HP Operations Manager for Windows®

Software Version 8.10

Installation Guide

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- 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 find more information about access levels, go to:

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

To register for an HP Passport ID, go to:

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

Obsolescence Announcements for HPOM 8.10

The following platforms are obsolete with HP Operations Manager 8.10 for Windows. Some of the platforms listed below may also become obsolete for version 7.50 of HP Operations Manager for Windows.

Also review the support matrix available at:

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

Agent Platforms

HP discontinues support of the following agent platforms with the release of HP Operations Manager 8.10 for Windows.

If vendors obsolete further operating systems during the lifetime of HP Operations Manager 8.10 for Windows, support of the agent on the respective platform will be discontinued at the same time as the operating system itself ends support. Service Packs become obsolete as per vendor lifecycle policy. Review the product support matrix regularly for early announcements of platform support obsolescence plans.

- Microsoft Windows NT 4.0 (Workstation/Server/Enterprise Editions)
- Microsoft Windows 2000 (all editions; unless an extended Microsoft support contract is available)
- Microsoft Windows 2003 (SP0)
- Microsoft Windows XP (all editions; unless an extended Microsoft support contract is available)
- HP-UX 11.0, 11.22
- Tru64 UNIX 4.x, 5.0A, 5.1, 5.1A
- IBM AIX (DCE agent only; version 5.2 and 5.3 are supported with the HTTPS agent)
- Sun Solaris 2.6, 7
- SuSE Linux 6.x, 7.x, 8.0, 8.1
- SuSE Linux Enterprise Server 8.0
- RedHat Linux 6.x, 7.x, 8.x, 9.0

- RedHat Enterprise Linux 2.1
- Mandrake Linux 9.2
- Turbo Linux 6.x, 7.x
- Debian Linux 3.0, 3.0r2
- OpenVMS 7.3.1
- Novell Netware IPX proxy solution (existing level of integration with Novell Netware will be offered as HP Gallery SPI)
- (Mandrake) Mandriva Linux 10.1 will be offered as DCE agent only

General Information About DCE Agents

HP will end certification of new platforms for the DCE agent by the end of June 2008. After this date, new operating system versions and cluster or virtualization solutions released by the respective vendors are no longer tested and supported by the DCE agent.

DCE agent support for HP Operations Manager 8.10 for Windows will be discontinued at the same time as HP Operations Manager 7.50 for Windows will reach end of support. Visit the HP Software Support web page for announcements.

Management Server Platforms

HPOM 8.10 for Windows will not support the following management server platforms. Service Packs will become obsolete as per Microsoft lifecycle policy.

- Microsoft Windows 2000 (Server, Advanced Server, Datacenter Server Editions)
- Microsoft Windows 2003 (SP0)

Remote Console Platforms

The following console platforms are not supported with HPOM 8.10 for Windows. Service Packs will become obsolete as per Microsoft lifecycle policy.

- Microsoft Windows 2000 (Server, Professional)
- Microsoft Windows 2003 (SP0)
- Microsoft Windows XP (all editions; unless an extended Microsoft support contract is available)

Web Console

The following web console platforms are not supported with HPOM 8.10 for Windows:

- Microsoft Internet Explorer 5.5

High Availability Support

The following high availability solutions are not supported with HPOM 8.10 for Windows:

- HP MC/ServiceGuard 10.10+
- IBM HACMP for AIX 4.2.2, 4.3.1, 4.4.1 and 4.5
- SunCluster 2.2

Databases

HP discontinues support of the following databases:

- Microsoft MSDE
- Microsoft SQL Server 2000 (unless an extended Microsoft support contract is available)

Solution Integrations

HPOM 8.10 for Windows does not support the following integrations:

- HP Reporter 3.70, 3.60
- HP Network Node Manager/Windows 7.01, 7.50
- HP Performance Manager 4.xx, 5.00, 6.00, 6.01
- HP Performance Agent Software 3.xx, 4.00
- HP Internet Services 5.20, 6.00
- HP Operations Agent 6.xx

Obsolescence Announcements after HPOM 8.10 for Windows

HP plans to obsolete the following platforms with the next major release of HP Operations Manager for Windows after version 8.10.

HP appreciates your feedback. Contact your HP sales or support representative if you would like HP to continue supporting the managed node platforms listed in this section with the next major release.

Agent Platforms

- DCE agent support for all platforms

Management Server Platforms

- Microsoft Windows 2003, all editions

Remote Console Platforms

- Microsoft Windows 2003, all editions
- Microsoft Windows XP

Web Console

- Microsoft Internet Explorer 6.0

Databases

- Microsoft SQL Server 2000
- Microsoft SQL Server 2005 Express

Solution Integrations

- NDAOM adapter
- HP Operations Manager 7.xx and 8.00 for UNIX
- HP Operations Manager 7.50 for Windows
- HP Operations Agent 7.xx
- HP Internet Services

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1 HP Operations Manager for Windows

About this Book

This guide is for experienced Windows administrators. It provides the following information:

- This chapter describes the scope of the guide and includes:
  - An overview of HPOM for Windows and core SPIs
  - A list of products included with HPOM
  - An installation planning checklist
- Chapter 2, Requirements, provides
  - Software and hardware requirements for installing the management server and management console of HPOM
  - Account information needed to properly implement HPOM
  - Firewall settings to successfully install HPOM
- Chapter 3, HPOM Standard Installation, and Chapter 4, Cluster Installation for HPOM, provide the instructions for installing HPOM in a non-cluster and cluster environment.
- Chapter 5, Uninstalling and Reinstalling HPOM, guides you through the uninstallation and reinstallation process of HPOM.
- Chapter 6, After You Install, provides introductory information on using HPOM.
- Appendix A, System Requirements Checking lists the system requirements that HPOM checks before beginning the installation.

What is HPOM for Windows?

HP Operations Manager for Windows (HPOM) is a distributed, client/server software solution designed to provide service-driven event and performance management of business-critical enterprise systems, applications, and services.

HPOM enables management of distributed, heterogeneous e-business infrastructures and includes support for a broad range of Windows and UNIX systems and applications, including e-commerce, web and application servers, conferencing and email, databases, ERP software, and more.

HPOM provides console and server functionality to centrally monitor performance and events using agents installed on nodes being managed. To install add-ons and SPIs, you must first install HPOM on a management server.

Components included as part of the HPOM basic functionality (the two core SPIs, one for Windows and one for UNIX), do not need to be separately purchased or installed.

All other products included on the media and described in this documentation require additional license purchases.

HP Operations Smart Plug-In for Microsoft Windows Operating System

The HP Operations Smart Plug-In for Microsoft Windows Operating System (Windows OS SPI) provides preconfigured policies and tools for managing the operations and performance of your Windows nodes. This functionality is provided as part of the HPOM product and includes system and basic application management, including policies to manage Windows Applications (including selected MS Backoffice Application, MS Web Servers), Anti-Virus Applications, Veritas Backup, Citrix Metaframe, Dell OpenManage, HP Systems Insight Manager, and basic monitoring of Active Directory). Management policies can easily be customized to suit specific needs.

The Windows OS SPI integrates seamlessly with HPOM and its related products. The integration provides policies, tools, and a powerful automatic service discovery feature.

HP Operations Smart Plug-In for UNIX Operating Systems

The HP Operations Smart Plug-In for UNIX Operating Systems (UNIX OSSPI) integrates fully with HPOM and extends its management scope to include distributed environments of UNIX systems.

The UNIX OSSPI is designed to monitor the availability and manage the functionality of UNIX operating systems and associated software and hardware. Essentially the UNIX OSSPI provides a powerful automatic service discovery along with a set of predefined policies, tools, and user roles which allow you to quickly gain control of the essential elements of your UNIX-based IT infrastructure.

Products Included with HPOM

Your HPOM for Windows DVD

Your HP Operations Manager 8.10 for Windows product includes one DVD that contains the following modules:

- HP Operations Manager for Windows foundation
- HP Operations Smart Plug-In for the Windows operating system
- HP Operations Smart Plug-In for UNIX operating systems
- HP Network Node Manager Adapter
- HP Business Availability Center Adapter
- HP SiteScope Adapter

Use the DVD to install the HPOM console and server, or the remote console to your server. The add-on modules and adapters extend the functionality of HPOM with other products such as HP Network Node Manager, HP Business Availability Center, and HP SiteScope, when HPOM is integrated with the other products.

The HPOM Installation and Upgrade Guides, HPOM Release Notes, Core SPIs Release Notes, and White Papers are also stored on DVD. All release notes documents are available on the DVD under `\Documentation\Releasenotes`. White papers are available under `\Documentation\Whitepapers`.

Your Media Kit

Your HP Operations Manager Media Kit includes Smart Plug-Ins (SPIs) and may include add-on products in addition to the HPOM for Windows DVD. SPIs and add-on products have been tested with HPOM for Windows, so you can build a complete solution right out of the box.

Your Media Kit includes the following software:

- HP Operations Manager for Windows
  (for more information, see Your HPOM for Windows DVD)
- HP Operations Smart Plug-ins for HP Operations Manager for Windows
- HP Reporter for Windows
- HP Performance Manager for Windows
- HP Performance Agent Software

If you plan to copy the HPOM 8.10 for Windows installation media files to a file system, be sure meet the following requirements:

- Place the HPOM for Windows and SPI DVDs in separate folders. Unlike earlier versions of HPOM, you can no longer copy all product DVDs into a single folder.
- Keep the path from where you install HPOM below 160 characters. (The complete path includes the binary Setup.exe.) This is a known limitation of Windows Installer (msiexec).

Smart Plug-Ins (SPIs) are ready-to-go modules that integrate with HPOM and help enterprise operators monitor and manage complex business applications and IT infrastructures such as Microsoft Exchange, databases and Microsoft Active Directory.

Install SPIs after installing the HP Operations Manager 8.10 for Windows console/management server. For more details about SPIs, refer to the documentation on the HP Operations Smart Plug-Ins DVD for HP Operations Manager 8.10 for Windows.

The contents of the media kit may change during the life of HPOM 8.10 for Windows. Newer versions of products may be included. Products included for trial usage may be added or removed.

Your Documentation

Information about HPOM is available from several sources. The Help system, containing over 1900 topics, is the primary source of information on how to configure your environment, perform day-to-day administrative tasks, and monitor and resolve events using the messages and maps available in the console.

- HPOM and each HPOM component provide an extensive Help system.
- Additional product documentation (in Adobe Acrobat PDF format) is provided in the `\Documentation` directory on the installation media.
- PDF files relating to the HPOM for Windows foundation are also installed on the management server in `%OVInstallDir%\paperdocs\en`.

Installation Planning Checklist

Use this checklist to help you plan your installation of HPOM and locate important information before you begin installing the console or console/server.

Task 1: Where will you be installing your HPOM console/server?

___ On a server that has never had HPOM installed before?

If so, continue reviewing this check list, then see Chapter 3, HPOM Standard Installation for details on installing HPOM for the first time.

___ On a system with HPOM already installed, and you are planning to upgrade HPOM?

If so, see the *HP Operations Manager for Windows Upgrade Guide* which is stored on the HPOM for Windows installation media under the \Documentation directory. This upgrade guide also explains the upgrade/side-by-side migration process for migrating data from a non-Cluster HPOM server to an HPOM server running in an MS Cluster.

___ On an HPOM virtual server on a Microsoft Cluster?

If so, see Chapter 4, Cluster Installation for HPOM, and skip the rest of this checklist. This checklist does not apply to HPOM installations on a Microsoft Cluster.

Task 2: What does your Windows environment look like?

___ Windows workgroup environment

If you are installing HPOM into a Windows workgroup environment, you will not be able to take advantage of the following HPOM features:

- Automatic agent installation and deployment

  Instead, use the manual agent installation method to bring your nodes under management.

- Remote database

  Instead, use a local database, that is a database on the system where you plan to install the HPOM server/ console.

- Remote consoles

  Remote MMC consoles are not supported with an HPOM installation where the management server is in a workgroup (that is not a member of a domain). In this case, you can use Terminal Services to connect to the HPOM server and run the console on the server.

___ Windows domain

If you are installing HPOM into a Windows domain, you will be able to take full advantage of the HPOM set of features.

To decide which installation type to use, review Security Requirements for Agent Deployment on page 37. This section explains which accounts are created during installation, how they are used in HPOM, and which install modes limit the HPOM server's ability to automatically manage Windows nodes and install agents.

Task 3: Database Considerations. What database configuration are you planning to use? Are you planning to:

___ Use the default, which installs a new database (SQL Server Express 2005) locally?

If yes, then see Chapter 3, HPOM Standard Installation for details on installing HPOM. No special steps are needed if you use the default during install.

___ Use an existing database instance (Microsoft SQL Server 2000 or 2005) locally or on a remote system (a server other than where HPOM is installed)?

First install Microsoft SQL Server 2000 or 2005 and create a database instance with a name of your choice. During the HPOM installation, specify the instance name. Whether you are connecting to an existing local or remote database instance, the "openview" database is installed during the HPOM installation process.

See Database Requirements on page 27 for more information about the different database setups.

Task 4: Does your server meet the minimum requirements?

___ Hardware requirements

See Hardware Requirements on page 23.

___ Software requirements

See Software Requirements on page 25.

___ Network requirements

See Network Requirements on page 31.

___ Windows service requirements

See Windows Service Requirements on page 34.

Task 5: Does your company use Microsoft Security templates to enforce adherence to security rules? Were they installed to the server where you plan to install HPOM?

If so, review the section Installing and Running HPOM in a Highly Secure Windows Environment on page 88 before you start.

Installing Agents

You can install agents for all platforms either automatically or manually in HPOM 8.10 for Windows. Agent installation is automatic when you select a node to be managed by the HPOM for Windows server. (See Agent Requirements on page 36.)

For information on the systems that are supported, go to **http://h20230.www2.hp.com/sc/support_matrices.jsp.**

For information on installing agents, see the HPOM help topics **Administering your Environment → Configuring Agents**.

2 Requirements

Hardware Requirements

Listed below are the minimum and recommended hardware requirements for HPOM.

Management Server and Console

- Minimum: PC with at least 1.4 GHz Intel Pentium III (or compatible) processor (AMD Opteron and Athlon 64 CPU supporting in 32-Bit mode). Recommended: 3.0 GHz or higher Intel Pentium 4 processor (dual CPU system).
- Minimum: 768 MB physical memory, with at least 512 MB virtual memory (page file). Recommended: 2 GB physical memory.
- Minimum: 6.5 GB disk space required for installation (depending on selected product options). The management server only supports installation on NTFS volumes. Recommended a minimum 1 GB free hard disk space; high-performance hard drive.

  If you are installing HPOM in a cluster, the following minimum disk space requirements apply for installation:

  — First cluster node: minimum 5.5 GB.

  — Subsequent cluster node: minimum 2.25 GB

  Additional 3rd party SPIs or other integrated HPOM applications may require additional disk space.
- DVD-ROM drive required unless you are installing from a network share.
- Minimum: 17-inch monitor with 1024x768 resolution and at least 256 colors. Recommended: 19-inch monitor with 1280x1024 resolution recommended (if used as console system) and at least 256 colors.

- Multiprocessor systems are supported.

Remote Console

- Minimum: PC with 500 MHz Intel Pentium III (or compatible) processor. Recommended: 1.4 GHz.
- Minimum: 256 MB physical memory, with at least 512 MB virtual memory (page file). Recommended: 1 GB physical memory.
- Minimum: 300 MB required for installation. Recommended a minimum 1 GB free hard disk space.
- DVD-ROM drive required unless you are installing from a network share
- Minimum: 17-inch monitor with 1024x768 resolution and at least 256 colors. Recommended: 19-inch monitor with 1280x1024 resolution and at least 256 colors

Agent

See Agent Requirements on page 36 for details.

Software Requirements

See also the support matrix at **http://h20230.www2.hp.com/sc/support_matrices.jsp** for HPOM 8.10 for Windows supported agent, management server and console platforms.

Management Server and Console

- Windows 2008 (32-Bit), or Windows 2003 SP1, SP2, or R2 (32-Bit) Standard Edition, Enterprise Edition, or Data Center Edition. Hotfix KB925336 for Windows Server 2003 is recommended.
- Adobe Acrobat Reader 7.0 (or higher) is required to view the documentation.
- Internet Explorer 6.0 or higher.
- Internet Information Services (IIS) 6.0. See page 34 in this chapter for minimum requirements.
- Microsoft Cluster is supported.

Remote Console

- Windows 2008 (32-Bit), or Windows 2003 SP1, SP2, or R2 (32-Bit), Windows XP SP2 (32-Bit), or Windows Vista (32-Bit).
- Adobe Acrobat Reader 7.0 (or higher) is required to view the documentation.
- Internet Explorer 6.0 or higher.

Web Console

HPOM provides a web console, viewable in the following browsers. Wherever these browser versions can been installed, the web console is supported.

- Internet Explorer 6.0 or higher
- Netscape 7.1 or higher
- Mozilla Firefox 1.5 or higher

Agent

See Agent Requirements on page 36 for details.

Database Requirements

HPOM supports different types of data repository setups for local and remote databases. The following databases are supported:

- Microsoft SQL Server 2005 Express Edition (32-Bit)
- Microsoft SQL Server 2005 Standard or Enterprise Edition (32 and 64-Bit)
- Microsoft SQL Server 2000 Enterprise Edition (32-Bit)

The name of the database instance is user-configurable. The database instance contains the database “openview”, which will be created during the installation of HPOM. HP Reporter can use the same or a different database instance.

If an SQL Server database does not exist, the HPOM installation program installs Microsoft SQL Server Express as the default database for storing HPOM management information.

Database Setup

HPOM supports the following data repository setups:

- **SQL Server Express**

  To install HPOM with Microsoft SQL Server Express as the default database on a single (non-clustered) Windows server, specify the name of a local SQL Server instance that does not yet exist. SQL Server 2005 Express is installed and a new database instance is created.

  You cannot install HPOM with SQL Server Express into an MS cluster. To install HPOM into an MS cluster, you can use only a remote SQL Server database. See Chapter 4, Cluster Installation for HPOM, for details.

- **SQL Server**

  To use HPOM with an SQL Server database, install SQL Server either locally on the same system where you plan to install HPOM, or on a remote Windows system. During the SQL 2000 or 2005 installation, create a new instance with a user-configurable name.

  The SQL Server collation must be case insensitive.

During the HPOM installation, select the instance you created in the SQL Server installation in the HPOM “SQL Server server instance selection” wizard page.

You cannot use an existing “openview” database during a normal installation. You will be warned that the old database will be dropped and recreated. If you want to preserve your old data you have to do an upgrade/migration.

Remote Database Requirements

If you cannot select a remote database instance in the HPOM “SQL Server server instance selection” wizard page, check the following settings:

- **SQL Server settings**
  a. On the remote database server, launch the SQL Server Surface Area Configuration Manager.
  b. Click **Surface Area Configuration for Services and Connections**.
  c. In the Tree selector, click **Remote Connections** and make sure that the option **Local and remote connections** is selected.
  d. Click **SQL Server Browser** and make sure that the SQL Server Browser service in started automatically.
  e. Restart the SQL Server instance after the SQL Server Browser service has been started.
- **Network and firewall settings**

  If the remote database server is located in another subnet or if a firewall resides between the remote database server and the HPOM management server, make sure that UDP port 1434 is not blocked. Otherwise the SQL Server Browser service is unreachable and the SQL Server instance is not visible to the HPOM management server.

  On management servers with Windows Server 2008, you must also ensure that Windows Firewall does not drop the UDP response packet.

  For more details, see the following information from Microsoft:

  — **http://msdn2.microsoft.com/en-us/library/ms181087.aspx**
  — **http://support.microsoft.com/kb/944390/**

Authentication Modes

By default, HPOM connects to the SQL Server or SQL Server Express database using Windows accounts. (The SA user account is no longer used.)

When you install an SQL Server database, you can choose Windows Authentication Mode or Mixed Mode. Both modes allow HPOM to connect to the database using Windows accounts.

Remote Console Requirements

In addition to the hardware and software requirements listed on page 24 and page 25, the following requirements must be met for a remote console to run properly:

- **Domain requirements**

  Remote HPOM consoles are supported only if the HPOM server system and remote console system are in the same Windows domain, or have an equivalent two-way domain trust in place.

- **HP-OVE-Deleg-User requirements**

  The policy management and deployment user (HP-OVE-Deleg-User) must have network access rights to the remote console system through the user groups Users and Everyone. If you have removed these groups from the "Access this computer from the network" security policy, you must explicitly add the HP-OVE-Deleg-User to this policy on the remote console system. Otherwise you are not able to manage any policies in the remote console.

- **User requirements**

  To use the remote console, the Windows user running the console must be a member of the groups HP-OVE-ADMINS or HP-OVE-OPERATORS.

- **HPOM version requirements**

  The version numbers of a remote console and the management server must be the same. For example, an OVO 7.50 for Windows remote console cannot connect to an HPOM 8.10 for Windows management server, and vice versa. When you start a remote console, the console checks both versions and displays an error message if the version numbers do not match.

Network Requirements

If you are installing HPOM into a Windows domain, configure the domain to meet the requirements described in the following sections.

Domain Requirements

- The domain controller must be based on Windows 2000 SP4 or higher, or Windows 2003 SP1 or R2 or higher.
- The domain functional level must be set to “Windows 2000 native” or “Windows Server 2003”.

Domain Name System Requirements

You must configure the Domain Name System (DNS) server if you are running HPOM and want to use DNS discovery:

- A Domain Name System (DNS) server must be configured (for example, on the same system as the domain controller).
- The DNS server must be configured so that forward (FQDN to IP) and reverse (IP to FQDN) lookup queries for the management server and managed nodes are correctly resolved.
- The DNS server must be set to Allow Zone Transfers.
- If the DNS and AD (Active Directory) domain names are different, create a new zone in the DNS server configuration to match the AD domain name.
- You can also add secondary DNS servers to the name servers list so that they can be searched by HPOM.

It may take several hours for the data to be propagated throughout the domain and appear correctly in HPOM discovery. Please consult your DNS server documentation for details on how to configure these zones correctly.

Fully Qualified Domain Name

Before installing the HPOM server software, make sure that the Fully Qualified Domain Name (FQDN) is set correctly. The FQDN is used by all installed HP Operations agents to communicate with the HPOM server. Although it is possible to change the FQDN of the system and your HPOM server later, all current managed systems would have to be updated. It is strongly recommended that the FQDN be set to its final value beforehand and that the DNS server resolve this FQDN the same way.

Active Directory and Integrated DNS

Typical Active Directory (AD) domain setups on Windows 2003 include the AD domain identifier as part of the FQDN of the system.

- Before installing HPOM, make sure that the Windows server is in its final domain and that the domain suffix is set correctly and registered correctly in DNS. Check the properties of the server and check DNS by using the nslookup utility.
- HPOM requires the DNS server to provide consistent PTR records (reverse lookup of IP to FQDN). Use the nslookup utility to verify that the IP address is resolved to the correct FQDN.
- All agents must resolve the FQDN domain name of the HPOM server consistently. This is especially important if you are managing a UNIX system, which can use a different DNS server than the AD integrated DNS that your Windows environment provides.

Check and Set the Primary DNS Suffix

If the management server is installed in a DNS environment that uses domain suffixes (FQDN), follow these directions to verify and set the Primary DNS suffix.

1. Right-click **My Computer** on the Windows 2003 desktop and select **Properties.**
2. Select **Computer Name** on a Windows 2003 system.
3. The screen contains the field **Full Computer Name**. This is the FQDN of your Windows system and this is the FQDN that will be used for HPOM.

4 If the **Full Computer Name** value does not reflect the desired value, you can either change the value in this dialog, box or in the TCP/IP setting of your NIC (Network Interface Card) configuration if you use embedded an AD/DNS setup. Please refer to your Windows 2000/2003 documentation for information on how to implement a DNS suffix change.

Windows Service Requirements

HPOM and Internet Information Services (IIS)

During management server installation, HPOM connects to and configures IIS. You should first ensure that IIS is installed and contains all security patches deemed necessary for your site.

Consult your IIS documentation and relevant Microsoft web sites for information regarding available IIS patches.

HPOM uses Internet Information Services (IIS) and requires certain components in order to run. You may want to install only the required basic web page services listed, to minimize your vulnerability to virus attacks.

On Windows 2008, in the Server Manager install the role Web Server (IIS) with the following role services:

- Common HTTP Features:
  - Static Content
  - Default Document
- Application Development:
  - ASP.NET
  - ASP
- Security:
  - Basic Authentication
  - Windows Authentication
- IIS 6 Management Compatibility:
  - IIS 6 Metabase Compatibility
  - IIS 6 Management Console

On Windows 2003, ensure that the following IIS components are available:

- Common Files (must be selected for any IIS installation)
- World Wide Web (WWW) server

- Active Server Pages (.asp) enabled on the management server to support the web console.
- Internet Information Services Manager (forced by WWW server selection)

All other IIS components are optional.

If you upgrade the operating system to Windows 2003, the IIS configuration must be adjusted to re-enable the HPOM Web Console IIS extensions.

1. Select **My Computer** → **Manage.**
2. In **Computer Management** expand **Services Application.**
3. Select **Internet Information Services (IIS) Manage**r, then expand **Web Services extension.**
4. Make sure that the Active Server Pages extension is set to “Allowed.”

When HPOM for Windows is installed on a system where the Microsoft tool URLScan is installed, the graphing capability in HPOM breaks. Change the following settings in the `urlscan.ini` file to correct the problem:

- Change UseAllowExtensions=0 to UseAllowExtensions=1.
- Add the following lines to the AllowExtensions section:
  - .exe
  - .xml
  - .jar
  - .class
- Restart IIS for the changes to take effect.

By default, the `urlscan.ini` file for URLScan 2.5 is located in this directory:
`%WINDIR%\system32\inetsrv\urlscan`

The Microsoft technet link to the utility is:
http://www.microsoft.com/technet/security/tools/urlscan.mspx

Agent Requirements

The management server can automatically deploy HTTPS and DCE agents to nodes that have a supported Windows operating system. In addition, if you configure a suitable secure shell client on the management server, it can also automatically deploy HTTPS agents to nodes that have a supported UNIX or Linux operating system.

It is not possible to remotely deploy DCE agents to nodes that have a UNIX or Linux operating system. Therefore, the only option is to install agents on these systems manually.

Consult the support matrix at the following location for HPOM 8.10 for Windows supported agent platforms:

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

See the online help topics at **Administering Your Environment** → **Configuring Agents** for more information about deploying HTTPS and DCE agents.

Hardware and Software Requirements

You can find the hardware and software requirements for HTTPS and DCE managed nodes in the following locations:

- **HTTPS managed nodes**

  See the support matrix at the following location for supported operating systems and required patches:

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

  The node must meet the hardware requirements for the operating system. There are no additional hardware requirements for HTTPS managed nodes.

- **DCE managed nodes**

  See the online help topics at **Administering Your Environment** → **Configuring Agents** → **Manual agent installation** → **Manual installation of DCE agents**.

When you bring a managed node under management, HPOM performs a prerequisite check to verify that the node can be managed. You can also run the prerequisite check manually to check any node in the managed node tree.

Security Requirements for Agent Deployment

To add a managed node, you must be a member of the HP-OVE-ADMINS group on the management server. The system you are adding as a managed node must be up and running.

In HPOM 8.10 for Windows, the “Windows Node Security Setup” tool (OveConfig.exe) no longer appears when adding Windows managed nodes. Instead, you can specify the user account to be used for installing any type of agent. You have the choice between the following settings:

- **PMAD user**

  This deployment method uses the credentials of the HP-OVE-Deleg-User account.

  The HP-OVE-Deleg-User does not by default have administrative access to nodes. It is not recommended that you add this user to the Domain Admins group. Instead, you can either add the HP-OVE-Deleg-User account manually to each node’s local administrators group, or use the **Tools** → **HP Operations Manager Tools** → **Windows Node Security Setup** tool (OveConfig.exe) in the console. This tool adds the HP-OVE-Deleg-User account to the local administrators group of nodes that you specify.

- **Impersonate user**

  For this deployment method, ovpmad uses the credentials of the user who started the HPOM console to deploy agents. This user must have administrative rights on the node.

  If you plan to deploy agents from a remote console, the HP-OVE-Deleg-User account must have delegation rights because Windows does not support double-hop impersonation.

- **Use alternate credentials**

  This deployment method requires you to type the user name and password of an alternate user. ovpmad uses these credentials to deploy the agent software. The specified user account must have administrative access to the node.

Windows Node Security Setup Tool

If you want to continue using the “Windows Node Security Setup” tool (OveConfig.exe), you can either run it manually from the console or you can configure the HPOM management server to use it for the installation or update of Windows managed nodes[1].

Based on the user you are logged in as, the utility attempts to do some security setup and reports the results. Specifically, it checks to see if the HP-OVE-Deleg-User account is part of the local administrators group on the managed node. If it is not, HPOM adds the account to the group. It also makes sure that this account has the “Logon as a batch job” and “Logon as a service” privileges.

If the security configuration attempt fails (for example, if the node is not up and running), you are notified but HPOM makes no further attempt to configure security for the node. In this case, you must correct the problem and then configure security manually on any nodes for which configuration failed, using the Windows Node Security Setup tool (**Tools** → **HP Operations Manager Tools** → **Windows Node Security Setup**. If the HP-OVE-Deleg-User account is already a member of the local administrators group on the node and the account has the correct privileges, you can ignore the failure.

1.Use the Server Configuration dialog box to enable the Windows Node Security Setup tool in the Policy Management and Deployment namespace. Switch to expert mode and set the appropriate value to true.

Accounts Used on the Managed Node

This section provides information to help you understand the different types of HPOM accounts on the managed nodes:

- Local System account (Windows managed nodes)
- root (UNIX managed nodes)

Local System Account

The HPOM for Windows agent package is installed by default as using the Local System account.

The Local System account is created by the Windows operating system and is always present. It is by default a member of the local administrators group. The System account does not have a password. It is typically used for most Windows services.

The opc_op and HP ITO Account accounts were used with OVO 7.10 and earlier and are obsolete.

Benefits of Default Local System Account

HP strongly recommends using the default Local System account, which offers several advantages:

- Adds no additional accounts on managed nodes
- Eliminates problems with agent installation in Active Directory environments.
- Does not conflict with password policies.
- Does not conflict with domain policies that do not allow local accounts.
- Does not conflict with domain policies that remove necessary privileges or user rights. Takes advantage of improvements to certain Smart Plug-Ins, such as the Smart Plug-In for Exchange Server. Refer to specific SPI documentation for details.

UNIX Systems Root Agent Account

On UNIX systems, root is used as an agent account. The installation also creates an opc_op user account, which you can use to execute tools.

Accounts Used on the Management Server

This section provides information to help you understand the different types of HPOM accounts on the management server:

- HP-OVE-User (user account)
- HP-OVE-Deleg-User (user account)
- HP-OVE-Group (group account)
- HP-OVE-ADMINS (group account)
- HP-OVE-OPERATORS (group account)

HPOM does not allow to change the security context after the HPOM management server is installed. A change requires the HPOM management server to be reinstalled. Therefore, make sure to plan your security requirements before installing the HPOM management server.

HP-OVE-User and HP-OVE-Deleg-User

The HP-OVE-User and HP-OVE-Deleg-User users are user accounts. HPOM creates them on the management server system with a password you specify during the installation.

Instead of having HPOM create these users for you, you can also create them yourself before or during the installation. The HP-OVE-User and HP-OVE-Deleg-User accounts should be regular domain user accounts. In addition, the HP-OVE-Deleg-User should have local administrative rights on the management server. It is not recommended that these users are members of Domain Admins because this credential grants the HPOM management server administrative access to all Windows managed nodes in the given domain. It is also not recommended that you choose accounts that are used by physical users to log on.

If you create the HP-OVE-Deleg-User account yourself, do not log on using this account to install the HPOM management server.

- **HP-OVE-User**

The HP-OVE-User user is a member of the HP-OVE-ADMINS and Users groups. It is the account under which the HPOM management server processes run, with the exception of the policy management and deployment process.

With HPOM 8.10 for Windows, the HP-OVE-User user is no longer member of the HP-OVE-Group account because this group no longer exists in HPOM 8.10 for Windows.

- **HP-OVE-Deleg-User**

  In HPOM 8.10 for Windows, the policy management and deployment process (ovpmad) runs under the HP-OVE-Deleg-User user account. This is a local account if HPOM is installed in a Windows workgroup environment. If HPOM is installed in a Windows domain, the HP-OVE-Deleg-User is a domain account that has by default delegation rights set. During the installation, you can specify whether you want HPOM to set up this user with delegation rights or not. The HP-OVE-Deleg-User user is a member of the HP-OVE-ADMINS and Users groups.

  The delegation right enables the policy management and deployment process to use the credentials of the logged on user for delegation on a target node. Delegation rights are necessary if you plan to deploy HTTPS agents to nodes with a Windows operating system from a remote console using the **Impersonate user** option.

Setting Delegation Rights for the HP-OVE-Deleg-User

If you do not want HPOM to create the HP-OVE-Deleg-User account for you, you can create it yourself. If you plan to deploy Windows agents from a remote console using the **Impersonate user** option, the user account that you create must be trusted for delegation. Otherwise, you must use the **PMAD user** or **User/Password** options when you deploy agents.

In some cases, you can configure trust for delegation by selecting the appropriate option in the Active Directory user properties dialog box. However, in other cases, Active Directory does not show appropriate option by default, and you must perform additional configuration of Active Directory.

For example, you may need to register a Service Principal Name (SPN) for the user account using the command `setspn`, which Microsoft provides. The syntax of this command is as follows:

```
setspn -A <service>/<hostname> <domain>\<user>
```

For example, to register the SPN *ovpmad/manager1.example.com* for the user *example\HP-OVE-Deleg-User*, use the following command:

```
setspn -A ovpmad/manager1.example.com example\HP-OVE-Deleg-User
```

For more information, see the Active Directory documentation that Microsoft provides.

HP-OVE-Group

The HP-OVE-Group account no longer exists in new installations of HPOM 8.10 for Windows. In previous versions, this group account contained the HP-OVE-User and was added to the local administrators group on a Windows managed node. It allowed the management server to automatically deploy agent packages to this node.

When upgrading OVO 7.50 for Windows to HPOM 8.10 for Windows, the HP-OVE-Group account is migrated and the HP-OVE-Deleg-User user added. This ensures that the policy management and deployment process (ovpmad) retains the right to deploy or upgrade agent packages on existing Windows DCE managed nodes.

HP-OVE-ADMINS and HP-OVE-OPERATORS

The HP-OVE-ADMINS and HP-OVE-OPERATORS are group accounts. The HPOM installation creates these groups locally on the management server system or in the domain. Instead of having HPOM create them for you, you can also create these groups yourself before or during the installation.

The groups are used to identify valid users of the HPOM product. Windows users who are members of these groups are allowed to perform the tasks associated with these groups:

- **HP-OVE-ADMINS**

  Windows users who are members of the HP-OVE-ADMINS group are considered HPOM administrators, and can perform administrative tasks (for example, adding nodes, or configuring and deploying policies).

  An HPOM administrator is not the same as a Windows domain administrator. Note that the HPOM administrator must be a trusted user because it has (by way of the agent) near administrative capabilities on all managed nodes.

In HPOM 8.10 for Windows, local administrators of the management server system are no longer automatically added to the HP-OVE-ADMINS group, which means that they are no longer automatically HPOM administrators.

After you have installed HPOM, the installing user is considered an HPOM administrator until you revoke this right by executing the **Tools** → **HP Operations Manager Tools** → **Cleanup rights of the installing user** tool in the console. (Only HPOM administrators can execute this tool. The installing user and HPOM operators do not have permissions to execute this tool.)

- **HP-OVE-OPERATORS**

  Members of the HP-OVE-OPERATORS group are operators in HPOM, and perform tasks such as monitoring the console, in particular the message browser, and responding to messages.

You can further refine the responsibilities of each HPOM user by giving the user one or more user roles. For more information about user roles, see the online help topics under **Administering Your Environment** → **Configuring User Roles**.

Do not confuse the HP-OVE-User and HP-OVE-Deleg-User user accounts with the HP-OVE-ADMINS and HP-OVE-OPERATORS group accounts. The HP-OVE-User and HP-OVE-Deleg-User user accounts are used by management server processes at runtime and for deployment purposes respectively. The HP-OVE-ADMINS and HP-OVE-OPERATORS group accounts are used to identify valid users of the HPOM product.

Privileges Required for Installation

During installation, HPOM attempts to perform the following tasks:

- **Create user and group accounts**

  If the HPOM user and group accounts are not already created in the selected domain, HPOM attempts to create them. In order to succeed, the Windows user running the HPOM management server installation must have sufficient privileges on the domain controller to create user and group accounts, and to set the delegation right for the HP-OVE-Deleg-User account, if the user already exists but the delegation right has not been granted yet.

  If you are planning to create these accounts in the parent ADS domain, the installing user may not have sufficient privileges, even if you are domain administrator to your Resource or Child Domain (administrative trust is typically not transitive or one-way). If you have such a requirement, create the HPOM user and group accounts manually on the appropriate level before installing the HPOM management server.

- **Authenticate existing users**

  If the HP-OVE-User and HP-OVE-Deleg-User user accounts are already available, the HPOM installation performs a regular authentication of the HP-OVE-User and HP-OVE-Deleg-User (valid password required). In this case it is not necessary for the installing user to hold domain administrator privileges. A domain user who is a member of the local administrators group is sufficient.

  You cannot use the HP-OVE-Deleg-User account to install the HPOM management server.

Unsupported Configurations

HP Operations Manager for Windows (HPOM) does not support the following scenarios:

- Installing HPOM on a network drive.
- Encrypted file systems.
- Management server configured to use DHCP without a fixed IP address (DHCP is supported for managed nodes).
- The HPOM management server is not supported on a domain controller.
- Installing HPOM from a VMWare shared folder.

If You are Upgrading

If you are upgrading from a previous version of HP OpenView Operations for Windows to HP Operations Manager 8.10 for Windows, you will need to perform certain steps before installing HPOM 8.10 for Windows. Depending on your current product, you may be required to save your data or save any custom policies you developed. Tools are provided in some instances to make this process easier. See the *HP Operations Manager 8.10 for Windows Upgrade Guide* for details.

Do not uninstall your current product before reading the upgrade guide that applies to your current installation. The uninstall procedure otherwise results in permanent loss of management server data.

HPOM Installation Patches

HPOM 8.10 for Windows provides the functionality to patch the installation. Using an installation patch, you can create an up-to-date product installation using the product DVD together with the patch.

If HP decides to provide an installation patch for HPOM 8.10 for Windows, it can be obtained through HP support. Installation patches are different from regularly published product patches because they generally address installation related issues. Installations of HPOM 8.10 for Windows that are already configured and running will not be the target of an installation patch.

Using an Installation Patch

After you download the patch, product installation is started by the patch. The original DVD medium is required for the installation. Additional information is included in the documentation that comes with the patch. Read the documentation carefully before starting the product installation using an installation patch.

Installing HPOM in a Firewall Environment

Firewall Concepts and Configuration Guide

Consult the *HPOM Firewall Concepts and Configuration Guide* for detailed information about firewall environments. The *HPOM Firewall Concepts and Configuration Guide* describes how to configure HPOM for communication through firewalls, and explains how to configure Windows Firewall for use with HPOM.

The *HPOM Firewall Concepts and Configuration Guide* is available on the product DVD and in the `%OvInstallDir%\paperdocs\en` directory after installation.

Management Server Installation

The management server installation process automatically turns off Windows Firewall if it is currently turned on. If a third-party firewall is active, you must temporarily disable this firewall before you install the management server. You can turn on Windows Firewall or third-party firewalls after the installation is complete.

If you are installing the HPOM management server in a cluster, turn on firewalls only after the installation is complete on all nodes in the cluster.

If you intend to use a remote database, you should correctly configure any firewalls to allow the management server to connect to the remote database during installation. (For more information, see Database Requirements on page 27”.)

After the installation of the management server, configure the firewall and HPOM as described in the *HPOM Firewall Concepts and Configuration Guide*.

The HPOM management server cannot be installed on a system with the Microsoft Internet Security and Acceleration Server (ISA Server) Firewall Client service running. You must first stop this service before starting the HPOM installation. After the installation, you can start the service again.

If you plan to install the ISA Server Firewall Client, it is recommended that you do so after the installation of HPOM completes.

Management Server Installation with Windows Firewall Enabled

When you install the management server on a system, the installation wizard offers to configure the Windows Firewall for communication with remote consoles, as shown in the figure below.

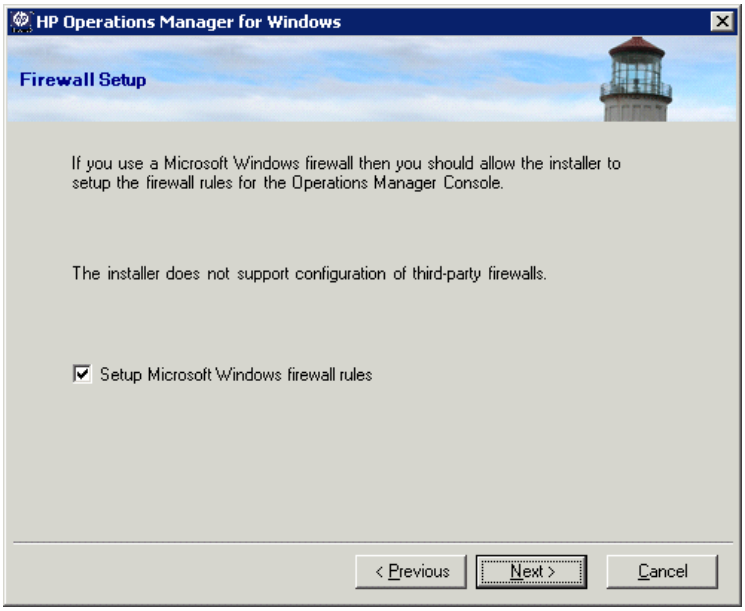
Remote Console Installation

The remote console installation process automatically turns off Windows Firewall if it is currently turned on. If a third-party firewall is active, you must temporarily disable this firewall before you install the remote console. You can turn on Windows Firewall or third-party firewalls after the installation is complete.

After the installation of a remote console, configure the firewall and HPOM as described in the *HPOM Firewall Concepts and Configuration Guide*.

Remote Console Installation with Windows Firewall Enabled

When you install a remote console, the installation wizard offers to configure the firewall for communication with the management server, as shown in the figure below.



3 HPOM Standard Installation

A standard HPOM installation is on a regular, non-cluster Windows server. This chapter contains the following instructions:

- Installing the HPOM management server and console
- Installing a remote console
- Installing a remote console in silent or unattended mode
- Installing HPOM in a highly secure environment

You are expected to be a Windows administrator who understands Windows security concepts and terminology.

If this is your first time installing HPOM, we recommend installing it on one or more test systems so that you can become familiar with HPOM before using it in your business environment.

If you have a version of HP OpenView Operations 6.00 (VantagePoint for Windows), HP OpenView Express, or HP OpenView Operations for Windows 7.00, 7.10, 7.21, or 7.50 already installed and need to upgrade to a new version, see the appropriate upgrade guide for your current installation. Upgrade guides are available on the installation media in .pdf or .htm format and provide instructions on preserving your data before upgrading, agent upgrades, and policy upgrades. Upgrade guides are also available in printed format if you ordered manuals (for versions prior to HPOM 8.00 for Windows only).

HPOM Installation via Terminal Services

The HPOM management server and remote console may be installed either through a Remote Desktop Connection or via a Terminal Services session when Terminal Services is running in Remote Administration Mode.

Installing a Management Server and Console

To install a management server, you must be a member of the local administrators group. To install a management server that is part of a domain, you must also be a domain user. You are prompted for the domain, group, user, and user password of the accounts you want HPOM to use for its security. See Installing a Management Server and Console on page 55 for installation procedures. If new domain accounts are created by the HPOM installation, you must be logged on as a domain administrator (not a local administrator).

During the installation, Windows will try to look up the SID (security identifier) of the installing user. This operation only works if the Computer Account of the management server can browse objects in the Active Directory. By default, this privilege is enabled. If you tightened your security by removing rights from the machine accounts, then re-enable the privileges during the management server install.

During installation, the Windows Management Instrumentation (WMI) and World-Wide-Web Publishing Server services must be temporarily stopped and restarted in order to configure the system for HPOM use. Ensure that this action will not disrupt any applications before you start the installation.

Refer to Appendix A, System Requirements Checking, for a list of errors and warnings that would prevent HPOM from installing correctly.

HPOM does not support installing the management server on a domain controller. See Unsupported Configurations on page 46 for scenarios that are not supported.

Installing a Remote Console

To install a remote console, the installing user must be local administrator.

To connect from a remote console to an HPOM server, the domain user running the remote console must be either of the following (via direct or indirect group membership).

- Member of the user group HP-OVE-ADMINS

  The domain user on the remote console is considered to be an HPOM for Windows administrator.

- Member of the user group HP-OVE-OPERATORS

  The user is considered to be an HPOM for Windows operator.

Refer to Appendix A, System Requirements Checking, for a list of errors and warnings that would prevent HPOM from installing correctly.

Configurations Necessary for Remote Consoles on Windows XP SP2

Before remote consoles on Windows XP SP2 can connect to a management server, certain adjustments need to be made to the DCOM settings of the management server system.

The management server installation normally makes these changes automatically. However, custom security settings on the management server system may prevent such changes. Therefore, in some cases you may need to add DCOM access rights for the HP-OVE-OPERATORS and HP-OVE-ADMINS groups in dcomcnfg, which you can launch from a command line or from the **Start** → **Run** entry.

1. Navigate to `\Console Root\Component Services\Computers\My Computer`.
2. Right-click and select **Properties** from the shortcut menu.
3. Select the **COM Security** tab.
4. Click **Edit Limits** in the **Access Permission** section. Add the HP-OVE-ADMINS and the HP-OVE-OPERATORS groups. Give **Local Access** and **Remote Access** to both. Click **OK**.

5 Click **Edit Limits** in the **Launch and Activation Permission** section. Add the HP-OVE-ADMINS and the HP-OVE-OPERATORS groups. Give them all available rights (four in total). Click **OK**.

6 Close the **My Computer Properties** dialog box by clicking **OK**.

7 Navigate to `\Console Root\Component Services\Computers\My Computer\DCOM Config\ovpmad`. Right-click and select **Properties** in the shortcut menu.

8 Select the **Security** tab.

9 Change both **Launch and Activation Permissions** and **Access Permissions** to **Customize**.

10 The **Launch and Activation Permissions** list must contain the System account, and the user groups HP-OVE-ADMINS, HP-OVE-OPERATORS, and the Windows local administrators group. All must have all available rights. All other entries can be removed.

11 The **Access Permissions** list needs to contain the System account, and the user groups HP-OVE-ADMINS, HP-OVE-OPERATORS, and the Windows local administrators group. The System account needs local access only. All the groups need all available rights. All other entries can be removed.

12 Close the dialog box by clicking **OK**.

13 Repeat the steps for the entries OvOWReqCheck, OvOWReqCheckSvr, DNSDiscovery, ovadsprov, ovdnsprov, ovnetprov, ovnnmprov, and ovunmagtprov, using the same configuration as for ovpmad.

14 Open the properties of Windows Management and Instrumentation.

15 Change both **Launch and Activation Permissions** and **Access Permissions** to **Customize**.

16 In addition to the provided defaults, the **Launch and Activation Permissions** list must contain the user groups HP-OVE-ADMINS, HP-OVE-OPERATORS, and the Windows local administrators group. All must have all available rights.

17 In addition to the provided defaults, the **Access Permissions** list needs to contain the System account, and the user groups HP-OVE-ADMINS, HP-OVE-OPERATORS, and the Windows local administrators group. The System account needs local access only. All the groups need to have all available rights.

18 Close the dialog box by clicking **OK**.

License Information

HPOM comes with a trial license that allows you to use the product for 60 days after you install it. When you first start the HPOM console you are prompted to request a permanent license password. A permanent password can be obtained at this time or deferred. Upon reaching the 61st day, the product is disabled until a permanent license is obtained. See Entering License Information on page 85.

Installing HPOM

You can install other products (such as SPIs or add-ons) as available in the HPOM media kit. However, HPOM must be installed first or already be on the system before you can install the SPIs or add-ons.

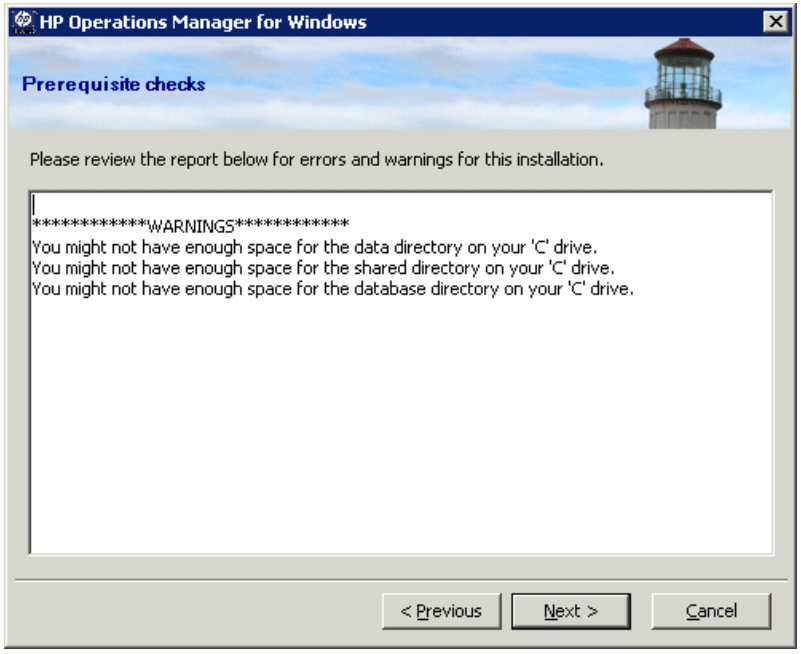
1. Ensure that all system requirements are met.
2. Close all open applications to minimize the need for a reboot.
3. Download the latest installation patch from the HP Software Support web site (**http://www.hp.com/go/hpsoftwaresupport**). Start the installation wizard using the latest installation patch instead of the original installation media. Read the instructions that accompany the installation patch, and follow any special instructions.

   The installation may require prerequisites such as Microsoft.NET Framework and Microsoft Visual C++ 2005 Redistributable. These prerequisites are installed first, before the installation of the HPOM software begins.

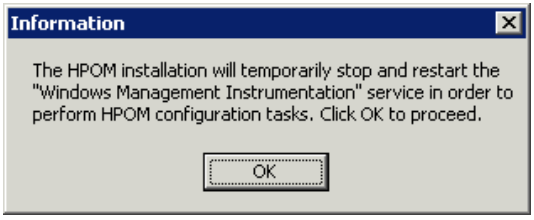
4 In the **Welcome** page, click **Next** to install a management server and console. To install a remote console system, click **Remote Console** and then click **Next**.

5 The **Prerequisite checks** page displays errors and warnings that would prevent HPOM from installing correctly. All errors must be resolved before installation can continue. See Appendix A, System Requirements Checking, for the list of hardware and software items checked during installation.

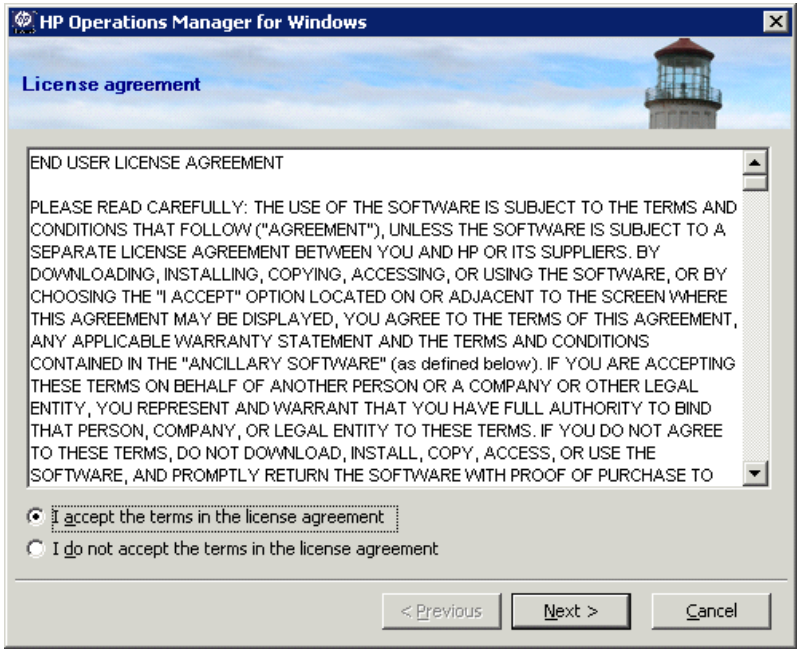
If no errors were detected, click **Next** to continue.



This window informs you that the services listed are restarted. This is done automatically during the installation process. Click **OK** (with the hourglass cursor) to continue the installation with the license agreement.



6 In the **License agreement** page, accept the license agreement and click **Next** to continue with the installation. If you decline, the installation is cancelled.



See details on obtaining a permanent license on page 85.

7 For a management server installation, in the **Language for Management Server** page, click **Language** and select the language that you want the installer to use.

This wizard page only appears on systems that have an English version of a Microsoft Windows operating system, including systems that have a Multilingual User Interface (MUI).

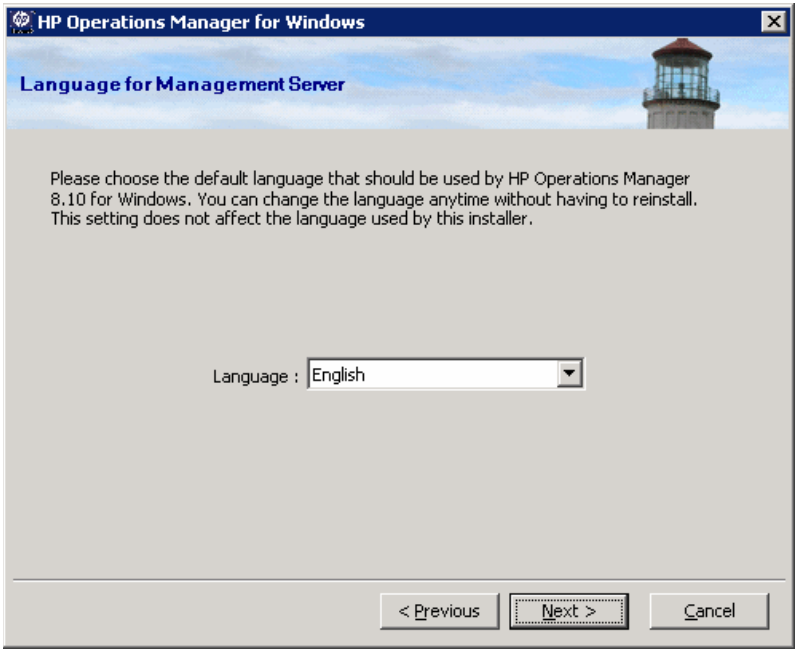
When you install a management server, the installer uses the language that you select here for creating the default tools, policies, and other objects that HPOM provides. You cannot change this language setting later.

By default, the installer configures automatic deployment of certain policies from the Windows OS SPI and UNIX OS SPI. The language that you select here determines the language of these policies.

The language that you select here also determines the language that the management server uses at runtime (for example for error messages that the management server generates).

On a system with an MUI, the user's language setting in Windows automatically determines the language that appears in the HPOM console and online help. (The language that you select here does not affect the language that appears in the HPOM console and online help. This wizard page does not appear when you install a remote console.)

Click **Next**.



8 In the **Policy Languages** page, select additional languages for the policies that HPOM provides. By default, the installation includes policies in English, and also in the language that you chose for the management server (if different). You can select additional languages to install policies in those languages.

This wizard page only appears on management servers that have an English version of a Microsoft Windows operating system, including systems that have a Multilingual User Interface (MUI).

Click **Next**.

9 In the **Destination folders** page, you can use the default destination directory or select a destination directory where you want to install HPOM. The destination location you select here is used as the default directory for other HP BTO Software products you are installing from this DVD and cannot be changed for subsequent installs. The first installed

HP BTO Software application dictates the installation directory for HPOM and other HP BTO Software products such as HP Reporter, HP Performance Manager, HP Performance Agent Software, and the like.

The default installation directory is:

```
C:\Program Files\HP\HP BTO Software\
```

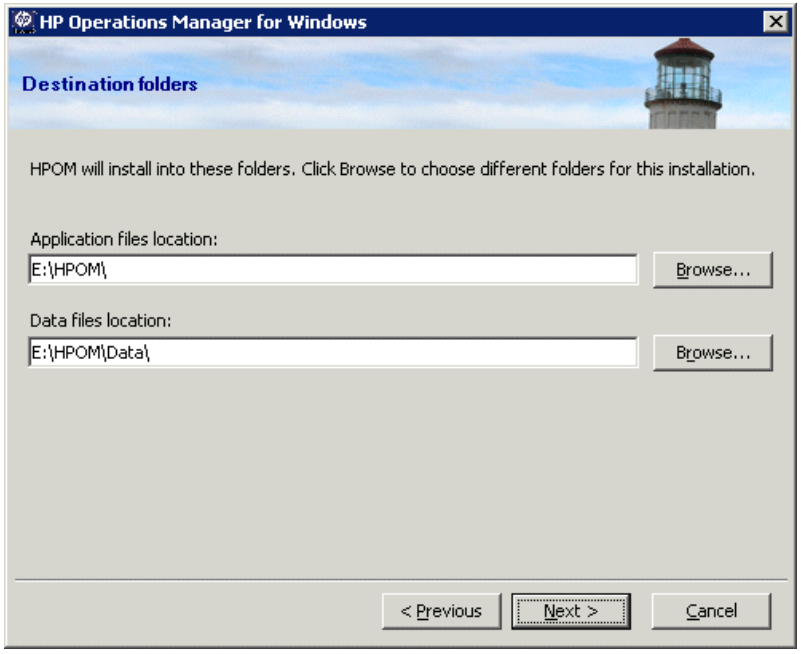
a To install to the default destination directory, click **Next**.

b If you want to install to a destination other than the default directory, click the appropriate **Browse** button to open the **Browse for Folder** dialog box.

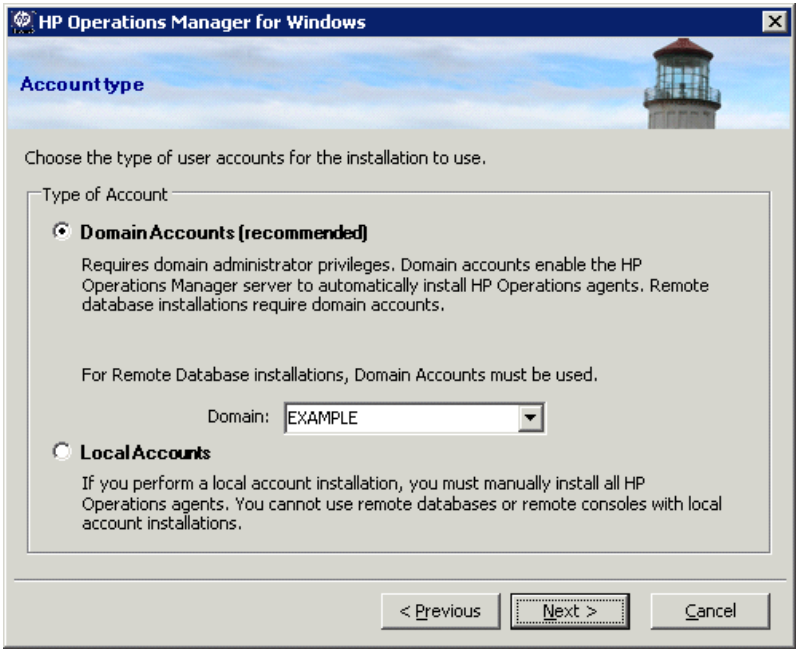
   The **Browse** buttons in the **Destination Folders** page are only available for the first HP BTO Software product installations (HPOM, HP Reporter, or HP Performance Manager). If other HP BTO Software products are already installed, the **Browse** buttons are disabled.

c In the **Browse for Folder** dialog box, specify the directory you want and click **OK**. If you have insufficient disk space, you see a message here when you click **OK**.

d In the **Destination folders** page, click **Next** to proceed.


HP Operations Manager for Windows
Destination folders
HPOM will install into these folders. Click Browse to choose different folders for this installation.
Application files location:
E:\HPOM\
Browse...
Data files location:
E:\HPOM\Data\
Browse...
< Previous
Next >
Cancel

10 In the **Account type** page, specify the account you prefer and select the domain name, if required.



Domain installation:

For a domain installation, the installing user needs to be a domain admin. Alternatively, a local admin with domain lookup rights can be used, if the accounts are already created and the delegation right for the deleg user is set.

A domain installation assumes the HPOM management server to be a member of a Windows domain. This method creates or uses existing domain accounts (HP-OVE-User and HP-OVE-Deleg-User) in the selected domain.

A domain installation allows the HPOM server to automatically manage a Windows node and install the agent software to this node. This is only possible if a Windows node is in the same domain as the management server or has a trust relationship in place with the domain of the management server.

Local installation:

This installation does not require any Windows domain accounts. The management server can be either a member of a Workgroup or member of a Windows domain. This installation method has the following limitations:

— Agent functionality packages which are used by some SPI products cannot be auto-deployed and require manual installation on the Windows managed node (please refer to the installation instructions for each SPI).

— Remote MMC consoles are not supported. To use the MMC console from a remote computer, connect to the management server using Remote Desktop Connection, and then open the MMC console locally. Alternatively, you can open a web console in a supported web browser on any remote system.

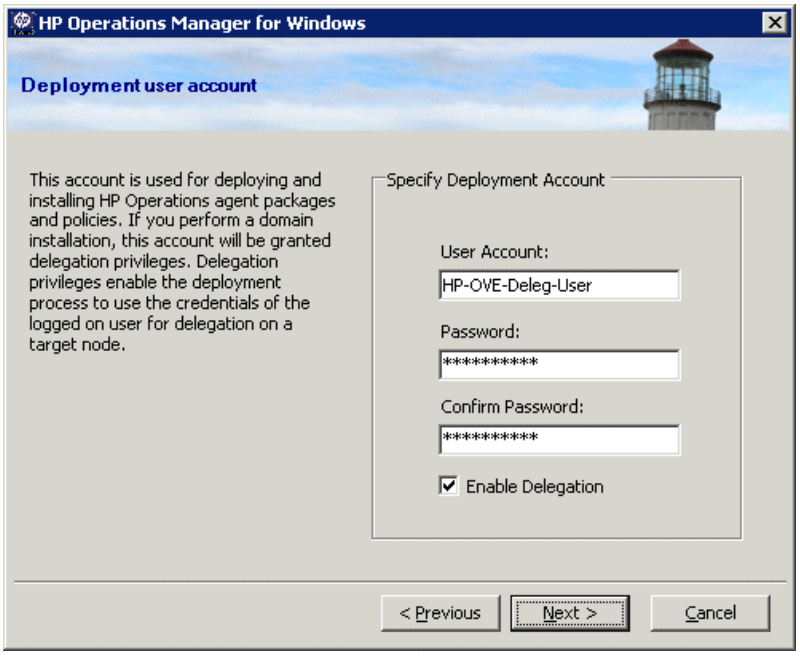
— If you perform a local account installation on a production machine, you cannot later change this to a domain account.

— For management server to agent communication, events, policies, deployment, drawing graphs, and so on are not affected by the local account installation.

— UNIX managed nodes are not affected by the domain versus local account setup.

11 In the **Deployment user account** page, type, enter the necessary information for the deployment user account. See Accounts Used on the Management Server on page 41 for more information about delegation privileges.

.

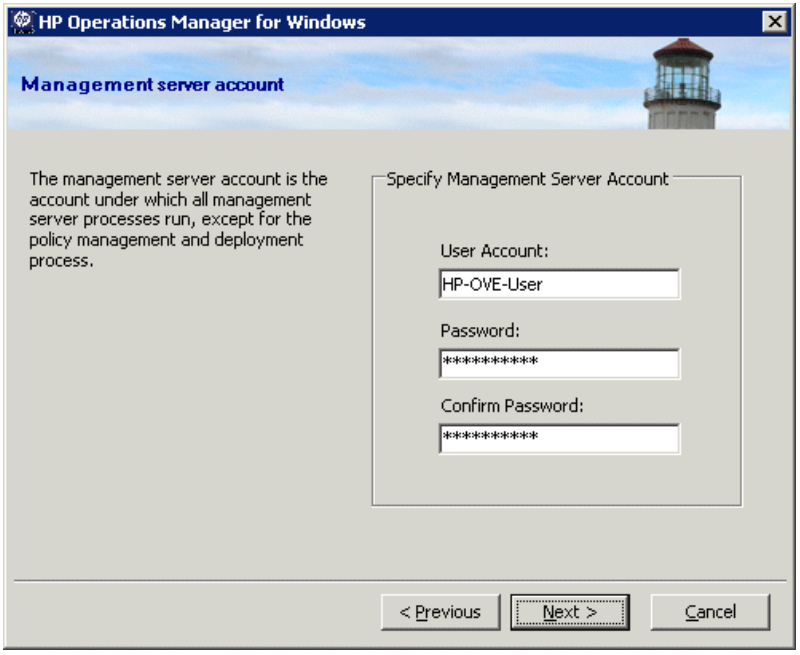


12 In the **Management server account** page:

a Specify the **User Account** or use the default values.

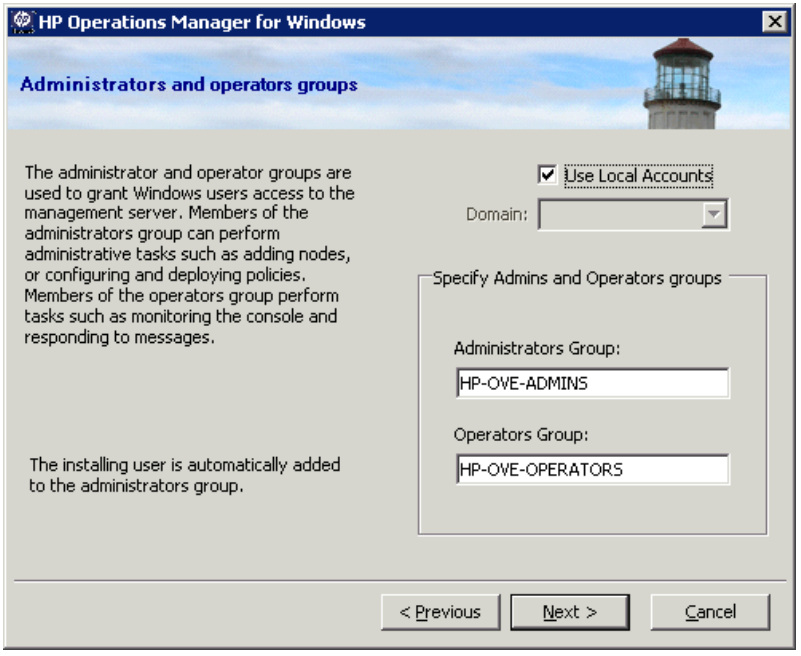
b Use the same password that you used when setting the deployment user in the previous screen. After entering and confirming your password, click **Next**.

Once established, this account information is used by other products you install from the installation media. (For remote console installation only, this screen does not appear).

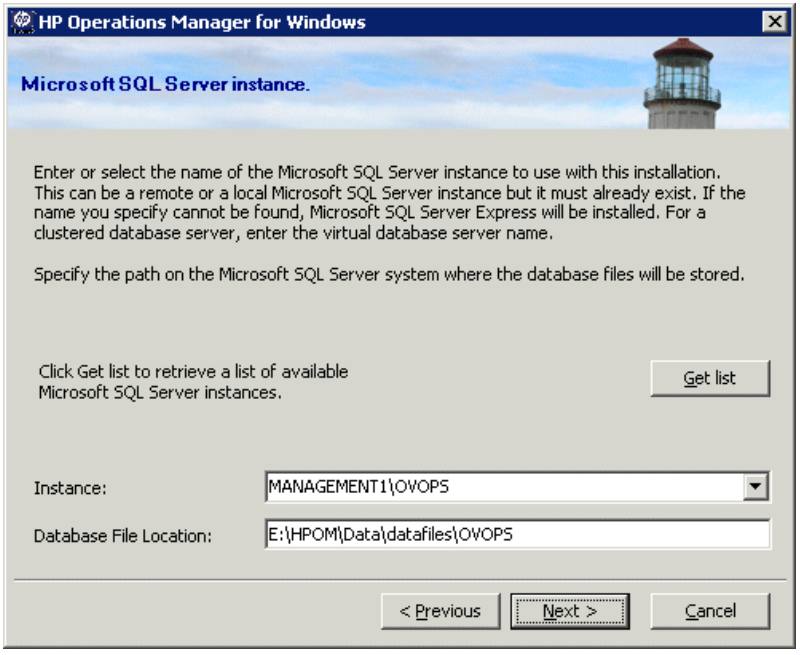


13 In the **Administrators and operator groups** page, select **Use Local Accounts** if you want to create local group accounts, or select the domain if you want to create domain group accounts.

Then specify the administrator and operator group accounts and click **Next**.



14 In the **Microsoft SQL Server instance** page, add the name of the SQL Server instance you want to use for your HPOM database and the path on the SQL Server where the database files should be stored. The SQL Server services must run under a login that can access the directories where HPOM files are located. For example, the login has administrative rights or is otherwise able to access the files.



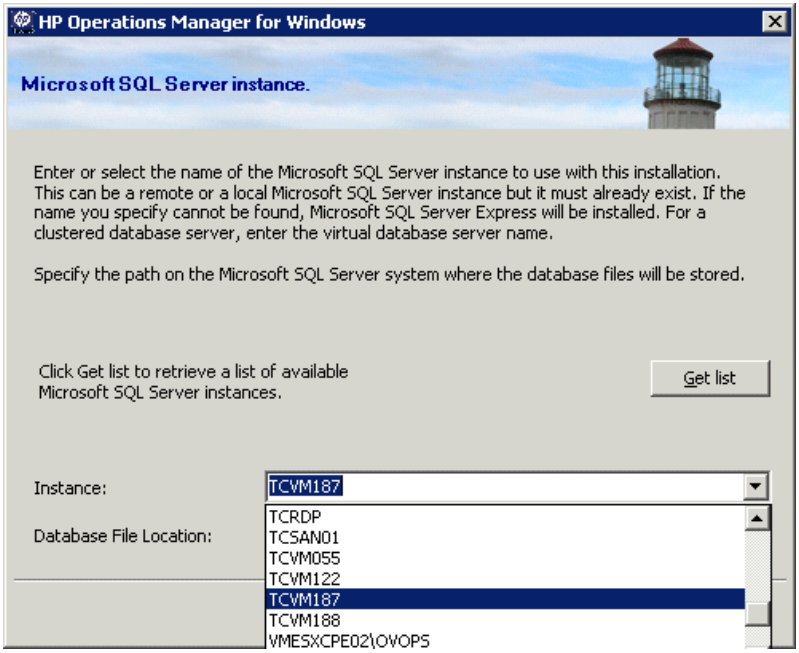
If the path you specify in the **Database File Location** box does not yet exist on the SQL Server system, the HPOM installation adds it automatically.

Be sure that enough disk space is available for the database files. The size of the database files depends on the number of managed objects.

If you want HPOM to install a local SQL Server Express instance for you, specify a name that does not yet exist in the Instance field. If you plan to use a full SQL Server (local or remote) you must install it before installing HPOM.

For a list of available SQL server instances, click **Get List**. Available instances display in the list.

If you are not able to select a remote database instance in the list, SQL Server may not be configured correctly. For more information, see Database Requirements on page 27.



After you click **Next**, the HPOM installation checks to see if this instance already exists. If the local instance does not exist, HPOM installs SQL Server Express.

If the specified full SQL Server instance (local or remote) does exist and can be connected, then HPOM checks for an existing openview database. If the database does not exist, HPOM adds it automatically during the installation.

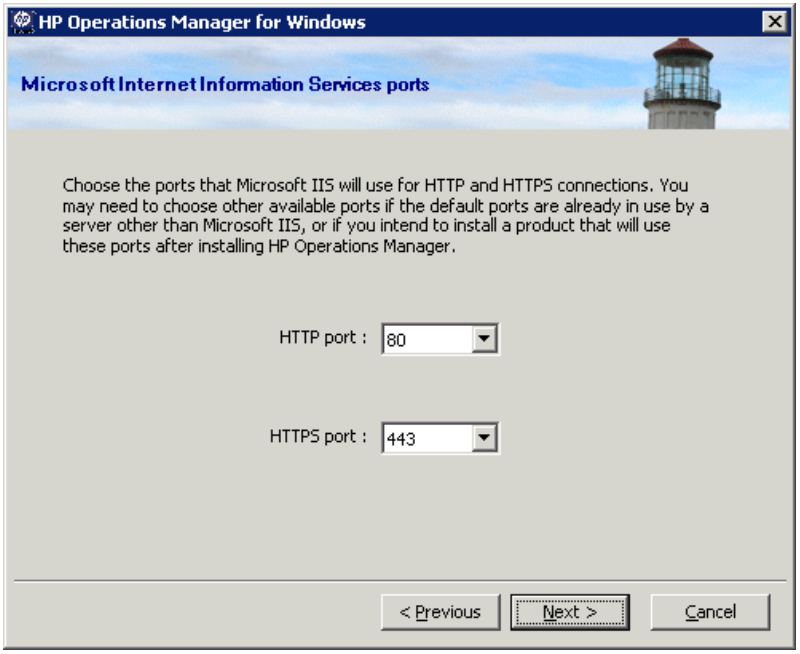
If the openview database already exists, you can choose to have HPOM delete it and add a new one during the installation.

HPOM 8.10 for Windows does not support the reuse of an existing openview database, because corrupted data is a potential problem. If you want to preserve older data, you must do an upgrade or migration.

If the specified remote instance does not exist or cannot be connected, the HPOM installation asks you to verify that the connection is working and check to see that the name is correct.

If the specified instance is a remote SQL Server Express instance, the installation will continue if a remote connection is possible. However, this situation is not supported in HPOM.

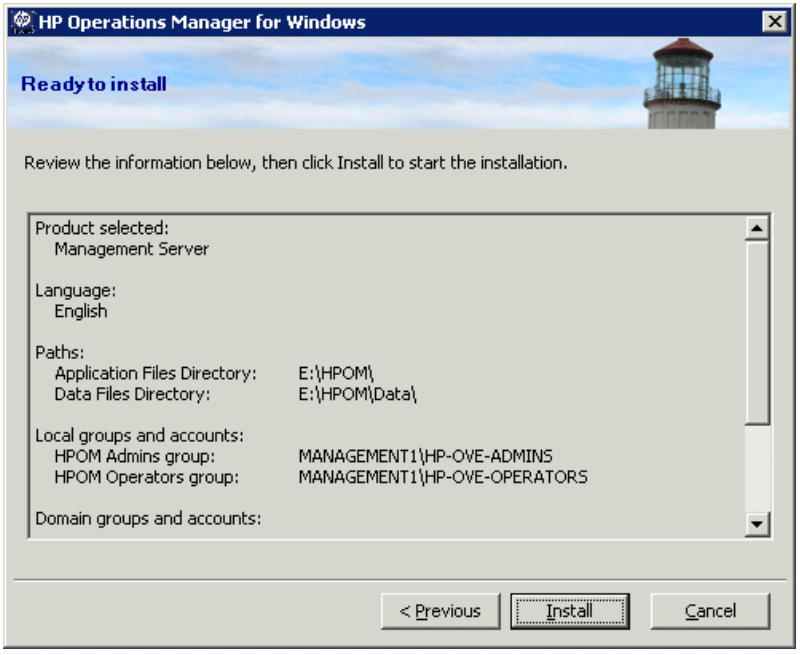
15 In the **Microsoft Internet Information Services ports** page, change the HTTP and HTTPS ports of Internet Information Services (IIS), if you want to use ports other than the default ports. Then click **Next** to proceed to the **Firewall Setup** page.



16 In the **Firewall Setup** page, select **Setup Microsoft Windows firewall rules** if Windows Firewall is enabled on the management server and you want the HPOM installation to create the necessary rules. Then click **Next** to proceed to the **Ready to install** page.

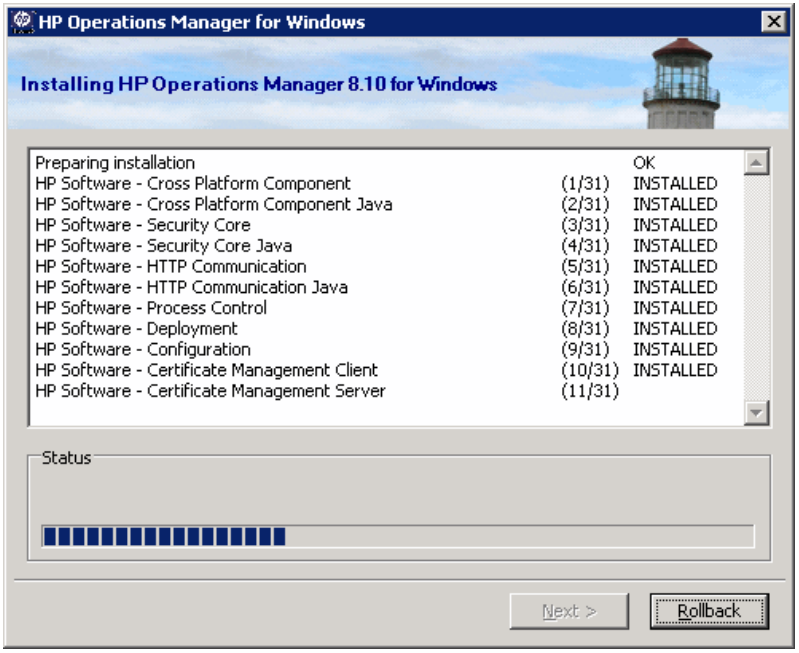
The installation process automatically turns off Windows Firewall if it is currently turned on. You can turn on Windows Firewall after the installation is complete.

17 In the **Ready to Install** page, click **Install** to begin the installation.



18 Each installation component displays individual status dialogs, such as the licensing component, the core components, the SQL Server component, and the SPIs that are included with the product. Periodically during the install, a progress window appears. It includes details about what has been installed and what is currently being installed.

Depending on the speed of your system, the installation process could take from several minutes to over an hour. When the installation is complete, click **Next** proceed to the **Installation complete** page.

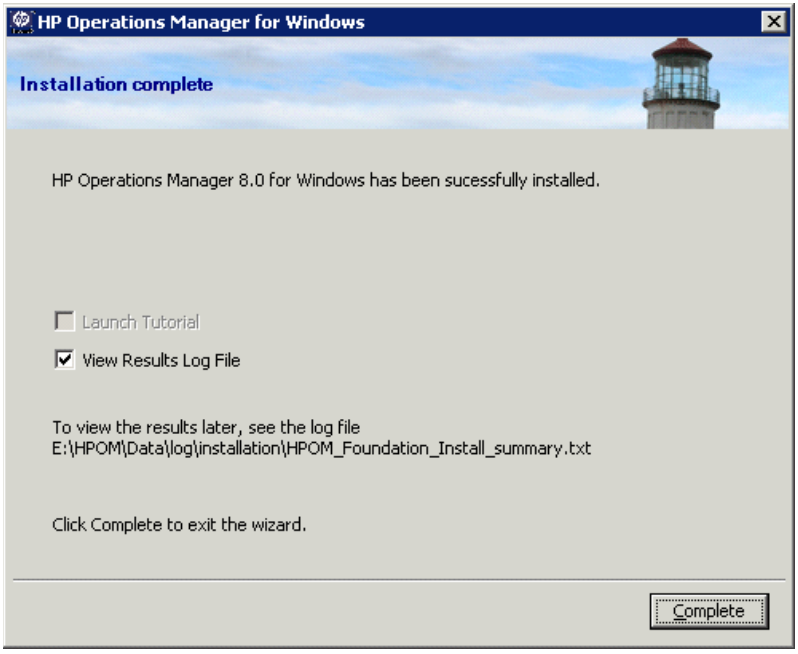


If there are already SQL Server components (for example, Client tools) installed on the HPOM management server, you may see the following message in a dialog box during the installation:

"Warning 28213. Warning: SQL Server Setup cannot install this feature because a different edition of this feature is already installed. For more information, see 'Version and Edition Upgrades' in SQL Server Books Online."

Acknowledge this message to continue the HPOM installation.

19 When the **Installation complete** page appears, the installation is finished. Click **Complete** to conclude the installation.



To see details of the completed installation, select the **View the results log file** check box.

You are encouraged to view the basic training tutorial presented at the conclusion of the install program. Click **Launch Tutorial** in the **Installation complete** page. The tutorial introduces you to HPOM features, provides a product overview, and details configuration and deployment steps you need to perform before you can begin working in HPOM.

Install a Management Server or Remote Console in Silent or Unattended Mode

You can install a management server or remote console in silent or unattended mode by using a configuration file and command-line parameters.

Setup.exe supports the following parameters:

- `/qn` specifies silent mode (no progress information, no user interface)

  To start a silent installation, use the following command syntax:

  `Setup.exe /qn /configfile:<configfile> /sourcedir:<directory>`

- `/qr` specifies unattended mode (progress information, no user interface)

  To start an unattended installation, use the following command syntax:

  `Setup.exe /qr /configfile:<configfile> /sourcedir:<path>`

There is no visual indication of any activity while Microsoft .NET Framework is being installed, which typically takes several minutes.

You cannot check the syntax and values of the configuration file before starting the installation.

Configuration File for Silent or Unattended Mode

In the configuration file, you specify all the configuration values in XML format that you specify during an interactive installation. Example configuration files are available on the installation media:

- `Documentation\Unattended Install\RemoteConsole.config`
- `Documentation\Unattended Install\ManagementServer.config`

An example configuration file is also available for silent or unattended installation on cluster nodes. For more details, see Install in Silent or Unattended Mode on a Cluster Node on page 135.

Copy one of the example configuration files to another location and edit the required fields. For more details on any of the fields, refer to the documentation for the corresponding wizard page in Installing HPOM on page 59.

The configuration files also provide options to upgrade or migrate in silent or unattended mode. However, upgrade and migration involves other steps, which the setup command does not peform automatically. Silent and unattended modes replace only those steps that you normally perform in the HPOM installation wizard. For more details on upgrade or migration, see the *HP Operations Manager 8.10 for Windows Upgrade Guide*.

Silent or unattended mode is supported for migration or upgrade from HPOM 8.00 to HPOM 8.10. You cannot migrate or upgrade from HPOM 7.50 in silent or unattended mode.

The following examples show configuration files for installing management servers and consoles in silent or unattended mode.

Example Configuration File for Installing a Management Server

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>

   <!-- Use the appSettings section to define an unattended install
   session. -->
      <appSettings>
         <!--Valid values: "server" or "console". Case insensitive. -->
         <add key="ProductType" value="server" />

         <!-- The destination directory for application files. -->
         <add key="InstallDir" value="c:\Server\" />

         <!-- The destination directory for product data files. -->
         <add key="DataDir" value="C:\Server\data\" />

         <!-- Acknowledgement of the license agreement. Valid values:
         "yes" or "no". -->
         <add key="AgreeToLicense" value="yes" />

         <add key="CreateFirewallRules" value="yes" />

         <!-- Valid values: "single", "primary", or "subsequent". Case
         insensitive. -->
         <add key="ClusterMode" value="single" />

         <add key="InstanceNameFull" value="[local machine]\OVOPS" />
```

```
        <!-- The absolute path to the database files directory. -->
        <add key="DatabaseFilesPath" value="c:\database\OVOPS\" />

        <add key="HPOM Users Domain" value="DOMAIN" />

        <!-- The account name of the HP-OVE-User. -->
        <add key="HP-OVE-User Username" value="HP-OVE-User" />

        <!-- The password for the HP-OVE-User. -->
        <add key="HP-OVE-User Password" value="" />

        <!-- The account name of the HP-OVE-Deleg-User. -->
        <add key="HP-OVE-Deleg-User Username" value="HP-OVE-Deleg-User" />

        <!-- The password for the HP-OVE-Deleg-User. -->
        <add key="HP-OVE-Deleg-User Password" value="" />

        <add key="EnableDelegation" value="yes" />

        <!-- HPOM roles groups setup. -->
        <add key="HPOM Roles Domain" value="[local machine]" />
        <add key="HP-OVE-Admins Roles Group" value="HP-OVE-ADMINS" />
        <add key="HP-OVE-Operators Roles Group" value="HP-OVE-OPERATORS" />

        <!-- IIS configuration -->
        <add key="HTTPPort" value="81" />
        <add key="HTTPSPort" value="444" />

        <!-- Policy languages -->
        <add key="UploadEnglishPolicies" value="yes" />
        <add key="UploadJapanesePolicies" value="no" />
        <add key="UploadKoreanPolicies" value="no" />
        <add key="UploadChinesePolicies" value="no" />

        <!-- Optional values used for migration -->
        <!-- Valid values: "UpgradeKeepData", "DownloadData", or
        "UploadData". Case insensitive. -->
        <add key="MigrationCase" value="UpgradeKeepData" />

        <!-- The path to the migration data -->
        <add key="MigrationDataPath" value="C:\migrationdata\" />

    </appSettings>
</configuration>
```

Example Configuration File for Installing a Remote Console

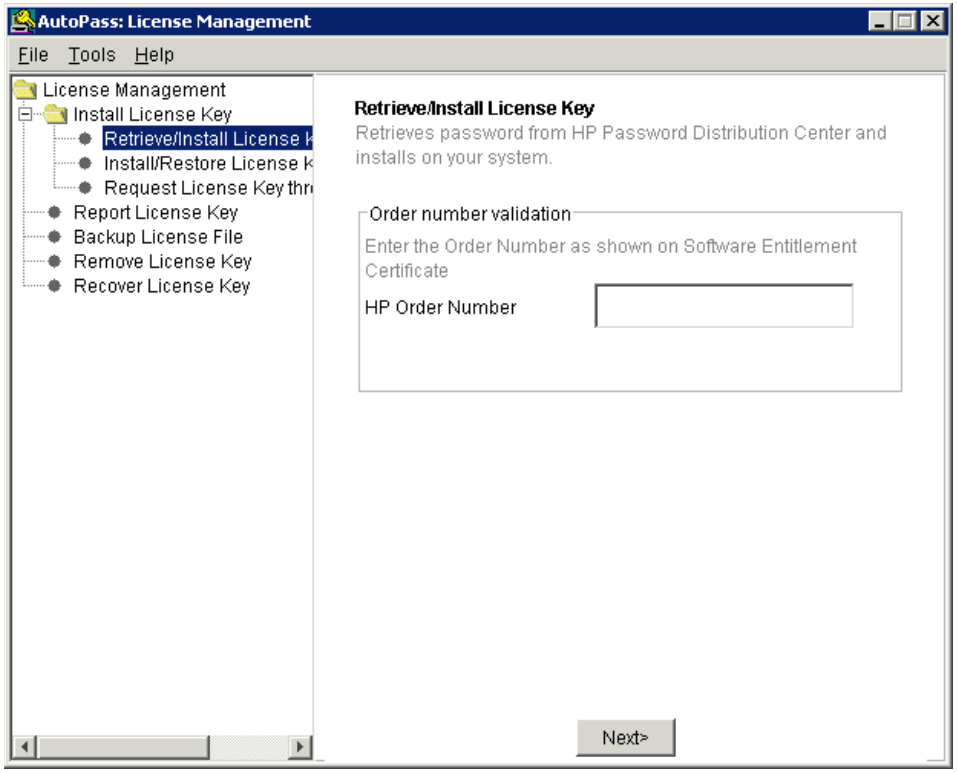
```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>

   <!-- Use the appSettings section to define an unattended install
   session. -->
      <appSettings>
         <!--Valid values: "server" or "console". Case insensitive. -->
         <add key="ProductType" value="console" />

         <!-- The destination directory for application files. -->
         <add key="InstallDir" value="c:\Console\" />

         <!-- The destination directory for product data files. -->
         <add key="DataDir" value="C:\Console\data\" />

         <!-- Acknowledgement of the license agreement. Valid values:
         "yes" or "no". -->
         <add key="AgreeToLicense" value="yes" />

         <add key="CreateFirewallRules" value="yes" />

         <!-- Optional values used for migration -->
         <!-- The migration case can be "UpgradeKeepData", "DownloadData", or
         "UploadData" -->
         <add key="MigrationCase" value="UpgradeKeepData" />

         <!-- The path to the migration data -->
         <add key="MigrationDataPath" value="C:\migrationdata\" />

      </appSettings>
</configuration>
```

Entering License Information

You must have a license key password to use HPOM for Windows. At installation, you are given a 60-day trial license. Within this 60 day period, you must obtain a permanent license key password to continue to use HPOM.

To obtain your license key password at installation, follow the instructions in the message box that appears on screen at product startup. It takes a minute or so for the licensing program to launch.

You cannot request a license key password from a remote console. You must log on to the management server to obtain a license key password.



If you prefer, you can postpone licensing by launching the licensing program at a later time, as follows:

1. From the HPOM management server, select the **Tools** folder from the console tree.
2. Select **Tools** → **HP Operations Manager Tools** → **Licensing** to display a list of tools.
3. Select **Obtain License**, which allows you to request permanent license passwords for the management server, agents, or SPIs. Right-click to open the shortcut menu.
4. Select **All Tasks** → **Launch Tool** to open the **AutoPass: License Management** dialog box.

Refer to the AutoPass online help for details on using the licensing program. (AutoPass is located in `\Program Files\Common Files\Hewlett-Packard`.)

In the HPOM console, under **Tools** → **HP Operations Manager Tools** → **Licensing** you can also select the License Report tool, which gives you information on the passwords in use.

See the HPOM online help topics **Getting Started** → **Getting Started** → **License HP Operations Manager for Windows** for more information.

Requesting a Permanent License

To request a permanent license password, you need the following:

- Your HP order number
- IP address of the server
- Your company information

To obtain a license, you must provide the number of the HP Purchase Order number you received from your HP Software authorized reseller when you bought the product that you want to license. If you have not yet purchased the product, call 1-877-686-9637 (in the United States and Canada) or visit **www.hp.com** to locate an HP Software authorized reseller.

Results of the Installation

Start Menu

After completing the installation of HPOM, a folder is added to the **Start** menu to allow you to open the console:
Start → All Programs → HP → HP Operations Manager → Console

Documentation

After completing the installation of HPOM, HPOM documentation (in Adobe Acrobat .pdf format) is available in the directory `%OvInstallDir%\paperdocs\en`.

Executables

In addition to HPOM executables in subdirectories of the `%OvInstallDir%` directory, executables are added to the following directories:

`%OvDataDir%\bin\instrumentation\`

`%OvShareDir%\Instrumentation\`

`%OvShareDir%\Packages\HTTPS\`

`%OvShareDir%\Packages\Windows\`

During the installation, changes are made to the files in the `%SystemRoot%\System32` directory.

Installation Log Files

After installation, several log files are created and placed in the following directory:

`%OvDataDir%\log\installation`

Installing and Running HPOM in a Highly Secure Windows Environment

Windows 2003 comes with Security Templates that allow the Windows administrator to implement strict and enforced security rules on individual systems or globally on all systems member of a Windows domain level.

These security templates are available by default on Windows 2003 systems (`%SystemRoot%\security\templates`) and are accessed using the MMC snap-in "Security Configuration and Analysis." For details on implementing security templates, see the Windows documentation.

Implementing HPOM with a "Restricted Group" Setting

Requirements

- **Management server**

  The HPOM server must be installed using the existing local Administrator account for HP-OVE-User and the HP-OVE-Deleg-User accounts.

  HP-OVE-ADMINS and HP-OVE-OPERATORS groups are supported, either as local groups or domain groups.

- **Managed nodes**

  All HPOM Windows agents must be installed using the manual agent installation method (excluding the HP Operations agent on the HPOM management server, which is automatically installed during the installation of the server).

- **Remote consoles**

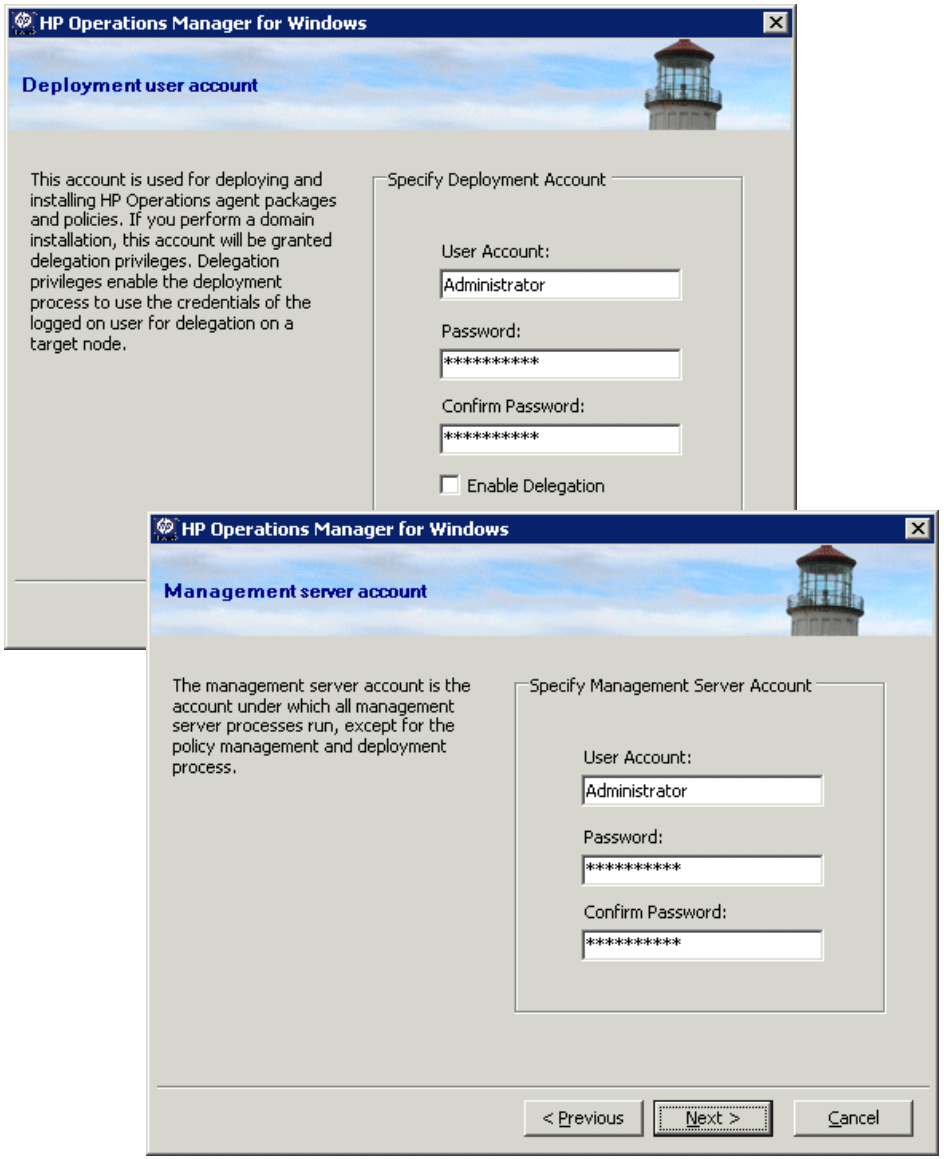
  Remote consoles are supported (this requires the remote console systems and the HPOM management server to be members of the same domain or have an equivalent two-way domain trust in place).

Although it is possible to use any domain admin user for the HP-OVE-User and HP-OVE-Deleg-User accounts, it is not recommended because it would grant the HPOM management server (and any HPOM administrator) administrative access on the Windows domain and all member systems.

High Security settings implement a strict password policy and password expiration policy for all users including the local administrator. Because HPOM runs several of its services in the context of the local “Administrator” it is necessary to update the password frequently according to the password expiration period (use the utility **OvChgPass.exe** to update the password).

Be advised that even with the “Restricted Group” setting for the administrators group it is possible to add temporarily another user or group to the local Administrators group. However, the Group Policy Object (GPO) removes the user or group silently again (typical setting is every 15 minutes).

The following examples shows the account setup wizard pages for the deployment user and the management server user. Be sure to use the existing local user account Administrator. Do not create additional user accounts.



4 Cluster Installation for HPOM

This chapter provides instructions to install HPOM in a clustered environment. This includes:

- A description of different cluster setup options.
- The requirements for setting up clusters as well as unsupported configurations.
- How to prepare before installing HPOM.
- Installing HPOM and verifying the installation.

This section assumes you are an experienced Windows administrator and that you understand Windows cluster concepts and terminology.

If you have a version of HP Operations Manager 8.10 for Windows already installed on a standalone non-clustered system and need to upgrade to a high-available cluster installation, see the *HP Operations Manager for Windows Upgrade Guide*. The Upgrade Guide provides instructions on how to migrate your existing single system HPOM installation to a high-available clustered HPOM installation.

Your Media Kit is the same as for standard installation.

Cluster Setup Overview

The following graphics show different options for HPOM cluster configurations.

- Figure 1 depicts all three virtual servers operating within the same cluster.
- Figure 2 shows HPOM virtual server running in one cluster and MS SQL virtual server running in a separate cluster. Both are connected remotely.
- Figure 3 illustrates MS SQL installed in a non-clustered system with HPOM installed in a cluster. This option is not recommended because MS SQL can cause a single point of failure.

The following table shows the data needed for each example configuration. Make sure to gather your own values, as illustrated below, to perform the installation.

Table 1 Configuration Data

Terminology	Name	FQDN	IP-Address	Local Disks
Cluster Virtual Server (Main)	Cluster01	Cluster01.domain.com	15.8.153.30	Q: (Quorum)
MS SQL Virtual Server	sqlserv	sqlserv.domain.com	15.8.153.31	G: (SQL Data)
HPOM Virtual Server	hpomserv	hpomserv.domain.com	15.8.153.32	H: (HPOM Data)
MS SQL Database Instance	OVOPS	Not applicable	Not applicable	Not applicable

Figure 1 HPOM Server and SQL Server in the Same Cluster

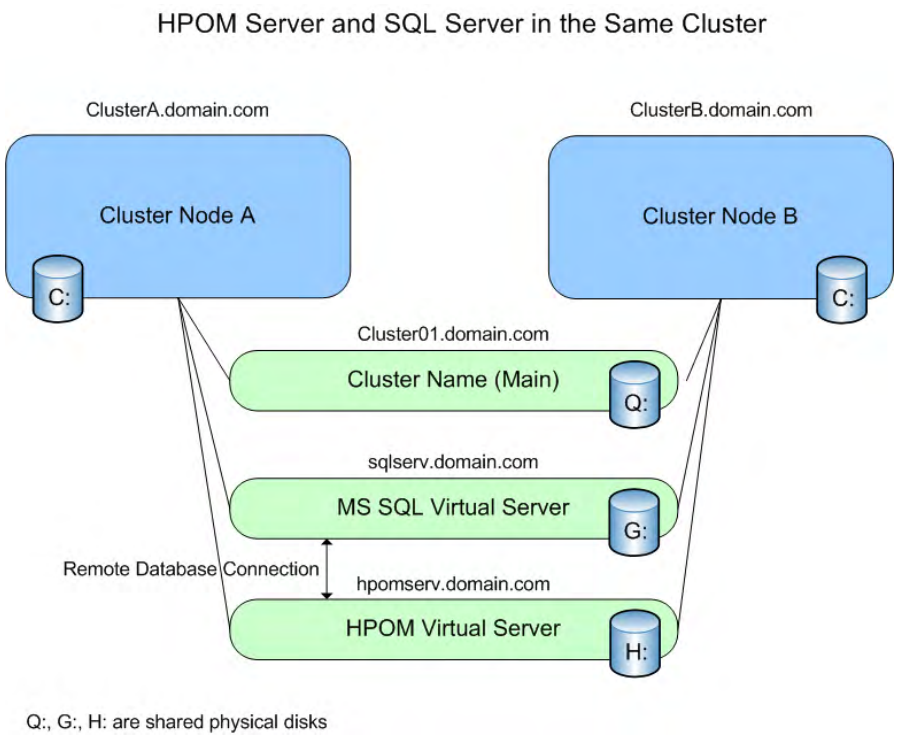


Figure 2 HPOM Server and SQL Server in Two Different Clusters

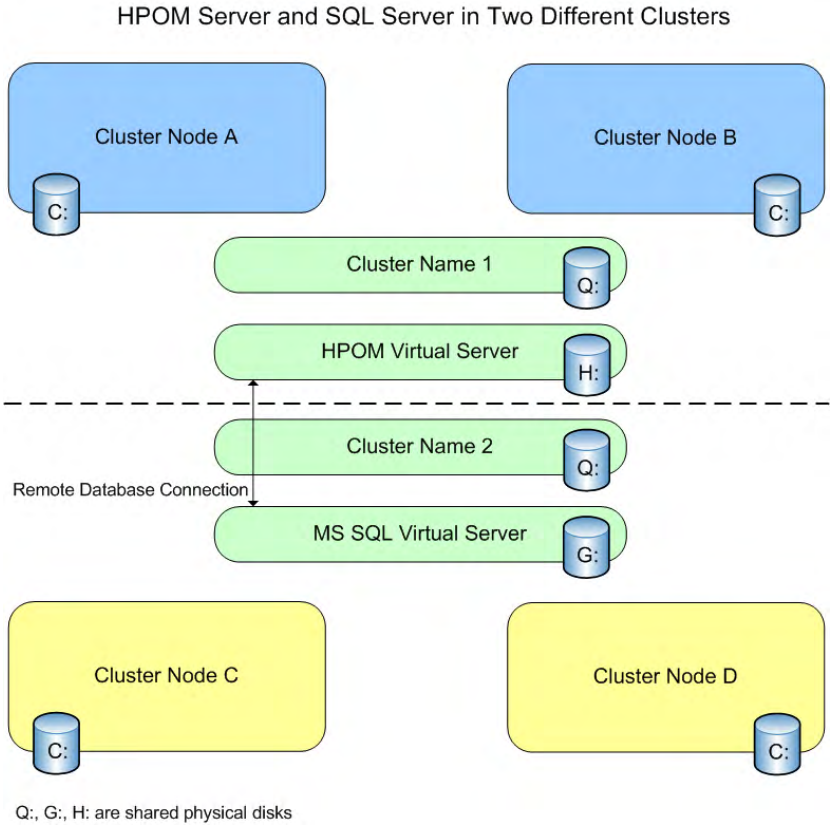
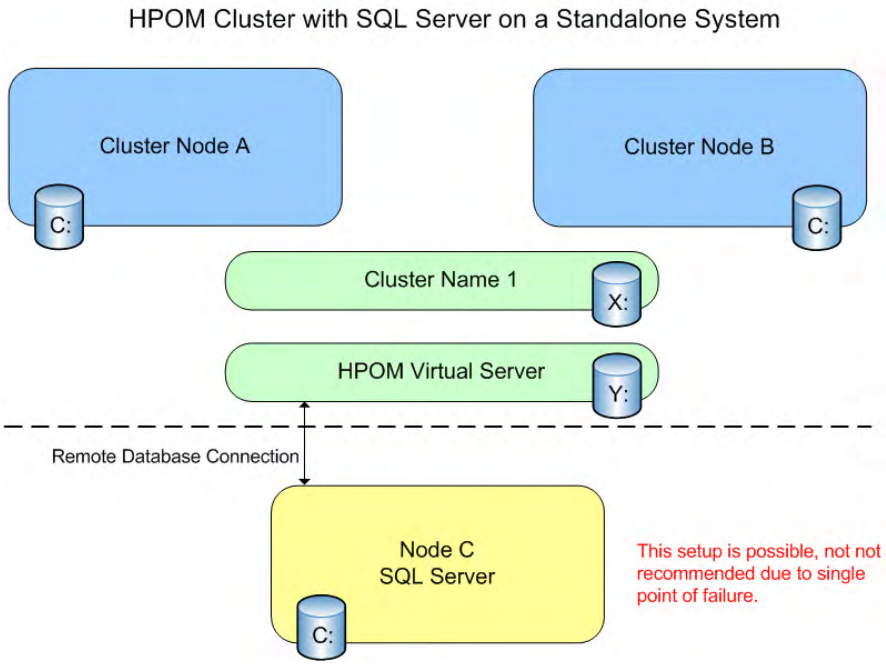


Figure 3 HPOM Cluster with SQL Server on Standalone System



Installing the Management Server and Console

HPOM 8.10 for Windows supports installation and operation of the management server in a failover configuration running a Microsoft Windows 2003 Cluster.

Because the management server availability depends on its data repository (Microsoft SQL Server 2000 or 2005), you should also install SQL Server 2000 or 2005 in a Windows cluster. Although this is not required, typically the SQL Server database instance is located in the same cluster as the HPOM management server.

To simplify the installation instructions, it is assumed that HPOM and SQL Server run on the same Windows cluster as independent resource groups. It is possible for the SQL Server to run on a different cluster, or on a standalone non-clustered system. The latter option is supported, but not recommended because it introduces a single point of failure to the management server setup.

When you install the HPOM management server on a cluster node, the new managed node representing the cluster node will not be visible in any HPOM consoles that are connected to that cluster's management server. You must shut down and restart the console to see the cluster node.

To install the HPOM management server, the installing user must have domain administrative rights.

HPOM does not support installing the management server on a domain controller. See Unsupported Configurations on page 46 for other scenarios that are not supported.

Before you Install

- Be sure that all system requirements are met
- Review the Unsupported Configurations on page 99.

License Information

HPOM comes with a 60-day trial license that allows you to use the product for 60 days after you install it.

When you first start the HPOM console you are prompted to request a permanent license password. A permanent password can be obtained at this time or deferred. Upon reaching the 61st day, the product is disabled until a permanent license is obtained. See Entering License Information on page 85.

When you request a permanent license for HPOM, specify the IP address of the HPOM Virtual Server (as entered in step 9 on page 112). Your license will be bound to the IP address of the HPOM Virtual Server.

The process to obtain a permanent license for HPOM must be started on the cluster node on which HPOM is currently active. You can add additional cluster nodes without the need for further licenses.

Cluster Requirements

- Minimum two node hardware cluster with attached shared storage and Windows 2003 Enterprise or Datacenter Edition as operating system.
- SQL Server 2000 (Enterprise Edition) SP4 or higher, or SQL Server 2005 (Standard or Enterprise Edition) SP2 or higher installed and running a database instance with a user-configurable name (for example, OVOPS). Make sure that you choose an SQL Server edition that is compatible with the cluster environment in which you intend to set up HPOM.
- An empty, dedicated resource group for HPOM. The name of the resource group may only contain ASCII characters. For details, see release notes entry QXCR1000125936.
- Microsoft Cluster Server (MSCS) as cluster software with the following resources available:
  - At least three dedicated shared disks:
    - Cluster quorum
    - SQL Server databases storage
    - HPOM data storage

      The cluster quorum is optional if the Majority Node Set Quorum is used instead of a Quorum Disk. For details about the differences, see the MS Cluster online help topic on Windows 2003 Server Enterprise Edition "Choosing a cluster model".
  - At least five dedicated static IP addresses, configured in DNS (FQDN) including name and reverse lookup entries:
    - Each cluster node stationary name and IP address (two minimum)
    - One cluster's virtual server name and IP address
    - SQL Server virtual server name and IP address
    - HPOM virtual server name and IP address

Unsupported Configurations

- SQL Server and HPOM management server installed in the same cluster resource group using the same shared storage.
- HPOM management server installed in the same cluster resource group as the Quorum disk.
- Microsoft SQL Server Express as data repository.
- Any cluster software other than Microsoft Cluster Server.
- Cluster nodes with hostnames of more than 15 characters.
- In-place upgrade of an existing HPOM non-cluster installation to a clustered installation.
- Multiple single-system HPOM installations in the same cluster.
- Multiple instances of one HPOM management server in the cluster using load-balancing.
- Any HP BTO Software products already installed on the cluster prior to installing HPOM.

Preparing to Install HPOM

Before installing HPOM on the management server, you need to ensure that the following requirements are met:

- MSCS is installed and working correctly and meeting all the requirements.

  For information about how to install Windows 2003 Cluster Server, see the *Guide to Creating and Configuring a Server Cluster under Windows Server 2003* at **http://www.microsoft.com/technet/prodtechnol/windowsserver2003/technologies/clustering/confclus.mspx**

- An SQL Server database instance with a user-configurable name is set up and working.

  It is recommended that you install SQL Server 2005. However, SQL Server 2000 is also supported.

  For information about how to install a named instance of SQL Server 2000 virtual server on a Windows 2003-based cluster, go to **http://support.microsoft.com/default.aspx?scid=kb;en-us;815431**

Task 1: Verify Cluster

1. Verify that the cluster is operational – move the cluster resource group containing the Quorum disk to all configured cluster nodes. Make sure that the designated shared disk for SQL Server and HPOM are visible from each cluster node and have the same drive letter assigned (My Computer → Manage →Disk Management).
2. Verify that you have one FQDN and IP address for MS SQL (example sqlserv.domain.com) and one FQDN and IP address for HPOM server (example hpomserv.domain.com) available. Make sure that the name resolution is available for both names and IP addresses.

   If your environment uses integrated Active Directory/DNS setup, the virtual server names and IP addresses are not resolvable until the virtual servers are active.

Task 2: Create Cluster Resources and Assign Shared Disks

1. Designate a cluster resource group containing a shared disk for the SQL Server database storage. These groups are typically created by the MS Cluster Wizard for all shared disks discovered. Otherwise, the group must be created in the MS Cluster Administrator manually. Name or rename the group to, for example, “SQL Group.”

   ➤ The SQL Server must be in the same cluster resource group as the shared disk for the SQL Server.

2. Designate another cluster resource group and shared disk for the HPOM data storage. Call this group for example “HPOM Group”. Ensure that this group does not contain an IP address or network name.

   ➤ Do not change the name of the cluster resource group after HPOM is installed on the first cluster.

3. Make sure that all groups can be successfully moved to all designated cluster nodes and that the shared disks are accessible (read- and writable).

Task 3: Install SQL Server 2005 Standard or Enterprise Edition (Preferred)

To install MS SQL 2005, see the MS SQL 2005 documentation.

If you intend to install SQL Server 2005 in a Windows Server 2008 cluster, you must first ensure that you configure network access to Microsoft Distributed Transaction Coordinator (DTC). Otherwise, a inactive cluster node cannot connect to the SQL server on another cluster node. This restriction may cause problems with HPOM installation and failover.

Ensure that you create a clustered DTC resource using Cluster Administrator before you install SQL Server 2005.

Configure the following settings in Component Services on each node in the cluster:

- In **My Computer→Properties**, click the **COM Security Settings** tab. Ensure that the NETWORK SERVICE account has the following permissions:
  - Access permissions:
    - Local access
    - Remote access
  - Launch and activation permissions:

- Local launch
- Remote launch
- Local activation
- Remote activation

- In the clustered DTC properties, click the **Security** tab. Enable the following settings:
  - Network DTC access
  - Transaction manager communication:
    - Allow inbound
    - Allow outbound
    - Incoming caller authentication required

After you install SQL Server 2005, ensure that the active and inactive cluster nodes both have SQL access to each other. You can test the connection between cluster nodes by typing the following command on both the active and inactive cluster nodes:

`osql -E -S <virtual SQL server name>\<database instance>`

For example:

```
osql -E -S OVMSQL\OVOPS
```

If the connection is successful, a prompt appears (`1>`). Type **`exit`**.

Task 4: Install SQL Server 2000 Enterprise Edition

To install MS SQL 2000 on Windows 2003, an alias must be created (for example SQLSERV\OVOPS), assuming the `sqlserv.domain.com` as the FQDN for the SQL Virtual Server. Before starting the installation, perform the steps as described below.

The following description is taken from the Microsoft Knowledge-base document *PRB: Installation of a named instance of SQL Server 2000 virtual server on a Windows 2003-based cluster fails*, which can be found at **http://support.microsoft.com/default.aspx?scid=kb;en-us;815431**

Minor HP customizations are between parentheses.

1. From the node where you intend to run setup, create a server alias for the client connection:

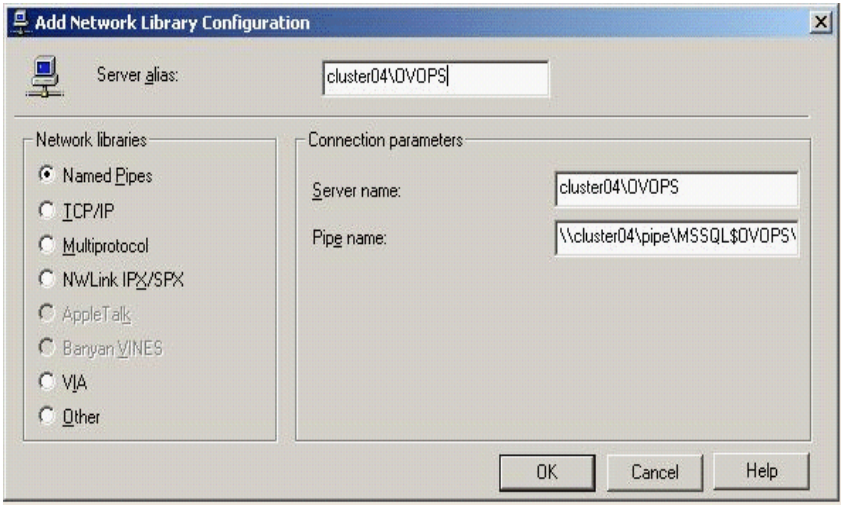
a. Run **Cliconfg.exe** on the cluster node where you will run setup.

   — If Cliconfg.exe is not installed on your computer, install it by running **Sqlredis.exe** from the SQL Server 2000 installation files. To do so, type the following information at a command prompt: **`\x86\Other\sqlredis.exe /q:a /C:"setupre.exe WARN=1 -s -SMS`**

   — You may have to restart your computer if Cliconfg.exe is not immediately available.

b. In the **SQL Server Client Network Utility** dialog box, click the **Alias** tab.

c. Click **Add** to open the **Add Network Library Configuration** dialog box.



d. Select the **Named Pipes** check box.

e. Type the alias name in the Server alias box. The format of the alias is (MSSQL)VIRTUALSERVERNAME\(MSSQL)INSTANCENAME, for example: SQLSERV\OVOPS.

f. Type the (MSSQL) virtual server instance name in the Server name box. For example: SQLSERV\OVOPS.

g Verify the name in the Pipe name box. By default, the value in the Pipe name box is: \\(MSSQL)VIRTUALSERVERNAME\pipe\MSSQL$instancename\sql\query

2 Run SQL Server 2000 SP3 (or higher) setup. During the installation of MSSQL server 2000, create an instance with the same name that you used in step e and step f.

3 For the (MSSQL)virtual server name, use the same virtual server name (for example: SQLSERV\) and instance name (for example: SQLSERV\OVOPS) that you used in step e and step f.

4 Remove the named pipes alias that you created in step 1.

Installing HPOM

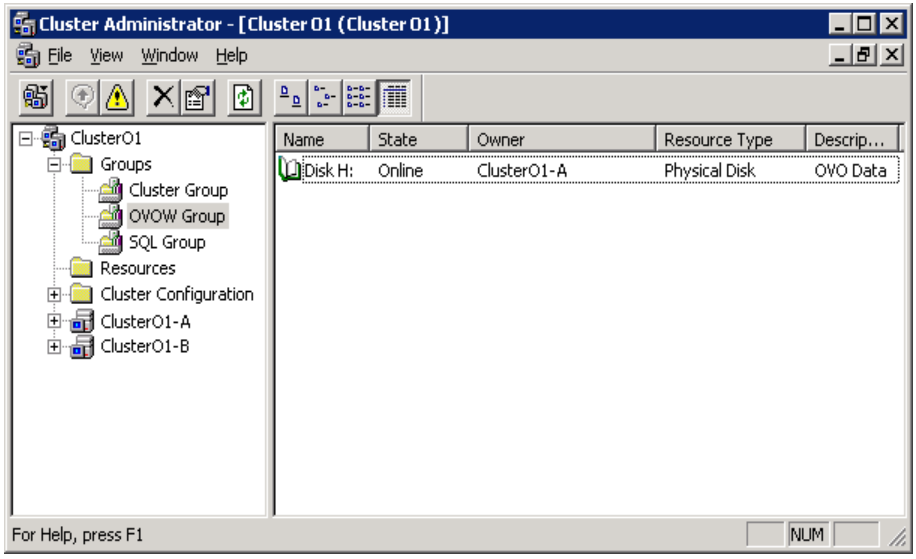
For a high-availability HPOM installation to work, it must be installed on all cluster nodes which are designated to run HPOM. The installation of the first cluster node differs from the installation of subsequent nodes.

Do not start the HPOM installation on different nodes in the same cluster in parallel. Install one node first; after the installation finishes successfully, start it on the next node. Repeat until all designated nodes are installed.

You can install other products (such as SPIs or add-ons) as available on the installation media, but HPOM must be installed first on the system before you can install the SPIs or add-ons.

Installing HPOM on the First Cluster Node

1. Select a cluster node and designate this system as the first cluster node to be installed. Make a note of this node because for uninstallation this first node needs to be uninstalled last.
2. Be sure the shared disk designated for the HPOM for Windows management server is available and accessible to the current system. If not, move the group to the current node using the **Microsoft Cluster Administrator**.

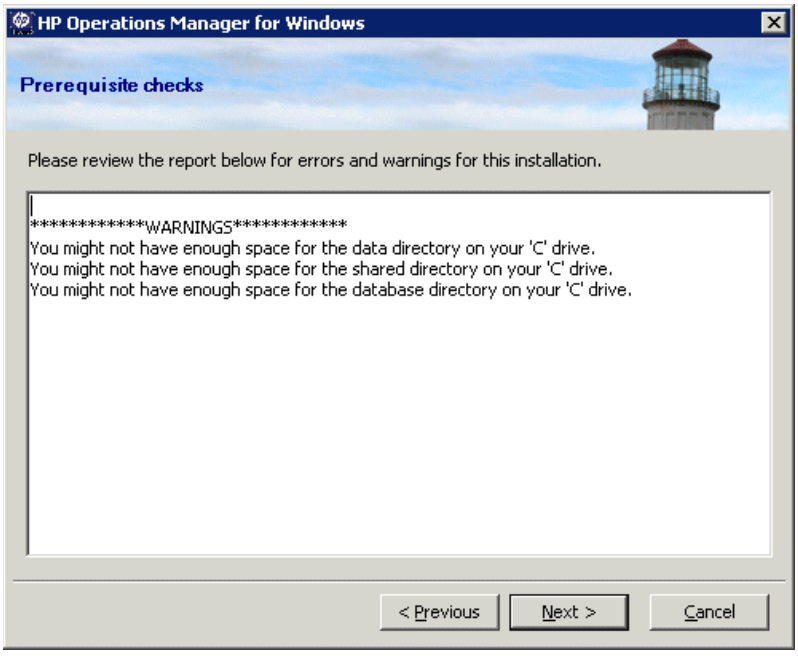


This image shows the HPOM cluster resource group before HPOM is installed. The shared disk is online and owned by the node which is designated to be the first cluster node to be installed.

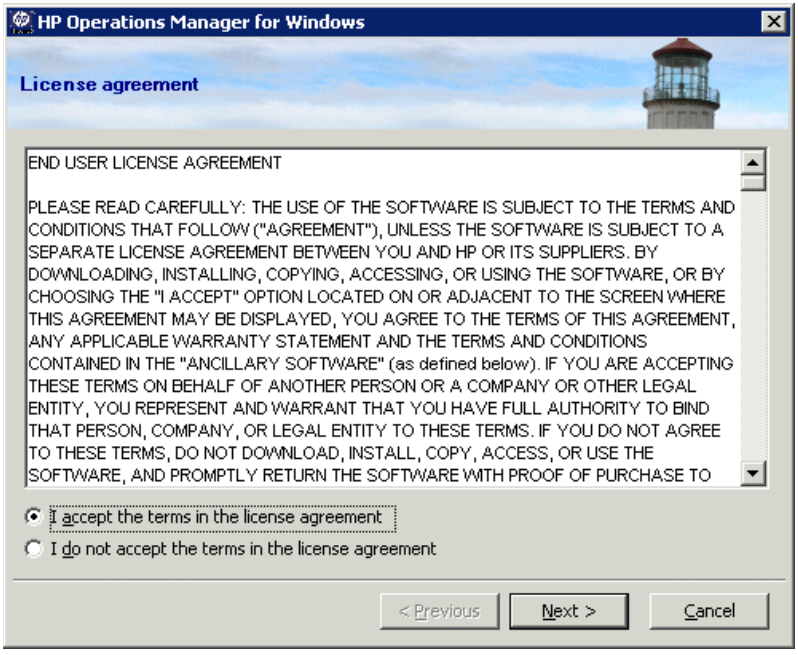
3 Download the latest installation patch from the HP Software Support web site (**http://www.hp.com/go/hpsoftwaresupport**). Start the installation wizard using the latest installation patch instead of the original installation media. Read the instructions that accompany the installation patch, and follow any special instructions.

In the **Welcome** page, make sure **Management Server** is selected, then click **Next** to open the **Prerequisites checks** page.

4 The **Prerequisite checks** page displays errors and warnings that would prevent HPOM from installing correctly. All errors must be resolved before installation can continue. See Appendix A, System Requirements Checking, for the list of hardware and software items checked during installation. If no errors were detected, click **Next** to continue.



5 In the **License agreement** page, accept the license agreement and click **Next** to continue with the installation. If you decline, the installation is cancelled.



See details on obtaining a permanent license on page 85.

6 In the **Language for Management Server** page, click **Language** and select the language that you want the installer to use.

This wizard page only appears on systems that have an English version of a Microsoft Windows operating system, including systems that have a Multilingual User Interface (MUI).

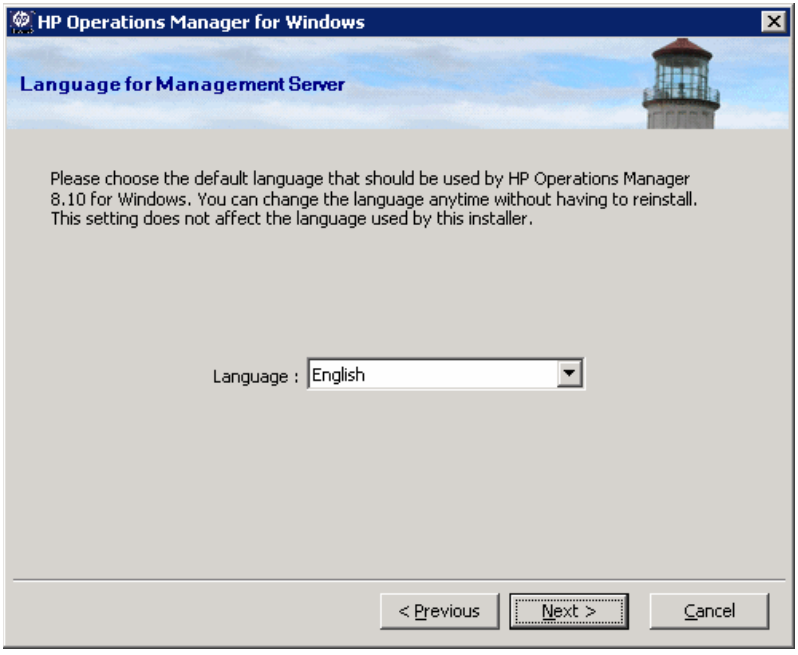
The installer uses the language that you select here for creating the default tools, policies, and other objects that HPOM provides. You cannot change this language setting later.

By default, the installer configures automatic deployment of certain policies from the Windows OS SPI and UNIX OS SPI. The language that you select here determines the language of these policies.

The language that you select here also determines the language that the management server uses at runtime (for example for error messages that the management server generates).

On a system with an MUI, the user's language setting in Windows automatically determines the language that appears in the HPOM console and online help. (The language that you select here does not affect the language that appears in the HPOM console and online help.)

Click **Next**.



7 In the **Policy Languages** page, select additional languages for the policies that HPOM provides. By default, the installation includes policies in English, and also in the language that you chose for the management server (if different). You can select additional languages to install policies in those languages.

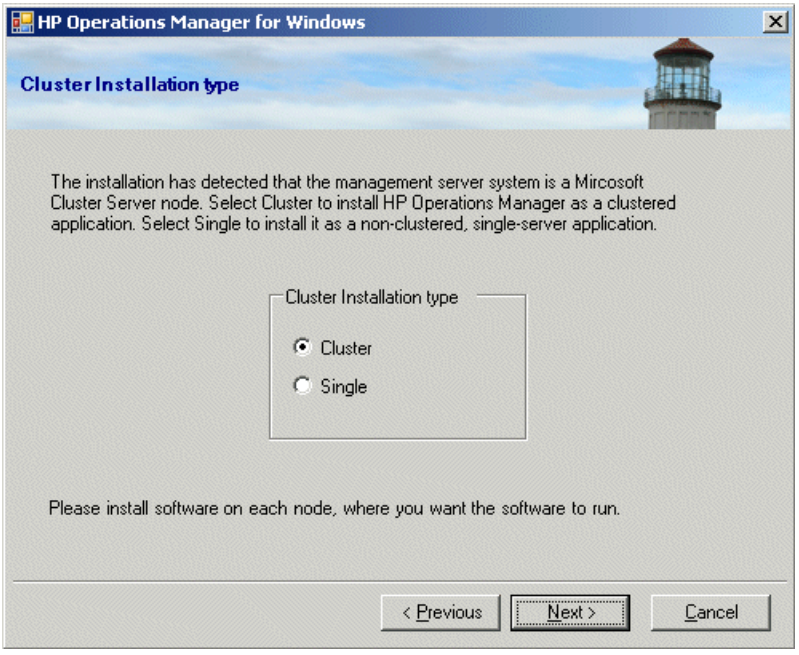
This wizard page only appears on management servers that have an English version of a Microsoft Windows operating system, including systems that have a Multilingual User Interface (MUI).

Click **Next**.

8 In the **Cluster Installation type** page, specify either a single system or a cluster installation. Choose **Cluster** for a high-availability HPOM installation, then click **Next** to open the **Virtual Server Information** page.

.

Although you are able to do a single system installation on a cluster, we advise against this. Doing so will not increase the availability of the HPOM installation from a non-clustered single system installation.



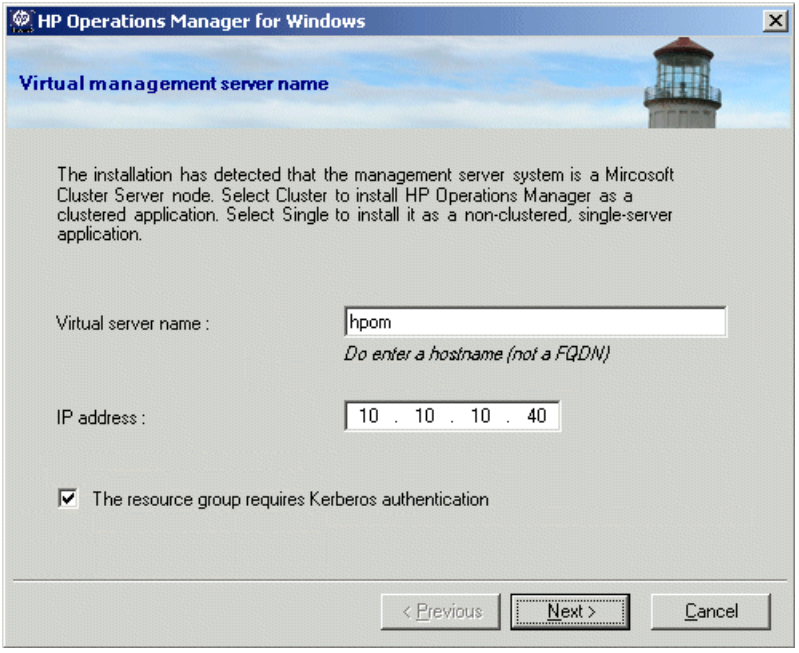
9 In the **Virtual management server name** page, enter the Virtual Server Name and the Virtual IP Address, then click **Next**.

- The Virtual Server Name must be the hostname without the domain.
- The Virtual IP Address has to be from the same network the cluster is using. However, it must not be an IP currently used.

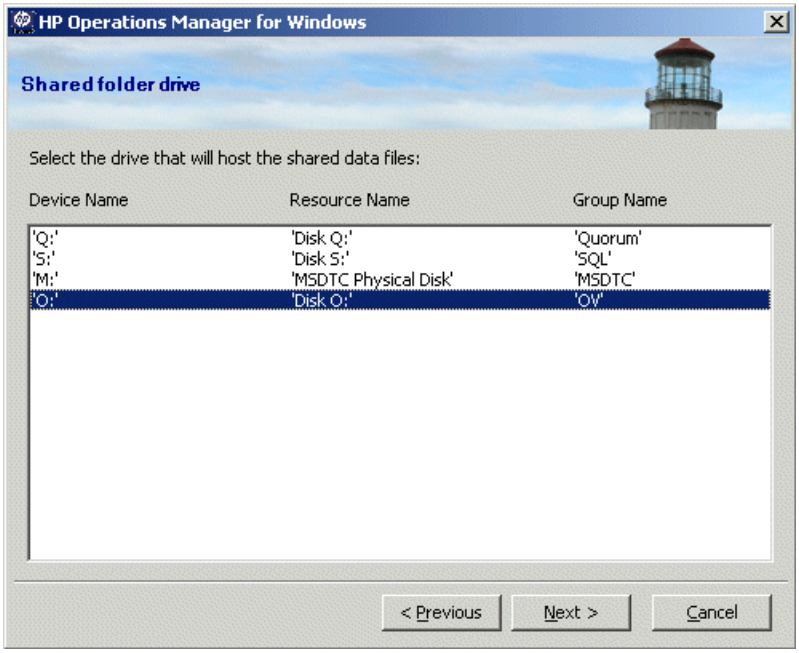
The installation checks the Virtual IP Address and displays an error message if the address is not from the same network. The installation also checks the Virtual Server Name and displays an error message if it is longer than 126 characters.

The installation uses this information to create cluster resources for the Virtual IP Address and the Virtual Server Name in the cluster resource group of the management server. This fails if the Virtual Server Name and the Virtual IP Address are already set up as cluster resources. If so, you are prompted to enter a different Virtual Server Name and Virtual IP Address.

If the cluster resource group uses Kerberos authentication, select the Kerberos authentication check box.



10 In the **Shared folder drive** page, select the shared disk/cluster resource group that will host the HPOM shared data files.



- Selecting the cluster resource group or a resource group already used by another application (for example, SQL Server or Cluster Quorum) is not supported.

- Selecting a resource group that contains non-ASCII characters is not supported. For details, see release notes entry QXCR1000125936.

11 In the **Destination folders** page you can use the default destination directory or select a destination directory where you want to install HPOM. The destination location you select here will be used as the default directory for other HP BTO Software products you are installing from this DVD and cannot be changed for subsequent installs. The first installed HP BTO Software application dictates the installation directory for HPOM and other HP BTO Software products such as HP Reporter and HP Performance Agent Software.

- The default installation directory is:

  `C:\Program Files\HP\HP BTO Software\`

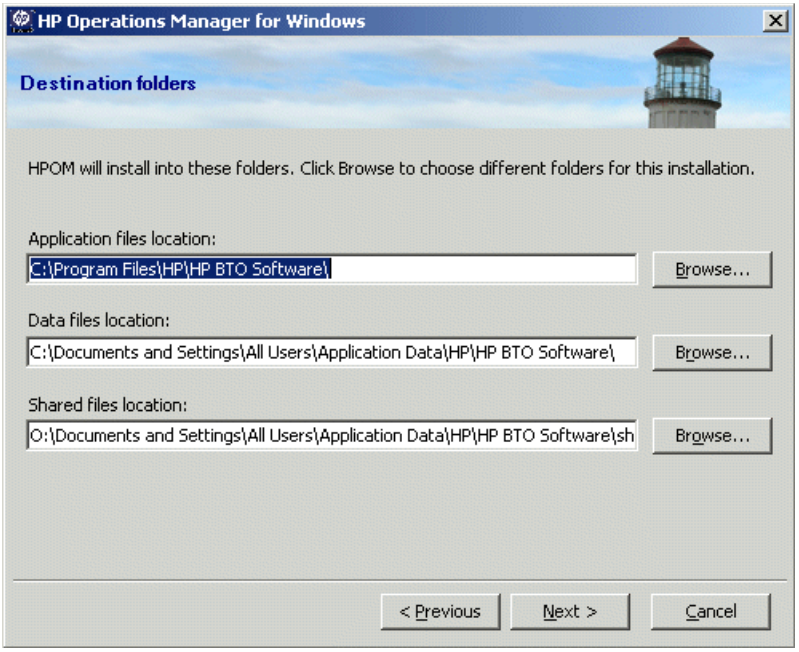
- The default data directory is:

  `C:\Documents and Settings\All Users\Application Data\HP\HP BTO Software`

- The default shared directory is:

  `<`*shared drive*`>\Documents and Settings\All Users\Application Data\HP\HP BTO Software\shared\` where *<shared drive>* is the logical drive assigned to previously in the **Shared folder drive** page.

To install to the default destination directory, click **Next**.



If you want to install to a destination other than the default directory, click the appropriate **Select** button and the **Browse for Folder** dialog box displays.

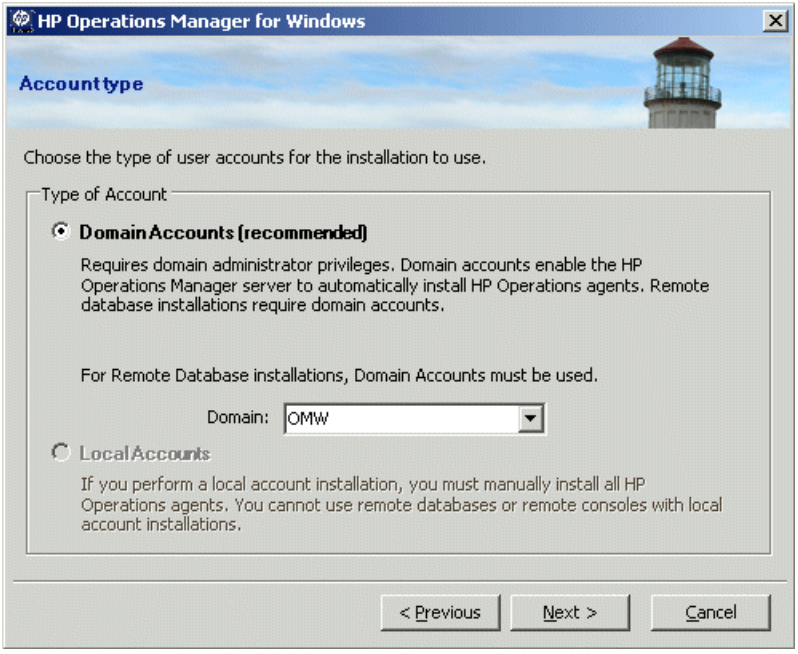
➤ The installation and the data directory should not point to a cluster shared disk.

➤ To change the drive of the shared directory you have to go back to step 10 on page 113.

12 In the **Account type** page, **Domain Accounts** is selected by default. Specify the domain name where HPOM will create the necessary accounts. Then click **Next** to continue.

The installing user must be a domain administrator. Alternatively, if the accounts are already created and the delegation right for the policy management and deployment user is set, the installing user can be a domain user who is a member of the local administrators group.

A local installation is not possible because the HPOM cluster installation requires HP-OVE-User and HP-OVE-Deleg-User as well as the HP-OVE-ADMINS and HP-OVE-OPERATORS accounts to be domain accounts.



13 In the **Deployment user account** page, type, enter the necessary information for the deployment user account. See Accounts Used on the Management Server on page 41 for more information about delegation privileges.

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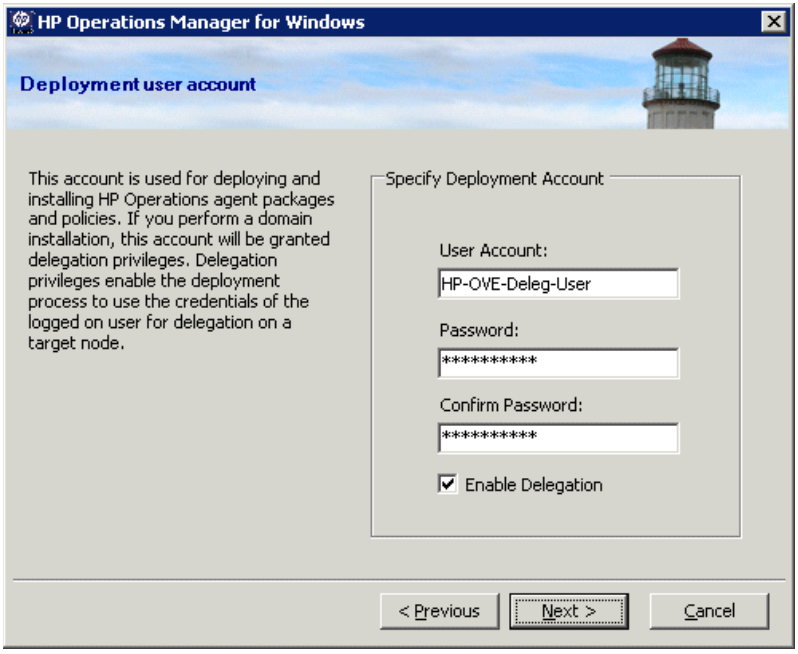


14 In the **Management server account** page:

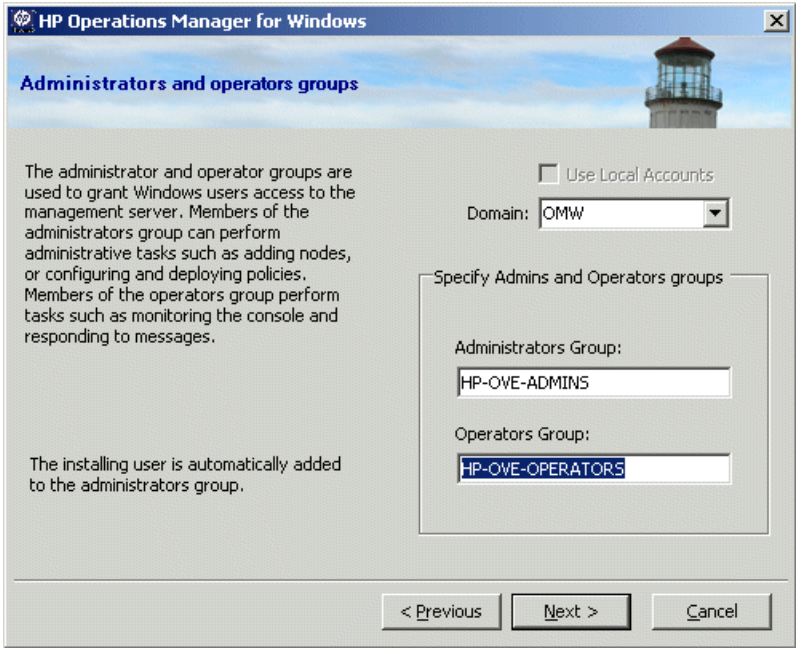
a Specify the **User Account** or use the default values.

b Use the same password that you used when setting the deployment user in the previous screen. After entering and confirming your password, click **Next**.

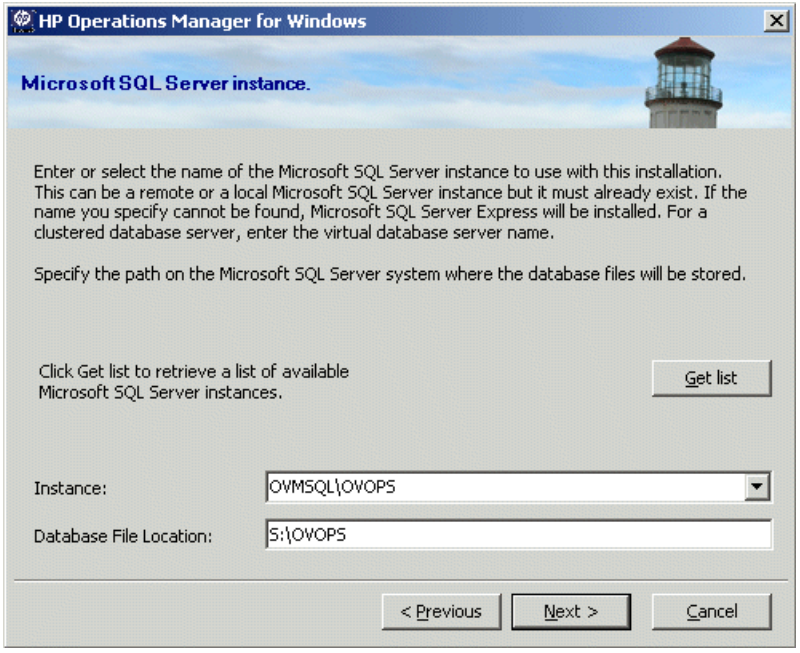
Once established, this account information is used by other products you install from the installation media. (For remote console installation only, this screen does not appear).

15 In the **Administrators and operator groups** page, select **Use Local Accounts** if you want to create local group accounts or select the domain if you want to create domain group accounts. Then specify the administrator and operator group accounts and click **Next**.

Then specify the administrator and operator group accounts and click **Next**.



16 In the **Microsoft SQL Server instance** page, add the name of the SQL Server instance you want to use for your HPOM database and the path on the SQL Server where the database files should be stored. The SQL Server services must run under a login that can access the directories where HPOM files are located. For example, the login has administrative rights or is otherwise able to access the files.



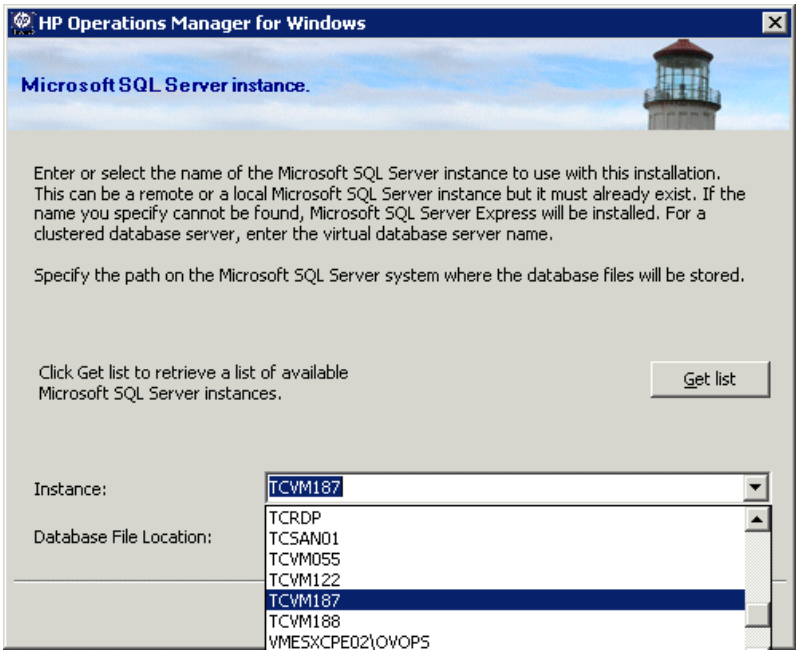
If the path you specify in the **Database File Location** box does not yet exist on the SQL Server system, the HPOM installation adds it automatically.

Be sure that enough disk space is available for the database files. The size of the database files depends on the number of managed objects.

If you want HPOM to install a local SQL Server Express instance for you, specify a name that does not yet exist in the Instance field. If you plan to use a full SQL Server (local or remote) you must install it before installing HPOM.

For a list of available SQL server instances, click **Get List**. Available instances display in the list.

If you are not able to select a remote database instance in the list, SQL Server may not be configured correctly. For more information, see Database Requirements on page 27.



After you click **Next**, the HPOM installation checks to see if this instance already exists. If the local instance does not exist, HPOM installs SQL Server Express.

If the specified full SQL Server instance (local or remote) does exist and can be connected, then HPOM checks for an existing openview database. If the database does not exist, HPOM adds it automatically during the installation.

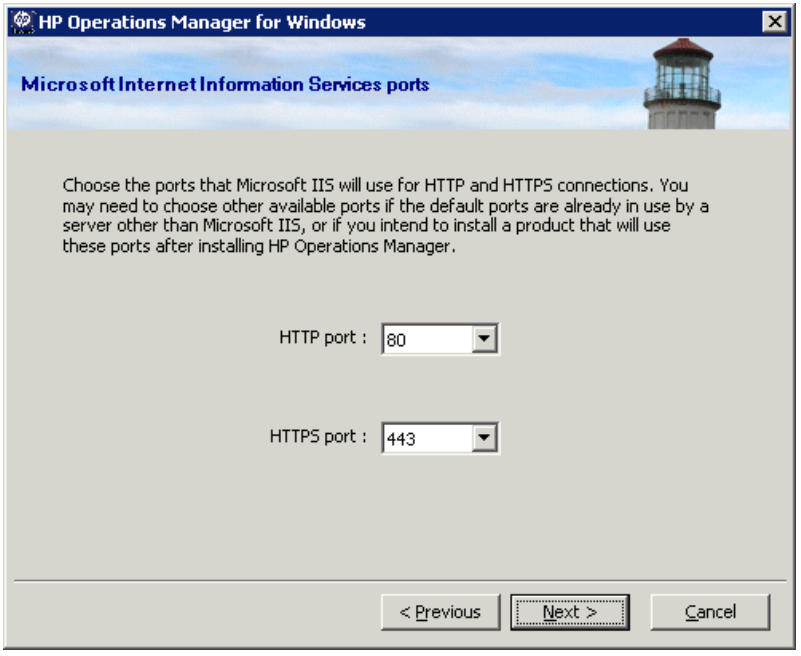
If the openview database already exists, you can choose to have HPOM delete it and add a new one during the installation.

HPOM 8.10 for Windows does not support the reuse of an existing openview database, because corrupted data is a potential problem. If you want to preserve older data, you must do an upgrade or migration.

If the specified remote instance does not exist or cannot be connected, the HPOM installation asks you to verify that the connection is working and check to see that the name is correct.

If the specified instance is a remote SQL Server Express instance, the installation will continue if a remote connection is possible. However, this situation is not supported in HPOM.

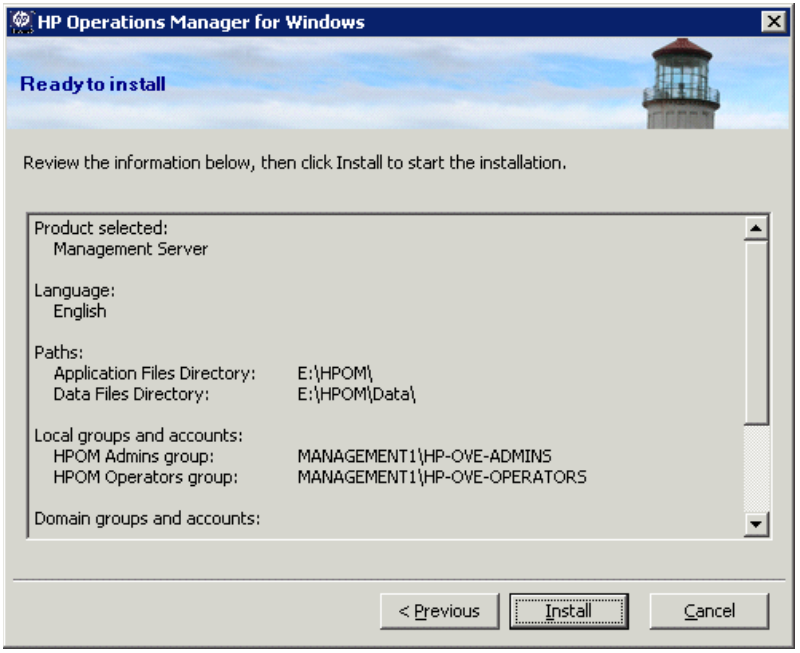
17 In the **Microsoft Internet Information Services ports** page, change the HTTP and HTTPS ports of Internet Information Services (IIS), if you want to use ports other than the default ports. Then click **Next** to proceed to the **Firewall Setup** page.



18 In the **Firewall Setup** page, select **Setup Microsoft Windows firewall rules** if Windows Firewall is enabled on the management server and you want the HPOM installation to create the necessary rules. Then click **Next** to proceed to the **Ready to install** page.

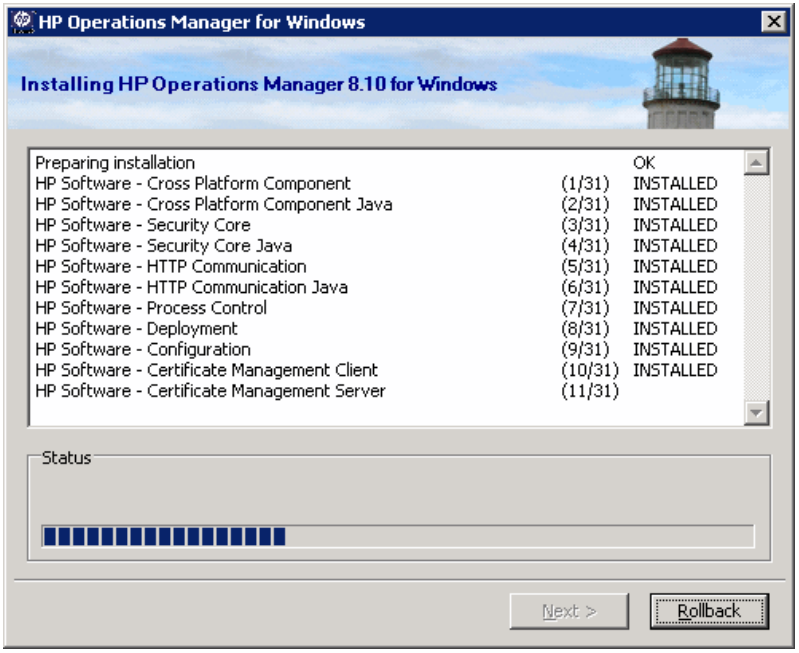
The installation process automatically turns off Windows Firewall if it is currently turned on. You can turn on Windows Firewall after the installation is complete on all nodes in the cluster.

19 In the **Ready to install** page, review the installation settings from the previous pages and click **Install** to begin the installation.



20 Each installation component displays individual status dialogs, such as the licensing component, the core components, the SQL Server component, and the SPIs that are included with the product. Periodically during the install, a progress window appears. It includes details about what has been installed and what is currently being installed.

Depending on the speed of your system, the installation process could take from several minutes to over an hour. When the installation is complete, click **Next** proceed to the **Installation complete** page.

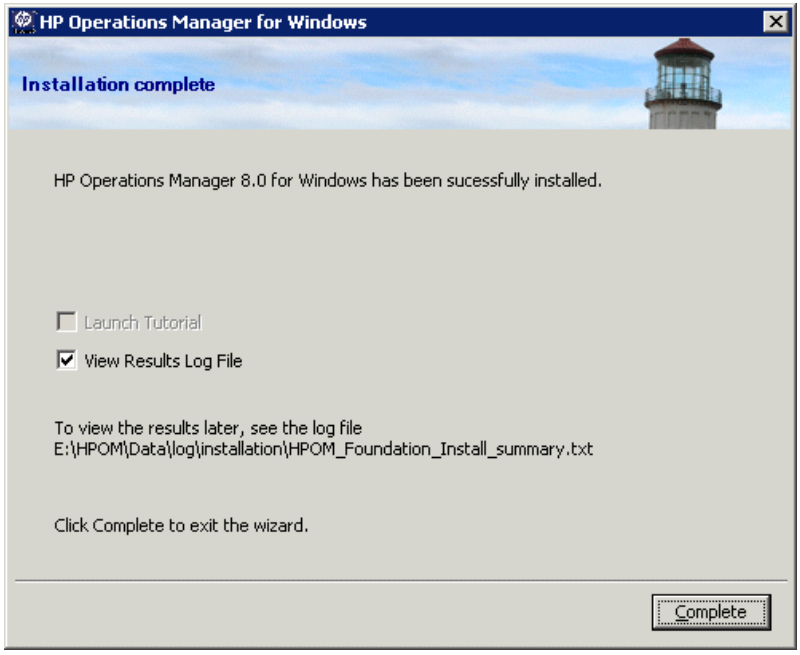


If there are already SQL Server components (for example, Client tools) installed on the HPOM management server, you may see the following message in a dialog box during the installation:

"Warning 28213. Warning: SQL Server Setup cannot install this feature because a different edition of this feature is already installed. For more information, see 'Version and Edition Upgrades' in SQL Server Books Online."

Acknowledge this message to continue the HPOM installation.

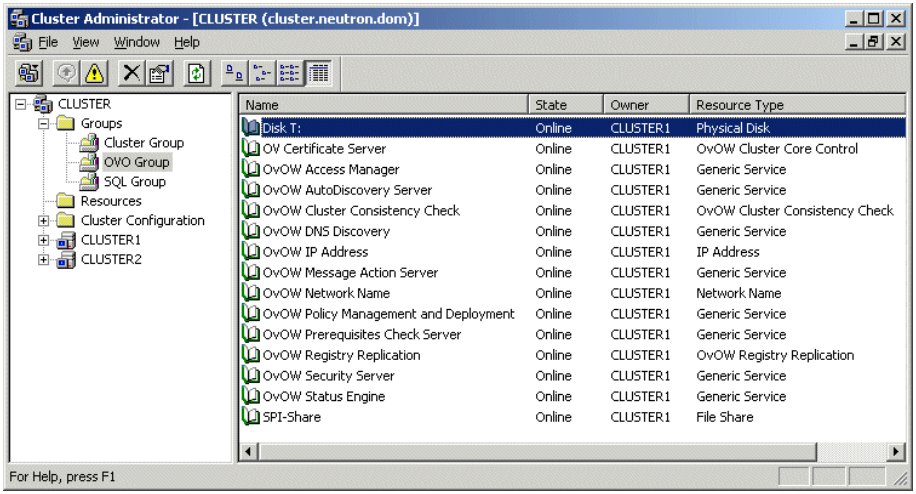
21 When the **Installation complete** page appears, the installation is finished. Click **Complete** to conclude the installation.



To see details of the completed installation, select the **View the results log file** check box.

You are encouraged to view the basic training tutorial presented at the conclusion of the install program. The tutorial introduces you to HPOM features, provides a product overview, and details configuration and deployment steps you need to perform before you can begin working in HPOM.

22 After finishing the installation of HPOM on the first node, several new cluster resources will be found in the chosen HPOM cluster resource group.



Installing HPOM on Subsequent Cluster Nodes

Do not run HPOM installations on multiple nodes concurrently. Finish running an HPOM installation before starting it on a new node.

The HPOM management server functionality is unavailable during the installation of a subsequent node. Do not attempt to bring the management server online during the installation or to move the cluster resource group used by HPOM.

To install HPOM on a subsequent cluster node, the first installed cluster node needs to be running and be accessible from the subsequent node.

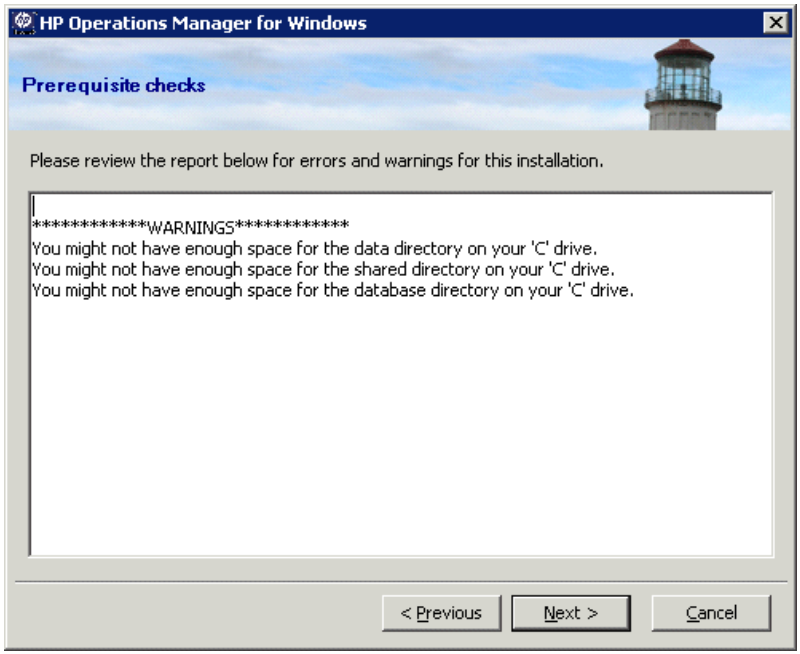
1 Start the installation wizard using the latest installation patch instead of the original installation media. Read the instructions that accompany the installation patch, and follow any special instructions.

The HP Operations Manager **Welcome** page opens. Click **Next** in the **Welcome** page to perform system requirements checks.

2 The **Prerequisite checks** page displays the results of requirement checks performed on the products you selected for installation. All errors must be resolved before installation can continue.

Refer to Appendix A, System Requirements Checking, for a list of errors and warnings that would prevent HPOM from installing correctly.

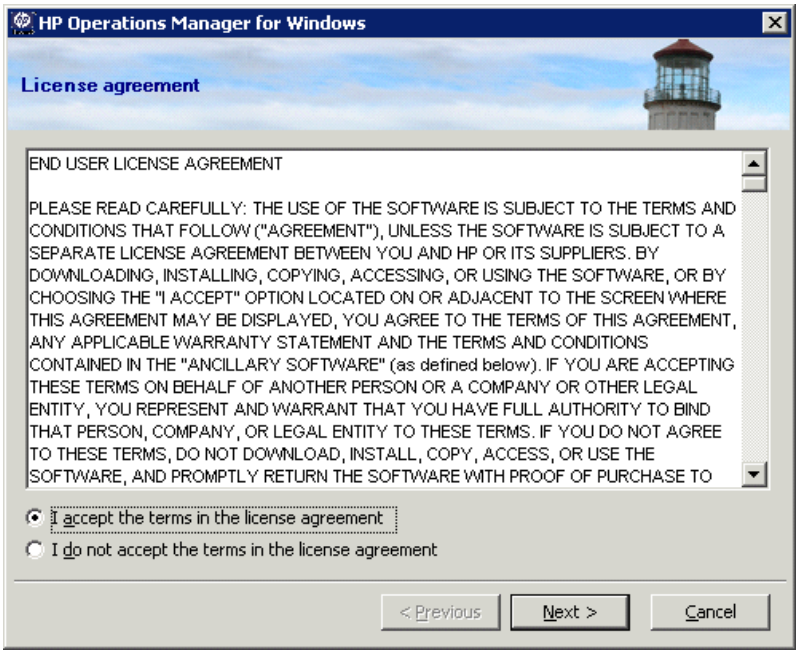
Click **Next** to open the **License agreement** page.



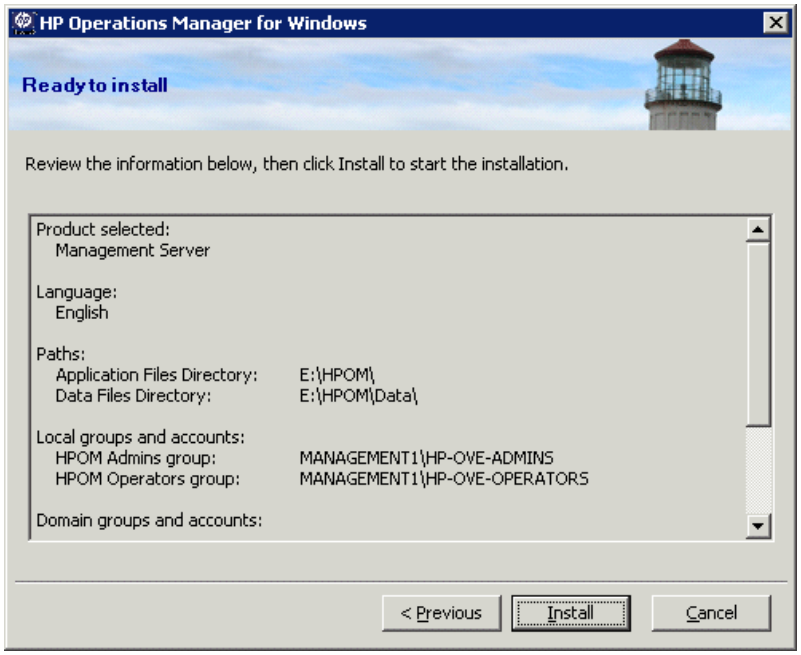
3 Accept the license agreement. If you decline, the installation is cancelled.

See Entering License Information on page 85 for details on obtaining a permanent license. There is only one license needed for the installation of HPOM in a cluster. If you have already obtained and installed a permanent license, you do not need to do this again.

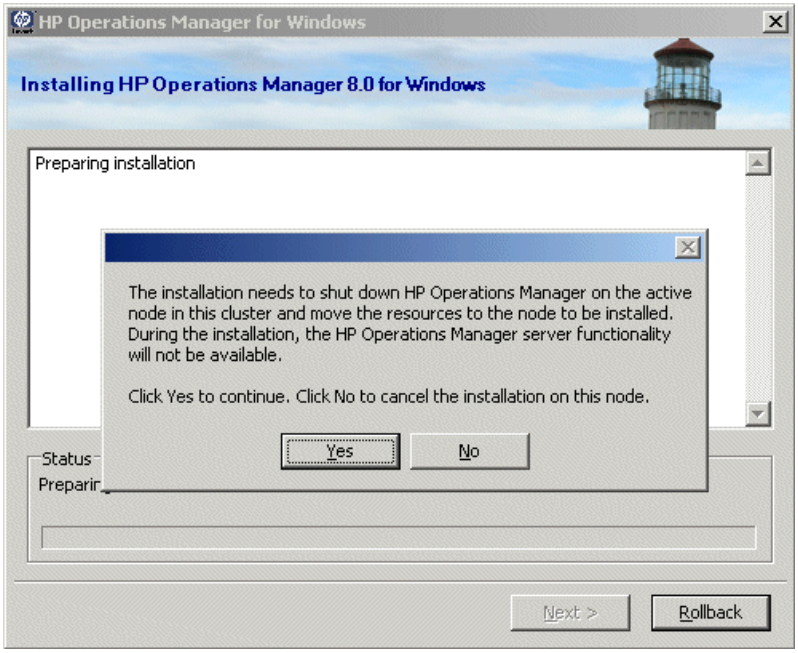
Click **Next** to go to the **Ready to install** screen.



4 Review the installation settings from the previous pages and click **Install** to begin the installation.



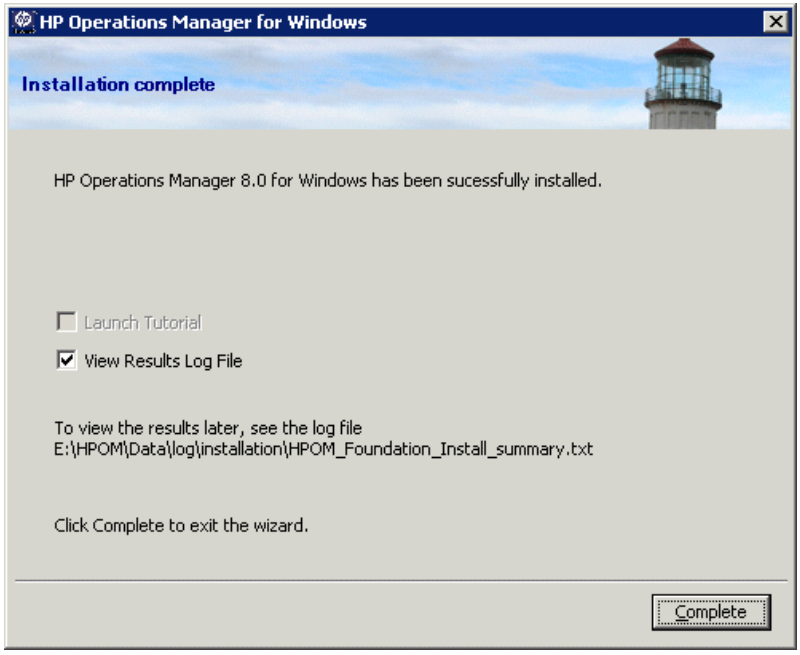
5 The installation needs to shut down HPOM on the active node in this cluster and move the resources to the node to be installed. During the installation, the HPOM management server functionality will not be available on the first cluster node. Click **Yes** to continue.



6 You will see various status dialog boxes as the install program proceeds. Each installation component (for example licensing, core, and the SPIs that are included with the product).

Depending on the speed of your system and the components selected for installation, this process could take from several minutes to over an hour.

7 The installation is finished when the **Installation complete** page appears. Click **Complete** to conclude the installation.



At the end of the installation the HPOM cluster resource group is now active on the currently installed node. If this node was the last cluster node where HPOM is installed, you can now move the HPOM Virtual Server to the preferred cluster node.

Install in Silent or Unattended Mode on a Cluster Node

You can install on a cluster node in silent or unattended mode by using a configuration file and command-line parameters.

Setup.exe supports the following parameters:

- `/qn` specifies silent mode (no progress information, no user interface)

  To start a silent installation, use the following command syntax:

  `Setup.exe /qn /configfile:<configfile> /sourcedir:<directory>`

- `/qr` specifies unattended mode (progress information, no user interface)

  To start an unattended installation, use the following command syntax:

  `Setup.exe /qr /configfile:<configfile> /sourcedir:<path>`

In the configuration file, you specify all the configuration values in XML format that you specify during an interactive installation. An example configuration file is available on the installation media:

`Documentation\Unattended Install\ClusterManagementServer.config`

Copy the example configuration file to another location and edit the required fields. For more details on any of the fields, refer to the documentation for the corresponding wizard page in Installing HPOM on page 104.

The configuration file also provides options to upgrade or migrate in silent or unattended mode. However, upgrade and migration involves other steps, which the setup command does not peform automatically. Silent and unattended modes replace only those steps that you normally perform in the HPOM installation wizard. For more details on upgrade or migration, see the *HP Operations Manager 8.10 for Windows Upgrade Guide*.

Silent or unattended mode is supported for migration or upgrade from HPOM 8.00 to HPOM 8.10. You cannot migrate or upgrade from HPOM 7.50 in silent or unattended mode.

The following example shows a configuration file for installing in silent or unattended mode on a cluster node.

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>

   <!-- Use the appSettings section to define an unattended install
   session. -->
```

```
   <appSettings>
      <!--Valid values: "server" or "console". Case insensitive. -->
      <add key="ProductType" value="server" />

      <!-- The destination directory for application files. -->
      <add key="InstallDir" value="c:\Server\" />

      <!-- The destination directory for product data files. -->
      <add key="DataDir" value="C:\Server\data\" />

      <!-- Cluster configuration -->

      <!-- Valid values for doing a clustered installation: "primary" or
      "subsequent". Case insensitive. -->
      <add key="ClusterMode" value="primary" />

      <!-- The destination directory for product share files. -->
      <add key="ShareDir" value="D:\cluster\share\" />

      <!-- The virtual server name of the management server in the cluster -->
      <!-- It must not be fully qualified -->
      <add key="VirtualServerName" value="omw81" />

      <!-- Set this flag if the requires kerberos flag of the network name
      should be set -->
      <!-- Specifying this flag is mandatory but it is only used on
      Windows 2003 Cluster -->
      <!-- Valid values : "yes", "no" -->
      <add key="RequireKerberos" value="no" />

      <!-- The IP address of the Management Server in the cluster -->
      <add key="VirtualServerIP" value="10.0.0.1" />

      <!-- The name of the resource group the Management Server will be
installed in -->
      <add key="ResourceGroupName"  value="OperationsManager" />

      <!-- The name of shared disk resource. The directory pointed to by
ShareDir must be on this drive -->
      <add key="SharedDiscResourceName" value="Disk D:" />
      <!-- Acknowledgement of the license agreement. Valid values:
      "yes" or "no". -->
      <add key="AgreeToLicense" value="yes" />

      <add key="CreateFirewallRules" value="yes" />

      <add key="InstanceNameFull" value="[local machine]\OVOPS" />

      <!-- The absolute path to the database files directory. -->
```

```
      <add key="DatabaseFilesPath" value="c:\database\OVOPS\" />

      <add key="HPOM Users Domain" value="DOMAIN" />

      <!-- The account name of the HP-OVE-User. -->
      <add key="HP-OVE-User Username" value="HP-OVE-User" />

      <!-- The password for the HP-OVE-User. -->
      <add key="HP-OVE-User Password" value="" />

      <!-- The account name of the HP-OVE-Deleg-User. -->
      <add key="HP-OVE-Deleg-User Username" value="HP-OVE-Deleg-User" />

      <!-- The password for the HP-OVE-Deleg-User. -->
      <add key="HP-OVE-Deleg-User Password" value="" />
      <add key="EnableDelegation" value="yes" />

      <!-- HPOM roles groups setup. -->
      <add key="HPOM Roles Domain" value="[local machine]" />
      <add key="HP-OVE-Admins Roles Group" value="HP-OVE-ADMINS" />
      <add key="HP-OVE-Operators Roles Group" value="HP-OVE-OPERATORS" />

      <!-- IIS configuration -->

      <add key="HTTPPort" value="81" />
      <add key="HTTPSPort" value="444" />

      <!-- Policy languages -->
      <add key="UploadEnglishPolicies" value="yes" />
      <add key="UploadJapanesePolicies" value="no" />
      <add key="UploadKoreanPolicies" value="no" />
      <add key="UploadChinesePolicies" value="no" />

      <!-- optional values used for migration-->
      <!--  Valid values: "UpgradeKeepData", "DownloadData", or "UploadData".
      Case insensitive. -->
      <add key="MigrationCase" value="UpgradeKeepData" />

      <!-- The path to the migration data -->
      <add key="MigrationDataPath" value="C:\migrationdata\" />

   </appSettings>
</configuration>
```

Results of the Installation

Start Menu

After completing the installation of HPOM, a folder is added to the **Start** menu to allow you to open the console:
Start → All Programs → HP → HP Operations Manager → Console

Documentation

After completing the installation of HPOM, HPOM documentation (in Adobe Acrobat .pdf format) is available in the directory `%OvInstallDir%\paperdocs\en`.

Executables

In addition to HPOM executables in subdirectories of the `%OvInstallDir%` directory, executables are added to the following directories:

`%OvDataDir%\bin\instrumentation\`

`%OvShareDir%\Instrumentation\`

`%OvShareDir%\Packages\HTTPS\`

`%OvShareDir%\Packages\Windows\`

During the installation, changes are made to the files in the `%SystemRoot%\System32` directory.

Installation Log Files

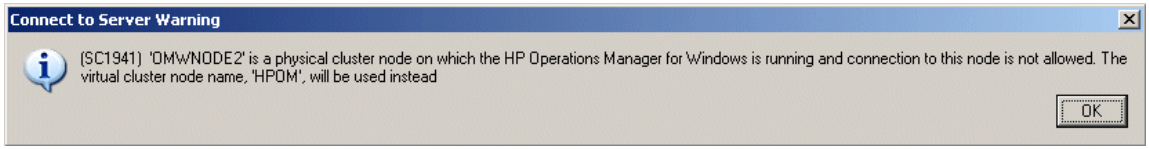
After installation, several log files are created and placed in the following directory:

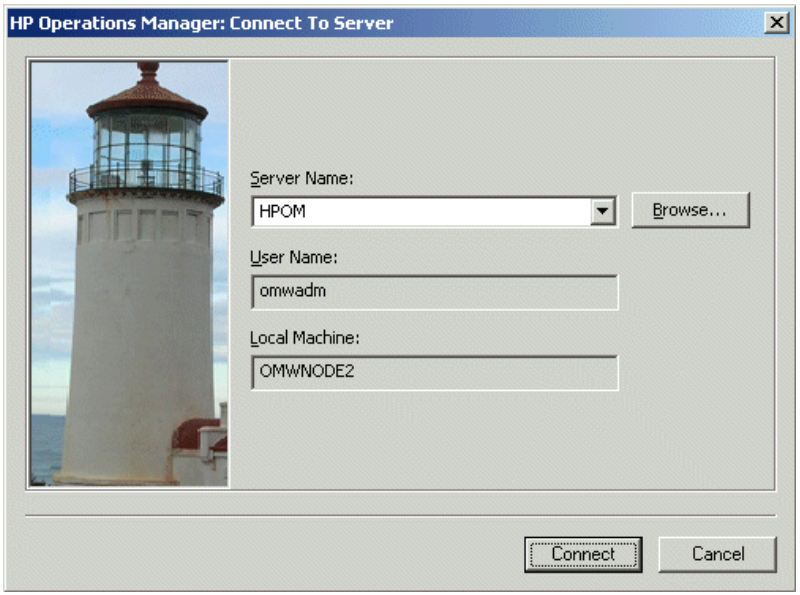
`%OvDataDir%\log\installation`

Verifying HPOM Cluster Installation

Follow the steps below to verify that your clustered HPOM was correctly installed.

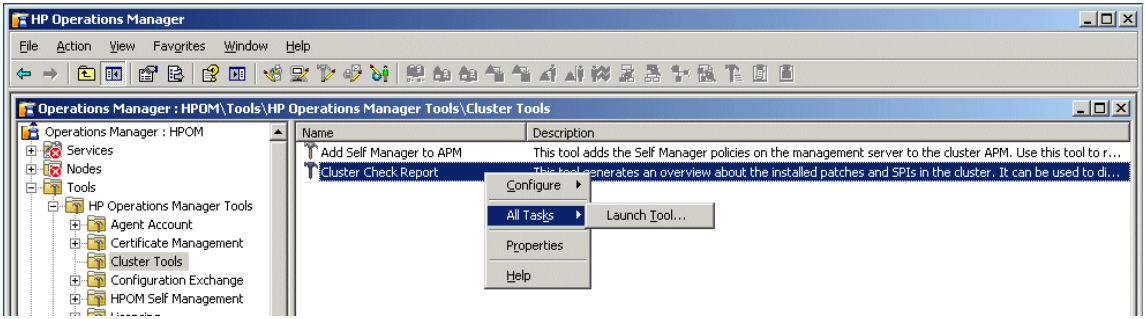
1 Open the HPOM console on one of the management servers. The following warning will be displayed. Click **OK**.



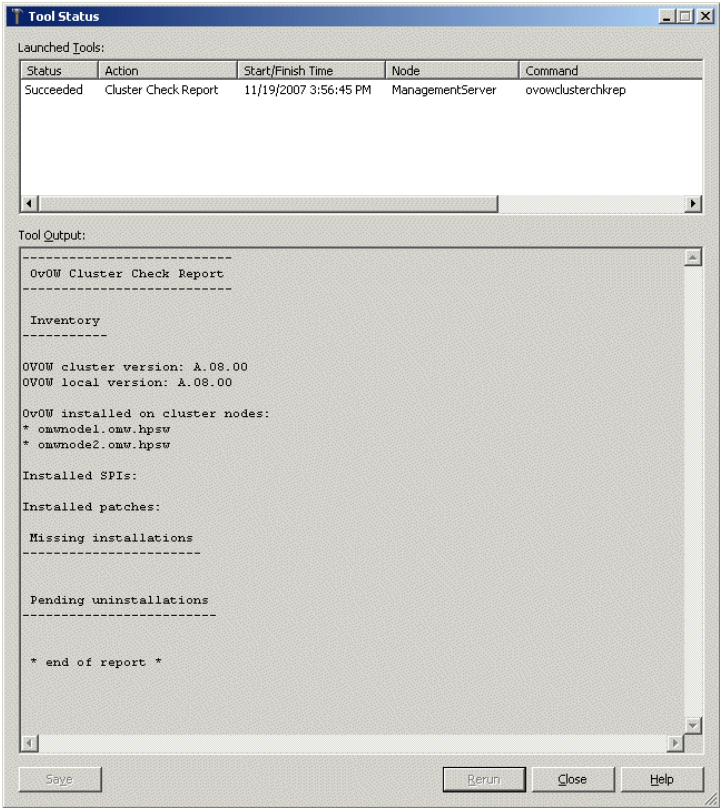


2 Click on **Connect** to connect to the virtual node assigned to the HPOM server.

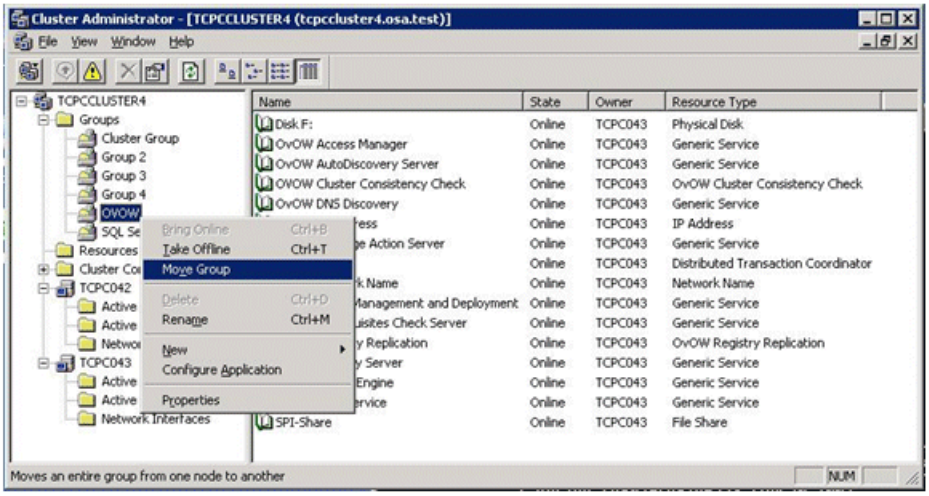
3 Start the tool **Cluster Check Report** from the HPOM console.



4 After execution, tool status should state **Succeeded.** Tool Output reports the HPOM relevant cluster information as shown.



5 Open the **Microsoft Cluster Administrator** and initiate a switch of the HPOM cluster resource group to another node.



Installing SPIs or Add-On Products

After installing HPOM and core SPIs on all cluster nodes designated to run HPOM, SPIs or add-on products can be installed. To keep a working HPOM installation after the installation of SPIs or add-on products, it is necessary to install them on all nodes. HPOM checks the consistency of the installation during each startup and refuses to start if any inconsistencies are found. An entry in the Windows Event Log shows the missing SPIs or add-on products. The same report can be generated by the Cluster Check Report tool located in **Tools → HP Operations Manager tools → Cluster Tools**.

For details about the installation of SPIs and add-on products, review their installation guides. If not stated otherwise in the installation guide of add-on products, always install them into the HPOM cluster resource group.

5 Uninstalling and Reinstalling HPOM

Uninstalling HPOM

The following HPOM uninstallation procedures apply to both a non-clustered and a clustered environment.

Uninstallation Prerequisites

All managed nodes, SPIs, and add-on products installed after the installation of HPOM must be uninstalled prior to the uninstallation of HPOM:

1. Uninstall the HP Operations agent from all managed nodes. See the online help topic **Administering Your Environment** → **Configuring Agents** → **Manual agent deinstallation**. (You do not need to remove the local HP Operations agent on the management server.)

   If you are planning to reinstall HPOM, you do not need to remove any managed nodes.

2. Remove all SPIs. For uninstallation procedures, see the documentation on the SPI installation media.

3. Remove all other add-on products, for example HP NNM Adapter, HP BAC Adapter, and HP SiteScope Adapter. See their documentation for details about how to uninstall them.

   If other products (such as HP Performance Manager or HP Reporter) are installed on the same server, they may share common components with HPOM for Windows. These shared components will be deleted only when no longer used by other HP BTO Software products.

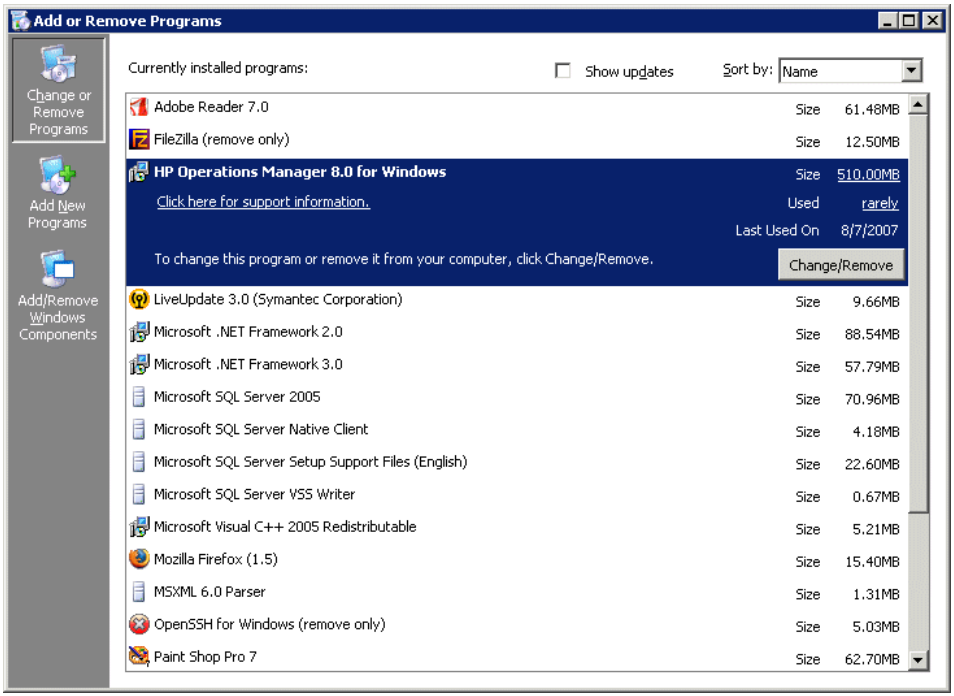
4 Before uninstalling HPOM from a cluster node, the following prerequisites must be met:

- The cluster node that was installed first must be uninstalled last. All other nodes can be uninstalled in a random order.
- The node that is uninstalled must be the owner of the HPOM cluster resource group. Use the **MS Cluster Administrator** to move the group if necessary.

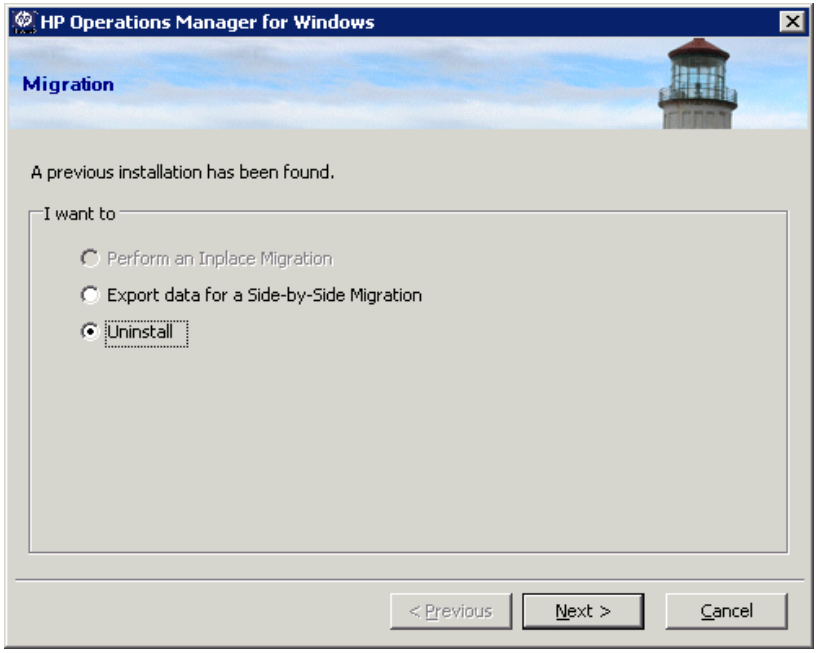
HPOM Uninstallation Procedure

To uninstall HPOM, follow these steps:

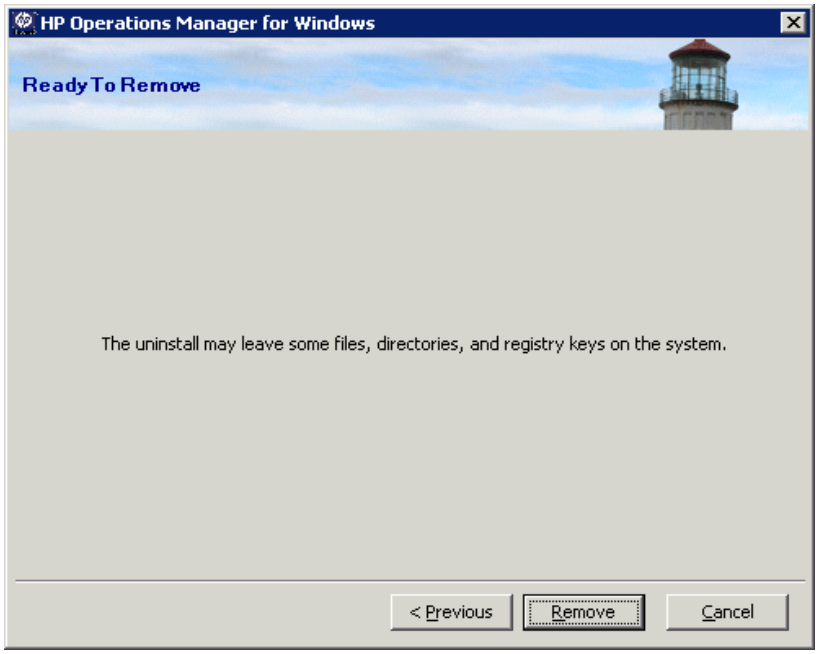
1. Exit any open management console sessions.
2. Open **Add or Remove Programs**. In the list of currently installed programs, select **HP Operations Manager 8.10 for Windows** and click **Change/Remove** to start the HPOM installer. (You can also start the uninstallation by executing **Setup.exe** from the installation media again.)



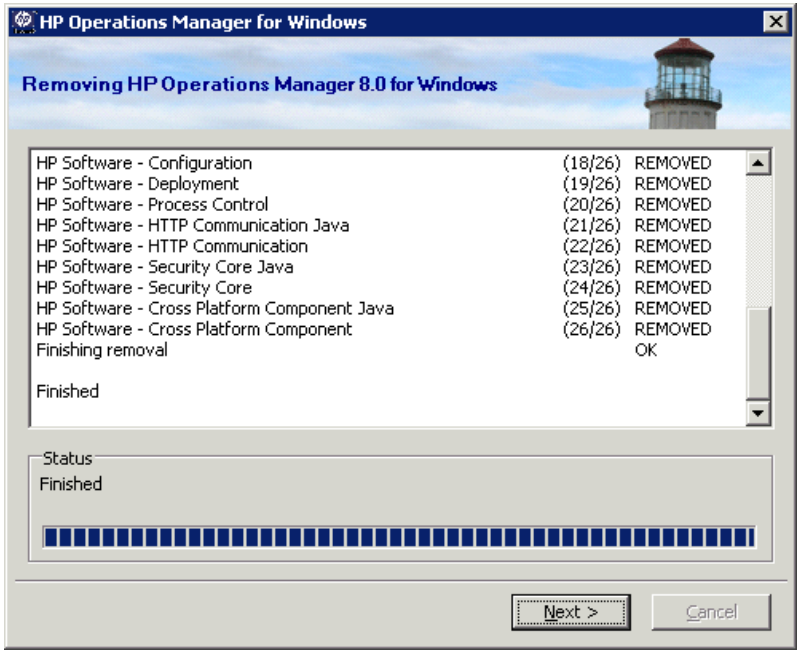
3 In the **Migration** page, select **Uninstall** and click **Next**.



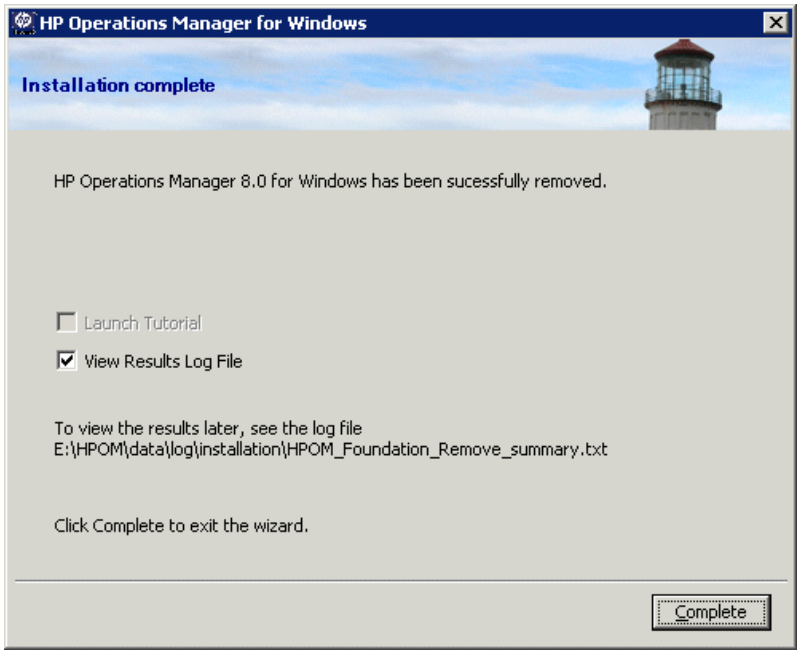
4 In the **Ready To Remove** page, click **Remove**.



5 When the uninstallation is complete, click **Next** to go to the **Installation complete** page.



6 We recommend that you review the results log file to see uninstallation errors or files which could not be removed during the uninstallation. Then click **Complete** to exit the wizard.



7 The HPOM uninstallation leaves the following software on the system:

- Microsoft SQL Server Express 2005 (if installed)
- Microsoft .NET Framework
- Mircosoft Visual C++ 2005 Redistributable

If you no longer need this software, you can remove it using the **Add or Remove Programs** window.

8 Manually delete any remaining HPOM files and folders.

Some remaining HPOM files and folders may depend on Microsoft software that is not uninstalled by HPOM. To successfully remove these files and folders, you must first uninstall the Microsoft software.

Removing a Remote Database

If a remote database was used, the uninstallation removes the HPOM data from the database. A few manual steps are needed to completely remove the HPOM database. To remove a remote database, follow these steps:

1. Open the **Enterprise Manager** by selecting **Start** → **Programs** → **Microsoft SQL Server** → **Enterprise Manager.**
2. Expand the **Microsoft SQL Servers** group in the left pane.
3. Expand the **SQL Server Group.**
4. Expand the group HPOM Instance (MSSQLSERVER\OVOPS).
5. Click on the **Databases** folder.
6. Click on **openview** in the right pane and click **Delete**. Confirm that you want to delete the database 'openview'.

   Be sure to appropriately select the **Delete backup and restore history database** check box.

7. Expand the **Security** folder in the left pane and select **Logins.**
   a. Click on **HP-OVE-Deleg-User** in the right pane and click **Delete**. Confirm that you want to remove the login and any associated database users.
   b. Click on **HP-OVE-User** in the right pane and click **Delete**. Confirm that you want to remove the login and any associated database users.
   c. Click on **ovdb_user** in the right pane and click **Delete**. Confirm that you want to remove the login and any associated database users.
   d. Click on **ovms_admin** in the right pane and click **Delete**. Confirm that you want to remove the login and any associated database users.

Reinstalling HPOM for Windows

Reinstallation of HPOM for Windows management servers and remote consoles is essentially an uninstallation operation followed by a second installation. For management servers, you must perform a fresh install, during which the server database, policies, and so forth are newly created.

Reinstalling the Management Server

Before reinstalling the HPOM management server, uninstall the existing server, including SPIs and all add-on products. Server uninstallation also automatically removes the server's agent and any collected performance data.

Database

If you want to reuse your database content, you must perform a side-by-side migration to the same node. To do so, follow these steps:

1. Download the data.
2. Uninstall the old software.
3. Install the new software and upload the data.

An in-place migration from HPOM 8.10 for Windows to 8.10 is not supported.

For more information about side-by-side migration, see the HPOM Upgrade Guide on the installation media.

Reinstalling Remote Consoles

To reinstall an HPOM 8.10 for Windows remote console, follow these steps:

1. Uninstall the existing console using **Add/Remove Programs**.
2. Perform a second installation.

6 After You Install

This chapter contains information about additional steps you can take after you have installed HP Operations Manager for Windows (HPOM).

- Learn How HPOM Works on page 154
- Console Overview on page 155
- What You Can Configure on page 158

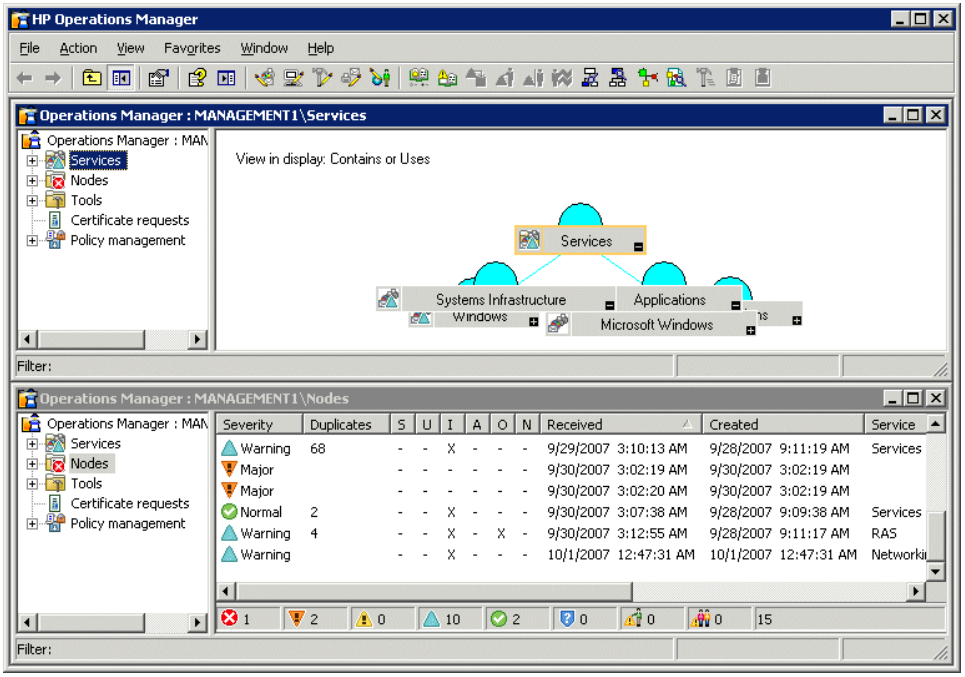
Learn How HPOM Works

- For an interactive tutorial that combines an overview of essential tasks with hands-on procedures and examples, see the **basic training** information, available from within help and from the installation media. The option to view the basic training tutorial appears when the installation is complete and the console is first opened. You can use the first page of the tutorial as a convenient checklist of administrative tasks to be performed.
- For information on administrator tasks such as node, tool, services, policy, and user roles configuration, policy deployment, and database maintenance, see the help system.

Console Overview

Open the HPOM console. From the **Start** menu, select **All Programs** → **HP** → **HP Operations Manager** → **Console** to bring up the HPOM management console**.** In the console tree, click **Operations Manager**. Experiment by navigating within the console tree; expand and collapse the contents of the tree by clicking on the plus signs beside entries. Explore the options available by viewing messages and maps. A brief description follows; for more detailed information, see the online help.

The following illustration shows the default console view that opens when you launch the product. Two windows appear. One contains a map view of the systems infrastructure. The other displays the message browser. The console tree appears in the left side of each window and the details pane in the right, as shown.



Microsoft Management Console (MMC) and Menu

The Microsoft Management Console (MMC) menu bar is the topmost menu bar in the previous illustration. Menus include Console, Window, and Help. The MMC provides a software framework for administration tools such as HPOM. From the MMC menu bar, you can perform a range of tasks, from manipulating the console windows to creating a new console. For more information on MMC, see the help topic **HP Operations Manager for Windows and the MMC** or the Microsoft web site at **www.microsoft.com**.

Web Console Interface

The HP Operations web console provides a quick and convenient way to view and respond to messages that result from events that occur on your managed nodes. From any location, use your Internet Explorer or Netscape browser to instantly see the severity of a message and act to correct the problem that caused it. See Chapter 2, Requirements, for supported browser versions.

See the help topic **Browse messages with the web console** under **Managing Your Workspace** for information on accessing the web console. A separate help system is provided with the web console that explains its features and functionality.

HPOM Menu

Use the HPOM menu bar, directly under the MMC menu bar, to perform HPOM tasks. Shortcut menus, which appear after you select an item and right-click, also are frequently used to perform tasks in HPOM.

Details Pane

The details pane (the right side of the window) hosts the list, message browser, and map views. You can tile these views to see multiple windows.

Console Tree

The console tree (on the left side of the window) displays, in a list view, folders representing the key HPOM components:

- **Services**: These are customer-based, user-oriented, or infrastructure capabilities provided by one or more hardware or software components within a computing environment (such as e-mail, network bandwidth, and application access). Policies help assure that appropriate service levels are provided to designated consumers of the service.
- **Nodes**: A node is a computer system or intelligent device that can be managed from the HPOM management server. HPOM can manage both Windows and UNIX nodes.
- **Tools**: In HPOM, tools are software programs or commands used to perform tasks. For example, you can configure a URL, an executable, or a Visual Basic script to be run on a remote managed node.
- **Policies (shown in the console tree under Policy Management)**: Policies are specifications and/or rules that help automate network and service administration. HPOM administrators deploy policies to managed nodes to provide consistent, automated administration across the enterprise. Policies can be thought of as templates that indicate which information is monitored and logged on managed nodes and which events and messages the management server passes to the console.
  - UNIX policies and tools are provided and can be deployed to UNIX nodes.
  - Self Manager manages the HPOM server and agents and can be deployed to the management server and managed nodes.
- **SPIs**: SPIs are prepackaged software for managing specific types of business applications and databases, such as the Exchange application. SPIs install on the HPOM server and contain the necessary data sources, policies, diagnostic rules, and corrective actions to enable operational management of a computer system. SPIs also contain help systems and can provide other types of documentation as well.

What You Can Configure

As an administrator, you configure certain specific elements of the software. The list below gives you a high-level view of configuration tasks.

For instructions on how to configure HPOM, see the basic training tutorial and the extensive online help provided from the console. Most administrative tasks are reserved for administrators, but a few are available to all users, and any of them can be assigned to user roles that control the functions that operators perform.

- **Add users:** (HPOM Administrators and Operators) to appropriate security groups.
- **Configure nodes:** You configure nodes (systems) so that you can manage them. Configuration includes selecting systems (nodes) to be managed and selecting which tools are available for nodes, services, and user roles. As soon as a node is configured, it becomes a managed node. The management server is automatically added as a managed node at installation.
- **Configure services:** To relate your business services to HPOM features, you define how services in the service hierarchy are dependent on each other, and define rules that evaluate the severity based on the state of the contributing services. To start, you can use the default values for status propagation and status calculation rules.
- **Configure tools:** You specify the tools that operators can apply to managed nodes and services. By applying the available tools, operators resolve problems reported in the message browsers that have critical business impact, or use tools to report on information about their managed environment. These tools can be associated with services, managed nodes, and user roles. Tools can also be configured to run on a predefined list of nodes.
- **Configure user roles:** As an administrator, you can configure an operator's view of the environment to focus on specific assigned tasks and responsibilities. By defining roles for specified users, you control the operator's view of your enterprise and the range of activities which that user has permission to perform. By assigning users to well-defined, specific roles, you can distribute monitoring and maintenance tasks across a group of individuals with their own particular areas of expertise and experience and customize each operator's console view.

- **Configure service types:** You can specify properties for service types, used when an instance of a service is created. Service type is similar to a template; you associate a service type with specific reports, graphs, tools, and deployment packages. That service type is then used when an instance of the associated service is created. Any tools, reports, graphs, and deployment packages associated with the service type are associated with every instance of that service that has been or will be created. The service type assures that these properties are applied globally to all services of that type.
- **Create or edit policies:** In addition to using the preconfigured default policies, you can configure user-defined policies, either by copying and then modifying a version of one or more default policies, or by creating a new policy from one of the policy types. You can also create automatic and operator-initiated commands designed to solve problems associated with messages received in the message browsers.
- **Configure message filters:** (operator or administrator). Messages that appear in the message browser are received from the nodes managed by the management server, as configured by the administrator. By setting filters, operators can further customize the way messages display to show only messages that match specific criteria.
- **Collect performance data on managed nodes:** The HP Operations for Windows Agent is deployed to all Windows managed nodes on which data will be collected.
- **Draw performance graphs:** You can use collected performance data to draw graphs for use in diagnosing performance problems and detecting trends. You can customize default graphs and also create your own.
- **Manage Microsoft Windows services:** Use preconfigured default policies until, based on events that display in the message browsers, you decide how to modify them to suit your exact needs.
- **Manage UNIX nodes:** Agents for managing UNIX nodes are provided as part of HPOM. You can install and activate these agents and deploy preconfigured default policies and tools for managing your UNIX systems.
- **Manage HPOM services using the Self Manager:** The Self Manager manages HPOM services and agents. It is automatically deployed to the management server. You deploy the Self Manager policies to managed nodes to manage the agents.

A System Requirements Checking

The HPOM installation checks the following prerequisites before and during the installation of the product:

- Checked at Installation Start, see Table 2 on page 161.
- Checked for Both Management Server and Remote Console, see Table 3 on page 162.
- Checked Only for Management Server, see Table 4 on page 164.
- Checked Only for Remote Console, see Table 5 on page 165.

Table 2 Checked at Installation Start

Prerequisite Check	Result	Message Text or Corrective Action
Installing user does not have Administrator privileges.	Error	The installing user must have at least local Administrator privileges to install HPOM.

Table 3 Checked for Both Management Server and Remote Console

Prerequisite Check	Result	Message Text or Corrective Action
An HPOM version lower than 7.50 is installed.	Error	If a version lower than 7.50 is installed, you must first upgrade this version to 7.50, before you can upgrade to HPOM 8.10.
`%OvInstallDir%` is already set in the registry.	Warning	HPOM will use the current value of `%OvInstallDir%`. The installation directory cannot be changed.
The `regsrv32` utility does not exist on the system.	Error	The `regsrv32` utility must exist on the target system.
The registry value `HKEY_LOCAL_MACHINE /SOFTWARE/ Microsoft/WBEM/ Installation Directory` and the directory it points to do not exist, and the directory is not present in `%PATH%`.	Error	This registry value must exist on the target system.
The registry value exists, but the directory is not in `%PATH%`.	Information	The HPOM installation will add the directory to `%PATH%`.
The path to the installation media is too long.	Error	Keep the path from where you install HPOM below 30 characters. (The complete path includes the binary Setup.exe.) This is a known limitation of Windows Installer (msiexec).
Target OS is 64-bit Windows.	Warning	Installing HPOM on a 64-bit Windows system is not supported.

Table 3 Checked for Both Management Server and Remote Console

Prerequisite Check	Result	Message Text or Corrective Action
KB925336 is not present on the system (Windows Server 2003 only).	Warning	This patch must be installed on the target system.
Installation program cannot connect to the local system using WMI.	Error	The Windows Management Instrumentation service must be running on the target system.
Installation program cannot connect to the local system using WMI although the Windows Management Instrumentation service is running on the system.	User asked to check DCOM security settings.	Check the DCOM security settings.
Disk space <= required amount of 6144 MB.	Warning	The amount of disk space on this system (<*DETECTED_VALUE*>) is below the required value of 6144 MB.

Table 4 Checked Only for Management Server

Prerequisite Check	Result	Message Text or Corrective Action
Target system is a domain controller.	Error	The HPOM management server cannot be installed on a domain controller.
User attempts to perform an in-place upgrade of a single-server installation to a cluster installation.	Warning	An in-place upgrade of a single-server installation to a cluster installation is not supported. Perform a side-by-side migration instead.
The primary DNS suffix is not set.	Error	The DNS suffix for this system is not set. This can cause agent communication problems between agents and the management server if the client system cannot resolve the server's hostname.
HP Network Node Manager Adapter is installed.	Error	The HP NNM Adapter must be uninstalled before a new version of HPOM can be installed on this system.
The IIS Admin service does not exists.	Error	IIS must be installed on the target system and the IIS Admin service must exist. The HPOM installation will start this service, if it is not already running.
Target OS is Windows XP or lower.	Error	See the HPOM support matrix for supported management server platforms.
Version of Internet Explorer is not 6.0 or higher.	Warning	See the HPOM support matrix for supported Internet Explorer versions.

Prerequisite Check	Result	Message Text or Corrective Action
User is not domain administrator.	Warning	If the installing user is not domain administrator, the installation cannot create domain accounts and cannot set the delegation right for the HP-OVE-Deleg-User.
Physical memory is <= the required amount of 256 MB.	Error	The amount of physical memory on this system (<*DETECTED VALUE*>) is below the required value of 256 MB.
Virtual memory is <= the required amount of 512 MB.	Error	The amount of virtual memory on this system (<DETECTED VALUE>) is below the required value of 512 MB.

Table 5 Checked Only for Remote Console

Prerequisite Check	Result	Message Text or Corrective Action
Target OS is Windows 2000 or lower, or Windows XP without SP2 installed.	Error	See the HPOM support matrix for supported remote console platforms.
Physical memory is <= the required amount of 256 MB.	Error	The amount of physical memory on this system (<*DETECTED VALUE*>) is below the required value of 256 MB.
Virtual memory is <= the required amount of 512 MB.	Error	The amount of virtual memory on this system (<*DETECTED VALUE*>) is below the required value of 512 MB.
Disk space <= required amount of 272 MB.	Warning	The amount of disk space on this system (<*DETECTED_VALUE*>) is below the required value of 272 MB.

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