



Opsware[®] System 4.6 Upgrade Guide

Corporate Headquarters

599 North Mathilda Avenue Sunnyvale, California 94085 U.S.A.
T + 1 408.744.7300 F +1 408.744.7383 www.opsware.com

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Opsware System 4.6 Upgrade

IN THIS DOCUMENT

This document describes how to perform the following tasks:

- Upgrade a standalone Opsware System core from 4.5 to 4.6
- Upgrade cores in a multimaster mesh from Opsware System 4.5 to 4.6

For information about how to install Opsware System 4.6, see the *Opsware System 4.6 Installation Guide*.

For information about how to upgrade Opsware Agents to Opsware System 4.6, see the *Opsware System 4.6 User's Guide*, Appendix B.

About Running the Opsware Installer Upgrade Script

To upgrade components in a core, you run the Opsware Installer upgrade script by entering one of the following commands.

When upgrading using CD-ROM media:

```
/disk_001/opsware_installer/upgrade_opsware.sh -r  
full_path_to_response_file>
```

When upgrading using DVD media:

```
/opsware_installer/upgrade_opsware.sh -r  
full_path_to_response_file>
```

You must provide the full path to the response file.

Mount the Opsware System software on all core servers by mounting the CD or DVD or NFS-mount a directory that contains the Opsware System software distribution contents.

The Opsware Installer must have root read access to the directories from where it installs Opsware components, even NFS-mounted network appliances.

The Opsware upgrade script displays a list of components that you can choose to upgrade. The list only contains components that have been installed on the server where you are running the script.

Preparing for a Standalone Core Upgrade

Before you upgrade an Opsware standalone core, perform the following tasks:

- Obtain the response files that were created when you installed the Opsware System 4.5 standalone core.

By default, the Opsware Installer saves the response file in the following directory on the servers where you installed the Opsware System components:

```
/var/lc/install_opsware/resp/resp.timestamp>
```

By looking at the timestamp, choose the latest version of the response file.

- For the Opsware Patch Management Subsystem, upgrade the Microsoft utilities `mssecure.cab` and `mbsacli.exe` to version 1.2.1 or the latest version by performing the following steps:
 1. Go to Microsoft's Web site and download the 1.2.1 or the latest version of `mbsacli.exe` and the latest version of `mssecure.cab`. Have these files on hand prior to the upgrade, and ready to supply to the upgrade process, but do not upload them prior to the upgrade.



Older versions of the `mssecure.cab` and `mbsacli.exe` utilities will not work, and the upgrade process will fail.

Obtain the `mssecure.cab` file at the following web site:

```
http://go.microsoft.com/fwlink/?LinkId=18922
```

Obtain the `mbsacli.exe` file at the following web site:

```
http://www.microsoft.com/downloads/  
details.aspx?FamilyID=b13ebd6b-e258-4625-b0a3-  
64a4879f7798&DisplayLang=en
```

-
2. On the server where the Software Repository is installed, put the latest versions of the `mssecure.cab` and `mbsaccli.exe` utilities in the directories specified in the Opsware System 4.5 response file. Also, make sure that the `qchain.exe` utility is in the directory specified in the response file.

In the response file, the following parameters contain the paths for these utilities:

- The parameter `word_windows_mssecure_file` specifies the path for the `mssecure.cab` utility.
 - The parameter `word_windows_qchain_util` specifies the path for the `qchain.exe` utility.
 - The parameter `word_windows_hfnetchk_util` specifies the path for the `mbsaccli.exe` utility.
- If you have configured any Opsware OS Provisioning networks by using the Opsware DHCP Network Configuration Tool, save the `/opt/OPSWdhcpd/etc/dhcpd.conf` file. In each core, save the file from the server where you installed the OS Provisioning Boot Server.

The upgrade can affect the DHCP configuration in the core. After you save the file, verify that the file contains the customizations that you made. At the end of the upgrade, you will replace the `dhcpd.conf` file in the upgraded core with this file that you have saved.

- Have a database administrator make the following change to the Oracle database settings. Installing Oracle was a prerequisite for installing an Opsware core in a facility. See the *Opsware System 4.6 Installation Guide*, Chapter 3 for more information about the prerequisite Oracle configuration.

1. On the server running the Opsware Model Repository (truth), log in to the server as oracle.
2. Connect to Oracle as sysdba.
3. Execute the following grant statements:

```
grant restricted session to opsware_admin with admin
option;
```

4. Restart the Oracle instance.
- Opsware System 4.6 includes Help for the Opsware Command Center (the Opsware Documentation component).

Requirements for installing the Opsware Documentation component:

- To install the Help, install it in the core before you upgrade the Opware Command Center.
- You must install the Opware Documentation component on the server where you installed the Opware Command Center component.

(If you install the documentation after upgrading the Opware Command Center, you must restart the Opware Command Center component.)

For the information about how to install the Help, see the topic “Installing a Standalone Core” in Chapter 5 in the *Opware System 4.6 Installation Guide*.

Upgrading a Standalone Core

To upgrade a standalone core from Opware System 4.5 to 4.6, perform the following steps:

- 1** In the core, stop the processes for all Data Access Engines and the Web Services Data Access Engine by entering the following commands as root:
 - On the servers where a Data Access Engine is installed:

```
/etc/init.d/spin stop
```
 - On the server where the Opware Command Center is installed:

```
/etc/init.d/twist stop
```

```
/etc/init.d/spin stop
```
- 2** Stop DCI in the core by performing these steps:
 1. Log on to the DCI server.
 2. From the Start ► Control Panel ► Administrative Tools ► Services, right click on Crystal Report Application Server and select Stop.
 3. Right click on World Wide Web Publishing Service and select Stop.
- 3** On the server running the Opware Model Repository (truth), upgrade the Model Repository. Start the Opware Installer upgrade script and select the Model Repository component.

See “About Running the Opware Installer Upgrade Script” on page 1 for the commands to run the Opware Installer upgrade script.

While you upgrade the Model Repository, you might be prompted to confirm the Opware System configuration values. See “Details: Upgrading the Model Repository” on page 15.

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- 4** On each server running a Data Access Engine (spin), upgrade the Data Access Engine. Start the Opsware Installer upgrade script and select the Data Access Engine component.

See “About Running the Opsware Installer Upgrade Script” on page 1 for the commands to run the Opsware Installer upgrade script.

- 5** Upgrade the rest of the components in the core. You must upgrade each component separately by running a separate invocation of the Opsware Installer upgrade script that you used. You must upgrade the Opsware components in the core in the following order:

1. Access & Authentication Directory (cast)



The Opsware Installer does not preserve any customizations made to the configuration files for the Access & Authentication Directory. If you have made changes to these files, which are located in `/cust/usr/netscape/server4/slaped-cast/config`, you will need to apply those changes again after the upgrade is complete.

2. Command Engine (way)
3. Software Repository (word)
4. Opsware Command Center (occ)
5. OS Provisioning Build Scripts
6. OS Provisioning Boot Server
7. OS Provisioning Media Server

- 6** On the server where the OS Provisioning Boot Server is running, restart dhcp by entering the following command:

```
/etc/init.d/dhcpd stop  
  
/etc/init.d/dhcpd start
```

- 7** Start DCI in the core by performing these steps:

1. Log on to the DCI server.
2. From the Start ► Control Panel ► Administrative tools ► Services, right click on Crystal Report Application Server and select Start.
3. Right click on World Wide Web Publishing Service and select Start.

- 8 On the server running the Data Access Engine, restart the Data Access Engine by entering the following command as root:

```
/etc/init.d/spin stop  
  
/etc/init.d/spin start
```



If you upgrade the Software Repository more than an hour after upgrading the Data Access Engine, you will need to restart the Data Access Engine. If you do *not* restart the Data Access Engine at this point, you will encounter an error when running the Opsware System Diagnosis tool (as directed by step 10 in this procedure). The error will resolve itself when a Communication Test runs.

- 9 On the server where you installed the OS Provisioning Boot Server, replace the `dhcpd.conf` file that you copied during the upgrade preparation steps.
- 10 Verify that the Opsware System core upgraded successfully. Log in to the Opsware Command Center as an Opsware administrator and run the System Diagnosis tool on the core.

See the *Opsware System 4.6 Administration Guide*, Chapter 3 “Opsware System Health” for information about running the System Diagnosis tool.

Overview for Upgrading Cores in a Multimaster Mesh

When upgrading the cores in your Opsware System from 4.5 to 4.6, you can upgrade one core at a time (also referred to as a “rolling upgrade”). Specifically, you do not have to shut down all the cores, upgrade each core, then restart each core. When upgrading a core, the other cores in the mesh should function normally.

A rolling upgrade on the cores in a multimaster mesh is accomplished in three phases:

- 1 Upgrade the schema in all destination cores.
- 2 Upgrade the schema and data, and the rest of the components in the source core (data changes are replicated automatically to other Model Repositories in the mesh).
- 3 Upgrade the rest of the components in the destination cores.



During the upgrade, the multimaster mesh won't be fully functional (you won't be able to run Command Engine scripts) for a few minutes between the time you upgrade the Model Repository and the Data Access Engine in the source core.

Preparing for Multimaster Mesh Upgrades

For each core in your multimaster mesh, perform the following pre-upgrade tasks:

- Obtain the response files that were created when you installed the Opsware System 4.5 cores.

By default, the Opsware Installer saves the response file in the following directory on the servers where you installed the Opsware System components:

```
/var/lc/install_opsware/resp/resp.<timestamp>
```

- For the Opsware Patch Management Subsystem, upgrade the Microsoft utilities `mssecure.cab` and `mbsaccli.exe` to version 1.2.1 or the latest version by performing the following steps:
 1. Go to Microsoft's Web site and download the 1.2.1 or the latest version of `mbsaccli.exe` and the latest version of `mssecure.cab`. Have these files on hand prior to the upgrade, and ready to supply to the upgrade process, but do not upload them prior to the upgrade.



Older versions of the `mssecure.cab` and `mbsaccli.exe` utilities will not work, and the upgrade process will fail.

Obtain the `mssecure.cab` file at the following web site:

```
http://go.microsoft.com/fwlink/?LinkId=18922
```

Obtain the `mbsaccli.exe` file at the following web site:

```
http://www.microsoft.com/downloads/details.aspx?FamilyID=b13ebd6b-e258-4625-b0a3-64a4879f7798&DisplayLang=en
```

2. On the server where the Software Repository is installed, put the latest versions of the `mssecure.cab` and `mbsaccli.exe` utilities in the directories specified in the Opsware System 4.5 response file. Also, make sure that the `qchain.exe` utility is in the directory specified in the response file.

In the response file, the following parameters contain the paths for these utilities:

- The parameter `word_windows_mssecure_file` specifies the path for the `mssecure.cab` utility.
 - The parameter `word_windows_qchain_util` specifies the path for the `qchain.exe` utility.
 - The parameter `word_windows_hfnetchk_util` specifies the path for the `mbsacli.exe` utility.
- If you have configured any Opsware OS Provisioning networks by using the Opsware DHCP Network Configuration Tool, save the `/opt/OPSWdhcpd/etc/dhcpd.conf` file. In each core, save the file from the server where you installed the OS Provisioning Boot Server.

The upgrade can affect the DHCP configuration in the core. After you save the file, verify that the file contains the customizations that you made. At the end of the upgrade, you will replace the `dhcpd.conf` file in the upgraded core with this file that you have saved.

- Have a database administrator make the following change to the Oracle database settings. Installing Oracle was a prerequisite for installing an Opsware core in a facility. See the *Opsware System 4.6 Installation Guide*, Chapter 3 for more information about the prerequisite Oracle configuration.
 1. On the server running the Opsware Model Repository (truth), log in to the server as oracle.
 2. Connect to Oracle as sysdba.
 3. Execute the following grant statements:

```
grant restricted session to opsware_admin with admin
option;
```
 4. Restart the Oracle instance.
- Opsware System 4.6 includes Help for the Opsware Command Center (the Opsware Documentation component).

Requirements for installing the Opsware Documentation component:

- To install the Help, install it in each core in the multimaster mesh before you upgrade the Opsware Command Center in that core.

-
- You must install the Opsware Documentation component on the server in each core where you installed the Opsware Command Center component.

(If you install the documentation after upgrading the Opsware Command Center, you must restart the Opsware Command Center component.)

For the information about how to install the Help, see the topic “Steps for Creating a Mesh and Installing a Second Core” in Chapter 8 in the *Opsware System 4.6 Installation Guide*.

- Log in to the Opsware Command Center as an Opsware administrator and check for and resolve multimaster conflicts by using the Multimaster Tools. You cannot proceed with an upgrade of a core in a multimaster mesh if multimaster conflicts are present in the mesh.

If the mesh contains conflicts, the Opsware Installer will halt the upgrade and display a message similar to this message:

```
[INFO] Performing validation checks.
```

```
java.lang.Exception: There are 1 conflicting transactions in this database which must be resolved before the database can be upgraded.
```

```
[ERROR] Aborting.
```

Upgrading the Cores in a Multimaster Mesh

These upgrade instructions direct you to upgrade the destination cores in your multimaster mesh first; and then, upgrade the source core in the multimaster mesh.

In a multimaster mesh, the source core is the first core that you installed, which has the first Model Repository installed. Destination cores are the second, third, and fourth, etc. cores that you installed in the mesh.

- 1** In **each destination core** in your multimaster mesh, perform the following steps to upgrade the Model Repository schema in that core:
 1. Stop the Data Access Engines (spins), Web Services Data Access Engine (twist), and the Multimaster Infrastructure Component (vault). If the Software Repository is running on the same server as the Model Repository, stop the Software Repository Multimaster Components (mmword). Enter these commands as root:
 - On the servers where a Data Access Engine is installed:

```
/etc/init.d/spin stop
```
 - On the server where the Opsware Command Center is installed:

```
/etc/init.d/twist stop
```

```
/etc/init.d/spin stop
```

On the server where the Model Repository is installed:

```
/etc/init.d/vaultdaemon stop
```

- On the server where the Software Repository is installed:

```
/etc/init.d/mmworddaemon stop
```

2. If DCI is installed in the destination core, stop DCI by performing these steps:

- a. Log on to the DCI server.

- b. From the Start ► Control Panel ► Administrative tools ► Services, right click on Crystal Report Application Server and select Stop.

- c. Right click on World Wide Web Publishing Service and select Stop.

3. On the server running the Opsware Model Repository (truth), upgrade the Model Repository (truth slave), Consumer Multimaster component. Start the Opsware Installer upgrade script and select the Model Repository (truth), Multimaster Additions component.

See “About Running the Opsware Installer Upgrade Script” on page 1 for the commands to run the Opsware Installer upgrade script.

When you perform this step, the Opsware Installer upgrades the Model Repository database schema to Opsware System 4.6.

4. Start the Data Access Engines (spin). On the servers where a Data Access Engine is installed and on the server where the Opsware Command Center is installed:

```
/etc/init.d/spin start
```

5. On the server running the Model Repository, upgrade the Multimaster Infrastructure Component (vault). Start the Opsware Installer upgrade script and select the Multimaster Infrastructure Component.

See “About Running the Opsware Installer Upgrade Script” on page 1 for the commands to run the Opsware Installer upgrade script.

6. If they were stopped, start the Web Services Data Access Engine and Software Repository Multimaster Component. On the server where the OCC is installed, enter this command:

```
/etc/init.d/twist start
```

On the server where the Software Repository is installed, enter this command:

```
/etc/init.d/mmworddaemon start
```

2 Upgrade the **source** core in the multimaster mesh by performing these steps:

1. Stop the Data Access Engines (spins), Web Services Data Access Engine (twist), and the Multimaster Infrastructure Component (vault). If the Software Repository is running on the same server as the Model Repository, stop the Software Repository Multimaster Components (mmword). Enter these commands as root:

- On the servers where a Data Access Engine is installed:

```
/etc/init.d/spin stop
```

- On the server where the Opware Command Center is installed:

```
/etc/init.d/twist stop
```

```
/etc/init.d/spin stop
```

On the server where the Model Repository is installed:

```
/etc/init.d/vaultdaemon stop
```

- On the server where the Software Repository is installed:

```
/etc/init.d/mmworddaemon stop
```

2. If DCI is installed in the destination core, stop DCI by performing these steps:

- a. Log on to the DCI server.

- b. From the Start ► Control Panel ► Administrative tools ► Services, right click on Crystal Report Application Server and select Stop.

- c. Right click on World Wide Web Publishing Service and select Stop.

3. On the server running the Opware Model Repository (truth), upgrade the Model Repository (truth), Multimaster Additions. Start the Opware Installer upgrade script and select the Model Repository (truth), Multimaster Additions component.

See “About Running the Opware Installer Upgrade Script” on page 1 for the commands to run the Opware Installer upgrade script.

While you upgrade the Model Repository, you might be prompted to confirm the Opware System configuration values. See “Details: Upgrading the Model Repository” on page 15.

When you perform this step, the Opware Installer upgrades the Model Repository database schema and data to Opware System 4.6.

4. On the servers running the Data Access Engine, upgrade the Data Access Engine (spin). Start the Opsware Installer upgrade script and select the Data Access Engine (spin), Multimaster Component.
5. On the server running the Command Engine, upgrade the Command Engine (way). Start the Opsware Installer upgrade script and select the Command Engine (way), Multimaster Component.
6. On the server running the Model Repository, upgrade the Multimaster Infrastructure Component (vault). Start the Opsware Installer upgrade script and select the Multimaster Infrastructure Component.
7. In the **source** core, upgrade the rest of the components. You must upgrade each component separately by running a separate invocation of the Opsware Installer upgrade script. The Opsware Installer upgrade script displays a list of components that you can choose to upgrade. The list only contains components that have actually been installed on the server where you are running the script.

You must upgrade the Opsware components in the core in the following order:

1. Access & Authentication Directory (cast)



The Opsware Installer does not preserve any customizations made to the configuration files for the Access & Authentication Directory. If you have made changes to these files, which are located in `/cust/usr/netscape/server4/slappd-cast/config`, you will need to apply those changes again after the upgrade is complete.

2. Software Repository (word), Multimaster Component
3. Opsware Command Center (occ), Multimaster Component
4. OS Provisioning Build Scripts
5. OS Provisioning Boot Server
6. OS Provisioning Media Server

- 3** In *each destination* core, upgrade the rest of the components. You must upgrade each component separately by running a separate invocation of the Opsware Installer upgrade script. The Opsware Installer upgrade script displays a list of components that you can choose to upgrade. The list only contains components that have actually been installed on the server where you are running the script.

You must upgrade the Opsware components in the core in the following order:

1. Data Access Engine (spin), Multimaster Component
2. Command Engine (way), Multimaster Component
3. Access & Authentication Directory (cast)



The mesh might have only one Access & Authentication Directory. If it has already been upgraded to Opsware System 4.6, you do not need to upgrade it again.



Before you upgrade the Software Repository, stop the Software Repository Replicator by entering the following command on the server where the Software Repository is installed:

```
/etc/init.d/replicator stop
```

4. Software Repository (word), Multimaster Component

After upgrading the Software Repository, restart the Software Repository Replicator by entering the following command:

```
/etc/init.d/replicator start
```

5. Opsware Command Center (occ), Multimaster Component
6. OS Provisioning Build Scripts
7. OS Provisioning Boot Server
8. OS Provisioning Media Server



Do *not* upgrade components at the same time in different cores (especially the Software Repository and the Command Engine), because the same data might end up modified at the same time in different cores causing multimaster conflicts.

- 4** In every core you upgrade, the server where the OS Provisioning Boot Server is running, restart dhcp by entering the following commands:

```
/etc/init.d/dhcpd stop
```

```
/etc/init.d/dhcpd start
```

- 5** In each core where DCI is installed, start DCI by performing these steps:
 1. Log on to the DCI server.
 2. From the Start ► Control Panel ► Administrative tools ► Services, right click on Crystal Report Application Server and select Start.
 3. Right click on World Wide Web Publishing Service and select Start.
- 6** On the server running the Data Access Engine, restart the Data Access Engine by entering the following commands as root:

```
/etc/init.d/spin stop  
  
/etc/init.d/spin start
```



If you upgrade the Software Repository more than an hour after upgrading the Data Access Engine, you will need to restart the Data Access Engine. If you do *not* restart the Data Access Engine at this point, you will encounter an error when running the Opware System Diagnosis tool (as directed by step 9 in this procedure). The error will resolve itself when a Communication Test runs.

- 7** In each core on the server where you installed the OS Provisioning Boot Server, replace the `dhcpd.conf` file that you copied during the upgrade preparation steps.
- 8** Verify that the Opware System core upgraded successfully. Log in to the Opware Command Center as an Opware administrator and run the System Diagnosis tool on the core.

See the *Opware System 4.6 Administration Guide*, Chapter 3 “Opware System Health” for information about running the System Diagnosis tool.

- 9** Verify that the multimaster mesh is functioning properly after the upgrade. Log in to the Opware Command Center as the admin user, open the Multimaster Tools page (click Administration ► Multimaster Tools in the navigation panel).

See the *Opware System 4.6 Administration Guide*, Chapter 2 “Opware System Administration” for information about running the Multimaster Tools.

Details: Upgrading the Model Repository

During the Model Repository upgrade, you will receive prompts and messages about any system configuration values that were changed in the Opsware System core. Review the changes and select the correct value. In most cases, you should select the recommended action.

For example, if you changed the value for the Opsware Support email address in the Help page (as documented in the *Opsware System 4.6 Installation Guide*), the following message and prompt appears while running the Opsware Installer upgrade script:

```
[INFO] Upgrading Opsware Configuration stored in the Model
Repository.
```

```
2/3) occ owm.name.opswareadministratoremail:
```

```
Deployed value: helpdesk@xyz.com (has been changed since
original installation)
```

```
New value: support@opsware.com
```

```
Action: Keep old value (recommended)
```

```
Enter 't' to toggle behavior or 'c' to continue. c
```

```
Summary of changes to be made:
```

```
1) occ owm.name.opswareadministratoremail: Leave as
helpdesk@xyz.com.
```

```
Enter 'b' to go back or 'c' to continue with the above
action(s). c
```

```
[INFO] Successfully upgraded Opsware configuration.
```

