

VMware View Upgrade Guide

View 4.0

View Manager 4.0

View Composer 2.0

This document supports the version of each product listed and supports all subsequent versions until the document is replaced by a new edition. To check for more recent editions of this document, see <http://www.vmware.com/support/pubs>.

EN-000246-04

vmware[®]

You can find the most up-to-date technical documentation on the VMware Web site at:

<http://www.vmware.com/support/>

The VMware Web site also provides the latest product updates.

If you have comments about this documentation, submit your feedback to:

docfeedback@vmware.com

Copyright © 2010 VMware, Inc. All rights reserved. This product is protected by U.S. and international copyright and intellectual property laws. VMware products are covered by one or more patents listed at <http://www.vmware.com/go/patents>.

VMware is a registered trademark or trademark of VMware, Inc. in the United States and/or other jurisdictions. All other marks and names mentioned herein may be trademarks of their respective companies.

VMware, Inc.
3401 Hillview Ave.
Palo Alto, CA 94304
www.vmware.com

Contents

About This Book	5
1 VMware View Component Compatibility Matrix	7
2 System Requirements for Upgrades	9
View Connection Server Requirements	9
Hardware Requirements for View Connection Server	9
Supported Operating Systems for View Connection Server	10
Upgrade Requirements for View Connection Server	10
Additional Software Required by View Connection Server	10
View Composer Requirements	11
Upgrade Requirements for View Composer	11
Database Requirements for View Composer	11
View Administrator Requirements	12
View Client Requirements	12
Supported Operating Systems for View Agent	13
3 Preparing for a VMware View Upgrade	15
Preparing View Connection Server for an Upgrade	15
Preparing vCenter Server and View Composer for an Upgrade	16
4 Upgrading VMware View Components	19
Upgrade View Connection Servers in a Replicated Group	19
Upgrade View Composer and VirtualCenter	21
Upgrade ESX Hosts, Virtual Machines, and View Agents	22
Upgrade View Composer Desktop Pools	24
Upgrade View Clients	25
5 Upgrading vSphere Components Separately	27
Index	29

About This Book

The *VMware View Upgrade Guide* provides instructions for upgrading from VMware® View 3.x to View 4.0. If you are also upgrading from VMware Infrastructure 3 to vSphere 4 Update 1, this guide tells you which steps of that upgrade to do at various stages of the VMware View upgrade.

Intended Audience

This guide is intended for anyone who needs to upgrade from VMware View 3.x to 4.0. The information in this guide is written for experienced Microsoft Windows or Linux system administrators who are familiar with virtual machine technology and datacenter operations.

Document Feedback

VMware welcomes your suggestions for improving our documentation. If you have comments, send your feedback to docfeedback@vmware.com.

Technical Support and Education Resources

The following technical support resources are available to you. To access the current version of this book and other books, go to <http://www.vmware.com/support/pubs>.

Online and Telephone Support

To use online support to submit technical support requests, view your product and contract information, and register your products, go to <http://www.vmware.com/support>.

Customers with appropriate support contracts should use telephone support for the fastest response on priority 1 issues. Go to http://www.vmware.com/support/phone_support.html.

Support Offerings

To find out how VMware support offerings can help meet your business needs, go to <http://www.vmware.com/support/services>.

VMware Professional Services

VMware Education Services courses offer extensive hands-on labs, case study examples, and course materials designed to be used as on-the-job reference tools. Courses are available onsite, in the classroom, and live online. For onsite pilot programs and implementation best practices, VMware Consulting Services provides offerings to help you assess, plan, build, and manage your virtual environment. To access information about education classes, certification programs, and consulting services, go to <http://www.vmware.com/services>.

VMware View Component Compatibility Matrix

1

Because large enterprises must often perform phased upgrades, VMware View components are designed to be forward and backward compatible. VMware View 4.0 components are compatible with most VMware View 3.0.x and 3.1.x components.

Although components are forward and backward compatible, View Connection Server compatibility with View Agents is limited to interoperability during a View Connection Server upgrade or downgrade. You must upgrade View Agents as soon as possible to match the version of the View Connection Server that manages them.

[Table 1-1](#) lists the components of VMware View and shows whether they are compatible with other components whose version is different. For information about compatibility with VMware Infrastructure and vSphere, see [“Additional Software Required by View Connection Server,”](#) on page 10.

Table 1-1. Compatibility Matrix for VMware View Components

	View 3 Components					
	Connection Server 3.x	View Agent 3.x	View Client 3.x	Thin Client 3.x	Web Portal 3.x	View Composer 1.0
View 4						
Connection Server 4.0	N/A	Yes	Yes	Yes	N/A	No*
View Agent 4.0	Yes	N/A	Yes	Yes	Yes	Yes
View Client 4.0	Yes	Yes	N/A	N/A	Yes	Yes
Thin Client 4.0	Yes	Yes	N/A	N/A	Yes	Yes
Web Portal 4.0	N/A	Yes	Yes	Yes	N/A	Yes
View Composer 2.0	Yes	No	N/A	N/A	N/A	N/A

* Until both View Connection Server and View Composer are upgraded, View Composer operations do not work. If you have View Connection Server 4.0 and View Composer 1.0, users can connect to their desktops, but no new linked-clone desktops can be created, and recompose, rebalance, and refresh operations do not work.

Although View Composer 2.0 can work with View Connection Server 3.x, this setup is available only for cases where upgrading all View Connection Server instances during the same maintenance window is not feasible.

System Requirements for Upgrades

Hosts and virtual machines in a VMware View deployment must meet specific hardware and operating system requirements.

This chapter includes the following topics:

- [“View Connection Server Requirements,”](#) on page 9
- [“View Composer Requirements,”](#) on page 11
- [“View Administrator Requirements,”](#) on page 12
- [“View Client Requirements,”](#) on page 12
- [“Supported Operating Systems for View Agent,”](#) on page 13

View Connection Server Requirements

View Connection Server acts as a broker for client connections by authenticating and then directing incoming user requests to the appropriate View desktop. View Connection Server has specific hardware and operating system requirements.

Hardware Requirements for View Connection Server

View Connection Server 4.0 must run on a 32-bit or 64-bit dedicated physical or virtual machine that meets specific hardware requirements.

Table 2-1. View Connection Server Hardware Requirements

Hardware Component	Required	Recommended
Processor	Pentium IV 2.0GHz processor or higher	Dual processors
Memory	2GB RAM or higher	3GB RAM for deployments of 50 or more View desktops
Networking	One or more 10/100Mbps network interface cards (NICs)	1Gbps NIC

These requirements also apply to additional View Connection Server instances that you install for high availability and to security servers that you install for external access.

Supported Operating Systems for View Connection Server

View Connection Server 4.0 must run on Windows Server 2003 with a supported service pack.

View Connection Server is supported on the following 32-bit versions of Windows Server 2003:

- R2 Standard Edition with SP2
- Standard Edition with SP2
- 2003 R2 Enterprise Edition with SP2
- Enterprise Edition with SP2

Upgrade Requirements for View Connection Server

The View Connection Server upgrade process has specific requirements and limitations.

- View Connection Server requires a valid license key for View 4.0. The available license keys include View Manager, View Manager with View Composer, and View Manager with View Composer and Offline Desktop. The VMware View 4 license key is a 25-character key.
- The domain user account that you use to install the new version of View Connection Server must have administrative privileges on the View Connection Server host. The View Connection Server administrator must have administrative credentials for vCenter Server.

If you plan to perform fresh installations of View Connection Server instances on additional physical or virtual machines, see the complete list of installation requirements in the *View Manager Administration Guide*.

Additional Software Required by View Connection Server

View Connection Server requires additional software to function properly.

- If you are using vSphere, you must have vSphere 4 Update 1. You must have at least one ESX server and one vCenter Server.
- If you are using VMware Infrastructure, you must have VMware Infrastructure 3.0.2 (supported) or 3.5 (recommended). To use View Composer or View Client with Offline Desktop, you must have VMware Infrastructure 3.5 Update 3 or Update 4 and the corresponding VirtualCenter 2.5 Update 3 or Update 4. Update 5 is not supported. You must have at least one ESX Server 3.5 Update 3 or 4 and one VirtualCenter Server 2.5 Update 3 or 4.
- View Connection Server is certified with versions 6.1 and 7.1 of RSA Authentication Manager. Other versions of RSA Authentication Manager that are compatible with version 6.1 are also supported.
- View Manager uses your existing Active Directory infrastructure for user authentication and management. The following versions of Active Directory are supported: Windows 2000 Active Directory, Windows 2003 Active Directory, and Windows 2008 Active Directory.

View Composer Requirements

View Manager uses View Composer to deploy multiple linked-clone desktops from a single centralized base image. View Composer has specific upgrade and database requirements.

Upgrade Requirements for View Composer

The View Composer upgrade process has specific requirements and limitations.

- If you are using VMware Infrastructure, you must have VMware Infrastructure 3.5 Update 3 or Update 4 to use View Composer. Update 5 is not supported.
- You must install View Composer on the same system as vCenter Server or VirtualCenter Server. View Composer is compatible with vCenter Server 4.0 Update 1 and VirtualCenter Server 2.5 Update 3 or Update 4.
- View Composer is supported on the 32-bit version of either Windows Server 2003 Service Pack 2 or Windows XP Professional Service Pack 2.

Database Requirements for View Composer

View Composer requires an SQL database to store data. The View Composer database must reside on, or be available to, the vCenter Server machine.

If a database already exists for vCenter Server, View Composer can use that existing database. For example, View Composer can use the Microsoft SQL Server 2005 Express instance provided with vCenter Server.

IMPORTANT If you are upgrading to vCenter Server 4, see the system requirements for databases in the *vSphere Upgrade Guide*. Some databases that were supported for VirtualCenter Server are no longer supported. In this case, you must upgrade the database to a supported version before upgrading View Composer and VirtualCenter Server.

[Table 2-2](#) describes the requirements for each supported database.

Table 2-2. Supported Databases for View Composer

Database	Requirements	Compatible with vCenter Server 4 U1?
Microsoft SQL Server 2000 Standard SP4	For Windows XP, apply MDAC 2.8 SP1 to the client. Use SQL Server driver for the client.	No
Microsoft SQL Server 2000 Enterprise SP4	For Windows XP, apply MDAC 2.8 SP1 to the client. Use SQL Server driver for the client.	No
Microsoft SQL Server 2005 Standard SP1/SP2	For Windows XP, apply MDAC 2.8 SP1 to the client. Use SQL native client driver for the client.	Yes
Microsoft SQL Server 2005 Enterprise SP1/SP2	For Windows XP, apply MDAC 2.8 SP1 to the client. Use SQL native client driver for the client.	Yes
Microsoft SQL Server 2005 Express	For Windows XP, apply MDAC 2.8 SP1 to the client. Use SQL native client driver for the client.	Yes
Microsoft SQL Server 2005 Standard Edition 64-bit SP2	N/A	Yes
Microsoft SQL Server 2005 Enterprise Edition 64-bit SP2	N/A	Yes

Table 2-2. Supported Databases for View Composer (Continued)

Database	Requirements	Compatible with vCenter Server 4 U1?
Oracle 9i release 2 Standard (9.2.0.8)		No
Oracle 9i release 2 Enterprise (9.2.0.8)		No
Oracle 10g Standard Release 2 (10.2.0.1.0)	First apply patch 10.2.0.3.0 to the client and server, then apply patch 5699495 to the client.	Yes, after patching
Oracle 10g Enterprise Release 2 (10.2.0.1.0)	First apply patch 10.2.0.3.0 to the client and server, then apply patch 5699495 to the client.	Yes, after patching
Oracle 10g Standard Release 1 (10.1.0.3.0)		No
Oracle 10g Enterprise Release 1 (10.1.0.3.0)		No
Oracle 10g Enterprise Edition Release 2 (10.2.0.3.0) 64-bit	N/A	Yes
Oracle 10g Enterprise Edition Release 2 (10.2.0.1.0) 64-bit	First apply patch 10.2.0.3.0 to the client, then apply patch 5699495 to the client.	Yes, after patching
Oracle 11g Standard Edition	Not compatible with VirtualCenter Server 2.5	Yes
Oracle 11g Enterprise Edition	Not compatible with VirtualCenter Server 2.5	Yes

View Administrator Requirements

Administrators use View Administrator to configure View Connection Server, deploy and manage desktops, control user authentication, initiate and examine system events, and carry out analytical activities. Client systems that run View Administrator must meet certain requirements.

View Administrator is a Web-based application. You can use View Administrator 4.0 with the following Web browsers:

- Internet Explorer 7
- Internet Explorer 8
- Firefox 3.0
- Firefox 3.5

View Client Requirements

View Client and View Client with Offline Desktop 4.0 must run on a supported operating system with a supported service pack.

[Table 2-3](#) lists the 32-bit operating systems supported for View Client.

Table 2-3. View Client 32-Bit Operating System Support

Operating System	Edition	Service Pack
Windows 2000	Professional	SP4
Windows XP	Professional and Home	SP2 and SP3

Table 2-3. View Client 32-Bit Operating System Support (Continued)

Operating System	Edition	Service Pack
Windows XPe	N/A	N/A
Windows Vista	Business and Ultimate	SP1 and SP2
Windows Vista	Enterprise and Home	SP2
Windows 7 (Tech Preview)	N/A	N/A

View Client with Offline Desktop is supported on Windows XP Professional SP2 and SP3 only.

The following client hardware requirements are specific to using the PCoIP display protocol, now available with View 4.0:

- 800Mhz or higher processor speed
- x86-based processor with SSE2 extensions

Supported Operating Systems for View Agent

The View Agent component assists with session management, single sign-on, and device redirection. View Agent 4.0 must run on a supported operating system with a supported service pack.

[Table 2-4](#) lists the 32-bit operating systems supported for View Agent. These systems can be virtual or physical.

Table 2-4. View Agent 32-Bit Operating System Support

Operating System	Edition	Service Pack
Windows XP	Professional	SP2 and SP3
Windows Vista	Business, Enterprise, and Ultimate	SP1 and SP2
Windows 2003 R2 Terminal Server	Enterprise	SP2
Windows 2003 Terminal Server	Enterprise	SP2
Windows 7 (Tech Preview)	N/A	N/A

Preparing for a VMware View Upgrade

Before you start the upgrade process, you must review system requirements for the new version, back up databases, take snapshots of virtual machines that host server components, and document configuration settings.

This chapter includes the following topics:

- [“Preparing View Connection Server for an Upgrade,”](#) on page 15
- [“Preparing vCenter Server and View Composer for an Upgrade,”](#) on page 16

Preparing View Connection Server for an Upgrade

Before you upgrade View Connection Server or before you upgrade any of the vSphere components that View Connection Server relies on, you must perform several tasks to ensure that these upgrades are successful.

- Verify that the virtual or physical machine on which the current View Connection Server instance is installed meets the system requirements for View 4.
See [“View Connection Server Requirements,”](#) on page 9.
- If View Connection Server is installed in a virtual machine, take a snapshot of the virtual machine.
For instructions on taking snapshots, see the vSphere Client online help.
You can label the snapshot Upgrade Preparation Phase.
- Open View Administrator and document all the settings in the Desktop and Pools View and the Global Settings section of the Configuration View.
For example, take a screen shot of the applicable settings. If you have multiple instances of View Connection Server in a replicated group, you need to document the settings for only one instance.
- Use the `vdmexport.exe` utility to back up the View LDAP database.
For instructions, see the View 3 *View Manager Administration Guide*. If you have multiple instances of View Connection Server in a replicated group, you need to export the data from only one instance.
- Document the IP address and system name of the machine on which View Connection Server is installed.
- Determine if your company has written any batch files or scripts that run against the View database on the View Connection Server instance, and if so, document their names and locations.
- If you use load balancers for View Connection Server, document the configuration settings for the load balancers.

Preparing vCenter Server and View Composer for an Upgrade

Because VirtualCenter Server and View Composer are installed on the same virtual or physical machine, some preparation tasks apply to both.

Upgrades That Include vSphere

If you are upgrading to vCenter Server 4 Update 1 in addition to upgrading to VMware View 4 with View Composer 2, you must consult the *vSphere Upgrade Guide* and perform the following tasks in the following order:

- 1 Verify that the virtual or physical machine meets the system requirements for vCenter Server 4 Update 1.
For example, vCenter Server requires two CPUs.
- 2 If VirtualCenter Server is installed in a virtual machine, take a snapshot of the virtual machine.
For instructions on taking snapshots, see the vSphere Client online help.
- 3 If the computer name is longer than 15 characters, shorten the name to 15 or fewer characters.
- 4 Back up the VirtualCenter database and the View Composer database.
- 5 Verify that the database server is compatible with vCenter Server 4.
For example, if the database server is Oracle 9i, you must upgrade to Oracle 10g or 11g.
- 6 Back up the SSL certificates, if applicable.
- 7 Document the IP address and system name of the machine on which vCenter Server is installed.
- 8 For all linked-clone desktop pools, disable provisioning of new virtual machines.
Because View Composer might be upgraded during a different maintenance window than its desktop pools, provisioning must be postponed until both components are upgraded.
- 9 If any desktop pools are set to refresh the OS disk on logoff, edit the **Desktop/Pools** settings for that pool and set **Refresh OS disk on logoff** to **Never**.
This setting prevents an error from occurring when the newly upgraded View Composer attempts to refresh a desktop that has not yet been upgraded to View Agent 4.
- 10 If any desktop pools are scheduled to do a refresh or recompose operation, cancel these tasks.

Upgrades of View Composer Only

If you are upgrading only View Composer and are not upgrading VirtualCenter Server, you must perform the following tasks:

- 1 If View Composer is installed in a virtual machine, take a snapshot of the virtual machine.
For instructions on taking snapshots, see the vSphere Client online help.
- 2 Back up the VirtualCenter database and the View Composer database.
- 3 Back up the SSL certificates, if applicable.
- 4 Document the IP address and system name of the machine on which vCenter Server is installed.
- 5 For all linked-clone desktop pools, disable provisioning of new virtual machines.
Because View Composer might be upgraded during a different maintenance window than its desktop pools, provisioning must be postponed until both components are upgraded.

- 6 If any desktop pools are set to refresh the OS disk on logoff, edit the **Desktop/Pools** settings for that pool and set **Refresh OS disk on logoff** to **Never**.

This setting prevents an error from occurring when the newly upgraded View Composer attempts to refresh a desktop that has not yet been upgraded to View Agent 4.

- 7 If any desktop pools are scheduled to do a refresh or recompose operation, cancel these tasks.

Upgrading VMware View Components

The VMware View components that you must upgrade include View Connection Server, View Client, and View Agent. Depending on the optional components you use, you might also need to upgrade View Composer, vCenter Server, ESX hosts, and the virtual machines on ESX hosts.

Depending on how large your View deployment is, you might perform the upgrade process incrementally, over several maintenance windows.

This chapter includes the following topics:

- [“Upgrade View Connection Servers in a Replicated Group,”](#) on page 19
- [“Upgrade View Composer and VirtualCenter,”](#) on page 21
- [“Upgrade ESX Hosts, Virtual Machines, and View Agents,”](#) on page 22
- [“Upgrade View Composer Desktop Pools,”](#) on page 24
- [“Upgrade View Clients,”](#) on page 25

Upgrade View Connection Servers in a Replicated Group

Spreading the upgrade tasks across multiple maintenance windows lets you verify success or discover issues at each phase of the process. During the first maintenance window, you upgrade all the View Connection Server instances in a group that replicates a View LDAP database.

To use the new features of VMware View 4 or to use View 4 with vSphere 4, you must upgrade to VMware View 4. For a list of the new features included in View 4, see the release notes.

Prerequisites

- Determine when to perform this procedure. Choose an available desktop maintenance window. The amount of time the upgrade takes depends on the number of View Connection Server instances in the group. Budget 15 minutes to half an hour for each instance.
- Complete the tasks listed in [“Preparing View Connection Server for an Upgrade,”](#) on page 15.
- Verify that you have a VMware View 4 license. View 4 uses a new licensing model. The license key has 25 characters. Even if you were not required to purchase an upgrade, you must use a View 4 license key.
- Verify that you have a domain user account with administrative privileges on the hosts you will use to run the installer and perform the upgrade.

- If you are unfamiliar with the `vdmexport.exe` utility, print the instructions for using it from the *View 3 View Manager Administration Guide*. You will use this utility to back up the View LDAP database as part of the upgrade procedure.
- If you do not remember the location of the GPO templates on View Connection Server, see the section about Group Policy Objects in the *View Manager Administration Guide*. You will need to copy these templates as part of the upgrade procedure.

You do not need to make any changes to the configuration of existing load balancers.

Procedure

- 1 Stop the service called VMware View Connection Server service on all View Connection Server instances in the group.

View LDAP database corruption can occur if you upgrade a View Connection Server instance while other instances in the same group are running.

Do not stop the VMwareVDMDS service. The VMwareVDMDS service must be running so that the View LDAP database can be upgraded.
- 2 On the host of the View Connection Server instance that is the standard, or first, server instance in the group, run the installer for the VMware View 4 Connection Server.

The installer determines that an older version is already installed and performs an upgrade. The installer displays fewer installation options than during a fresh installation.

The View LDAP is also upgraded.
- 3 Verify that the VMware View Connection Server service restarts after the installer wizard closes.
- 4 Verify that you can log in to View Connection Server, and click **About** in View Administrator to verify that the new version is being used.
- 5 Click **Configuration** to display the Configuration view, and in the Product Licensing table, click **Edit License** and enter the View Manager license key and click **OK**.
- 6 Verify that you can log in to a View desktop.
- 7 Stop the View Connection Server service again.
- 8 Repeat [Step 1](#) through [Step 7](#) to upgrade each View Connection Server instance in the group.
- 9 After all servers in the group are upgraded, start the View Connection Server service on all of them.
- 10 Use the `vdmexport.exe` utility to back up the newly upgraded View LDAP database.

If you have multiple instances of View Connection Server in a replicated group, you need to export the data from only one instance.
- 11 On one of the upgraded View Connection Server instances, copy the GPO templates and load them into Active Directory.
- 12 Upgrade the security servers that connect to the View Connection Server instances in this group.

Repeat [Step 1](#) through [Step 7](#) for each security server.

View Connection Server instances are upgraded and are backward-compatible with existing View 3.0 or 3.1 View Clients and with desktop sources that have View 3.0 or 3.1 View Agent installed.

What to do next

Upgrade the other View server components. See [“Upgrade View Composer and VirtualCenter,”](#) on page 21.

Upgrade View Composer and VirtualCenter

During the first maintenance window, after you upgrade View Connection Server, you can also upgrade View Composer and VirtualCenter, which are hosted on the same virtual or physical machine.

This procedure outlines the tasks to perform during the first maintenance window and provides cross-references to step-by-step instructions. The steps that pertain to vCenter Server are marked as optional because you are not required to upgrade to vSphere 4.

Prerequisites

- Determine when to perform this procedure. Choose an available desktop maintenance window. For information about how much time is required, see the *vSphere Upgrade Guide*.
- Complete the tasks listed in “Preparing vCenter Server and View Composer for an Upgrade,” on page 16.
- Verify that you have a VMware View 4 license. View 4 uses a new licensing model. The license key has 25 characters. Even if you were not required to purchase an upgrade, you must use a View 4 license key.
- Verify that you have a domain user account with administrative privileges on the hosts you will use to run the installer and perform the upgrade.
- Verify that you have the correct license keys for vSphere if you are upgrading Virtual Infrastructure components to vSphere.

Procedure

- 1 If you use View Composer, upgrade View Composer instances.
 - a On the virtual or physical machines where View Composer is installed, download and run the installer for View Composer 2.0, which is the version included with VMware View 4.
You can download the installer from the VMware Web site.
 - b If you are upgrading from View Composer 1.0, when a prompt asks whether you want the wizard to upgrade the database, respond that you do want the wizard to upgrade the database.
If you are upgrading from View Composer 1.1, no database schema upgrade is required and no prompt appears.
If a dialog box appears with the message "Database upgrade completed with warnings" you can click **OK** and safely ignore the message.
 - c When the wizard prompts for the View Composer port number, verify that the port number is set to **18443**.
The upgrade changes the port number, which was previously **8443**, to **18443** because vCenter Server 4 requires port 8443.
- 2 On the machine that hosts View Connection Server, log in to View Administrator and change the port number used for View Composer.
 - a Edit the configuration for the vCenter Server and change the View Composer port to **18443**.
The port number must match the port number specified during the View Composer upgrade.
 - b Supply the vCenter Server password.
 - c Select the **Enable View Composer** check box and click **OK**.

- 3 If you use View Composer, upgrade the View Agent on a parent virtual machine and create a desktop pool for testing purposes.
 - a Download and run the View 4 View Agent installer on a parent virtual machine.
You can download the installer from the VMware Web site. If the virtual machine is running Windows XP Professional SP 2 or 3, or Windows Vista SP 1 or 2, and you want to use the VMware PCoIP display protocol, select that component when you run the installer.
 - b Create a small linked-clone desktop pool from this virtual machine.
 - c Test a virtual desktop from the desktop pool to verify that all the usage scenarios function properly. For example, create a desktop pool that contains one virtual desktop, and verify that you can use View Client to log in to that desktop.

Do not upgrade View Agent on any other desktop sources at this point.
- 4 (Optional) Upgrade VirtualCenter Server instances to the vSphere 4 Update 1 version of vCenter Server. For instructions, see the *vSphere Upgrade Guide*.
- 5 (Optional) If you are upgrading VirtualCenter Server, after the upgrade is complete, restart the View Composer service.
- 6 Verify that virtual desktops from the test desktop pool work as expected.

View Composer and vCenter Server instances are upgraded and are backward-compatible with existing View 3.0 or 3.1 View Clients and with desktop sources that have the View 4 Agent installed.

What to do next

If you upgraded vCenter Server, perform the post-upgrade tasks described in the *vSphere Upgrade Guide*.

At your next maintenance window, continue with the VMware View upgrade. See [“Upgrade ESX Hosts, Virtual Machines, and View Agents,”](#) on page 22.

Upgrade ESX Hosts, Virtual Machines, and View Agents

Upgrading ESX hosts and virtual machines to vSphere is the most time-consuming aspect of this middle phase of a VMware View upgrade.

This procedure outlines the tasks to perform during the second and subsequent maintenance windows and provides cross-references to step-by-step instructions. The steps that pertain to vCenter Server are marked as optional because you are not required to upgrade to vSphere 4.

Prerequisites

Perform the following preparation tasks:

- Complete the procedure described in [“Upgrade View Composer and VirtualCenter,”](#) on page 21.
- Perform the ESX preparation tasks listed in the *vSphere Upgrade Guide*.
- Verify that you have a VMware View 4 license. View 4 uses a new licensing model. The license key has 25 characters. Even if you were not required to purchase an upgrade, you must use a View 4 license key.
- Verify that you have the correct license keys for vSphere if you are upgrading Virtual Infrastructure components to vSphere.
- Verify that you have a domain user account with administrative privileges on the hosts you will use to run the installer and perform the upgrade.
- Verify that all ESX hosts are members of a cluster. If you want to upgrade a standalone ESX host, place it in a single-host cluster. If the ESX host is not part of a cluster, you might not be able to enable vSphere mode for View Composer.

Procedure

- 1 (Optional) Upgrade ESX hosts to vSphere 4 Update 1, cluster by cluster.

For instructions, see the *vSphere Upgrade Guide*. If you have many clusters, this step could take several maintenance windows to complete. Upgrading ESX hosts includes the following tasks:

- a Use VMotion to move the virtual machines off of the ESX host.
- b Put the ESX host into maintenance mode.
- c Perform the ESX upgrade.
- d Use VMotion to move the virtual machines back onto the ESX host.
- e Perform post-upgrade tasks for ESX hosts.

Every ESX host must be a member of a cluster, as mentioned in the prerequisites.

- 2 (Optional) If an upgraded ESX host does not reconnect itself to vCenter, use vSphere Client to reconnect the ESX host to the vCenter Server.
- 3 After all ESX hosts are upgraded, on the vCenter Server host, restart the View Composer service.
- 4 (Optional) If you use View Composer, turn on vSphere mode.

vSphere uses a new API to achieve performance improvements.

- a Verify that all ESX hosts in a cluster are running vSphere 4 Update 1.
- b Log in to View Connection Server and turn on the desktop pool setting called **Use vSphere mode for View Composer**.

For instructions, see the *View Manager Administration Guide*.

- c Use the parent virtual machine with the View 4 Agent that you created during the View Composer upgrade to create another test desktop pool, and verify that vSphere mode is used.

This new test desktop pool uses the new View Composer API and as a result, does not create a source linked clone from the replica. If you use vCenter Server to watch the virtual machines being created, you see that a replica is created from the parent but not a source-1c virtual machine.

- 5 Upgrade VMware Tools, the virtual hardware, and View Agent on all parent virtual machines, virtual machine templates, and virtual machines that host View server components such as View Connection Server instances.
 - a Plan for down time, as described in the *vSphere Upgrade Guide*.
Each virtual machine must be rebooted three times.
 - b (Optional) Update VMware Tools, and upgrade the virtual machine hardware to version 7.
If you use vSphere Update Manager you can update VMware Tools and then the virtual hardware version in the correct order for all the virtual machines in a particular folder. See the *vSphere Upgrade Guide*.
 - c On parent virtual machines and virtual machine templates, download and run the installer for View Agent 4.
You can download the installer from the VMware Web site. If the virtual machine is running Windows XP Professional SP 2 or 3, or Windows Vista SP 1 or 2, and you want to use the VMware PCoIP display protocol, select that component when you run the View Agent installer.
 - d Take a snapshot of each upgraded parent virtual machine that you use to create linked-clone desktop pools with View Composer.
For nonpersistent pools, you use the new snapshot for creating pools. For persistent pools, you use the new snapshot for recomposing all the virtual machines in the pool.
For instructions on taking snapshots, see the vSphere Client online help.
- 6 (Optional) If you use full-clone desktops, on each virtual machine, upgrade VMware Tools and the virtual hardware to version 7.
If you use vSphere Update Manager you can update VMware Tools and then the virtual hardware version in the correct order for all the virtual machines in a particular folder. See the *vSphere Upgrade Guide*.
- 7 If you use full-clone desktops, upgrade View Agent by using whatever third-party tools you usually use for software upgrades.
If the virtual machine is running Windows XP Professional SP 2 or 3, or Windows Vista SP 1 or 2, and you want to use the VMware PCoIP display protocol, select that component when you run the View Agent installer.
- 8 If you use Windows Terminal Servers or physical or blade PCs as desktop sources, download and run the installer for View Agent 4 on these physical machines.
You can download the installer from the VMware Web site.
- 9 Use a View 3.x client to verify that you can log in to the upgraded View 4 desktop sources with View 3.x client software.

What to do next

Upgrade View Composer desktop pools and View Clients. See [“Upgrade View Composer Desktop Pools,”](#) on page 24.

Upgrade View Composer Desktop Pools

Part of the final phase of a VMware View upgrade includes upgrading View Composer desktop pools.

Prerequisites

- Complete the procedure described in [“Upgrade View Composer and VirtualCenter,”](#) on page 21.
- Complete the procedure described in [“Upgrade ESX Hosts, Virtual Machines, and View Agents,”](#) on page 22.

- Verify that you have a domain user account with administrative privileges on the hosts you will use to run the installer and perform the upgrade.
- If you use View Composer, plan maintenance windows carefully so that recreating and recomposing desktop pools will not overwhelm the storage array and ESX hosts.

Procedure

- 1 If you want to use the VMware PCoIP display protocol, change desktop pool settings to use PCoIP.
- 2 Use the snapshot you created after upgrading the parent virtual machine to recreate or recompose desktop pools.

Pool Type	Action
Nonpersistent pools	Delete View 3.x virtual desktops from the pool and recreate the desktop pool.
Persistent pools	Recompose the desktop pool.

- 3 If you disabled provisioning of new virtual machines in preparation for the upgrade, enable provisioning again.
- 4 If you changed the **Refresh OS disk on logoff** setting for a pool to **Never** in preparation for the upgrade, change the setting back to reflect the desired refresh policy.
- 5 If you canceled any refresh or recompose operations for any desktop pools, schedule the tasks again.

What to do next

Upgrade View Clients, including native Windows, View Portal, and thin clients. See [“Upgrade View Clients,”](#) on page 25.

Upgrade View Clients

The final phase of a VMware View upgrade includes upgrading View Clients and upgrading the firmware on thin client devices if you use them.

Prerequisites

- Complete the procedure described in [“Upgrade View Connection Servers in a Replicated Group,”](#) on page 19.
- Complete the procedure described in [“Upgrade ESX Hosts, Virtual Machines, and View Agents,”](#) on page 22.
- Verify that you have a domain user account with administrative privileges on the hosts you will use to run the installer and perform the upgrade.
- Complete the procedure described in [“Upgrade View Composer Desktop Pools,”](#) on page 24.
- Verify that client systems have a supported operating system and, if you plan to use the PCoIP display protocol, verify that clients meet the additional hardware requirements. See [“View Client Requirements,”](#) on page 12.

Procedure

- 1 If you want to use the VMware PCoIP display protocol, log in to View Administrator and change desktop pool settings to use PCoIP.
- 2 Upgrade View Clients.

Client Type	Action
Native client	Download and send the View 4 Client to your end users or post it on a Web site and ask end users to download the installer and run it.
View Portal	Let your end users know that the next time they connect to the View Portal, they will be prompted to download and run the new client installer.
Thin client	Upgrade the thin client firmware and install the new View Client on end users' client devices.

For the native client and thin client, you can download the View Client installer from the VMware Web site.

- 3 Have end users verify that they can log in and connect to their View desktops.

The upgrade process for your View 4 deployment is complete.

Upgrading vSphere Components Separately

5

If you upgrade vSphere components separately from View components, you must back up some View data and re-install some View software.

Instead of performing an integrated upgrade of VMware View and vSphere components, you might choose to first upgrade all View components and then upgrade vSphere components, or the reverse. You might also upgrade only vSphere components when a new version or update of vSphere is released.

When you upgrade vSphere components separately from View components, in addition to following the instructions in the *vSphere Upgrade Guide*, you must perform the following tasks:

- 1 Before you upgrade vCenter Server, back up the VirtualCenter database and the View Composer database.
- 2 Before you upgrade vCenter Server, back up the View LDAP database from a View Connection Server instance by using the `vdmexport.exe` utility.

For instructions, see the *View Manager Administration Guide*. If you have multiple instances of View Connection Server in a replicated group, you need to export the data from only one instance.

- 3 After you upgrade VMware Tools in virtual machines that are used as View desktops, reinstall View Agent.

Reinstalling View Agent guarantees that the drivers in the virtual machine will remain compatible with the other View components.

IMPORTANT Although vCenter Server is supported on 64-bit operating systems, View Composer is not. View Composer is supported on the 32-bit version of either Windows Server 2003 Service Pack 2 or Windows XP Professional Service Pack 2.

Index

A

Active Directory, supported versions **10**

B

backward compatibility **7**

blade PCs **22**

browser requirements **12**

C

cluster upgrades **22**

compatibility matrix for View components **7**

D

database backups **16**

database compatibility **16**

desktop pools upgrade procedure **24**

E

ESX host upgrade procedure **22**

F

Firefox, supported versions **12**

firmware upgrades for thin clients **25**

forward compatibility **7**

G

GPO templates **19**

I

Internet Explorer, supported versions **12**

L

LDAP **15**

LDAP upgrade **19**

linked-clone desktop pools **22**

load balancers **15**

M

maintenance window **19**

Microsoft SQL Server databases **11**

N

nonpersistent desktop pools **24**

O

Oracle databases **11**

P

persistent desktop pools **24**

physical PCs **22**

port change for View Composer **21**

R

RSA Authentication Manager **10**

S

services

VMware View Connection Server **19**

VMwareVDMDS **19**

SQL Server databases **11**

SSL certificate backups **16**

system requirements for VMware View
upgrades **9**

T

thin clients **25**

V

vCenter Server, upgrade preparation tasks **27**

vCenter Server, upgrade preparation tasks **15,**
16

vdmexport.exe utility **15, 19**

View Administrator, requirements **12**

View Agent, installation requirements **13**

View Agent upgrade procedure **22, 27**

View Client, supported operating systems **12**

View Client upgrade procedure **25**

View Client with Offline Desktop **12**

View Composer

database requirements **11**

description of **11**

installation requirements **11**

upgrade procedure **21**

View Composer, upgrade preparation tasks **15,**
16

View Connection Server

additional software requirements **10**

hardware requirements **9**

purpose of **9**

supported operating systems **10**

upgrade procedure **19**

upgrade requirements **10**

View Connection Server, upgrade preparation tasks **15**
View Connection Server, upgrade preparation tasks **15**
View LDAP **15**
View LDAP upgrade **19**
View Portal **25**
virtual hardware upgrade procedure **22**
virtual machine upgrade procedure **22**
VirtualCenter upgrade procedure **21**
VMotion **22**

VMware Tools upgrade procedure **22, 27**
VMwareVDMDS service **19**
vSphere, required version **10**
vSphere components, upgrading separately **27**
vSphere mode for View Composer **22**
vSphere Update Manager **22**

W

Web browser requirements **12**
Windows Terminal Servers **22**