OPSWARE INC
Automating IT™

Opsware® System 4.5 Upgrade Guide

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This document describes how to perform the following tasks:

- Upgrade a standalone Opsware System core from 4.0.2 to 4.5

- Upgrade cores in a multimaster mesh from Opsware System 4.0.2 to 4.5

For information about how to install Opsware System 4.5, see the *Opsware System 4.5 Installation Guide*.

For information about how to upgrade Opsware Agents to Opsware System 4.5, see the *Opsware System 4.5 User's Guide*, Appendix B.

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 4.0.2 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 by performing the following steps:

  1. Go to Microsoft's Web site and download the 1.2 versions of `mssecure.cab` and `mbsacli.exe`. 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://download.microsoft.com/download/d/7/5/d757ff81-`
`4f97-4a6d-a9d8-edea72363aa8/MBSASetup-en.msi`

2. On the server where the Software Repository is installed, put version 1.2 of the `mssecure.cab` and `mbsacli.exe` utilities in the directories specified in the Opsware System 4.0.2 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/OPSHdhcpd/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.

- For each Solaris 5.8 server running an Opsware component, upgrade the following RPM:

1. If upgrading the Opsware System from CD-ROM, log on to the server and run this command:

```
/lc/bin/rpm -U --nodeps distro_location>/disk001/packages/
SunOS/rpm-3.0.6-LC~1.sparc64.rpm
```

If upgrading the Opsware System from DVD, log on to the server and run this command:

```
/lc/bin/rpm -U distro_location>/packages/SunOS/rpm-3.0.6-
LC~1.sparc64.rpm
```

2. Edit `/var/lc/install_opsware/inv/install.inv` on the server.

   Replace the line:

   ```
   package: rpm-3.0.6-LC~0.sparc64.rpm, rpm,
   ```

   with

   ```
   package: rpm-3.0.6-LC~1.sparc64.rpm, rpm,
   ```

- Have a database administrator make the following changes to the Oracle database settings. Installing Oracle was a prerequisite for installing an Opsware core in a facility. See the *Opsware System 4.5 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 alter system to opsware_admin;

      grant create profile to opsware_admin;

      grant alter profile to opsware_admin;

      grant drop profile to opsware_admin;
      ```

   4. To update the init parameters for sort order, add the following parameter to the `init.ora` file:

      ```
      nls_sort=punctuation
      ```

   5. Restart the Oracle instance.

Upgrading a Standalone Core

To upgrade a standalone core from Opsware System 4.0.2 to 4.5, 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 Opsware 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 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.

4 On the server running the Opsware Model Repository (truth), start the Opsware Installer upgrade script by entering the following command.

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.

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.

5 From the list, select the Model Repository component to upgrade.

While you upgrade the Model Repository, you might be prompted to confirm the Opsware System configuration values. See "Details: Upgrading the Model Repository" on page 17.

6 Upgrade each instance of the Data Access Engine (spin) running in the core by performing these tasks:

1. On each server running a Data Access Engine (spin), start the Opsware Installer upgrade script by entering the following command.

   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.

2. From the list, select the Data Access Engine component to upgrade.

7 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 in step 4 and step 6. You must upgrade the Opsware components in the core in the following order:

1. Access & Authentication Directory (cast)

The Ospware 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/slapd-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)

   When you upgrade the Opsware Command Center, you are prompted to provide passwords for the WS API users, as follows:

```
--> ERROR: 2 parameter(s) have not been specified or are
invalid.

Resuming interview for these parameters.

Parameter 1 of 2 (parameter wsAPIWriteUser.psswd) is
missing or invalid -

Please enter password for WSAPI Write user:

Parameter 2 of 2 (parameter wsAPIReadUser.psswd) is
missing or invalid -

Please enter password for WSAPI Read user:
```

These passwords are required for the Opsware WS APIs. The passwords cannot contain forward slashes (/).

5. OS Provisioning Build Scripts

6. OS Provisioning Boot Server

7. OS Provisioning Media Server

8 On the server where the OS Provisioning Boot Server is running, start dhcp by entering the following command:

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

9 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.

10 On the server running a Data Access Engine, run the following script from the `/cust/usr/blackshadow/spin/util` directory:

```
/lc/bin/python migrate_dvc_lock.pyc
```

(When running the script, you can enter the `-n` option first to preview the changes before you commit them to the database.)

The script populates in the Model Repository the server-locking columns for managed servers.

11 On the server running the Software Repository, run the following script to attach packages to the realm:

```
env PYTHONPATH=/opt/OPSW/blackshadow:/lc/blackshadow:/cust/
usr/blackshadow /lc/bin/python /cust/usr/blackshadow/mm_
wordbot/util/cksum_packages.pyc -F facility_id> /cust/word/
mmword_local
```

12 On the server running the Command Engine, run the following script:

```
/cust/usr/blackshadow/waybot/migrate/grant_spin_role_
perms.py
```

Running this script gives the spin user permission to run Command Engine scripts that perform Communication Tests (Communication Tests check the status of the Opsware Agents running on managed servers).

13 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 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 17 in this procedure). The error will resolve itself when a Communication Test runs.

14 Perform the following post-upgrade steps for the Code Deployment Subsystem:

1. In the Opsware System 4.5 installation media, locate the following file:

   ```
   /disk001/packages/migration-<version>.tar.gz
   ```

2. Copy the file to the server running a Data Access Engine. If the core has multiple Data Access Engines installed, run script on the Data Access Engine that the Opsware System resolves to `spin.<subdomain>`.

   See the *Opsware System 4.5 Installation Guide*, "Component Name Resolution Requirements in Chapter 3.

3. As root, unpack the archive (`zcat file | tar xf`).

   Unpacking the archive creates a directory named `migration`.

4. On the server running the Data Access Engine, enter the following command:

   ```
   cd migration sh ./migrate-cds-roles.sh
   ```

5. When prompted, enter the directory manager password for the Access & Authentication Directory (cast).

   The script continues to run and provides feedback as it runs.

15 Re-import the Red Hat Linux AS 2.1 OS media.

See "OS Media Management" in Chapter 3 in the *Opsware System 4.5 User's Guide* for the commands to import OS media.

16 On the server where you installed the OS Provisioning Boot Server, replace the `dhcpd.conf` file that you copied during the upgrade preparation steps.

17 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 4.5 Administration Guide*, Chapter 3 "Opsware System Health" for information about running the System Diagnosis tool.

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 4.0.2 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 `mbsacli.exe` to version 1.2 by performing the following steps:

  1. Go to Microsoft's Web site and download the 1.2 versions of `mssecure.cab` and `mbsacli.exe`. 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://download.microsoft.com/download/d/7/5/d757ff81-4f97-4a6d-a9d8-edea72363aa8/MBSASetup-en.msi`

2. On the server where the Software Repository is installed, put version 1.2 of the `mssecure.cab` and `mbsacli.exe` utilities in the directories specified in the Opsware System 4.0.2 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/OPSHdhcpd/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.

• For each Solaris 5.8 server running an Opsware component, upgrade the RPM:

1. Log on to the server and run this command:

`/lc/bin/rpm -U --nodeps <distro_location>/disk001/packages/SunOS/rpm-3.0.6-LC~1.sparc64.rpm`

2. Edit `/var/lc/install_opsware/inv/install.inv` on the server.

Replace the line:

```
package: rpm-3.0.6-LC~0.sparc64.rpm, rpm,
```

with

```
package: rpm-3.0.6-LC~1.sparc64.rpm, rpm,
```

- Have a database administrator make the following changes to the Oracle database settings. Installing Oracle was a prerequisite for installing an Opsware core in a facility. See the *Opsware System 4.5 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 alter system to opsware_admin;

    grant create profile to opsware_admin;

    grant alter profile to opsware_admin;

    grant drop profile to opsware_admin;
    ```

    4. To update the init parameters for sort order, add the following parameter to the `init.ora` file:

    ```
    nls_sort=punctuation
    ```

    5. Restart the Oracle instance.

- 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

When you upgrade any cores in a multimaster mesh, you must always upgrade the source core first. In a multimaster mesh, the source core is the first core that you installed, which has the first Model Repository installed.

The source core is the first Opsware System core that you upgrade. The data contained in the Model Repository from this core is copied to subsequent cores that you integrate into your multimaster mesh.

1 In each core, wait for all multimaster transactions to be published. On the server running the Model Repository, tail the file `/var/lc/vault/log`.

If the log contains successive entries `QUERIED THE DATABASE` and does not contain recent `SENDING TRANSACTION` entries, the transactions from the upgrade procedure have been published.

2 In all cores, stop the Data Access Engines (spins), Web Services Data Access Engines (twists), and the Model Repository Multimaster Components (vaults). If the Software Repository is running on the same server as the Model Repository, stop the Software Repository Multimaster Components (mmword).

In *all* cores, 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`

3 In each core where DCI is installed, stop 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 Stop.

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

4 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.

5 In the source core, upgrade the Model Repository by performing these tasks:

1. On the server running the Model Repository, start the Opsware Installer upgrade script by entering the following command:

   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.

2. Upgrade the Model Repository (truth), Multimaster Additions.

   When you perform this step, the Opsware Installer upgrades the Model Repository database schema and data to Opsware System 4.5. Upgrades to the data in the Model Repository will be replicated automatically to other Model Repositories in the mesh.

   While upgrading the Model Repository, you might be prompted to confirm Opsware System configuration values. See "Details: Upgrading the Model Repository" on page 17.

6 In *each* destination core, upgrade the Model Repository by performing the tasks you used in step 5.

7 In each core (source and destination cores), start the Model Repository Multimaster Components (vaults). On the server where the Model Repository is installed, enter this command:

```
/etc/init.d/vaultdaemon start
```

At this point in the upgrade process, all the data changes that were introduced by upgrading the Model Repository in the source core should be replicating to the destination cores.

8 Wait for and determine that all Model Repository upgrades have replicated to all cores in the mesh. In each core on the server running the Model Repository, tail the file `/var/lc/vault/log`.

The log should contain `SENDING TRANSACTION` entries from the sending core and `RECEIVING SEQNO=<NUMBER> FROM VAULTOUT_<SOURCE_CORE_TNSNAME>`.

9 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.

Start the Opsware Installer upgrade script by entering the following command.

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.

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

1. Data Access Engine (spin), Multimaster Component

2. Access & Authentication Directory (cast)

The Ospware 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/slapd-cast/config`, you will need to apply those changes again after the upgrade is complete.

3. Command Engine (way), Multimaster Component

4. Software Repository (word), Multimaster Component

5. Opsware Command Center (occ), Multimaster Component

   When you upgrade the Opsware Command Center, you are prompted to provide passwords for the WS API users, as follows:

   ```
   --> ERROR: 2 parameter(s) have not been specified or are
   invalid.

   Resuming interview for these parameters.

   Parameter 1 of 2 (parameter wsAPIWriteUser.psswd) is
   missing or invalid -

   Please enter password for WSAPI Write user:

   Parameter 2 of 2 (parameter wsAPIReadUser.psswd) is
   missing or invalid -

   Please enter password for WSAPI Read user:
   ```

   These passwords are required for the Opsware WS APIs. The passwords cannot contain forward slashes (/).

6. OS Provisioning Build Scripts

7. OS Provisioning Boot Server

8. OS Provisioning Media Server

10 In *each* destination core, upgrade the rest of the components by performing the tasks that you used in step 9.

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.

11 On the server where the OS Provisioning Boot Server is running, start dhcp by entering the following command:

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

12 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.

13 On the server where the Software Repository is installed, restart the Software Repository Replicator by entering the following commands:

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

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

14 On a Data Access Engine in each core, run the following script:

```
cd /cust/usr/blackshadow/spin/util

/lc/bin/python migrate_dvc_lock.pyc
```

(When running the script, you can enter the -n option first to preview the changes before you commit them to the database.)

The script populates in the Model Repository the server-locking columns for managed servers.

15 In each core on the server running the Software Repository, run the following script to attach packages to the realm:

```
env PYTHONPATH=/opt/OPSW/blackshadow:/lc/blackshadow:/cust/
usr/blackshadow /lc/bin/python /cust/usr/blackshadow/mm_
wordbot/util/cksum_packages.pyc -F <facility_id> /cust/word/
mmword_local
```

16 In a core in the multimaster mesh, run the following script on the server running the Command Engine:

```
/cust/usr/blackshadow/waybot/migrate/gran_spin_role_perms.py
```

Running this script gives the spin user permission to run Command Engine scripts that perform Communication Tests (Communication Tests check the status of Opsware Agent running on managed servers).

17 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 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 21 in this procedure). The error will resolve itself when a Communication Test runs.

18 Perform the following post-upgrade steps for the Code Deployment Subsystem:

1. In the Opsware System 4.5 installation media, locate the following file:

   `/disk001/packages/migration-<version>.tar.gz`

2. Copy the file to the server running a Data Access Engine. If the core has multiple Data Access Engines installed, run script on the Data Access Engine that the Opsware System resolves to `spin.<subdomain>`.

   See the *Opsware System 4.5 Installation Guide*, "Component Name Resolution Requirements in Chapter 3.

3. As root, unpack the archive (`zcat file | tar xf`).

    Unpacking the archive creates a directory named `migration`.

4. On the server running the Data Access Engine, enter the following command:

   `cd migration sh ./migrate-cds-roles.sh`

5. When prompted, enter the directory manager password for the Access & Authentication Directory (cast).

    The script continues to run and provides feedback as it runs.

19 Re-import the Red Hat Linux AS 2.1 OS media.

   See "OS Media Management" in Chapter 3 in the *Opsware System 4.5 User's Guide* for the commands to import OS media.

20 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.

21 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 4.5 Administration Guide*, Chapter 3 "Opsware System Health" for information about running the System Diagnosis tool.

22 Verify that the multimaster mesh is functioning properly after the upgrade. Log in to the Opsware Command Center as the admin user, open the Multimaster Tools page (click Administration ➤ Multimaster Tools in the navigation panel).

See the *Opsware System 4.5 Administration Guide*, Chapter 2 "Opsware 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 4.5 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.
```