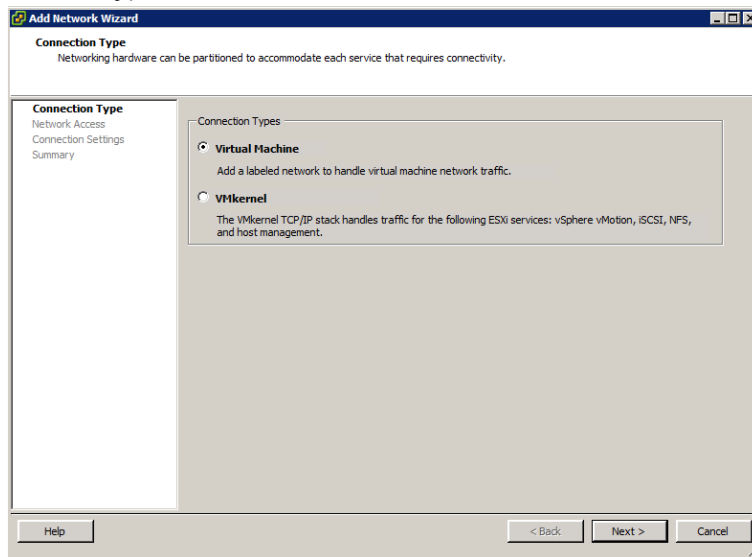


Figure 69 Connection Type



19. Click **Create a vSphere standard switch**, deselect any network adapters, and then click **Next**.

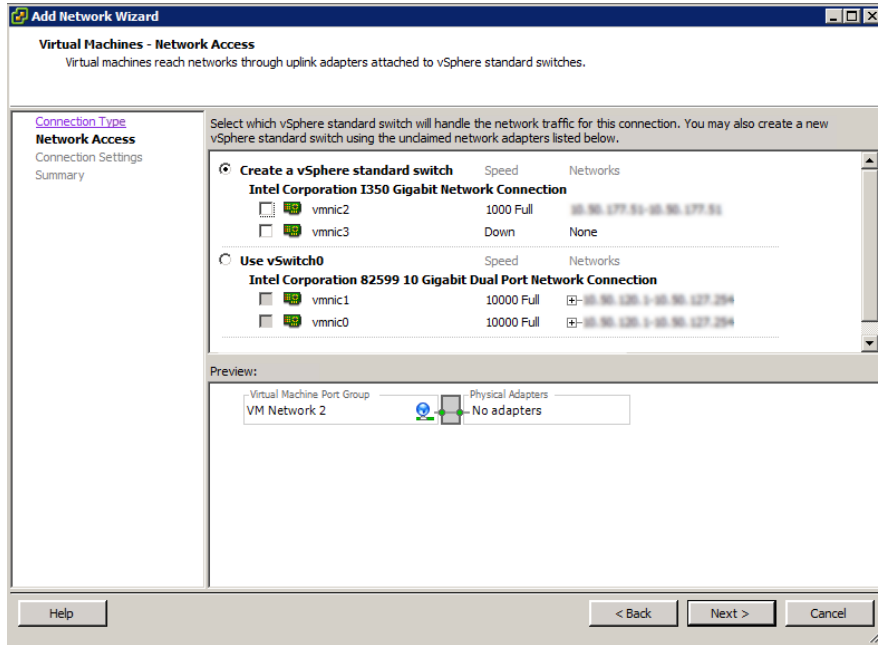


Figure 70 Network Access

20. Assign a network label, and then click **Next**.

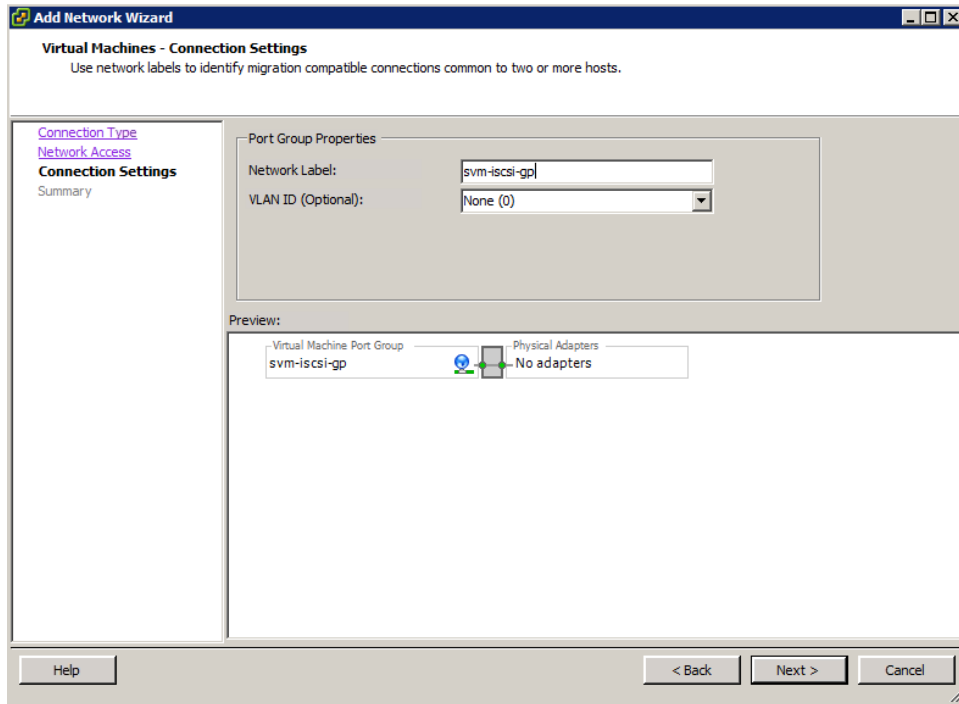


Figure 71 Connection Settings



21. Click **Finish** to complete.

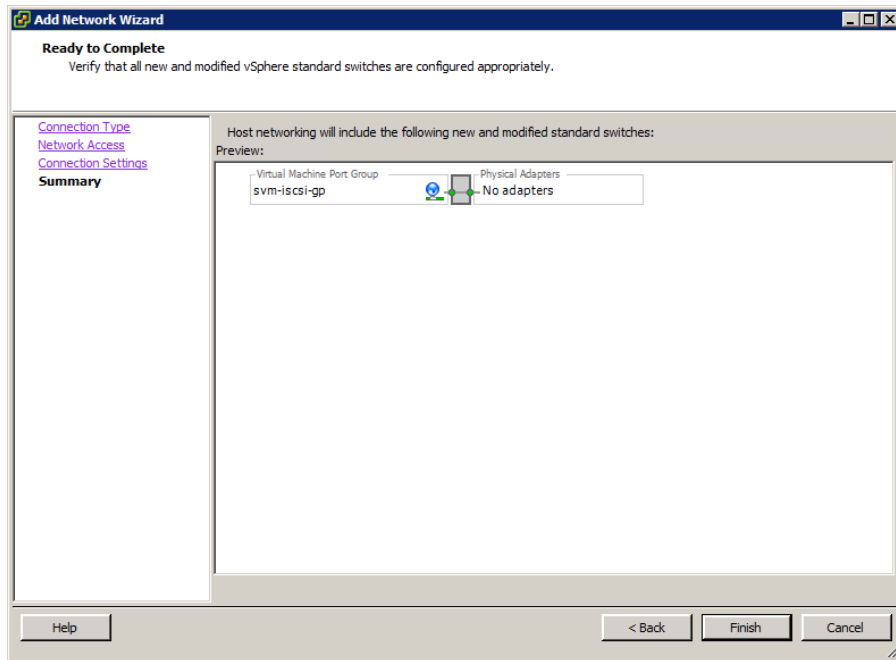


Figure 72 Summary

22. Click **Add Networking** again and select a VMkernel connection type.

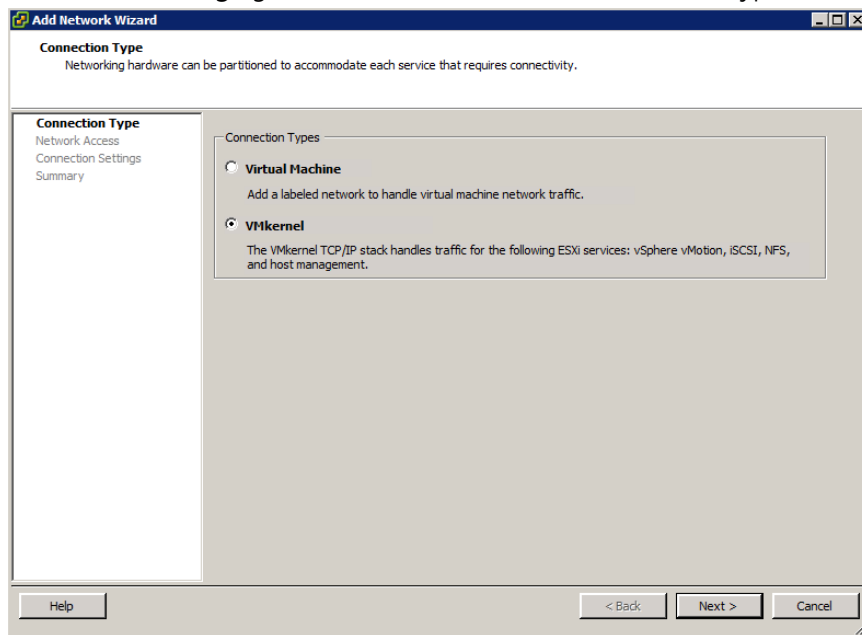


Figure 73 Connection Type



23. Use the newly created switch, and then click **Next**.

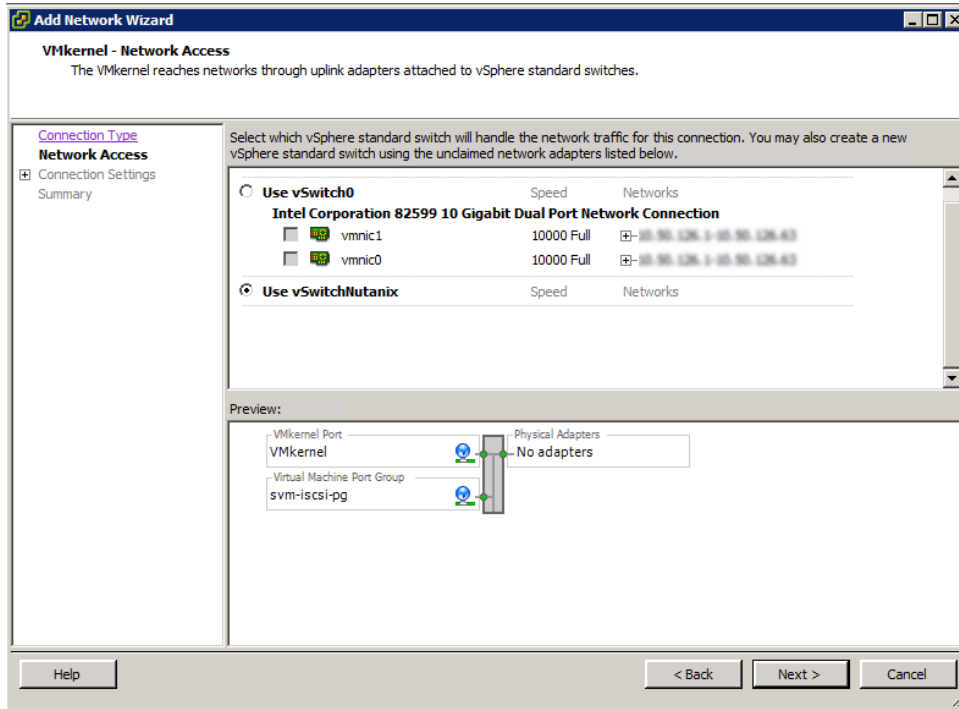


Figure 74 Network Access

24. Assign a network label, and then click **Next**.

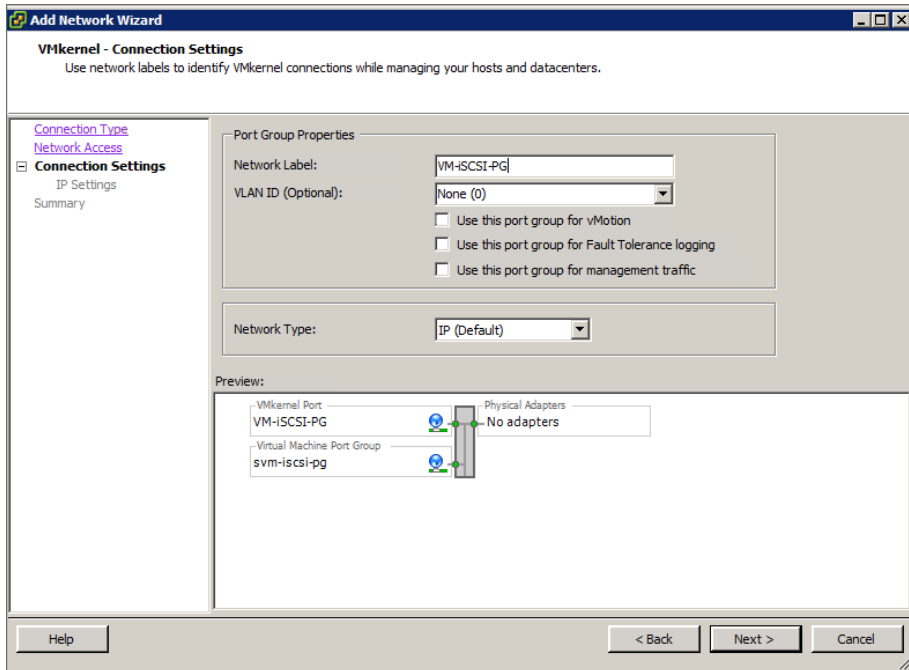


Figure 75 Connection Settings

25. Assign an IP address, and then click **Next**.

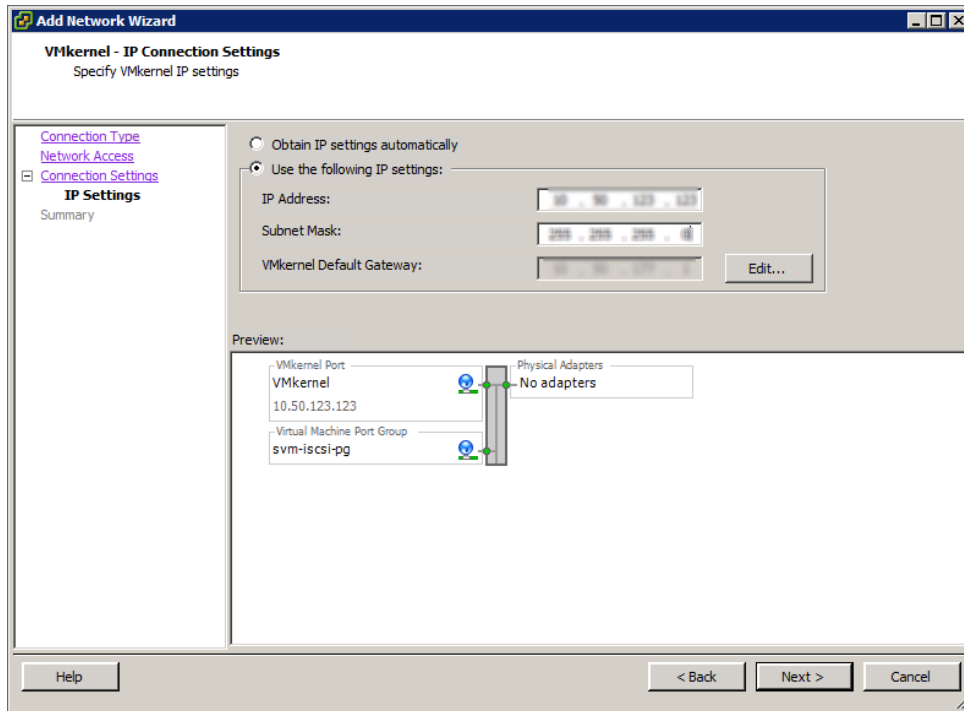


Figure 76 IP Settings

26. Click **Finish** to complete.

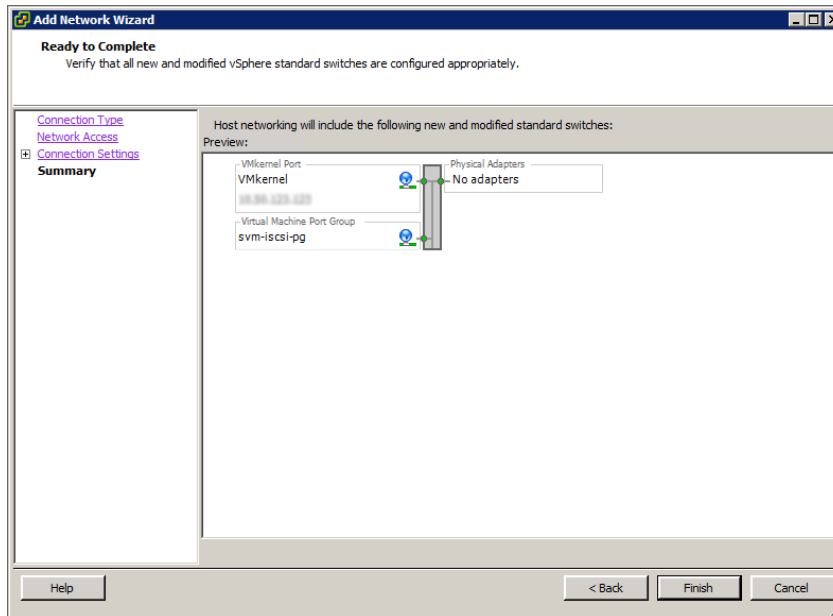


Figure 77 Summary

The completed networking topology must be displayed as shown in the screen shot here.

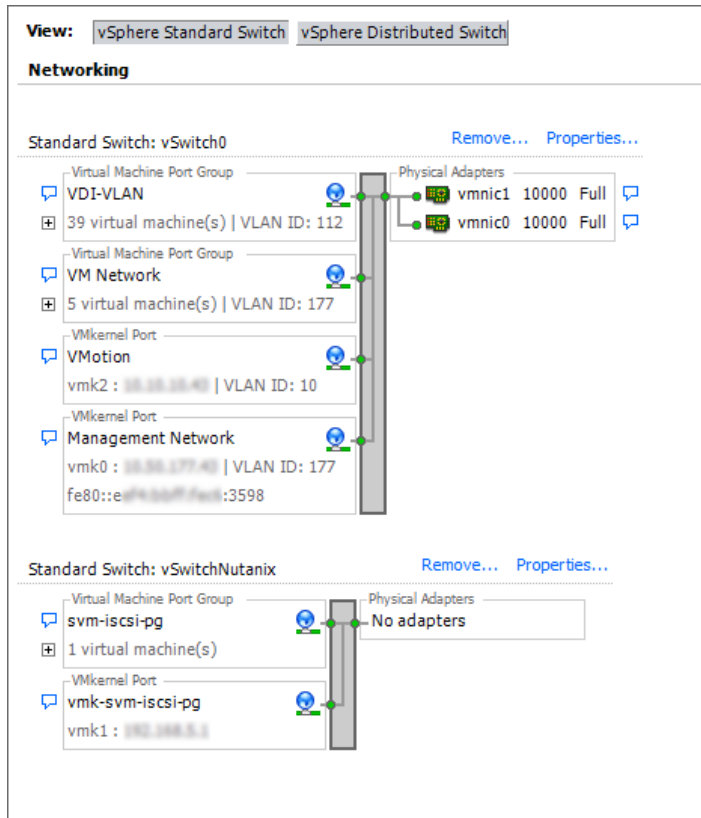


Figure 78 Networking topology



## 4 Installing SQL Server

SQL Server Installation:

1. From the SQL VM, access the SQL setup files (go to file share, copy locally, insert DVD, download, etc.)
2. Run Setup.exe, in the left pane, click **Installation**, and then select **new stand-alone installation**.
3. Click **OK** to continue past the discovery operation.
4. On the **Language selection** page (if displayed), click **Next**.
5. On the **Product Key** page, type PID, and then click **Next**.
6. Accept license terms, and then click **Next**.
7. Enable setup to download and use update files, and then click **Next**.
8. Note any warnings or issues from the report, and then click **Next**.
9. Select **SQL Server Feature Installation**, and then click **Next**.
10. Database Engine Services, Management Tools (basic & completed), and SQL Client Connectivity SDK features must be installed. Other features can be installed as required. Click **Next** until you arrive at the instance configuration.
11. Select **Default instance** on the **Instance Configuration** page and click **Next**. On the **Disk Usage** page, click **Next** again.
12. Change the SQL service accounts to the required domain user accounts determined in the prerequisites. Make sure to specify the domain account and password. Click **Next** to continue.

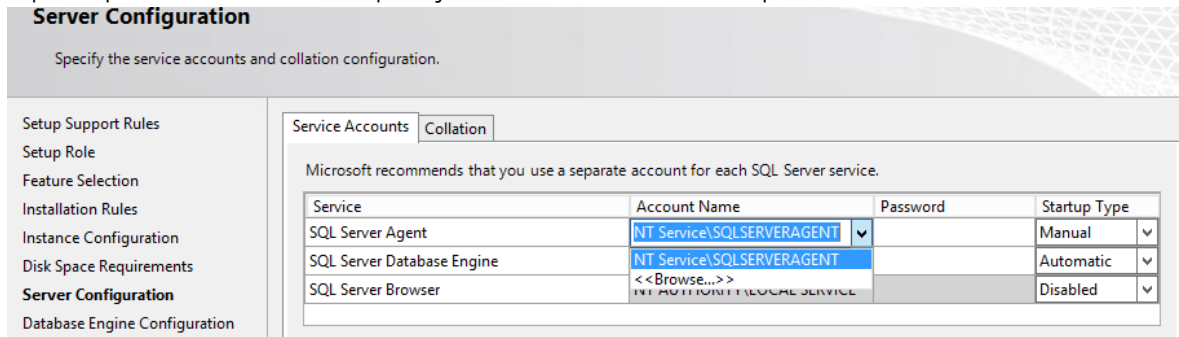


Figure 79 Server Configuration

13. Set to mixed mode authentication, specify a password for the SA account, and add domain user(s) or group(s) to be used for SQL administration.

14. On the **DataBase Engine Configuration** page, click the **Data Directories** tab. Change the database, log, and temp locations to the corresponding drives configured during the SQL VM creation. Unless you want to designate specific folders, the existing paths can be retained with only the drive letter being changed (for example "D:\Program Files\Microsoft SQL Server\MSSQL11.MSSQLSERVER\MSSQL\Data" ). Click **Next**.

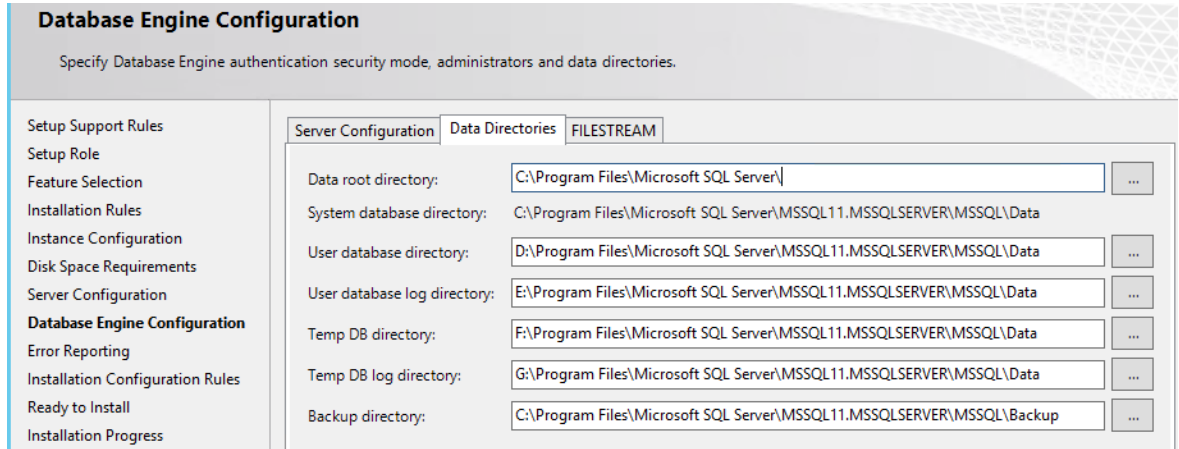


Figure 80 Database Engine Configuration

15. Click **Next** on the **Error Reporting** page and click **Next** again on the **Installation Configuration Rules page**.
16. To begin installation, click **Install** and after completing the installation process, click **Close**.



## 5 Installing XenDesktop or XenApp 7.5

1. Save the .iso file that contains the installation files.
2. On the Welcome page, click **XenDesktop**.

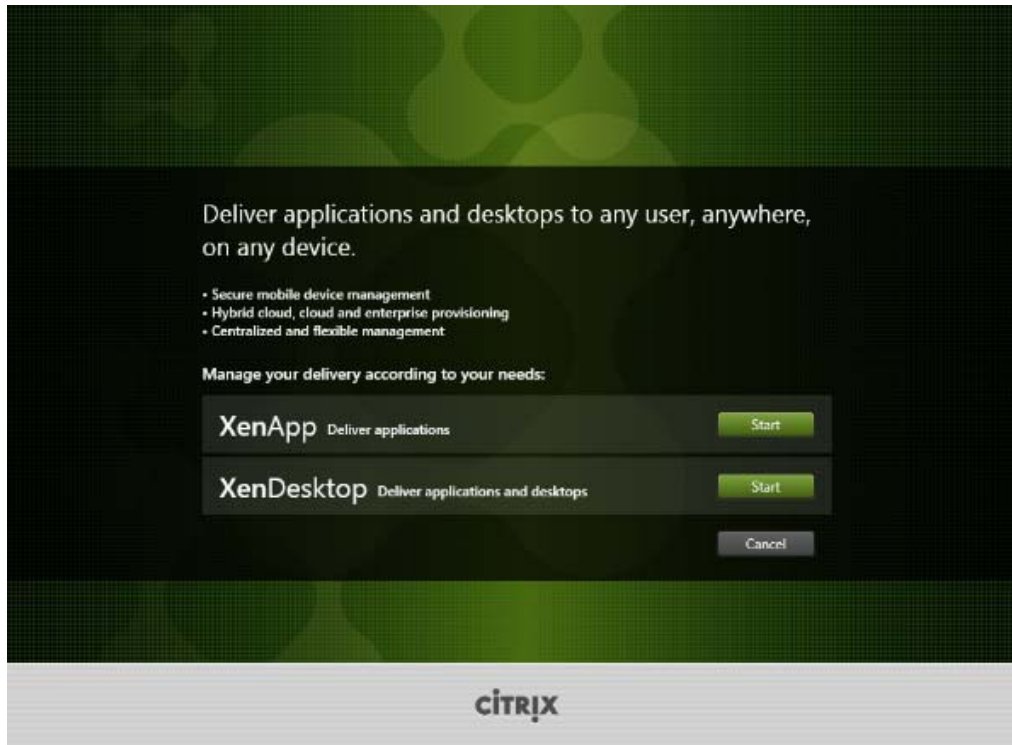


Figure 81 XenDesktop Welcome page

3. On the **XenApp 7.5** page, click **Delivery Controller**.

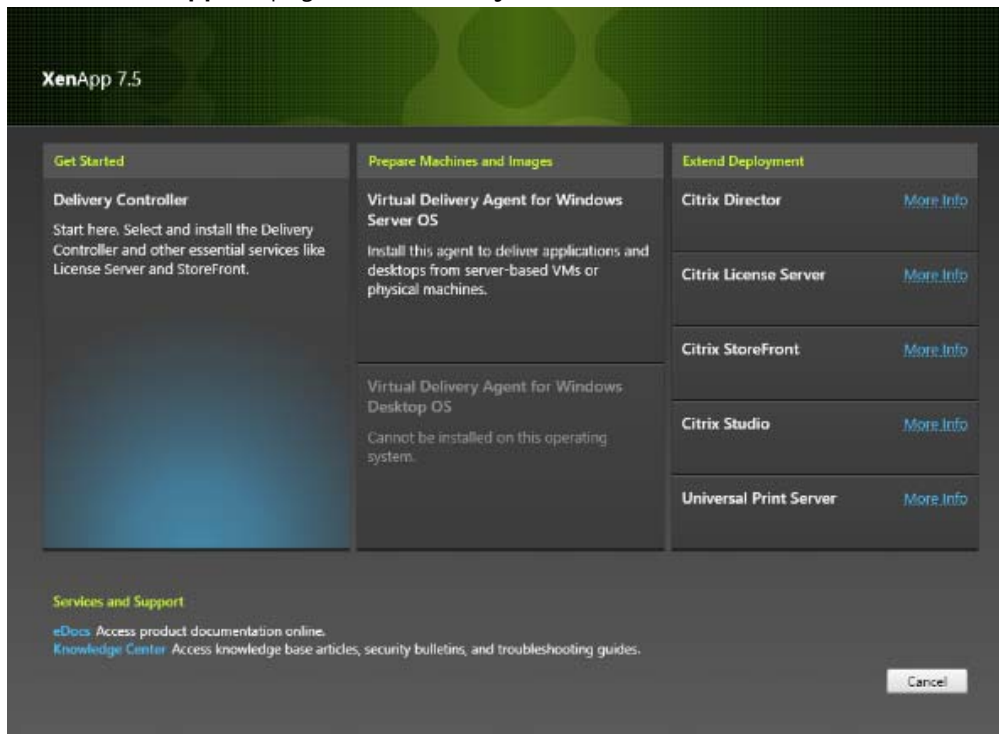


Figure 82 XenApp 7.5 page

4. Click **I have read, understand, and accept the terms of the license agreement**, and then click **Next**.

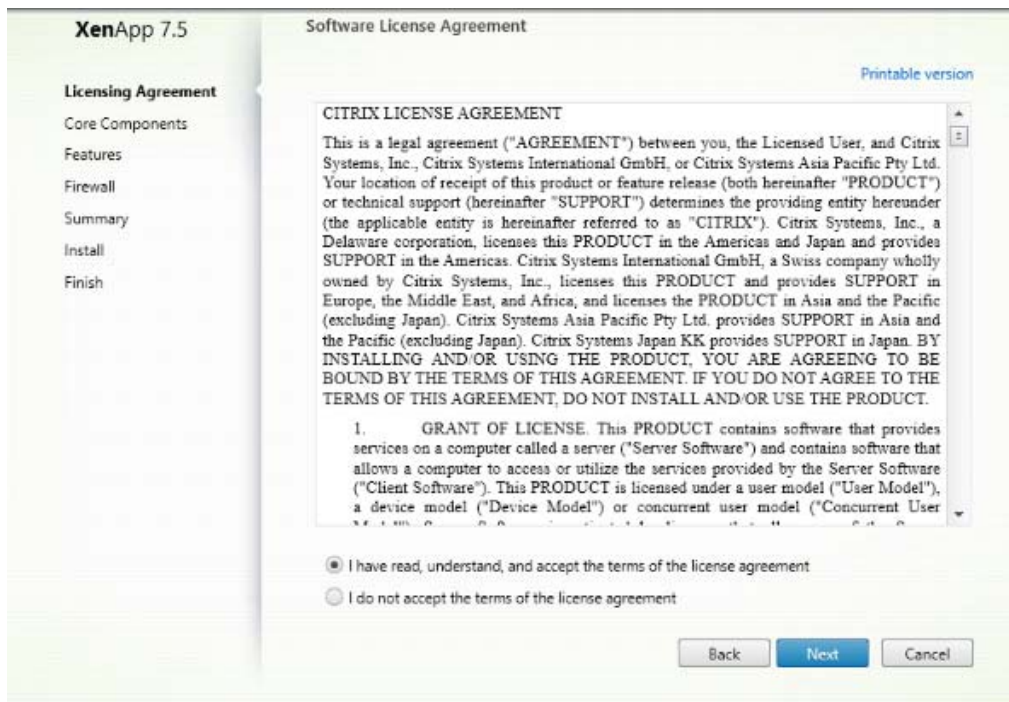


Figure 83 XenApp 7.5 License Agreement





5. Select the check boxes as shown in the screen shot, and then click **Next**.

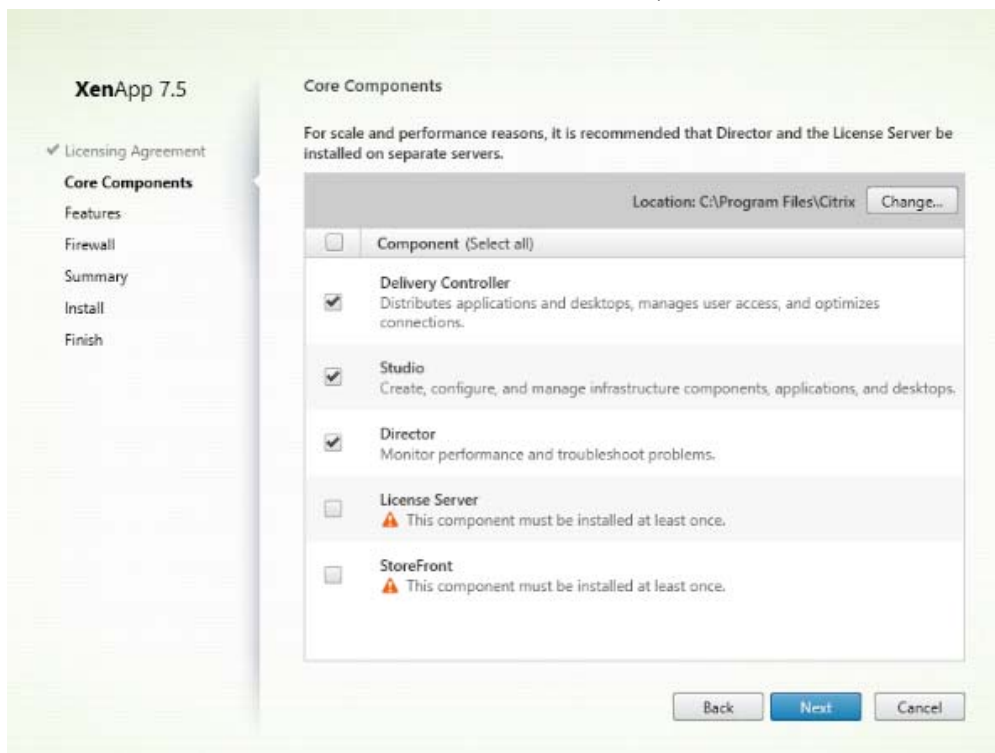


Figure 84 Core Components

6. If you have an SQL server already installed, leave the **Install Microsoft SQL Server 2012 Express** check box clear. Else, select the check box to install an Express version.

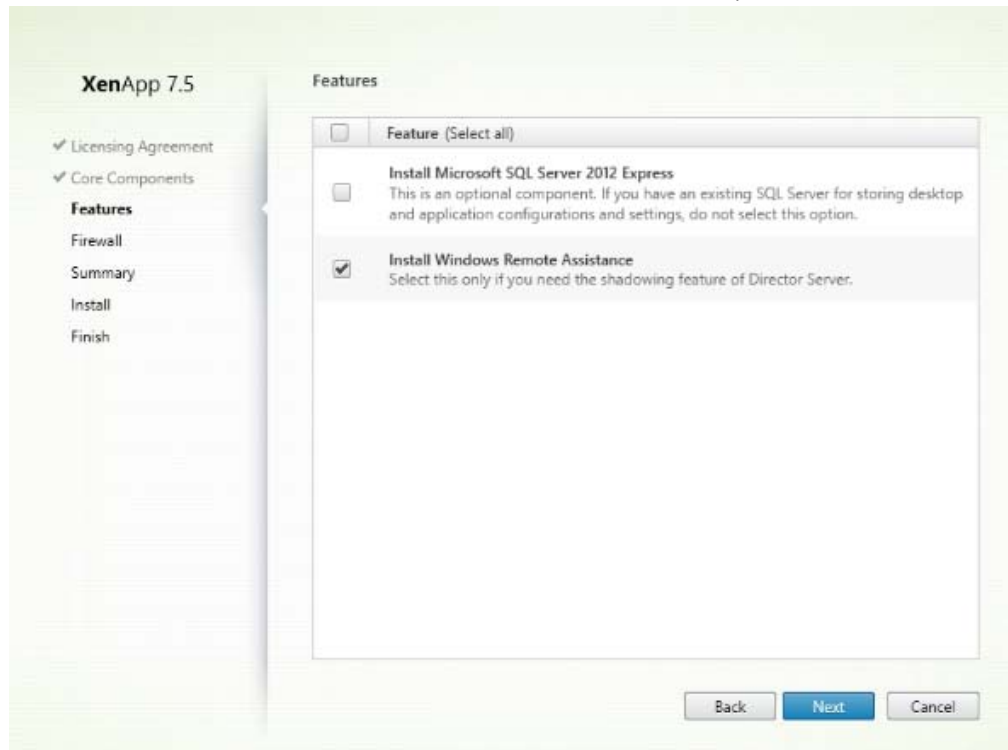


Figure 85 XenApp 7.5 Features

7. Read the information under the **Firewall** section, and then click **Next**.

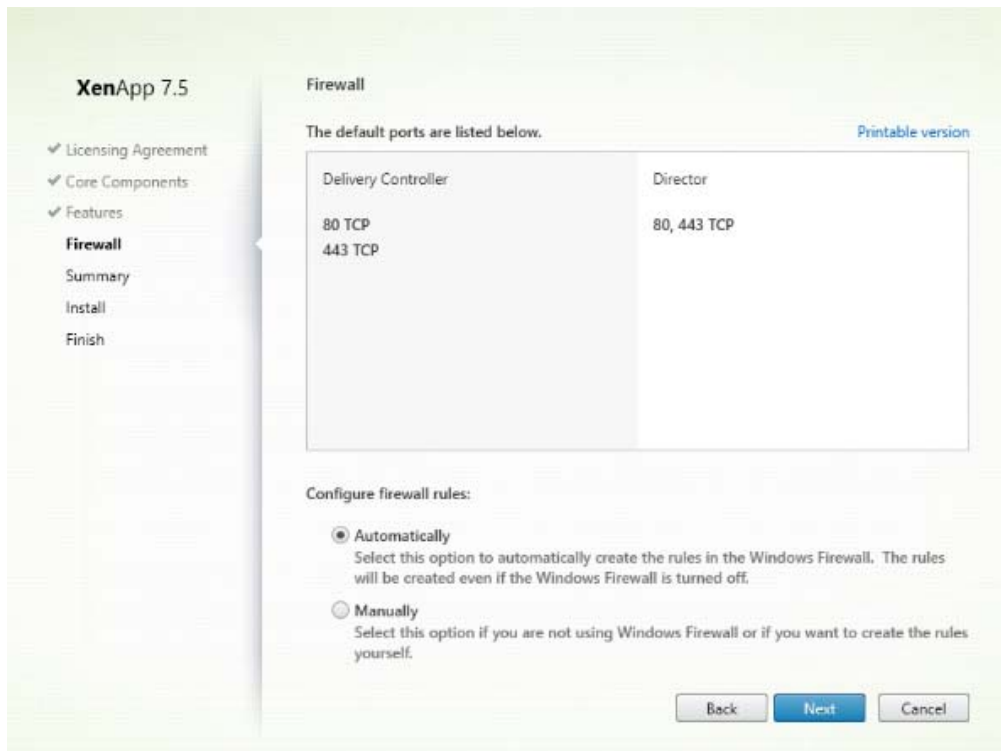


Figure 86 XenApp 7.5 Firewall Settings

8. Click **Install**.

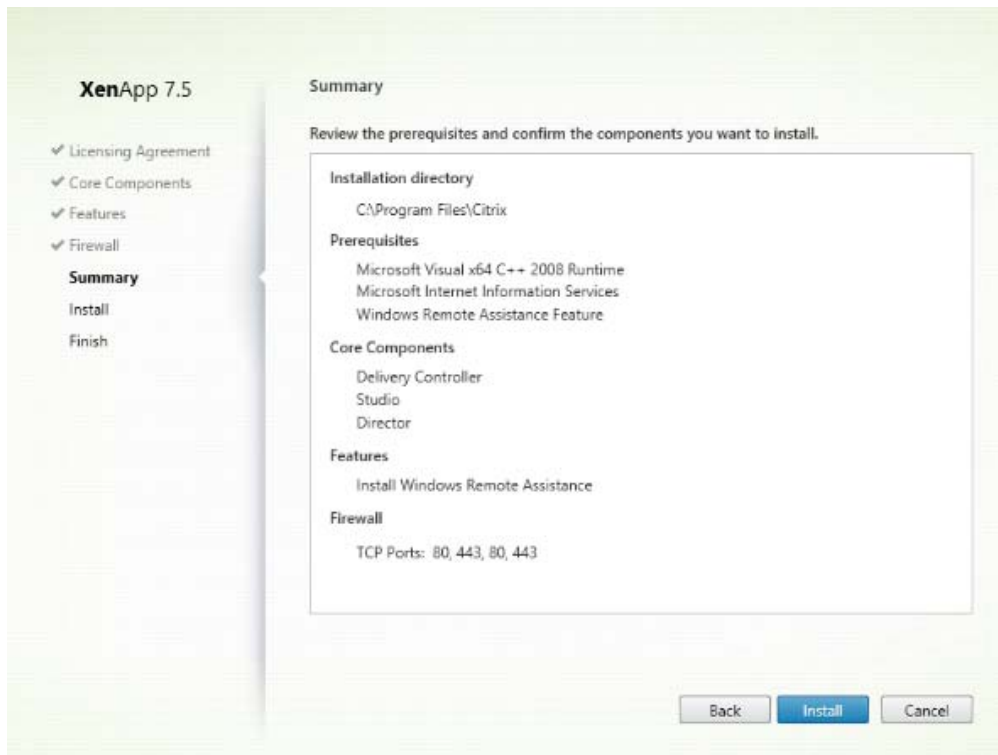


Figure 87 Installation Summary

9. After the installation is successfully completed, click **Finish**.

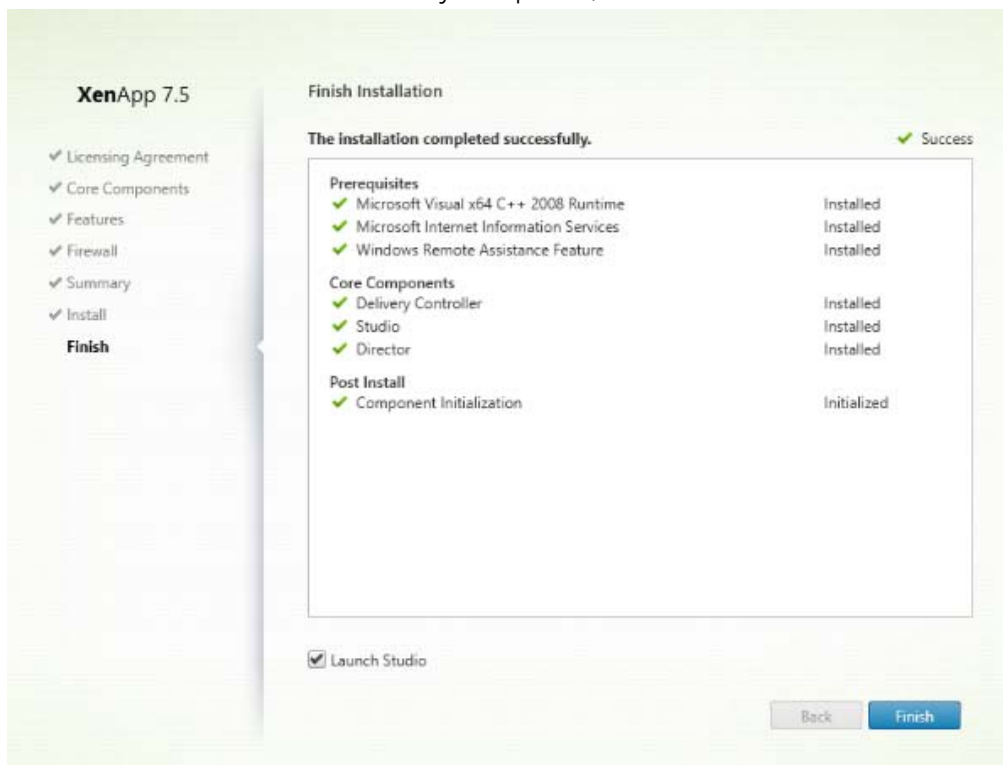


Figure 88 Successfully Installation

## 6 Installing a StoreFront Server

1. Mount XenDesktop 7.5 CD or ISO file and when the CD auto launches, click **Citrix Storefront**.

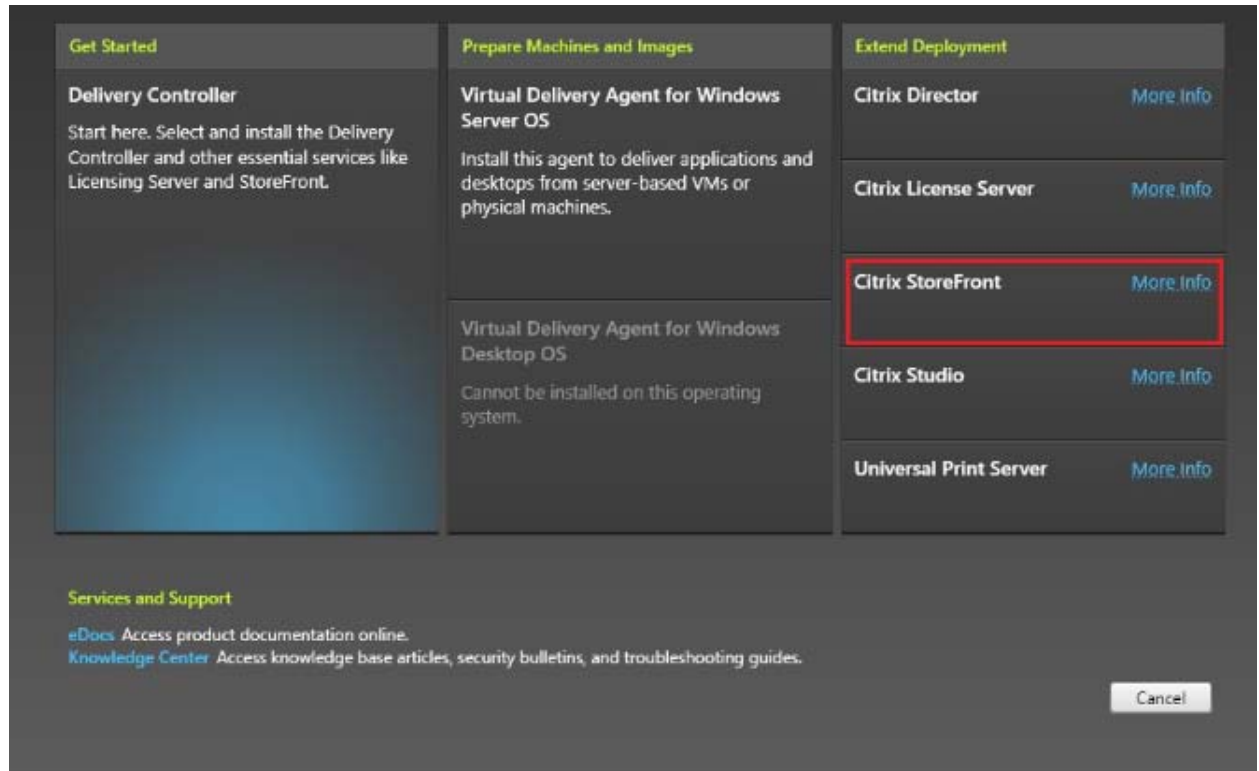


Figure 89 Extend Deployment

2. Accept the agreement and click **Next** to continue.

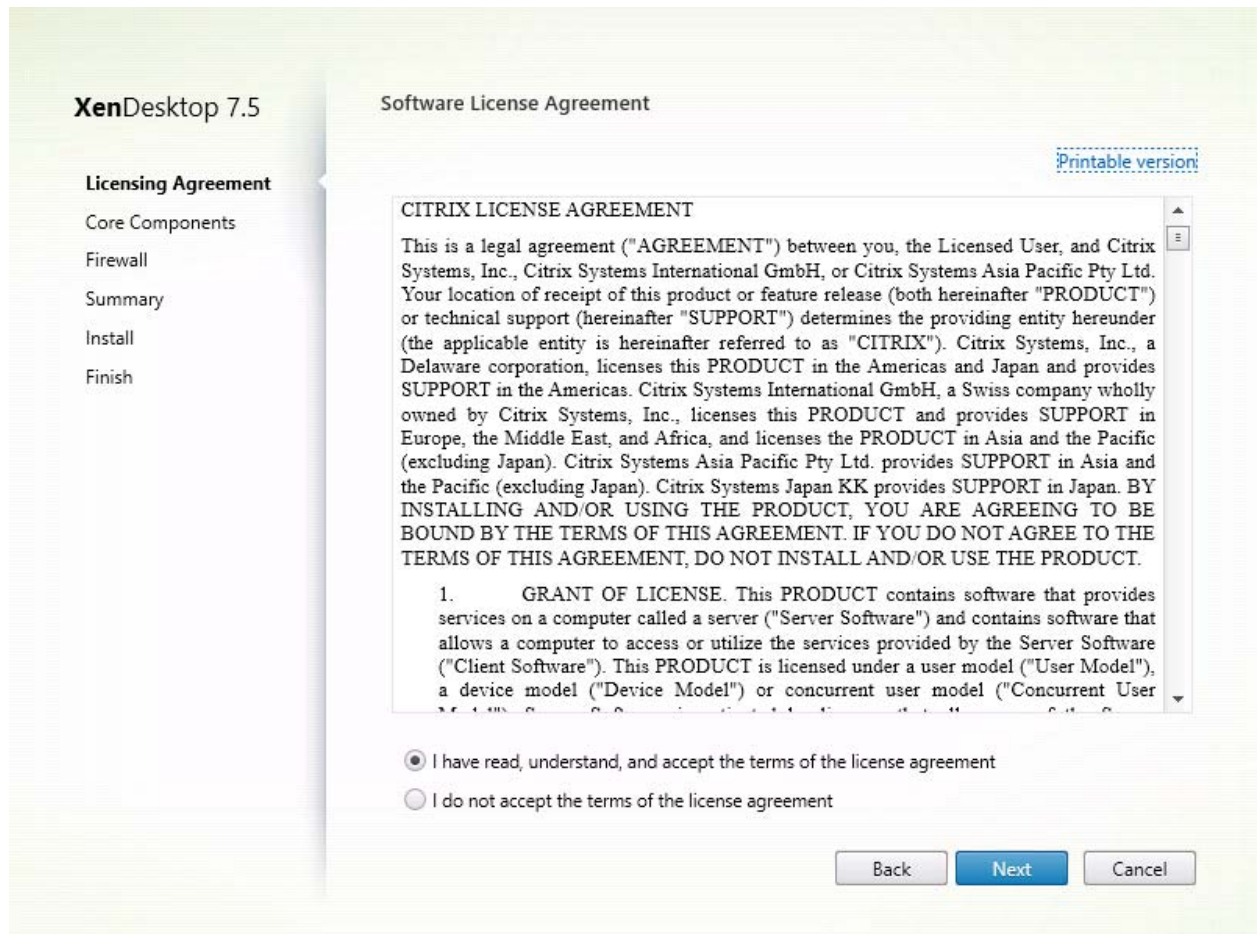


Figure 90 Software Licence Agreement



3. Click **Next** to continue.

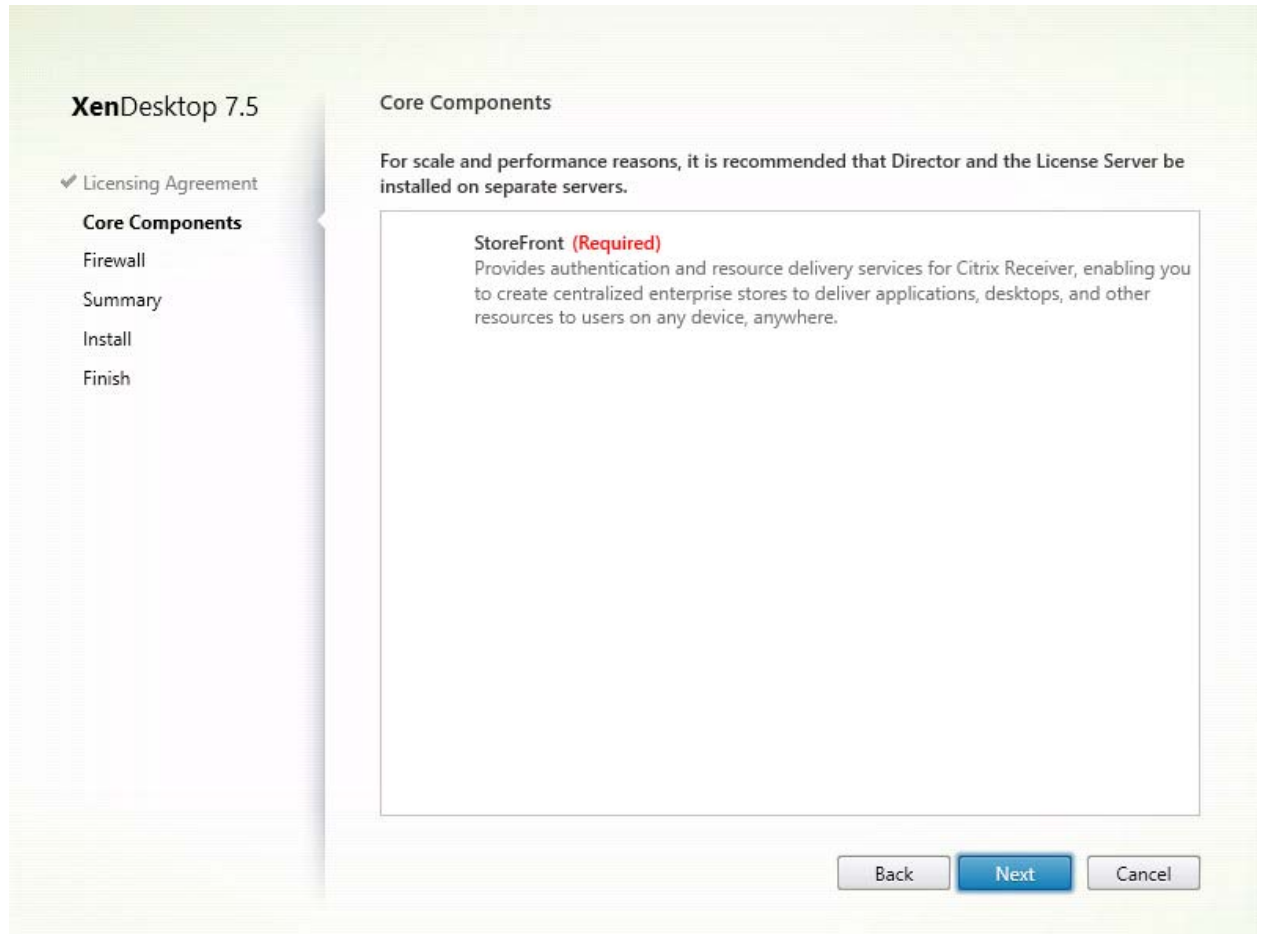


Figure 91 Core Components



4. Click **Next** to continue.

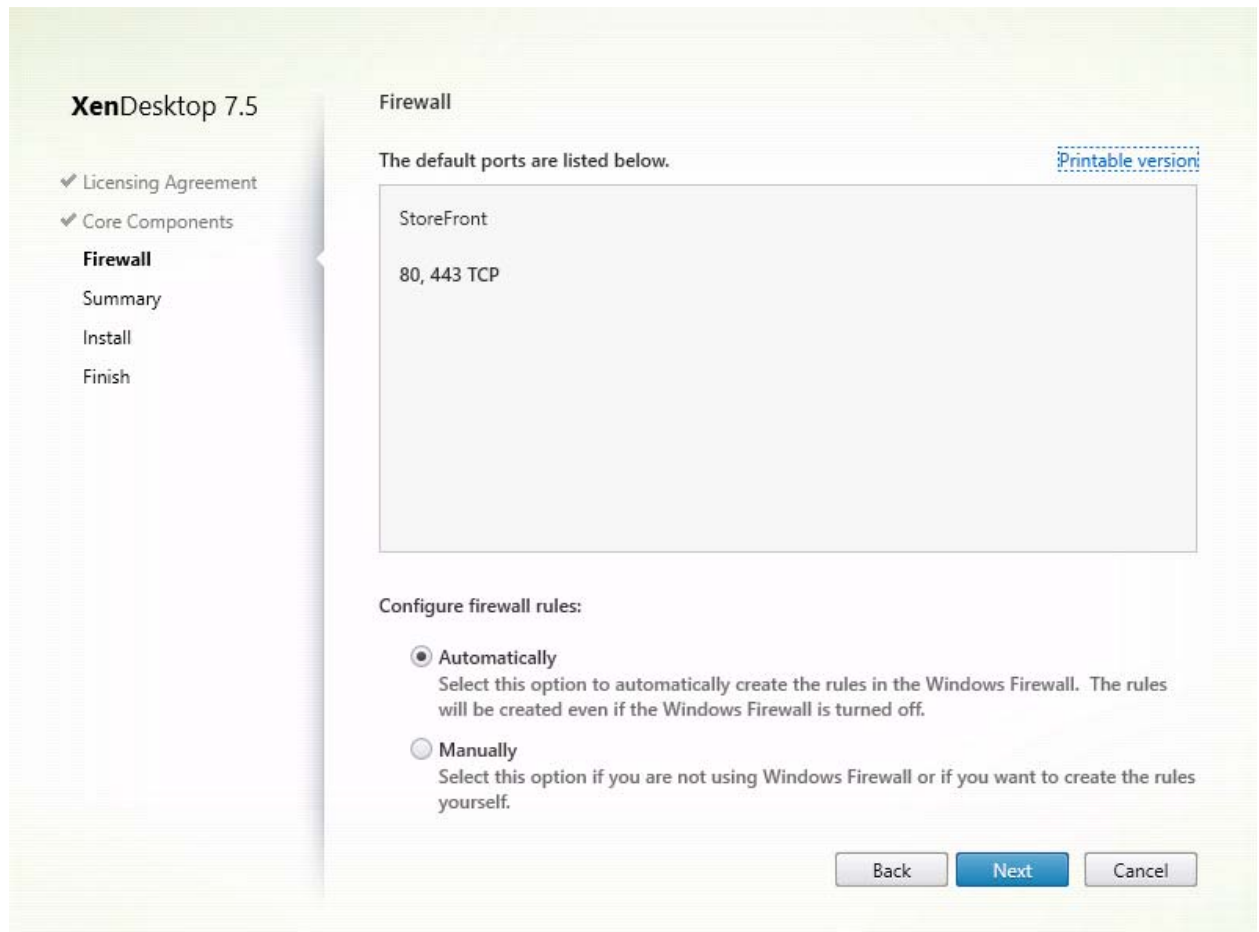


Figure 92 Firewall configuration

## 6.1 Configuring Store Front

1. Start Desktop Store Front and on the welcome page, and then click **Create a new deployment**.

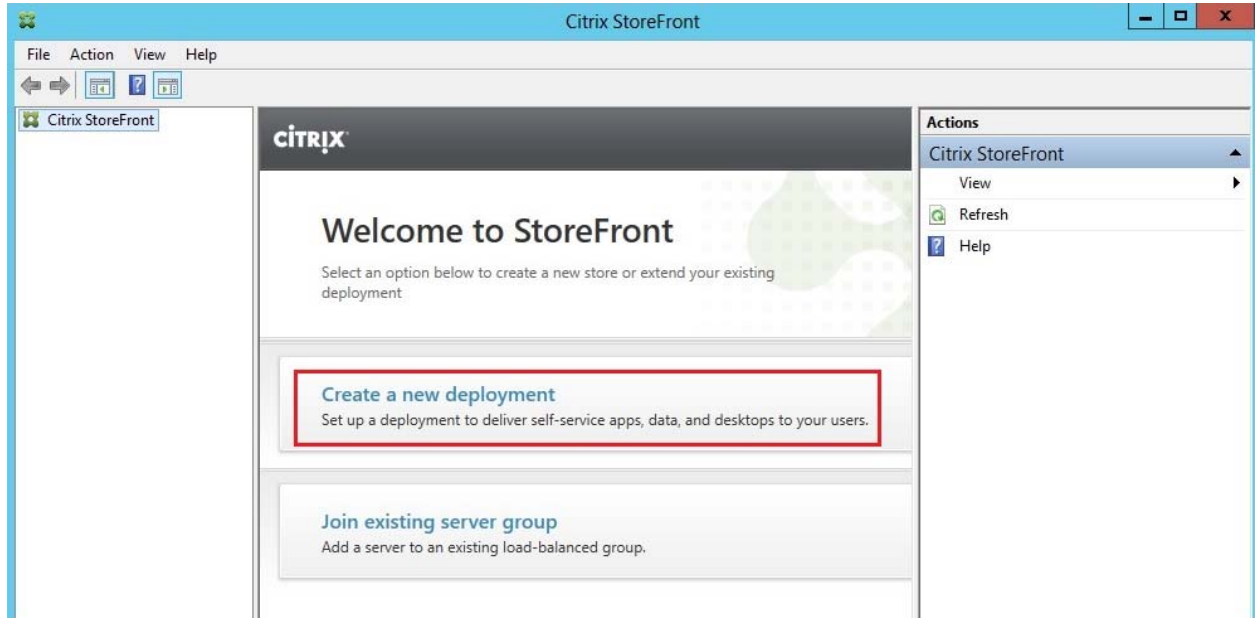


Figure 93 Citrix StoreFront

2. Type the URL for server with StoreFront installed. Click **Next** to continue.

**Create New Deployment**

**StoreFront**

- Base URL
- Store Name
- Delivery Controllers
- Remote Access

**Create New Deployment**

Confirm the base URL for services hosted on this deployment. For multiple server deployments, specify the load-balanced URL for the server group.

Base URL:

**Next** **Cancel**

Figure 94 Create New Deployment

3. Type a store name, and then click **Next** to continue.

**Create Store**

**StoreFront**

- Store Name
- Delivery Controllers
- Remote Access

**Store Name**

Choose a name that helps users identify the store. The store name appears in Citrix Receiver as part of the user's account.

Store name:

**Next** **Cancel**

Figure 95 Create Store

4. To add a delivery controller, click the **Add** button.

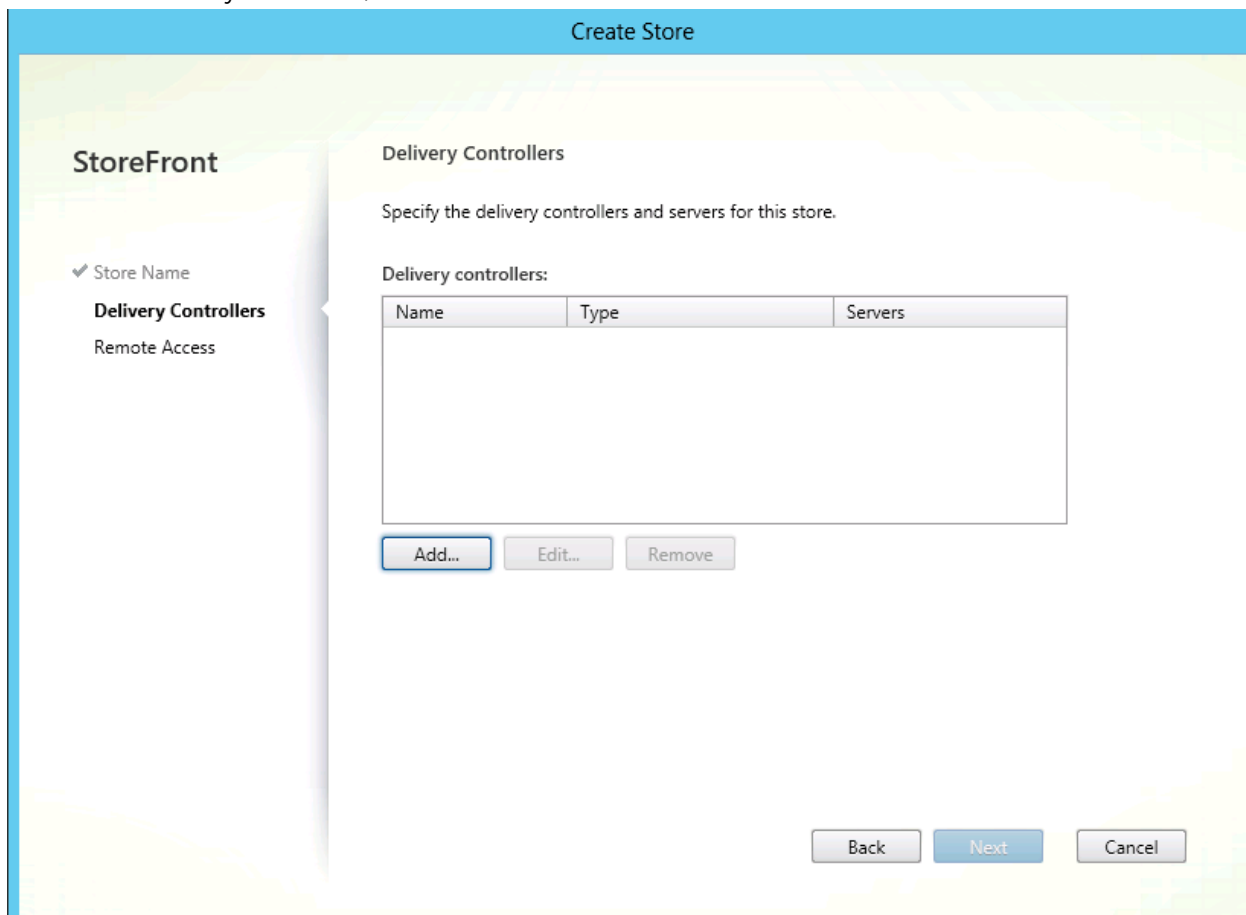


Figure 96 Create Store



5. Type the FQDN of the desktop delivery controller and select the protocol used for connections, that is, HTTP OR HTTPS, and then click **OK**.

**Add Delivery Controller**

Display name:

Type:  XenDesktop  
 XenApp  
 AppController  
 VDI-in-a-Box

Servers (in failover order):

Transport type:

Port:

Figure 97 Add Delivery Controller

6. On the **Remote Access** page, select **None**, and then click **Next** to continue.

The screenshot shows the 'Create Store' wizard in the 'Remote Access' step. On the left, a 'StoreFront' sidebar lists 'Store Name', 'Delivery Controllers', and 'Remote Access' (which is selected). The main area is titled 'Remote Access' and contains the instruction: 'Add NetScaler Gateway appliances to provide user access from external networks.' Under 'Remote access:', there are three radio button options: 'None' (selected), 'No VPN tunnel' (with an information icon), and 'Full VPN tunnel' (with an information icon). Below this is a text box for 'NetScaler Gateway appliances:' with an 'Add...' button underneath it. At the bottom of the main area is a 'Default appliance:' dropdown menu. At the bottom right of the wizard are three buttons: 'Back', 'Create' (highlighted in blue), and 'Cancel'.

Figure 98 Create Store

7. Click **Create** to continue, and then click **Finish** to complete the configuration wizard.

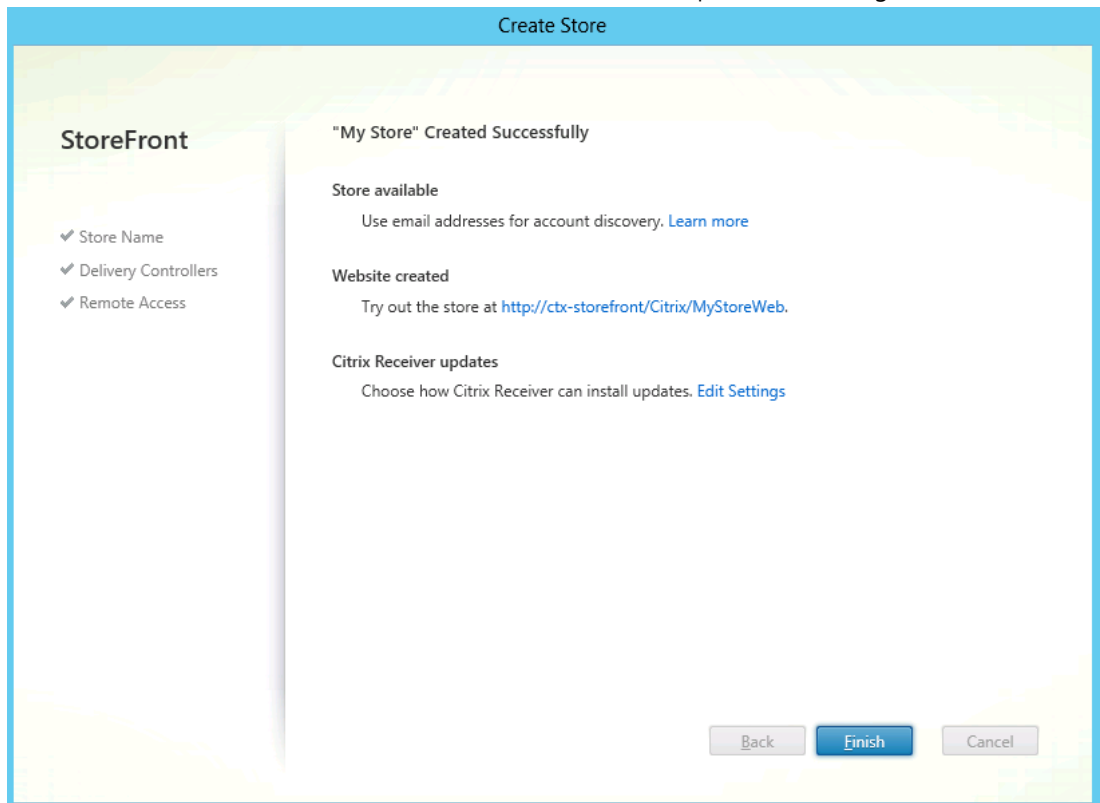


Figure 99 Create Store



8. Click **Stores** in the left pane to display configuration details. Select actions to change the configuration, if required.

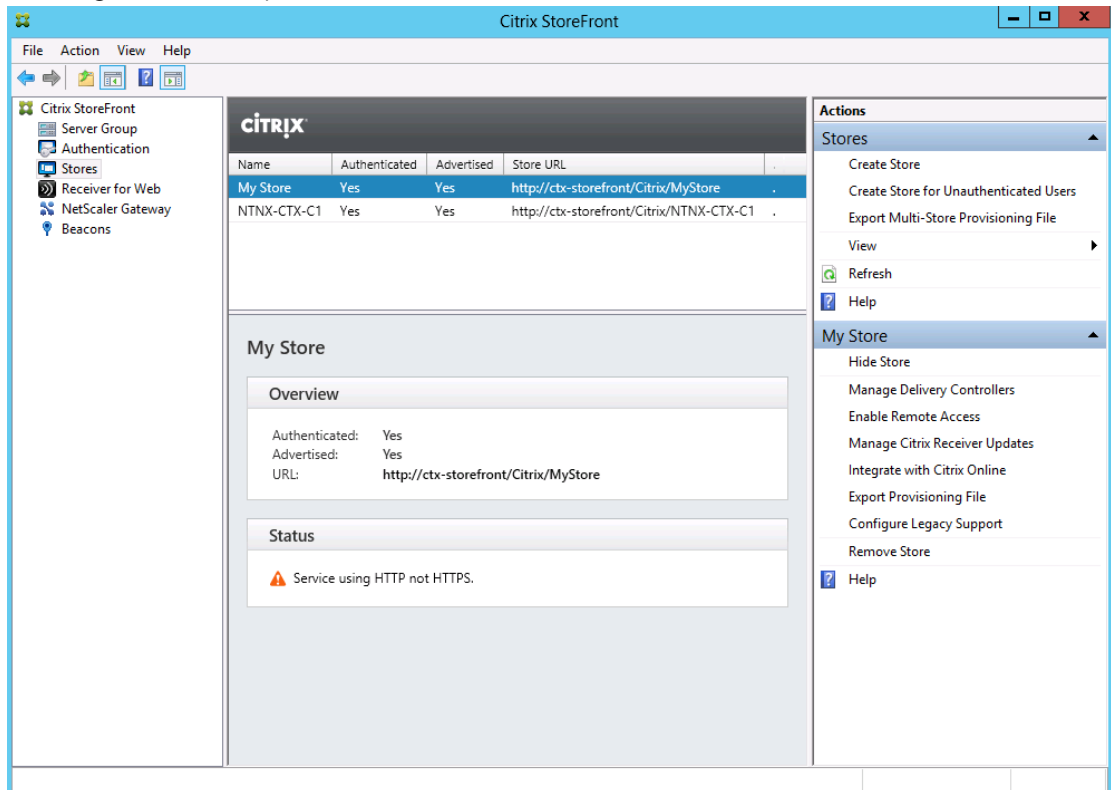


Figure 100 Citrix StoreFront



9. Select **Authentication** in the left pane, and then click **Configure Trusted Domains** in the **Actions** pane.

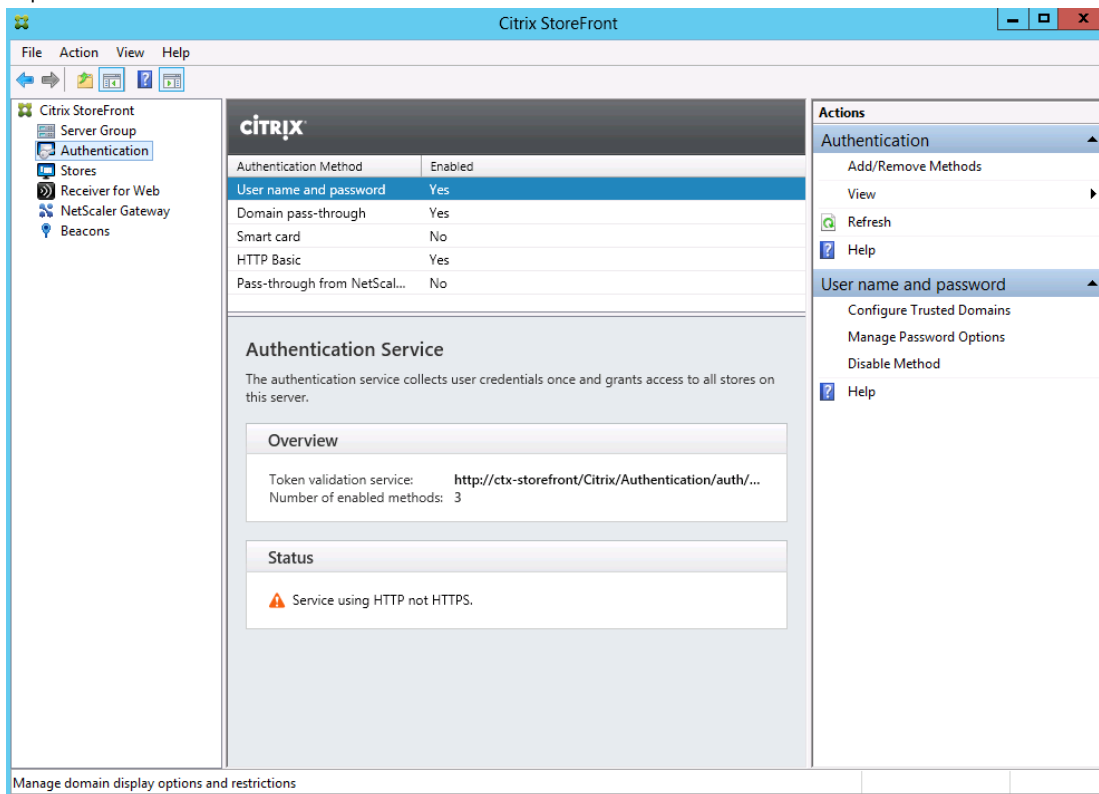


Figure 101 Citrix StoreFront



10. If you want to type domain details, click **Add**.

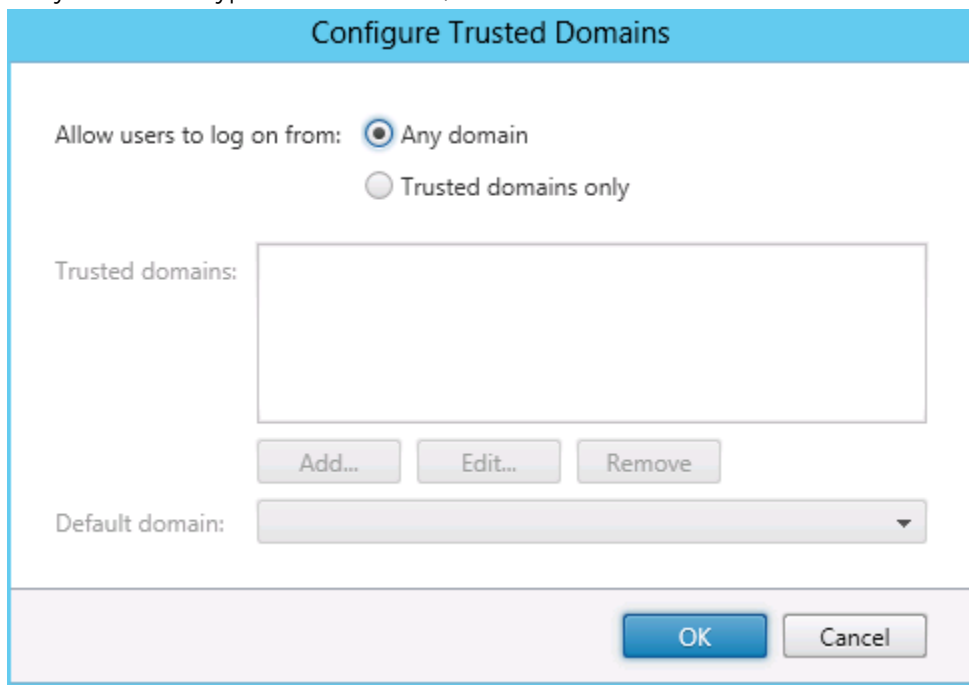


Figure 102 Configure Trusted Domains

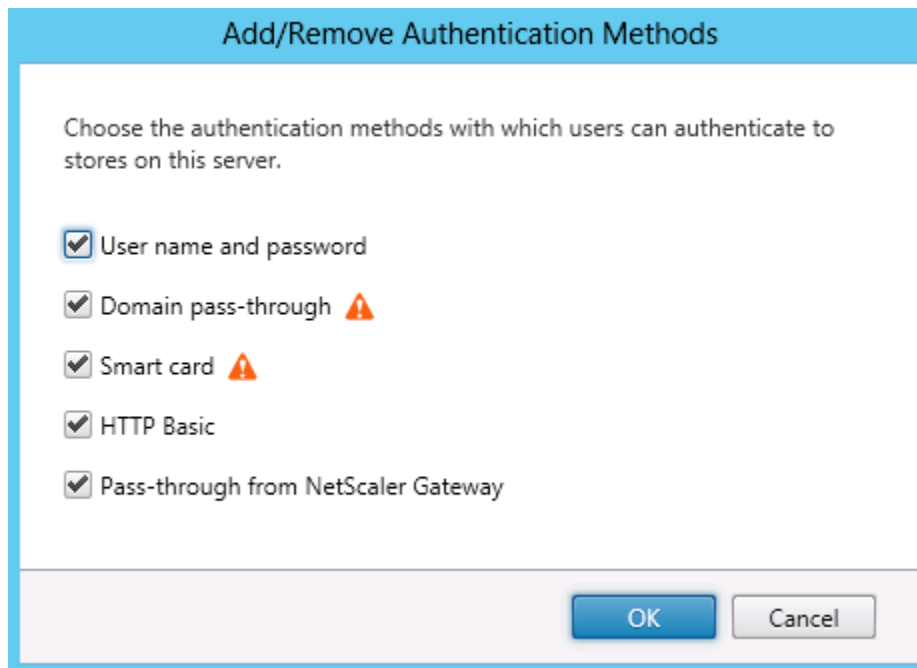


Figure 103 Add/Remove Authentication Methods

Store Front is now installed and ready to accept connections.



## 7 Configuring XenDesktop 7.5 Site

1. Start Desktop Studio, and on the Welcome page, click **Deliver applications and desktops to your users**.

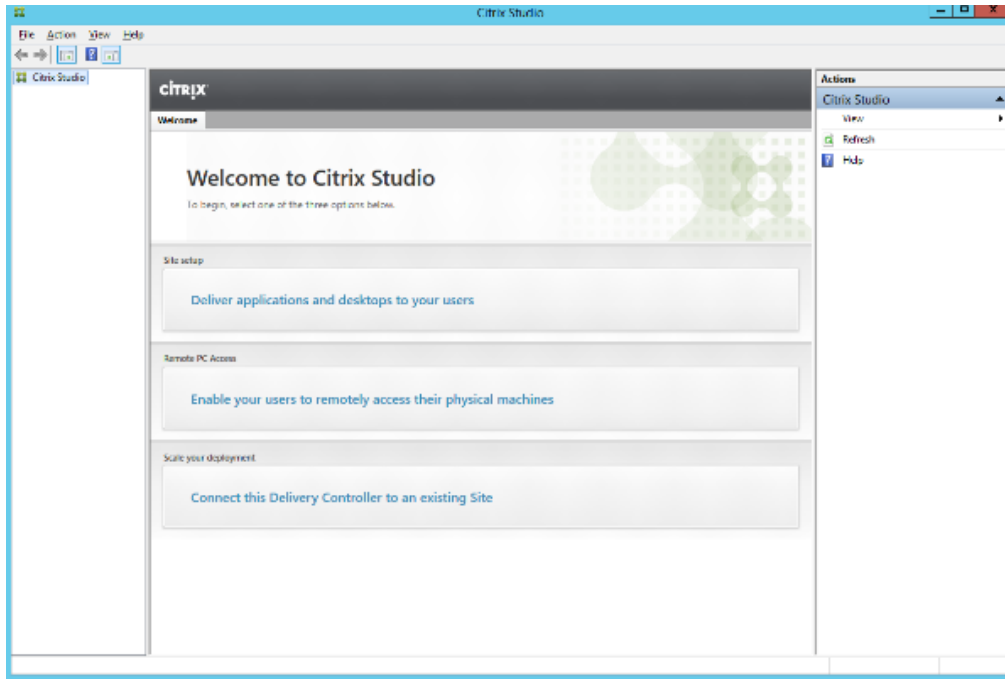


Figure 104 Configuring XenApp 7.5 site

2. To create a fully configured, production-ready site, leave the default selection as-is, type an appropriate name of the new site, and then click **Next**.

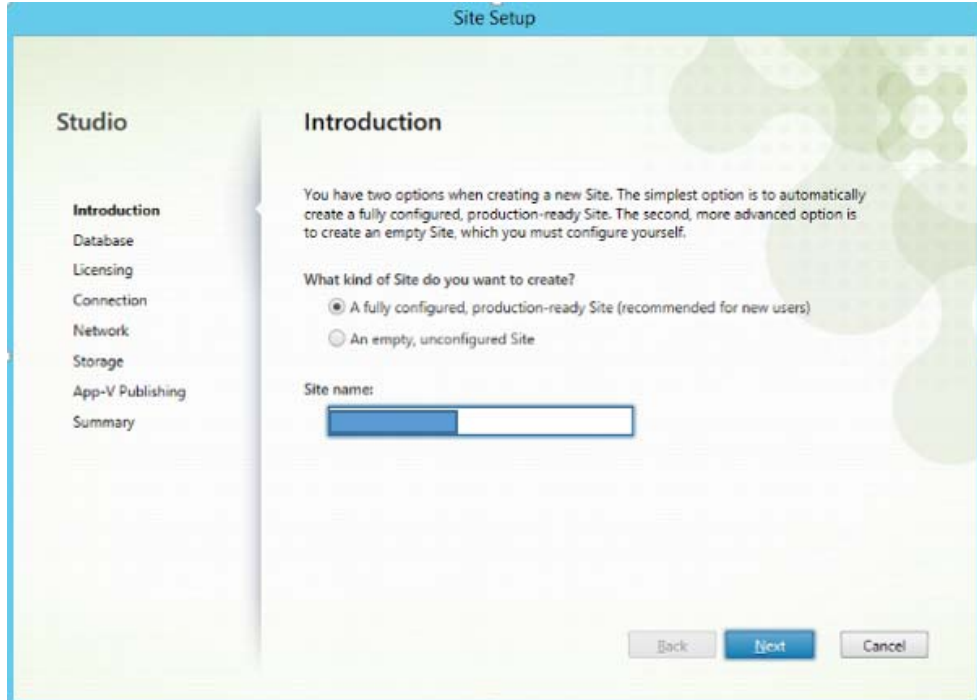


Figure 105 Citrix Studio Site name

3. In the **Database** section, type appropriate names in the text boxes, and then click **Test connection**. After making sure that the connection is successfully started, click **Next**.

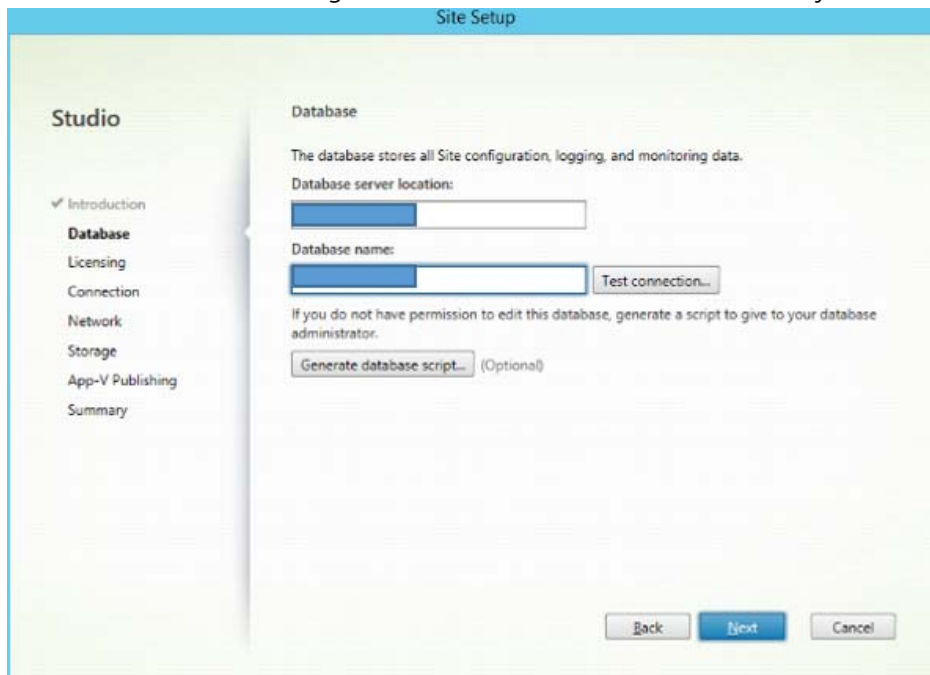


Figure 106 Assigning database

4. Click **OK**.

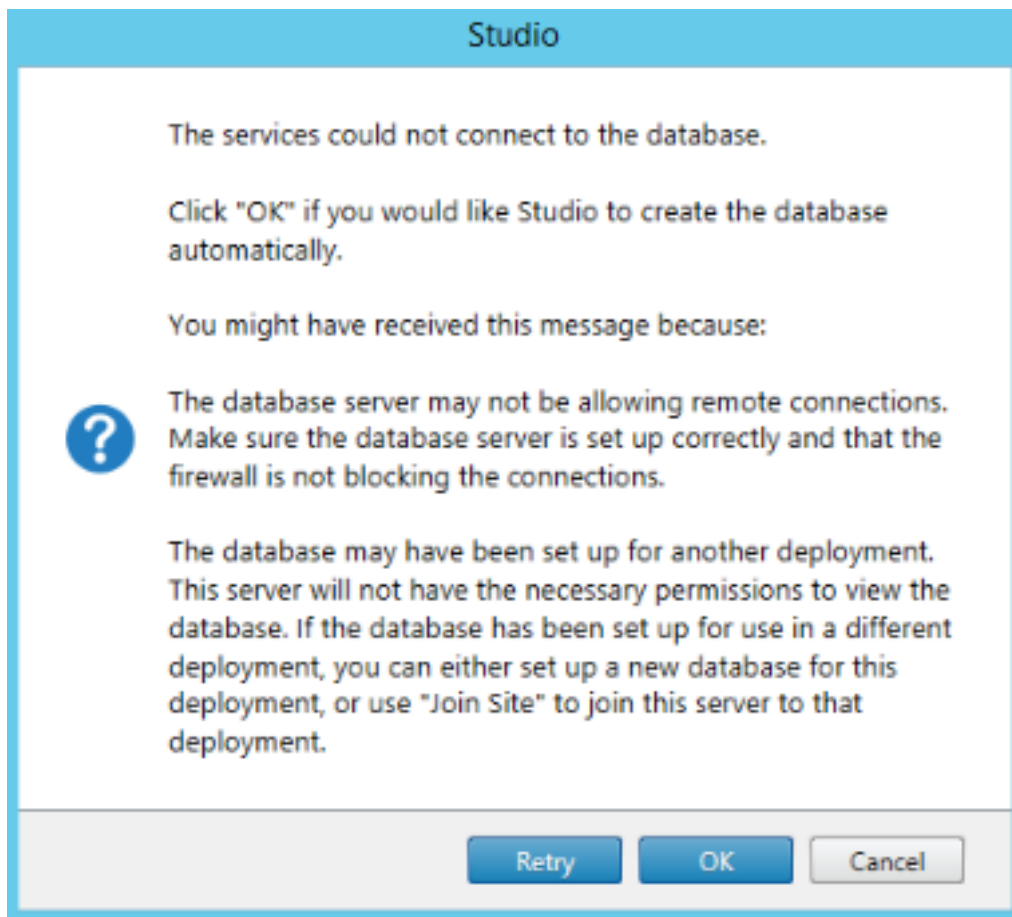


Figure 107 Creating database automatically

5. Type information about your licensing server, and then click **Connect**.

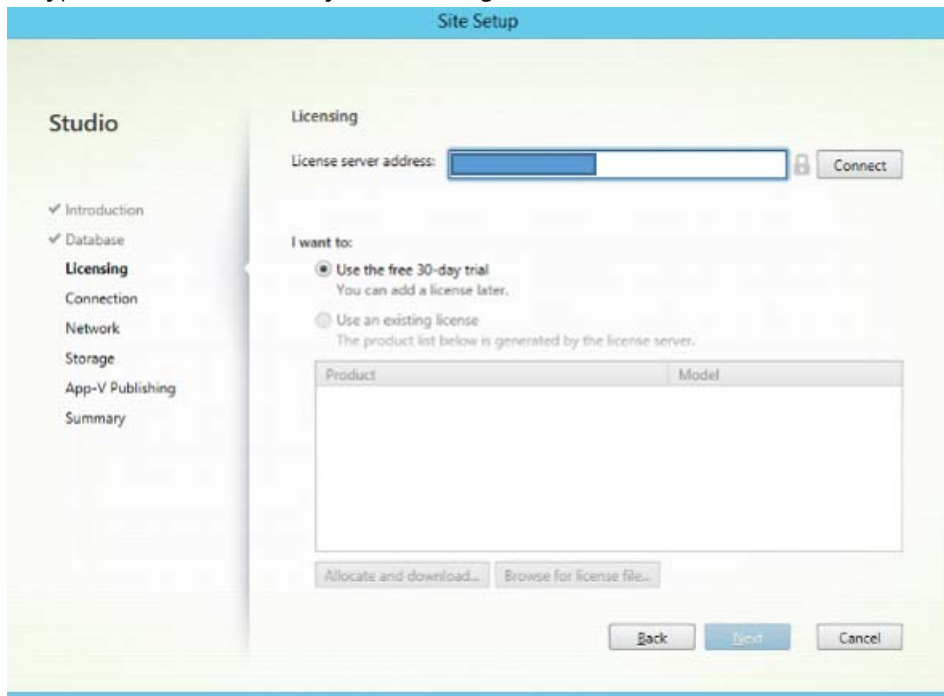


Figure 108 Licensing information

6. Type the address of your hypervisor and valid credentials. Click **Next**.

The screenshot shows the 'Site Setup' wizard in Citrix Studio. On the left, a 'Studio' sidebar lists navigation options: Introduction, Database, Licensing, Connection (highlighted), Network, Storage, App-V Publishing, and Summary. The main area is titled 'Connection' and contains the following fields and options:

- Connection type:** A dropdown menu with 'Citrix XenServer®' selected.
- Connection address:** A text input field with a blue highlight.
- User name:** A text input field with a blue highlight.
- Password:** A text input field with a blue highlight.
- Connection name:** A text input field with a blue highlight.

Below the fields, there is a note: 'The Connection name appears in Studio; it helps administrators identify the Connection.'

At the bottom, there are three radio buttons for 'Create virtual machines using:':

- Studio tools (Machine Creation Services)
- Other tools

At the bottom right, there are three buttons: 'Back', 'Next' (highlighted in blue), and 'Cancel'.

Figure 109 Network connection



7. Type the name of the resources, and then click **Next**.

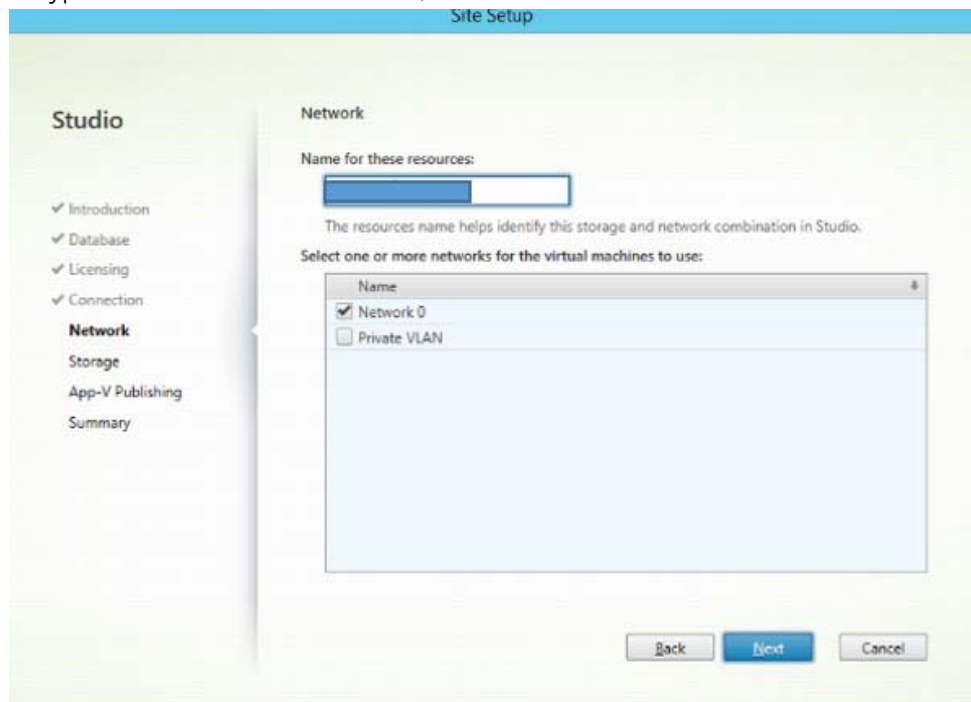


Figure 110 Assigning network resources

8. Select the type of storage on the basis of hypervisor configuration. Click **Next**.

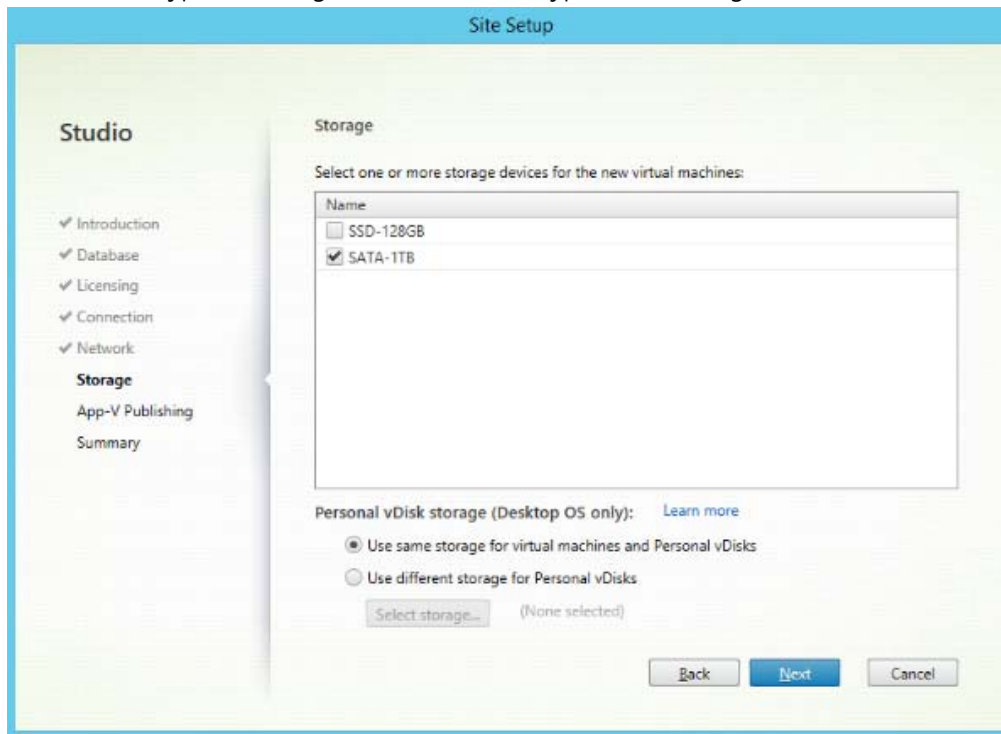


Figure 111 Selecting storage device



9. Do not edit the setting under App-V-Publishing. Click **Next**.

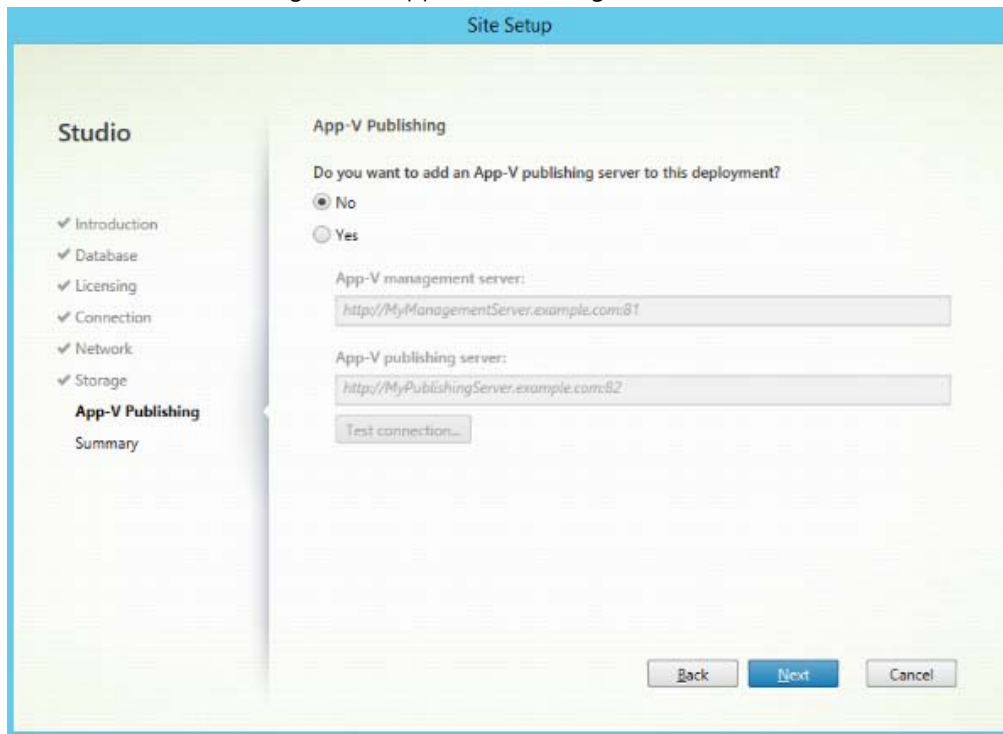


Figure 112 App-V-Publishing Server

10. Click **Finish**.

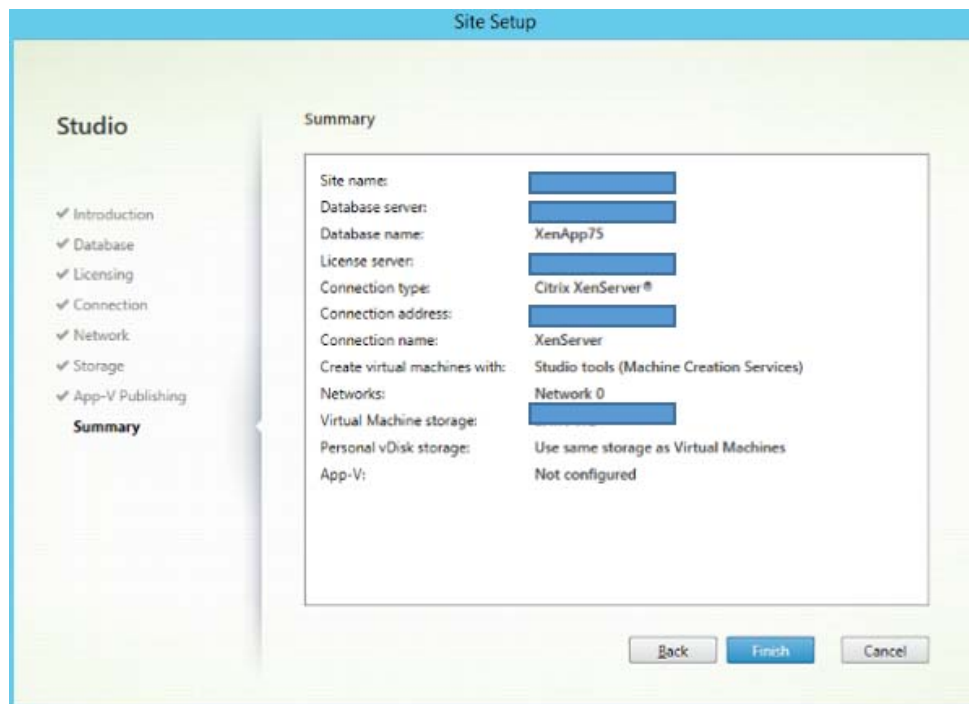


Figure 113 Finish Site Setup

11. Verify the installation. You can also click **Test Site Configuration** to verify the site configuration.



## 8 Installing Server 2012 and RDSH

It is assumed you are familiar with installing Windows Server 2012. The screen shot here shows the last task in installation where you are prompted for a password. After you type credentials, the host is connected to the domain.

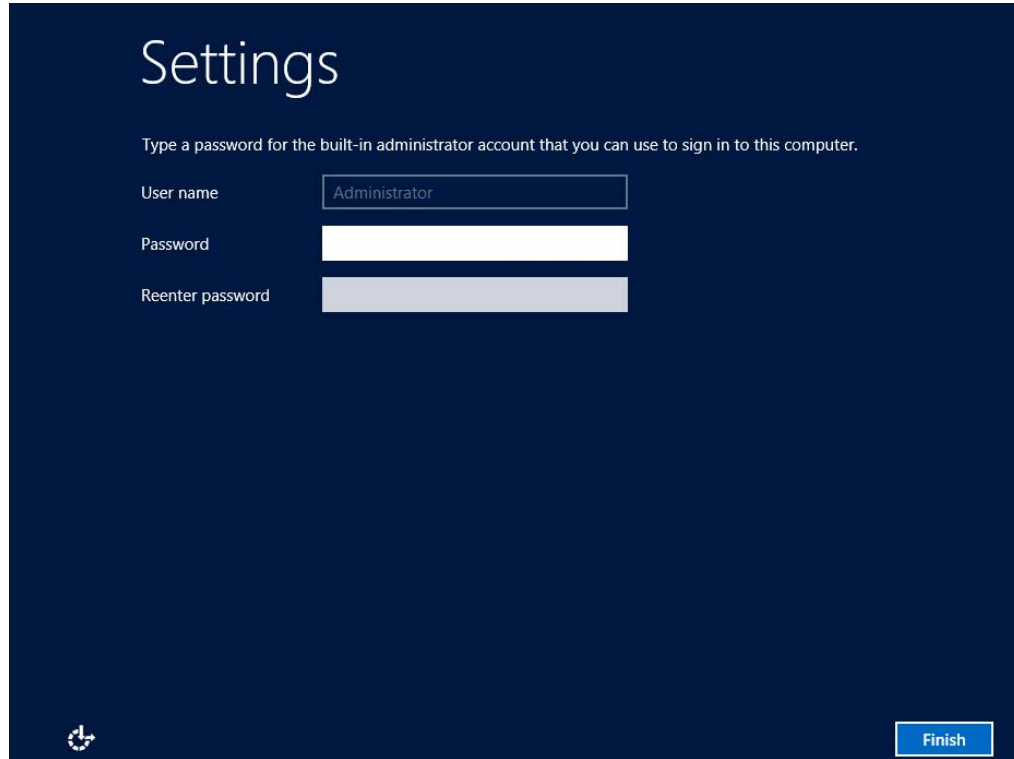


Figure 114 Logging in to Windows 2012 Server

1. Log in to the VM as a domain account with permissions to add the required roles. Start the Server Manager application. Click **Add roles and features**, and then click **Next**.

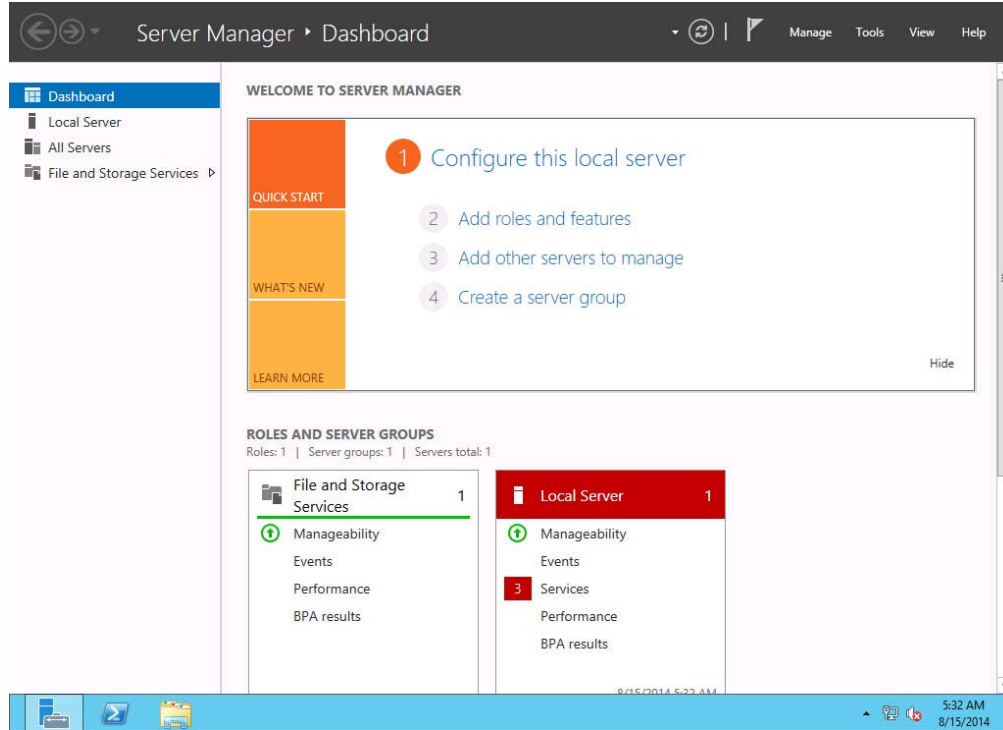


Figure 115 Configuring local server



2. Click **Next**.

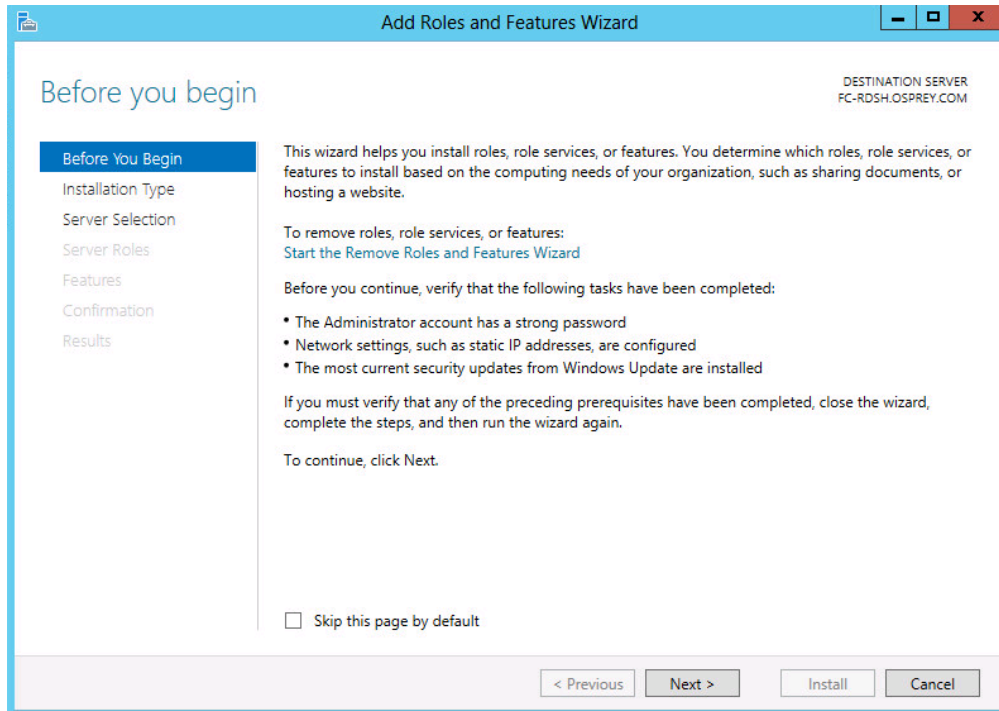


Figure 116 Roles and Features



3. Click **Remote Desktop Services installation**, and then click **Next**.

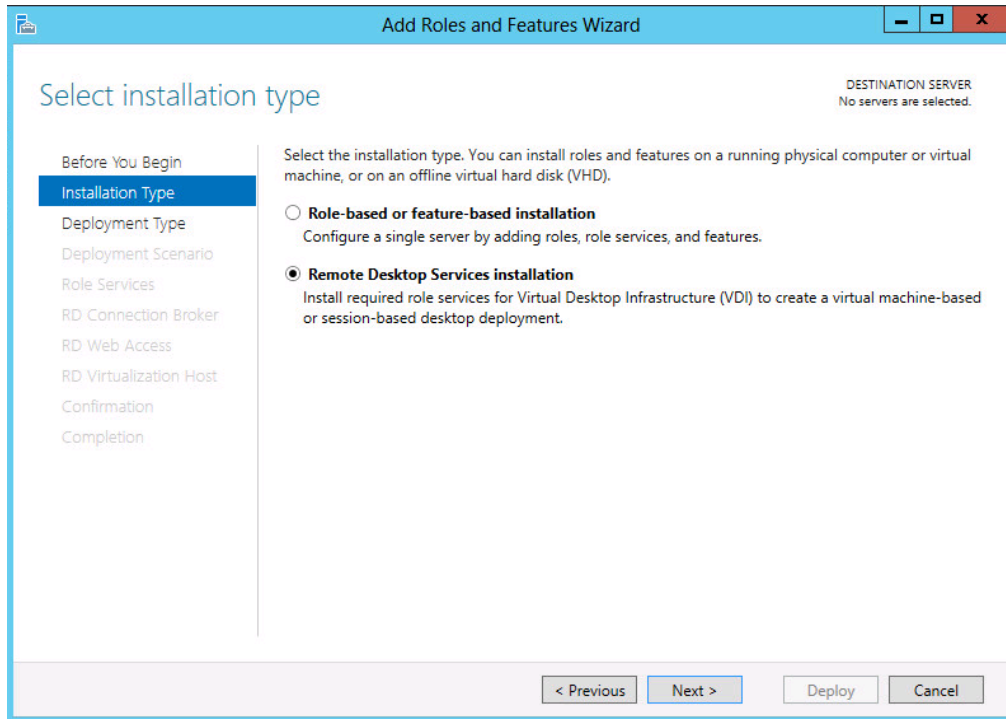


Figure 117 Remote Desktop Services installation



4. Click **Standard Deployment**, and then click **Next**.

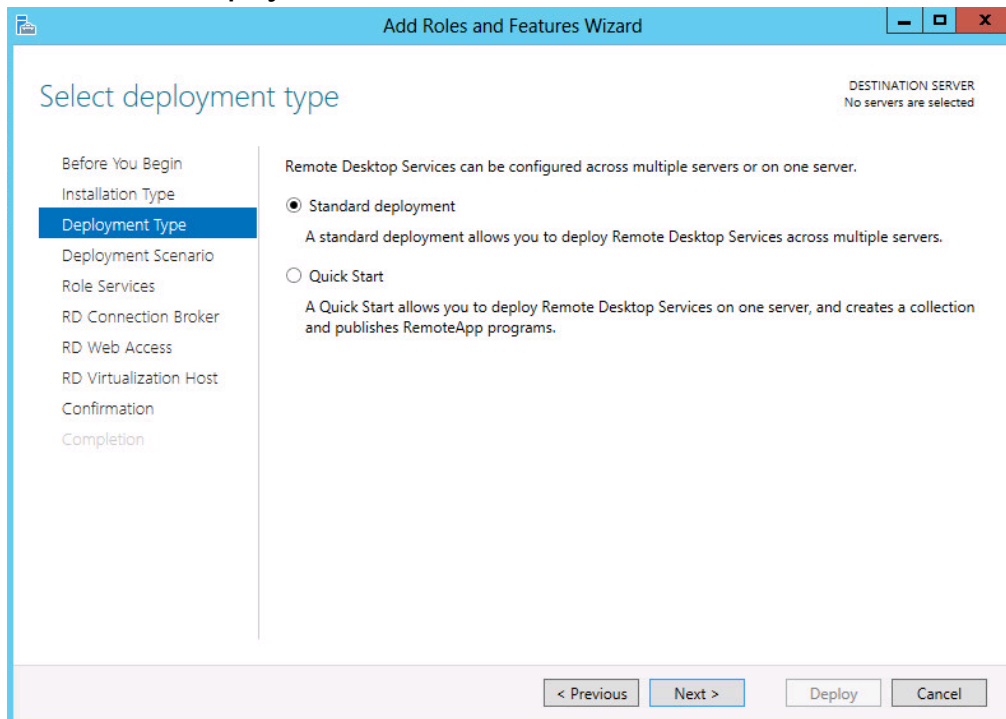


Figure 118 Standard Deployment

5. Because you have to install a session-based solution, click **Session-based desktop deployment**, and click **Next**.

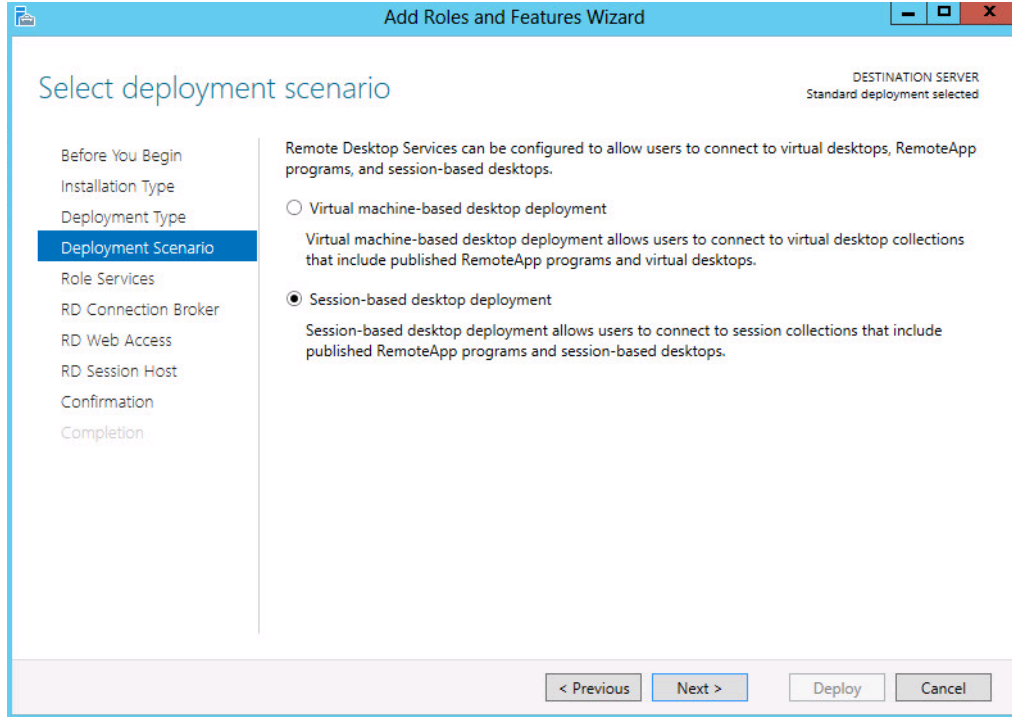


Figure 119 Session-based desktop deployment

6. On the **Review role Services** page, click **Next**.

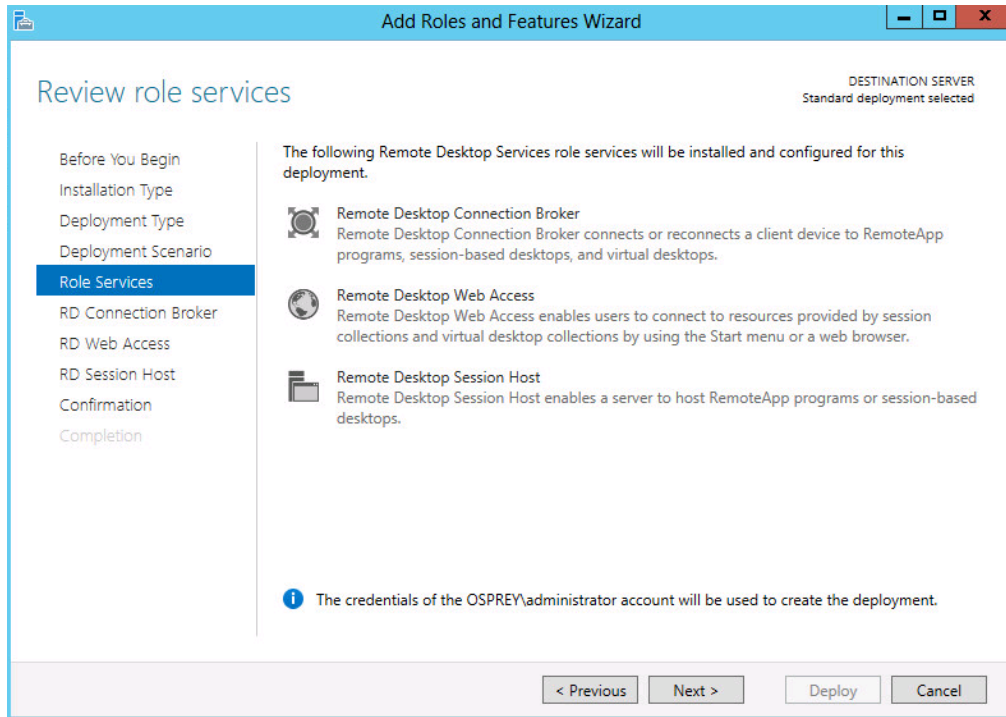


Figure 120 Review role services



7. Click **Next**.

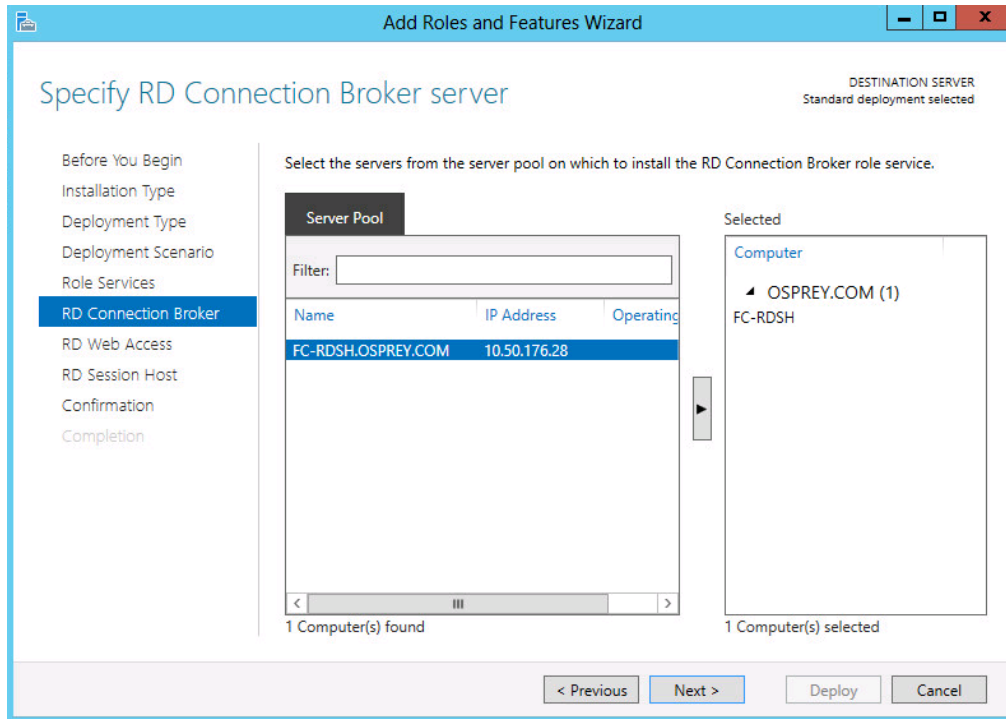


Figure 121 RD Connection Server

8. For this deployment, all services are being deployed on a single RDSH host. These roles can be broken out across multiple servers, because it is the best practice in an Enterprise environment. Click **Next**. Under the **Server Pool** section, select the local host or a dedicated web access server, and then click **Next**.

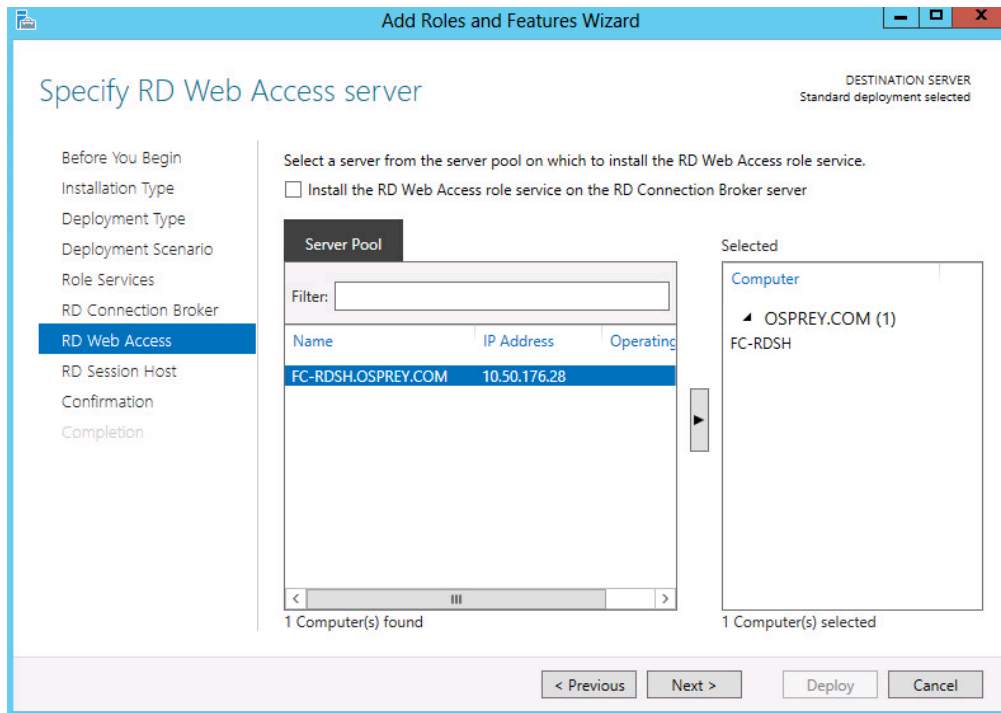


Figure 122 RD Web Access Server



9. Select the session host(s) from the available servers, and then click **Next**.

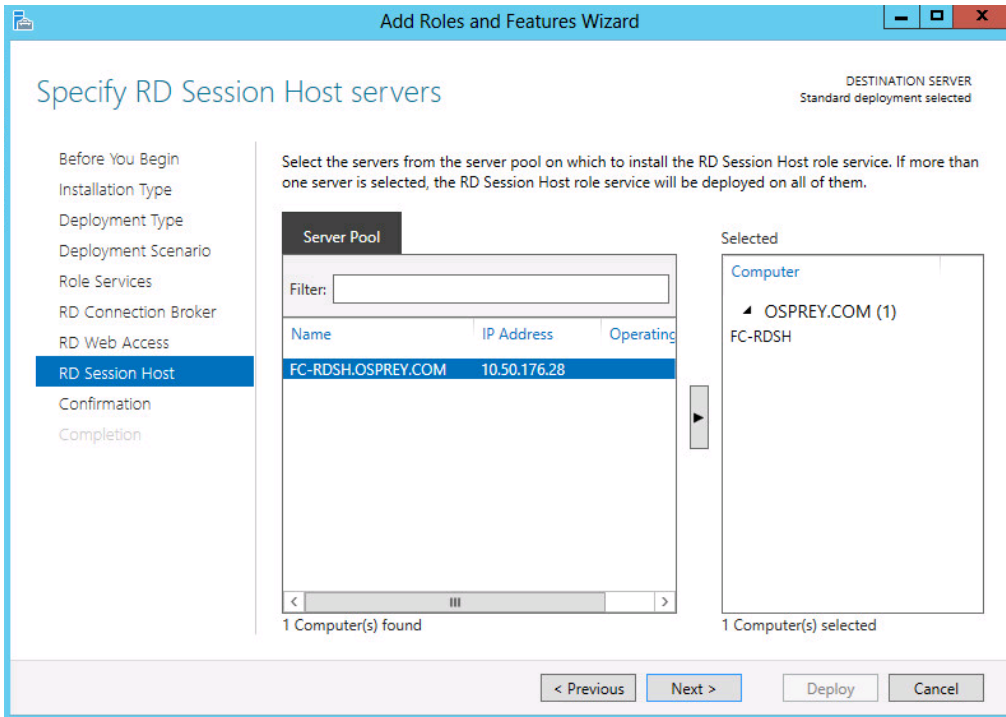


Figure 123 RD Session Host servers

10. Select the **Restart the destination server automatically if required** check box, and then click **Next**.

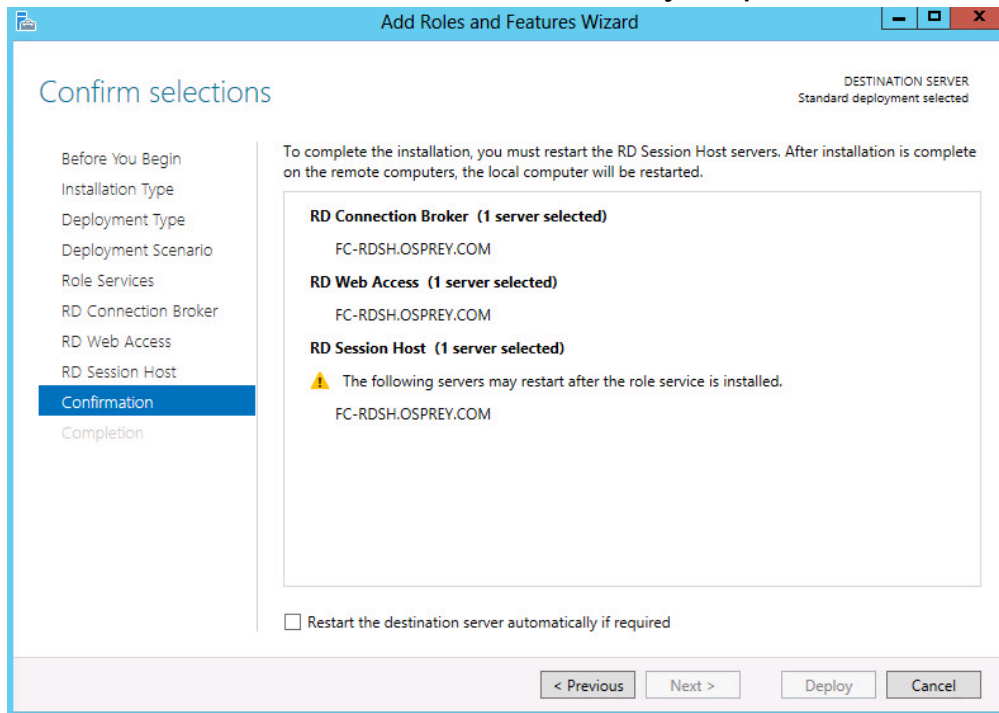


Figure 124 Confirm selections

When the roles are installed and configured, the server automatically restarts.

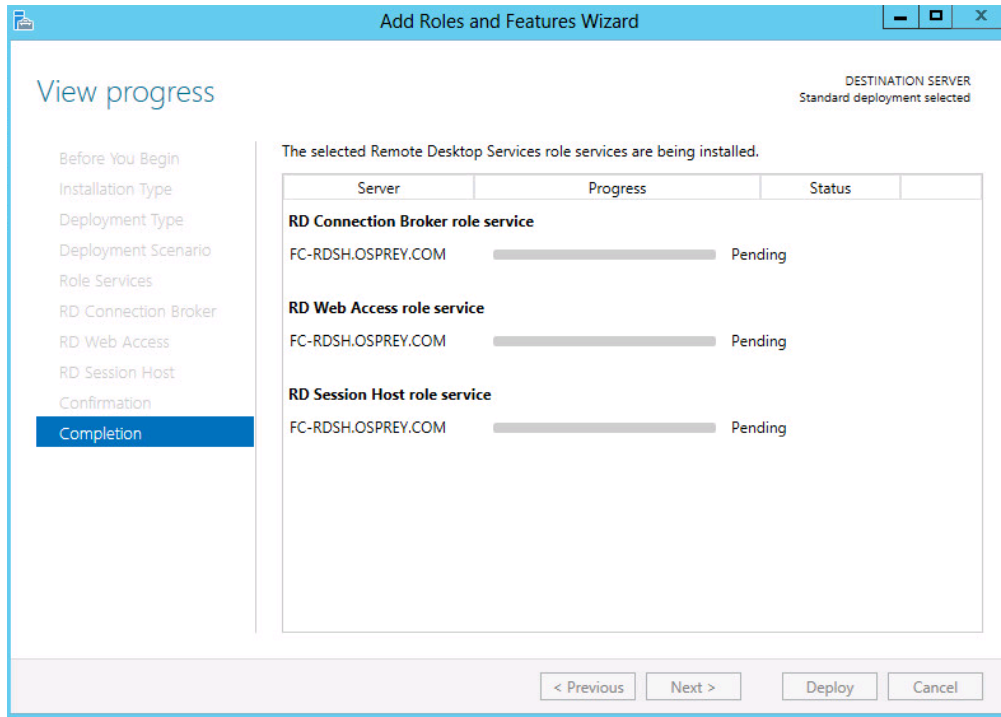


Figure 125 Roles and Features Configured



## 9 Installing Citrix VDA on an RDSH Session Host

1. Start the CITRIX Xendesktop 7.5 installation session by using the media.

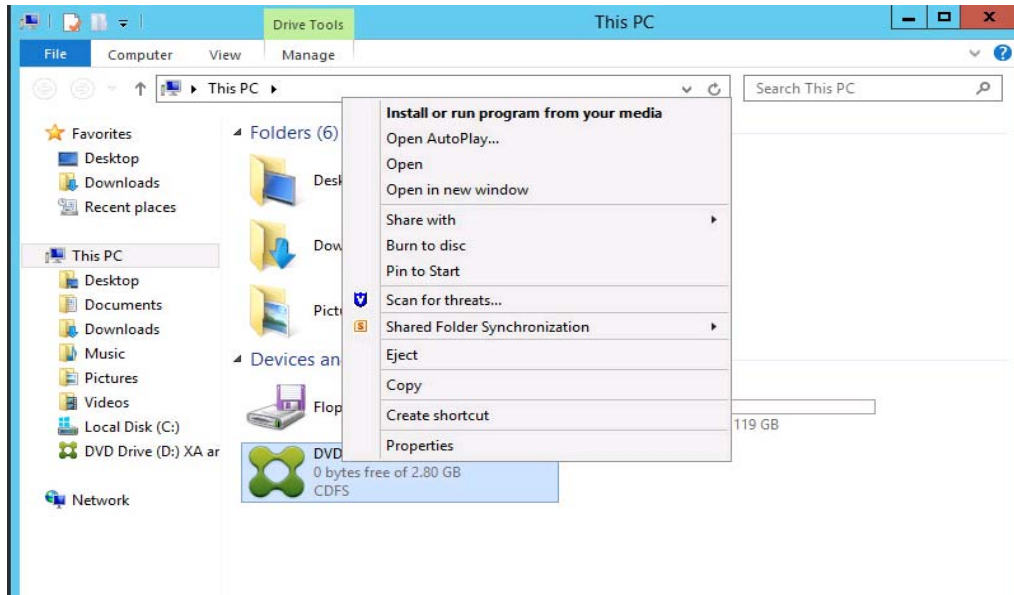


Figure 126 Instal Citrix VDA

The Citrix main page is displayed.

2. Click **XenDesktop** installation, and then click **Start**.

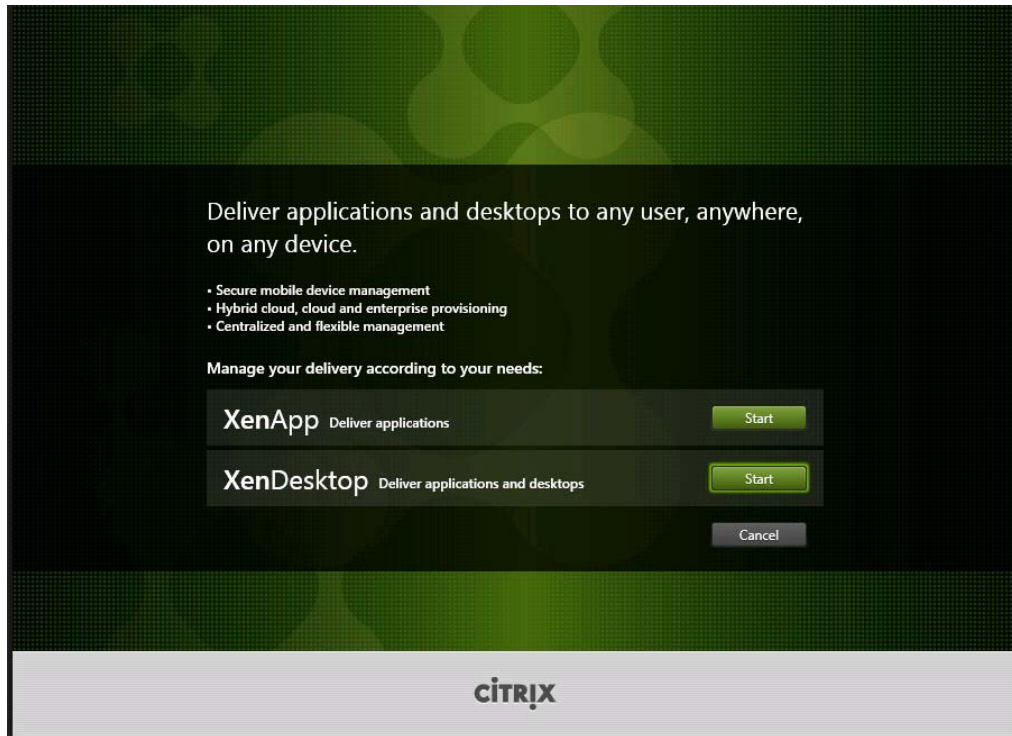


Figure 127 XenDesktop installation

3. Click **Virtual Delivery Agent for Windows**.

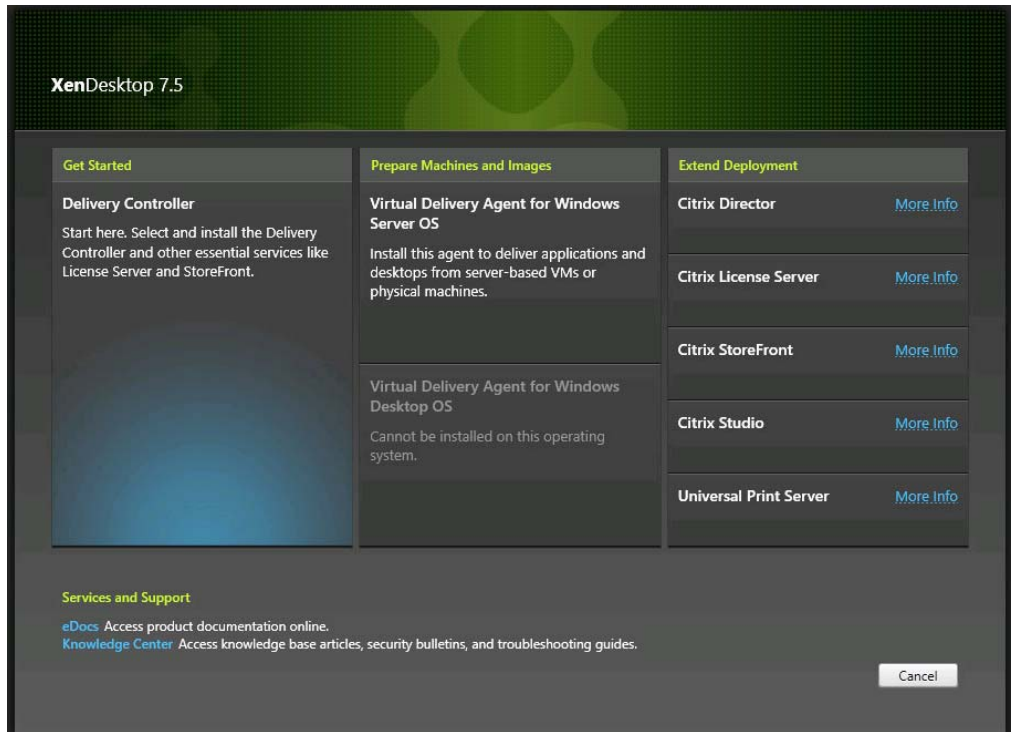


Figure 128 Virtual Delivery Agent for Windows



4. Click **Create a Master Image**, and then click **Next**.

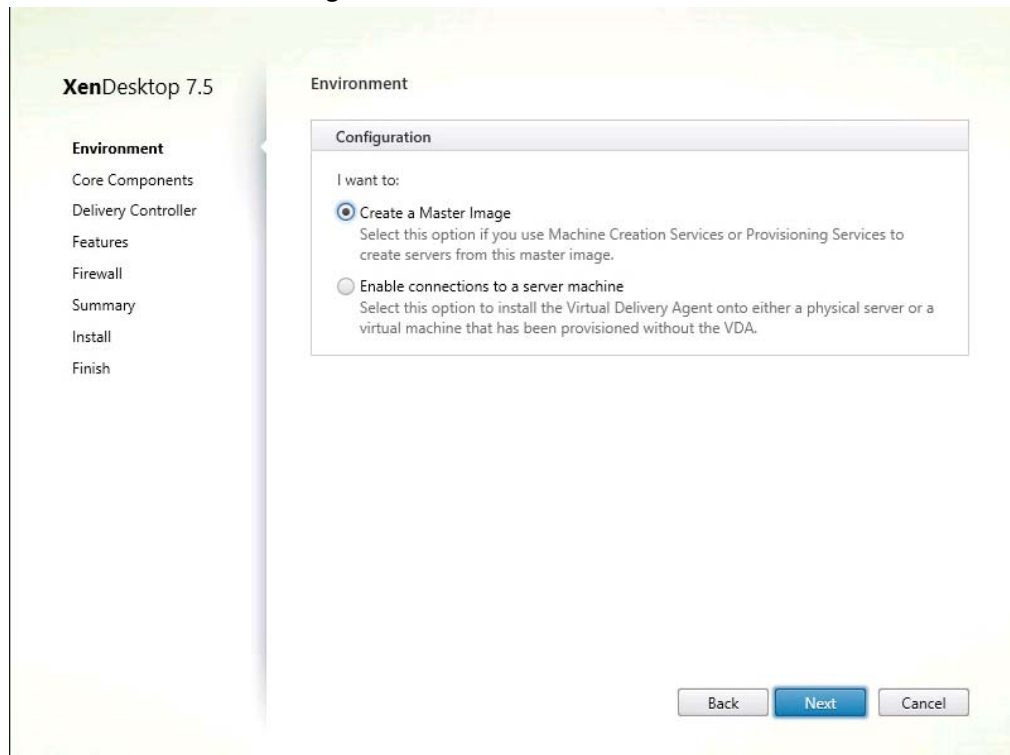


Figure 129 Environment

5. Click **Next** to install VDA.

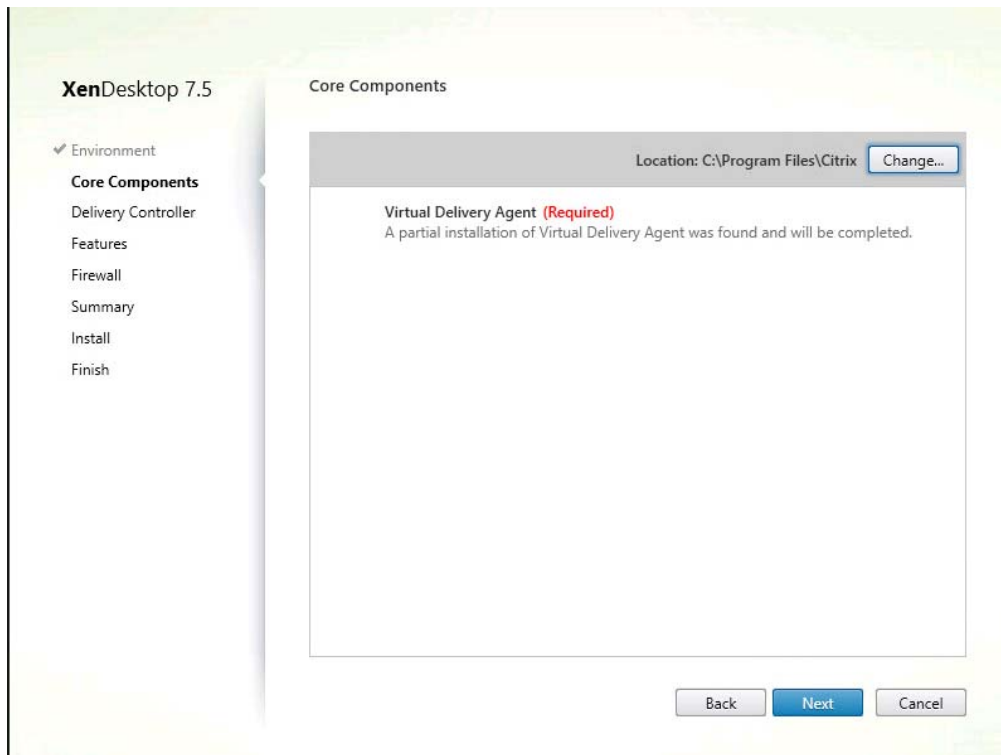


Figure 130 Core components

6. In the **Controller address** box, type the FQDN name of the Desktop Controller that will manage your Delivery group, and then click **Next**.

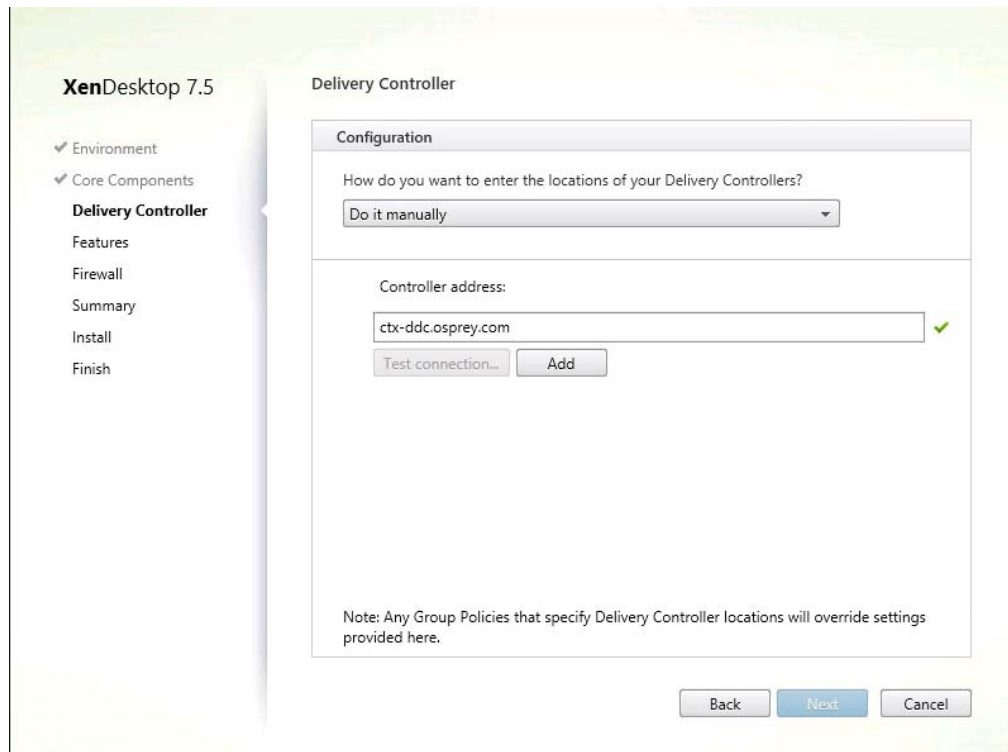


Figure 131 Delivery Controller

7. Select the check boxes as shown in the screen shot here, and then click **Next**.

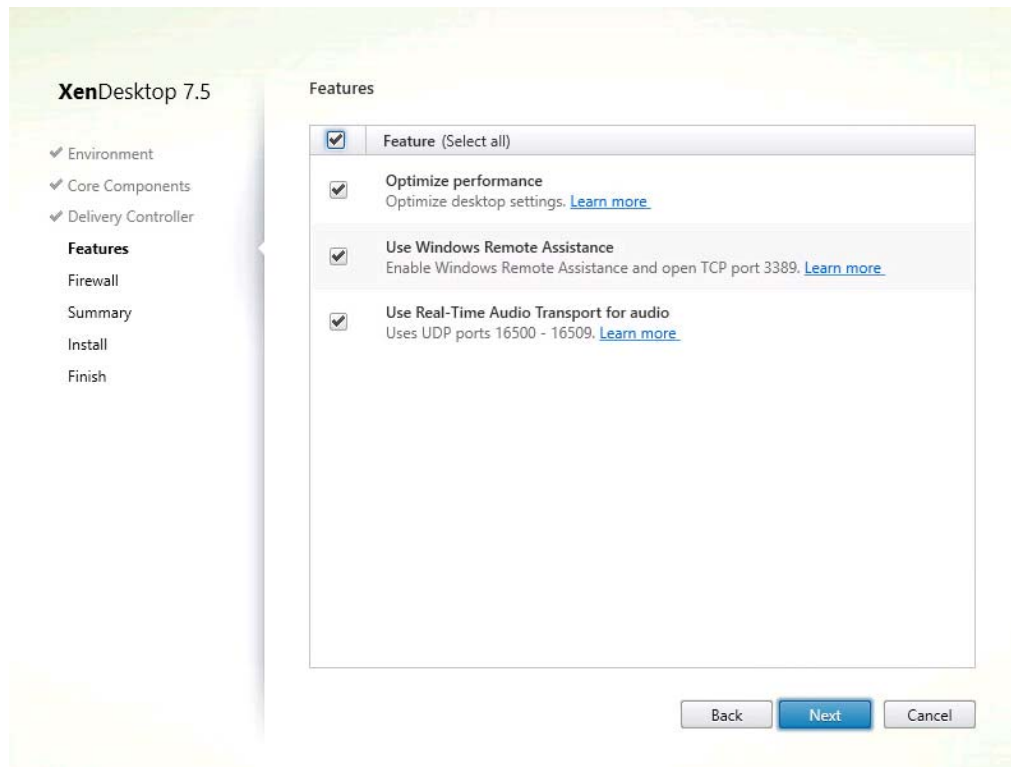


Figure 132 XenDesktop 7.5 Features

8. Click **Next**.

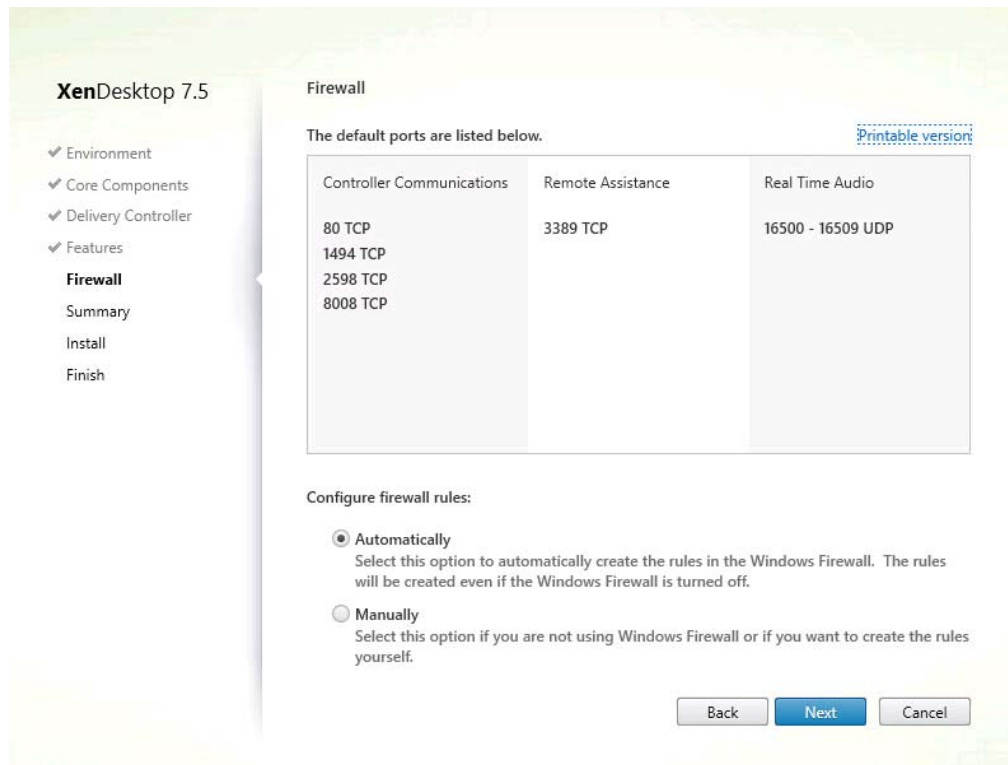


Figure 133 Setting firewall



9. Click **Install** to continue and complete the installation.

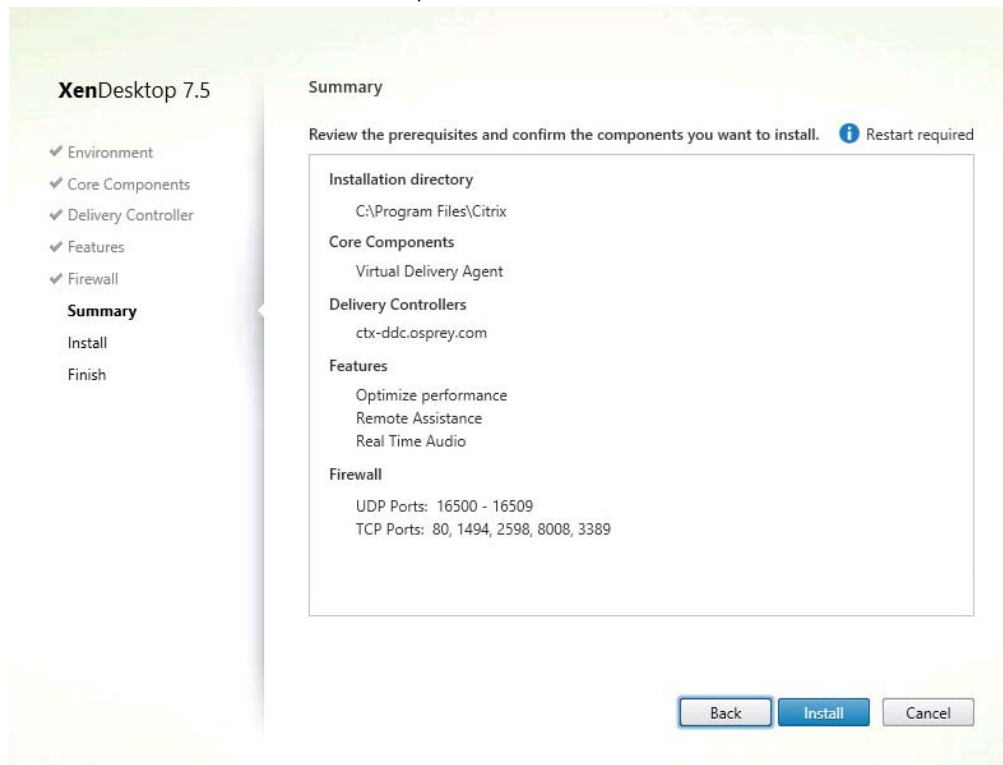


Figure 134 Installation Summary

# 10 Creating a Catalog for RDSH

Start the DDC and create a new Catalog.

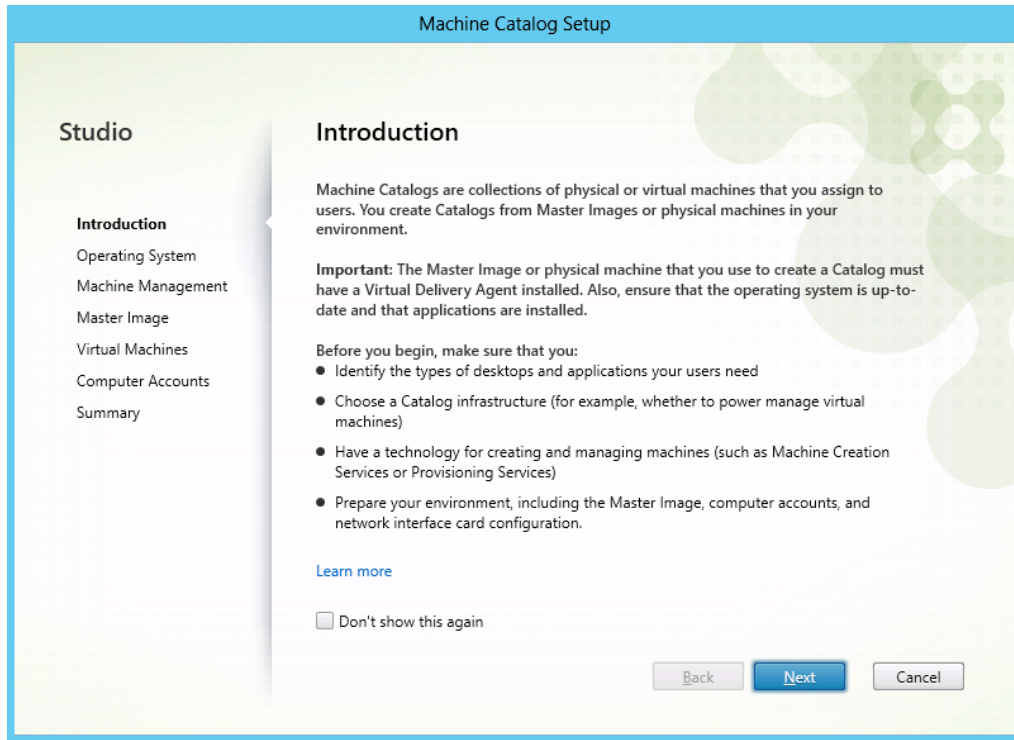


Figure 135 Catalog Creation



11. Click **Windows Server OS** for standardized server, and then click **Next**.

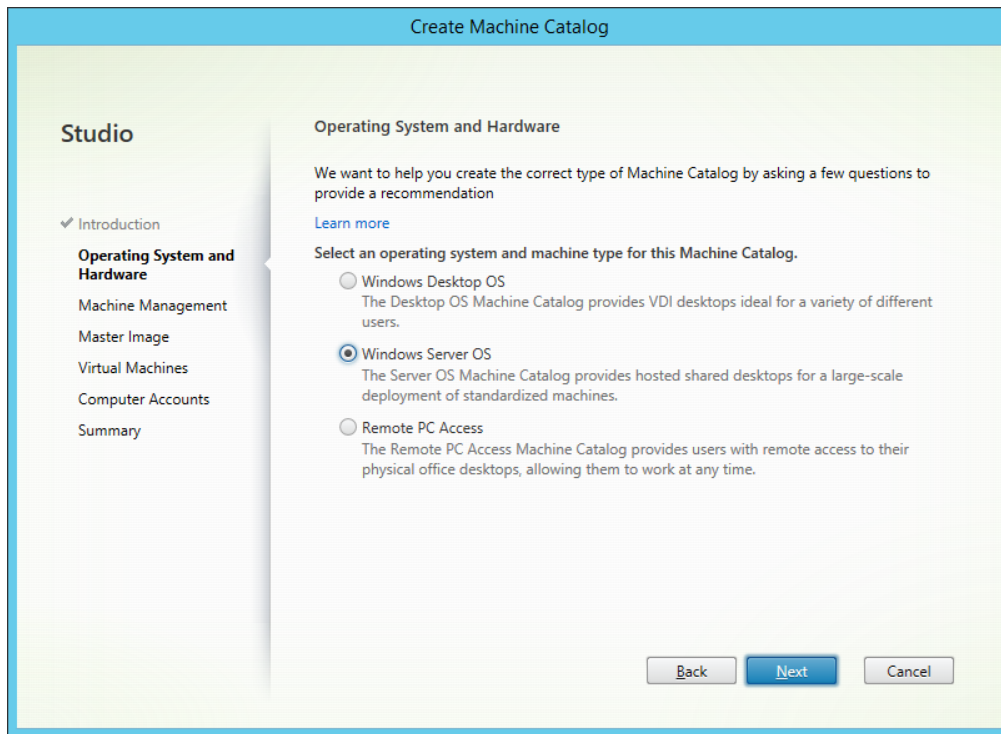


Figure 136 OS selection

12. Click **Another service or technology**.

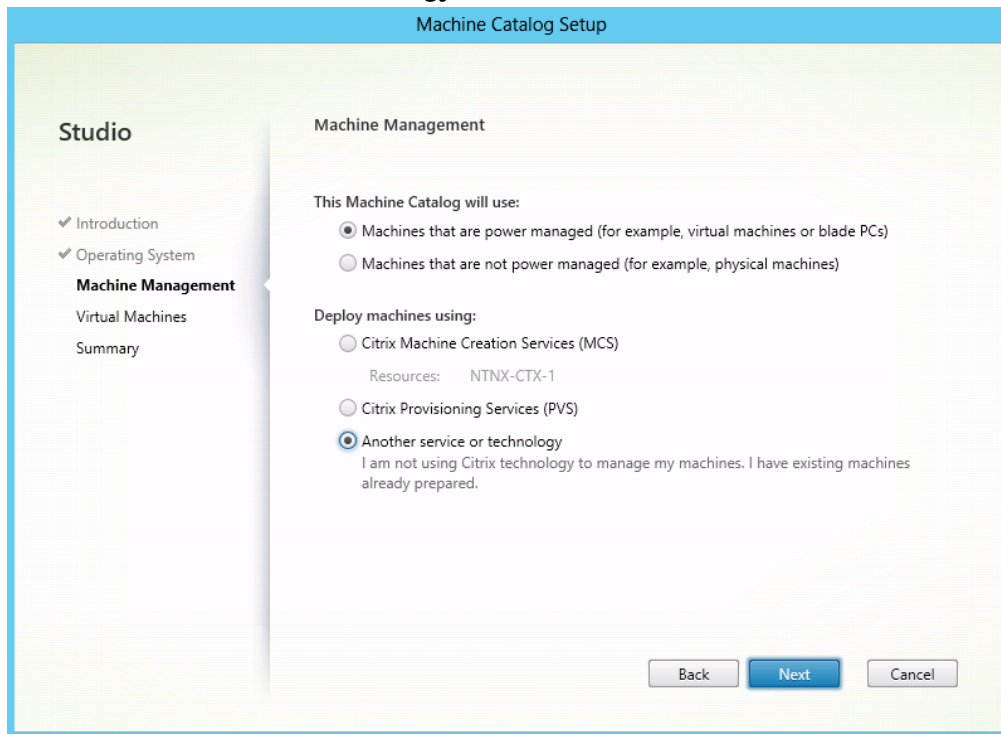


Figure 137 Machine management

13. Under **Virtual Machines** section, click **Add VMs**, add appropriate VMs, and then click **Next**.

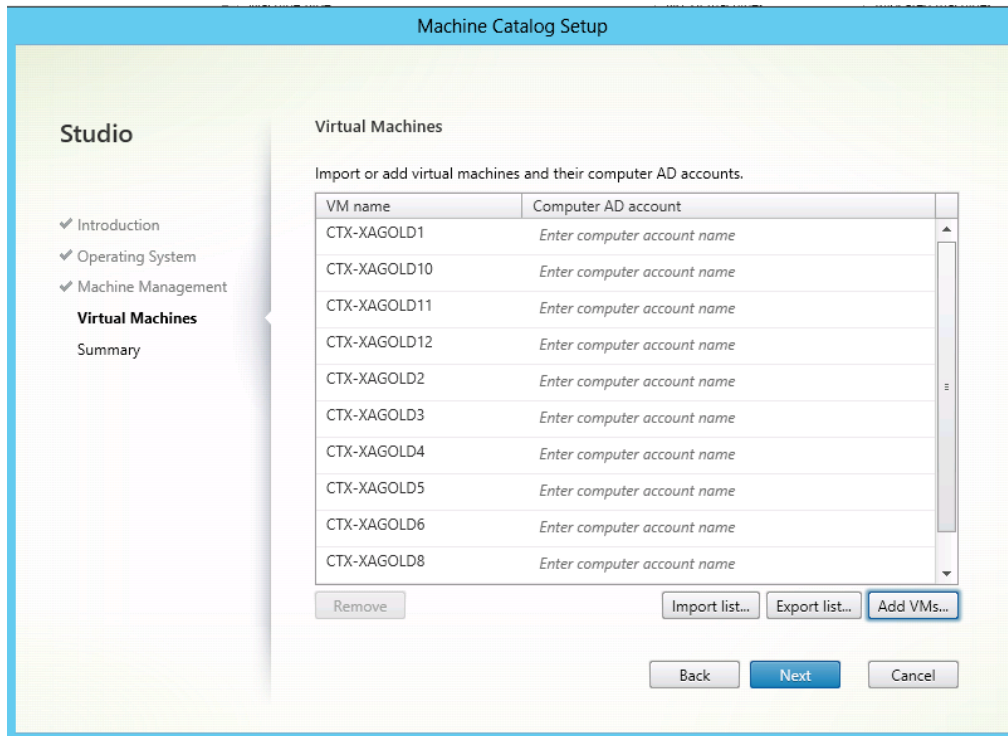


Figure 138 Virtual Machines

# 11 Creating a Session Host Delivery Group

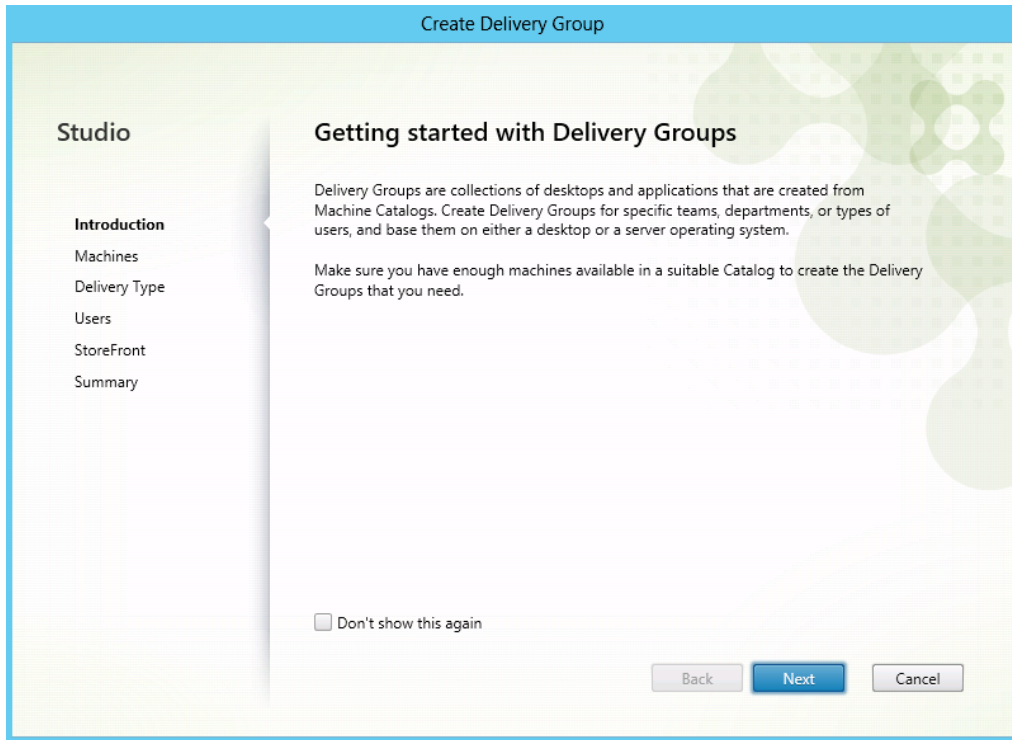


Figure 139 Delivery Groups

1. In the left pane, click **Machines**. In the **Choose the number of machines for this Delivery Group** box, type or select a number to indicate the number of servers you want in the Delivery Group, and then click **Next**.

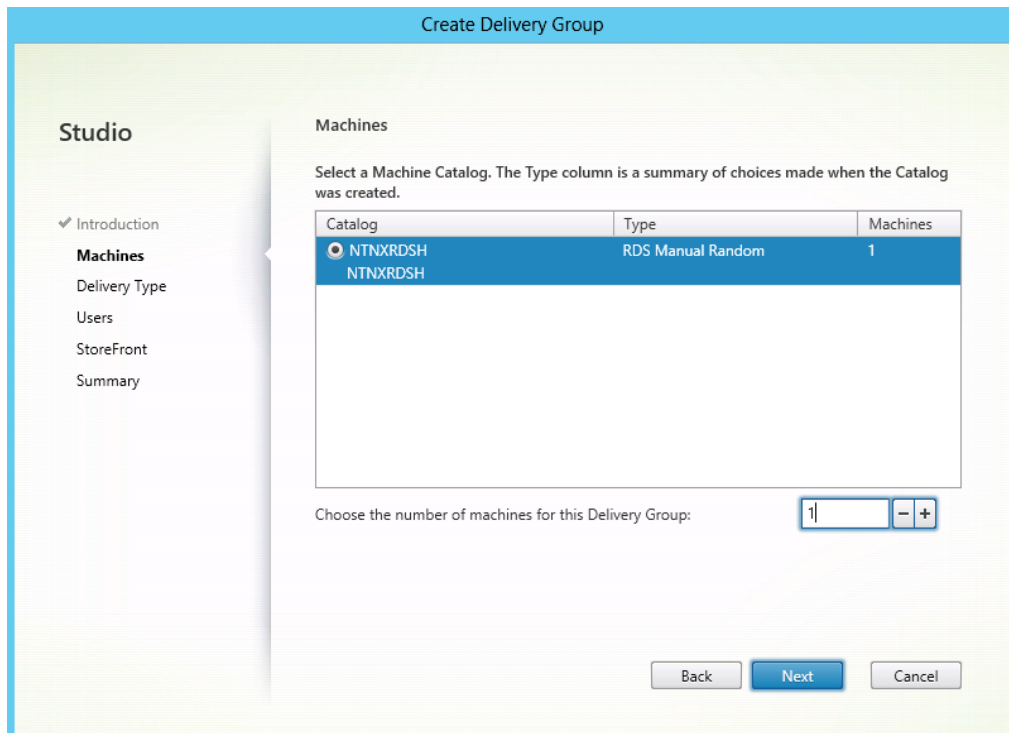


Figure 140 Selecting servers for Delivery Group

2. Click **Desktops and Applications**, and then click **Next**.

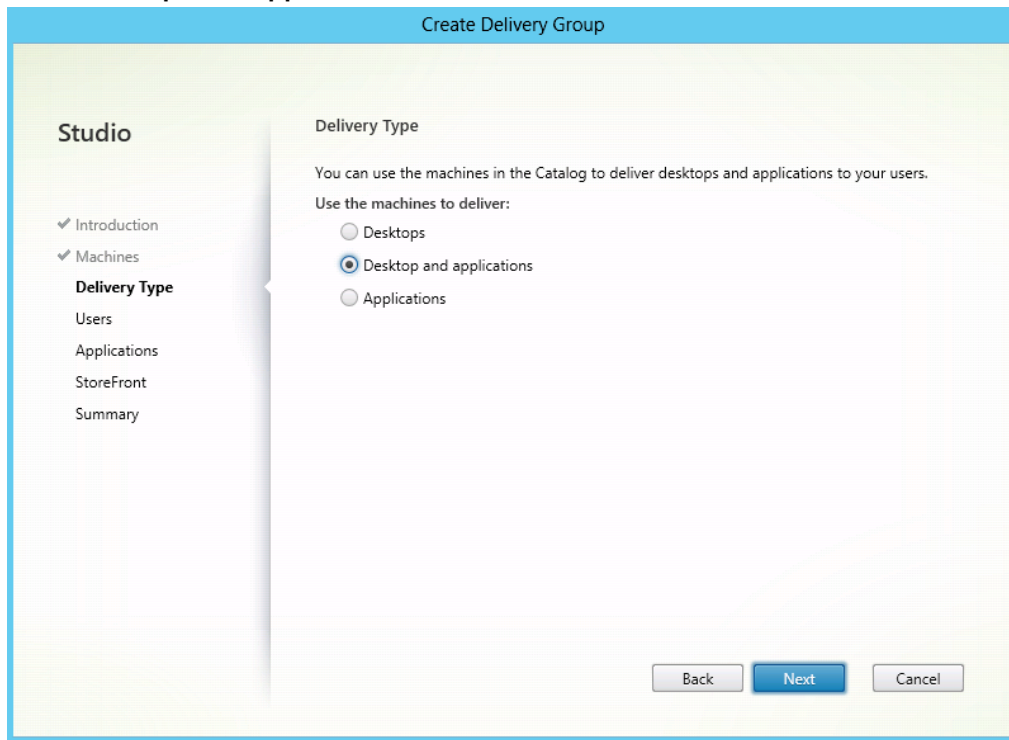


Figure 141 Assigning Delivery type



3. Click **Add users**, and then add users or groups that have access the delivery group.

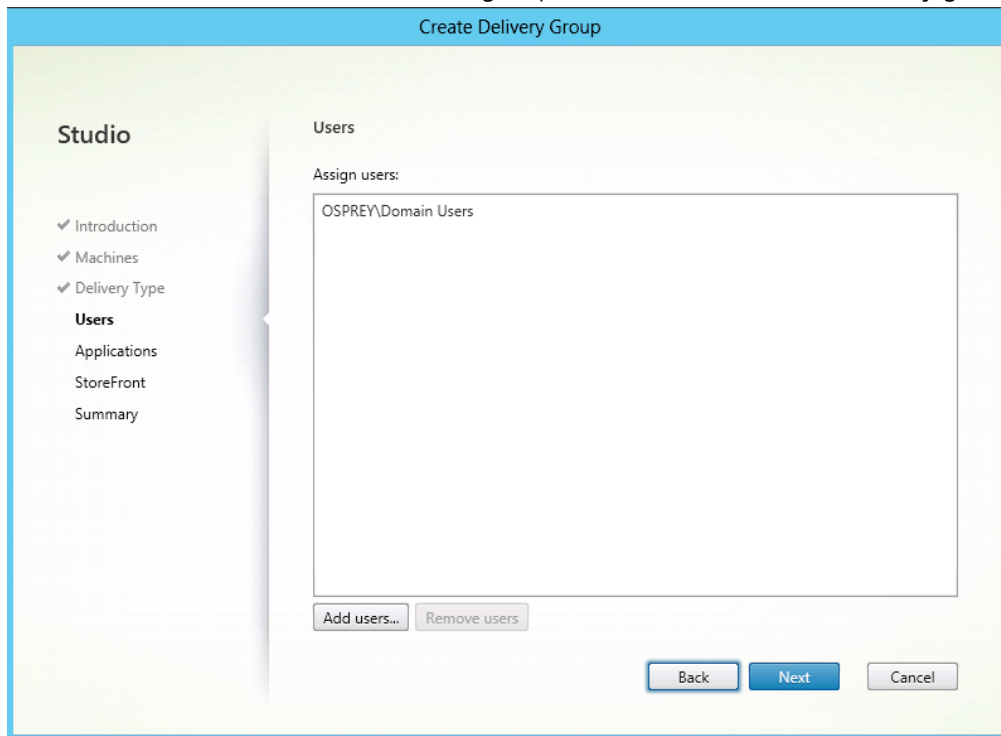


Figure 142 Adding delivery group users

4. Click **Next**, unless you want to customize specific applications.

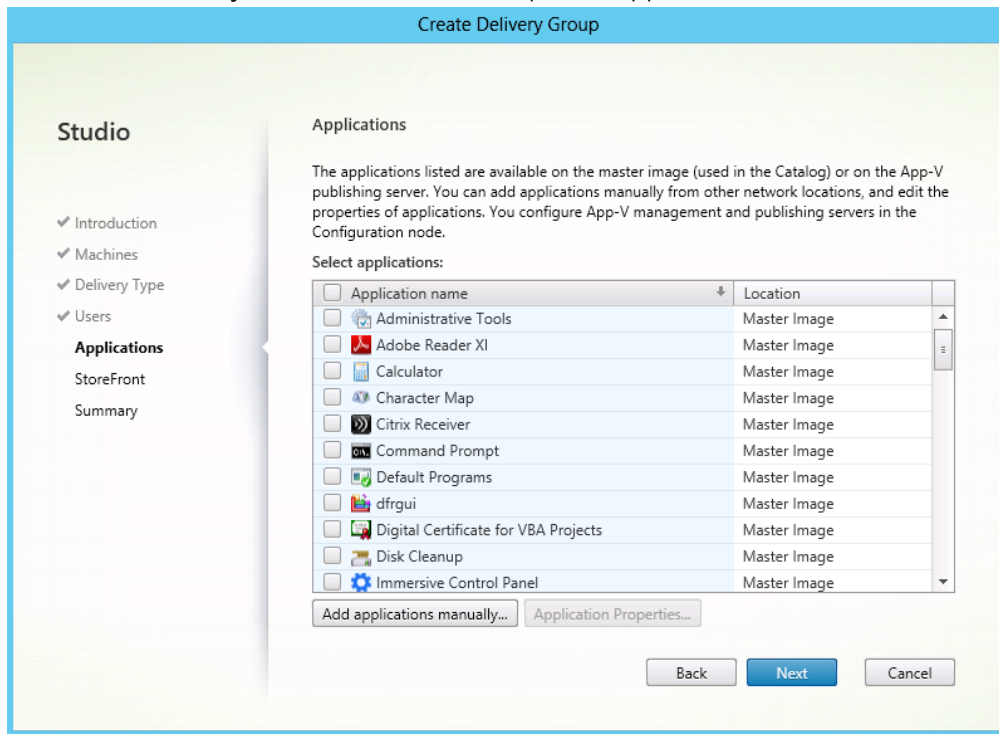


Figure 143 Adding applications

5. Select the Storefront server(s) you want to use, and then click **Next**.

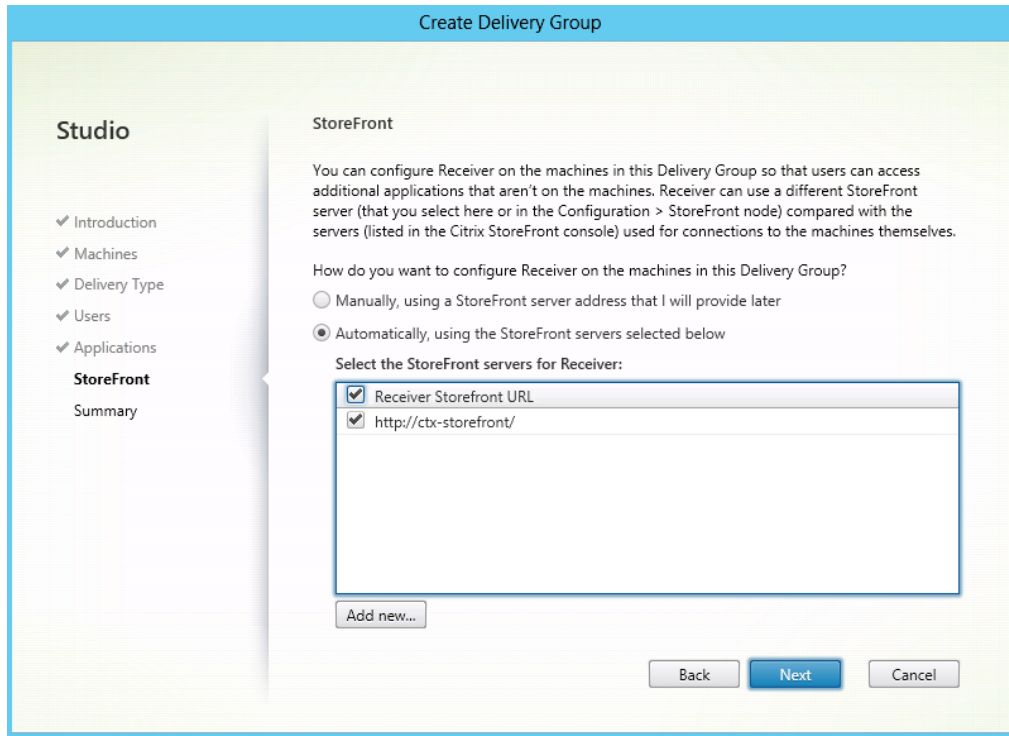


Figure 144 Selecting storefront servers

6. In the **Delivery Group name** box, type a unique name for the delivery group, and then click **Next**.

**Create Delivery Group**

**Studio**

- ✓ Introduction
- ✓ Machines
- ✓ Delivery Type
- ✓ Users
- ✓ Applications
- ✓ StoreFront
- Summary**

**Summary**

Machine Catalog:	NTNXRDSH
Machine type:	Windows Server OS
Allocation type:	Random
Machines added:	1 unassigned
Delivery type:	Desktops and Applications
Users:	OSPREY\Domain Users
Storefronts:	1
Scopes:	-

Delivery Group name:

Display name:

Delivery Group description, used as label in Receiver (optional):

Figure 145 Assigning delivery group name

## 12 Creating a Catalog for Machine Creation Services

1. Start the DDC and create a new Catalog.

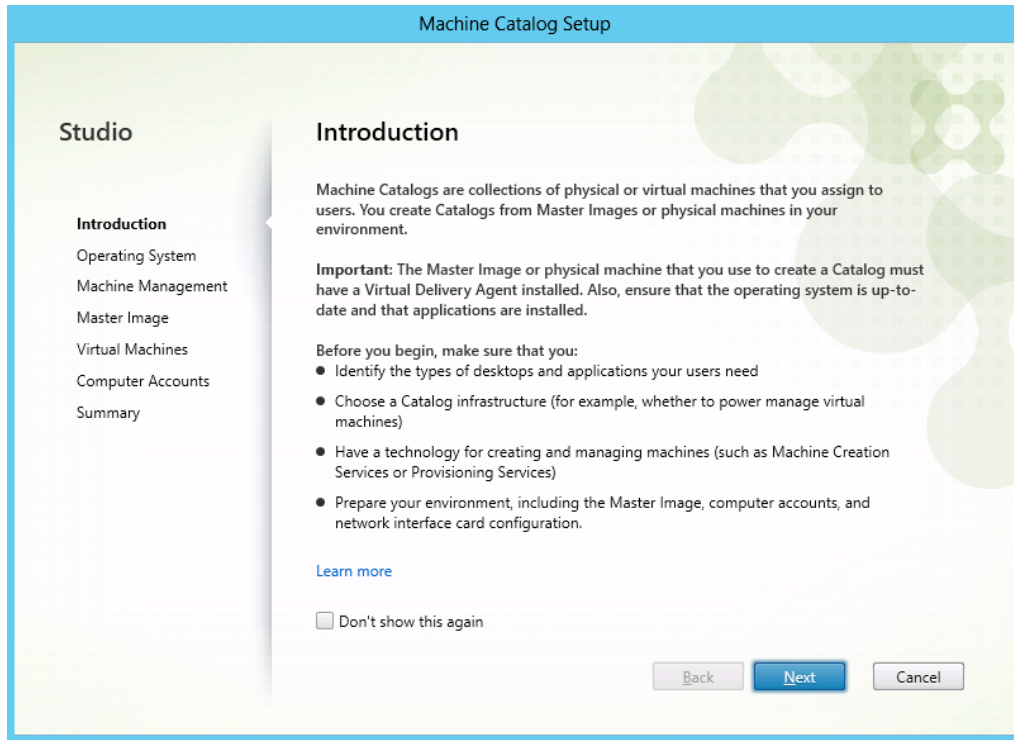


Figure 146 Catalog Creation

2. Click **Windows Desktop OS** for standardized server, and then click **Next**.

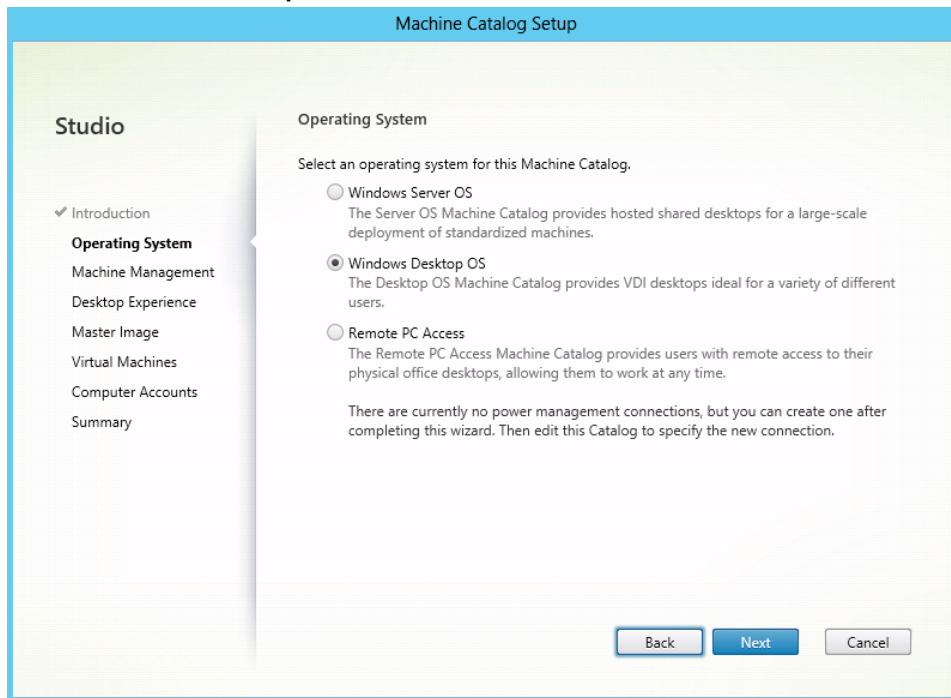


Figure 147 OS selection

3. Click **Citrix Citrix Machine Creation Service (MCS)**.

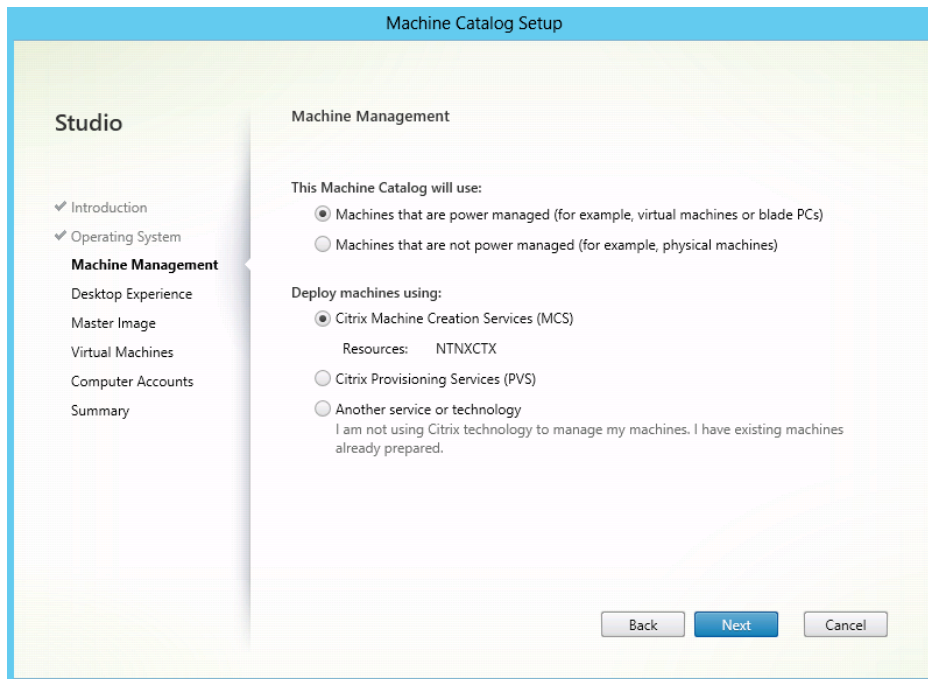


Figure 148 Machine management

- Under the **Desktop Experience** section, click **Yes, create a dedicated virtual machine and save changes on the local disk**, and then click **Next**.

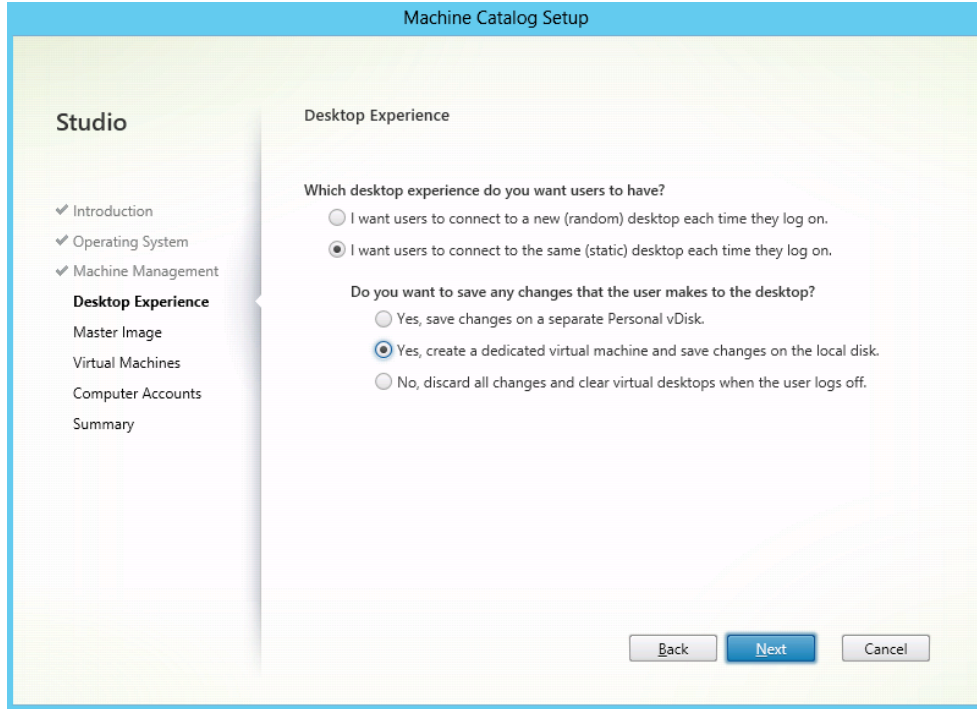


Figure 149 Virtual Machines

- Select the snapshot from the master image you require, and then click **Next**.

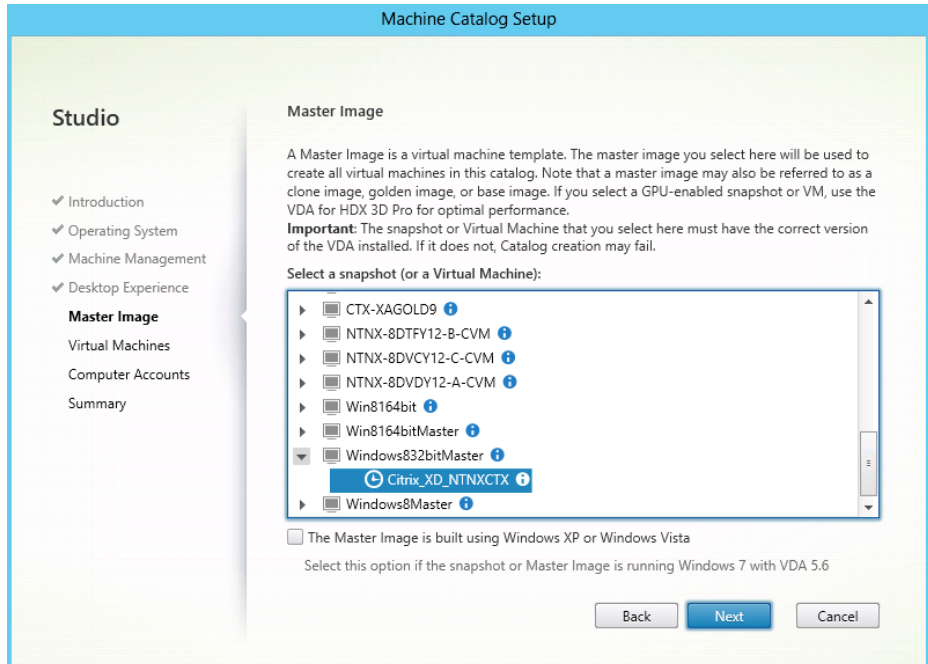


Figure 150 Machine Catalog Setup





- Adjust the virtual CPU and memory settings as required for your desktops, specify the number of desktops you want to create, and then click **next**.

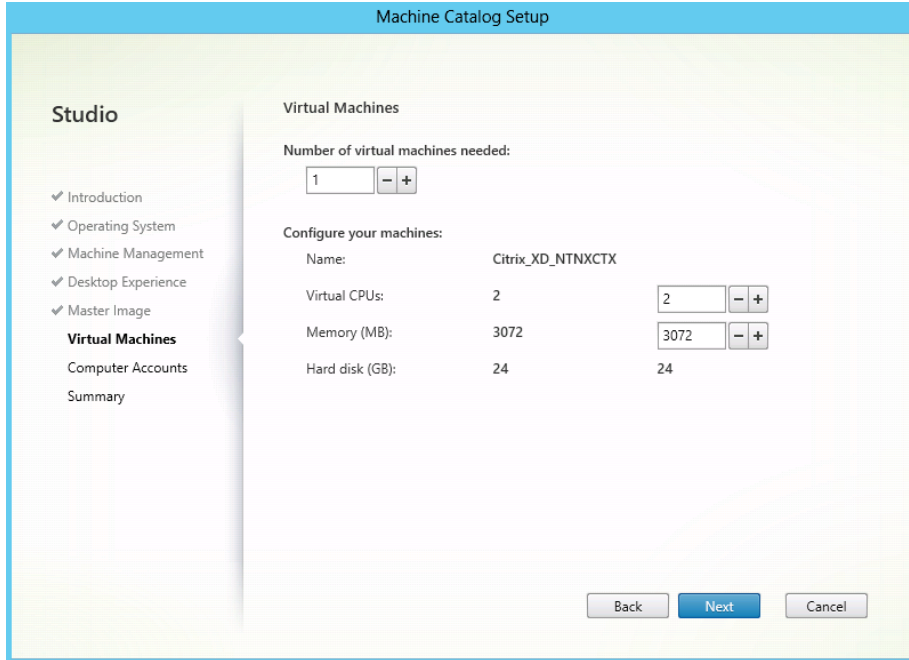


Figure 151 Machine Catalog Setup

7. Select the OU that you want to use for your desktops. This OU should have your relevant domain GPOs assigned.

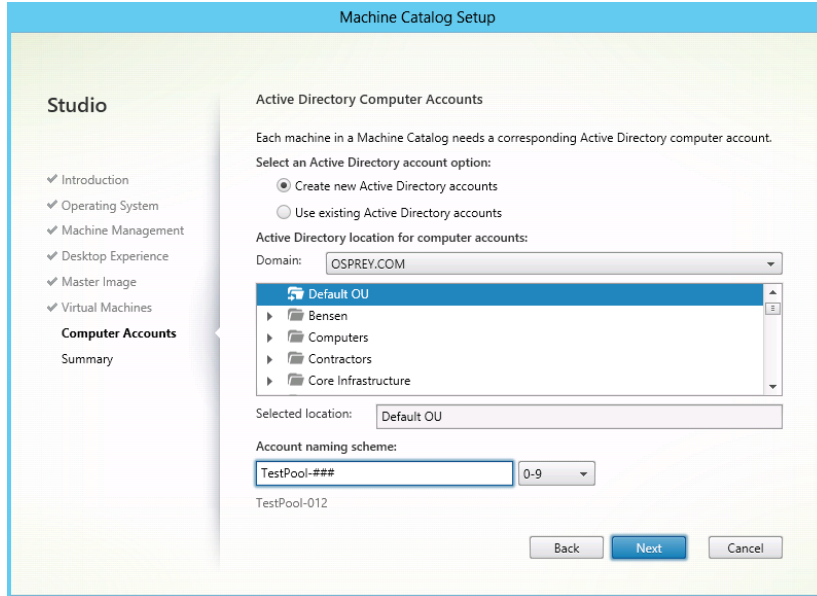


Figure 152 Machine Catalog Setup

8. Give the catalog a unique name, and then click **Finish**.

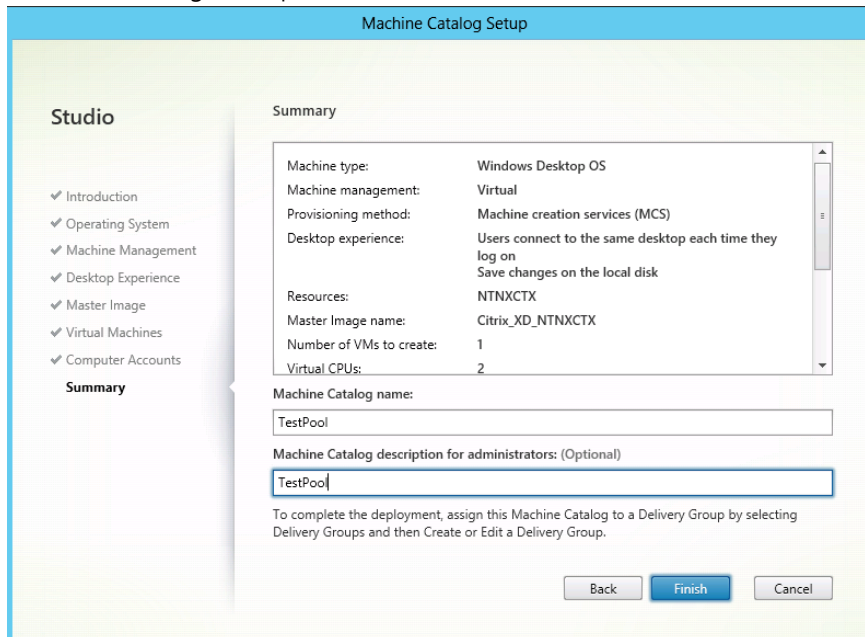


Figure 153 Machine catalog Setup



## 13 Creating a Delivery group for Machine Creation Services (MCS)

1. Select Delivery Groups from the column on the left hand side of the MCS Studio and click **Next** on the welcome page.

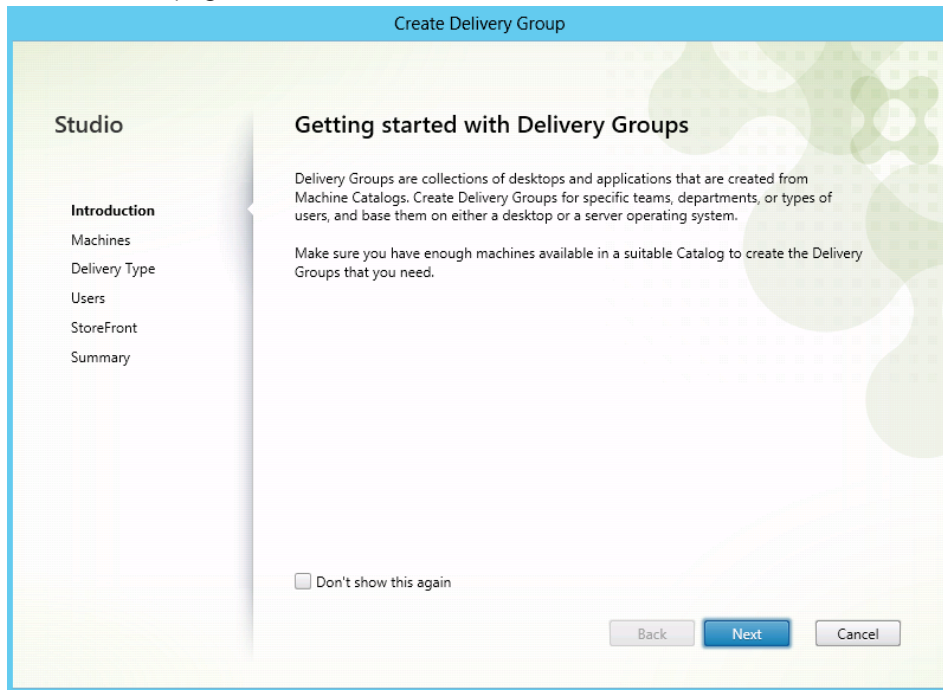


Figure 154 Create Delivery Group

2. Select the number of machines from your catalog that you want to add to this group, and then click **Next**.

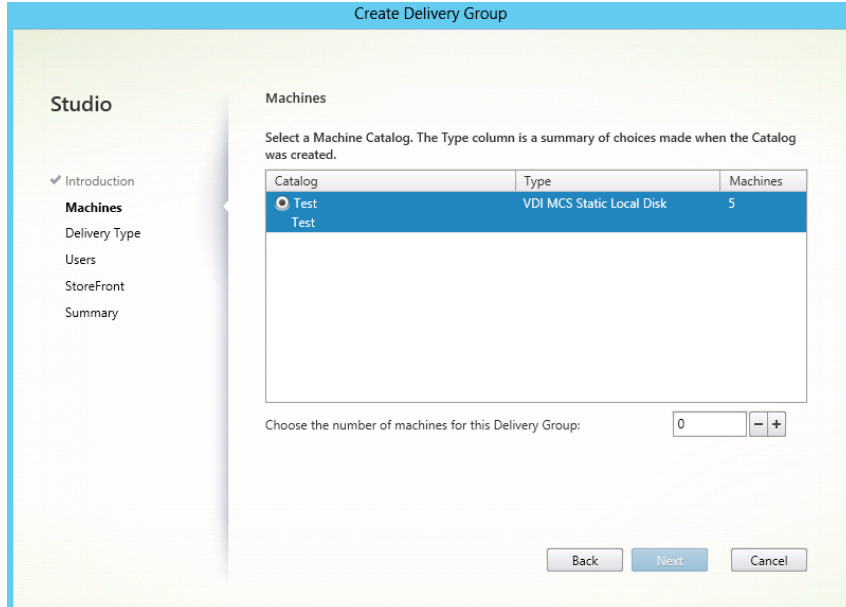


Figure 155 Create Delivery Group

3. Click **Desktops**, and then click **Next**.

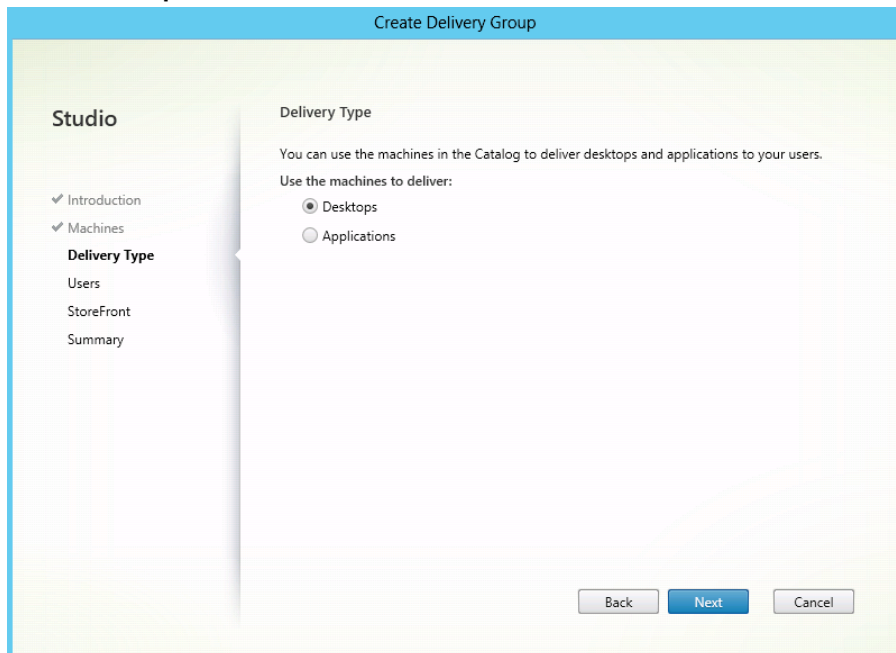


Figure 156 Create Delivery Group

4. Add the user group with permissions to access this desktop pool, and then click **Next**.

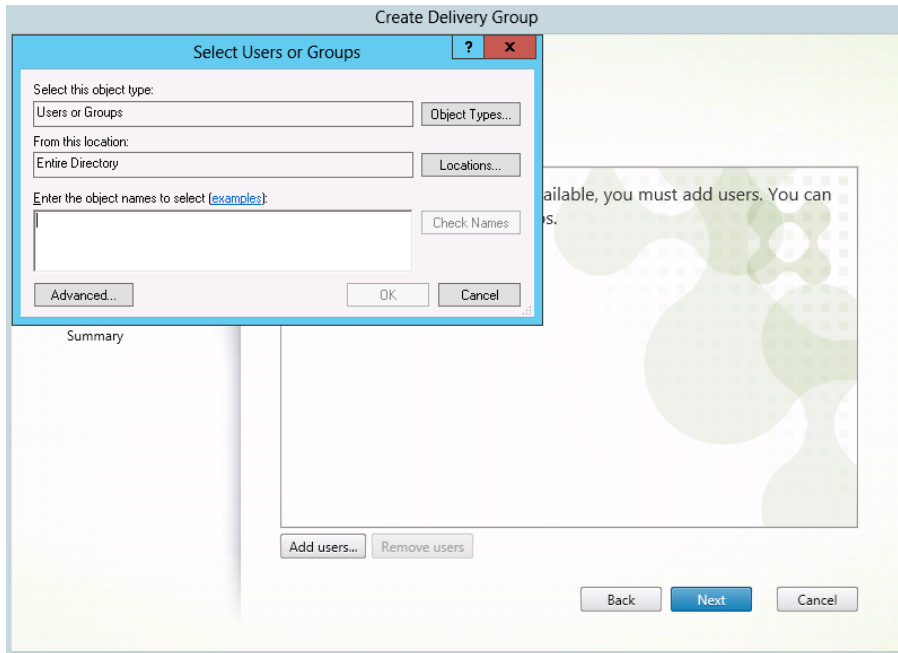


Figure 157 Create Delivery Group

5. Select your Storefront server, and then click **Next**.

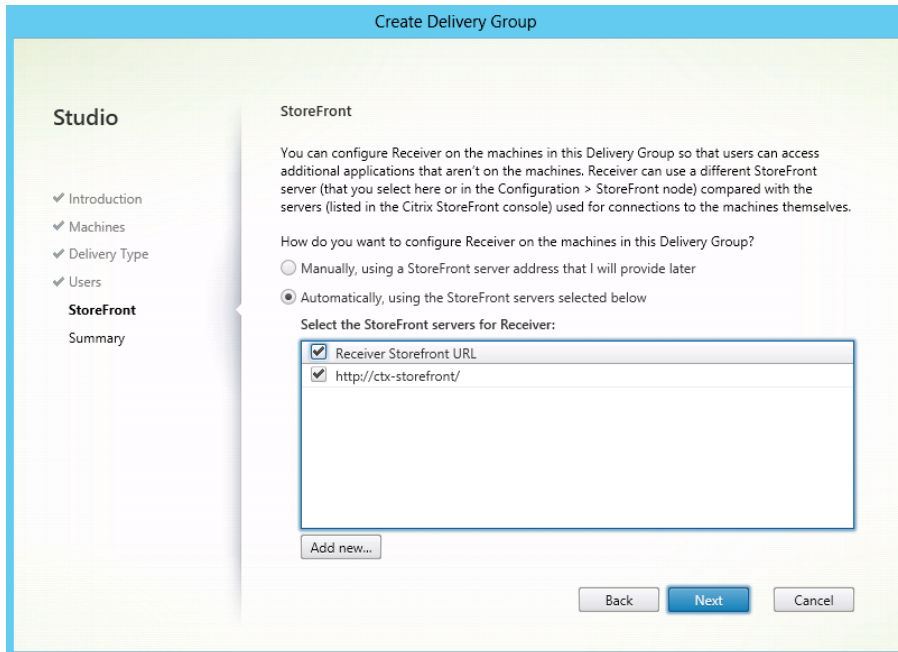


Figure 158 Create Delivery Group



6. Give the Desktop group a unique name and click **Finish** to complete the process.

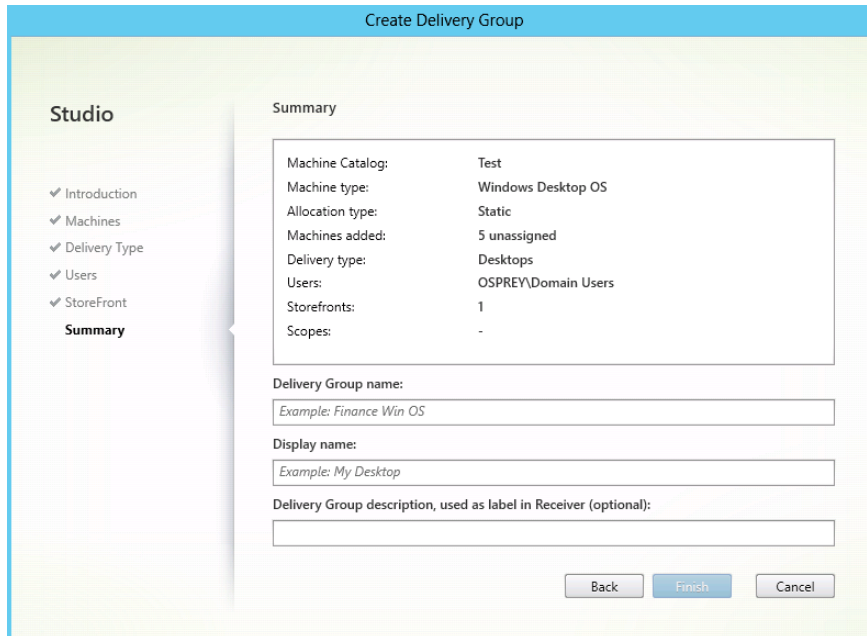


Figure 159 Create Delivery Group

7. After creating pool, right-click the pool on it, and then click **Edit**.

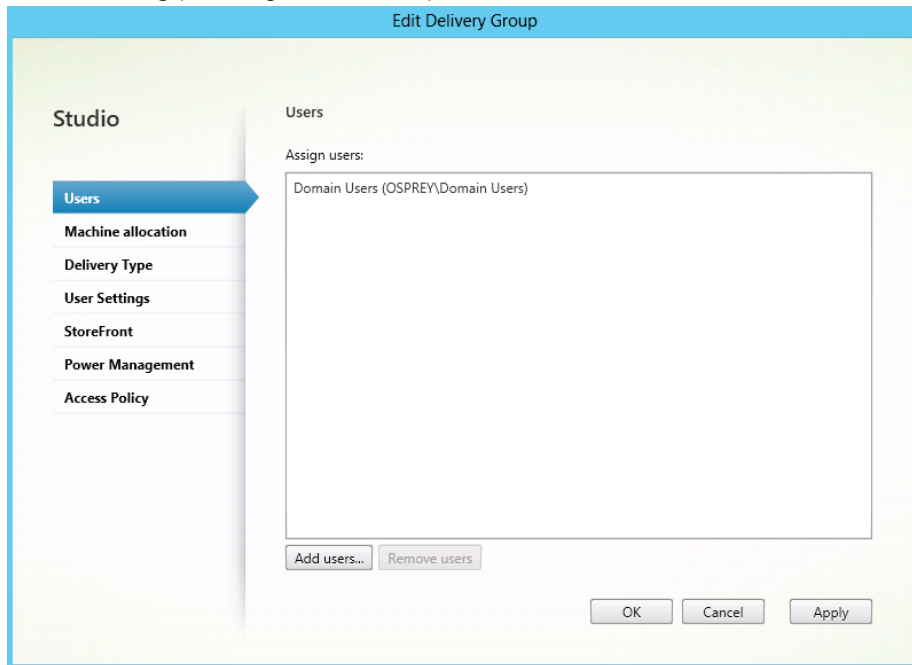


Figure 160 Edit Delivery Group

- Click **Power Management** to allow you change the hours that users can connect to their desktops.

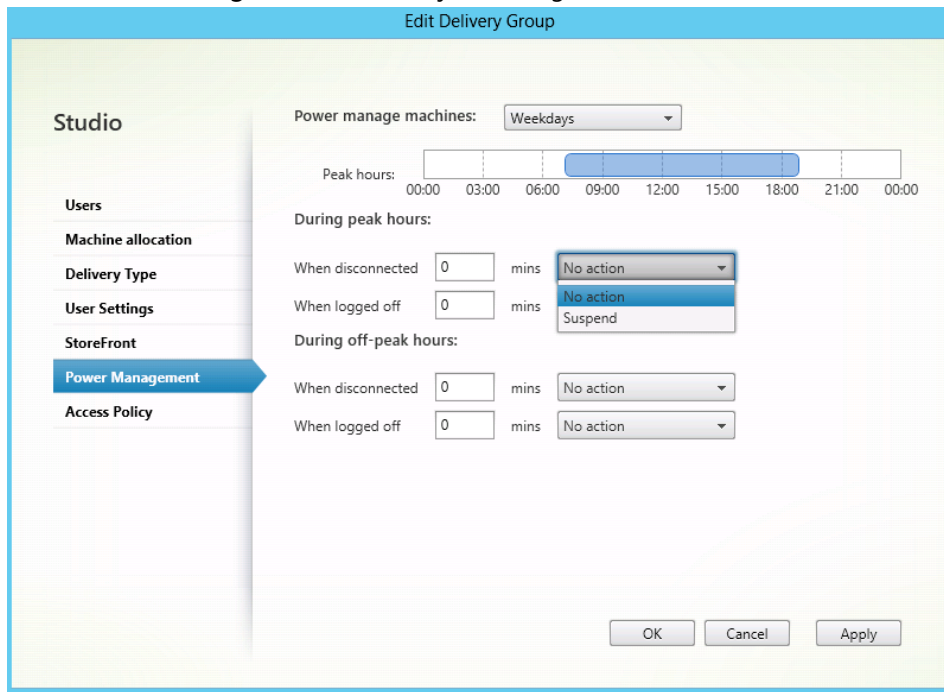


Figure 161 Edit Delivery Group

Note that while access is available via the console, you must update the power settings for the Desktop group using powershell to make sure your VMs remain turned on as per the below set of cmdlet's.

- Open powershell, and then load the Citrix Cmdlets by running the following command `asnp Citrix*`

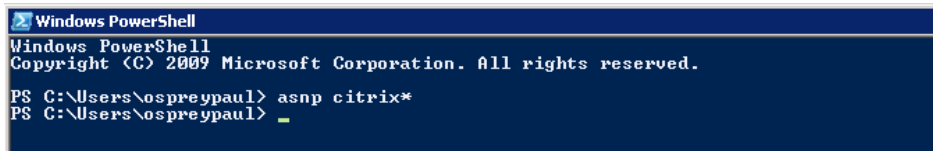


Figure 162 Windows powershell

- Run the following command to make sure desktops remain turned on.

```
Set-BrokerDesktopGroup "Desktop Group Name" -  
PeakBufferSizePercent 100
```



## 14 Deploying Virtual Desktop Master Image

### 14.1 Deploying Virtual Desktop

Do the following tasks, if provisioning virtual desktops.

### 14.2 Setting up Desktop Template (Gold Image)

### 14.3 Creating Template VM

Suggested on the basis of user types used by Dell.

**NOTE:** Solution is provided on the basis of using full clones for persistence (Standard provisioning) and recommended disk format is VMDK. Make sure Master Image is placed in the same container as the Desktop pool for faster deployment.

Provision a Gold image by doing the following tasks:

Machine Creation Services - Master Image

- Create Base VM (specify Disk size, Network, Memory etc)
- Install Windows 8.1
- Install required application software
- Optimize Windows 8.1 using Citrix Optimization best practices
- Add VM to the Domain
- Install the Citrix VDA
- Create a reference Snapshot
- Create a machine catalog and Delivery group via XenDesktop Setup Wizard

Installing Citrix VDA Agent

Mount the XD7.5 ISO to the master image virtual machine and select installation for the Desktop VDA.

**NOTE:** There are two options but only the desktop agent will be made available for installation. Make sure you add the DNS name of the Delivery Controller, this will connect all newly provisioned desktops to the DDC.

Refer to **VDA installation section for RDS** for the installations tasks.





## 14.4 Optimizing Desktop OS

Make sure you use the Citrix desktop optimization script which can be downloaded from the Citrix website which can be used to optimize desktop settings for a VDI environment including disabling unnecessary services.

### Windows 8.x Optimization

A new feature in Win 8.1 is Automatic Windows Maintenance, which is a feature of the dism tool that checks the system and application for update compatibility and file integrity. By default, the system scheduled task runs at 1 A.M. everyday, or any time after 10 min of idle time. When the system runs, the tiworker.exe process consumes 100 percent CPU on any recently booted desktop VMs, possibly overloading servers.

The administrator accounts cannot change the services because the services(idle time check and automatic check) run as a SYSTEM. You must get SYSTEM rights to disable services.

You can still run the checks manually even if the services are disabled. You must have psexec.exe (sysinternals) on the Master Image VM to fix this problem.

The following are the three scheduled tasks that must be disabled on your desktop template.

```
psexec \\SERVERNAME -s schtasks /change /tn  
"\Microsoft\Windows\TaskScheduler\Maintenance Configurator" /DISABLE
```

```
psexec \\SERVERNAME -s schtasks /change /tn  
"\Microsoft\Windows\TaskScheduler\Idle Maintenance" /DISABLE
```

```
psexec \\SERVERNAME -s schtasks /change /tn  
"\Microsoft\Windows\TaskScheduler\Regular Maintenance" /DISABLE
```

Turn off the master image and take a snapshot for reference.

