

# **Oracle® Enterprise Manager Ops Center**

Upgrade Guide

12c Release 2 (12.2.2.0.0)

**E52432-05**

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Oracle Enterprise Manager Ops Center Upgrade Guide, 12c Release 2 (12.2.2.0.0)

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# Preface

The Oracle® Enterprise Manager Ops Center Upgrade Guide explains how to upgrade to the latest version of Oracle Enterprise Manager Ops Center 12c Release 2.

## Audience

This document is intended for senior system administrators.

## Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

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## Related Documents

For more information, see the following documents in the Oracle Enterprise Manager Ops Center 12c documentation set:

- *Oracle Enterprise Manager Ops Center Release Notes*
- *Oracle Enterprise Manager Ops Center Concepts Guide*
- *Oracle Enterprise Manager Ops Center Installation Guide for Linux Operating Systems*
- *Oracle Enterprise Manager Ops Center Installation Guide for Oracle Solaris Operating System*
- *Oracle Enterprise Manager Ops Center Administration Guide*
- *Oracle Enterprise Manager Ops Center Feature Reference Guide*
- *Oracle Enterprise Manager Ops Center Feature Reference Appendix Guide*
- *Oracle Enterprise Manager Ops Center Command Line Interface Guide*
- *Oracle Enterprise Manager Ops Center Deploy How To Library*
- *Oracle Enterprise Manager Ops Center Operate How To Library*

- *Oracle Enterprise Manager System Monitoring Plug-in for Oracle Enterprise Manager Ops Center Guide*

For more information, see the other documents in the Oracle Enterprise Manager Ops Center 12c Release 2 documentation set, located at this site:

[http://docs.oracle.com/cd/E40871\\_01/index.htm](http://docs.oracle.com/cd/E40871_01/index.htm)

## Conventions

The following text conventions are used in this document:

<b>Convention</b>	<b>Meaning</b>
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands, file names, and directories within a paragraph, and code in examples.

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# Introduction

This guide explains the prerequisites necessary to upgrade to Oracle Enterprise Manager Ops Center 12c Release 2 Update 2 (12.2.2.0.0), Release 2 Update 1 (12.2.1.0.0), or Release 2 (12.2.0.0.0) and provides upgrade procedures for each environment.

## Versions Supported for Upgrade

This section details the supported upgrade paths. Before planning your upgrade, read this section carefully, as you may need to perform multiple upgrades to reach the latest version.

### Upgrading From Version 12.2

If you are currently using version 12.2.0 or 12.2.1, you can upgrade directly to any later version.

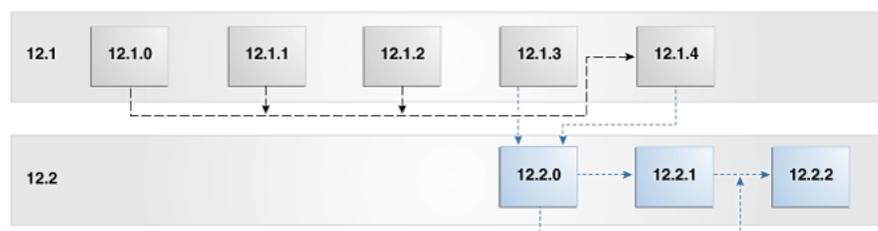
**Figure 1–1 Supported Upgrade Paths From Version 12.2**



### Upgrading From Version 12.1

If you are currently using Oracle Enterprise Manager Ops Center version 12.1, you can upgrade to version 12.1.3 or 12.1.4, then upgrade to version 12.2.0, and finally upgrade to the latest version.

**Figure 1–2 Supported Upgrade Paths From Version 12.1**



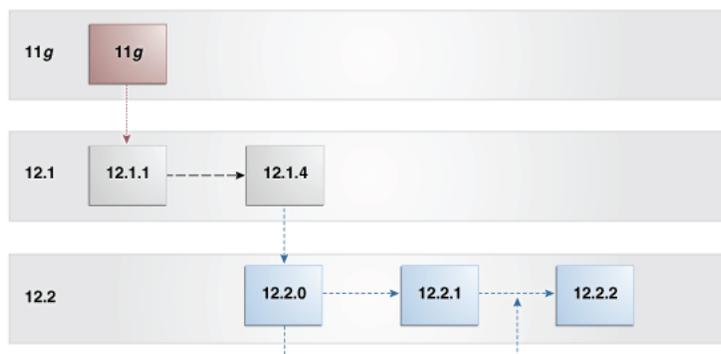
You must upgrade in this order:

1. If you are using version 12.1.0, 12.1.1, or 12.1.2, upgrade to version 12.1.4.0.0 as described in the *Version 12.1 Administration Guide*.
2. Upgrade to version 12.2.0.0.0 as described in this guide.
3. Upgrade to version 12.2.1.0.0 or version 12.2.2.0.0 as described in this guide.

## Upgrading From Version 11g

If you are currently using Oracle Enterprise Manager Ops Center 11g, you can upgrade to version 12.1.1, then upgrade to version 12.1.4, then upgrade to version 12.2.0, and finally upgrade to the latest version.

**Figure 1–3 Supported Upgrade Paths From Version 11g**



You must upgrade in this order:

1. Upgrade to version 12.1.1.0.0 as described in the *Version 12.1 Administration Guide*.
2. Upgrade to version 12.1.4.0.0 as described in the *Version 12.1 Administration Guide*.
3. Upgrade to version 12.2.0.0.0 as described in this guide.
4. Upgrade to version 12.2.1.0.0 or version 12.2.2.0.0 as described in this guide.

## Planning The Upgrade

Upgrading to a newer version of Oracle Enterprise Manager Ops Center can change the system requirements and affect existing settings and data. Take the following steps to plan your upgrade:

- Review the *Oracle Enterprise Manager Ops Center Release Notes* for pre-installation requirements and known issues.
- Verify that your system meets the system requirements outlined in the *Oracle Enterprise Manager Ops Center Installation Guide for Oracle Solaris Operating System* or *Oracle Enterprise Manager Ops Center Installation Guide for Linux Operating Systems*, since some system requirements have changed.

You can use the OCDoctor to check system requirements and identify and address some known issues. See <http://java.net/projects/oc-doctor> for more information about the OCDoctor.

- If you made changes to the `.uce.rc` file, the upgrade erases your changes. Copy your changes to the `.uce.rc` file before beginning the upgrade.
- If you replaced the self-signed web server certificate for the Enterprise Controller, the upgrade erases your web server configuration changes, and might erase the

certificate. Copy the certificate to a secure temporary location before beginning the upgrade. After the upgrade, reapply your configuration changes and copy the certificate to its original location.

- If your Enterprise Controller is installed on Oracle Solaris 11, your Oracle Solaris 11 publisher must point to an Oracle Solaris 11 repository that contains the specific version of Oracle Solaris 11 installed on the Enterprise Controller before you begin the upgrade.
- If you are upgrading to version 12.2.2.0.0 and are using the embedded database, you must download installation bundles for Oracle Database version 11.2.0.4, as the Oracle Enterprise Manager Ops Center upgrade also upgrades the embedded database. The download procedure is described in the Before You Begin section in each upgrade chapter.

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**Note:** Due to improvements to vServer management, Oracle VM Server for SPARC vServer templates from version 12.1.4.0.0 or earlier will not function in version 12.2.0.0.0 and must be recreated. In addition, a user with the Cloud Administrator role must configure at least one vNet as a boot network before creating any new vServers. See the Virtual Datacenters chapter of the *Feature Reference Guide* for more information.

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## Upgrading Your Environment

This document includes upgrade procedures for a variety of environments. Several factors will determine the procedure that is most appropriate for your environment. [Table 1–1, "Upgrade Procedures by Environment and Upgrade Choices"](#) shows the relevant chapter for you based on your environment and your preferences for the upgrade. Each chapter is a complete upgrade procedure.

Environments with a single Enterprise Controller use a separate procedure from environments with Enterprise Controller High Availability.

You can perform upgrades through the user interface or from the command line.

**Table 1–1 Upgrade Procedures by Environment and Upgrade Choices**

Enterprise Controller High Availability?	User Interface or Command Line?	Chapter
Yes	User Interface	<a href="#">Chapter 2, "Upgrading an HA Environment Using the User Interface"</a>
Yes	Command Line	<a href="#">Chapter 3, "Upgrading an HA Environment Using the Command Line"</a>
No	User Interface	<a href="#">Chapter 4, "Upgrading a Single EC Environment Using the User Interface"</a>
No	Command Line	<a href="#">Chapter 5, "Upgrading a Single EC Environment Using the Command Line"</a>



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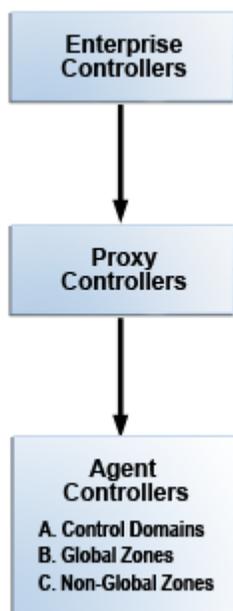
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## Upgrading an HA Environment Using the User Interface

This chapter explains how to upgrade an environment with Enterprise Controller High Availability through the User Interface.

Upgrade your systems in the following order:

1. Download the upgrade bundle for your environment.
2. Upgrade the Enterprise Controllers. This also upgrades the co-located Proxy Controller.
3. Upgrade the separate Proxy Controllers.
4. Upgrade the Agent Controllers.



Some of the procedures described in this guide use the `ecadm`, `proxyadm`, and `agentadm` commands. See the *Oracle Enterprise Manager Ops Center Administration Guide* for more information about these commands.

- On Oracle Solaris systems, these commands are in the `/opt/SUNWxvmoc/bin/` directory.

- On Linux systems, these commands are in the `/opt/sun/xvmoc/bin/` directory.

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**Note:** The upgrade process creates a backup file for the Enterprise Controller. If the upgrade fails, the Enterprise Controller is uninstalled, the initial version of the Enterprise Controller is reinstalled, and the system is automatically restored from the backup file.

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Once you have begun the upgrade, complete it as soon as possible. Do not allow the Enterprise Controller or Proxy Controllers to be restarted before all systems have been upgraded.

## Downloading Upgrades

You can download the upgrade bundle for Oracle Enterprise Manager Ops Center. This includes upgrades for the Enterprise Controller, Proxy Controllers, and Agent Controllers. Downloading an upgrade does not install it on managed assets.

You can download the upgrade bundles through the user interface, from the Oracle Technology Network, or from the Oracle Software Delivery Cloud.

### Downloading Upgrades From the User Interface

You can download upgrades for Oracle Enterprise Manager Ops Center through the user interface.

Upgrades are downloaded to these directories:

- Enterprise Controller upgrades: `/var/opt/sun/xvm/images/productUpdate`
- Proxy Controller upgrades: `/var/opt/sun/xvm/images/productUpdate`
- Agent Controller upgrades: `/var/opt/sun/xvm/images/agent`

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**Note:** The Enterprise Controller upgrade includes the Proxy Controller and Agent Controller upgrades, but the Proxy Controller and Agent Controller upgrades are not saved to these directories until the Enterprise Controller upgrade is applied.

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#### To View and Download Upgrades

1. Click the **Enterprise Controller** in the Administration section of the Navigation pane.
2. Click **Ops Center Downloads**.  
The Ops Center Downloads Wizard is displayed.
3. (Optional) Hover over the details icon for a download to view more information about it.
4. Select one or more downloads and click **Next**.  
The View License page is displayed.
5. Read the license and click **Accept**.  
The Download Status page is displayed.

6. Check **I wish to download the remaining upgrades in the background**, or wait for the downloads to complete.
7. Click **Next**.  
The Summary page is displayed.
8. Click **Finish**.

## Downloading Upgrades From the Oracle Technology Network

You can download upgrade bundles for the Enterprise Controller and Proxy Controller from the Oracle Technology Network.

1. Log in to the Oracle Technology Network Oracle Enterprise Manager Ops Center page at <http://www.oracle.com/technetwork/oem/ops-center/index.html>.
2. Click **Enterprise Manager Ops Center** in the Enterprise Manager Downloads sidebar.
3. Select **Accept License Agreement**.
4. Click the Enterprise Controller bundle with the correct operating system and architecture to download the full bundle. This bundle contains the Enterprise Controller for the selected architecture, and Proxy Controller and Agent Controller files for every supported operating system and architecture.
5. Copy the Enterprise Controller bundle to the `/var/opt/sun/xvm/images/productUpdate/` directory on the Enterprise Controller system.

## Downloading Upgrades From the Oracle Software Delivery Cloud

You can download upgrade bundles for the Enterprise Controller and Proxy Controller from the Oracle Software Delivery Cloud.

### To Download Upgrades From the Oracle Software Delivery Cloud

1. Log in to the Oracle Software Delivery Cloud at <http://edelivery.oracle.com>.
2. Read and accept the Software License Agreement and Export Restrictions, then click **Continue**.
3. Select the Oracle Enterprise Manager product pack and the correct platform for your environment, then click **Go**.  
The list of download packs is displayed.
4. Select the Media Pack for the target version and click **Continue**.  
The list of available bundles is displayed.
5. Click **download** next to the Enterprise Controller bundle with the correct operating system and architecture to download the full bundle, then save the downloaded bundle locally. This bundle contains the Enterprise Controller files for the selected architecture and operating system, and Proxy Controller and Agent Controller files for every supported operating system and architecture.
6. Copy the Enterprise Controller bundle to the `/var/opt/sun/xvm/images/productUpdate/` directory on the Enterprise Controller system.

## Upgrading the Enterprise Controllers in an HA Configuration

If you have multiple Enterprise Controllers in a high availability configuration, you can upgrade them.

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**Note:** The upgrade disables the Oracle Solaris 11 update manager service, `svc:/application/pkg/update:default`, if it is enabled.

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### Before You Begin

Perform the following tasks before you upgrade the Enterprise Controller:

- Download the Enterprise Controller upgrade.
- Review pending and scheduled jobs before updating the Enterprise Controller. The upgrade shuts down the Enterprise Controller, which causes running jobs to fail.
- Use the OCDoctor to verify that there are no outstanding issues on the Enterprise Controller systems. Log in to each Enterprise Controller system, then run the OCDoctor with the `--update` option, then run the OCDoctor script with the `--troubleshoot` option. See the *Oracle Enterprise Manager Ops Center Administration Guide* for more information about the OCDoctor.

### To Upgrade the Enterprise Controllers in an HA Configuration

1. Disable the Auto Service Request (ASR) feature if it is enabled.
  - a. Click **Administration** in the Navigation pane, then select the Enterprise Controller.
  - b. Click **Disable ASR** in the Actions pane.
2. If one of the Enterprise Controller nodes has a co-located Proxy Controller, make it the primary node using the `ecadm` command with the `ha-relocate` subcommand.
3. If multiple Enterprise Controller nodes have co-located Proxy Controllers, migrate all of the assets from these Proxy Controllers to a remote Proxy Controller or to the Proxy Controller of the primary node.
  - a. Log in to the user interface.
  - b. Select the source Proxy Controller in the Administration section of the Navigation pane.
  - c. Click the **Managed Assets** tab.
  - d. Select one or more assets to move, then click the **Migrate Assets** icon.

If another Proxy Controller is available that can manage the assets, the Asset Migration Wizard is displayed.

If no other Proxy Controller is available that can manage the assets, an error message is displayed.
  - e. Select the destination Proxy Controller from the list of Proxy Controllers, or select **Auto Balance across Proxy Controllers** to automatically select a destination Proxy Controller.
  - f. Click **Migrate**.

A job is launched to migrate the selected assets to the destination Proxy Controller. The migration status is displayed in the job and in the Managed Assets tab. Wait for the job to complete before proceeding.

4. On each standby node, use the `ecadm` command with the `ha-unconfigure-standby` subcommand to unconfigure the standby nodes from the HA configuration, then uninstall the Enterprise Controller software:
  - a. Use the `ecadm ha-unconfigure-standby` command to remove the current node from the HA configuration.
  - b. Use the `/n1gc-setup/installer/install` command with the `-e` option to uninstall the Enterprise Controller software components from your system.

For example:

```
# cd /n1gc-setup/installer/
# ./install -e
Invoking uninstall
```

The install script displays a list of uninstallation tasks that automatically updates as the uninstallation proceeds. For example:

```
Ops Center Enterprise Controller Uninstall
(version 12.2.2.904 on SunOS)

1. Restore file system configuration.                [Not Uninstalled]
2. Uninstall empty directories.                     [Not Uninstalled]
3. Uninstall prerequisite configuration.            [Not Uninstalled]
4. Uninstall Agent components.                     [Not Uninstalled]
5. Remove Deployable Proxy Bundles.                 [Not Uninstalled]
6. Uninstall application packages.                 [Not Uninstalled]
7. Run preremove tasks.                            [Not Uninstalled]
8. Uninstall Expect.                               [Not Uninstalled]
9. Uninstall IPMI tool.                            [Not Uninstalled]
10. Remove database credentials.                    [Not Uninstalled]
11. Uninstall Oracle database.                     [Not Uninstalled]
12. Remove OC Database Schema                      [Not Uninstalled]
13. Uninstall Service container components.        [Not Uninstalled]
14. Uninstall Core Channel components.             [Not Uninstalled]
15. Uninstall Proxy Core components.              [Not Uninstalled]
16. Remove Proxy database credentials.             [Not Uninstalled]
17. Uninstall Enterprise Controller components.    [Not Uninstalled]
18. Uninstall Update Connection - Enterprise.     [Not Uninstalled]
19. Uninstall Ops Center BUI components.          [Not Uninstalled]
20. Uninstall OS provisioning components.         [Not Uninstalled]
21. Stop and delete services.                      [Not Uninstalled]
Executing current step: Stop and delete services...
```

When complete, the install script indicates that the Enterprise Controller has been uninstalled.

- c. If your environment uses any IDRs, uninstall them. The uninstall procedures are included in the IDR readme files in the `/usr/share/doc/release-notes/` directory.
- d. If the system is using Oracle Solaris 11, use the `pkg publisher` command to view the Oracle Solaris 11 publisher, then unset any publishers that are listed using the `pkg unset-publisher` command, and reset the Oracle Solaris 11 publisher using the `pkg set-publisher` command.

If you are resetting the system to use the

`http://pkg.oracle.com/solaris/support` repository, you must use the `-k <key file>` and `-c <certificate file>` options.

For example:

```

# pkg publisher
root@ocbrm-ipgs15:~# pkg publisher
PUBLISHER          TYPE      STATUS P LOCATION
cacao              origin   online F
file:///var/opt/sun/xvm/images/IPS/oc-ips-repo/
mp-re              origin   online F
file:///var/opt/sun/xvm/images/IPS/oc-ips-repo/
opscenter          origin   online F
file:///var/opt/sun/xvm/images/IPS/oc-ips-repo/
# pkg unset-publisher cacao
# pkg unset-publisher opscenter
# pkg unset-publisher mp-re
# pkg set-publisher -G '*' -g http://pkg.oracle.com/solaris/release/
solaris

```

When this procedure is complete, the `pkg refresh --full` command should be able to run successfully.

5. On the primary node, use the `ecadm` command with the `ha-unconfigure-primary` subcommand to unconfigure the Enterprise Controller as part of a High Availability configuration.

The primary Enterprise Controller node is removed from the HA configuration.

6. On the remaining Enterprise Controller system, update the `start/exec` property in the `svc:/application/scn/satellite-enable` SMF service.
  - a. Change the `start/exec` property for the `svc:/application/scn/satellite-enable` service to `:true` if it is not already set to `:true`. For example:

```

# /usr/sbin/svccfg
svc:> select svc:/application/scn/satellite-enable
svc:/application/scn/satellite-enable> setprop start/exec = :true
svc:/application/scn/satellite-enable> end

```

- b. Refresh the `svc:/application/scn/satellite-enable` service. For example:

```
# /usr/sbin/svccadm refresh svc:/application/scn/satellite-enable:default
```

- c. Confirm that the property is set to `:true`. For example:

```
# svcprop -p start/exec svc:/application/scn/satellite-enable:default
:true
```

7. Use the `ecadm` command with the `status` subcommand to verify that the Enterprise Controller is online. If it is offline, start it using the `ecadm` command with the `start` subcommand and the `-w` option.
8. Log in to the Oracle Enterprise Manager Ops Center user interface.
9. Click the **Enterprise Controller** in the Administration section of the Navigation pane.
10. Click **Upgrade Enterprise Controller**.  
The Upgrade Enterprise Controller Wizard is displayed.
11. (Optional) Mouse over the details icon for an upgrade to view more information about it.
12. Select an upgrade and click **Next**. If the current Oracle Enterprise Manager Ops Center installation file cannot be found, the Install Path Verification page is displayed. If the upgrade fails, the installation file is used for rollback.

13. If the Install Path Verification page is displayed, enter the path to the Oracle Enterprise Manager Ops Center installer and click **Next**. By default, the upgrade process uses the `/var/opt/sun/xvm/update-saved-state/` directory to back out the changes if the upgrade fails.
14. The Job Details page is displayed. When the upgrade shuts down the Enterprise Controller, any jobs that are running fail. View the job details, then click **Next**. The Summary page is displayed.
15. Click **Finish**.  
The upgrade is launched. The upgrade can take up to an hour, during which time the Enterprise Controller is not accessible. Reload the browser regularly, and the login page displays normally when the upgrade is complete.
16. Clear the browser cache and refresh the browser before you log in to the newly upgraded Enterprise Controller.
17. Back up your Oracle Enterprise Manager Ops Center data using the `ecadm` command and the `backup` subcommand.
18. (Optional) Once the upgrade has completed successfully, remove the version 12.1 installer to reclaim disk space.

```
# rm -rf /var/opt/sun/xvm/EnterpriseController_installer_12.1.*
```

19. Use the `ecadm` command with the `ha-configure-primary` subcommand to configure the system as the active Enterprise Controller.

If the clusterware `crsctl` command is not in the `/u01` directory, use the `--crsctl_basepath <location>` option to specify its location.

For example:

```
# ./ecadm ha-configure-primary
INFO: HAECClusterwareAdapter/doConfigurePrimary() Stopping Ops Center ...
INFO: HAECClusterwareAdapter/doConfigurePrimary() Ops Center stopped
INFO: HAECClusterwareAdapter/createActionScript() created Resource Action
Script='/var/opt/sun/xvm/ha/EnterpriseController'
INFO: HAECClusterwareAdapter/doConfigurePrimary() created Clusterware Action
Script='/var/opt/sun/xvm/ha/EnterpriseController'
INFO: HAECClusterwareAdapter/doConfigurePrimary() created Clusterware
Resource='EnterpriseController'
INFO: HAECClusterwareAdapter/doHASTart() starting
resource='EnterpriseController' on node='primary-system'
INFO: HAECClusterwareAdapter/doHASTart()statusSB='CRS-2672: Attempting to start
'EnterpriseController' on 'primary-system'
CRS-2676: Start of 'EnterpriseController' on 'primary-system' succeeded'
INFO: HAECClusterwareAdapter/doHASTart() started
resource='EnterpriseController' on node='primary-system'
INFO: HAECClusterwareAdapter/doConfigurePrimary() Ops Center started on
node='primary-system'
ecadm: --- Enterprise Controller successfully configured HA primary node
#
```

20. Install the new version of the Enterprise Controller on the standby nodes.
  - a. If you are installing on Oracle Solaris 11, and if the system requires an HTTP proxy to reach the Internet, set the `http_proxy` and `https_proxy` environment variables. These values are only used during the installation. Use the following format:

`http_proxy=http://<proxy IP address>:<port number>` or  
`http://<username:password>@<proxy IP address>:<port number>` - This variable specifies the proxy server to use for HTTP.

`https_proxy=https://<proxy IP address>:<port number>` or  
`https://<username:password>@<proxy IP address>:<port number>` - This variable specifies the proxy server to use for HTTPS.

For example:

```
export http_proxy=http://10.79.204.11:8080
export https_proxy=https://10.79.204.12:8080
```

- b.** Create a temporary directory on your system, then copy or move the upgrade and installation bundle to the temporary directory that you created. For example:

```
# mkdir /var/tmp/OC
# cp enterprise-controller.Solaris.i386.12.2.2.904.tar.gz /var/tmp/OC
```

The installation bundle consumes about 3.5 GBytes of disk space.

- c.** Change to the directory where the installation bundle is located on your system.

```
# cd /var/tmp/OC
#
```

- d.** Expand the installation bundle, then list the contents of the expanded directory.

If your installation bundle has the `.zip` extension, use the `unzip` command to uncompress the bundle. For example:

```
# unzip enterprise-controller.Solaris.i386.12.2.2.904.zip
# ls
enterprise-controller.Solaris.i386.12.2.2.904.zip
xvmoc_full_bundle
#
```

If your installation bundle has the `.tar.zip` extension, use the `unzip` and `tar` commands to uncompress and `un-tar` the bundle, then list the contents of the temporary directory. The following command example retains the original compressed bundle file. The data extracted from the bundle consumes about 1 GB of additional space. For example:

```
# unzip enterprise-controller.Solaris.i386.12.2.2.904.tar.zip | tar xf -
# ls
enterprise-controller.Solaris.i386.12.2.2.904.tar.zip
xvmoc_full_bundle
#
```

- e.** Create a database properties file on the Enterprise Controller system. The database properties file must contain the location of the customer-managed database and a user name and password that can access the database.

For example:

```
# vi /var/tmp/RemoteDBProps.txt
mgmtdb.appuser=user
mgmtdb.password=userpass
mgmtdb.roappuser=user
mgmtdb.ropassword=userpass
```

```
mgmt.db.url=jdbc:oracle:thin:@<database host name>:<port>/<database
service name>
```

- f. Change directory to `xvmoc_full_bundle`, and run the install script with the `--remoteDBprops <path to database properties file>` and `--standbyEC` options. For example:

```
# cd xvmoc_full_bundle
# ./install --remoteDBprops=/var/tmp/remoteDBProps.txt --standbyEC
```

- g. The Oracle Configuration Manager installation text is displayed. Enter the My Oracle Support user name or email address that you want to associate with Oracle Enterprise Manager Ops Center.

Provide your email address to be informed of security issues, install and initiate Oracle Configuration Manager. Easier for you if you use your My Oracle Support Email address/User Name.  
 Visit <http://www.oracle.com/support/policies.html> for details.  
 Email address/User Name:

- h. If you want security updates to appear on your My Oracle Support page, enter your My Oracle Support password.

Provide your My Oracle Support password to receive security updates via your My Oracle Support account.  
 Password (optional):

The screen clears, then the install script displays a list of installation tasks that automatically updates as the installation proceeds. For example:

```
Ops Center Enterprise Controller Installer
(version 12.2.2.904 on SunOS)
```

1. Check for installation prerequisites.	[Not Completed]
2. Configure file systems.	[Not Completed]
3. Install prerequisite packages.	[Not Completed]
4. Install Agent components.	[Not Completed]
5. Create Deployable Proxy Bundles.	[Not Completed]
6. Install application packages.	[Not Completed]
7. Run postinstall tasks.	[Not Completed]
8. Install Expect.	[Not Completed]
9. Install IPMI tool.	[Not Completed]
10. Set database credentials.	[Not Completed]
11. Install and Configure Oracle Database.	[Not Completed]
12. Seed Ops Center Database Schema	[Not Completed]
13. Install Service container components.	[Not Completed]
14. Install Core Channel components.	[Not Completed]
15. Install Proxy Core components.	[Not Completed]
16. Set Proxy database credentials.	[Not Completed]
17. Install Enterprise Controller components.	[Not Completed]
18. Install Update Connection - Enterprise.	[Not Completed]
19. Install Ops Center BUI components.	[Not Completed]
20. Install OS provisioning components.	[Not Completed]
21. Initialize and start services.	[Not Completed]

```
Executing current step: Check for installation prerequisites...
```

- i. Review and correct any problems when the install script checks for installation prerequisites that are not met. For example, this install script detected insufficient disk space:

```
Warning for Step: Check for installation prerequisites.
```

```
The following is a portion of the installer
log which may indicate the cause of the warning.
If this does not indicate the cause of the
warning, you will need to view the full log
file. More information on how to do that is
available below.
You may choose to ignore this warning by selecting to continue.
* * * * *
```

```
Ignoring job: 01checkRPMs.pl
Ignoring job: 03removeEmptyDirs.pl
```

```
Executing job: jobs/00checkPrereqs.pl --install
```

```
WARNING: Installation prerequisites not met:
Disk: / 72G needed, 24G available.
* * * * *
Please fix the problem and then try this step again.
For a full log of the failed install see the file:
/var/tmp/installer.log.9361.
```

```
t. Try this step again (correct the failure before proceeding)
c. Continue (ignore the warning)
x. Exit
Enter selection: (t/c/x)
```

You can enter **t** to try again, **c** to continue and ignore the warning, or **x** to exit the install script. You should exit the install script, correct the problem, and then run the install script again, which resumes from where it stopped. Choose to continue and ignore the warning only if you accept the impact of the error condition on your installation. Entering **t** typically produces the same error, unless you are able to correct the problem before trying the step again. If the install script finds that all prerequisites have been satisfied, or if you choose to continue despite the warning, the install script continues and installs all Enterprise Controller and Proxy Controller components.

When complete, the install script displays a confirmation that all components have been installed. The `/var/tmp/installer.log.latest` file contains the installation log.

- j.** Create a password file containing the root user name and password for the primary Enterprise Controller. For example:

```
# touch /tmp/creds.props
# chmod 400 /tmp/creds.props
# vi /tmp/creds.props
# cat /tmp/creds.props
username:root
password:XXXXX
```

- k.** Use the `ecadm` command with the `ha-configure-standby` and `-p <password file>` subcommands to configure the node as a standby node.

If the clusterware `crsctl` command is not in the `/u01` directory, use the `--crsctl_basepath <location>` option to specify its location.

For example:

```
# ecadm ha-configure-standby -p /tmp/creds.props
INFO: HAECClusterwareAdapter/doConfigureStandby() Stopping Ops Center ...
```

```
INFO: HAECClusterwareAdapter/doConfigureStandby() Ops Center stopped
INFO: remoteFileCopy() copied '/etc/passwd' from
remoteHostname='primary-system' to local file='/tmp/activeNodepw'
<output omitted>
ecadm: --- Enterprise Controller successfully configured HA standby node
```

- I. Use the `ecadm` command with the `ha-status -d` option to check the status of the standby Enterprise Controller.

For example:

```
# ecadm ha-status -d
INFO: HAECClusterwareAdapter/doHASStatus() Status:
# HAEC Cluster Info: Thu Sep 29 15:49:09 MDT 2011
haec.cluster.active.node=primary
haec.cluster.nodes=standby, primary
haec.ec.public.nics=ngel
haec.ec.status=ONLINE
<output omitted>
haec.cluster.script=/var/opt/sun/xvm/ha/EnterpriseController
haec.cluster.crsctl=/u01/app/11.2.0/grid/bin/crsctl
# End of Cluster Info
ecadm: --- Enterprise Controller ha-status command succeeded
Status stored in file: /var/opt/sun/xvm/ha/HAECStatus
#
```

21. Clear your browser cache and refresh your browser before you log in to the newly upgraded Enterprise Controller through its virtual IP address.
22. Back up your Oracle Enterprise Manager Ops Center data using the `ecadm` command with the `backup` subcommand and the `-r` option on the primary Enterprise Controller.
23. Enable the Auto Service Request (ASR) feature if you disabled it at the beginning of the upgrade.
  - a. Click **Administration** in the Navigation pane, then select the Enterprise Controller.
  - b. Click **Enable ASR** in the Actions pane.

---

**Note:** If you are upgrading to version 12.2.0.0.0, then when the Enterprise Controller upgrade is complete, view the contents of the `/var/opt/sun/xvm/update-saved-state/update_EC_minor_bundle_12.2.0.<build number>/updatelog.txt` file. If an error message indicates that the database must be migrated manually, see [Appendix A, "Manually Upgrading Database Tables"](#) for this procedure.

---

## Upgrading a Proxy Controller from the User Interface

You can remotely upgrade Proxy Controllers to the latest available version.

To upgrade a Proxy Controller through the UI, the Enterprise Controller must be able to reach the Proxy Controller with an SSH connection using port 22 during the upgrade process. This connection is used to transfer Proxy Controller bundles and execute commands on the Proxy Controller system. If your security restrictions do not allow this connection, upgrade the Proxy Controller from the command line. See [Upgrading a Proxy Controller from the Command Line](#) for more information.

If an error occurs during this process, the system is restored to the prior version.

---

---

**Note:** The upgrade disables the Oracle Solaris 11 update manager service, `svc:/application/pkg/update:default`, if it is enabled.

---

---

### Before You Begin

Upgrade the Enterprise Controllers before you upgrade the Proxy Controllers.

### To Upgrade a Proxy Controller

1. Click the **Enterprise Controller** in the Administration section of the Navigation pane.
2. Click the **Proxy Controllers** tab.  
Proxy Controller information is displayed.
3. Select one or more Proxy Controllers.
4. Click the **Upgrade to Latest Available Version** icon in the center pane.  
The Upgrade Wizard is displayed.
5. Select a method for providing SSH credentials for the Proxy Controller or Proxy Controllers.
  - Re-use the SSH credentials used during discovery
  - Apply the same SSH credentials to all
  - Enter SSH credentials for each
6. Click **Finish**.  
A job is launched to update the Proxy Controllers.

## Upgrading Agent Controllers from the User Interface

You can remotely upgrade Agent Controllers to the latest available version.

If you are upgrading Agent Controllers running in non-global zones, upgrade the Agent Controller in the global zone before upgrading all of the non-global zones. If you are upgrading Agent Controllers running in zones within a Logical Domain, upgrade the Agent Controller in the Control Domain before upgrading the Agent Controllers on the zones.

---

---

**Caution:** If you upgrade Agent Controllers on virtualized systems in an order other than that specified here, the assets do not display correctly in the user interface. To cause the assets to display correctly, unconfigure the Agent Controllers, then reconfigure or reinstall them in the specified order.

---

---

---

---

**Note:** Virtualization Agent Controllers require 1024 MB of memory after the upgrade to version 12.2.1.0.0.

---

---

---

---

**Note:** The upgrade disables the Oracle Solaris 11 update manager service, `svc:/application/pkg/update:default`, if it is enabled.

---

---

### To Upgrade Agent Controllers

1. Select one or more assets with Agent Controllers.
  - Select an asset from the All Assets section of the Assets tab.
  - Select a group that contains operating systems.
2. Click **Upgrade Agent Controller** if you selected one asset, or **Upgrade All Agent Controllers** if you selected a group.

The Upgrade Agent Controllers page is displayed.

3. Select an upgrade option for the system or systems to be upgraded, then click **Next**.
  - The Automatic upgrade option lets you upgrade Agent Controllers without using SSH credentials. The Agent Controllers must be running for an automatic upgrade.
  - The SSH upgrade using one set of credentials for all targets option prompts you for a single set of SSH credentials for all systems to be upgraded.
  - The SSH upgrade using individual credentials for each target option prompts you for a separate set of credentials for each system to be upgraded.

The Summary page is displayed.

4. Click **Finish**.

The Agent Controller upgrade job is launched.



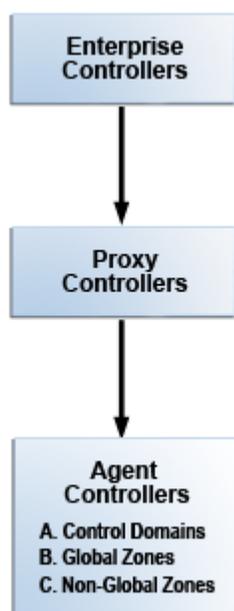
---

## Upgrading an HA Environment Using the Command Line

This chapter explains how to upgrade an environment with Enterprise Controller High Availability through the command line.

Upgrade your systems in the following order:

1. Download the upgrade bundle for your environment.
2. Upgrade the Enterprise Controllers. This also upgrades the co-located Proxy Controller.
3. Upgrade the separate Proxy Controllers.
4. Upgrade the Agent Controllers through the UI or manually.



Some of the procedures described in this guide use the `ecadm`, `proxyadm`, and `agentadm` commands. See the *Oracle Enterprise Manager Ops Center Administration Guide* for more information about these commands.

- On Oracle Solaris systems, these commands are in the `/opt/SUNWxvmoc/bin/` directory.

- On Linux systems, these commands are in the `/opt/sun/xvmoc/bin/` directory.

---

---

**Note:** The upgrade process creates a backup file for the Enterprise Controller. If the upgrade fails, the Enterprise Controller is uninstalled, the initial version of the Enterprise Controller is reinstalled, and the system is automatically restored from the backup file.

---

---

Once you have begun the upgrade, complete it as soon as possible. Do not allow the Enterprise Controller or Proxy Controllers to be restarted before all systems have been upgraded.

## Downloading Upgrades

You can download the upgrade bundle for Oracle Enterprise Manager Ops Center. This includes upgrades for the Enterprise Controller, Proxy Controllers, and Agent Controllers. Downloading an upgrade does not install it on managed assets.

You can download the upgrade bundles through the user interface, from the Oracle Technology Network, or from the Oracle Software Delivery Cloud.

### Downloading Upgrades From the User Interface

You can download upgrades for Oracle Enterprise Manager Ops Center through the user interface.

Upgrades are downloaded to these directories:

- Enterprise Controller upgrades: `/var/opt/sun/xvm/images/productUpdate`
- Proxy Controller upgrades: `/var/opt/sun/xvm/images/productUpdate`
- Agent Controller upgrades: `/var/opt/sun/xvm/images/agent`

---

---

**Note:** The Enterprise Controller upgrade includes the Proxy Controller and Agent Controller upgrades, but the Proxy Controller and Agent Controller upgrades are not saved to these directories until the Enterprise Controller upgrade is applied.

---

---

#### To View and Download Upgrades

1. Click the **Enterprise Controller** in the Administration section of the Navigation pane.
2. Click **Ops Center Downloads**.  
The Ops Center Downloads Wizard is displayed.
3. (Optional) Hover over the details icon for a download to view more information about it.
4. Select one or more downloads and click **Next**.  
The View License page is displayed.
5. Read the license and click **Accept**.  
The Download Status page is displayed.

6. Check **I wish to download the remaining upgrades in the background**, or wait for the downloads to complete.
7. Click **Next**.  
The Summary page is displayed.
8. Click **Finish**.

## Downloading Upgrades From the Oracle Technology Network

You can download upgrade bundles for the Enterprise Controller and Proxy Controller from the Oracle Technology Network.

1. Log in to the Oracle Technology Network Oracle Enterprise Manager Ops Center page at <http://www.oracle.com/technetwork/oem/ops-center/index.html>.
2. Click **Enterprise Manager Ops Center** in the Enterprise Manager Downloads sidebar.
3. Select **Accept License Agreement**.
4. Click the Enterprise Controller bundle with the correct operating system and architecture to download the full bundle. This bundle contains the Enterprise Controller for the selected architecture, and Proxy Controller and Agent Controller files for every supported operating system and architecture.
5. Copy the Enterprise Controller bundle to the `/var/opt/sun/xvm/images/productUpdate/` directory on the Enterprise Controller system.

## Downloading Upgrades From the Oracle Software Delivery Cloud

You can download upgrade bundles for the Enterprise Controller and Proxy Controller from the Oracle Software Delivery Cloud.

### To Download Upgrades From the Oracle Software Delivery Cloud

1. Log in to the Oracle Software Delivery Cloud at <http://edelivery.oracle.com>.
2. Read and accept the Software License Agreement and Export Restrictions, then click **Continue**.
3. Select the Oracle Enterprise Manager product pack and the correct platform for your environment, then click **Go**.  
The list of download packs is displayed.
4. Select the Media Pack for the target version and click **Continue**.  
The list of available bundles is displayed.
5. Click **download** next to the Enterprise Controller bundle with the correct operating system and architecture to download the full bundle, then save the downloaded bundle locally. This bundle contains the Enterprise Controller files for the selected architecture and operating system, and Proxy Controller and Agent Controller files for every supported operating system and architecture.
6. Copy the Enterprise Controller bundle to the `/var/opt/sun/xvm/images/productUpdate/` directory on the Enterprise Controller system.

## Upgrading the Enterprise Controllers in an HA Configuration

If you have multiple Enterprise Controllers in a high availability configuration, you can upgrade them.

---

---

**Note:** The upgrade disables the Oracle Solaris 11 update manager service, `svc:/application/pkg/update:default`, if it is enabled.

---

---

### Before You Begin

Perform the following tasks before you upgrade the Enterprise Controller:

- Download the Enterprise Controller upgrade.
- Review pending and scheduled jobs before updating the Enterprise Controller. The upgrade shuts down the Enterprise Controller, which causes running jobs to fail.
- Use the OCDoctor to verify that there are no outstanding issues on the Enterprise Controller systems. Log in to each Enterprise Controller system, then run the OCDoctor with the `--update` option, then run the OCDoctor script with the `--troubleshoot` option. See the *Oracle Enterprise Manager Ops Center Administration Guide* for more information about the OCDoctor.

### To Upgrade the Enterprise Controllers in an HA Configuration

1. Disable the Auto Service Request (ASR) feature if it is enabled.
  - a. Click **Administration** in the Navigation pane, then select the Enterprise Controller.
  - b. Click **Disable ASR** in the Actions pane.
2. If one of the Enterprise Controller nodes has a co-located Proxy Controller, make it the primary node using the `ecadm` command with the `ha-relocate` subcommand.
3. If multiple Enterprise Controller nodes have co-located Proxy Controllers, migrate all of the assets from these Proxy Controllers to a remote Proxy Controller or to the Proxy Controller of the primary node.
  - a. Log in to the user interface.
  - b. Select the source Proxy Controller in the Administration section of the Navigation pane.
  - c. Click the **Managed Assets** tab.
  - d. Select one or more assets to move, then click the **Migrate Assets** icon.

If another Proxy Controller is available that can manage the assets, the Asset Migration Wizard is displayed.

If no other Proxy Controller is available that can manage the assets, an error message is displayed.
  - e. Select the destination Proxy Controller from the list of Proxy Controllers, or select **Auto Balance across Proxy Controllers** to automatically select a destination Proxy Controller.
  - f. Click **Migrate**.

A job is launched to migrate the selected assets to the destination Proxy Controller. The migration status is displayed in the job and in the Managed Assets tab. Wait for the job to complete before proceeding.

4. On each standby node, use the `ecadm` command with the `ha-unconfigure-standby` subcommand to unconfigure the standby nodes from the HA configuration, then uninstall the Enterprise Controller software:
  - a. Use the `ecadm ha-unconfigure-standby` command to remove the current node from the HA configuration.
  - b. Use the `/n1gc-setup/installer/install` command with the `-e` option to uninstall the Enterprise Controller software components from your system.

For example:

```
# cd /n1gc-setup/installer/
# ./install -e
Invoking uninstall
```

The install script displays a list of uninstallation tasks that automatically updates as the uninstallation proceeds. For example:

```
Ops Center Enterprise Controller Uninstall
(version 12.2.2.904 on SunOS)

1. Restore file system configuration. [Not Uninstalled]
2. Uninstall empty directories. [Not Uninstalled]
3. Uninstall prerequisite configuration. [Not Uninstalled]
4. Uninstall Agent components. [Not Uninstalled]
5. Remove Deployable Proxy Bundles. [Not Uninstalled]
6. Uninstall application packages. [Not Uninstalled]
7. Run preremove tasks. [Not Uninstalled]
8. Uninstall Expect. [Not Uninstalled]
9. Uninstall IPMI tool. [Not Uninstalled]
10. Remove database credentials. [Not Uninstalled]
11. Uninstall Oracle database. [Not Uninstalled]
12. Remove OC Database Schema [Not Uninstalled]
13. Uninstall Service container components. [Not Uninstalled]
14. Uninstall Core Channel components. [Not Uninstalled]
15. Uninstall Proxy Core components. [Not Uninstalled]
16. Remove Proxy database credentials. [Not Uninstalled]
17. Uninstall Enterprise Controller components. [Not Uninstalled]
18. Uninstall Update Connection - Enterprise. [Not Uninstalled]
19. Uninstall Ops Center BUI components. [Not Uninstalled]
20. Uninstall OS provisioning components. [Not Uninstalled]
21. Stop and delete services. [Not Uninstalled]
Executing current step: Stop and delete services...
```

When complete, the install script indicates that the Enterprise Controller has been uninstalled.

- c. If your environment uses any IDRs, uninstall them. The uninstall procedures are included in the IDR readme files in the `/usr/share/doc/release-notes/` directory.
- d. If the system is using Oracle Solaris 11, use the `pkg publisher` command to view the Oracle Solaris 11 publisher, then unset any publishers that are listed using the `pkg unset-publisher` command, and reset the Oracle Solaris 11 publisher using the `pkg set-publisher` command.

If you are resetting the system to use the <http://pkg.oracle.com/solaris/support> repository, you must use the `-k <key file>` and `-c <certificate file>` options.

For example:

```

# pkg publisher
root@ocbrm-ipgs15:~# pkg publisher
PUBLISHER          TYPE      STATUS P LOCATION
cacao              origin   online F
file:///var/opt/sun/xvm/images/IPS/oc-ips-repo/
mp-re              origin   online F
file:///var/opt/sun/xvm/images/IPS/oc-ips-repo/
opscenter          origin   online F
file:///var/opt/sun/xvm/images/IPS/oc-ips-repo/
# pkg unset-publisher cacao
# pkg unset-publisher opscenter
# pkg unset-publisher mp-re
# pkg set-publisher -G '*' -g http://pkg.oracle.com/solaris/release/
solaris

```

When this procedure is complete, the `pkg refresh --full` command should be able to run successfully.

5. On the primary node, use the `ecadm` command with the `ha-unconfigure-primary` subcommand to unconfigure the Enterprise Controller as part of a High Availability configuration.

The primary Enterprise Controller node is removed from the HA configuration.

6. On the remaining Enterprise Controller system, update the `start/exec` property in the `svc:/application/scn/satellite-enable` SMF service.
  - a. Change the `start/exec` property for the `svc:/application/scn/satellite-enable` service to `:true` if it is not already set to `:true`. For example:

```

# /usr/sbin/svccfg
svc:> select svc:/application/scn/satellite-enable
svc:/application/scn/satellite-enable> setprop start/exec = :true
svc:/application/scn/satellite-enable> end

```

- b. Refresh the `svc:/application/scn/satellite-enable` service. For example:

```
# /usr/sbin/svccadm refresh svc:/application/scn/satellite-enable:default
```

- c. Confirm that the property is set to `:true`. For example:

```
# svcprop -p start/exec svc:/application/scn/satellite-enable:default
:true
```

7. Use the `ecadm` command with the `status` subcommand to verify that the Enterprise Controller is online. If it is offline, start it using the `ecadm` command with the `start` subcommand and the `-w` option.
8. Create a temporary directory within the directory where you installed Oracle Enterprise Manager Ops Center, then copy or move the upgrade bundle to the new directory. For example:

```
# mkdir -p /var/tmp/OC/update
# cp enterprise-controller.Solaris.sparc.12.2.2.904.tar.zip /var/tmp/OC/update
```

9. Change to the directory containing the upgrade bundle.

```
# cd /var/tmp/OC/update
```

10. Unzip and un-tar the bundle.

- If your upgrade bundle has the `.tar.zip` extension, use the `unzip` and `tar` commands to uncompress and `un-tar` the bundle, then list the contents of the temporary directory. The following command example retains the original compressed bundle file. For example:

```
# unzip enterprise-controller.Solaris.i386.12.2.2.904.tar.zip | tar xf -
# ls
enterprise-controller.Solaris.i386.12.2.2.904.tar.zip
xvmoc_full_bundle
#
```

- If your upgrade bundle has the `.zip` extension, use the `unzip` command to uncompress the bundle. For example:

```
# unzip enterprise-controller.Solaris.i386.12.2.2.904.zip
# ls
enterprise-controller.Solaris.i386.12.2.2.904.zip
xvmoc_full_bundle
#
```

#### 11. Change to the `xvmoc_full_bundle` directory and run the `install` script.

For example:

```
# cd xvmoc_full_bundle
# ./install
```

When the upgrade is complete, the `install` script indicates that all Oracle Enterprise Manager Ops Center components have been upgraded to the latest version.

#### 12. (Optional) Once the upgrade has completed successfully, remove the version 12.1 installer to reclaim disk space.

```
# rm -rf /var/opt/sun/xvm/EnterpriseController_installer_12.1.*
```

#### 13. Use the `ecadm` command with the `ha-configure-primary` subcommand to configure the system as the active Enterprise Controller.

If the clusterware `crsctl` command is not in the `/u01` directory, use the `--crsctl_basepath <location>` option to specify its location.

For example:

```
# ./ecadm ha-configure-primary
INFO: HAECClusterwareAdapter/doConfigurePrimary() Stopping Ops Center ...
INFO: HAECClusterwareAdapter/doConfigurePrimary() Ops Center stopped
INFO: HAECClusterwareAdapter/createActionScript() created Resource Action
Script='/var/opt/sun/xvm/ha/EnterpriseController'
INFO: HAECClusterwareAdapter/doConfigurePrimary() created Clusterware Action
Script='/var/opt/sun/xvm/ha/EnterpriseController'
INFO: HAECClusterwareAdapter/doConfigurePrimary() created Clusterware
Resource='EnterpriseController'
INFO: HAECClusterwareAdapter/doHStart() starting
resource='EnterpriseController' on node='primary-system'
INFO: HAECClusterwareAdapter/doHStart() statusSB='CRS-2672: Attempting to start
'EnterpriseController' on 'primary-system'
CRS-2676: Start of 'EnterpriseController' on 'primary-system' succeeded'
INFO: HAECClusterwareAdapter/doHStart() started
resource='EnterpriseController' on node='primary-system'
INFO: HAECClusterwareAdapter/doConfigurePrimary() Ops Center started on
node='primary-system'
ecadm: --- Enterprise Controller successfully configured HA primary node
#
```

**14.** Install the new version of the Enterprise Controller on the standby nodes.

- a.** If you are installing on Oracle Solaris 11, and if the system requires an HTTP proxy to reach the Internet, set the `http_proxy` and `https_proxy` environment variables. These values are only used during the installation. Use the following format:

```
http_proxy=http://<proxy IP address>:<port number> or
http://<username:password>@<proxy IP address>:<port number> - This
variable specifies the proxy server to use for HTTP.
```

```
https_proxy=https://<proxy IP address>:<port number> or
https://<username:password>@<proxy IP address>:<port number> - This
variable specifies the proxy server to use for HTTPS.
```

For example:

```
export http_proxy=http://10.79.204.11:8080
export https_proxy=https://10.79.204.12:8080
```

- b.** Create a temporary directory on your system, then copy or move the upgrade and installation bundle to the temporary directory that you created. For example:

```
# mkdir /var/tmp/OC
# cp enterprise-controller.Solaris.i386.12.2.2.904.tar.gz /var/tmp/OC
```

The installation bundle consumes about 3.5 GBytes of disk space.

- c.** Change to the directory where the installation bundle is located on your system.

```
# cd /var/tmp/OC
#
```

- d.** Expand the installation bundle, then list the contents of the expanded directory.

If your installation bundle has the `.zip` extension, use the `unzip` command to uncompress the bundle. For example:

```
# unzip enterprise-controller.Solaris.i386.12.2.2.904.zip
# ls
enterprise-controller.Solaris.i386.12.2.2.904.zip
xvmoc_full_bundle
#
```

If your installation bundle has the `.tar.zip` extension, use the `unzip` and `tar` commands to uncompress and `un-tar` the bundle, then list the contents of the temporary directory. The following command example retains the original compressed bundle file. The data extracted from the bundle consumes about 1 GB of additional space. For example:

```
# unzip enterprise-controller.Solaris.i386.12.2.2.904.tar.zip | tar xf -
# ls
enterprise-controller.Solaris.i386.12.2.2.904.tar.zip
xvmoc_full_bundle
#
```

- e.** Create a database properties file on the Enterprise Controller system. The database properties file must contain the location of the customer-managed database and a user name and password that can access the database.

For example:

```
# vi /var/tmp/RemoteDBProps.txt
mgmtdb.appuser=user
mgmtdb.password=userpass
mgmtdb.roappuser=user
mgmtdb.ropassword=userpass
mgmtdb.dburl=jdbc:oracle:thin:@<database host name>:<port>/<database
service name>
```

- f.** Change directory to `xvmoc_full_bundle`, and run the `install` script with the `--remoteDBprops` <path to database properties file> and `--standbyEC` options. For example:

```
# cd xvmoc_full_bundle
# ./install --remoteDBprops=/var/tmp/remoteDBProps.txt --standbyEC
```

- g.** The Oracle Configuration Manager installation text is displayed. Enter the My Oracle Support user name or email address that you want to associate with Oracle Enterprise Manager Ops Center.

Provide your email address to be informed of security issues, install and initiate Oracle Configuration Manager. Easier for you if you use your My Oracle Support Email address/User Name.

Visit <http://www.oracle.com/support/policies.html> for details.

Email address/User Name:

- h.** If you want security updates to appear on your My Oracle Support page, enter your My Oracle Support password.

Provide your My Oracle Support password to receive security updates via your My Oracle Support account.

Password (optional):

The screen clears, then the `install` script displays a list of installation tasks that automatically updates as the installation proceeds. For example:

```
Ops Center Enterprise Controller Installer
(version 12.2.2.904 on SunOS)
```

```
1. Check for installation prerequisites. [Not Completed]
2. Configure file systems. [Not Completed]
3. Install prerequisite packages. [Not Completed]
4. Install Agent components. [Not Completed]
5. Create Deployable Proxy Bundles. [Not Completed]
6. Install application packages. [Not Completed]
7. Run postinstall tasks. [Not Completed]
8. Install Expect. [Not Completed]
9. Install IPMI tool. [Not Completed]
10. Set database credentials. [Not Completed]
11. Install and Configure Oracle Database. [Not Completed]
12. Seed Ops Center Database Schema [Not Completed]
13. Install Service container components. [Not Completed]
14. Install Core Channel components. [Not Completed]
15. Install Proxy Core components. [Not Completed]
16. Set Proxy database credentials. [Not Completed]
17. Install Enterprise Controller components. [Not Completed]
18. Install Update Connection - Enterprise. [Not Completed]
19. Install Ops Center BUI components. [Not Completed]
20. Install OS provisioning components. [Not Completed]
21. Initialize and start services. [Not Completed]
Executing current step: Check for installation prerequisites...
```

- i. Review and correct any problems when the install script checks for installation prerequisites that are not met. For example, this install script detected insufficient disk space:

```
Warning for Step: Check for installation prerequisites.
The following is a portion of the installer
log which may indicate the cause of the warning.
If this does not indicate the cause of the
warning, you will need to view the full log
file. More information on how to do that is
available below.
You may choose to ignore this warning by selecting to continue.
* * * * *
```

```
Ignoring job: 01checkRPMs.pl
Ignoring job: 03removeEmptyDirs.pl
```

```
Executing job: jobs/00checkPrereqs.pl --install
```

```
WARNING: Installation prerequisites not met:
Disk: / 72G needed, 24G available.
* * * * *
Please fix the problem and then try this step again.
For a full log of the failed install see the file:
/var/tmp/installer.log.9361.
```

```
t. Try this step again (correct the failure before proceeding)
c. Continue (ignore the warning)
x. Exit
Enter selection: (t/c/x)
```

You can enter `t` to try again, `c` to continue and ignore the warning, or `x` to exit the install script. You should exit the install script, correct the problem, and then run the install script again, which resumes from where it stopped. Choose to continue and ignore the warning only if you accept the impact of the error condition on your installation. Entering `t` typically produces the same error, unless you are able to correct the problem before trying the step again. If the install script finds that all prerequisites have been satisfied, or if you choose to continue despite the warning, the install script continues and installs all Enterprise Controller and Proxy Controller components.

When complete, the install script displays a confirmation that all components have been installed. The `/var/tmp/installer.log.latest` file contains the installation log.

- j. Create a password file containing the root user name and password for the primary Enterprise Controller. For example:

```
# touch /tmp/creds.props
# chmod 400 /tmp/creds.props
# vi /tmp/creds.props
# cat /tmp/creds.props
username:root
password:XXXXX
```

- k. Use the `ecadm` command with the `ha-configure-standby` and `-p <password file>` subcommands to configure the node as a standby node.

If the clusterware `crsctl` command is not in the `/u01` directory, use the `--crsctl_basepath <location>` option to specify its location.

For example:

```
# ecadm ha-configure-standby -p /tmp/creds.props
INFO: HAECClusterwareAdapter/doConfigureStandby() Stopping Ops Center ...
INFO: HAECClusterwareAdapter/doConfigureStandby() Ops Center stopped
INFO: remoteFileCopy() copied '/etc/passwd' from
remoteHostname='primary-system' to local file='/tmp/activeNodepw'
<output omitted>
ecadm: --- Enterprise Controller successfully configured HA standby node
```

- I. Use the `ecadm` command with the `ha-status -d` option to check the status of the standby Enterprise Controller.

For example:

```
# ecadm ha-status -d
INFO: HAECClusterwareAdapter/doHASStatus() Status:
# HAEC Cluster Info: Thu Sep 29 15:49:09 MDT 2011
haec.cluster.active.node=primary
haec.cluster.nodes=standby, primary
haec.ec.public.nics=ngel
haec.ec.status=ONLINE
<output omitted>
haec.cluster.script=/var/opt/sun/xvm/ha/EnterpriseController
haec.cluster.crsctl=/u01/app/11.2.0/grid/bin/crsctl
# End of Cluster Info
ecadm: --- Enterprise Controller ha-status command succeeded
Status stored in file: /var/opt/sun/xvm/ha/HAECStatus
#
```

15. Clear your browser cache and refresh your browser before you log in to the newly upgraded Enterprise Controller through its virtual IP address.
16. Back up your Oracle Enterprise Manager Ops Center data using the `ecadm` command with the `backup` subcommand and the `-r` option on the primary Enterprise Controller.
17. Enable the Auto Service Request (ASR) feature if you disabled it at the beginning of the upgrade.
  - a. Click **Administration** in the Navigation pane, then select the Enterprise Controller.
  - b. Click **Enable ASR** in the Actions pane.

---

**Note:** If an error message is displayed indicating that the database must be migrated manually, see [Appendix A, "Manually Upgrading Database Tables"](#) for this procedure.

---

## Upgrading a Proxy Controller from the Command Line

You can manually update Proxy Controllers to the latest available version to gain access to new and updated features.

The Proxy Controller upgrade log is saved locally as `/var/opt/sun/xvm/update-saved-state/update_proxy_bundle_<version number>/updatelog.txt`.

If an error occurs during this process, the system is restored to the prior version.

---



---

**Note:** During the upgrade process, the Proxy Controller is shut down. However, the Proxy Controller must be online at the beginning of the process.

---



---



---



---

**Note:** The upgrade disables the Oracle Solaris 11 update manager service, `svc:/application/pkg/update:default`, if it is enabled.

---



---

### Before You Begin

Upgrade the Enterprise Controllers before you upgrade the Proxy Controllers.

### To Upgrade a Proxy Controller

1. As root, log in to the Proxy Controller system.
2. Back up the contents of the following directory:
  - `/etc/opt/sun/cacao2/instances/scn-proxy/security/` on a Linux Proxy Controller
  - `/etc/cacao/instances/scn-proxy/security/` on an Oracle Solaris Proxy Controller
3. Run the `proxyadm` command with the `status` subcommand to verify that the Proxy Controller is online. If the Proxy Controller is offline, start it using the `proxyadm` command with the `start` subcommand.

For example:

```
# ./proxyadm status
online
```

4. Create a temporary directory on the Proxy Controller system, then copy or move the Proxy Controller upgrade bundle from the `/var/opt/sun/xvm/images/productUpdate` directory on the Enterprise Controller system to the new directory on the Proxy Controller system.
5. Uncompress and un-tar the upgrade bundle, then list the contents of the temporary directory.
  - For example, on a Linux Proxy Controller:
 

```
# unzip proxy-controller.Linux.i686.12.2.2.904.tar.zip
# tar xf proxy-controller.Linux.i686.12.2.2.904.tar
# ls
xvmoc_full_bundle
proxy-controller.Linux.i686.12.2.2.904.tar
#
```
  - On an Oracle Solaris Proxy Controller:
 

```
# gzcat proxy-controller.Solaris.i386.12.2.2.904.tar.zip | tar xf -
# ls
xvmoc_full_bundle
proxy-controller.Solaris.i386.12.2.2.904.tar.zip
```
6. Change to the `xvmoc_full_bundle` directory.
7. Run the install script.

```
# ./install
```

The following option may be used with the install script:

**--install <install bundle path> or -i <install bundle path>**: If the Oracle Enterprise Manager Ops Center install bundle cannot be found in the `/var/opt/sun/xvm/` directory, you must use this option to specify the location of the Oracle Enterprise Manager Ops Center install bundle.

The upgrade is installed on the Proxy Controller. When the upgrade is complete, the install script indicates that all components have been upgraded.

## Upgrading Agent Controllers from the Command Line

You can upgrade Agent Controllers manually. Before you upgrade an Agent Controller, you must upgrade the Proxy Controller that manages it.

If you are upgrading Agent Controllers running in non-global zones, upgrade the Agent Controller in the global zone before upgrading all of the non-global zones. If you are upgrading Agent Controllers running in zones within a Logical Domain, upgrade the Agent Controller in the Control Domain before upgrading the Agent Controllers on the zones.

---



---

**Caution:** If you upgrade Agent Controllers on virtualized systems in an order other than that specified here, the assets do not display correctly in the user interface. To cause the assets to display correctly, unconfigure the Agent Controllers, then reconfigure or reinstall them in the specified order.

---



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---



---

**Note:** Virtualization Agent Controllers require 1024 MB of memory after the upgrade to version 12.2.1.0.0.

---



---



---



---

**Note:** The upgrade disables the Oracle Solaris 11 update manager service, `svc:/application/pkg/update:default`, if it is enabled.

---



---

This procedure requires root access.

1. Copy the new Agent Controller bundle from the Enterprise Controller to the client, remove the existing Agent Controller directory, and extract the new Agent Controller bundle.

For example, on Oracle Solaris 8, 9, or 10 Agent Controllers:

```
# scp <IP of Enterprise
Controller>:/var/opt/sun/xvm/images/agent/OpsCenterAgent.Solaris.`uname
-p`.12.2.2.904.zip /var/tmp
# cd /var/tmp
# rm -r OpsCenterAgent
# unzip OpsCenterAgent.Solaris.`uname -p`.12.2.2.904.zip
```

On Oracle Solaris 11 Agent Controllers:

```
# scp <IP of Enterprise
Controller>:/var/opt/sun/xvm/images/agent/OpsCenterAgent.SolarisIPS.all.12.2.2.
904.zip /var/tmp
```

```
# cd /var/tmp
# rm -r OpsCenterAgent
# unzip OpsCenterAgent.SolarisIPS.all.12.2.2.904.zip
```

**On Linux Agent Controllers:**

```
# scp -p <IP of Enterprise
Controller>:/var/opt/sun/xvm/images/agent/OpsCenterAgent.`uname
-s`.i686.12.2.2.904.zip /var/tmp
# cd /var/tmp
# rm -r OpsCenterAgent
# unzip OpsCenterAgent.`uname -s`.i686.12.2.2.904.zip
```

2. Use the `agentadm` command with the `stop` subcommand to stop the Agent Controller.

For example:

```
./agentadm stop
```

3. Install the Agent Controller upgrade.

```
# cd /var/tmp/OpsCenterAgent
# ./install
```

4. Use the `agentadm` command with the `configure` subcommand and the `--keep-connection` option to configure the new Agent Controller.

- On Oracle Solaris systems, this command is in the `/opt/SUNWxvmoc/bin/` directory.
- On Linux systems, this command is in the `/opt/sun/xvmoc/bin/` directory.

For example:

```
# ./agentadm configure --keep-connection
```

This step also starts the Agent Controller.

---



---

**Note:** The following errors may safely be ignored. These refer to the addition of two `sysidcfg` scripts, which are already present from a prior `agentadm configure` step, such as from the original Agent Controller installation and configuration. The correct `sysidcfg` scripts are called properly by `sysidcfg`.

```
Failed to add the zone configuration automation.
Failed to add the service tags recreate script.
```

---



---

5. Verify the connection.

```
# sc-console list-connections
scn-agent https://172.25.14.21:21165
urn:scn:clregid:1234567-aaaa-bbbb-cccc-123456789abc:YYYYMMDDHHMMSSsss
```

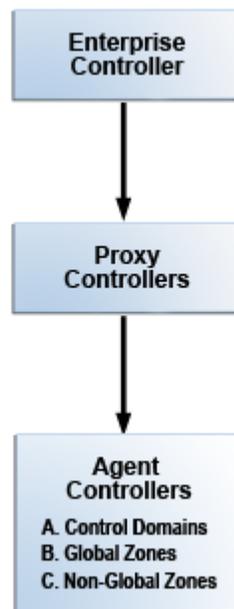
---

## Upgrading a Single EC Environment Using the User Interface

This chapter explains how to upgrade an environment with a single Enterprise Controller through the User Interface.

Upgrade your systems in the following order:

1. Download the upgrade bundle for your environment.
2. Upgrade the Enterprise Controller. This also upgrades the co-located Proxy Controller.
3. Upgrade the separate Proxy Controllers.
4. Upgrade the Agent Controllers through the UI or manually.



Some of the procedures described in this guide use the `ecadm`, `proxyadm`, and `agentadm` commands. See the *Oracle Enterprise Manager Ops Center Administration Guide* for more information about these commands.

- On Oracle Solaris systems, these commands are in the `/opt/SUNWxvmoc/bin/` directory.

- On Linux systems, these commands are in the `/opt/sun/xvmoc/bin/` directory.

---

---

**Note:** The upgrade process creates a backup file for the Enterprise Controller. If the upgrade fails, the Enterprise Controller is uninstalled, the initial version of the Enterprise Controller is reinstalled, and the system is automatically restored from the backup file.

---

---

Once you have begun the upgrade, complete it as soon as possible. Do not allow the Enterprise Controller or Proxy Controllers to be restarted before all systems have been upgraded.

## Downloading Upgrades

You can download the upgrade bundle for Oracle Enterprise Manager Ops Center. This includes upgrades for the Enterprise Controller, Proxy Controllers, and Agent Controllers. Downloading an upgrade does not install it on managed assets.

You can download the upgrade bundles through the user interface, from the Oracle Technology Network, or from the Oracle Software Delivery Cloud.

### Downloading Upgrades From the User Interface

You can download upgrades for Oracle Enterprise Manager Ops Center through the user interface.

Upgrades are downloaded to these directories:

- Enterprise Controller upgrades: `/var/opt/sun/xvm/images/productUpdate`
- Proxy Controller upgrades: `/var/opt/sun/xvm/images/productUpdate`
- Agent Controller upgrades: `/var/opt/sun/xvm/images/agent`

---

---

**Note:** The Enterprise Controller upgrade includes the Proxy Controller and Agent Controller upgrades, but the Proxy Controller and Agent Controller upgrades are not saved to these directories until the Enterprise Controller upgrade is applied.

---

---

#### To View and Download Upgrades

1. Click the **Enterprise Controller** in the Administration section of the Navigation pane.
2. Click **Ops Center Downloads**.  
The Ops Center Downloads Wizard is displayed.
3. (Optional) Hover over the details icon for a download to view more information about it.
4. Select one or more downloads and click **Next**.  
The View License page is displayed.
5. Read the license and click **Accept**.  
The Download Status page is displayed.

6. Check **I wish to download the remaining upgrades in the background**, or wait for the downloads to complete.
7. Click **Next**.  
The Summary page is displayed.
8. Click **Finish**.

## Downloading Upgrades From the Oracle Technology Network

You can download upgrade bundles for the Enterprise Controller and Proxy Controller from the Oracle Technology Network.

1. Log in to the Oracle Technology Network Oracle Enterprise Manager Ops Center page at <http://www.oracle.com/technetwork/oem/ops-center/index.html>.
2. Click **Enterprise Manager Ops Center** in the Enterprise Manager Downloads sidebar.
3. Select **Accept License Agreement**.
4. Click the Enterprise Controller bundle with the correct operating system and architecture to download the full bundle. This bundle contains the Enterprise Controller for the selected architecture, and Proxy Controller and Agent Controller files for every supported operating system and architecture.
5. Copy the Enterprise Controller bundle to the `/var/opt/sun/xvm/images/productUpdate/` directory on the Enterprise Controller system.

## Downloading Upgrades From the Oracle Software Delivery Cloud

You can download upgrade bundles for the Enterprise Controller and Proxy Controller from the Oracle Software Delivery Cloud.

### To Download Upgrades From the Oracle Software Delivery Cloud

1. Log in to the Oracle Software Delivery Cloud at <http://edelivery.oracle.com>.
2. Read and accept the Software License Agreement and Export Restrictions, then click **Continue**.
3. Select the Oracle Enterprise Manager product pack and the correct platform for your environment, then click **Go**.  
The list of download packs is displayed.
4. Select the Media Pack for the target version and click **Continue**.  
The list of available bundles is displayed.
5. Click **download** next to the Enterprise Controller bundle with the correct operating system and architecture to download the full bundle, then save the downloaded bundle locally. This bundle contains the Enterprise Controller files for the selected architecture and operating system, and Proxy Controller and Agent Controller files for every supported operating system and architecture.
6. Copy the Enterprise Controller bundle to the `/var/opt/sun/xvm/images/productUpdate/` directory on the Enterprise Controller system.

## Upgrading a Single Enterprise Controller from the User Interface

The following procedure describes how to upgrade the Enterprise Controller. You can view and install upgrades from the user interface.

The upgrade log file is stored in the `/var/opt/sun/xvm/update-saved-state` directory on the Enterprise Controller.

---

---

**Note:** The upgrade disables the Oracle Solaris 11 update manager service, `svc:/application/pkg/update:default`, if it is enabled.

---

---

### Before You Begin

Perform the following tasks before you upgrade the Enterprise Controller:

- Download the Enterprise Controller upgrade bundle.
- Review pending and scheduled jobs before updating the Enterprise Controller. The upgrade shuts down the Enterprise Controller, which causes running jobs to fail.
- Use the OCDoctor to verify that there are no outstanding issues on the Enterprise Controller system. Run the OCDoctor with the `--update` option, then run the OCDoctor script with the `--troubleshoot` option. See the *Oracle Enterprise Manager Ops Center Administration Guide* for more information about the OCDoctor.
- When you are using an embedded database, verify that the required Oracle Database 11g Enterprise Edition installation files are present in the `/var/tmp/downloads` directory on the Enterprise Controller system.
  - If you are currently using Oracle Enterprise Manager Ops Center version 12.2.1 or earlier, the Oracle Database 11g Enterprise Edition 11.2.0.3 installation files must be present.
  - If you are upgrading to Oracle Enterprise Manager Ops Center 12.2.2, and you are currently using Oracle Enterprise Manager Ops Center version 12.2.0 or version 12.2.1, the Oracle Database 11g Enterprise Edition 11.2.0.4 installation files must be present.

Follow this procedure to download the required installation files if they are not present:

---

---

**Note:** The download procedure requires a valid My Oracle Support (MOS) account, which must be associated with a Customer Service Identifier (CSI) with a software contract.

---

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1. Create a `/var/tmp/downloads` directory on the Enterprise Controller system.
2. Navigate to <http://support.oracle.com>, click Sign In, and sign in with your My Oracle Support (MOS) credentials.
3. Click the Patches & Updates tab.
4. Enter the patch number for your version in the field next to Patch Name or Number.

For Oracle Database 11g Enterprise Edition version 11.2.0.3, enter 10404530.

For Oracle Database 11g Enterprise Edition version 11.2.0.4, enter 13390677.

5. Click the Add Filter icon, then select your Enterprise Controller system's operating system and architecture in the drop-down menu next to Platform.
6. Click Search.  
The Oracle Database 11g Enterprise Edition patch set of the appropriate version is displayed.
7. Click Download.  
The file download popup is displayed.
8. Download the first two files. For Oracle Solaris x86, these files end with `_1of6.zip` and `_2of6.zip`. For Oracle Solaris SPARC and Linux, these files end with `_1of7.zip` and `_2of7.zip`
9. Copy or move the downloaded installation bundles to the `/var/tmp/downloads` directory on the Enterprise Controller system.

### To Upgrade the Enterprise Controller

1. Disable the Auto Service Request (ASR) feature if it is enabled.
  - a. Click **Administration** in the Navigation pane, then select the Enterprise Controller.
  - b. Click **Disable ASR** in the Actions pane.
2. Click the **Enterprise Controller** in the Administration section of the Navigation pane.
3. Click **Upgrade Enterprise Controller**.  
The Upgrade Enterprise Controller Wizard is displayed.
4. (Optional) Mouse over the details icon for an upgrade to view more information about it.
5. Select an upgrade and click **Next**. If the current Oracle Enterprise Manager Ops Center installation file cannot be found, the Install Path Verification page is displayed. If the upgrade fails, the installation file is used for rollback.
6. If the Install Path Verification page is displayed, enter the path to the Oracle Enterprise Manager Ops Center installer and click **Next**. By default, the upgrade process uses the `/var/opt/sun/xvm/update-saved-state/` directory to back out the changes if the upgrade fails.
7. The Job Details page is displayed. When the upgrade shuts down the Enterprise Controller, any jobs that are running fail. View the job details, then click **Next**. The Summary page is displayed.
8. Click **Finish**.  
The upgrade is launched. The upgrade can take up to an hour, during which time the Enterprise Controller is not accessible. Reload the browser regularly, and the login page displays normally when the upgrade is complete.
9. Clear the browser cache and refresh the browser before you log in to the newly upgraded Enterprise Controller.
10. Back up your Oracle Enterprise Manager Ops Center data using the `ecadm` command and the `backup` subcommand.
11. (Optional) Once the upgrade has completed successfully, remove the version 12.1 installer to reclaim disk space.

```
# rm -rf /var/opt/sun/xvm/EnterpriseController_installer_12.1.*
```

12. Enable the Auto Service Request (ASR) feature if you disabled it at the beginning of the upgrade.
  - a. Click **Administration** in the Navigation pane, then select the Enterprise Controller.
  - b. Click **Enable ASR** in the Actions pane.

---

---

**Note:** If you are upgrading to version 12.2.0.0.0, then when the Enterprise Controller upgrade is complete, view the contents of the `/var/opt/sun/xvm/update-saved-state/update_EC_minor_bundle_12.2.0.<build number>/updatelog.txt` file. If an error message indicates that the database must be migrated manually, see [Appendix A, "Manually Upgrading Database Tables"](#) for this procedure.

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## Upgrading a Proxy Controller from the User Interface

You can remotely upgrade Proxy Controllers to the latest available version.

To upgrade a Proxy Controller through the UI, the Enterprise Controller must be able to reach the Proxy Controller with an SSH connection using port 22 during the upgrade process. This connection is used to transfer Proxy Controller bundles and execute commands on the Proxy Controller system. If your security restrictions do not allow this connection, upgrade the Proxy Controller from the command line. See [Upgrading a Proxy Controller from the Command Line](#) for more information.

If an error occurs during this process, the system is restored to the prior version.

---

---

**Note:** The upgrade disables the Oracle Solaris 11 update manager service, `svc:/application/pkg/update:default`, if it is enabled.

---

---

### Before You Begin

Upgrade the Enterprise Controllers before you upgrade the Proxy Controllers.

### To Upgrade a Proxy Controller

1. Click the **Enterprise Controller** in the Administration section of the Navigation pane.
2. Click the **Proxy Controllers** tab.

Proxy Controller information is displayed.
3. Select one or more Proxy Controllers.
4. Click the **Upgrade to Latest Available Version** icon in the center pane.

The Upgrade Wizard is displayed.
5. Select a method for providing SSH credentials for the Proxy Controller or Proxy Controllers.
  - Re-use the SSH credentials used during discovery
  - Apply the same SSH credentials to all
  - Enter SSH credentials for each

6. Click **Finish**.

A job is launched to update the Proxy Controllers.

## Upgrading Agent Controllers from the User Interface

You can remotely upgrade Agent Controllers to the latest available version.

If you are upgrading Agent Controllers running in non-global zones, upgrade the Agent Controller in the global zone before upgrading all of the non-global zones. If you are upgrading Agent Controllers running in zones within a Logical Domain, upgrade the Agent Controller in the Control Domain before upgrading the Agent Controllers on the zones.

---



---

**Caution:** If you upgrade Agent Controllers on virtualized systems in an order other than that specified here, the assets do not display correctly in the user interface. To cause the assets to display correctly, unconfigure the Agent Controllers, then reconfigure or reinstall them in the specified order.

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**Note:** Virtualization Agent Controllers require 1024 MB of memory after the upgrade to version 12.2.1.0.0.

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---

**Note:** The upgrade disables the Oracle Solaris 11 update manager service, `svc:/application/pkg/update:default`, if it is enabled.

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### To Upgrade Agent Controllers

1. Select one or more assets with Agent Controllers.
  - Select an asset from the All Assets section of the Assets tab.
  - Select a group that contains operating systems.
2. Click **Upgrade Agent Controller** if you selected one asset, or **Upgrade All Agent Controllers** if you selected a group.

The Upgrade Agent Controllers page is displayed.

3. Select an upgrade option for the system or systems to be upgraded, then click **Next**.
  - The Automatic upgrade option lets you upgrade Agent Controllers without using SSH credentials. The Agent Controllers must be running for an automatic upgrade.
  - The SSH upgrade using one set of credentials for all targets option prompts you for a single set of SSH credentials for all systems to be upgraded.
  - The SSH upgrade using individual credentials for each target option prompts you for a separate set of credentials for each system to be upgraded.

The Summary page is displayed.

4. Click **Finish**.

The Agent Controller upgrade job is launched.



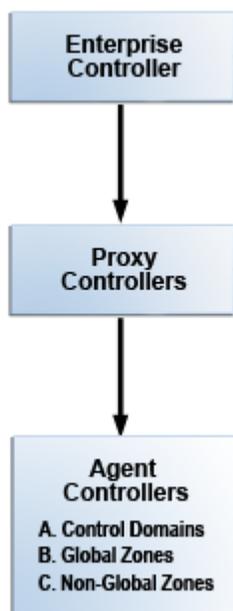
---

## Upgrading a Single EC Environment Using the Command Line

This chapter explains how to upgrade an environment with a single Enterprise Controller through the command line.

Upgrade your systems in the following order:

1. Download the upgrade bundle for your environment.
2. Upgrade the Enterprise Controller. This also upgrades the co-located Proxy Controller.
3. Upgrade the separate Proxy Controllers.
4. Upgrade the Agent Controllers through the UI or manually.



Some of the procedures described in this guide use the `ecadm`, `proxyadm`, and `agentadm` commands. See the *Oracle Enterprise Manager Ops Center Administration Guide* for more information about these commands.

- On Oracle Solaris systems, these commands are in the `/opt/SUNWxvmoc/bin/` directory.

- On Linux systems, these commands are in the `/opt/sun/xvmoc/bin/` directory.

---

---

**Note:** The upgrade process creates a backup file for the Enterprise Controller. If the upgrade fails, the Enterprise Controller is uninstalled, the initial version of the Enterprise Controller is reinstalled, and the system is automatically restored from the backup file.

---

---

Once you have begun the upgrade, complete it as soon as possible. Do not allow the Enterprise Controller or Proxy Controllers to be restarted before all systems have been upgraded.

## Downloading Upgrades

You can download the upgrade bundle for Oracle Enterprise Manager Ops Center. This includes upgrades for the Enterprise Controller, Proxy Controllers, and Agent Controllers. Downloading an upgrade does not install it on managed assets.

You can download the upgrade bundles through the user interface, from the Oracle Technology Network, or from the Oracle Software Delivery Cloud.

## Downloading Upgrades From the User Interface

You can download upgrades for Oracle Enterprise Manager Ops Center through the user interface.

Upgrades are downloaded to these directories:

- Enterprise Controller upgrades: `/var/opt/sun/xvm/images/productUpdate`
- Proxy Controller upgrades: `/var/opt/sun/xvm/images/productUpdate`
- Agent Controller upgrades: `/var/opt/sun/xvm/images/agent`

---

---

**Note:** The Enterprise Controller upgrade includes the Proxy Controller and Agent Controller upgrades, but the Proxy Controller and Agent Controller upgrades are not saved to these directories until the Enterprise Controller upgrade is applied.

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### To View and Download Upgrades

1. Click the **Enterprise Controller** in the Administration section of the Navigation pane.
2. Click **Ops Center Downloads**.  
The Ops Center Downloads Wizard is displayed.
3. (Optional) Hover over the details icon for a download to view more information about it.
4. Select one or more downloads and click **Next**.  
The View License page is displayed.
5. Read the license and click **Accept**.  
The Download Status page is displayed.

6. Check **I wish to download the remaining upgrades in the background**, or wait for the downloads to complete.
7. Click **Next**.  
The Summary page is displayed.
8. Click **Finish**.

## Downloading Upgrades From the Oracle Technology Network

You can download upgrade bundles for the Enterprise Controller and Proxy Controller from the Oracle Technology Network.

1. Log in to the Oracle Technology Network Oracle Enterprise Manager Ops Center page at <http://www.oracle.com/technetwork/oem/ops-center/index.html>.
2. Click **Enterprise Manager Ops Center** in the Enterprise Manager Downloads sidebar.
3. Select **Accept License Agreement**.
4. Click the Enterprise Controller bundle with the correct operating system and architecture to download the full bundle. This bundle contains the Enterprise Controller for the selected architecture, and Proxy Controller and Agent Controller files for every supported operating system and architecture.
5. Copy the Enterprise Controller bundle to the `/var/opt/sun/xvm/images/productUpdate/` directory on the Enterprise Controller system.

## Downloading Upgrades From the Oracle Software Delivery Cloud

You can download upgrade bundles for the Enterprise Controller and Proxy Controller from the Oracle Software Delivery Cloud.

### To Download Upgrades From the Oracle Software Delivery Cloud

1. Log in to the Oracle Software Delivery Cloud at <http://edelivery.oracle.com>.
2. Read and accept the Software License Agreement and Export Restrictions, then click **Continue**.
3. Select the Oracle Enterprise Manager product pack and the correct platform for your environment, then click **Go**.  
The list of download packs is displayed.
4. Select the Media Pack for the target version and click **Continue**.  
The list of available bundles is displayed.
5. Click **download** next to the Enterprise Controller bundle with the correct operating system and architecture to download the full bundle, then save the downloaded bundle locally. This bundle contains the Enterprise Controller files for the selected architecture and operating system, and Proxy Controller and Agent Controller files for every supported operating system and architecture.
6. Copy the Enterprise Controller bundle to the `/var/opt/sun/xvm/images/productUpdate/` directory on the Enterprise Controller system.

## Upgrading a Single Enterprise Controller from the Command Line

The following procedures describe how to upgrade the Enterprise Controller, with either an embedded database or a customer-managed database. If you are running Oracle Enterprise Manager Ops Center in Disconnected Mode, you must upgrade from the command line. The co-located Proxy Controller is upgraded as well, even if it is not enabled.

The Enterprise Controller upgrade log is saved locally as

```
/var/opt/sun/xvm/update-saved-state/update_satellite_bundle_<version number>/updatelog.txt.
```

The upgrade log file is stored in the `/var/opt/sun/xvm/update-saved-state` directory on the Enterprise Controller.

If an error occurs during this process, the system is restored to the prior version.

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**Note:** The upgrade disables the Oracle Solaris 11 update manager service, `svc:/application/pkg/update:default`, if it is enabled.

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### Before You Begin

Perform the following tasks before you upgrade the Enterprise Controller:

- Verify that the Enterprise Controller has at least five (5) GB of free space for the upgrade bundle.
- Acquire the upgrade bundle from Oracle and transfer it to the Enterprise Controller system.
- Review pending and scheduled jobs before updating the Enterprise Controller. The upgrade shuts down the Enterprise Controller, which causes running jobs to fail. Scheduled jobs cannot be launched while the upgrade is being applied.
- Use the ODDoctor to verify that there are no outstanding issues on the Enterprise Controller system. Run the ODDoctor with the `--update` option, then run the ODDoctor script with the `--troubleshoot` option. See the *Oracle Enterprise Manager Ops Center Administration Guide* for more information about the ODDoctor.
- When you are using an embedded database, verify that the required Oracle Database 11g Enterprise Edition installation files are present in the `/var/tmp/downloads` directory on the Enterprise Controller system.
  - If you are currently using Oracle Enterprise Manager Ops Center version 12.2.1 or earlier, the Oracle Database 11g Enterprise Edition 11.2.0.3 installation files must be present.
  - If you are upgrading to Oracle Enterprise Manager Ops Center 12.2.2, and you are currently using Oracle Enterprise Manager Ops Center version 12.2.0 or version 12.2.1, the Oracle Database 11g Enterprise Edition 11.2.0.4 installation files must be present.

Follow this procedure to download the required installation files if they are not present:

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**Note:** The download procedure requires a valid My Oracle Support (MOS) account, which must be associated with a Customer Service Identifier (CSI) with a software contract.

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1. Create a `/var/tmp/downloads` directory on the Enterprise Controller system.
2. Navigate to <http://support.oracle.com>, click Sign In, and sign in with your My Oracle Support (MOS) credentials.
3. Click the Patches & Updates tab.
4. Enter the patch number for your version in the field next to Patch Name or Number.  
For Oracle Database 11g Enterprise Edition version 11.2.0.3, enter 10404530.  
For Oracle Database 11g Enterprise Edition version 11.2.0.4, enter 13390677.
5. Click the Add Filter icon, then select your Enterprise Controller system's operating system and architecture in the drop-down menu next to Platform.
6. Click Search.  
The Oracle Database 11g Enterprise Edition patch set of the appropriate version is displayed.
7. Click Download.  
The file download popup is displayed.
8. Download the first two files. For Oracle Solaris x86, these files end with `_1of6.zip` and `_2of6.zip`. For Oracle Solaris SPARC and Linux, these files end with `_1of7.zip` and `_2of7.zip`.
9. Copy or move the downloaded installation bundles to the `/var/tmp/downloads` directory on the Enterprise Controller system.

### Upgrading the Enterprise Controller From the Command Line

This procedure describes how to upgrade an Enterprise Controller with an embedded database.

1. Disable the Auto Service Request (ASR) feature if it is enabled.
  - a. Click **Administration** in the Navigation pane, then select the Enterprise Controller.
  - b. Click **Disable ASR** in the Actions pane.
2. As root, log in to the Enterprise Controller.
3. Verify that the Enterprise Controller is online using `ecadm` command. If necessary, use the `ecadm start` command to start the Enterprise Controller. For example:
 

```
# /opt/SUNWxvmoc/bin/ecadm status
online
```
4. Create a temporary directory within the directory where you installed Oracle Enterprise Manager Ops Center, then copy or move the upgrade bundle to the new directory. For example:
 

```
# mkdir /var/tmp/OC/update
# cp enterprise-controller.Solaris.sparc.12.2.2.904.tar.zip /var/tmp/OC/update
```
5. Change to the directory containing the upgrade bundle.
 

```
# cd /var/tmp/OC/update
```
6. Unzip and un-tar the bundle.

- If your upgrade bundle has the `.tar.zip` extension, use the `unzip` and `tar` commands to uncompress and `un-tar` the bundle, then list the contents of the temporary directory. The following command example retains the original compressed bundle file. For example:

```
# unzip enterprise-controller.Solaris.i386.12.2.2.904.tar.zip | tar xf -
# ls
enterprise-controller.Solaris.i386.12.2.2.904.tar.zip
xvmoc_full_bundle
#
```

- If your upgrade bundle has the `.zip` extension, use the `unzip` command to uncompress the bundle. For example:

```
# unzip enterprise-controller.Solaris.i386.12.2.2.904.zip
# ls
enterprise-controller.Solaris.i386.12.2.2.904.zip
xvmoc_full_bundle
#
```

7. Change to the `xvmoc_full_bundle` directory and run the install script.

```
# cd xvmoc_full_bundle
# ./install
```

The following option can be used with the install script:

**--verbose or -v:** Increases verbosity of output from upgrade program. Without this option, non-verbose output is given.

When the upgrade is complete, the install script indicates that all Oracle Enterprise Manager Ops Center components have been upgraded to the latest version.

8. Clear your browser cache and refresh your browser before you log in to the newly upgraded Enterprise Controller.
9. Back up your Oracle Enterprise Manager Ops Center data using the `ecadm` command and the `backup` subcommand.
10. (Optional) Once the upgrade has completed successfully, remove the version 12.1 installer to reclaim disk space.

```
# rm -rf /var/opt/sun/xvm/EnterpriseController_installer_12.1.*
```

11. Enable the Auto Service Request (ASR) feature if you disabled it at the beginning of the upgrade.
  - a. Click **Administration** in the Navigation pane, then select the Enterprise Controller.
  - b. Click **Enable ASR** in the Actions pane.

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**Note:** If an error message is displayed indicating that the database must be migrated manually, see [Appendix A, "Manually Upgrading Database Tables"](#) for this procedure.

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## Upgrading a Proxy Controller from the Command Line

You can manually update Proxy Controllers to the latest available version to gain access to new and updated features.

The Proxy Controller upgrade log is saved locally as  
`/var/opt/sun/xvm/update-saved-state/update_proxy_bundle_<version number>/updatelog.txt.`

If an error occurs during this process, the system is restored to the prior version.

---

**Note:** During the upgrade process, the Proxy Controller is shut down. However, the Proxy Controller must be online at the beginning of the process.

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**Note:** The upgrade disables the Oracle Solaris 11 update manager service, `svc:/application/pkg/update:default`, if it is enabled.

---

### Before You Begin

Upgrade the Enterprise Controllers before you upgrade the Proxy Controllers.

### To Upgrade a Proxy Controller

1. As root, log in to the Proxy Controller system.
2. Back up the contents of the following directory:
  - `/etc/opt/sun/cacao2/instances/scn-proxy/security/` on a Linux Proxy Controller
  - `/etc/cacao/instances/scn-proxy/security/` on an Oracle Solaris Proxy Controller
3. Run the `proxyadm` command with the `status` subcommand to verify that the Proxy Controller is online. If the Proxy Controller is offline, start it using the `proxyadm` command with the `start` subcommand.

For example:

```
# ./proxyadm status
online
```

4. Create a temporary directory on the Proxy Controller system, then copy or move the Proxy Controller upgrade bundle from the `/var/opt/sun/xvm/images/productUpdate` directory on the Enterprise Controller system to the new directory on the Proxy Controller system.
5. Uncompress and un-tar the upgrade bundle, then list the contents of the temporary directory.

- For example, on a Linux Proxy Controller:

```
# unzip proxy-controller.Linux.i686.12.2.2.904.tar.zip
# tar xf proxy-controller.Linux.i686.12.2.2.904.tar
# ls
xvmoc_full_bundle
proxy-controller.Linux.i686.12.2.2.904.tar
#
```

- On an Oracle Solaris Proxy Controller:

```
# gzcat proxy-controller.Solaris.i386.12.2.2.904.tar.zip | tar xf -
# ls
xvmoc_full_bundle
proxy-controller.Solaris.i386.12.2.2.904.tar.zip
```

6. Change to the `xvmoc_full_bundle` directory.
7. Run the install script.

```
# ./install
```

The following option may be used with the install script:

**--install <install bundle path> or -i <install bundle path>**: If the Oracle Enterprise Manager Ops Center install bundle cannot be found in the `/var/opt/sun/xvm/` directory, you must use this option to specify the location of the Oracle Enterprise Manager Ops Center install bundle.

The upgrade is installed on the Proxy Controller. When the upgrade is complete, the install script indicates that all components have been upgraded.

## Upgrading Agent Controllers from the Command Line

You can upgrade Agent Controllers manually. Before you upgrade an Agent Controller, you must upgrade the Proxy Controller that manages it.

If you are upgrading Agent Controllers running in non-global zones, upgrade the Agent Controller in the global zone before upgrading all of the non-global zones. If you are upgrading Agent Controllers running in zones within a Logical Domain, upgrade the Agent Controller in the Control Domain before upgrading the Agent Controllers on the zones.

---

---

**Caution:** If you upgrade Agent Controllers on virtualized systems in an order other than that specified here, the assets do not display correctly in the user interface. To cause the assets to display correctly, unconfigure the Agent Controllers, then reconfigure or reinstall them in the specified order.

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**Note:** Virtualization Agent Controllers require 1024 MB of memory after the upgrade to version 12.2.1.0.0.

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**Note:** The upgrade disables the Oracle Solaris 11 update manager service, `svc:/application/pkg/update:default`, if it is enabled.

---

---

This procedure requires root access.

1. Copy the new Agent Controller bundle from the Enterprise Controller to the client, remove the existing Agent Controller directory, and extract the new Agent Controller bundle.

For example, on Oracle Solaris 8, 9, or 10 Agent Controllers:

```
# scp <IP of Enterprise
Controller>:/var/opt/sun/xvm/images/agent/OpsCenterAgent.Solaris.`uname
-p`.12.2.2.904.zip /var/tmp
# cd /var/tmp
# rm -r OpsCenterAgent
# unzip OpsCenterAgent.Solaris.`uname -p`.12.2.2.904.zip
```

**On Oracle Solaris 11 Agent Controllers:**

```
# scp <IP of Enterprise
Controller>:/var/opt/sun/xvm/images/agent/OpsCenterAgent.SolarisIPS.all.12.2.2.
904.zip /var/tmp
# cd /var/tmp
# rm -r OpsCenterAgent
# unzip OpsCenterAgent.SolarisIPS.all.12.2.2.904.zip
```

**On Linux Agent Controllers:**

```
# scp -p <IP of Enterprise
Controller>:/var/opt/sun/xvm/images/agent/OpsCenterAgent.`uname
-s`.i686.12.2.2.904.zip /var/tmp
# cd /var/tmp
# rm -r OpsCenterAgent
# unzip OpsCenterAgent.`uname -s`.i686.12.2.2.904.zip
```

2. Use the `agentadm` command with the `stop` subcommand to stop the Agent Controller.
  - On Oracle Solaris systems, this command is in the `/opt/SUNWxvmoc/bin/` directory.
  - On Linux systems, this command is in the `/opt/sun/xvmoc/bin/` directory.

For example:

```
./agentadm stop
```

3. Install the Agent Controller upgrade.

```
# cd /var/tmp/OpsCenterAgent
# ./install
```

4. Use the `agentadm` command with the `configure` subcommand and the `--keep-connection` option to configure the new Agent Controller.

For example:

```
# ./agentadm configure --keep-connection
```

This step also starts the Agent Controller.

---

**Note:** The following errors may safely be ignored. These refer to the addition of two `sysidcfg` scripts, which are already present from a prior `agentadm configure` step, such as from the original Agent Controller installation and configuration. The correct `sysidcfg` scripts are called properly by `sysidcfg`.

```
Failed to add the zone configuration automation.
Failed to add the service tags recreate script.
```

---

5. Verify the connection.

```
# sc-console list-connections
scn-agent https://172.25.14.21:21165
urn:scn:clregid:1234567-aaaa-bbbb-cccc-123456789abc:YYYYMMDDHHMMSSsss
```



---

---

## Manually Upgrading Database Tables

The format of database tables used by the historical data service has changed in version 12.2.0.0.0 to save space in the database.

Under most circumstances, the upgrade process automatically converts the database to the new format. If this portion of the upgrade is not successful, an error message is displayed on the command line and in the

`/var/opt/sun/xvm/update-saved-state/update_EC_minor_bundle_12.2.0.<build number>/updatelog.txt` file, and you must update the database manually.

### Manually Migrating Report Service Data

Perform the following steps to migrate the Report Service Data:

1. Start the Oracle Enterprise Manager Ops Center CLI and connect to the Enterprise Controller.

```
/opt/SUNWoccli/bin/oc
xvmSh > connect
```

2. Use the report service CLI.

```
localhost > reports
```

3. List the existing partitions.

```
localhost/reports > list
```

For example:

```
localhost/reports > list
Daily partition 20140122 (with 0/0/0/0/0 values) state is : 1
Daily partition 20140204 (with 1200/0/0/0/0 values) state is : 0
Daily partition 20140205 (with 605/0/0/0/0 values) state is : 0
Daily partition 20140206 (with 6205/0/0/0/0 values) state is : 0
Daily partition 20140207 (with 0/0/0/0/0 values) state is : 0
Older samples (outside partitions) : 0/16416/1368/684/684
```

4. Run the check command to show the partitions that must be converted.

```
localhost/reports > check
```

For example:

```
localhost/reports > check
@ Partition 20140122 : no conversion is needed
@ Partition 20140204 : a conversion is needed for 1200 old samples
@ Partition 20140205 : no conversion is needed
```

```
@ Partition 20140206 : no conversion is needed
@ Partition 20140207 : no conversion is needed
```

**5. For each partition that requires conversion, run the following command:**

```
localhost/reports > convert -p <partition name>
```

For example:

```
localhost/reports > convert -p 20140204
This operation may take time : please be patient and wait...
Conversion of old samples : starting ...
1200 old format samples converted for partition 20140204 in table
rm_resource_daily_trend in 261 ms
0 old format samples converted for partition 20140204 in table
rm_resource_1hour_trend in 11 ms
0 old format samples converted for partition 20140204 in table
rm_resource_12hour_trend in 3 ms
0 old format samples converted for partition 20140204 in table
rm_resource_24hour_trend in 1 ms
0 old format samples converted for partition 20140204 in table
rm_resource_24hour_stats in 1 ms
Old format sample conversion for partition 20140204 : done in 318 ms with
1200 samples : perf = 0 samples / seconds
```

**6. Verify that all of the partitions have been converted:**

```
localhost/reports > check
```

For example:

```
localhost/reports > check
Partition 20140122 : no conversion is needed
Partition 20140204 : no conversion is needed
Partition 20140205 : no conversion is needed
Partition 20140206 : no conversion is needed
Partition 20140207 : no conversion is needed
All samples have been converted : please run the convert command with no
argument to finish the migration
```

**7. Finalize the migration using the convert command.**

```
localhost/reports > convert
```

For example:

```
localhost/reports > convert
This operation may take time : please be patient and wait...
Conversion of old samples : starting ...
0 old format samples converted for partition null in table
rm_resource_daily_trend in 5 ms
Suppressing useless column and index for table rm_resource_daily_trend
16416 old format samples converted for partition null in table
rm_resource_1hour_trend in 3674 ms
Suppressing useless column and index for table rm_resource_1hour_trend
1368 old format samples converted for partition null in table
rm_resource_12hour_trend in 315 ms
Suppressing useless column and index for table rm_resource_12hour_trend
684 old format samples converted for partition null in table
rm_resource_24hour_trend in 183 ms
Suppressing useless column and index for table rm_resource_24hour_trend
684 old format samples converted for partition null in table
```

```
rm_resource_24hour_stats in 106 ms
Suppressing useless column and index for table rm_resource_24hour_stats
Old format sample conversion : done in 5139 ms with 19152 samples : perf =
3830 samples / seconds
```

**8. Verify that the migration has been completed.**

```
localhost/reports > check
```

For example:

```
localhost/reports > check
Table rm_resource_daily_trend is already at new format
Table rm_resource_1hour_trend is already at new format
Table rm_resource_12hour_trend is already at new format
Table rm_resource_24hour_trend is already at new format
Table rm_resource_24hour_stats is already at new format
All conversions have been performed : migration is DONE !
```

**9. Exit the CLI.**

```
localhost/reports > exit
```

The Report Service Data is now migrated.

