



HP Operations Agent and HP Operations Smart Plug-ins for Infrastructure

Software Version: 11.14

For the Windows[®], HP-UX, Solaris, Linux, and AIX operating systems

Installation Guide

Document Release Date: February 2015
Software Release Date: June 2014

Legal Notices

Warranty

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

The information contained herein is subject to change without notice.

Restricted Rights Legend

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

Copyright Notice

© Copyright 2010 - 2015 Hewlett-Packard Development Company, L.P.

Trademark Notices

Intel® and Itanium® are trademarks of Intel Corporation in the U.S. and other countries.

Microsoft®, Windows®, Windows® XP, and Windows Vista® are U.S. registered trademarks of Microsoft Corporation.

UNIX® is a registered trademark of The Open Group.

Acknowledgements

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com).

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>).

This product includes software written by Tim Hudson (tjh@cryptsoft.com).

This product includes software developed by the Apache Software Foundation (<http://www.apache.org/>).

This product includes an interface of the 'zlib' general purpose compression library, which is Copyright ©1995-2002 Jean-loup Gailly and Mark Adler.

Documentation Updates

The title page of this document contains the following identifying information:

- Software Version number, which indicates the software version.
- Document Release Date, which changes each time the document is updated.
- Software Release Date, which indicates the release date of this version of the software.

To check for recent updates or to verify that you are using the most recent edition of a document, go to: <http://h20230.www2.hp.com/selfsolve/manuals>

This site requires that you register for an HP Passport and sign in. To register for an HP Passport ID, go to: <http://h20229.www2.hp.com/passport-registration.html>

Or click the **New users - please register** link on the HP Passport login page.

You will also receive updated or new editions if you subscribe to the appropriate product support service. Contact your HP sales representative for details.

Support

Visit the HP Software Support Online web site at: <http://www.hp.com/go/hpsoftwaresupport>

This web site provides contact information and details about the products, services, and support that HP Software offers.

HP Software online support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valued support customer, you can benefit by using the support web site to:

- Search for knowledge documents of interest
- Submit and track support cases and enhancement requests
- Download software patches
- Manage support contracts
- Look up HP support contacts
- Review information about available services

- Enter into discussions with other software customers
- Research and register for software training

Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract. To register for an HP Passport ID, go to:

<http://h20229.www2.hp.com/passport-registration.html>

To find more information about access levels, go to:

http://h20230.www2.hp.com/new_access_levels.jsp

HP Software Solutions Now accesses the HPSW Solution and Integration Portal Web site. This site enables you to explore HP Product Solutions to meet your business needs, includes a full list of Integrations between HP Products, as well as a listing of ITIL Processes. The URL for this Web site is <http://h20230.www2.hp.com/sc/solutions/index.jsp>

Contents

Chapter 1: Introduction	9
Consolidated Media	9
Downloading the HP Operations Agent and HP Operations Smart Plug-ins for Infrastructure 11.14	10
Planning for the Installation of HP Operations Agent 11.14	11
Chapter 2: Registering the Operations Agent on the HPOM Management Server (and Installing the Infrastructure SPIs)	13
Registering on the HPOM for Windows Management Server	13
Register the Operations Agent Deployment Packages (version 11.11) and Install Infrastructure SPIs 11.11	14
Prerequisites - Before You Start Registering the Deployment Packages (With Patches) ...	15
Install the HP Operations Agent on the Management Server	15
Register the Operations agent Deployment Packages (version 11.14) Using Patch ISO. ...	16
Register the Operations agent Deployment Packages (Version 11.11 and 11.14 Together) ...	16
Install Only Infrastructure SPIs on the Management Server	17
Registering on the HPOM for UNIX Management Server	20
Register the Operations agent Deployment Packages (version 11.11) and Install Infrastructure SPIs 11.11	21
Prerequisites - Before You Start Registering the Deployment Packages (With Patches) ...	22
Install the HP Operations Agent on the Management Server	22
Back Up the OpenVMS Deployment Package (Only on HPOM for UNIX)	22
Register the Operations agent Deployment Packages (version 11.14) Using Patch ISO ...	23
Register the Operations agent Deployment Packages (Version 11.11 and 11.14 Together) ...	23
Install Only Infrastructure SPIs on the Management Server	24
Chapter 3: Removing the Deployment Package	27
Chapter 4: Upgrading to the HP Operations Agent 11.14 from the Previous Versions	28
Chapter 5: Update Deployment Packages on Management Servers in Clusters	29
Install the HP Operations Agent 11.14 on the Active Management Server	29
Install HP Operations Agent 11.14 Deployment Packages on the Active Management Server	32

Install the HP Operations agent on Other Management Servers in the Cluster	32
Synchronize Installer Scripts After Failover	33
Chapter 6: Different Modes of the HP Operations Agent Installation	34
Chapter 7: Installing the HP Operations agent 11.14	35
Prerequisites for Installing the HP Operations Agent 11.11	35
Prerequisites for Windows	36
Disk Space	38
Prerequisites for Linux	39
Disk Space	40
Prerequisites for HP-UX	40
Disk Space	41
Prerequisites for Solaris	42
Disk Space	43
Prerequisites for AIX	43
Disk Space	44
Prerequisites for Debian and Ubuntu	44
Prerequisites for Installing the HP Operations agent 11.14	46
Hardware Requirements	46
Software Requirements	46
Additional Requirements for vSphere Management Assistant Nodes	47
Install the HP Operations Agent 11.14 on a Node Manually	47
On Windows Nodes	47
On UNIX/Linux Nodes	48
Post-Installation Task for Nodes Under HPOM for Windows	48
Verify the installation	49
Installing Operations Agent Remotely	49
Before You Begin	49
Install the Operations Agent	51
Verify Installation on the Node	52
Install the HP Operations Agent 11.11 and 11.14 Together	53
Install on Windows Nodes	53
Installing Operations agent 11.11	53
Installing Operations agent 11.11 and 11.14 Together	54
Using the Consolidated Media	54
Install on UNIX/Linux Nodes	55
Installing Operations agent 11.11	55
Installing Operations agent 11.11 and 11.14 Together	55

Using the Consolidated Media	55
Installing the HP Operations agent in the Inactive Mode	56
Install the HP Operations agent 11.11 and 11.14 Together	56
Install on Windows Nodes	57
Install on UNIX/Linux Nodes	58
Configure an Inactive Agent to Switch to the Active Mode	59
Install from the HPOM Console	61
Prerequisites for Installing the HP Operations agent from the HPOM Console	61
From the HPOM for Windows Console	61
From the HPOM for UNIX Console	62
Modify the Default Deployment Behavior	63
Reverting to the HP Operations agent 11.11	63
Stopping Unnecessary Processes	63
Stopping Operations agent Processes	66
Chapter 8: Installing Infrastructure SPIs	68
Install Infrastructure SPIs by Using Infrastructure SPIs Media	68
Install Infrastructure SPIs 11.14 Patch Only	69
Chapter 9: Installing HP Operations Agent Using HP Server Automation	70
Import the HP Operations Agent Software	71
Create a Software Policy	72
Attach the Software Policy to a Device or Server	73
Verifying the Installation	74
Chapter 10: Installing HP Operations Agent using Microsoft System Center 2012 Configuration Manager	76
Create the HP Operations Agent Package	76
Deploy the HP Operations Agent Package	77
Verifying the Installation	78
Chapter 11: Installing HP Operations Agent Using Red Hat Network Satellite Server	80
Collect and Store the Operations agent depot files (RPMs) in Software Delivery Repository ..	81
Create the Setup on the Target Node	81
Deploy the Packages on the Target Node	82
Remove the Packages from the Target Node	83

Chapter 12: Installing the HP Operations agent on Platforms Supported with Limitation	85
Install the HP Operations agent on Platforms Supported with Limitation Remotely from the HPOM for Windows Console	85
Install the HP Operations Agent on Platforms Supported with Limitation Remotely from the HPOM for UNIX Console	86
Install the HP Operations Agent on Platforms Supported with Limitation Remotely Using Command Line	86
Chapter 13: Removing the HP Operations agent	88
Removing the HP Operations Agent 11.14 Patch	88
Remove the HP Operations agent Remotely Using the Command Line	89
Remove the HP Operations Agent from Linux Nodes	90
Reinstall the HP Operations Agent 11.14 on Linux	90
Removing the Agent with the oacleanall Script	90
Removing the HP Operations agent 11.11 and 11.14 Together	91
Chapter 14: Removing Infrastructure SPIs	93
Chapter 15: HP Operations agent in High Availability Clusters	95
Chapter 16: Configuring Certificates for the HP Operations Agent and HP Operations Smart Plug-ins for Infrastructure	102
Request Certificates Automatically	102
Request Certificates with an Installation Key	103
Deploy Certificates Manually	104
Restore Certificates	106
Chapter 17: Troubleshooting	108
Installation Fails on a Windows Node with the Error "MSI version is less than 4.5"	108
Remote Installation of the Agent from the HPOM for Windows Console Fails	109
Disk Space Check Fails on HP-UX	109
Error Messages Appear in the "status.perfalarm" File After Installing the Agent with the "syncwpar" Command	110
Reinstallation of the Agent Fails on Windows	110
Remote Installation from the HPOM Console Fails on Windows 7 x64 Nodes	110
Installation of the Infrastructure SPIs Fails on Solaris System with the Error "XMLin() requires either XML::SAX or XML::Parser"	111

Upgrading from the HP Operations agent 8.60 to 11.1x fails using Red Hat Network Satellite
Server111

Send Documentation Feedback112

Chapter 1: Introduction

The HP Operations agent helps you monitor a system by collecting metrics that indicate the health, performance, and availability of essential elements of the system. While HP Operations Manager (HPOM) presents you with the framework to monitor and manage multiple systems through a single, interactive console, the HP Operations agent deployed on individual nodes helps you gather vital information to facilitate the monitoring process.

The HP Operations agent contains the **consolidated media- HP Operations Agent and Infrastructure SPIs 11.14 DVD** which includes the HP Operations agent and Infrastructure packages for version 11.11 and patch ISO for 11.14 version. If you want to install the Infrastructure SPIs with the electronic media, make sure to download the media for *all* node platforms (and not a platform-specific ISO file). Platform-specific ISO files do not contain the Infrastructure SPIs.

You can obtain the HP Operations Agent 11.14 from the Software Support Online web site. The HP Operations Agent 11.14 is available in the ISO format—five different ISO files for five operating systems supported by the HP Operations agent, one ISO file for Infrastructure SPI, and one ISO file for Virtual Appliance (VA).

Consolidated Media

The consolidated media provides both the HP Operations Agent and Infrastructure SPIs packages for the base media (version 11.11 and patch version 11.14) together.

The base media is the DVD containing the HP Operations agent and Infrastructure SPIs packages for all the platforms. The patch releases contain enhancements and defect fixes of the product. You can download the platform-specific ISO's from the <http://h20230.www2.hp.com/selfsolve/patches>

The HP Operations agent releases are categorized as:

Release Version	Media	Patch
11.10	Yes	-
11.11	Yes	-
11.14	Yes (Consolidated media containing the packages of the product for the version 11.11 and platform specific ISO's for the version 11.14)	Yes

By using the consolidated media version 11.14, you have an option to upgrade from Operations agent 8.53, 8.60, 11.0x, or 11.10 to the following version in a **single** step:

- Base media version (11.11)

or

- Base media version (11.11) and then the patch version (11.14) together

You can do the following by using this media:

- Register HP Operations agent 11.11 and 11.14 together on the management server.
- Register HP Operations agent 11.11 on the management server.
- Install Infrastructure SPIs 11.11 and 11.14 together on the management server.
- Install HP Operations agent (version 11.11 and 11.14) on the managed node.

The consolidated media contains the following folders:

- Packages - This folder contains the HP Operations agent install packages for different operating systems.
- Patches - This folder contains version 11.14 patches for all the operating systems.
- Integration - This folder contains Infrastructure SPIs package and patch.

The following table lists the patch names for all five platforms of HP Operations agent, one patch of Virtual Appliance, and one patch of Infrastructure SPI:

Operations agent and Infrastructure SPI Patch Names

Platform	File Name
Windows	OAWIN_00032
Linux	OALIN_00032
HP-UX	OAHPUX_00032
Solaris	OASOL_00032
AIX	OAAIX_00032
VA	OAVA_00003
Infra SPI	INFSPI_00003

Downloading the HP Operations Agent and HP Operations Smart Plug-ins for Infrastructure 11.14

To download HP Operations Agent 11.14 ISO files, follow these steps:

1. Go to the following web site:
<http://h20230.www2.hp.com/selfsolve/patches>

2. Log on to the web site with your HP Passport credentials.
3. Search with the keyword HP Operations Agent 11.14. The search result includes links to download the ISO files for the HP Operations Agent 11.14.
4. Click one of the links and download the ISO file on your system.

The ISO files for the HP Operations Agent 11.14 not only include updates for the HP Operations Agent 11.11 running on managed nodes, but they also include updates for deployment packages for the HP Operations agent 11.11. Although you can just install the updates on the agent locally on managed nodes, updating the deployment packages on the management server provides you with an additional patch deployment feature that simplifies the process of deploying the patch centrally and remotely from the management server to multiple nodes.

Tip: You are required to install the HP Operations Agent 11.02 or higher on the management server before installing the deployment packages. For OALIN_00032 patch registration, make sure to upgrade the management server to HP Operations agent 11.13 or higher. Therefore, if the managed nodes and the management server are running on different operating systems, you must download the ISO file for the management server's operating system too.

Planning for the Installation of HP Operations Agent 11.14

Installing the Operations Agent on the HPOM Management Server

Use the consolidated media version (11.11 and 11.14 together)

or

Download the platform specific patch ISO file for the management server's operating system.

Installing the HP Operations Agent Manually on the Node

You can install the HP Operations Agent 11.14 manually on an HPOM-managed or standalone node, or you can use the HPOM management server to deploy the Operations Agent and HP Operations Smart Plug-ins for Infrastructure 11.14 centrally on all managed nodes.

The installer program, which is available with the HP Operations Agent 11.14, enables you to install the HP Operations Agent 11.11 and 11.14 together on a node with a single command. To use this capability, you must ensure the node meets all the requirements for the HP Operations agent 11.11.

To install the HP Operations Agent 11.14 with the HP Operations Agent 11.11, do *one* of the following:

- Install from the HPOM console
- Install the HP Operations Agent 11.11 and 11.14 Together

Installing only Infrastructure SPIs

The process is as follows:

1. Make sure that HP Operations Agent 11.11 deployment packages are installed on the management server.
2. Download the Infrastructure SPIs patch ISO file.

Chapter 2: Registering the Operations Agent on the HPOM Management Server (and Installing the Infrastructure SPIs)

Registering on the HPOM for Windows Management Server

Prerequisites

No deployment jobs must run at the time of registering the deployment package.

To view the active deployment jobs:

1. In the console tree, expand Policy Management.
2. Click **Deployment Jobs**. The details pane shows the list of active deployment jobs. You must make sure that none of the deployment jobs are active at the time of installing the agent deployment packages. You must not start any deployment jobs until the agent deployment package registration is complete.

Upgrade Requirements

By using the consolidated media version 11.14, you have an option to upgrade from Operations agent 8.53, 8.60, 11.0x, or 11.10 to the following version in a ***single*** step:

- Base media version (11.11)

or

- Base media version (11.11) and then the patch version (11.14) together

You can directly upgrade the Infrastructure SPIs 1.60 or above to the version 11.11 and then install 11.14.

Register the Deployment Package

In addition to registering the deployment package for the HP Operations Agent, the `oainstall` script can install the Infrastructure SPIs on the management server.

You can install Operations agent 11.11 and 11.14 together by using the consolidated media. You can also install only Operations agent 11.11.

Choose one of the following tasks based on your requirement:

- ["Register the Operations Agent Deployment Packages \(version 11.11\) and Install Infrastructure SPIs 11.11" below](#)
- ["Register the Operations agent Deployment Packages \(version 11.14\) Using Patch ISO." on page 16](#)
- ["Register the Operations agent Deployment Packages \(Version 11.11 and 11.14 Together\) " on page 16](#)
- ["Install Only Infrastructure SPIs on the Management Server" on page 17](#)

Register the Operations Agent Deployment Packages (version 11.11) and Install Infrastructure SPIs 11.11

Follow the steps:

1. Make sure that you download the consolidated media for the versions 11.11 and 11.14.
2. Log on to the management server as administrator.
3. Go to the media root.
4. Run the following command:

```
cscript oainstall.vbs -i -m -baseonly
```

The command registers the agent (version 11.11) deployment packages for all platforms on the management server and installs the Infrastructure SPIs (version 11.11).

or

```
cscript oainstall.vbs -i -m -p <platform> -baseonly
```

This command registers the platform specific ISO for version 11.11.

Use the following values for <platform>

For Windows: WIN

For Linux: LIN

For HP-UX: HP-UX

For Solaris: SOL

For AIX: AIX

Note: The `libgcc_s.so.1` library must be present on Solaris system while registering the HP Operations agent on the management server.

The availability of this library enables the installation of Infrastructure SPIs.

5. Verify the registration process.

Skip this section if you do not use HPOM and installed the agent only on standalone nodes for system performance monitoring.

Prerequisites - Before You Start Registering the Deployment Packages (With Patches)

<Skip this section if you are installing only the base version>

Install the HP Operations Agent on the Management Server

Follow the steps below to install HP Operations agent on management server. For OALIN_00032 patch registration, make sure to upgrade the management server to HP Operations agent 11.13 or higher.

Note: Skip step 3 to step 8 if HP Operations agent 11.02 or higher is running on the management server. In case of OALIN_00032 patch registration, skip step 3 to step 8 if HP Operations agent 11.13 or higher is running on the management server.

1. Make sure that HP Operations agent 11.11 deployment packages are installed on the management server.
2. Make sure that the HP Operations agent 11.1x or HP Operations agent 11.0x (patch) is running on the management server.
3. Download the platform specific patch ISO file for the management server's operating system.
4. Transfer the downloaded ISO file onto the management server.
5. Log on to the management server with the root or administrator privileges.
6. Extract the contents of the ISO file into a local directory on the management server, or mount the ISO file.
7. Go to the directory where you extracted or mounted the ISO file, and then install the agent by running the following command:

On Windows

```
cscript oainstall.vbs -i -a
```

8. Restart HPOM processes:

On HPOM for Windows

```
vpstat -3 -r stop
```

```
vpstat -3 -r start
```

Register the Operations agent Deployment Packages (version 11.14) Using Patch ISO.

Follow the steps:

1. Make sure that you downloaded the patch .ISO file for the respective platforms.
2. Log on to the management server as administrator.
3. Go to the media root.
4. Run the following command:

```
cscript oainstall.vbs -i -m
```

5. Verify the registration process.

For more information about installation procedures, see *HP Operations Agent and Infrastructure SPIs Installation guide 11.11*.

Register the Operations agent Deployment Packages (Version 11.11 and 11.14 Together)

Follow the steps:

1. Make sure that you download *one* of the following:
 - Consolidated media for the version 11.11 and 11.14.
 - Platform specific ISO for 11.14 patch. Download Operations agent version 11.11 (all platforms or single platform ISO) and OA 11.14 platform ISO in the same location. You must extract the version 11.11 and then 11.14 version. Overwrite the existing files with newer version in the same location.
2. Log on to the management server as administrator.
3. Go to the media root.

4. Run the following command:

cscript oainstall.vbs -i -m

The command registers the agent (version 11.11 and 11.14) deployment packages for all platforms on the management server and install the Infrastructure SPIs (version 11.11 and 11.14).

or

cscript oainstall.vbs -i -m -p <platform>

This command registers the platform specific ISO for 11.11 and 11.14).

Use the following values for <platform>

For Windows: WIN

For Linux: LIN

For HP-UX: HP-UX

For Solaris: SOL

For AIX: AIX

The command registers the agent (version 11.11 and 11.14) deployment packages for the mentioned platforms on the management server. The infrastructure SPI packages will not be installed by this command.

5. Verify the registration process.

Install Only Infrastructure SPIs on the Management Server

You can install only Infrastructure SPIs by using the consolidated media.

Follow the steps:

1. Log on to the management server.
2. Download the consolidated media containing version 11.11 and 11.14.
3. Create a new file with a text editor.
4. Add the following content:

[agent.parameter]

REGISTER_AGENT=NO

```
[hpinfraspi.parameter]
InfraSPI=YES
InfraSPI_With_Graphs=YES
InfraSPI_With_Reports=YES
```

5. Save the file (<config_file>).
6. Run the following command:

On Windows

cscript oainstall.vbs -i -m -spiconfig <config_file>

In this instance, <config_file> is the name of the configuration file (with the complete path to the file). For more information about configuration file, see HP Operations agent and Infrastructure SPI Installation guide, version 11.11.

Note: If HPOM is in an High Availability (HA) cluster, follow the above steps on the active node in the cluster, and then perform step 1 to step 3 on all nodes in the HA cluster.

Example

- i. Create a configuration file with the following content:

```
[agent.parameter]
REGISTER AGENT=NO
[hpinfraspi.parameter]
InfraSPI=YES
InfraSPI_With_Graphs=YES
InfraSPI_With_Reports=YES
```

- ii. Save the file as config_file in the following directory:

C:\temp

- iii. Run the following command to install the Infrastructure SPIs.

cscript oainstall.vbs -i -m -spiconfig C:\temp\config_file

The command uses the config file to install the Infrastructure SPIs report package, and graph package and without installing the agent.

Verification

1. On the management server, go to the following location:

```
%ovinstalldir%bin\OpC\agtinstall
```

2. Run the following command:

```
cscript oainstall.vbs -inv -listall
```

The command shows the list of available (active) deployment packages and patches on the management server.

To check that the Infrastructure SPIs are installed, run the command with the `-includespi` option.

```
cscript oainstall.vbs -inv -includespi -listall
```

3. Locate the platform for which you installed the deployment package. If the active version is displayed as 11.14, the registration is successful.

Log File

The registration log file (`oainstall.log`) for 11.11 and 11.14 is available in the following directory:

```
%OvDataDir%shared\server\log
```

You can now apply the patches for 11.14 on managed nodes remotely and centrally from the management server.

You can view the patch log file (`oapatch.log`) for version 11.14 in the following location:

```
%OvDataDir%shared\server\log
```

Placement of Packages

When you register the HP Operations Agent packages on the management server, the `oainstall` program places all necessary deployment packages into the following directory:

```
%OvDataDir%shared\Packages\HTTPS
```

Backup of Deployment Packages

When you register the deployment packages on the management server, the `oainstall` script saves a copy of the older deployment packages into the following local directory:

```
%OvShareDir%server\installation\backup\HPOpsAgt\<OS>\<OA_Version>\<ARCH>
```

To view the active deployment packages, run the following command:

```
cscript oainstall.vbs -inv
```

To view all deployment packages (active and backed-up) on the system, run the following command:

```
cscript oainstall.vbs -inv -listall
```

To check that the Infrastructure SPIs are installed, run the command with the `includespi` option:

```
cscript oainstall.vbs -inv -includespi -listall
```

Registering on the HPOM for UNIX Management Server

Prerequisites

No deployment jobs must run at the time of registering the deployment package.

To view the active deployment jobs:

1. In the console tree, expand Policy Management.
2. Click **Deployment Jobs**. The details pane shows the list of active deployment jobs. You must make sure that none of the deployment jobs are active at the time of installing the agent deployment packages. You must not start any deployment jobs until the agent deployment package registration is complete.

Upgrade Requirements

By using the consolidated media version 11.14, you have an option to upgrade from Operations agent 8.53, 8.60, 11.0x, or 11.10 to the following version in a **single** step:

- Base media version (11.11)

or

- Base media version (11.11) and then the patch version (11.14) together

You can directly upgrade the Infrastructure SPIs 1.60 or above to the version 11.11 and then install 11.14.

Register the Deployment

In addition to registering the deployment package for the HP Operations Agent, the `oainstall` script can install the Infrastructure SPIs on the management server.

You can install HP Operations agent 11.11 and 11.14 together by using the consolidated media. Also, you can **only** install HP Operations agent 11.11.

Choose one of the following tasks based on your requirement:

- ["Register the Operations agent Deployment Packages \(version 11.11\) and Install Infrastructure SPIs 11.11" on the next page](#)
- ["Register the Operations agent Deployment Packages \(version 11.14\) Using Patch ISO" on page 23](#)
- ["Register the Operations agent Deployment Packages \(Version 11.11 and 11.14 Together\) " on page 23](#)
- ["Install Only Infrastructure SPIs on the Management Server" on page 24](#)

After you complete the registration process on HPOM for UNIX management server, before you add the nodes and select the platforms from the list available on the console (user interface), follow the steps:

On HPOM on UNIX/Linux

- a. Go to the following directory: `/opt/OV/OMU/adminUI`
- b. Run the command: **`./adminui machtypes`**

The updated platform list appears on the console only after you run the command.

Register the Operations agent Deployment Packages (version 11.11) and Install Infrastructure SPIs 11.11

Follow the steps:

1. Make sure that you download the consolidated media for the version 11.11.
2. Log on to the management server as administrator.
3. Go to the media root.
4. Run the following command:

`./oainstall.sh -i -m -baseonly`

The command registers the agent (version 11.11) deployment packages for all platforms on the management server and installs the Infrastructure SPIs (version 11.11)

or

`./oainstall.sh -i -m -p <platform>-baseonly`

This command registers the platform specific ISO for 11.11 patch.

Use the following values for <platform>

For Windows: WIN

For Linux: LIN

For HP-UX: HP-UX

For Solaris: SOL

For AIX: AIX

5. Verify the registration process.

Prerequisites - Before You Start Registering the Deployment Packages (With Patches)

<Skip this section if you are installing only the base version>

Install the HP Operations Agent on the Management Server

Note: Skip step 3 to step 8 if HP Operations agent 11.02 or higher is running on the management server.

1. Make sure that HP Operations agent 11.11 deployment packages are installed on the management server.
2. Make sure that the HP Operations agent 11.1x or HP Operations agent 11.0x (patch) is running on the management server.
3. Download the platform specific patch ISO file for the management server's operating system.
4. Transfer the downloaded ISO file onto the management server.
5. Log on to the management server with the root or administrator privileges.
6. Extract the contents of the ISO file into a local directory on the management server, or mount the ISO file.
7. Go to the directory where you extracted or mounted the ISO file, and then install the agent by running the following command:

On UNIX/Linux

```
./oainstall.sh -i -a
```

8. Restart HPOM processes:

On HPOM on UNIX/Linux

```
/opt/OV/bin/OpC/opcsv -stop
```

```
/opt/OV/bin/OpC/opcsv -start
```

Back Up the OpenVMS Deployment Package (Only on HPOM for UNIX)

If you are installing the HP Operations agent 11.14 deployment packages on the HPOM for UNIX management server, and if the HP Operations agent deployment package for the OpenVMS platform is

already available on the server, you must take a backup of the deployment package for OpenVMS before the installation procedure starts.

1. Log on to the management server as root.
2. Transfer the contents of the directory `/var/opt/OV/share/databases/OpC/mgd_node/vendor/hp/alpha/ovms` into the `/tmp/alpha` directory (or any directory of your choice).
3. Transfer the contents of the directory `/var/opt/OV/share/databases/OpC/mgd_node/vendor/hp/ipf64/ovms` into the `/tmp/ipf64` directory (or any directory of your choice)

After installation, you must copy the backed-up contents of the `alpha` and `ipf64` directory into the original location (`/var/opt/OV/share/databases/OpC/mgd_node/vendor/hp/alpha/ovms`) and (`/var/opt/OV/share/databases/OpC/mgd_node/vendor/hp/ipf64/ovms`)

Register the Operations agent Deployment Packages (version 11.14) Using Patch ISO

Follow the steps:

1. Make sure that you downloaded the patch .ISO file for the respective platforms.
2. Log on to the management server as administrator.
3. Go to the media root.
4. Run the following command:

```
./oainstall.sh -i -m
```

5. Verify the registration process.

Register the Operations agent Deployment Packages (Version 11.11 and 11.14 Together)

Follow the steps:

1. Make sure that you download *one* of the following:
 - Consolidated media for the version 11.11 and 11.14.
 - Platform specific ISO for 11.14 patch. Extract Operations agent version 11.11 (all platforms or single platform ISO) and Operations Agent 11.14 platform ISO in the same location. You must extract the version 11.11 and then 11.14 version. Overwrite the existing files with newer version in the same location.
2. Log on to the management server as administrator.

3. Go to the media root.
4. Run the following command:

```
./oainstall.sh -i -m
```

The command registers the agent (version 11.11 and 11.14) deployment packages for all platforms on the management server and installs the Infrastructure SPIs (version 11.11 and 11.14).

or

```
./oainstall.sh -i -m -p <platform>
```

This command registers the platform specific ISO for version 11.11 and 11.14).

Use the following values for <platform>

For Windows: WIN

For Linux: LIN

For HP-UX: HP-UX

For Solaris: SOL

For AIX: AIX

The command registers the agent (version 11.11 and 11.14) deployment packages for the mentioned platforms on the management server. The infrastructure SPI packages will not be installed by this command.

5. Verify the registration process.

Install Only Infrastructure SPIs on the Management Server

You can install only Infrastructure SPIs by using the consolidated media.

Follow the steps:

1. Log on to the management server.
2. Mount the consolidated media containing version 11.11 and 11.14.
3. Create a new file with a text editor.
4. Add the following content:

```
[agent.parameter]
```



```
REGISTER_ AGENT=NO  
[hpinfraspi.parameter]  
InfraSPI=YES  
InfraSPI_With_Graphs=YES  
InfraSPI_With_Reports=YES
```

5. Save the file (*<config_file>*).

6. Run the following command:

On UNIX/Linux

```
./oainstall.sh -i -m -spiconfig <config_file>
```

In this instance, *<config_file>* is the name of the configuration file (with the complete path to the file). For more information about config file, see HP Operations agent and Infrastructure SPI Installation guide, version 11.11.

Note: If HPOM is in an HA cluster, follow the above steps on the active node in the cluster, and then perform step 1 to step 3 on all nodes in the HA cluster.

Example

i. Create a configuration file with the following content:

```
[agent.parameter]  
REGISTER AGENT=NO  
[hpinfraspi.parameter]  
InfraSPI=YES  
InfraSPI_With_Graphs=YES  
InfraSPI_With_Reports=YES
```

ii. Save the file as *config_file* in the following directory:

C:\temp

iii. Run the following command to install the Infrastructure SPIs.

```
./oainstall.sh -i -m -spiconfig <config_file>
```

The command uses the config file to install the Infrastructure SPIs report package, and graph package without installing the agent.

Verification

1. On the management server, go to the following location:

```
/opt/OV/bin/OpC/agtinstall
```

2. Run the following command:

```
./oainstall.sh -inv -listall
```

The command shows the list of available (active) deployment packages and patches on the management server.

To check that the Infrastructure SPIs are installed, run the command with the `-includespi` option.

```
./oainstall.sh -inv -includespi -listall
```

3. Locate the platform for which you installed the deployment package. If the active version is displayed as 11.14, the registration is successful.

Log File

The log file (`oainstall.log`) is available in the following directory:

```
/var/opt/OV/shared/server/log
```

You can now apply 11.14 patch on managed nodes remotely and centrally from the management server. You can view the installation log file (`oapatch.log`) in the following location:

```
/var/opt/OV/shared/server/log
```

Placement of Packages

When you register the HP Operations Agent packages on the management server, the `oainstall` program places all necessary deployment packages into the following directory:

```
/var/opt/OV/share/databases/OpC/mgd_node/vendor
```

Backup of Deployment Packages

When you register the deployment packages on the management server, the `oainstall` script saves a copy of the older deployment packages into the following local directory:

```
/var/opt/OV/shared/server/installation/backup/HPOpsAgt/<OS>/<OA_Version>/<ARCH>
```

To view the active deployment packages, run the following command:

```
./oainstall.sh -inv
```

To view all deployment packages (active and backed-up) on the system, run the following command:

```
./oainstall.sh -inv -listall
```

To check that the Infrastructure SPIs are installed, run the command with the `includespi` option:

```
./oainstall.sh -inv -includespi -listall
```

Chapter 3: Removing the Deployment Package

To remove the updates applied on the deployment packages, follow these steps:

1. Log on to the management server with the root or administrator privileges.
2. Go to the following directory:

On Windows (32-bit systems)

`%ovinstalldir%bin\OpC\agtinstall`

On Windows (64-bit systems)

`%ovinstalldir%bin\win64\OpC\agtinstall`

On UNIX/Linux

`/opt/OV/bin/OpC/agtinstall`

3. Run the following command:

On Windows

cscript oainstall.vbs -r -m-pn<Patch_name>

On UNIX/Linux

./oainstall.sh -r -m-pn<Patch_name>

In this instance, <Patch_name> is the file name of the patch file that you downloaded (without the extension .ISO). The following table lists the patch names for all five node platforms:

Patch Names

Platform	File Name
Windows	OAWIN_00032
Linux	OALIN_00032
HP-UX	OAHPUX_00032
Solaris	OASOL_00032
AIX	OAAIX_00032

This procedure reinstates the version of the HP Operations agent 11.11 deployment package that was in effect prior to applying this patch.

Chapter 4: Upgrading to the HP Operations Agent 11.14 from the Previous Versions

You can upgrade an older version of the HP Operations agent, HP Performance Agent, or HP GlancePlus to the HP Operations agent 11.14.

Upgrade Scenario	Procedure
From version 11.11 to version 11.14	You can use the patch download procedure or media to upgrade from version 11.11.
<p>The following versions can be upgraded directly to version 11.14:</p> <ul style="list-style-type: none">• HP Performance Agent 4.70, 5.00• HP GlancePlus 4.70, 5.00• HP Operations Agent 8.53, 8.60• HP Operations Agent 11.00, 11.0x, or 11.10	<p>You can upgrade to version 11.14 using consolidated media (11.11 + 11.14). Follow the steps:</p> <ol style="list-style-type: none">1. Log on to the node with the administrator privileges.2. Go to the media directory.3. Run the following command: <i>For Windows</i> cscript oainstall.vbs -i -a <i>For Linux</i> ./oainstall.sh -i -a4. Verify the installation process. For more information on verification, see "Verify Installation on the Node" on page 52.

Chapter 5: Update Deployment Packages on Management Servers in Clusters

For HPOM management servers that exist in high-availability (HA) clusters, you must install the deployment packages for the HP Operations agent 11.14 only on active nodes.

To install HP Operations agent 11.14 deployment packages, follow these steps:

1. ["Install the HP Operations Agent 11.14 on the Active Management Server" below.](#)
2. ["Install HP Operations Agent 11.14 Deployment Packages on the Active Management Server" on page 32.](#)
3. ["Install the HP Operations agent on Other Management Servers in the Cluster" on page 32](#)
4. ["Synchronize Installer Scripts After Failover" on page 33.](#) Perform this step only after HPOM fails over to another node in the HA cluster.

Install the HP Operations Agent 11.14 on the Active Management Server

You are required to install HP Operations Agent 11.02 or higher on the active management server before installing HP Operations Agent 11.14. For OALIN_00032 patch registration, make sure to upgrade the active management server to HP Operations agent 11.13 or higher.

To install the agent in an HA cluster on the active management server, follow these steps:

1. Make sure that the management server meets the disk space requirement:

Disk Space Requirements

OS	Free Disk Space
Windows	150 MB
Linux	<ul style="list-style-type: none">■ 50 MB on /opt■ 100 MB on /var
HP-UX	<ul style="list-style-type: none">■ 50 MB on /opt■ 100 MB on /var
Solaris	<ul style="list-style-type: none">■ 50 MB on /opt■ 100 MB on /var

Note: On *UNIX/Linux*., at least 20% of the original volume of the /tmp directory must be free while you install the agent.

2. Disable the mechanism to monitor HPOM's resource group.

If you use HPOM for Windows, follow these steps on *all* nodes in the HA cluster:

- a. Log on to the management server as an administrator.
- b. Set the management server to the unplanned outage mode by running the following command:

ovownodeutil -outage_node -unplanned -node_name <FQDN_of_node>-on

In this instance, <FQDN_of_node> is the fully qualified domain name of the management server.

If you use HPOM on UNIX/Linux, follow these steps *only* on active nodes in the HA cluster:

- a. Log on to the management server as root.
- b. Disable monitoring of the resource group:

/opt/OV/sbin/ovharg -monitor <HA_resource_group_name> disable

In this instance, <HA_resource_group_name> is the HA resource group for HPOM on the management server.

3. Install the HP Operations agent 11.14 on the management server.

- a. Log on to the management server as root or administrator.
- b. Stop all agent and HPOM processes:

On Windows

vpstat -3 -r stop

On UNIX/Linux

/opt/OV/bin/OpC/opcsv -stop

/opt/OV/bin/opcagt -stop

- c. Extract the contents of the HP Operations agent 11.14ISO file into a local directory. Alternatively, you can mount the ISO file.
- d. Go to the directory where you extracted (or mounted) the ISO file, and then run the following command:

On Windows

cscript oainstall.vbs -i -a

On UNIX/Linux

./oainstall.sh -i -a

- e. Restart all HPOM processes:

On Windows

vpstat -3 -r stop

vpstat -3 -r start

On UNIX/Linux

/opt/OV/bin/OpC/opcsv -stop

/opt/OV/bin/OpC/opcsv -start

4. Enable the mechanism after installing HP Operations agent 11.14 on the management server.

If you use HPOM for Windows, follow these steps on *all* nodes in the HA cluster:

- a. Log on to the management server as an administrator.
- b. Turn off the unplanned outage mode on the management server by running the following

command:

```
ovownodeutil -outage_node -unplanned -node_name <FQDN_of_node>-off
```

In this instance, *<FQDN_of_node>* is the fully qualified domain name of the management server.

If you use HPOM on UNIX/Linux, follow these steps *only* on active nodes in the HA cluster:

- a. Log on to the management server as root.
- b. Enable monitoring of the resource group:

```
/opt/OV/libin/ovharg -monitor <HA_resource_group_name> enable
```

In this instance, *<HA_resource_group_name>* is the HA resource group for HPOM on the management server.

Install HP Operations Agent 11.14 Deployment Packages on the Active Management Server

Install the deployment packages for the HP Operations agent 11.14 on the active management server:

1. Log on to the management server as root or administrator.
2. Go to the directory where you extracted (or mounted) the HP Operations agent 11.14 ISO file.
3. From the command prompt, run the following command:
On Windows: **cscript oainstall.vbs -i -m**
On UNIX/Linux: **./oainstall.sh -i -m**

Tip: If you use different operating systems for different node groups in your environment, you must perform [step 1](#) through [step 3](#) for each operating system that is in use in your environment. If you are installing with one ISO with all platforms, then use the following command:

- On Windows - **cscript oainstall.vbs -i -m -p < platform>**
- On UNIX/ Lin **./oainstall.sh -i -m -p < platform>**

Install the HP Operations agent on Other Management Servers in the Cluster

Verify that the HP Operations agent 11.14 works correctly on the active node, and then install the HP Operations agent 11.14 on other management servers in the cluster that are not active.

Follow the instructions in ["Installing the HP Operations agent 11.14" on page 35](#).

Synchronize Installer Scripts After Failover

After failover, perform this task to make sure that the correct version of the installer program for the HP Operations agent is transferred to the currently active node in the cluster (you need the updated installer program to remove the agent deployment packages or to view the package inventory). To copy the scripts to the other management servers in cluster, you must switch (failover) the HPOM server to the next cluster node.

After HPOM fails over to a node in the HA cluster, follow these steps:

1. Log on as root or administrator to the node where HPOM is currently active.
2. Run the following command:

On Windows

```
cscript %OvShareDir%\server\installation\oainstall_sync.vbs
```

On UNIX/Linux

```
/var/opt/OV/shared/server/installation/oainstall_sync.sh
```

The command transfers the latest version of the `oainstall.vbs` or `oainstall.sh` script to the currently active node from the failed node.

3. View the package inventory for the agent on the currently active node to make sure that deployment packages for the HP Operations agent are available.

To view the package inventory, run the following command:

On Windows

```
cscript oainstall.vbs -inv
```

On UNIX/Linux

```
./oainstall.sh -inv
```

The command displays the list of HP Operations agent 11.14 deployment packages that are installed on the system under the `Active Agent Patches Installed` section.

Chapter 6: Different Modes of the HP Operations Agent Installation

The HP Operations agent installer enables you to install the Operations Agent and HP Operations Smart Plug-ins for Infrastructure either on an HPOM-managed node or on a standalone server. If you install the agent on an **HPOM-managed** node, you must provide the details of the management server at the time of installation and make sure that the node belongs to the list of managed nodes in the HPOM console. This mode of the installation enables you to use the operations monitoring component of the agent to monitor the system and send alerts to the HPOM console.

If you want to use the HP Operations agent only to monitor system performance metrics locally, you can perform the installation without providing any details of the HPOM management server. This **standalone** mode of the installation enables you to use the performance collection component (and HP GlancePlus, if installed on UNIX/Linux) to monitor system performance metrics that indicate the health and performance of the system.

With the **-defer_configure** option, you can install the agent in the **inactive** mode—a mode where all the processes of the agent remain inactive after installation and the agent does not perform any tasks. At a later time, you can use the **-configure** option of the agent installer to set the agent running. The **-configure** option helps you set the operation of the agent in the HPOM-managed or standalone mode.

The advantage of using this mechanism is the ability to create images of the OS platforms with Operations agent pre-installed that can later be cloned or instantiated. You may also create virtual machine templates that can later be used for deployments. This option helps in distributing a standard version of Operations agent to all the managed systems that would get deployed in your environment.

Different Modes of the HP Operations Agent Installation

Agent Installation Mode	Description
HPOM-managed/active	The agent is installed on a managed node and details of the management server (and the certificate server) are specified at the time of installation; the installation started all necessary agent processes. Remote installation from a management server always ensures this mode of the agent is set.
Standalone/active	The agent is installed on a standalone system. Management server details are not provided at the time of installation. However, the installation started all necessary agent processes.
Inactive	The agent is installed with the -defer_configure option. The installation procedure places all the necessary files on the system, but the agent remains inactive after installation. You cannot use this mode of installation if you want to install the agent remotely from the management server. For information about installing the agent in the inactive mode, see "Installing the HP Operations agent in the Inactive Mode" on page 56 .

Chapter 7: Installing the HP Operations agent 11.14

You can install the HP Operations agent 11.14 manually on an HPOM-managed or standalone node, or you can use the HPOM management server to deploy the 11.14 centrally on all managed nodes.

The installer program, which is available with the 11.14 media, enables you to install the HP Operations agent 11.11 and 11.14 together on a node with a single command. To use this capability, you must ensure the node meets all the requirements for the HP Operations agent 11.11.

Note: No additional steps are required for installing the HP Operations agent on nodes in a high-availability cluster. The agent installation process does not stop cluster services or daemons running on the node. Installing the agent deployment packages, however, requires additional steps ("[Update Deployment Packages on Management Servers in Clusters](#)" on page 29).

To install only the HP Operations agent 11.14, do one of the following:

- Install from the management server:
 - To install from the HPOM console, see "[Install from the HPOM Console](#)" on page 61.
 - To install with the command line, see "[Installing Operations Agent Remotely](#)" on page 49.
- "[Install the HP Operations Agent 11.14 on a Node Manually](#)" on page 47.

To install the HP Operations agent 11.14 with the HP Operations Agent 11.11, do one of the following:

- To install from the HPOM console, see "[Install from the HPOM Console](#)" on page 61.
- "[Install the HP Operations Agent 11.11 and 11.14 Together](#)" on page 53.

Prerequisites for Installing the HP Operations Agent 11.11

Before you begin the installation, make sure that all the prerequisites are met. After evaluating your requirements, identify the most suitable option to install the product in your environment.

General Considerations

- If you want to deploy the agent remotely from the HPOM console, make sure firewall settings are disabled between the management server and nodes.

- If you want to install the agent manually on the node in a firewall-controlled environment, make sure that the firewall setting allows the agent to contact the management server through the port 383 on the management server.
- Before installing the product in an HPOM-managed environment, always make sure the node is added as a managed node before you begin the installation process.
- If you want to work with the agent immediately after installation, make sure the automatic certificate requests are enabled on the management server.
- In a highly-secure environment, if you disable the automatic certificate request property on HPOM, you must exchange certificate manually with the management server after the agent installation completes.
- The HP Operations agent is a cluster-aware application. However, the HP Operations agent software cannot fail over automatically to the standby node in the event of failover.

Prerequisites for Windows

User

To install the HP Operations agent on a Windows node, you must log on with the administrative privileges; the user must have access to the default system share (the disk on which the **Programs Files** folder is configured) with the following additional privileges:

- Membership of the Local Administrators group

<Following privileges are only for remote deployment>

- Write access to the admin\$ share
- Read access to the registry
- Permission to log on as a service
- Permission to start and stop services

Necessary Software

- **Windows Installer 4.5 or higher:** The Windows Installer software is packaged with the Microsoft Windows operating system. The installer program of the HP Operations agent requires the version 4.5 of this software component to be present on the system. To check if the Windows Installer 4.5 or higher is present, follow these steps:
 - a. Log on to the Windows system.
 - b. From the Start menu, open the Run prompt.

- c. At the Run prompt, type **regedit**, end then press **Enter**. The Registry Editor window opens.
- d. In the Registry Editor window, expand **HKEY_LOCAL_MACHINE > SOFTWARE > Microsoft**, and then click **DataAccess**.
- e. In the right pane, double-click **FullInstallVer**. The Edit String dialog box opens.
- f. In the Edit String dialog box, check if the version string is set to 2.00 or higher.
- **Windows Script Host:** The Windows Script Host must be enabled on the system. The installer program of the HP Operations agent requires the Windows Script Host to be enabled. To check if the Windows Script Host is enabled, follow these steps:
 - a. Log on to the Windows system.
 - b. From the Start menu, open the Run prompt.
 - c. At the Run prompt, type **regedit**, end then press **Enter**. The Registry Editor window opens.
 - d. In the Registry Editor window, expand **HKEY_LOCAL_MACHINE > SOFTWARE > Microsoft**, and then click **Windows Script Host**.
 - e. In the right pane, look for the key Enabled:
 - f. If the key Enabled is present, double-click the key and make sure the Value Data is set to 1. The Windows Script Host is disabled is the Value Data for the Enabled key is set to 0.
 - g. If the key Enabled is not present, you can safely assume that the Windows Script Host is enabled.

Necessary Services

Before installing the agent, make sure the following services are running:

- Event Log
- Remote Procedure Call
- Plug and Play
- Security Accounts Manager
- Net Logon
- *<only for remote deployment>* Remote Registry
- *<only for remote deployment>* Server
- Workstation

To verify that the above services are running, follow these steps:

1. Log on to the system with the administrative privileges.
2. From the Start menu, open the Run prompt.
3. At the Run prompt, type **services.msc**, and then press **Enter**. The Services window opens.
4. In the Services window, check if the status of each of the above services is Started. If the status of one of the services is found to be anything other than Started, right-click the service, and then click **Start**.

Disk Space

This is the disk space requirement for HP Operations agent 11.11 and 11.14.

For new installation

- For the installation directory: 350 MB
- For the data directory: 50 MB

For upgrade from old agent software

- For the installation directory: 100 MB
- For the data directory: 50 MB

Recommended Software and Services

For WMI Interceptor policies: The Windows Management Instrumentation (WMI) Service is required if you want to deploy the WMI Interceptor policies or Measurement Threshold policies. WMI is also used to monitor the WMI events and classes or to perform automatic service discovery on the node.

For SNMP MIB monitoring: If you want to monitor objects in an SNMP Management Information Base (MIB) on the agent system, make sure the SNMP agent (compliant with MIB-I and MIB-II) is installed on the system.

For HPOM actions and tools: For launching HPOM actions and tools on the node, the NT LM Security Support Provider service must be running.

Additional Requirements for Hyper-V on Windows Server 2008

To be able to monitor virtual systems, apply the following hotfix:

<http://support.microsoft.com/kb/950050>

To be able to log the BYLS class of metrics, apply the following hotfix:

<http://support.microsoft.com/KB/960751>

Prerequisites for Linux

User

To install the HP Operations agent on a Linux node, you must log on with the root privileges.

Note: Because the HP Operations Agent cannot be installed without the root user on a Linux node, you cannot install the agent on a vSphere Management Assistant (vMA) node (where the root user is disabled by default) remotely from the HPOM console.

Necessary Software

To install the HP Operations agent, the following runtime libraries and packages are required. You can run the below command to list the RPM packages:

```
rpm -qa | grep -i <package_name>
```

- C++ runtime:
 - For systems with kernel version 2.6:
/usr/lib/libstdc++.so.5
 - For systems with kernel version 2.6 on Itanium :
/usr/lib/libstdc++.so.6
- **Only required for Glance- Curses runtime library:**
libncurses.so.5

Note: Ensure that the **libncurses.so.5** library is present at one of the following paths as appropriate:

- **/usr/lib/libncurses.so.5**
 - **/lib/libncurses.so.5**
 - **/lib64/libncurses.so.5**
-
- Make sure that the m4 utility is installed at the path **/usr/bin/m4**.
 - On x64 systems:
 - libgcc-3.4.6-8.i386.rpm and above
 - glibc-2.3.4-2.36.i686.rpm and above
 - libstdc++-3.4.6-8.i386.rpm and above
 - compat-libstdc++-33.i386.rpm and above
 - libstdc++33-32bit-3.3.3-7.8.1.x86_64.rpm and above

Note: Make sure that `libstdc++33-32bit-3.3.3-7.8.1.x86_64.rpm` is installed before you install HP Operations agent 11.11 on SLES10 SP4 x64 system. This rpm is applicable only for SUSE Linux Enterprise Server 10 and above.

To remotely install the HP Operations agent from the HPOM for Windows console, make sure that the OpenSSH 5.2 or higher is installed on the system.

Disk Space

For new installation for HP Operations agent 11.11 and 11.14

For the installation directories (`/opt/OV` and `/opt/perf`): 350 MB

For the data directories (`/var/opt/OV` and `/var/opt/perf`): 350 MB

For upgrade

For the installation directories (`/opt/OV` and `/opt/perf`): 100 MB

For the data directories (`/var/opt/OV` and `/var/opt/perf`): 350 MB

Note: If you do not have sufficient space in the installation or data directory, you can symbolically link the install or data directory to another location on the same system by using the `ln -s` command.

For example, to symbolically link the `/opt/OV` directory to the `/new` directory, run the following command:

```
ln -s /new /opt/OV
```

Recommended Software and Services

- **For SNMP MIB monitoring:** If you want to monitor objects in an SNMP Management Information Base (MIB) on the agent system, make sure the SNMP agent (compliant with MIB-I and MIB-II) is installed on the system.
- **For xglance:** To use the xglance utility, make sure the following components are available on the system:
- Open motif toolkit 2.2.3 (On Linux platforms other than Red Hat Enterprise Linux 5.x and SUSE Linux Enterprise Server 10.x on x86_64 and Itanium, the 32-bit version of the Open motif toolkit and associated libraries must be present.)

Prerequisites for HP-UX

User

To install the HP Operations agent on an HP-UX node, you must log on with the root privileges.

Necessary Software

On HP-UX, make sure that the following patches are installed. You can run the below command to list the RPM packages:

swlist -l | grep -i <package_name>

- For HP-UX 11.23. PHKL_36853, PHCO_38149 (or superseding patches)
- For HP-UX 11i v1. PHNE_27063 (or superseding patch)
- For HP-UX 11i v1. PHCO_24400 s700_800 11.11 libc cumulative patch (or superseding patch)
- For HP-UX 11.11 PA-RISC. PHCO_38226 (or superseding patch)
- For HP-UX 11.31. PHCO_36530 (or superseding patch)
- For HP-UX 11i v1. The following patches are required for the performance tools to function with VERITAS Volume Manager 3.2:
 - PHKL_26419 for HP-UX B.11.11 (11.11) (or superseding patch)
 - PHCO_26420 for HP-UX B.11.11 (11.11) (or superseding patch)

On HP-UX systems running on Itanium, the libunwind library must be available.

If multiple processor sets are configured on an HP-UX 11i v1 system and you are using the log application=prm switch in the parm file to log APP_ metrics by the PRM Group, you must install the following patch:

PHKL_28052 (or superseding patch)

On HP-UX 11i v1 and higher, the performance tools work with Instant Capacity on Demand (iCOD). The following kernel pstat patch should be installed to correctly report iCOD data (If iCOD is not installed on your system, do not install the kernel patch.):

PHKL_22987 for HP-UX B.11.11 (11.11) (or superseding patch)

Make sure that the m4 utility is installed at the path **/usr/bin/m4**.

HP GlancePlus, included in this version of the HP Operations agent, works with Process Resource Manager (PRM) version C.03.02.

HP-UX 11.11 and higher running EMC PowerPath v2.1.2 or v3.0.0 must have the latest EMC patches installed.

- For the EMC PowerPath v2.1.2 release, use the following patch:
EMCpower_patch213 HP.2.1.3_b002 (or superseding patch)
- For the EMC PowerPath v3.0.0 release, use the following patch:
EMCpower_patch301 HP.3.0.1_b002 (or superseding patch)

Disk Space

This is the disk space requirement for HP Operations agent 11.11 and 11.14.

For new installation

For the installation directories (**/opt/OV** and **/opt/perf**):400 MB

For the data directories (**/var/opt/OV** and **/var/opt/perf**):550 MB

For upgrade

For the installation directories (**/opt/OV** and **/opt/perf**):400 MB

For the data directories (**/var/opt/OV** and **/var/opt/perf**):550 MB

Note: If you do not have sufficient space in the installation or data directory, you can symbolically link the install or data directory to another location on the same system by using the `ln -s` command.

For example, to symbolically link the **/opt/OV** directory to the **/new** directory, run the following command:

```
ln -s /new /opt/OV
```

Recommended Software and Services

For SNMP MIB monitoring: If you want to monitor objects in an SNMP Management Information Base (MIB) on the agent system, make sure the SNMP agent (compliant with MIB-I and MIB-II) is installed on the system.

Prerequisites for Solaris

User

To install the HP Operations agent on a Solaris node, you must log on with the root privileges.

Necessary Software

Before you install the HP Operations agent on a Solaris node, make sure to install the following or superseding patches. You can run the below command to list the RPM packages:

```
pkginfo -l | grep -i <package_name>
```

In addition, make sure the following packages are available:

SUNWlibC

SUNWlibms

SUNWmfrun

SUNWxwplt

Kernel Settings

Set the following minimum kernel parameter values for Solaris 9:

```
semsys:seminfo_semmni=30
```

```
semsys:seminfo_semmns=200
```

```
semsys:seminfo_semmsl=100
```

For Solaris 10, no specific kernel settings are required.

Make sure that the m4 utility is installed at the path **/usr/xpg4/bin/m4** or **/usr/ccs/bin/m4**.

Disk Space

This is the disk space requirement for HP Operations agent 11.11 and 11.14

For new installation of HP Operations agent 11.11 and 11.14

For the installation directories (**/opt/OV** and **/opt/perf**): 350 MB

For the data directories (**/var/opt/OV** and **/var/opt/perf**): 350 MB

For upgrade

For the installation directories (**/opt/OV** and **/opt/perf**): 100 MB

For the data directories (**/var/opt/OV** and **/var/opt/perf**): 350 MB

Note: If you do not have sufficient space in the installation or data directory, you can symbolically link the install or data directory to another location on the same system by using the **ln -s** command.

For example, to symbolically link the **/opt/OV** directory to the **/new** directory, run the following command:

ln -s /new /opt/OV

However, before using symbolic links on Solaris nodes for the agent installation, you must apply the hotfix QCCR1A120832. Contact HP Support to obtain this hotfix.

Recommended Software and Services

For SNMP MIB monitoring: If you want to monitor objects in an SNMP Management Information Base (MIB) on the agent system, make sure the SNMP agent (compliant with MIB-I and MIB-II) is installed on the system.

Note: Prerequisites for Solaris 11 are same as that of Solaris 10.

Prerequisites for AIX

User

To install the HP Operations agent on an AIX node, you must log on with the root privileges.

Necessary Software

You can run the below command to list the RPM packages:

lspp -l | grep -l <package_name>

- The **libC.a** library is required for the HP GlancePlus to function correctly. The library is bundled within the **xlc.rte** package, which is available from your AIX Operating System optical media.
- The **bos.perf.libperfstat** package is required for the communication daemon.

- To remotely install the HP Operations Agent from the HPOM for Windows console, make sure that the OpenSSH 5.2 or higher is installed on the system.
- Make sure that the m4 utility is installed at the path `/usr/bin/m4`.

Disk Space

This is the disk space requirement for HP Operations agent 11.11 and 11.14.

For new installation

For the installation directory (`/usr/lpp/OV` and `/usr/lpp/perf`): 350 MB

For the data directory (`/var/opt/OV` and `/var/opt/perf`): 350 MB

For the directory (`/`): 10 MB

For upgrade

For the installation directory (`/usr/lpp/OV` and `/usr/lpp/perf`): 350 MB

For the data directory (`/var/opt/OV` and `/var/opt/perf`): 350 MB

For the directory (`/`): 10 MB

Note: If you do not have sufficient space in the installation or data directory, you can symbolically link the install or data directory to another location on the same system by using the `ln -s` command.

For example, to symbolically link the `/usr/lpp/OV` directory to the `/new` directory, run the following command:

```
ln -s /new /usr/lpp/OV
```

Recommended Software and Services

For SNMP MIB monitoring: If you want to monitor objects in an SNMP Management Information Base (MIB) on the agent system, make sure the SNMP agent (compliant with MIB-I and MIB-II) is installed on the system.

For xglance: To use the xglance utility, make sure the following components are available on the system:

- Open Motif 2.1 or higher
- X11 Revision 6 (X11R6)

To collect and log cross-partition metrics, the `xmservd` or `xmtopas` daemon must be available. `xmtopas` is a part of `perfagent.tools` file set and `xmservd` is bundled with the Performance Toolbox for AIX component (a licensed software program).

Prerequisites for Debian and Ubuntu

User

To install the HP Operations agent on a Linux node, you must log on with the root privileges.

Note: Because the HP Operations Agent cannot be installed without the root user on a Linux node, you cannot install the agent on a vSphere Management Assistant (vMA) node (where the root user is disabled by default) remotely from the HPOM console.

Necessary Software

To install the HP Operations agent, the following runtime libraries and packages are required. You can run the below command to list the RPM packages:

dpkg -l | grep -i <package_name>

- C++ runtime:
 - For systems with kernel version 2.6:
/lib/libstdc++.so.5
 - For systems with kernel version 2.6 on Itanium :
/lib/libstdc++.so.6
- **Only required for Glance-** Curses runtime library:
/lib/libncurses.so.5
- Make sure that the m4 utility is installed at the path **/usr/bin/m4**.
- On x64 systems:
 - libgcc-3.4.6-8.i386.rpm and above
 - glibc-2.3.4-2.36.i686.rpm and above
 - libstdc++-3.4.6-8.i386.rpm and above
 - compat-libstdc++-33.i386.rpm and above
 - libstdc++33-32bit-3.3.3-7.8.1.x86_64.rpm and above

Note: Make sure that libstdc++33-32bit-3.3.3-7.8.1.x86_64.rpm is installed before you install HP Operations agent 11.11 on SLES10 SP4 x64 system.

To remotely install the HP Operations Agent from the HPOM for Windows console, make sure that the OpenSSH 5.2 or higher is installed on the system.

For more information about disk space requirements, see ["Disk Space" on page 40](#)

Prerequisites for Installing the HP Operations agent 11.14

Hardware Requirements

For information about supported architecture types, see the Support Matrix at:

http://h20230.www2.hp.com/sc/support_matrices.jsp

The following table describes the disk space requirements for the HP Operations Agent 11.14:

Disk Space Requirements

OS	Free Disk Space
Windows	150 MB
Linux	<ul style="list-style-type: none">• 50 MB on /opt• 100 MB on /var
HP-UX	<ul style="list-style-type: none">• 50 MB on /opt• 100 MB on /var
Solaris	<ul style="list-style-type: none">• 50 MB on /opt• 100 MB on /var
AIX	<ul style="list-style-type: none">• 50 MB on /usr• 100 MB on /var• 10 MB on /

Note: On *UNIX/Linux*. At least 20% of the original volume of the /tmp directory must be free while you install the agent.

Software Requirements

- **Operating system:** For a list of supported operating systems, see the Support Matrix at:

http://h20230.www2.hp.com/sc/support_matrices.jsp

- Windows Installer 4.5 or higher must be installed on Windows nodes.

Additional Requirements for vSphere Management Assistant Nodes

- **Login requirement**

By default, the root login is disabled on vSphere Management Assistant (vMA). As a result, you cannot deploy the agent remotely from the HPOM console to a vMA node. The `oainstall` script also requires the root privileges. Therefore, you must use the `sudo` command to switch to the root user before installing the agent manually on the vMA node.

- **viserver.properties**

Note: If you want to roll back to previous version of HP Operations agent, you must always back up the existing `viserver.properties` file (which is available in the `/var/opt/perf` directory) before installing the HP Operations Agent 11.14

After installing HP Operations Agent 11.14, the new `viserver.properties` file will replace the existing file. The recommended values are set in the properties file.

Install the HP Operations Agent 11.14 on a Node Manually

The HP Operations Agent 11.14 media enables you to install the agent manually using command-line utilities. The installer programs, available with the media, enable you to install the product on a node in the HPOM-managed environment or on a standalone system.

Note: The HP Operations Agent 11.11 media provided you with the `oasetup` program, which could be used in installing the agent (instead of the `oainstall` scripts). Although the agent 11.14 ISO file includes the `oasetup` program (within the `patches` directory), use only the `oainstall` script for installing the HP Operations Agent 11.14.

On Windows Nodes

1. Log on to the node with the administrator privileges.
2. Download the patch ISO and extract contents of the ISO file into a local directory.
3. Go to the directory where you extracted the contents of the ISO file.

Note: Before installing the HP Operations Agent 11.14 patch, if you have already installed the Performance Manager 9.0 (component patch HPPM8X9XCPW_00002) and LCore hotfixes in your system, remove the hotfix inventory *xml* files, example *HPOvXpl-HFWIN_00045.xml* from the location *%OvDataDir%\installation\inventory*.

4. Run the following command to install the agent (on an HPOM-managed node or on a standalone system):
cscript oainstall.vbs -i -a

After you run the command, the installation procedure begins. At the end of the installation, the agent starts its operation on the node and all the necessary components start running.

On UNIX/Linux Nodes

1. Log on to the node with the root privileges.
2. Download the patch ISO and extract contents of the ISO file into a local directory.
3. Go to the directory where you extracted the contents of the ISO file.
4. Run the following command to install the agent (on an HPOM-managed node or a standalone system):
./oainstall.sh -i -a

After you run the command, the installation procedure begins. At the end of the installation, the agent starts its operation on the node and all the necessary components start running.

If you install the HP Operations agent on the HPOM on UNIX/Linux management server (that is, if you select the management server as a managed node), you must manually restart all HPOM processes by running the following commands on the management server:

- **/opt/OV/bin/OpC/opcsv -stop**
- **/opt/OV/bin/OpC/opcsv -start**

Post-Installation Task for Nodes Under HPOM for Windows

If the agent node is managed by HPOM for Windows and if you remotely installed the HP Operations Agent 11.11 on the node from the HPOM console, you must perform the following steps after manually installing the agent 11.14 on the node:

1. Go to the console tree of the HPOM console.
2. Right-click the node, and then click **All Tasks > Synchronize > Packages**.

Verify the installation

To verify that the HP Operations Agent 11.14 is installed on the system successfully, follow these steps:

1. Go to the following directory on the node:

On Windows

`%ovinstalldir%\bin`

On HP-UX, Linux, or Solaris

`/opt/OV/bin`

On AIX

`/usr/lpp/OV/bin`

2. Run the following command:

On Windows

ovdeploy -inv -includeupdates

On UNIX/Linux:

./ovdeploy -inv -includeupdates

The command lists the version of the agent installed on the system.

Note: On AIX nodes, preinstallation details appear twice in the log file.

Installing Operations Agent Remotely

From the management server, you can install the HP Operations Agent 11.14 remotely on managed nodes.

Before You Begin

Determine the location of the `OVO-Agent.xml` file on the management server for the node where you want to install the HP Operations agent 11.14.

Location of the OVO-Agent.xml File on the HPOM for Windows Management Server

Node Platform	Location of the OVO-Agent.xml File
Windows (x64)	%ovdatadir%shared\Packages\HTTPS\windows\ms\5.1 5.2 6.0 6.1 6.2\x64\Operations-agent\11.11.025\64\https\oawin_00032
Windows (x86)	%ovdatadir%shared\Packages\HTTPS\windows\ms\5.0 5.1 5.2 6.0 6.1 6.2\x86\Operations-agent\11.11.025\32 64\https\oawin_00032
HP-UX (Itanium)	%ovdatadir%shared\Packages\HTTPS\hp-ux\hp\11.23 11.31\ipf32\Operations-agent\11.11.025\64\https\oahpux_00032
HP-UX (PA-RISC)	%ovdatadir%shared\Packages\HTTPS\hp-ux\hp\11.11 11.23 11.31\pa-risc\Operations-agent\11.11.025\32 64\https\oahpux_00032
Linux (POWER)	%ovdatadir%shared\Packages\HTTPS\linux\linux\2.6 3.0\powerpc\Operations-agent\11.11.025\64\https\oalin_00032
Linux (x86)	%ovdatadir%shared\Packages\HTTPS\linux\linux\2.6\x86\Operations-agent\11.11.025\32 64\https\oalin_00032
Linux (x64)	%ovdatadir%shared\Packages\HTTPS\linux\linux\2.6 3.0\x64\Operations-agent\11.11.025\64\https\oalin_00032
Linux (Debian)	%ovdatadir%shared\Packages\HTTPS\linux_deb\linux_deb\2.6 3.0 3.2\x64\Operations-agent\11.11.025\64\https\oalin_00032
Solaris (SPARC)	%ovdatadir%shared\Packages\HTTPS\solaris\sun\5.9 5.10 5.11\sparc\Operations-agent\11.11.025\32 64\https\oasol_00032
Solaris (x86)	%ovdatadir%shared\Packages\HTTPS\solaris\sun\5.10 5.11\x86\Operations-agent\11.11.025\32 64\https\oasol_00032
AIX (6.1)	%ovdatadir%shared\Packages\HTTPS\aix\ibm\6.1 7.1\powerpc\Operations-agent\11.11.025\64\https\oaaix_00032

Location of the OVO-Agent.xml file on the HPOM on UNIX/Linux Management Server

Node Platform	Location of the OVO-Agent.xml File
Windows (x64)	/var/opt/OV/share/databases/OpC/mgd_node/vendor/ms/x64/win2k3/A.11.00.000/RPC_BBC/OAWIN_00032
Windows (x86)	/var/opt/OV/share/databases/OpC/mgd_node/vendor/ms/x86/winnt/A.11.00.000/RPC_BBC/OAWIN_00032

Location of the OVO-Agent.xml file on the HPOM on UNIX/Linux Management Server, continued

Node Platform	Location of the OVO-Agent.xml File
HP-UX (Itanium)	/var/opt/OV/share/databases/OpC/mgd_node/vendor/hp/ipf32/hpux1122/A.11.00.000/RPC_BBC/OAHPUX_00032
HP-UX (PA-RISC)	/var/opt/OV/share/databases/OpC/mgd_node/vendor/hp/pa-risc/hpux1100/A.11.00.000/RPC_BBC/OAHPUX_00032
Linux (POWER)	/var/opt/OV/share/databases/OpC/mgd_node/vendor/linux/ppc/linux26/A.11.00.000/RPC_BBC/OALIN_00032
Linux (x86)	/var/opt/OV/share/databases/OpC/mgd_node/vendor/linux/x86/linux26/A.11.00.000/RPC_BBC/OALIN_00032
Linux (x64)	/var/opt/OV/share/databases/OpC/mgd_node/vendor/linux/x64/linux26/A.11.00.000/RPC_BBC/OALIN_00032
Linux (Debian)	/var/opt/OV/share/databases/OpC/mgd_node/vendor/linux_deb/x64/linux26/A.11.00.000/RPC_BBC/OALIN_00032
Solaris (SPARC)	/var/opt/OV/share/databases/OpC/mgd_node/vendor/sun/sparc/solaris7/A.11.00.000/RPC_BBC/OASOL_00032
Solaris (x86)	/var/opt/OV/share/databases/OpC/mgd_node/vendor/sun/x86/solaris10/A.11.00.000/RPC_BBC/OASOL_00032
AIX (6.1)	/var/opt/OV/share/databases/OpC/mgd_node/vendor/ibm/rs6k64/aix5/A.11.00.000/RPC_BBC/OAAIX_00032

Install the Operations Agent

To install the Operations Agent remotely from the command line, follow these steps:

1. Log on to the management server as root or administrator.
2. Go to the following directory on the management server:

On Windows:

```
%ovinstalldir%bin
```

On UNIX/Linux:

```
/opt/OV/bin
```

3. Run the following command:

ovdeploy -install -bundle <path-to-OVO-Agent.xml> -host <node name> -ovrg server

In this instance:

<path-to-OVO-Agent.xml> is the path to the OVO-Agent.xml file for the node type.

<node name> is the FQDN of the node

The command installs the Operations Agent on the node.

If you updated the deployment packages of the agent with hotfixes, the command installs the hotfixes as well after installing the Operations Agent 11.14.

4. Run the following command on the management server to check that the installation is successful:

For Windows nodes:

ovdeploy -cmd "%ovinstalldir%\bin\opcagt -version" -host <node_name>

For HP-UX, Linux, or Solaris nodes:

ovdeploy -cmd "/opt/OV/bin/opcagt -version" -host <node_name>

For AIX nodes:

ovdeploy -cmd "/usr/lpp/OV/bin/opcagt -version" -host <node_name>

The command output shows 11.14 if the installation is successful.

Note: On AIX nodes, the preinstall log messages will appear twice on a successful installation of the Operations Agent 11.14.

Verify Installation on the Node

To verify that the installation is successful, follow these steps on the node:

1. Log on to the node as administrator or root.
2. Go to the following directory:

Windows:

%ovinstalldir%\bin

HP-UX, Linux, or Solaris:

/opt/OV/bin

AIX:

`/usr/lpp/OV/bin`

3. Run the following command:

Windows:

ovdeploy -inv -includeupdates

UNIX/Linux:

./ovdeploy -inv -includeupdates

The command output shows the list of components upgraded by the installer in the PATCH section. If you updated the deployment packages with hotfixes, the command lists the details of each hotfix under the HOTFIX: `<hotfix_name>` section.

Install the HP Operations Agent 11.11 and 11.14 Together

The HP Operations agent 11.14 installer enables you to install the agent 11.14 along with the base agent version 11.11 and patch 11.14 together.

You can use the `oainstall` script to install both versions of the HP Operations agent locally on a managed node, or you can use the `ovdeploy` command to remotely install these versions of the HP Operations agent on a managed node from the management server.

Note: The HP Operations Agent 11.11 media provided you with the `oasetup` program, which could be used in installing the agent (instead of the `oainstall` scripts). Although the agent 11.14 ISO file includes the `oasetup` program (within the `patches` directory), use only the `oainstall` script for installing the HP Operations Agent 11.14.

Install on Windows Nodes

There are options available to install Operations agent 11.11 only or upgrade to version 11.11 and 11.14 together.

Installing Operations agent 11.11

You can install Operations agent 11.11 by using the consolidated media:

Follow the steps:

1. Log on to the node with the administrator privileges.
2. Go to the media root.
3. Run the following command:

```
cscript oainstall.vbs -i -a -baseonly
```

4. Verify the installation process.

For more information about installation procedures, see *HP Operations Agent and Infrastructure SPIs Installation guide 11.11*.

Installing Operations agent 11.11 and 11.14 Together

You can install Operations agent 11.14 by using Consolidated media.

Using the Consolidated Media

Install the agent 11.11 and 11.14 together by using the **consolidated media**, follow these steps:

1. Log on to the node with the administrator privileges.
2. Go to the media root.
3. Run the following command:

```
cscript oainstall.vbs -i -a
```

4. Verify the installation process.

Verifying the Operations agent version installed on the machine

1. Go to the following location:

For a Windows x64 system:

```
%ovinstalldir%\bin\win64
```

For a Windows x86 system:

```
%ovinstalldir%\bin
```

2. Run the following command:

```
opcagt -base_version
```

The command shows the base version of Operations agent installed on the machine.

opcagt -patch_version

The command shows the patch version of Operations agent installed on the machine.

opcagt -hotfix_version

The command shows the list of hotfixes available for Operations agent installed on the machine.

opcagt -list_all_versions

The command shows the base version, patches, and hotfixes installed on the machine.

Install on UNIX/Linux Nodes

There are options available to install Operations agent 11.11 only or upgrade to version 11.11 and 11.14 together.

Installing Operations agent 11.11

You can install Operations agent 11.11 by using the media:

Follow the steps:

1. Log on to the node with the administrator privileges.
2. Go to the media root.
3. Run the following command:

```
./oainstall.sh -i -a -baseonly
```

4. Verify the installation process.

Installing Operations agent 11.11 and 11.14 Together

You can install Operations agent by using Consolidated media.

Using the Consolidated Media

Install the agent 11.11 and 11.14 together by using the **consolidated media**, follow these steps:

1. Log on to the node with the administrator privileges.
2. Go to the media root.
3. Run the following command:

```
./oainstall.sh -i -a
```

4. Verify the installation process.

Verifying the Operations agent Version

1. Go to the following location:

```
/opt/OV/bin
```

2. Run the following command:

```
./opcagt -base_version
```

The command shows the base version of Operations agent installed on the machine.

```
./opcagt -patch_version
```

The command shows the patch version of Operations agent installed on the machine.

```
./opcagt -hotfix_version
```

The command shows the list of hotfixes available for Operations agent installed on the machine.

```
./opcagt -list_all_versions
```

The command shows the base version, patches, and hotfixes installed on the machine.

Installing the HP Operations agent in the Inactive Mode

You can install the HP Operations agent 11.11 and 11.14 in the inactive mode without specifying any configuration details. This mode of installation does not perform necessary configuration tasks to enable the agent to run on the system, but only creates the necessary directory structure and places necessary files on the system.

The advantage of using this mechanism is the ability to clone the image of a system where the HP Operations agent is installed in the inactive mode. Cloning a system with preinstalled HP Operations agent eliminates the requirement to install the agent on the system after adding the system to the list of managed nodes.

Note: If Operations agent 11.11 is already installed, the defer configure option will be ignored.

Install the HP Operations agent 11.11 and 11.14 Together

Although you can install the HP Operations agent 11.14 alone in the inactive mode, a requirement for this installation is the HP Operations agent 11.11 also must be available on the system in the inactive state. Installing the HP Operations agent 11.11 and 11.14 together simplifies the installation procedure.

Install on Windows Nodes

To install the agent 11.11 and 11.14 together, follow these steps:

1. Log on to the system with the administrator privileges.
2. *Optional.* If you want to install hotfixes for the agent 11.14, follow these steps:
 - a. Obtain the hotfix .tar file from HP Support.
 - b. Extract the contents of the .tar file into a local directory.

You can use the 7-Zip tool to extract the contents of the hotfix .tarfile.

3. To install the agent (on an HPOM-managed or standalone node), go to the directory where you extracted the contents of the HP Operations agent 11.11 media, and then run the following command:

```
cscript oainstall.vbs -i -a -includeupdates -defer_configure -patch_dir <patch_directory>
```

The command may fail if you are installing the agent on a platform that is certified as a *supported platform* for the agent 11.1x (patch) only with this release. In that case, run the following command instead:

```
cscript oainstall.vbs -i -a -minprecheck -includeupdates -defer_configure -patch_dir  
<patch_directory>
```

To include the hotfixes as well, run the following command:

```
cscript oainstall.vbs -i -a -includeupdates -defer_configure -patch_dir <patch_directory> -  
hotfix_dir <hotfix_directory>
```

In this instance, *<patch_directory>* is the directory where the contents of the agent 11.14 ISO file are extracted and *<hotfix_directory>* is the directory where the hotfix .tar file is extracted.

You can install multiple hotfixes by extracting multiple hotfix .tar files into the same directory. To install multiple hotfixes, make sure that all hotfix .tar files are extracted into the same directory. You cannot specify multiple *hotfix_dir* parameters in this command.

Tip: You can extract the contents of the HP Operations agent 11.14 ISO file into the same directory where you extracted the contents of the HP Operations Agent 11.11 media. In that case, do not use the **-patch_dir** option. Specifying the **-includeupdates** option ensures that the installer looks for the 11.14 updates in the current directory. Similarly, you can extract the contents of the hotfix .tar files into the directory where you extracted the media for the agent 11.11 to install hotfixes without specifying the **-hotfix_dir** option.

In this instance, *<directory>* is the directory where you extracted (or mounted) the contents of the HP Operations agent 11.14 ISO file.

After you run the command with necessary options and arguments, the installation procedure begins. At the end of the installation, all agent files are placed on the system, but the agent remains inactive.

To check the status of the agent installed, follow these steps:

1. Go to %ovinstallldir%bin.
2. Run the following command:

opcagt

The following message appears:

Agent is in the inactive state.

Install on UNIX/Linux Nodes

To install the agent 11.14 and 11.11 together, follow these steps:

1. Log on to the system with the root privileges.
2. *Optional.* If you want to install hotfixes for the agent 11.14, follow these steps:
 - a. Obtain the hotfix .tar file from HP Support.
 - b. Extract the contents of the .tar file into a local directory.

Run the following command to extract the contents of the hotfix .tar file:

tar -xvf <hotfix_file_name>

3. To install the agent (on an HPOM-managed or standalone node), go to the directory where you extracted the contents of the agent 11.11 media, and then run one of the following commands:

./oainstall.sh -i -a -includeupdates -defer_configure -patch_dir <patch_directory>

The command may fail if you are installing the agent on a platform that is certified as a *supported platform* for the agent 11.1x (patch) only with this release. In that case, run the following command instead:

./oainstall.sh -i -a -minprecheck -includeupdates -defer_configure -patch_dir <patch_directory>

- To include the hotfixes as well, run the following command:

On the AIX 7, Red Hat Enterprise Linux 6, CentOS 6, SUSE Linux 10 (power), or SUSE Linux 11 (power) platforms:

./oainstall.sh -i -a -minprecheck -includeupdates -defer_configure -patch_dir <patch_directory> -hotfix_dir <hotfix_directory>

On other platforms:

```
./oainstall.sh -i -a -includeupdates -patch_dir <patch_directory> -hotfix_dir <hotfix_directory>
```

In this instance, *<patch_directory>* is the directory where the agent 11.14 ISO file is extracted (or mounted) and *<hotfix_directory>* is the directory where the hotfix .tar file is extracted.

You can install multiple hotfixes by extracting multiple hotfix .tar files into the same directory. To install multiple hotfixes, make sure that all hotfix .tar files are extracted into the same directory. You cannot specify multiple *hotfix_dir* parameters in this command.

Tip: You can extract the agent 11.14 media into the same directory where you extracted the media for the agent 11.11. In that case, do not use the **-patch_dir** option. Specifying the **-includeupdates** option ensures that the installer looks for the 11.14 updates in the current directory. Similarly, you can extract the contents of the hotfix .tar files into the directory where you extracted the media for the agent 11.11 to install hotfixes without specifying the **-hotfix_dir** option.

After you run the command with necessary options and arguments, the installation procedure begins. At the end of the installation, all agent files are placed on the system, but the agent remains inactive.

To check the status of the agent installed, follow these steps:

1. On HP-UX, Linux, or Solaris, go to */opt/OV/bin*.

On AIX, go to */usr/lpp/OV/bin*.

2. Run the following command:

```
./opcagt
```

The following message appears:

```
Agent is in the inactive state.
```

Configure an Inactive Agent to Switch to the Active Mode

After installing the HP Operations agent in the inactive mode, you can perform the following configuration tasks to switch the agent to the active mode:

1. Log on to the node as root or administrator.
2. Go to the following location:

On Windows 64-bit nodes:

```
%ovinstalldir%bin\win64\OpC\install
```

On other Windows nodes:

`%ovinstalldir%bin\OpC\install`

On HP-UX, Linux, and Solaris:

`/opt/OV/bin/OpC/install`

On AIX:

`/usr/lpp/OV/bin/OpC/install`

3. For an installation in an HPOM-managed environment, run the following command:

On Windows:

cscript oainstall.vbs -a -configure -srv <management_server> [-cert_srv <certificate_server>]

or

cscript oainstall.vbs -a -c-srv <management_server> [-cert_srv <certificate_server>]

On UNIX/Linux:

./oainstall.sh -a -configure -srv <management_server> -cert_srv <certificate_server>

or

./oainstall.sh -a -c -srv <management_server> -cert_srv <certificate_server>

4. For a standalone installation, run the following command:

On Windows:

cscript oainstall.vbs -a -configure

On UNIX/Linux:

./oainstall.sh -a -configure

At the end of the procedure, the agent starts its operation on the node and all the necessary components start running.

If you installed the HP Operations agent on the HPOM on UNIX/Linux management server (that is, if you select the management server as a managed node), you must manually restart all HPOM processes by running the following commands on the management server:

1. **/opt/OV/bin/OpC/opcsv -stop**
2. **/opt/OV/bin/OpC/opcsv -start**
3. Run the following commands if you are running the agent on an HPOM for UNIX 8.3x server:

- a. `/opt/OV/bin/ovstop -c`
- b. `/opt/OV/bin/ovstart -c`

Install from the HPOM Console

Installation of the deployment packages for the HP Operations Agent 11.14 on the management server makes necessary changes in the configuration to enable you to install the agent 11.14 and 11.11 (together) remotely on nodes from the HPOM console. You cannot install the agent 11.14 (or the hotfix) alone on the node from the HPOM console. In addition, if HP Operations agent 11.11 is already present on the node, then only 11.14 is installed.

Prerequisites for Installing the HP Operations agent from the HPOM Console

- Auto granting of the certificates must be enabled on the management server. This is optional.
- The `INCLUDEUPDATES` variable can be set to `true` on the management server. Installing deployment packages for the HP Operations Agent 11.14 ensures that this variable is set to `true`.

For verification, run the following command on the management server:

`ovconfget -ovrg server depl INCLUDEUPDATES`

If the command returns `true`, you can go ahead with installation. Otherwise, you must change the setting to `true`.

- If you want to install the agent on one of the newly supported platforms, you must do *one* of the following:
 - Install the hotfix `QCCR1A128349` for HPOM on UNIX/Linux. Contact HP Support to obtain this hotfix. You do not need any additional hotfixes if you are using HPOM for Windows.

or

- Install HPOM for Windows patch (OM 9.10.220).
- The node must also meet the requirements listed in ["Prerequisites for Installing the HP Operations agent 11.14" on page 46](#)

From the HPOM for Windows Console

To install the agent 11.14 and 11.11 together from the HPOM for Windows console:

Follow the instructions in the *Remote Agent Installation* section in *HPOM for Windows Online Help*.

Note: You *need not* select the **Run prerequisites check automatically before deployment** check box while installing the agent. The installation process on the node always performs prerequisite checks and the error or failure messages are annotated with the deployment job in the HPOM console. You can reduce the installation time by clearing this check box.

Depending on the original state of the node, you will see one of the following results:

- If the node did not have any agent software installed, the agent 11.11 and 11.14 are installed.
- If the node had old agent software that *can* be upgraded to the version 11.11, the existing agent is upgraded to the version 11.11 first, and then the agent 11.14 is installed.

Note: In the above two scenarios, the remote installation mechanism first installs the HP Operations agent 11.11 on the node, and then installs the HP Operations agent 11.14. Therefore, the installation process might take longer than usual.

- If the node has old agent software that *cannot* be upgraded to the version 11.11, the installation fails.
- If the agent 11.11 was already installed on the node, follow these additional steps after the remote installation is complete:
 - a. In the console tree, right-click the node, and then click **All Tasks > Reinstall/Update**. The Reinstall/Update Node dialog box opens.
 - b. Select **Update**, select **Packages** in the Scope section, clear the **Deploy Only if Version is Lower** check box, and then click **OK**.
 - c. After the installation is complete, go to the console tree of the HPOM console, right-click the node, and then click **All Tasks > Synchronize > Packages**.

The agent 11.14 is now installed on the node.

Note: Installation from the HPOM console might take longer than usual as HPOM first installs the HP Operations agent 11.11 on the node, and then installs the HP Operations agent 11.14.

From the HPOM for UNIX Console

To install the agent 11.14 and 11.11 together from the HPOM for UNIX console:

Follow the instructions in the *HPOM for UNIX: New Agent Installation* section in *HPOM for UNIX Online Help* to install the agent remotely from the HPOM console.

Depending on the original state of the node, you will see one of the following results:

- If the node did not have any agent software installed, HPOM installs both the agent versions 11.11 and 11.14. Make sure to select the **Force** check box in the Install Agent window.

- If the agent 11.11 was already installed on the node, you must select the **Force** check box in the Install Agent window while installing the agent. At the end of the installation, the agent 11.14 is installed.
- If the node has older agent software that *cannot* be upgraded to the version 11.11, installation fails.
- If the node had old agent software that *can* be upgraded to the version 11.11, the existing agent is upgraded to the version 11.11 first, and then the agent 11.14 is installed (this two-step upgrade takes place automatically; no additional steps are involved).

Note: Installation from the HPOM console might take longer than usual as HPOM first installs the HP Operations agent 11.11 on the node, and then installs the HP Operations agent 11.14.

Modify the Default Deployment Behavior

If you do not want to install the 11.14 patch and HP Operations agent 11.11 together anymore, follow these steps:

1. Log on to the management server with the administrator or root privileges.
2. Go to the directory `%ovinstalldir%bin` or `/opt/OV/bin`.
3. Run the following command:

```
ovconfchg -ovrg server -ns depl -set INCLUDEUPDATES false
```

Reverting to the HP Operations agent 11.11

After installing the agent 11.14, if you want to revert to the agent 11.11, you can do so by removing the agent from the node. See ["Removing the HP Operations Agent 11.14 Patch" on page 88](#) for more details.

Stopping Unnecessary Processes

If you do not want to use all the components of the HP Operations agent, you can run specific commands to stop unnecessary processes. Stopping unnecessary processes is useful when you are upgrading only from the HP Operations agent, HP Performance Agent, or HP GlancePlus and you do not want to use the other components of the HP Operations agent.

When you are upgrading from the HP Operations agent 8.xx only

In this scenario, you can stop the `rtmd` process if you do not want to use the Performance Collection Component and RTM.

The simplest way to stop the `rtmd` process is running the **`ovc -stop rtmd`** command. However, the `rtmd` process starts running again when you restart the system. Therefore, it is important to unregister the process from the `control` component instead of just stopping its operation.

Perform the following steps to unregister the `rtmd` process:

1. Log on to the node as root or administrator.
2. Go to the following directory:

On Windows

`%ovinstalldir%bin`

On HP-UX, Linux, or Solaris

`/opt/OV/bin`

On AIX

`/usr/lpp/OV/bin`

3. Run the following command:

`ovcreg -del rtmd`

The command stops the `rtmd` process and unregisters the `rtmd` process from the `control` component.

When you are upgrading from the HP Performance Agent 4.7 and above

In this scenario, you can stop the `rtmd` process if you do not want to use RTM.

The simplest way to stop the `rtmd` process is running the **`ovc -stop rtmd`** command. However, the `rtmd` process starts running again when you restart the system. Therefore, it is important to unregister the process from the `control` component instead of just stopping its operation.

Perform the following steps to unregister the `rtmd` process:

Log on to the node as root or administrator.

1. Go to the following directory:

On Windows

`%ovinstalldir%bin`

On HP-UX, Linux, or Solaris

`/opt/OV/bin`

On AIX

`/usr/lpp/OV/bin`

2. Run the following command:

```
ovcreg -del rtmd
```

The command stops the `rtmd` process and unregisters the `rtmd` process from the `control` component.

When you are upgrading from HP GlancePlus 5.0 only

HP GlancePlus does not require the `ovc` process. When you want to run only HP GlancePlus (and no other components of the HP Operations agent 11.00), follow these steps:

1. Log on to the node as root.
2. Go to the following directory:

On HP-UX, Linux, or Solaris

/opt/OV/bin

On AIX

/usr/lpp/OV/bin

3. Run the following command stop all agent processes (including processes for the Performance Collection Component):

```
opcagt -kill
```

This command stops all HP Operations agent processes.

4. Run the following command to restart the `midaemon` process:

On HP-UX, Linux, or Solaris

/opt/perf/bin/midaemon

On AIX

/usr/lpp/perf/bin/midaemon

5. Run the following command to restart the `perfd` process:

On HP-UX, Linux, or Solaris

/opt/perf/bin/perfd

On AIX

/usr/lpp/perf/bin/perfd

The ovc process is already stopped by the command that was run in [step 3](#). However, the ovc process will start running again when you restart the system.

Run the following command to prevent the ovc process from starting its operation when the system is restarted:

On HP-UX, Linux, or Solaris

```
/opt/OV/bin/ovconfchg -ns ctrl -set START_ON_BOOT false
```

On AIX

```
/usr/lpp/OV/bin/ovconfchg -ns ctrl -set START_ON_BOOT false
```

The ovc process does not start anymore after you restart the system.

Perform [step 6](#) through [step 8](#) to prevent the Performance Collection Component from starting its operation when the system is restarted

6. Go to the following location:

On Linux

```
/etc/sysconfig
```

On HP-UX

```
/etc/rc.config.d
```

On Solaris and AIX

```
/etc/default
```

7. Open the ovpa file with a text editor.
8. Set the variable OVPA_START to 0, and then save the ovpa file

If the ttd process does not start after you restart the system, run the following command:

On HP-UX, Linux, or Solaris

```
/opt/perf/bin/ttd
```

On AIX

```
/usr/lpp/perf/bin/ttd
```

Stopping Operations agent Processes

With the current version, if you want to stop all the processes of the HP Operations agent and HP Performance Agent, you can run a **single** command (**opcagt -kill**) to stop all the processes.

Note: The DSI and ARM applications may have dependency on `midaemon` or `ttd` processes. There might be an impact on these applications if you use (**`opcagt -kill`**) command.

Follow the steps to stop all the processes:

1. Log on to the node as root.
2. Go to the following directory:

On Windows

%ovinstalldir%bin

On HP-UX, Linux, or Solaris

/opt/OV/bin

On AIX

/usr/lpp/OV/bin

3. Run the following command to stop all agent processes (including processes for the HP Performance Agent):

On Windows:

opcagt -kill

On UNIX:

./opcagt -kill

This command stops all HP Operations agent processes including `midaemon` and `ttd` processes.

Note: As `ttd` process is stopped, any ARM-instrumented applications that are running must also be stopped before you restart `ttd` process.

Chapter 8: Installing Infrastructure SPIs

Prerequisites for Installing the Infrastructure SPIs

Hardware and Software Requirement:

For a list of supported hardware, operating systems, HPOM version, and agent version, see the *Support Matrix*.

Upgrade Requirements:

You can directly upgrade the Infrastructure SPIs 1.60 or above to the version 11.11 and then to 11.14.

Install Infrastructure SPIs by Using Infrastructure SPIs Media

Follow the steps:

1. Download Infrastructure SPIs ISO version 11.11 (all platforms) and Infrastructure SPIs 11.14 platform ISO in the same location. You must extract the version 11.11 and then 11.14 version in the same location.
2. Log on to the management server as administrator.
3. From the media root, run the following command:

```
cscript oainstall.vbs -i -m
```

The command installs the Infrastructure SPIs version 11.11 and 11.14.

Log File

The common log file (`oainstall.log`) for installing Infrastructure SPIs (11.11) and patch 11.14 is in the following directory:

On Windows

```
%OvDataDir%\shared\server\log\oainstall.log
```

On UNIX/Linux

```
/var/opt/OV/shared/server/log/oainstall.log
```

You can view the patch log file (`oapatch.log`) in the following location:

On Windows

```
%OvDataDir%\shared\server\log\oapatch.log
```

On UNIX/Linux

`/var/opt/OV/shared/server/log/oapatch.log`

Verifying the Installation

After installing the Infrastructure SPIs version 11.11 and 11.14, review the contents of the installation log file (`oainstall.log`) or `oapatch.log`. If the installation is successful, the file must be error-free and must display the messages near the end of the file.

Install Infrastructure SPIs 11.14 Patch Only

Follow the steps:

1. Make sure that you have downloaded the HP Infrastructure SPIs 11.14 patch .ISO file.
2. Log on to the management server as administrator.
3. Go to the media root.
4. Run the following command:

`cscript oainstall.vbs -i -m`

5. Verify the registration process.

Chapter 9: Installing HP Operations Agent Using HP Server Automation

HP Server Automation (SA) helps in automated application deployment. You can use HP Server Automation to deploy HP Operations agent. For more information on the prerequisites for installing HP Operations agent, see ["Prerequisites for Installing the HP Operations agent 11.14" on page 46](#). The target where you are installing HP Operations agent must always have SA agent installed on it.

To obtain platform specific packages from the HP Operations agent media, browse the media to the specific package location. For all platforms, you must obtain the `oainstall.vbs` or `oainstall.sh` package and the contents of the **scripts** folder. The following table lists the platform-specific packages to be obtained from the media

Operating System	Architecture	Packages
Windows	32-bit	packages/WIN/Windows_X86
	64-bit	packages/WIN/Windows_X64
Linux	Linux2.6 x64	packages/LIN/Linux2.6_X64
	Linux2.6 x86	packages/LIN/Linux2.6_X86
	Linux2.6 PPC64	packages/LIN/Linux2.6_PPC64
HP-UX	HP-UX-IA32	packages/HP-UX/HP-UX_IA32
	HP-UX-PA32	packages/HP-UX/HP-UX_PA32
Solaris	Solaris_SPARC32	packages/SOL/Solaris_SPARC32
	Solaris_X86	packages/SOL/Solaris_X86
AIX	64-bit	packages/AIX/AIX_powerpc64

To install HP Operations agent using the SA console, perform the following tasks:

- ["Import the HP Operations Agent Software" on the next page](#)
- ["Create a Software Policy " on page 72](#)
- ["Attach the Software Policy to a Device or Server" on page 73](#)

Before starting the tasks to install HP Operations agent using the SA console, make sure that SA agent is installed on the node. For more information, see *Installing Server Agent* section in the *HP Server Automation User Guide*.

Import the HP Operations Agent Software

To import the HP Operations agent software, follow these steps:

1. Obtain the HP Operations agent media.

To extract the contents of the .tar file containing the HP Operations agent media, you can use the command `tar -xvf <filename>.tar` on the UNIX/Linux systems.

2. Browse to the **packages** folder and select the required Operating System.

For example, to obtain the AIX packages, browse to **packages > AIX**.

3. Extract the contents of the media.
4. Compress the extracted contents into a zip file.

You can use any available tool to create zip file.

5. Log on to the HP Server Automation Client console.
6. In the navigation pane, select **Library**.
7. Select the **By Folder** tab, and the required folder.
8. Click **Actions > Import Software**. The Import Software dialog box opens.
9. Browse and select the zip file that you created and select **ZIP Archive (.zip)** as the package type.
10. Browse and select the appropriate folder and platform.
11. Click **Import**.
12. Click **Close** when the import is successful. The package appears in the contents pane.

You can also install the imported software without creating and attaching a software policy by performing the following tasks:

1. In the navigation pane, select **Library**, expand **Packages**, and select the platform on which you imported the software zip file. The contents pane displays the imported software package.
2. Select **Actions > Install Software....** The Install Software window opens.
3. Click and select the required device or server from the list and click **Select**.
4. Click **Start Job**. Click **Close** when the processes are successfully completed. To verify if the package is successfully installed, see ["Verifying the Installation" on page 74](#).

Create a Software Policy

To create a software policy, follow these steps:

1. In the navigation pane, select **Library**.
2. In the **By Type** tab, expand **Software Policies** and select the required platform from the list. The contents pane displays the existing software policies for the selected platform.
3. Click **Actions > New....** The Software Policy window opens.
4. Type a name for the policy in the **Name** field.
5. Click **Select** and select the appropriate folder.
6. Click **Policy Items** in the **Views** pane.
7. Click in the **Policy Items** pane. The Select Library Item window opens.
8. Select **Package** from the **Browse Types** tab. The right pane displays all the available packages.

Alternatively, you can also select **Browse Folders**, and select the folder where you imported the package and select it from the right pane.
9. Select the required package to attach the software policy.
10. Click **Select**. The package details appear in the Software Policy window.
11. Click or double-click the package to edit the package details.
12. Provide the location on the system where the HP Operations agent package must unzip in the **Default Install Path** field.
13. Expand the **Install Scripts** section and provide the Pre-Install Script or Post-Install Script in the respective tabs, as required.

For Windows, the scripts must be in the BAT format and for UNIX/Linux, the scripts must be in the shell script format.

If you want to install agent but defer the configuration, in the Post-Install Script tab include the following command:

On Windows

```
cscript oainstall.vbs -i -a -defer_configure
```

On UNIX/Linux


```
./oainstall.sh -i -a -defer_configure
```

14. Expand the **Uninstall Scripts** section and provide the Pre-Uninstall Script or Post-Uninstall Script in the respective tabs, as required.

For example, if you want to uninstall HP Operations agent from the managed node, include the following command in the Post-Uninstall Script tab:

```
set BASE_PATH=C:\Windows_X64
"%BASE_PATH%oasetup.exe -remove
```

15. In the left pane, click **Contents** to view the contents of the package.
16. Click **File > Save**. Close the window. The policy details appear on the contents pane.

Attach the Software Policy to a Device or Server

To attach a Software Policy, do one of the following:

- ["Attach from Software Policy list" below](#)
- ["Attach from Devices list" below](#)

Attach from Software Policy list

1. In the navigation pane, select **Library**.
2. In the **By Type** tab, expand **Software Policies** and select the required platform from the list. The contents pane displays the existing software policies for the selected platform.
3. Select the required software policy. Click **Actions > Attach**. The Attach Server window opens.
4. Select the required device from the Devices list and click **Attach**. The Remediate window opens.
5. Click **Start Job**. Wait till the installation process is complete.
6. Click **Close** after all requests are successfully completed.

Attach from Devices list

1. In the navigation pane, select **Devices**.
2. Select the required device or server from the Devices list. The contents pane displays the associated devices or servers.
3. Select the required device or server. Click **Actions > Attach > Software Policy**. The Attach Software Policy window opens.

4. Select the software policy and click **Attach**. The Remediate window opens.
5. Click **Start Job**. Wait till the installation process is complete.
6. Click **Close** after all requests are successfully completed.

Note: To verify that the policy is attached to the device or server successfully, select the device or server from the devices list and select **Software Policies** from the **View** drop down list. The policies attached to the device or server are listed at the bottom of the contents pane.

Verifying the Installation

To verify that HP Operations agent is successfully installed, follow these steps:

1. In the navigation pane, select **Devices**.
2. Select the required device or server from the Devices list. The contents pane displays the associated devices or servers.
3. Select the required device or server.
4. Select **Installed Packages** from the **Views** drop down list in the contents pane. The list of packages installed on the selected server or devices appears at the bottom of the pane.
5. Check that the HP Operations agent package is available.

Note: You can also check the contents of the *oainstall.log* file on the target system and verify that HP Operations agent is installed.

Uninstalling HP Operations agent using SA console

To uninstall HP Operations agent using the SA console, follow these steps:

1. In the navigation pane, select **Devices**.
2. Select the required device or server from the Devices list. The contents pane displays the associated devices or servers.
3. Select the required device or server. Click **Actions > Uninstall > Software**. The Uninstall Software window opens and the contents pane displays the selected device or server.
4. Click **Software** from the list on the left pane.
5. Click to specify the software policy. The Select Library Item window opens.

6. Select the required software policy attached to the HP Operations agent package to be uninstalled.
7. Click **Select** and then **Start Job**. The Job Status appears and uninstalls the HP Operations agent package.
8. Click **Close** after the job is completed.

Note: To verify that package is uninstalled from the device or server successfully, select the device or server from the devices list and select **Software Policies** from the **View** drop down list. The policies attached to the device or server are listed at the bottom of the contents pane. The list does not contain the HP Operations agent package after successful uninstallation.

Chapter 10: Installing HP Operations Agent using Microsoft System Center 2012 Configuration Manager

Microsoft System Center 2012 Configuration Manager is a systems management software product. You can use Microsoft System Center 2012 Configuration Manager to install HP Operations agent on the required Windows nodes and servers. For more information on the prerequisites for installing HP Operations agent, see ["Prerequisites for Installing the HP Operations agent 11.14" on page 46](#).

You must add the node or server, where HP Operations agent must be installed, to the System Center 2012 Configuration Manager. For more information, see the *Microsoft System Center documentation*. After adding the node or server, navigate to **Assets and Compliance > Overview > Devices** and check if the details appear in the devices list.

To install the System Center 2012 Configuration Manager client on the required node, select the node from the devices list and click **Install Client** ().

To install HP Operations agent using the System Center 2012 Configuration Manager console, perform the following tasks:

- ["Create the HP Operations Agent Package" below](#)
- ["Deploy the HP Operations Agent Package" on the next page](#)

Create the HP Operations Agent Package

To create an HP Operations agent deployment package, follow these steps:

1. Obtain the HP Operations agent media.
2. Browse to the **packages** folder and select the required Operating System.

For example, to obtain the Windows 64-bit packages, browse to **packages > WIN > Windows_X64**.

3. Extract the contents of the media.
4. Log on to the System Center 2012 Configuration Manager console.
5. In the left Navigation Pane, select **Software Library**.
6. Expand **Overview > Application Management** and select **Packages**.

7. Click **Create Package** () to create the HP Operations agent deployment package.

The Create Package and Program Wizard window opens.

8. Type a name for the package in the Name field.
9. Type a description in the Description field.
10. Select the **This package contains source files** checkbox and click **Browse**.
The Set Source Folder dialog box opens.
11. Select **Network path (UNC name)**.
12. Click **Browse** and navigate to the location where the HP Operations agent package is available.
13. Click **OK** and then click **Next**.
14. Select the program type you want to create and click **Next**.
15. Type a name for the program in the **Name** field.
16. Click **Browse** corresponding to the **Command line** field and navigate to the folder where the **oasetup.exe** is available.

To initiate the installation on the node automatically with oasetup.exe, type `oasetup.exe -install` in the field.

For example, you can also type `cscript.exe oainstall.vbs -i -a -agent_profile <absolute path of profile text file>`, if you want to specify an agent profile. Make sure that the .txt file is placed at the same location as where the **oainstall.vbs** file is present.

For example, you can also use the command `cscript.exe oainstall.vbs -i -a -srv <management_server_hostname> -cert_srv <management_server_hostname> -f`

You can specify any of the agent installation commands here and the appropriate action is performed during deployment.

17. Select and provide values in the following fields, as required.
18. Click **Next** until the completion status window appears.
19. Click **Close** to close the dialog box.

The created package appears in the right pane of the console.

Deploy the HP Operations Agent Package

To deploy the HP Operations agent package on the required node or server, follow these steps:

1. Select the created HP Operations agent package.
2. Click **Deploy** (). The Deploy Software Wizard window opens.
3. Verify that the **Software** field contains the created package name.

If you need to select a different package, click the corresponding **Browse** button and select the required package.

4. Click **Browse** corresponding to the **Collection** field.

The Select Collection window opens.

5. Select the required node or server on which you want to deploy HP Operations agent.
6. Click **OK**.
7. Click **Next**.

8. Click **Add** and select **Distribution Point** or **Distribution Point Group**.

A window opens displaying the distribution points or the distribution point groups.

9. Select the required value and click **OK**.
10. Click **Next**.
11. Specify the required Deployment Settings in the following screens.
12. Click **Next** in the Summary screen. The window shows the progress of the deployment.
13. Click **Close** in the Completion screen after the wizard displays the message that the software is successfully deployed.

Verifying the Installation

To verify that HP Operations agent is successfully installed, follow these steps:

1. In the left Navigation Pane, select **Monitoring**.
2. Navigate to **Overview > Deployments**. The right pane displays all the deployments with the name of the package created.
3. Select the appropriate deployment and click **View Status** ().

Alternatively, you can also double-click the deployment to view the status.

The right pane displays the deployment status. You can check the different tabs to view the status of the deployment.

Chapter 11: Installing HP Operations Agent Using Red Hat Network Satellite Server

You can use Red Hat Network Satellite server to deploy HP Operations agent on all the Linux nodes. For more information on the prerequisites for installing HP Operations agent, see ["Prerequisites for Installing the HP Operations agent 11.14" on page 46](#). The target node where you are installing HP Operations agent must always be added to communicate with Red Hat Network (RHN) Satellite server.

Note: When you upgrade from the HP Operations agent 8.60 to 11.1x, ensure that you uninstall HP Operations agent 8.60 using the `opc_inst.sh -r` command and then install the HP Operations agent 11.1x using the Red Hat Network Satellite server.

To obtain platform specific packages from the HP Operations agent media, browse the media to the specific package location. The following table lists the platform-specific packages to be obtained from the media.

Operating System	Architecture	Packages
Linux	Linux2.6 x64	packages/LIN/Linux2.6_X64 patches/<OALIN_00032>/Linux2.6_X64
	Linux2.6 x86	packages/LIN/Linux2.6_X86 patches/<OALIN_00032>/Linux2.6_X86
	Linux2.6 PPC64	packages/LIN/Linux2.6_PPC64 patches/<OALIN_00032>/Linux2.6_PPC64

To install HP Operations agent using RHN Satellite server, perform the following tasks:

1. ["Collect and Store the Operations agent depot files \(RPMs\) in Software Delivery Repository " on the next page](#)
2. ["Create the Setup on the Target Node " on the next page](#)
3. ["Deploy the Packages on the Target Node" on page 82](#)

To remove the packages from the target node, see ["Remove the Packages from the Target Node " on page 83](#)

Collect and Store the Operations agent depot files (RPMs) in Software Delivery Repository

To download the HP Operations agent software, follow these steps:

1. Obtain the HP Operations agent media and mount it to your desired location.
2. To obtain the Linux packages, browse to the **packages** folder and select **Lin**.
3. Collect and unzip all the gzip files from media using the **-N** option.

Note: Make sure to repeat the step 2 to step 4 for patches/ OALIN_00032 folder.

4. Upload the Operations agent RPMs to Software Delivery Repository location of the RHN Satellite server.

Create the Setup on the Target Node

To create the setup on the target node, follow these steps:

1. Add the node to RHN Satellite server. The node is known as the target node.
2. On the target node, create a file and provide the location on the system where HP Operations agent package must create the **Default Agent File (oa.repo)**.

For example, create a file `/etc/yum.repos.d/<oa.repo>`.

Note: The agent depot files must be available in the **repos.d** location.

3. Update the contents of the file and specify the location (*baseurl*) where Operations agent depot files are available.

Note: The content of the file:

[oa]

Name=**Operations Agent**

baseurl=System_name/SDR/downloads/Extras/RedHat/6Server/x86_64/current/operation-agent/<Agent RPMs location>

```
gpgcheck=0
```

In this instance:

<Name> is the product name.

<baseurl> is the location where agent package is available.

gpgcheck is the additional check to verify the RPMs. To disable this additional check, set the value as 0.

OR

Use the content if you want to verify the RPMs with the public key.

[oa]

Name=**Operations Agent**

baseurl=System_name/SDR/downloads/Extras/RedHat/6Server/x86_64/current/operation-agent/*<Agent RPMs location>*

```
gpgcheck=1
```

```
gpgkey=file:///path of hpPublicKey.pub
```

In this instance:

<Name> is the product name.

<baseurl> is the location where agent package is available.

gpgcheck is the additional check to verify the RPMs. To enable this additional check, set the value as 1.

gpgkey is the path to get the HP public key. This key is only required if you need additional security.

Deploy the Packages on the Target Node

Follow these steps:

1. Run the command to install the required RPMs: `# yum install <HPOvOpsAgt>`

Note: All the dependent agent RPMs will be installed.

Package	Arch
Installing:	
HPOvOpsAgt	x86_64
Installing for dependencies:	
HPOvAgtLc	x86_64
HPOvBbc	x86_64
HPOvConf	x86_64
HPOvCtrl	x86_64
HPOvDepl	x86_64
HPOvEaAgt	x86_64
HPOvGlanc	x86_64
HPOvPacc	x86_64
HPOvPerfAgt	x86_64
HPOvPerfMI	x86_64
HPOvPerlA	x86_64
HPOvSecCC	x86_64
HPOvSecCo	x86_64
HPOvXpl	x86_64

2. Run the command to verify that Operations agent packages are installed:
`rpm -qa | grep <packagename>`

In this instance, <packagename> is name of the agent package.

For example, `rpm -qa | grep <HPOvBbc>`

After performing all the steps, the Operations agent RPMs are available on the node. Configure the management server by the following:

1. Go to the following directory on the linux node:
`/opt/OV/bin/OpC/install`
2. Run the command: `opcactivate -srv <management_server> -cert_srv <management_server> -f`

In this instance:

<management_server> is the FQDN of the HPOM management server.

Remove the Packages from the Target Node

You can remove the packages by using either the *YUM* command or *oainstall.sh* program.

Using YUM Commands to remove the packages

Run the command to remove the package or the specific RPMs only

```
yum remove <package name>
```

Note: Make sure that you install *yum-plugin-remove-with-leaves* to remove all the Operations agent packages by using a single command.

Run the command to remove Operations agent completely:

```
yum remove --remove-leaves HPOvOpsAgt HPOvSecCo
```

Using oainstall.sh program to remove the packages

Run the command: `/opt/OV/bin/OpC/install/oainstall.sh -r -a`

Chapter 12: Installing the HP Operations agent on Platforms Supported with Limitation

See the HP Operations agent *Support Matrix* document for more details on platforms supported with limitation.

The installer may fail to install the HP Operations agent on platforms supported with limitation. You may see the following error when you try to install the agent on such platforms:

The product bundle selected may not yet be supported on this node

To install the HP Operations agent on such nodes, you must run the installer with the **-minprecheck** option along with the **-i** and **-a** options.

Examples

To install the HP Operations agent 11.14 on a Windows system, run the following command:

cscript oainstall.vbs -i -a -minprecheck

To install the HP Operations agent 11.14 on a UNIX/Linux system, run the following command:

./oainstall.sh -i -a -minprecheck

Install the HP Operations agent on Platforms Supported with Limitation Remotely from the HPOM for Windows Console

To install the HP Operations agent 11.14 remotely from the HPOM for Windows console on platforms supported with limitation, you must perform the following preinstallation tasks on the management server:

1. Log on to the management server as administrator.
2. Go to the directory %ovdatadir%share\conf\PMAD.
3. Rename the agent_install_defaults.cfg.sample file to agent_install_defaults.cfg.

Tip: Take a backup of the agent_install_defaults.cfg.sample file.

4. Open the agent_install_defaults.cfg file with a text editor and add the following line:

```
[eaagt]
```

```
MINPRECHECK=TRUE
```

5. Save the file.

You can now follow the steps in ["From the HPOM for Windows Console" on page 61](#) to install the HP Operations agent 11.14 remotely from the HPOM console.

Install the HP Operations Agent on Platforms Supported with Limitation Remotely from the HPOM for UNIX Console

To install the HP Operations agent 11.14 remotely from the HPOM for UNIX console on platforms supported with limitation, you must perform the following preinstallation tasks on the management server:

1. Log on to the management server with the root privileges.
2. Go to the directory `/etc/opt/OV/share/conf/OpC/mgmt_sv`.
3. Rename the file `bbc_inst_defaults.sample` to `bbc_inst_defaults`.
4. Open the file `bbc_inst_defaults` with a text editor and add the following line:

```
[eaagt]
```

```
MINPRECHECK=TRUE
```

5. Save the file.

Follow the steps in ["From the HPOM for UNIX Console" \(on page 43\)](#) to install the HP Operations agent 11.14 remotely from the HPOM console.

Note: After installing the HP Operations Agent 11.14 using MINPRECHECK, the changes done in the profile file must be reverted. When you install using MINPRECHECK, the version check for the Operating System and Architecture will be skipped.

Install the HP Operations Agent on Platforms Supported with Limitation Remotely Using Command Line

To install the HP Operations agent 11.14 remotely on platforms supported with limitation:

1. Log on to the management server with root or administrator privileges.
2. Go to the following directory on the management server:

On Windows:

%ovinstalldir%bin

On UNIX/Linux:

/opt/OV/bin

3. Add the following line in a text file:

[eaagt]

MINPRECHECK=TRUE

4. Run the following command:

ovdeploy -install -bundle <path_to_OVO-Agent.xml> -node <node name> -af <path_of_profile_file>\<profile_file_name> -1 -configure <profile_file_name>

The command installs the HP Operations Agent 11.14 on the node.

Chapter 13: Removing the HP Operations agent

To remove the complete product from For the Windows®, HP-UX, Solaris, Linux, and AIX operating systems see [Removing the HP Operations Agent 11.11 and 11.14 Together](#).

To remove HP Operations agent and Infrastructure SPIs 11.14 see [Removing the HP Operations Agent 11.14](#).

To remove HP Operations agent from Linux, see [Remove the HP Operations Agent from Linux Nodes](#).

Removing the HP Operations Agent 11.14 Patch

To remove the HP Operations agent 11.14 patch only, follow these steps after you log on to the node as root or administrator:

Note: You cannot remove HP Operations agent 11.14 alone from Linux nodes; you can only remove the complete product (versions 11.11 and 11.14 together) from Linux nodes. Do not follow these steps on Linux nodes. To remove the complete product from Linux nodes, see "[Remove the HP Operations Agent from Linux Nodes](#)" on page 90.

1. Go to the following directory:
On Windows (32-bit systems)
`%ovinstalldir%\bin\OpC\install`
On Windows (64-bit systems)
`%ovinstalldir%\bin\win64\OpC\install`
On HP-UX or Solaris
`/opt/OV/bin/OpC/install`
On AIX
`/usr/lpp/OV/bin/OpC/install`
2. Run the following command to remove the agent 11.14:
On Windows
`cscript oainstall.vbs -r -a -pn OAWIN_00032`
On HP-UX
`./oainstall.sh -r -a -pn OAHPUX_00032`
On Solaris
`./oainstall.sh -r -a -pn OASOL_00032`
On AIX
`./oainstall.sh -r -a -pn OAAIX_00032`

On all platforms other than Linux, uninstallation of the HP Operations agent 11.14 reinstates the version of the HP Operations agent 11.11.

On all platforms other than Linux, removing the agent 11.14 reinstates the agent 11.11 on the node.

For information on removing the agent on Linux, see ["Remove the HP Operations Agent from Linux Nodes" on the next page](#).

Remove the HP Operations agent Remotely Using the Command Line

To remove the agent 11.14 from a managed node remotely by using the `ovdeploy` command from the management server, follow these steps:

Note: You cannot remove the agent 11.14 alone from Linux nodes; you can only remove the complete product (versions 11.11 and 11.14 together) from Linux nodes. Do not follow these steps on Linux nodes. To remove the complete product from Linux nodes, see ["Remove the HP Operations Agent from Linux Nodes" on the next page](#).

1. Log on to the management server as root or administrator.
2. Go to the following directory on the management server:

On Windows:

`%ovinstalldir%\bin`

On HP-UX, Solaris, or Linux:

`/opt/OV/bin`

3. Run the following command:

ovdeploy -remove -patch <patch-ID>-host <node name>

In this instance:

<patch-ID> is the name of the patch ISO file that was downloaded while installing the patch (see [ISO file names](#)).

<node name> is the FQDN of the node.

Note: Do not specify the FQDN of a Linux node. You cannot remove just the agent 11.14 from a Linux node.

On all platforms other than Linux:

On all platforms other than Linux, removing the agent 11.14 reinstates the agent 11.11 on the node.

For information on removing the agent on Linux, see ["Remove the HP Operations Agent from Linux Nodes" below](#).

Remove the HP Operations Agent from Linux Nodes

You cannot remove the agent 11.14 alone from Linux nodes. However, you can remove both the versions of the agent (11.11 and 11.14) together with a single command.

To remove the agent 11.11 and 11.14 from Linux nodes, follow these steps:

1. Log on to the node as root.
2. Go to `/opt/OV/bin/OpC/install`.
3. Run the following command:

```
./oainstallsh -r -a
```

The command removes both the versions of the agent (11.11 and 11.14).

Reinstall the HP Operations Agent 11.14 on Linux

On Linux systems, you cannot remove just the agent 11.14 with the agent 11.11 still in effect. Uninstallation procedure removes both the versions of the agent (11.11 and 11.14) completely from the Linux system. If you want to install the agent 11.14 again on the same system, do one of the following:

- Install the agent 11.11 and 11.14 together (["Install the HP Operations Agent 11.11 and 11.14 Together" on page 53](#)).
- Install the agent 11.11 first (follow the instructions in the *HP Operations Agent 11.11 Installation Guide*), and then install the agent 11.14 (see ["Install the HP Operations Agent 11.14 on a Node Manually" on page 47](#)).

Removing the Agent with the oacleanall Script

If the installation of the agent is incomplete or unsuccessful, you must always try reinstallation only after uninstalling the agent. If the uninstallation command (**oainstall.sh -r -a** or **cscript oainstall.vbs -r -a**) fails to remove the agent, use the `oacleanall` script.

The `scripts` directory (directory where ISO is extracted or mounted) includes a set of `oacleanall` scripts—one script for each platform. You must choose the appropriate script to bring the system back to its original state. The `oacleanall` script **removes** the agent (11.14 and 11.11) from the system completely and irrecoverably. Use this script only to reverse the effect of an incomplete, unsuccessful, or incorrect installation of the agent.

Note: The `oacleanall` script is *NOT* recommended to remove the Operations agent on a system running other HP Software products.

The following table lists the commands for all supported platforms.

Operating System	Architecture	Command
Windows	x86	cscript oacleanall_Windows_X86.vbs
	x64	cscript oacleanall_Windows_X64.vbs
Linux	x86	./oacleanall_Linux2.6_X86.sh
	x64	./oacleanall_Linux2.6_X64.sh
	power (64-bit)	./oacleanall_Linux2.6_PPC64.sh
HP-UX	PA-RISC	./oacleanall_HP-UX_PA32.sh
	Itanium	./oacleanall_HP-UX_IA32.sh
Solaris	SPARC	./oacleanall_Solaris_SPARC32.sh
	x86	./oacleanall_Solaris_X86.sh
AIX	power (64-bit)	./oacleanall_AIX_powerpc64.sh

Removing the HP Operations agent 11.11 and 11.14 Together

To remove the HP Operations agent complete product (versions 11.11 and 11.14) using a single command, follow these steps after you log on to the node as root or administrator:

1. Go to the following directory:
On Windows (32-bit systems)
`%ovinstalldir%\bin\OpC\install`
On Windows (64-bit systems)
`%ovinstalldir%\bin\win64\OpC\install`
On HP-UX or Solaris
`/opt/OV/bin/OpC/install`
On AIX
`/usr/lpp/OV/bin/OpC/install`
2. Run the following command to remove the agent:

On Windows

cscript oainstall.vbs -r -a

On UNIX/Linux

`./oainstall.sh -r -a`

The command removes the agent (11.11 and 11.14 together) from the node. After uninstallation, the complete data directory remains on the system (on Windows: %ovdatadir%; on UNIX/Linux: /var/opt/OV).

Alternatively, if you do not want to retain the data files on the system, run the following command:

On Windows

`cscript oainstall.vbs -r -a -clean`

On UNIX/Linux

`./oainstall.sh -r -a -clean`

The command removes the agent (11.11 and 11.14 together) from the node. After uninstallation, only the following files remain on the system:

On Windows

%ovinstalldir%\inventory\Operations-Agent.xml

%ovdatadir%\log\oainstall.log

%ovdatadir%\log\oainstall.bin

On HP-UX, Linux, or Solaris

/opt/OV/inventory/Operations-Agent.xml

/var/opt/OV/log/oainstall.log

/var/opt/OV/log/oainstall.bin

On AIX

/usr/lpp/OV/inventory/Operations-Agent.xml

/var/opt/OV/log/oainstall.log

/var/opt/OV/log/oainstall.bin

Chapter 14: Removing Infrastructure SPIs

Note: To remove the Infrastructure SPIs, make sure you have approximately 240 MB of total disk space and 35 MB of space in the temporary folders available on the management server.

1. Log on to the management server.
2. Go to the following directory:

On Windows

```
%ovinstalldir%bin\OpC\agtinstall
```

On UNIX/Linux

```
/opt/OV/bin/OpC/agtinstall
```

3. Run the following command:

On Windows

```
cscript oainstall.vbs -r -m -spiconfig
```

The command removes Infrastructure SPIs version 11.11 and 11.14 patch installed on the management server.

```
cscript oainstall.vbs -r -m -spiconfig - removepatch
```

The command removes the highest Infrastructure SPIs patch version installed on the management server.

```
cscript oainstall.vbs -r -m -spiconfig - removeallpatch
```

The command removes all Infrastructure SPIs patches installed on the management server.

On UNIX/Linux

```
./oainstall.sh -r -m -spiconfig
```

The command removes Infrastructure SPIs version 11.11 and 11.14 patch installed on the management server.

```
./oainstall.sh -r -m -spiconfig -removepatch
```

The command removes the highest Infrastructure SPIs patch version installed on the management server.

```
./oainstall.sh -r -m -spiconfig - removeallpatch
```

The command removes all Infrastructure SPIs patches installed on the management server.

Note: In an HA cluster, perform the above steps on the active node first, and then on all nodes in the cluster.

Chapter 15: HP Operations agent in High Availability Clusters

You can use the HP Operations agent to monitor nodes in a High Availability (HA) cluster. To be able to monitor cluster-aware applications in an HA cluster, you must deploy the agent with the following guidelines:

All the nodes in a cluster must be present in the list of managed nodes in the HPOM console.

You must install the Operations Agent on every node in the HA cluster.

It is necessary that you set the `MAX_RETRIES_FOR_CLUSTERUP` variable (under the `conf.cluster` namespace) on the node to an integer value. The profile file-based installation ensures that the variable is set to an appropriate value on every node at the time of installation. An appropriate value depends on the system restart sequence and the time it takes for the cluster to be initialized during restart.

Virtual Nodes. If you are using the node with the HPOM for UNIX 8.3x, HPOM on UNIX/Linux 9.1x, HPOM for Windows 8.1x (after patch OMW_00090), or HPOM for Windows 9.00, you can take advantage of the concept of virtual nodes. A virtual node is a group of physical nodes linked by a common resource group. Based on the changes in the resource group, the agent can automatically enable or disable policies on the physical nodes.

Note: The virtual node feature is not available with HPOM for Windows 8.1x (lower than patch OMW_00090).

To monitor nodes in an HA cluster, deploy monitoring policies only on the virtual node and not on every physical node. Therefore, it is important to create a virtual node for an HA cluster in the HPOM console before you start monitoring cluster-aware applications.

Following are the guidelines for creating virtual nodes in the HPOM console:

- A virtual node must not itself be a physical node.
- Virtual nodes do not support DHCP, auto deployment, and certificates.
- You must not install an agent on a virtual node.

Monitoring Nodes in HA Clusters

If you want the messages to be coming from a virtual node, then you can configure the HP Operations agent to monitor cluster-aware applications that run on the nodes in an HA cluster. This procedure is mandatory if you have not created a virtual node.

If you are using HPOM for Windows 8.1x (lower than patch OMW_00090), deploy the policies that you identified for monitoring the cluster-aware application (in "[HP Operations agent in High Availability Clusters](#)" above) on all physical nodes in the HA cluster.

For all other types of management servers, deploy the policies that you identified for monitoring the cluster-aware application (in ["HP Operations agent in High Availability Clusters" on the previous page](#)) on the virtual node created for the cluster.

To monitor cluster-aware applications on the nodes in an HA cluster, follow these steps:

1. *Microsoft Cluster Server clusters only.* Make sure that the resource group, which contains the resource being monitored, contains both a network name and an IP address resource.
2. Identify the policies that you will require to monitor the cluster-aware application.
3. Create an XML file that describes the cluster-aware application, and name it **apminfo.xml**.
4. This file is used to define the resource groups that will be monitored and to map the resource groups to application instances.
5. The **apminfo.xml** file has the following format:

Note: New lines are not allowed between package tags in the **apminfo.xml** file.

```
<?xml version="1.0"?>

<APMClusterConfiguration>

  <Application>

    <Name>Name of the cluster-aware application.</Name>

    <Instance>

      <Name>Application's name for the first instance. The instance name is
      used for start and stop commands and corresponds to the name used to
      designate this instance in messages.</Name>

      <Package>Resource group in which the application's first instance
      runs.</Package>

    </Instance>

    <Instance>

      <Name>Application's name for the second instance.</Name>

      <Package>Resource group in which the application's second instance
      runs.</Package>

    </Instance>

  </Application>
```



```
</APMClusterConfiguration>
```

DTD for apminfo.xml

```
<!ELEMENT APMClusterConfiguration (Application+)>
```

```
<!ELEMENT Application (Name, Instance+)>
```

```
<!ELEMENT Name (#PCDATA)>
```

```
<!ELEMENT Instance (Name, Package)>
```

```
<!ELEMENT Package (#PCDATA)>
```

EXAMPLE

In the example below, the name of the resource group is SQL-Server, and the network (or instance) name is CLUSTER04:

```
<?xml version="1.0" ?>

<APMClusterConfiguration>

  <Application>

    <Name>dbspi_mssqlserver</Name>

    <Instance>

      <Name>CLUSTER04</Name>

      <Package>SQL-Server</Package>

    </Instance>

  </Application>

</APMClusterConfiguration>
```

6. Save the completed **apminfo.xml** file on each node in the cluster in the following directory:

On Windows : %OvDataDir%\conf\conf\

On UNIX/Linux: /var/opt/OV/conf/conf/

7. Create an XML file that describes the policies to be cluster-aware. The file name must have the format **<appl_name>.apm.xml**. **<appl_name>** must be identical to the content of the **<Application><Name>** tag in the **apminfo.xml** file. The **<appl_name>.apm.xml** file includes the names of the policies that you identified in ["HP Operations agent in High Availability Clusters" on page 95](#).

8. Use the following format while creating the `<appl_name>.apm.xml` file:

```
<?xml version="1.0" ?>

<APMApplicationConfiguration>

  <Application>

    <Name>Name of the cluster-aware application (must match the content of <Application><Name>
in the apminfo.xml file).</Name>

    <Template>First policy that should be cluster-aware.</Template>

    <Template>Second policy that should be cluster-aware.</Template>

    <startCommand>An optional command that the agent runs whenever an instance of the
application starts.</startCommand>

    <stopCommand>An optional command that the agent runs whenever an instance of the
application stops.</stopCommand>

  </Application>

</APMApplicationConfiguration>
```

Note: Within the `startCommand` and `stopCommand` tags, if you want to invoke a program that was not provided by the operating system, you must specify the file extension of the program.

For example:

```
<startCommand>test_command.sh</startCommand>

<startCommand>dbspicol.exe ON $instanceName</startCommand>
```

The stop and start commands can use the following variables:

Variable	Description
<code>\$instanceName</code>	Name (as listed in <code><Instance><Name></code>) of the instance that is starting or stopping.
<code>\$instancePackage</code>	Name (as listed in <code><Instance><Package></code>) of the resource group that is starting or stopping.
<code>\$remainingInstances</code>	Number of the remaining instances of this application.
<code>\$openViewDirectory</code>	The commands directory on the agents.

Example

The following example file called **dbspi_mssqlserver.apm.xml** shows how the Smart Plug-in for Databases configures the policies for the Microsoft SQL Server.

```
<?xml version="1.0"?>

<APMApplicationConfiguration>

  <Application>

    <Name>dbspi_mssqlserver</Name>

    <Template>DBSPI-MSS-05min-Reporter</Template>

    <Template>DBSPI-MSS-1d-Reporter</Template>

    <Template>DBSPI-MSS-05min</Template>

    <Template>DBSPI-MSS-15min</Template>

    <Template>DBSPI-MSS-1h</Template>

    <Template>DBSPI-MSS6-05min</Template>

    <Template>DBSPI-MSS6-15min</Template>

    <Template>DBSPI-MSS6-1h</Template>

    <Template>DBSPI Microsoft SQL Server</Template>

    <StartCommand>dbspicol.exe ON $instanceName</StartCommand>

    <StopCommand>dbspicol.exe OFF $instanceName</StopCommand>

  </Application>

</APMApplicationConfiguration>
```

9. Save the complete **<appl_name>.apm.xml** file on each node in the cluster in the following directory:

On Windows: **%OvDataDir%\bin\instrumentation\conf**

On UNIX/Linux: **/var/opt/OV/bin/instrumentation/conf**

10. Ensure that the physical nodes where the resource groups reside are all managed nodes.
11. Check the syntax of the XML files on all physical nodes by running the following command:

On Windows: **%OvInstallDir%\bin\ovappinstance -vc**

On HP-UX, Linux, or Solaris: **/opt/OV/bin/ovappinstance -vc**

On AIX: **/usr/lpp/OV/bin/ovappinstance -vc**

Note: *Optional.*

For some physical nodes, for example for multi-homed hosts, the standard hostname may be different from the name of the node in the cluster configuration. If this is the case, the agent cannot correctly determine the current state of the resource group. Configure the agent to use the hostname as it is known in the cluster configuration:

1. Obtain the name of the physical node as it is known in the cluster configuration:

ovclusterinfo -a

2. Configure the agent to use the name of the node as it is known in the cluster configuration:

ovconfchg -ns conf.cluster -set CLUSTER_LOCAL_NODENAME <name>

In this instance, <name> is the name of the node as reported in the output of **ovclusterinfo -a** and is case-sensitive.

3. Restart the agent on every physical node by running the following commands:

ovc -stop

ovc -start

Agent User

By default, the HP Operations agent regularly checks the status of the resource group. On UNIX and Linux nodes, the agents use cluster application-specific commands, which can typically only be run by root users. On Windows nodes, the agents use APIs instead of running commands.

If you change the user of an agent, the agent may no longer have the permissions required to successfully run cluster commands. In this case, you must configure the agent to use a security program (for example, `sudo` or `.do`) when running cluster commands.

To configure the agent running with a non-root account to run cluster commands, follow these steps:

1. Run the following command to stop the agent:

ovc -kill

2. To configure the agent to use a security program, type the following command:

ovconfchg -ns ctrl.sudo -set OV_SUDO <security_program>

In this instance, <security_program> is the name of the program you want the agent to use, for example `/usr/local/bin/.do`.

3. Run the following command to start the agent:

```
ovc -start
```

Chapter 16: Configuring Certificates for the HP Operations Agent and HP Operations Smart Plug-ins for Infrastructure

Certificates must be installed on all managed nodes to facilitate network communication using the Secure Socket Layer (SSL) protocol with encryption. Certificates enable the nodes to communicate securely with the management server and other nodes.

The management server issues certificates to nodes and acts as the certificate authority. Each managed node needs the following certificates from the management server:

A unique node certificate. The node can identify itself to its management server and other nodes by sending them its node certificate.

A copy of the management server's trusted certificate. A node only allows communication from a management server if it has the trusted certificate for that management server.

In an environment with multiple management servers, a copy of the trusted certificates for all other management servers must be present on the node.

To enable the nodes to communicate securely in the HPOM-managed environment by using certificates, you must install certificates after you install the agent on the nodes.

Request Certificates Automatically

When you deploy the agent to a node from the HPOM console, the node requests certificates automatically from the management server. The node encrypts the certificate request with a key.

The management server then grants the certificate request. You can configure this to take place automatically. After granting the request, the management server sends the certificates to the node. If the management server denies the certificate request, you can send another request by running the following command on the managed node:

```
ovcert -certreq
```

After the management server grants the certificate request, run the following command on agent nodes that reside in high availability clusters:

```
ovc -restart ovconfd
```

In a highly secure environment, you can disable automatic certificate requests by setting the certificate deployment type to manual. You then must request the certificates with installation key or deploy the certificates manually.

Request Certificates with an Installation Key

To encrypt certificate requests, you can use installation keys. You can generate an installation key on the management server, and then transfer it to the node.

Before you request certificates with an installation key, make sure that the Operations Agent is running on the node. The agent sends a certificate request at the time of start. If you then request a certificate with an installation key, the new certificate request overwrites the original certificate request on the management server. You can suppress the first certificate request by setting the parameter `CERTIFICATE_DEPLOYMENT_TYPE` to `manual` in the `sec.cm.client` namespace by using the agent installation defaults in the profile file or by using the `ovconfchg` utility. For more information on preparing the profile file, see the *HP Operations Agent and HP Operations Smart Plug-ins for Infrastructure Installation Guide, version 11.11*.

To request certificates with an installation key:

1. Log on to the management server with an account that belongs to the HPOM administrators group.
2. Open a command prompt (shell).
3. Run the following command:

From HPOM for Windows

```
ovowcsacm -genInstKey [-file <file_name>] [-pass <password>]
```

From HPOM for UNIX or HPOM on UNIX/Linux

```
opccsacm -genInstKey [-file <file_name>] [-pass <password>]
```

In this instance:

<file_name>: The name of the installation key file.

<password>: You need this password when you later request the certificates from the node. You can omit this option.

The command generates an installation key.

Note: Specify the complete path with **<file_name>**; otherwise, the certificate is stored in the current working directory. If you do not specify the **-file** option, the certificate is stored in **<data_dir>\shared\server\certificates**.

4. Securely transfer the generated file to the node. The installation key is valid for any node.
5. Log on to the node with the account used to install the node.
6. Open a command prompt (shell).

7. On UNIX/Linux nodes, make sure that the PATH variable contains the path to the `<install_dir>/bin` directory.
8. Run the following command:

```
ovcert -certreq -instkey <file_name>
```

The management server must grant the request. You can configure this to take place automatically or manually. After that, the management server sends the certificates to the node.

On agent nodes that reside in high availability clusters, run the following command:

```
ovc -restart ovconfd
```

Deploy Certificates Manually

The node can automatically send certificate requests to the management server. If you want to install the certificates on the node manually, you can set the `CERTIFICATE_DEPLOYMENT_TYPE` variable (in the `sec.cm.client` namespace) on the node to `MANUAL`.

To deploy certificates manually:

1. Log on to the management server with an account that belongs to the HPOM administrators group.
2. Open a command prompt (shell).
3. Make sure the node is added to the list of managed nodes in the HPOM console.
4. Run the following command:

On HPOM for Windows

```
ovowcsacm -issue -name <node_name> [-file <file_name>] [-coreid <OvCoreId>] [-pass <password>]
```

On HPOM for UNIX

```
opccsacm -issue -file <file_name> [-pass <password>] -name <node_name> [-coreid <OvCoreId>]
```

Note: Specify the complete path with `<file_name>`; otherwise, the certificate is stored in the current working directory. If you do not specify the `-file` option, the certificate is stored in `<data_dir>\shared\server\certificates`.

In this instance,

`<node_name>`: FQDN or IP address of the node.

<OvCoreId>: The core ID of the node. To retrieve the core ID of the node where the agent is already installed, perform the following step on the management server:

On HPOM for UNIX or HPOM on UNIX/Linux

Run the following command:

```
opcnode -list_id node_list=<node_name>
```

On HPOM for Windows

In the console tree, right-click the node, and then click **Properties**. The node properties dialog box opens. In the node properties dialog box, go to the General tab, click **Advanced Configuration**. The Advanced Configuration dialog box opens, which shows the core ID for the node.

<file_name>: The name of the certificate file generated by the command. If you do not specify this option, the command creates a file into the following directory with the default name **<node_name>-<OvCoreId>.p12**:

On HPOM for UNIX or HPOM on UNIX/Linux

```
/var/opt/OV/temp/OpC/certificates
```

On HPOM for Windows

```
%OvShareDir%server\certificates
```

5. Securely transfer the generated file to the node. The installation key is valid for any node.
6. Install the agent on the node if not already installed. Use a profile file-based installation and set the CERTIFICATE_DEPLOYMENT_TYPE variable to manual. For more information on preparing the profile file, see the *HP Operations Agent and HP Operations Smart Plug-ins for Infrastructure Installation Guide, version 11.11*. Also, use the same OvCoreID that was generated on the management server (set the CERTIFICATE_SERVER_ID in the sec.cm.client namespace to the ID generated on the management server).
7. Open a command prompt (shell) on the node.
8. If the agent is running on the node, run the following command:

```
ovc -stop
```

9. To import the certificates from the generated file, run the following command:

```
ovcert -importcert -file <file_name>
```

10. Run the following command on the node:

```
ovc -start
```

After importing certificates, run the following command on agent nodes that reside in high availability clusters:

```
ovc -restart ovconfd
```

Restore Certificates

If you lose the certificates on a node, you will have to create them again. If you back up the existing certificates into a file, you can restore them in the event of certificate failure. To back up certificates, follow these steps:

1. Log on to the node with the root or administrative privileges.
2. Open a command prompt (shell).
3. Run the following command:

```
ovcm -exportcert -file <file_name> [-pass <password>]
```

4. The command backs up the management server certificate in the file specified with the -file option.
5. Run the following command:

```
ovcert -exporttrusted [-ovrg <server>] -file <file_name>
```

In this instance, <server> is the HA resource group name if the management server is installed in an HA cluster.

The command backs up the management server's trusted certificate in the file specified with the -file option.

6. Determine the alias of the node certificate by running the following command:

```
ovcert -list [-ovrg <server>]
```

The alias of the node certificate is the long sequence of characters, which appears under the Certificates section of the output. For example:

```
+-----+
| Keystore Content | +-----+
-----+
| Certificates: | cdc7b5a2-9dd6-751a-1450-eb556a844b55 (*) | +-----+
-----+
| Trusted Certificates: |
| CA_cdc7b5a2-9dd6-751a-1450-eb556a844b55 | +-----+
-----+
```

7. Run the following command:

ovcert -exportcert -file <file_name> -alias <alias> [-pass <password>]

The command backs up the node certificate in the file specified with the -file option.

To restore the management server certificate, run the following command:

ovcm -importcacert -file <file_name> [-pass <password>]

To restore the trusted certificate, run the following command:

ovcert -importtrusted -file <file_name>

To restore the node certificate, run the following command:

ovcert -importcert -file <file_name> [-pass <password>]

Chapter 17: Troubleshooting

While installing the HP Operations agent 11.14, you may experience certain problems. This section helps you troubleshoot such problems and provides you with information to help you avoid problems from occurring.

Installation Fails on a Windows Node with the Error "MSI version is less than 4.5"

Installation of the HP Operations agent 11.14 on a Windows node fails with the following message in the command line console (as well as in the `oapatch.log` file):

```
[FAIL ] Check if MSI engine version is 4.5 or higher. MSI version is less than 4.5,
installation not supported, update to Service Pack 2
```

Solution:

1. Go to the `patches\OAWIN_00032` directory on the HP Operations agent 11.14 media.
2. Go to one of the following directories depending on the architecture of the Windows node:
 - For Itanium nodes: `Windows_IA64`
 - For x64 nodes: `Windows_X64`
 - For x86 nodes: `Windows_X86`
3. Run one of the following commands depending on the architecture of the Windows node:
 - For Itanium nodes: **`wusa Windows6.0-ia64.msu /quiet /norestart`**
 - For x64 nodes: **`wusa Windows6.0-x64.msu /quiet /norestart`**
 - For x86 nodes: **`wusa Windows6.0-x86.msu /quiet /norestart`**

Tip: Alternatively, you can double-click the *.msu file.

4. Restart the system.
5. Try to install the HP Operations agent again.

Remote Installation of the Agent from the HPOM for Windows Console Fails

Installation of the agent (11.11 and 11.14 together) from the HPOM for Windows console fails; the `oapatch.log` file is not created. The following error message appears in the HPOM console:

```
(PMD1240) Cannot deploy package 'Operations-agent' to node <node_name>. The agent API returned the following errors:
```

```
(depl81) Unable to deploy OVO-Agent.xml to node <node_name>
```

```
(depl81) Unable to deploy oasetup to node <node_name>
```

The installation mechanism first transfers and installs the packages for the agent 11.11 on the node, and then triggers the installation of the agent 11.14 packages. This failure occurs if the agent tries to start its processes on the node even before the installation of the agent 11.14 is complete.

Solution:

1. On the HPOM management server, set the `SELPATCHUPLOADRETRYLIMIT` variable to a higher value. For example, if you set `SELPATCHUPLOADRETRYLIMIT` to 90 it will increase the timeout period by 90 seconds till the agent tries to start its processes on the node. Run the following command on the management server to set this variable to a value of your choice:

```
ovconfchg ovrg -server -ns depl -set SELFPATCHUPLOADRETRYLIMIT <value>
```

2. Try to install the agent 11.11 and 11.14 together again from the HPOM console.

Disk Space Check Fails on HP-UX

On HP-UX nodes, prerequisite check fails although adequate disk space is available for the installation and data directories.

One of the following error messages appears in the command-line console:

- Not enough disk space on /opt
- Not enough disk space on /var

If the name of the file system for the /opt or /var directory is too long, the installer cannot perform the disk space check correctly.

Solution:

Apply the hotfix QCCR1A126636. Contact HP Support to obtain this hotfix.

Note: A similar problem exists with the installer for the HP Operations agent 11.11. If you are

installing the agent 11.11 and 11.14 together, obtain the hotfix QCCR1A123980 as well from HP Support.

Error Messages Appear in the "status.perfalarm" File After Installing the Agent with the "syncwpar" Command

On AIX systems, after you install the HP Operations agent by using the `syncwpar` command, the following error messages appear in the `status.perfalarm` file (in the `/var/opt/perf/log` directory):

```
ERROR: Connection to localhost failed ((bbc-42) Unable to connect to the OV  
Communication Broker.Update to Service Pack
```

Solution:

Start the `ovc` process by running the following command:

```
/usr/lpp/OV/bin/ovc -start
```

Reinstallation of the Agent Fails on Windows

Reinstallation of the agent (11.11 or 11.14) on Windows fails with the following error:

```
The service 'lanmanserver' is not running on the system. This service is required  
to run this tool.
```

Solution:

Restart the `Server` service (service name: `lanmanserver`) from the Services window:

1. At the Run prompt, type **services.msc**, and then press **Enter**.
2. In the Services window, right-click **Server**, and then click **Restart**.

Remote Installation from the HPOM Console Fails on Windows 7 x64 Nodes

Remote installation of the HP Operations agent from the HPOM console fails on Windows 7 x64 nodes with the following error:

```
REQCHK8016 The platform/OS version on node <node_name> is not yet supported -  
please consult the latest support matrix; if platform is supported ignore  
prerequisite check and check prerequisites manually
```

Solution:

Clear the **Run prerequisites check automatically before deployment** option while installing the agent from the HPOM console.

Installation of the Infrastructure SPIs Fails on Solaris System with the Error “XMLin() requires either XML::SAX or XML::Parser”

Installation of the Infrastructure SPIs fails with the following message:

```
XMLin() requires either XML::SAX or XML::Parser at ./scripts/oaproductinstall.pl  
line 402
```

Solution:

Ensure that the **libgcc_s.so.1** library is present on Solaris system while registering the HP Operations agent on the management server.

Upgrading from the HP Operations agent 8.60 to 11.1x fails using Red Hat Network Satellite Server

The HP Operations agent 8.60 is not supported with the `yum` installation, hence upgrading from the HP Operations agent 8.60 to 11.1x fails using the Red Hat Network Satellite Server.

Solution:

1. Uninstall HP Operations agent 8.60 using the command **opc_inst.sh -r**.
2. Install the HP Operations agent 11.1x using the Red Hat Network Satellite Server.

Send Documentation Feedback

If you have comments about this document, you can [contact the documentation team](#) by email. If an email client is configured on this system, click the link above and an email window opens with the following information in the subject line:

Feedback on Installation Guide (Operations Agent and HP Operations Smart Plug-ins for Infrastructure 11.14)

Just add your feedback to the email and click send.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to docfeedback@hp.com.

We appreciate your feedback!