HP Data Protector Reporter

Software Version: 9.5.1

Quick Start Guide

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

This product includes software developed by the JDOM Project (http://www.jdom.org/).

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

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

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

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

Documentation Updates

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

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

To check for recent updates or to verify that you are using the most recent edition of a document, go to:

http://h20230.www2.hp.com/selfsolve/manuals

This site requires that you register for an HP Passport and log on. To register for an HP Passport ID, go to:

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

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

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

Support

Visit the HP Software Support Online web site at:

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

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

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- Manage support contracts
- Look up HP support contacts
- Review information about available services
- Enter into discussions with other software customers
- Research and register for software training

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

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

To find more information about access levels, go to:

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

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This document is a PDF version of the online help. This PDF file is provided so you can easily print multiple topics from the help information or read the online help in PDF format.

Note: Some topics do not convert properly to PDF, causing format problems. Some elements of online help are completely removed from the PDF version. Those problem topics can be successfully printed from within the online help.

Contents

About This Guide

This guide is intended to help first-time users who purchased HP Data Protector Reporter to install and configure the product quickly. If you are upgrading HP Data Protector Reporter, refer to the *HP Storage Essentials Installation Guide*.

Obtaining HP Data Protector Reporter

You can download HP Data Protector Reporter for a 60-day trial from http://www.hp.com/go/storageessentials. Click **TRIALS AND DEMOS** > **HP STORAGE ESSENTIALS FOR DATA PROTECTOR REPORTER SOFTWARE FOR 60 DAYS**. Then, follow the prompts. If you do not have a Passport Account, follow the prompts to create one.

Chapter 1

Installing HP Data Protector Reporter on Microsoft Windows

Caution: HP Storage Essentials is designed for operation in a secure corporate intranet. All other configurations are not recommended or supported.

The following topics are provided:

- "Pre-installation Checklist (Installations)" (on page 13)
- "Installing the Product" (on page 21)
- "Removing the Product" (on page 26)

For information on how to install the product on Linux, see "Installing HP Data Protector Reporter on Linux" (on page 29).

Pre-installation Checklist (Installations)

The following basic requirements must be met before beginning an installation or upgrade. If the management server installation wizard detects missing requirements during system verification you will need to make changes to your system. The basic system requirements are explained along with additional information on how to meet these requirements:

- "Installation and Upgrade Requirements" (on page 13)
- "Verify Networking" (on page 20)
- "Install a Supported Browser" (on page 21)

Installation and Upgrade Requirements

Verify that your environment meets or exceeds the requirements listed in the following table.

Note: You cannot proceed with your installation until you meet these requirements.

Requirement	Must Meet or Exceed
NTFS File System	**Installations:** The NTFS file system is required to install the product. **Upgrades (Contact Your Account Representative Before Upgrading)**: If Oracle is installed on a volume using the FAT32 file system, you must convert the volume to NTFS before you can upgrade. Contact customer support for information about converting the volume to NTFS.
Screen Resolution	Screen resolutions less than 800 pixels by 600 pixels will cause the installation or upgrade to fail. The installation/upgrade wizard can run on a screen resolution of 600 x 800 pixels, and can be resized.
Windows Account	The account used to log on must be in the Administrators group.

Requirement	Must Meet or Exceed
Operating System	Refer to the support matrix.
MS Internet Explorer and Firefox	Refer to the Browser tab in the support matrix.
TCP/IP	TCP/IPv4 must be enabled.
Minimum Disk Space for the Installation/Upgrade Wizard	When the installation/upgrade wizard is running, it creates a temporary directory named <system-drive:>\InstallSRMTemp that contains the files required by the installation/upgrade wizard. This directory must have at least 2 GB of free space.
Minimum Recommended Disk Space for the Product	• Single Server = HP Storage Essentials, SRM Report Optimizer, and Report Database installed on the same server (32-bit and 64-bit servers). ▪ With ARCHIVING and RMAN backup off: recommended disk space 300 GB. ▪ With ARCHIVING and RMAN backup on: recommended disk space 450 GB. • Dual Server = HP Storage Essentials on one Windows server and SRM Report Optimizer\Report Database installed on a separate Windows server. ▪ With ARCHIVING and RMAN backup off: recommended disk space: 200 GB. ▪ With ARCHIVING and RMAN backup on: recommended disk space: 350 GB.
Virtual Machines	Installations on virtual machines are supported. Refer to the "Mgr Platform" tab in the support matrix.
Physical Address Extension (PAE)	PAE is a Windows setting to utilize amounts of RAM greater than 4 GB on certain versions of Windows. See your Windows documentation for more information about PAE settings. The installation or upgrade continues regardless of PAE.
Required RAM	Refer to the support matrix.
Required Ports	The management server requires certain ports be available. For more information about the ports used, see "Ports Used by the Product" (on page 29). If you see a warning in the Ports Availability requirement, check to make sure that the ports listed are not currently in use and make any changes that are necessary.The installation will continue even if a required port is not available.

Requirement	Must Meet or Exceed
Firewalls	If the management server is behind a firewall, the firewall must be disabled if you want the client Web browser to be able to access HP Storage Essentials from outside of the firewall. Windows 2008 has a firewall enabled by default.
DNS Resolution	The installation/upgrade wizard verifies the IPv4 address and DNS name of the server using nslookup. If nslookup is not successful, the installation will not continue. DNS Resolution failure prevents the product from running successfully. If the DNS Resolution requirement fails, see "Troubleshooting Installations/Upgrades" (on page 109).
%perl5lib% Environment Variable	The %perl5lib% environment variable cannot be set to any value. For more information, see "Troubleshooting Installations/Upgrades" (on page 109).
Data Execution Prevention (DEP)	Data Execution Prevention (DEP) must be set for "Essential Windows Programs and Services Only." For information on modifying the DEP setting, see the documentation for your Windows operating system.
The paths specified in the Options tab for the following share these requirements: • HP Storage Essentials • Oracle Database • CIM extensions • Reporter Database • Report Optimizer	The Options tab has the following requirements for entering paths: • Only the following characters are supported: A-z, 0-9, hyphens, underscores, periods, and backslashes. • Paths cannot contain spaces. • The drive letter must be a fixed drive.

Ports Used by the Product

HP Storage Essentials and Report Optimizer use a number of ports that cannot be used by another program.

Ports Used by the HP Storage Essentials Management Server

Port	Description	Protocol	In/Out
22	Used by SSH to deploy host agents (optional – only need if using the internal agent deployment tool)	TCP	O
80	An external port used for discovery and the HTTP web server. You can use port 443 instead for security. • NetApp • Web Browser Interface • HP Accelerator Pack for Operations Orchestration	SNMP	I/O
161	• SNMP Agent • Cisco SNMP This port is not required and is optional for SNMP trapping. HP Storage Essentials uses SNMP version 2. Device alerts can also be delivered to HP Storage Essentials via API or SMI-S for certain devices.	SNMP	I/O
162	An external port that is used for the SNMP trap listener. SNMP can be disabled, but no traps will be received. • Cisco SNMP This port is not required, but it is optional for SNMP trapping. HP Storage Essentials uses SNMP version 2. Device alerts can also be delivered to HP Storage Essentials via API or SMI-S for certain devices.	SNMP	I/O
389	LDAP directory service	TCP	O
443	An external port used for Secure Socket Layer (SSL) with the web interface. Port 80 can be used instead, but there will be no SSL. • Celerra • HP Storage Essentials OM SPI v2.0 • NetApp • VMWare VC/ESX • Web Browser interface • BSAE LiveNetwork Connector (LnC) for Report Optimizer	TCP	I
863	EVA Performance collection "Pluto"	EVA Perf	O
1099	• HP Storage EssentialsConnector for HP BSA Server Automation • RMI Registry • XP Arrays via Built-in XP Provider	TCP	I

Port	Description	Protocol	In/Out
1443	Microsoft SQL Server Database (optional – only used if MSSQL Database Viewer is used)		O
1521	• Oracle Transparent Name Substrate (TNS) Listener Port (Used for reporter access to HP Storage Essentials, as well as optional Oracle Database Viewer discovery) • HP uCMDB DDM Probe	TCP	>I
1972	Intersystems Caché Database	JDBC	O
2001	Device discovery port for the following devices: • XPs via CV-AE • HDS via HDvM • SUN StorEdge 9900	HiCommand API (HTTP/HTTPS)	O
2372	Device discovery port for EVAs discovered through built-in EVA provider "Pluto" (Command View Instances prior to 9.1)	RSM SAL BORG API	O
2443	Device discovery port for the following devices: • XPs via CV-AE • HDS via HDvM • SUN StorEdge 9900 • VMWare VC/ESX	HiCommand API (HTTP/HTTPS)	>O
2463	Device discovery port for the following devices: • SUN through the Engenio/LSI provider • Enginio/LSI based arrays	TCP	O
2707	Device discovery port for the EMC storage systems discovered through Solutions Enabler/SYMAPI	SYMAPI	O
4444	JBoss RMI/JRMP Invoker HP Storage EssentialsConnector for HP BSA Server Automation	TCP	I
4445	JBoss Pooled Invoker	TCP	>L*
4673	• CIM Extension/Product Health Agent(Tuneable) • IBM VIO	TCP	O
5432	PostgreSQL Server Database	JDBC	O
5555	Data Protector Agentless	TCP	O
5962	Discovery Group 12 CIMOM RMI	TCP	>L*

Port	Description	Protocol	In/Out
5964	Discovery Group 11 CIMOM RMI	TCP	L*
5966	Discovery Group 10 CIMOM RMI	TCP	L*
5968	Discovery Group 9 CIMOM RMI	TCP	L*
5970	Discovery Group 8 CIMOM RMI	TCP	>L*
5972	Discovery Group 7 CIMOM RMI	TCP	L*
5974	Discovery Group 6 CIMOM RMI	TCP	L*
5976	Discovery Group 5 CIMOM RMI	TCP	L*
5978	Discovery Group 4 CIMOM RMI	TCP	>L*
5980	Discovery Group 3 CIMOM RMI	TCP	L*
5982	Discovery Group 2 CIMOM RMI	TCP	L*
5984	Discovery Group 1 CIMOM RMI	TCP	L*
5986	Default Discovery Group CIMOM RMI	TCP	>L*
5988/ 5989	• 3PAR SMI-S • Brocade SMI-A • Cisco SMI-S • Compellent SMI-S • EVAs via CV-EVA SMI-S v9.2 or later • ESL/EML via CV-TL SMI-S v1.7/1.8/2.0 • ESL/EML via CV-TL SMI-S v2.2/2.3 • HP VLS 9000 (port 5988 only) • HSG-80 via EML SMI-S • IBM XIV • McDATA SMI-S • MSA 1000/1500 via MSA SMI-S • MSA 2000 via MSA SMI-S Proxy Provider • MSA 2300 G2 via MSA SMI-S Proxy Provider • MSA P2000 G3 (port 5989 only) • IBM CIM Agent • QLogic SMI-S • SMI-S and SMI-S secure • WBEM/WMI Mapper	TCP/SMI-S	O

Port	Description	Protocol	In/Out
6389	Device discovery port for CLARiiON storage systems discovered through the NaviSphere CLI	Navisphere CLI	O
8009	JBoss Embedded Tomcat Service	TCP	L*
8083	JBoss Web Service		L*
8093	JBoss UIL Server IL Service HP Storage EssentialsConnector for HP BSA Server Automation	TCP	I
8443	BSAE Data Miner	TCP	O
8873	BSAE Data Miner	TCP	O
9088	IBM Informix Dynamic Server Database	JDBC	O
12443	HP X9000. If the default port does not work, specify the port that is used, such as port 443.	HTTPS	O
16022	Lefthand Network	SSH	O
49152	WBEM	TCP SMI-S	O
49153	WBEM Secure Port	TCP SMI-S	>O
50000	IBM DB2 Database	JDBC	O
55988	WBEM	TCP SMI-S	O
55989	WBEM Secure Port	TCP SMI-S	O
60000	WBEM	TCP SMI-S	>O
60001	WBEM Secure Port	TCP SMI-S	O

I = That port number must be opened on the Source Server; for example, the HP Storage Essentials management server, the Report Optimizer server, or the SMIAgent (to receive information from a switch).

O = That port number must be opened on the target device.

I/O = That port number must be opened on both HP Storage Essentials server and target device.

*L = A loopback port that must be available to the source server but not exposed outside.

Ports Used by Report Optimizer

Port	Description
3306	MySQL for the Report Database uses this port.
6400, 6410, 6420, and 80	SI Agent uses these ports.
8080, 8005, 8443	TomCat uses these ports.

Turn Off Internet Information Services (IIS) and Third-Party Web Servers

To turn off Internet Information Services (IIS) and third-party Web servers, verify that Internet Information Services (IIS) is either not installed or the service is set to manual and stopped.

Disable User Access Control on Windows 2008

(*Windows 2008 servers only*)

Do one of the following:

- Windows 2008 SP1 and SP2. Disable user access control (UAC).
- Windows 2008 R2. Set UAC to the lowest level available.

For more information on how to change your settings for UAC, see the Microsoft Windows documentation for your operating system.

Verify Networking

The management server must have static or dynamic host name resolution.

The following steps are for Windows 2003. They can be used for Windows 2008, but may not exactly match the user interface.

To verify that the server's name can be resolved through DNS:

1. Right-click **My Computer** in the Start menu.
2. Select **Properties**.
3. Click the **Computer Name** tab to see the fully qualified name of the computer under the label Full Computer Name. Computer Name appears on the Properties page on Windows 2008. The server must be in the domain in which it is going to be used.
4. From a command prompt, type `nslookup <FQDN>`. FQDN (fully qualified domain name) is the fully qualified computer name obtained in the previous step.
5. In the command prompt, type `nslookup <IP address>`. IP address is the IP address of the server.
   Both results from nslookup should have the same fully qualified computer name and IP address.
6. In the command prompt, type `nslookup <Short name of computer>`. Results should resolve to the computer's fully qualified computer name and IP address.

The management server uses nslookup to resolve the names and IP addresses of managed systems. If the DNS suffix com is listed in the TCP/IP properties as one to append, problems such as inaccurate system status and incorrect IP addresses for systems HP Storage Essentials manages might occur. To correct this, remove `com` from the TCP/IP DNS suffix list:

1. Open **Control Panel** > **Network Connections** > **Local Area Connection** > **Properties** and select the **Internet Protocol** > **Properties** > **Advanced** > **DNS** tab.
2. If com is in the **Append these suffixes (in order)** box, remove it.

Caution: If you plan to browse to HP Storage Essentials from a server in a different domain, verify that the DNS suffix of the management server is added to the suffix list of the web client.

Install a Supported Browser

Install a supported browser on any machine from which you intend to view HP Storage Essentials pages. See the support matrix for your edition for a list of supported browsers.

Installing the Product

Caution: Do not manually install the Oracle database using the Oracle DVD set. The HP Storage Essentials installation wizard prompts you for the Oracle installation files when the Oracle installation components are required.

This section contains the following information:

Windows Installation Checklist

Print the following table and use it to track your progress. Each time you complete a step, check off the step in the "Did You Complete This Step?" column.

Windows Installation Checklist

Step	Need More information?	Did You Complete This Step?
Read the Support Matrix and Release Notes.	"Step 1 – Read the Release Notes and the Support Matrix" (on page 22)	
Logon to the Windows Server.	"Step 2 – Log On to the Windows Server" (on page 22)	
Open Several Ports (Windows 2008 R2 Only)	"Step 3 – Open Several Ports (Windows 2008 R2 Only)" (on page 22)	
Start the HP Storage Essentials for Windows Installation Wizard.	"Step 4 – Start the HP Storage Essentials for Windows Installation Wizard" (on page 22)	
Obtain a License Key.	"Step 5 – Obtain a License Key" (on page 25)	
Check for the Latest Service Pack.	"Step 6 – Check for the Latest Service Pack" (on page 26)	

Step 1 – Read the Release Notes and the Support Matrix

The *Release Notes* discuss late-breaking issues not covered in the *Installation Guide*. Read the support matrix to make sure the server on which you plan to install the management server meets or exceeds the requirements. Management server requirements are listed on the Manager Platform (Mgr Platform) tab of the support matrix. The *Release Notes* and support matrix can be found in any of the top-level directories of the *HP_SE_9.5.0* DVD.

Step 2 – Log On to the Windows Server

Create a new account or log on to an existing account on the Windows system on which you are installing HP Storage Essentials that is a member of the Administrators group.

If you are installing HP Storage Essentials on Windows 2008, disable UAC as described in "Disable User Access Control on Windows 2008" (on page 20).

Step 3 – Open Several Ports (Windows 2008 R2 Only)

If you plan to install HP Data Protector Reporter on Windows 2008 R2, you must open several ports before you begin the installation.

To open ports 6400 and 8080:

1. Open Windows Firewall with Advanced Security by selecting **Start** > **Administrative Tools** > **Windows Firewall Advanced Security**.
2. Create a new Inbound Rule, as follows:
   a. Click **Inbound Rules**, and then right-click **Inbound Rules**.
   b. Select **New Rule** from the right-click menu.
3. Select the **Port** option and click **Next**.
4. Select the **TCP** option.
5. Enter `6400, 8080` for specific local ports. Make sure there is a space between the comma and 8080.
6. Click **Next**.
7. Select the **Allow the connection** option and then click **Next**.
8. In the When does this rule apply? window, select the **Domain**, **Private**, and **Public** options.
9. Click **Next**.
10. Type a name for the rule; for example, `Reporter ports`.
11. Click **Finish**.
12. Refer to the next section for information about the installation. During the installation you are shown Windows Security Alerts. Keep the defaults in the Windows Security Alerts and always click **Allow Access**.

Step 4 – Start the HP Storage Essentials for Windows Installation Wizard

Do not install the Oracle database separately.

Keep in mind the following:

- The drive on which you install the management server must be NTFS format or the installation wizard will fail.
- Before you start the installation wizard, make sure all applications are closed. If the wizard detects locked files, you must unlock those files by closing their corresponding application. Continue with the installation/upgrade after you unlock the files. If the wizard detects locked files, it provides a link to the locked files log. If the locked files log says that the process explorer.exe is locked, you must exit the wizard, reboot the server and restart the wizard.
- The Reporter installation provides default passwords for the Administrator and "sa" accounts. It is strongly recommended that you change passwords for these accounts after you install the product. For more information, see "Changing the Passwords for Report Optimizer Accounts" (on page 71).

To install the product:

1. Verify the following:
   - The designated HP Storage Essentials server meets or exceeds the requirements listed in the "Pre-installation Checklist (Installations)" (on page 13) and in the support matrix.
   - The file system format on the HP Storage Essentials server is NTFS. The HP Storage Essentials installation wizard will display an error message if the file system is not NTFS.

     The directory in which you install the management server must have write access for the local Administrators group. Installing the management server in a directory created by another program — for example, the Proliant Support Pack — is not recommended.
2. Log on as a user that is a member of the Administrators group.
3. Do one of the following:

   The installation bits must be local. You must either insert the DVD locally or copy the bits to the server where you are planning to install the product.

   - **DVD**. Put the *HP_SE_9.5.0* DVD in the DVD drive of the designated HP Storage Essentials server. Double-click **setup.exe** in the ManagerCDWindows directory on the DVD.

     Or
   - **Copied locally**. Copy the bits of the *HP_SE_9.5.0* DVD to the server where you are planning to install the product. Double-click **setup.exe** in the ManagerCDWindows directory on the DVD.

     If you copy the Oracle DVD, copy it to a top-level directory where the directory path is not more than 20 characters long.

     When you copy the bits from a DVD to the server, preserve directory names and structures. The directory structure you copied must match the folder structure exactly.

   The HP Storage Essentials for Windows installer starts, and the Welcome page is displayed.
4. Click **Next**.
   - The installation wizard scans the server to ensure the server is ready for the installation.
   - The installation wizard displays the status of the scan in the Scan tab.
5. Click **Next**.

6. Select HP Data Protector Reporter option.

   Refer to the online help in the wizard for more information about each product.

7. Click **Next**. The wizard displays the Options tab.

   The Options tab has the following requirements for entering paths:

   - Only the following characters are supported: A-z, 0-9, hyphens, underscores, periods, and backslashes.
   - Paths cannot contain spaces.
   - The drive letter must be a fixed drive.

   The Options tab displays information about the following:

   Note: If the installation detects installed components, it selects them by default. You cannot unselect components that need to be upgraded.

   - **HP Storage Essentials Management Server**: If you selected HP Data Protector Reporter, this option is selected by default.
   - **Reporter**. If you selected HP Data Protector Reporter, this option is selected by default.
     - **Report Database Installation Location**. The installation location for the Report database.This path cannot contain spaces.
     - **Report Optimizer Installation Location**. The installation location for Report Optimizer. This path cannot contain spaces.
     - **Installation Media (Optional)**. If you have more than one DVD drive, you can provide the path in this field. The installer will automatically look in the location specified and you will not need to swap out the DVD for Reporter. You can also provide the path if the files were copied locally.
   - **Database**. This option is selected by default.
     - **Installation Location**. The installation location for the Oracle database.
       - **Installation Media** (*optional*). If you have more than one DVD drive, you can provide the path in this field. The installer will automatically look in the location specified and you will not need to swap out the DVD for Oracle. You can also provide the path if the files were copied locally. If you will be using only one DVD drive, leave this field blank.
       - Select the drive where the Oracle installation media is located.
     - **Target**. The version of the target installation.
     - **Build Number**. The version and build of the installer.

8. (*Optional*) Click the **Test** button to verify that all paths provided can be reached by the installation.

9. Click **Next**.

   The Verify tab displays a list of requirements and lets you know if the server meets the requirements.

Icon	Meaning
	The server meets installation requirements.
	Setting barely meets upgrade requirements. The upgrade will proceed but there might be some issues. It is highly recommended you change the setting.
	Setting does not meet the upgrade requirements. Even though the upgrade will still proceed, the product might not work as expected after the installation. Resolve the issue before proceeding with the installation.

10. Click the **Re-Verify** button after you modify a setting to make sure that it meets the installation requirement.
11. Click **Next**.

    The Summary tab displays the components to be installed and an estimate of the time in minutes:seconds it will take to complete installing each component.
12. Click **Install**
    The Progress tab provides a status of the installation for each component.

    If you are shown a command line window for the Oracle Universal Installer, do not close it.
13. Copy the Unique Client ID number displayed on the Finish tab.
14. Select one of the following on the Finish page:
    - **Start HP Data Protector Reporter When "Finish" is Clicked**. Start the product immediately after clicking the finish page. This option starts the AppStorManager service after you click the Finish button so you can access the management server. It might take a few minutes for AppStorManager to finish starting.
    - **Start HP Data Protector Reporter later**. This option requires you to start the AppStorManager service at a later time, either manually or by rebooting the server. Users will not be able to access the management server unless the AppStorManager service is running.
15. For details about accessing the HP Storage Essentials installation log files, see "Log Files from the Installation/Upgrade on Windows" (on page 110).

Step 5 – Obtain a License Key

See your product invoice for important information about licensing. If you are required to import a license, copy your Unique Client ID number and follow the instructions in your product invoice documentation to obtain and apply your license key. A license key is required to start the management server for the first time. Follow these steps to obtain and import your HP Storage Essentials license:

If you are installing the HP Storage Essentials for the first time, you must obtain a license key to start and run the product.

Verify that the following are enabled on your web browser:

- Cookies
- JavaScript

- Java

To obtain and import your HP Storage Essentials license:

1. Copy (**Ctrl + C**) the Unique Client ID (UID) displayed on the Finish page.

   If you did not have a chance to copy the Unique Client ID number from the Finish tab, you will see the Unique Client ID again after you log on for the first time into HP Storage Essentials. HP Storage Essentials guides you through the process for importing a license.

2. Go to http://h30580.www3.hp.com/poeticWeb/portalintegration/hppWelcome.htm and select the **Generate New Licenses** option. Follow the steps for obtaining your license key. You will need to provide your UID and HP Order ID (found on the entitlement certificate).

3. Make sure the AppStorManager service is running. This service must be running for the product to work.

4. Open a web browser and enter the URL of the server running the management server; for example, http://www.myserver.com

5. Type `admin` for the user name, and `password` for the password.

6. Import the license key:

   a. Click the **Security** menu.

   b. Click **Licenses** from the menu.

   c. Click the **Import License File** button.

   d. Click the **Browse** button. The file system of the computer used to access the management server is shown.

   e. Select the license file.

   f. Click **OK**.

Step 6 – Check for the Latest Service Pack

A service pack might have been created since this release. Obtain the latest service pack at the following location:

http://h20230.www2.hp.com/selfsolve/patches

Removing the Product

HP Storage Essentials provides scripts for removing the following the management server, Reporter and the Oracle database. Run these scripts if you want to remove the management server and Reporter (Report Optimizer and the Report Database). If the management server and Reporter are on separate servers, run the script on each server.

Use the removal scripts instead of Add/Remove programs. If you try Add/Remove programs, you are prompted to use the uninstall scripts and Add\Remove programs does not continue.

The removal scripts stops all Java processes. Other applications on the server running java.exe are stopped during the uninstall of HP Storage Essentials. After reboot, all processes continue as normal.

To remove the product from Windows:

1. Do one of the following:
   - To run the uninstall script from the server, go to the following directory:

     `C:\hp\SRM_Uninstall_9_5\support`

     In this instance, C:\ is the drive where the product was installed.

     Or
   - To run the uninstall script from the installation DVD, insert the *HP_SE_9.5.0* DVD into a server that has the management server installed. Open a command prompt window and navigate to the following directory:

     `ManagerCDWindows\install\support`
2. Type the following command at the command prompt:

   `removeAll.cmd`

   The removeAll.cmd script removes the following components from the server:
   - The management server
   - The database instance for the management server
   - The Report Database
   - Report Optimizer
   - The database instance for Reporter
   - The CIM extension installation files
3. Type the following command to remove the Oracle software:

   `RemoveOracle.cmd`
4. Reboot the Server. This step is required to finish the cleanup of the files.

Log Files from the Installation/Upgrade on Windows

The installation/upgrade wizard generates log files in the C:\srmInstallLogs directory. Log files provided at the top level of the C:\srmInstallLogs directory are for the current session of the installation/upgrade wizard or for the last session the installation/upgrade wizard was run. Files from a previous session are stored in a subdirectory with a date and time stamp.

Log files are generated by the installation/upgrade wizard. Some log files also provide an <logfilename>_output.log file. The <logfilename>_output.log file displays information about any errors, and is generated by the component itself instead of the installation/upgrade wizard.

The log files are zipped into a file in the root of the system drive. The zip file can be sent to support to help diagnose installation and upgrade issues, for example: C:\srmLog02-01-2011-16_21_49.zip.

About This Guide

This guide is intended to help first-time users who purchased HP Data Protector Reporter to install and configure the product quickly. If you are upgrading HP Data Protector Reporter, refer to the *HP Storage Essentials Installation Guide*.

Chapter 2

Installing HP Data Protector Reporter on Linux

Caution: HP Storage Essentials is designed for operation in a secure corporate intranet. All other configurations are not recommended or supported.

If you are installing the management server on Windows, see "Installing HP Data Protector Reporter on Microsoft Windows" (on page 13).

This section includes the following installation topics and steps:

Pre-installation Checklist

RHEL 5.5 can be installed with different Security-Enhanced Linux (SELinux) modes (enforcing, disabled, and permissive). But SELinux should be in disabled mode when Oracle is installed as part of HP Storage Essentials. SELinux should be disabled even after installing the product.

Refer to the support matrix for your edition for memory requirements. The installation will stop if the server does not meet the memory requirements.

Install the latest version of Mozilla Firefox from http://www.mozilla.com/en-US/firefox/.

Ports Used by the Product

HP Storage Essentials and Report Optimizer use a number of ports that cannot be used by another program.

Ports Used by the HP Storage Essentials Management Server

Port	Description	Protocol	In/Out
22	Used by SSH to deploy host agents (optional – only need if using the internal agent deployment tool)	TCP	O
80	An external port used for discovery and the HTTP web server. You can use port 443 instead for security. • NetApp • Web Browser Interface • HP Accelerator Pack for Operations Orchestration	SNMP	I/O
161	• SNMP Agent • Cisco SNMP This port is not required and is optional for SNMP trapping. HP Storage Essentials uses SNMP version 2. Device alerts can also be delivered to HP Storage Essentials via API or SMI-S for certain devices.	SNMP	I/O
162	An external port that is used for the SNMP trap listener. SNMP can be disabled, but no traps will be received. • Cisco SNMP This port is not required, but it is optional for SNMP trapping. HP Storage Essentials uses SNMP version 2. Device alerts can also be delivered to HP Storage Essentials via API or SMI-S for certain devices.	SNMP	I/O
389	LDAP directory service	TCP	O
443	An external port used for Secure Socket Layer (SSL) with the web interface. Port 80 can be used instead, but there will be no SSL. • Celerra • HP Storage Essentials OM SPI v2.0 • NetApp • VMWare VC/ESX • Web Browser interface • BSAE LiveNetwork Connector (LnC) for Report Optimizer	TCP	I
863	EVA Performance collection "Pluto"	EVA Perf	O
1099	• HP Storage EssentialsConnector for HP BSA Server Automation • RMI Registry • XP Arrays via Built-in XP Provider	TCP	I

Port	Description	Protocol	In/Out
1443	Microsoft SQL Server Database (optional – only used if MSSQL Database Viewer is used)		O
1521	• Oracle Transparent Name Substrate (TNS) Listener Port (Used for reporter access to HP Storage Essentials, as well as optional Oracle Database Viewer discovery) • HP uCMDB DDM Probe	TCP	>I
1972	Intersystems Caché Database	JDBC	O
2001	Device discovery port for the following devices: • XPs via CV-AE • HDS via HDvM • SUN StorEdge 9900	HiCommand API (HTTP/HTTPS)	O
2372	Device discovery port for EVAs discovered through built-in EVA provider "Pluto" (Command View Instances prior to 9.1)	RSM SAL BORG API	O
2443	Device discovery port for the following devices: • XPs via CV-AE • HDS via HDvM • SUN StorEdge 9900 • VMWare VC/ESX	HiCommand API (HTTP/HTTPS)	>O
2463	Device discovery port for the following devices: • SUN through the Engenio/LSI provider • Enginio/LSI based arrays	TCP	O
2707	Device discovery port for the EMC storage systems discovered through Solutions Enabler/SYMAPI	SYMAPI	O
4444	JBoss RMI/JRMP Invoker HP Storage EssentialsConnector for HP BSA Server Automation	TCP	I
4445	JBoss Pooled Invoker	TCP	>L*
4673	• CIM Extension/Product Health Agent(Tuneable) • IBM VIO	TCP	O
5432	PostgreSQL Server Database	JDBC	O
5555	Data Protector Agentless	TCP	O
5962	Discovery Group 12 CIMOM RMI	TCP	>L*

Port	Description	Protocol	In/Out
5964	Discovery Group 11 CIMOM RMI	TCP	L*
5966	Discovery Group 10 CIMOM RMI	TCP	L*
5968	Discovery Group 9 CIMOM RMI	TCP	L*
5970	Discovery Group 8 CIMOM RMI	TCP	>L*
5972	Discovery Group 7 CIMOM RMI	TCP	L*
5974	Discovery Group 6 CIMOM RMI	TCP	L*
5976	Discovery Group 5 CIMOM RMI	TCP	L*
5978	Discovery Group 4 CIMOM RMI	TCP	>L*
5980	Discovery Group 3 CIMOM RMI	TCP	L*
5982	Discovery Group 2 CIMOM RMI	TCP	L*
5984	Discovery Group 1 CIMOM RMI	TCP	L*
5986	Default Discovery Group CIMOM RMI	TCP	>L*
5988/ 5989	• 3PAR SMI-S • Brocade SMI-A • Cisco SMI-S • Compellent SMI-S • EVAs via CV-EVA SMI-S v9.2 or later • ESL/EML via CV-TL SMI-S v1.7/1.8/2.0 • ESL/EML via CV-TL SMI-S v2.2/2.3 • HP VLS 9000 (port 5988 only) • HSG-80 via EML SMI-S • IBM XIV • McDATA SMI-S • MSA 1000/1500 via MSA SMI-S • MSA 2000 via MSA SMI-S Proxy Provider • MSA 2300 G2 via MSA SMI-S Proxy Provider • MSA P2000 G3 (port 5989 only) • IBM CIM Agent • QLogic SMI-S • SMI-S and SMI-S secure • WBEM/WMI Mapper	TCP/SMI-S	O

Port	Description	Protocol	In/Out
6389	Device discovery port for CLARiiON storage systems discovered through the NaviSphere CLI	Navisphere CLI	O
8009	JBoss Embedded Tomcat Service	TCP	L*
8083	JBoss Web Service		L*
8093	JBoss UIL Server IL Service HP Storage EssentialsConnector for HP BSA Server Automation	TCP	I
8443	BSAE Data Miner	TCP	O
8873	BSAE Data Miner	TCP	O
9088	IBM Informix Dynamic Server Database	JDBC	O
12443	HP X9000. If the default port does not work, specify the port that is used, such as port 443.	HTTPS	O
16022	Lefthand Network	SSH	O
49152	WBEM	TCP SMI-S	O
49153	WBEM Secure Port	TCP SMI-S	>O
50000	IBM DB2 Database	JDBC	O
55988	WBEM	TCP SMI-S	O
55989	WBEM Secure Port	TCP SMI-S	O
60000	WBEM	TCP SMI-S	>O
60001	WBEM Secure Port	TCP SMI-S	O

I = That port number must be opened on the Source Server; for example, the HP Storage Essentials management server, the Report Optimizer server, or the SMIAgent (to receive information from a switch).

O = That port number must be opened on the target device.

I/O = That port number must be opened on both HP Storage Essentials server and target device.

*L = A loopback port that must be available to the source server but not exposed outside.

Ports Used by Report Optimizer

Port	Description
3306	MySQL for the Report Database uses this port.
6400, 6410, 6420, and 80	SI Agent uses these ports.
8080, 8005, 8443	TomCat uses these ports.

Prerequisite RPMs for Oracle

Verify that your system includes the required packages for Oracle by using the following command:

```
# rpm -q <package-name>
```

Install the required packages from the DVD for your operating system. The following list includes the packages needed for the Oracle installation. Some of these packages might be selectively installed depending on the mode selected during an installation of the operating system.

Install the following packages or later versions for RHEL 5.5 systems (64-bit):
All packages listed are 64 bit unless otherwise stated.

- binutils-2.17.50.0.6
- compat-libstdc++-33-3.2.3
- compat-libstdc++-33-3.2.3(32 bit)
- elfutils-libelf-0.125
- elfutils-libelf-devel-0.125
- gcc-4.1.2
- gcc-c++-4.1.2
- glibc-2.5
- glibc-2.5 (32 bit)
- glibc-common-2.5
- glibc-devel 2.5
- glibc-devel 2.5 (32 bit)
- glibc-headers-2.5
- kernel-headers-2.6.18
- ksh-20060214
- libaio-0.3.106
- libaio -0.3.106 (32 bit)
- libaio-devel-0.3.106
- libaio-devel-0.3.106 (32 bit)
- libgcc-4.1.2
- libgcc-4.1.2 (32 bit)
- libgomp-4.1.2
- libstdc++-4.1.2
- libstdc++-4.1.2 (32 bit)
- libstdc++-devel-4.1.2

- lsb-3.1 (SUSE)
- make-3.81
- redhat-lsb-3.1
- numactl-devel-0.9.8
- selinux-policy-targeted-2.4.6
- sysstat-7.0.2
- unixODBC-2.2.11
- unixODBC-2.2.11 (32 bit)
- unixODBC-devel - 2.2.11
- unixODBC-devel - 2.2.11 (32 bit)

Install the following packages or later versions for SUSE 10 SP2 (64 bit):
All packages listed are 64 bit unless otherwise stated.

- binutils-2.16.91.0.5
- compat-libstdc-5.0.7
- gcc-4.1.0
- gcc-c++-4.1.2
- glibc-2.4-31.63
- glibc-devel-2.4-31.63
- glibc-devel-32bit-2.4-31.63
- ksh-93r-12.9
- libaio- 0.3.104
- libaio-32bit-0.3.104
- libaio-devel -0.3.104
- libaio-devel-32bit-0.3.104
- libelf-0.8.5
- libgcc-4.1.2
- libstdc++-4.1.2
- libstdc++-devel-4.1.2
- make-3.80
- numactl-0.9.6.x86_64
- orarun-1.9
- sysstat-8.0.4

Software Dependencies

Verify that the following required software is available on your system, and install any that are missing:

- Perl 5.8.3 or above. By default, the operating system installs Perl as follows:
  - RedHat Linux (RHEL) 5.5 installs Perl 5.8.8
  - SUSE Linux Enterprise 10 SP2 installs Perl 5.8.8

Make sure Linux systems are configured with a swap size equal to their physical memory (up to 16 GB). If the physical memory is greater than 32 GB, the swap size can stay at 16 GB.
Application Viewer requires Xvfb. The Application Viewer page shows a java.lang.NoClassDefFoundError if Xvfb is not installed. This package comes with the distribution of the operating system (for both RHEL and SLES) and is installed if Full OS Install is selected.

- For RHEL 5.5, the package name is **xorg-x11-server-Xvfb**.
- For SUSE 10 SP2 , the package name is **xorg-x11-Xvfb**.

For SUSE 10 SP2 , if the xorg-X11-Xvfb package is not installed, the management server installer displays a message that the Xvfb package is not installed, and stops the install process. Install the package named xorg-X11-Xvfb and then re-run the management server installation. This package is available on SUSE 10 SP2 CDs.

For RHEL 5.5, if the xorg-x11-server-Xvfb package is not installed, the management server installer displays a message that the Xvfb package is not installed, and stops the install process. Install the package named xorg-x11-server-Xvfb and then re-run the management server installation. This package is available on the CDs that ship with the RHEL 5.5 operating system.

Verify Network Settings

Verify the network configuration for the management server:

1. Verify that the appropriate DNS server entries are present in `/etc/resolv.conf`. Verify that the correct DNS suffixes are mentioned in the order of preference in which they need to be appended to hostnames; for example:

   ```
   nameserver 172.168.10.1

   nameserver 172.168.10.2

   search "yourenvironment".com
   ```

2. From a console window on the management server, enter the following command:

   ```
   # ping <hostname>
   ```

   In this instance, <hostname> is the hostname (without domain name) of the Linux CMS.

   The ping command must ping the IP address of the management server. It must not ping the loopback address (127.0.0.1). If it pings the loopback address, edit the `/etc/hosts` file to make appropriate corrections.

   The /etc/hosts file should have entries similar to:

   ```
   127.0.0.1 localhost.localdomain localhost

   192.168.0.100 myservername.mydomain.com myservername
   ```

If the ping command fails to ping the IP address and instead pings the loopback address, the oracle listener process will fail to start and, therefore, the CIMOM process will also fail.

3. Enter the following command:

   ```
   # nslookup <hostname>
   ```

   In this instance, <hostname> is the hostname (without domain name) of the management server.

4. Enter the following command:

   ```
   # nslookup <IP address>
   ```

   In this instance, <IP address> is the IP address of the server.

5. Verify that both results from nslookup have the same fully qualified computer name and IP address.

Linux Installation Checklist

Print the following table and use it to track your progress. Check off each step as you complete it.

Step	Need More information?	Did You Complete This Step?
Read the Release Notes and the Support Matrix	"Step 1 – Read the Release Notes and the Support Matrix" (on page 37)	
Install the Management Server	"Step 2 – Install the Management Server" (on page 38)	
Verify that Processes Can Start	"Step 3 – Verify that Processes Can Start" (on page 43)	
Obtain a License Key	"Step 4 – Obtain a License Key" (on page 44)	
Verify Your Connection to the Management Server	"Step 5 – Verify Your Connection to the Management Server" (on page 45)	
Check for the Latest Service Pack	"Step 6 – Check for the Latest Service Pack" (on page 46)	

Step 1 – Read the Release Notes and the Support Matrix

Read the Release Notes for late-breaking information not covered in the *Installation Guide*.

Read the support matrix to make sure the server on which you plan to install the management server meet or exceed the requirements. Management server requirements are listed on the Manager Platform (Mgr Platform) tab of the support matrix.

The Release Notes and support matrix can be found in any of the top-level directories of the *HP_SE_9.5.0* DVD.

Step 2 – Install the Management Server

Keep in mind the following:

- Refer to the release notes for late breaking information.
- Do not install the product on a host containing a hyphen in its name. If you must install the product on a host containing a hyphen in its name, manually install the Report Database and Report Optimizer by using installReportDatabase.bin and then InstallReportOptimizer.bin on the *HP_RptLin_9.5.0* instead of using InstallWizard setup.bin.
- Note: This workaround can only be applied to Linux hosts without hyphens and/or underscores in the computer name. RO cannot be installed on Linux box with a hyphen or underscore in the computer name.
- (Report Optimizer on Linux) If the Web Intelligence Processing Server does not start or you are shown the error message "Cannot initialize Report Engine server (RWI: 00226) (Error: INF)" when you try to run a report, see the steps in "Web Intelligence Processing Server Does Not Start " (on page 129).
- Your screen resolution should be at least 1024 pixels by 768 pixels; otherwise, you might run into issues with viewing the user interface for the software.
- If you receive a message saying there is not enough room in the temp directory to perform the installation, increase the amount of free space in the /tmp directory. For information on how to increase the amount of free space, see the documentation for your operating system.
- Verify that the required software is available on your system as described in "Software Dependencies" (on page 36).
- The installation of the Oracle database on Linux does not work when the dba group exists in an external database, such as LDAP. Disable LDAP authentication on the system when installing HP Storage Essentials. Also ensure that the Linux group lookup is performed with files before LDAP. For more information, see "Unable to Install the Oracle Database on Linux" (on page 1).
- The management server installation on Linux requires a non-loopback IP address to start the Management Server (appstormanager service). Linux requires the Fully Qualified Domain Name and the IP address on separate lines on /etc/hosts for the management server to start. This is the operating system default.)
- In this release, no RPM entry is created for management server on Linux.
- When you install the management server on computer, you must install the software using a POSIX (Portable Operating System Interface) shell, such as sh. C Shell is not supported.
- You must install the management server on a server with a static IP address.
- Do not mount the DVD to any system-level directory, such as `/home`, `/tmp`, `/root`, or `/var`. If you mount the DVD to any of the system-level directories, the installation will not run. You can, however, create a directory below `/home`, such as `/home/Oracle_bits` and mount `/home/Oracle_bits` is a valid mount point. You must be careful about the permission inherited from the parent directory. Some permissions might be restricted, such as executable permission in setting up in a user profile. Make sure the directory you are mounting the DVD has executable permissions. Verify that the disk device where DVD is mounted has executable permissions.

The following is an example of the acceptable format:

```
# cat /etc/hosts

 127.0.0.1 localhost.localdomain

 localhost15.115.235.13 meet.lab.usa.co.com meet
```

The following format is unacceptable:

```
# cat /etc/hosts meet.lab.usa.co.com.meet

localhost.localdomain.localhost
```

SLES10 might have an entry for 127.0.0.2 in `/etc/hosts` against the host name for that system. Comment out or remove the line that maps the IP address 127.0.0.2 to the system's fully qualified hostname. Retain only that line that contains the actual IP address mapped to the fully qualified host name; for example:

```
# cat /etc/hosts

127.0.0.1 localhost

#127.0.0.2 demo.novell.com demo

192.168.1.5 demo.novell.com demo
```

In the example, remove or comment the line in bold as shown in the middle line.

1. Access the Linux host as described in "Accessing the Linux Host" (on page 42). Your installation options are the following:
   - **Install from the DVD**:
     i. Insert the *HP_SE_9.5.0* DVD in the DVD drive of the server and mount it with the following commands:

     ```
     # mkdir -p /mnt/installer

     # mount /dev/DVD /mnt/installer
     ```

     In this instance, `/dev/DVD` is the DVD device.

     ii. Log on to the server as a user with root privileges.

     iii. Verify the mount point and disk device by entering the following command at the command prompt:

     ```
     # df -k
     ```

     The following is an example of what is displayed:

     ```
     Filesystem           1K-blocks      Used Available Use%
     Mounted on

     /dev/cciss/c0d0p1     52924244  33893460  16880004  67% /

     udev                  12344632       132  12344500   1% /dev

     /dev/scd1                85616     85616         0 100%
     /media/ManagementServerDVD
     ```

     In this instance, /dev/scd1 is the name of the disk device.

iv. Verify that the disk device where the DVD is mounted has executable permissions by entering the following command at the command prompt:

```
#mount | grep /dev/scd1
```

In this instance, /dev/scd1 is the name of the disk device and /media/ManagementServerDVD is a mount point.

The word "noexec" is displayed if the directory you are mounting does not have executable permissions, as shown in the following example:

```
/dev/scd1 on /media/ManagementServerDVD type iso9660
(ro,noexec,nosuid,nodev,uid=0)
```

v. If the directory does not have executable permissions, remount the directory by entering the following command:

```
# mount -o remount,exec /dev/scd1/
```

In this instance, /dev/scd1 is the mount point.

- **Install from ISO Copied to Local Server**:

i. Create a directory on which the drive will be mounted:

```
# mkdir /InstallProduct
```

ii. Loop mount the HP_StorageEssentials_9.5.0.105.iso to the `/mnt/installer` directory.

```
# mount -o loop,ro /InstallProduct/HP_StorageEssentials_
9.5.0.105.iso /mnt/installer
```

2. Set the display for X Windows by entering the following at the command prompt.

Note: You must run the setup.bin script, which uses X Windows.

```
# /usr/X11R6/bin/xhost +
```

3. Set the display to your client. Refer to the documentation for your shell for more information.

4. Access the Linux host from a remote Windows client.

Before running X Windows from a client system, make sure that X server is running on the server that you plan to install the software. Start up a local X server, and connect through xterm to the remote system. The xterm session automatically sets the DISPLAY variable to “localhost:displaynumber:screennumber”. Change the display variable to point to the IP address of the client from which installer is launched with the correct display number and screen number by entering the following command:

```
# DISPLAY=<ip-address>:displaynumber.screennumber
```

In this instance, <ip-address> is the address of the client from which the Installer script is launched.

If you do not modify the value of the `DISPLAY` variable, the installer will launch with the default display setting, and the Oracle installation will stop prematurely with a timeout error.

The following is an example of the display command:

```
# DISPLAY=172.168.10.15:0.0
```

5. Export the display by entering the following command:

   ```
   # export DISPLAY
   ```

6. Enter the following at the command prompt.

   ```
   # /mnt/installer/ManagerCDLinux/setup.bin
   ```

   In this instance, you mounted the DVD to the `/mnt/installer` location.

7. When you see the introduction screen, read through the information. You should already have read the release notes and verified that you meet the requirements stated in the support matrix. Click **Next**.
8. The installation scans the system to ensure that it meets the requirements. When the scan is complete, click **Next** to proceed with the installation.
9. Select HP Data Protector Reporter option.

   Refer to the online help in the wizard for more information about each product.

10. Click **Next**.
11. In the Install Option window, provide the Installation Location for the product. The default installation location is the following: /opt/HP.

    You can browse to a location by clicking the **Browse** button or you can provide the default location by clicking the **Restore Default Folder** button. The installation directory must not contain spaces or special characters, such as the dollar sign ($).

12. The Options page displays the options that will be installed. The options are selected by default because you previously selected the HP Data Protector Reporter option. Reporter and the management server are automatically installed on the same server as part of the configuration for HP Data Protector Reporter:

    - **Management Server**
    - **Reporter**

13. Under the Oracle section, provide the location where you want to install Oracle. The default location is `/opt/oracle`
14. (*Optional*) Provide the path to the Oracle installation in the **Installation Media** box. You will be asked for it during the installation.
15. Click **Next**.
16. Check the pre-installation summary. You are shown the following:

    - Product Name
    - Selected Components and the Installation Folder
    - Disk Space Information
    - Memory Requirements
    - Operating System
    - Port Availability

    Refer to the support matrix for your edition for information about supported hardware.

17. Select one of the following:
    - **Install**: if you agree with the pre-installation summary.

      Or

    - **Previous**: to modify your selections.
18. You are shown a listing of the components that are to be installed. You are shown a status of the installation of each component.
19. Copy the Unique Client ID number displayed on the Finish tab.
20. You are asked to select one of the following options on the Finish page:
    - **Start HP Storage Essentials When "Finish" is Clicked**. This option starts the AppStorManager service after you click the Finish button so you can access the management server. It might take a few minutes for AppStorManager to finish starting.
    - **Start HP Storage Essentials later**. This option requires you to start the AppStorManager service at a later time, either manually or by rebooting the server. Users will not be able to access the management server unless the AppStorManager service is running.
21. Set the new Oracle database to ARCHIVE MODE to enable automatic RMAN backups. See the User Guide in the Documentation Center (**Help** > **Documentation Center**) for steps.

Accessing the Linux Host

Access the Linux host by doing one of the following:

- **Use the graphics console on the localhost**

  Run the following command at the command prompt:

  ```
  # /usr/X11R6/bin/xhost +
  ```

  Or

- **Access from a remote Linux client**

  Make sure that the X server on the remote client can accept TCP connections:

  a. Open `/etc/X11/xdm/Xservers`.

  b. Verify that the line for the screen number 0 (the line containing :0 local) does not contain the -nolisten tcp option. Remove the -nolisten tcp option if present. The line should look like the following:

  ```
  :0 local /usr/X11R6/bin/X
  ```

  c. Enable TCP connections on the X server of the remote client:

  - **SUSE** – Edit `/etc/sysconfig/displaymanager` and set the following options to yes:

    ```
    DISPLAYMANAGER_REMOTE_ACCESS

    DISPLAYMANAGER_XSERVER_TCP_PORT_6000_OPEN
    ```

    Here is an example:

```
DISPLAYMANAGER_REMOTE_ACCESS="yes"DISPLAYMANAGER_XSERVER_TCP_
PORT_6000_OPEN="yes"
```

- **RHEL** (for gnome) – Edit `/etc/X11/gdm/gdm.conf` and set the DisallowTCP option to false (uncomment if commented); for example:

  ```
  DisallowTCP=false
  ```

d. If you made any changes in the configuration files during the previous steps, reboot the system for the changes to take effect.

e. Run the following command at the command prompt:

```
# /usr/X11R6/bin/xhost +
```

f. Set the display to your client. Refer to the documentation for your shell for more information.

Accessing the Linux Host from a Remote Client Using RealVNC

HP Storage Essentials supports the use of RealVNC Viewer Free Edition version 4.1 or later to access the Linux host from a remote client. Refer to the RealVNC documentation for information on how to configure the RealVNC server and how to use it to access the Linux host. Once you have configured the RealVNC server, follow the instructions in the section, "Use the graphics console on the localhost" (on page 42).

Accessing the Linux Host from a Remote Windows Client

Before running X Windows from a client system, make sure that X server is running on the HP Storage Essentials management server. Start up a local X server, connect through xterm to the remote system and set your DISPLAY environment variable appropriately by using the following commands:

```
# DISPLAY=<ip-address>:displaynumber.screennumber
```

In this instance, <ip-address> is the address of the client from which the Installer script is launched.

```
# export DISPLAY
```

Here is an example:

```
# DISPLAY=172.168.10.15:0.0

# export DISPLAY
```

Step 3 – Verify that Processes Can Start

After you install the management server, verify the process for the management server has started. It might take some time for the process to start depending on the server's hardware. The process must be running to monitor and manage your elements. Refer to the appropriate section for your operating system.

Verify that the process for the management server started. Enter the following at the command prompt:

```
# /etc/init.d/appstormanager status
```

The following is displayed if the process started:

```
Checking for Cimom Service...

Cimom Service - RUNNING.
```

```
Checking for appstormanager service...

appstormanager service - RUNNING.
```

If the process did not start, enter the following at the command prompt:

```
# /etc/init.d/appstormanager start
```

To stop the process, enter the following at the command prompt:

```
# /etc/init.d/appstormanager stop
```

The appstormanager service is available with the following options:

```
# /etc/init.d/appstormanager
```

Usage: `/etc/init.d/appstormanager { start | stop | restart | status | force-reload }`

If the status indicates that the CIMOM service is not running, wait a few minutes. It usually takes some time for the CIMOM process to start.

Step 4 – Obtain a License Key

See your product invoice for important information about licensing. If you are required to import a license, copy your Unique Client ID number and follow the instructions in your product invoice documentation to obtain and apply your license key. A license key is required to start the management server for the first time. Follow these steps to obtain and import your HP Storage Essentials license:

If you are installing the HP Storage Essentials for the first time, you must obtain a license key to start and run the product.

Verify that the following are enabled on your web browser:

- Cookies
- JavaScript
- Java

To obtain and import your HP Storage Essentials license:

1. Copy (**Ctrl + C**) the Unique Client ID (UID) displayed on the Finish page.

   If you did not have a chance to copy the Unique Client ID number from the Finish tab, you will see the Unique Client ID again after you log on for the first time into HP Storage Essentials. HP Storage Essentials guides you through the process for importing a license.

2. Go to http://h30580.www3.hp.com/poeticWeb/portalintegration/hppWelcome.htm and select the **Generate New Licenses** option. Follow the steps for obtaining your license key. You will need to provide your UID and HP Order ID (found on the entitlement certificate).

3. Make sure the AppStorManager service is running. This service must be running for the product to work.

4. Open a web browser and enter the URL of the server running the management server; for example, http://www.myserver.com

5. Type `admin` for the user name, and `password` for the password.

6. Import the license key:
   a. Click the **Security** menu.
   b. Click **Licenses** from the menu.
   c. Click the **Import License File** button.
   d. Click the **Browse** button. The file system of the computer used to access the management server is shown.
   e. Select the license file.
   f. Click **OK**.

Step 5 – Verify Your Connection to the Management Server

The appstormanager process must be running for you to connect to the management server.

Keep in mind the following:

- The license agreement, which is in PDF format, is displayed the first time you access HP Storage Essentials. Install the latest version of a PDF reader, such as Adobe Acrobat Reader, on the client you plan to use to access HP Storage Essentials for the first time. You can access the latest version of Adobe Acrobat Reader at the following URL: http://www.adobe.com
- If you do not have a license installed, you are asked to install the license. If you do not have a valid license, contact customer support, as mentioned in the Documentation Center (**Help** > **Documentation Center**). To install the license, select the **Import License File** button on the Licenses tab (**Security** > **Licenses**).
- Make sure you do not have pop-up blocking software enabled. If your Web browser has an option for blocking pop-ups, disable it. The management server uses pop-ups for dialog boxes.
- Make sure JavaScript is enabled.

To access the management server:

1. Type one of the following in a Web browser:
   - For secure connections:

     ```
     https://machinename
     ```

     In this instance, machinename is the name of the management server.
   - For nonsecure connections:

     ```
     http://machinename
     ```

     In this instance, machinename is the name of the management server.
2. If you receive an error message when you attempt to connect to the management server, the appstromanger process might be still starting. Wait for it to complete its start script.

   You might see a message like the following:

   ```
   Receiving HTTP ERROR: 503 javax.ejb.EJBException: null;
   CausedByException is: Unexpected Error; nested exception is:
   java.lang.NoClassDefFoundError
   ```

For more information, see "Receiving HTTP ERROR: 503 When Accessing the Management Server" (on page 128).

3. In the management server login page, type `admin` in the **Name** box and `password` in the **Password** box, and then click **Login**.
4. If you are shown the software license agreement and you agree with its terms, click the **Accept** button.

   To prevent the license agreement from being displayed each time you log on to the management server, select **Do not show me this again**.
5. When you first log on to the management server, you are asked to provide a license.
   a. To obtain a license, you must provide the unique client ID from the management server. To access the unique client ID, select **Security** > **Licenses** in the management server.
   b. At the top of the page, select the unique client ID and press **CTRL + C** to copy it.
   c. Paste the unique client ID into a text file.
   d. Access the Web site specified on the Activation Card for the product.
   e. Follow the instructions provided at the Web site.
   f. Once you obtain your license, return to the license page (**Security** > **Licenses**).
   g. Click the **Import License File** button.
   h. Select the license file you obtained from the Web site and click **OK**.
6. If the management server does not detect a license, you are asked to import the license. Click the **Import License File** button to install the license.

   The license file can be obtained from customer support.

Step 6 – Check for the Latest Service Pack

A service pack could have been created since this release. Obtain the latest service pack at the following location:

http://h20230.www2.hp.com/selfsolve/patches

Step 7 – Install the Java Plug-in on a Linux Client

Several of the features in HP Storage Essentials require the Java plug-in. Install the Java plug-in on the clients that will be accessing HP Storage Essentials through a web browser.

For Windows clients, install the Java plug-in by following the prompts in the user interface.

For Linux clients, follow the steps described in this section.

For Linux 32-bit clients, see the following section.

For Linux 64-bit clients, see "Linux 64-bit Clients" (on page 47).

Linux 32-bit Clients

To install the Java plug-in on a 32-bit Linux client running Firefox:

1. Go to the following directory and copy the `jre-6u26-linux-i586.bin` file to the `/usr/local` directory:

   `<installdirectory>/JBossandJetty/server/appiq/webapp/appiq`

   In this instance, `<install_directory>` is the installation directory for HP Storage Essentials.

2. Go to the `/usr/local` directory by entering the following command at the command prompt:

   `cd /usr/local`

3. Enter the following command by entering the following at the command prompt:

   `sudo sh jre-6u26-linux-i586.bin`

4. Create the `/root/.mozilla/plugins` directory by entering the following at the command prompt:

   `mkdir /root/.mozilla/plugins`

5. Go to the `/root/.mozilla/plugins` directory by entering the following at the command prompt:

   `cd /root/.mozilla/plugins`

6. Enter the following command at the command prompt:

   `ln –s /usr/local/jre1.6.0_26/lib/i386/libnpjp2.so`

   In this instance `/usr/local/jre1.6.0_26/lib/i386` is the path to the libnpjp2.so file.

7. Restart Firefox.

Linux 64-bit Clients

These steps are only for 64-bit Red Hat Linux.

To install the Java plug-in on a 64-bit Red Hat Linux client running Firefox:

1. Go to the following directory and copy the `jre-6u26-linux-x64.bin` file to the `/usr/local` directory:

   `<installdirectory>/JBossandJetty/server/appiq/webapp/appiq`

   In this instance, `<install_directory>` is the installation directory for HP Storage Essentials.

2. Switch to the `/usr/local` directory by entering the following command at the command prompt:

   `cd /usr/local`

3. To run the installation for the JRE, enter the following command at the command prompt:

   `sudo sh jre-6u26-linux-x64.bin`

4. Create the `/root/.mozilla/plugins` directory by entering the following at the command prompt:

   `mkdir /root/.mozilla/plugins`

5. Go to the `/root/.mozilla/plugins` directory by entering the following command at the command prompt:

   ```
   cd /root/.mozilla/plugins
   ```

6. Enter the following command at the command prompt:

   ```
   ln -s /usr/local/jre1.6.0_26/lib/amd64/libnpjp2.so
   ```

   In this instance `/usr/local/jre1.6.0_26/lib/amd64` is the path to the libnpjp2.so file.

7. Restart Firefox.

Log Files from the Installation on Linux

When an installation is successful, the installation wizard zips up the log files and places them in the `Installation_Directory/logs` directory. In this instance, `Installation_Directory` is the directory where the product was installed.

The name of the zip file has a date stamp `InstallWizard_MMDD-HHMM.zip`; for example, `InstallWizard_1212-0754.zip`.

The zip file includes two internal log files created by the installation. These files contain debugging for internal use only. You do not need to look at them.

- `/tmp/InstallSRMTemp/InstallWizard.err`
- `/tmp/InstallSRMTemp/InstallWizard.out`

The log files in the following directories are for users:

- `productInstallDir + "/logs"` – Log files for the product installation in general.
- `srmInstallDir + "/logs"` – Log files for the installation of the management server.
- `rdInstallDir + "/logs"` – Log files for the Report Database installation.
- `roInstallDir + "/logs"` – Log files for the Report Optimizer installation.
- `oracleInstallDir + "/oraInventory/logs"` – Log files for the Oracle installation.

If the installation failed, you can find the log files in the `%Installation_Directory%/logs` directory.

Removing the Product

You must have root privileges to run the uninstall scripts.

To remove the management server, enter the following at the command prompt:

```
/<management_server_install_directory>/Uninstall_HP_Storage_
Essentials/Uninstall_HP_Storage_Essentials
```

To remove the Report Database, enter the following at the command prompt:

```
/<InstallDIR>/ReportDatabase/Uninstall_Storage\ Report\
Database/Uninstall\ Storage\ Report\ Database
```

To remove Report Optimizer, enter the following at the command prompt:

```
/<Report Optimizer install directory>/Uninstall_
HPSRMReportOptimizer/Uninstall_HPSRMReportOptimizer
```

To remove the Oracle database, insert the Oracle DVD into the DVD drive and enter the following command:

```
./<Mount_Point>/UninstallDatabase
```

In this instance, <Mount_Point> is the mount point for the DVD drive containing the Oracle DVD.

Chapter 3

Required Configuration Steps after Installing Reporter

You must configure Reporter.

If you see the following message when you try to run reports in Report Optimizer, see ""Connection failed." Message When Generating Reports":

```
Connection failed. The server has reached the maximum number of
simultaneous connections. (Error: RWI 00239)
```

Changing the Passwords for Report Optimizer Accounts

The Reporter installation provides the following default passwords:

- Administrator user account: Changeme123
- MySQL "sa" user account: Password123

Changing the Password for the Administrator Account

If you have since changed the password and you do not remember the old password, you can reset it, as described in the Resetting the Administrator Password section in the *Installation Guide* "Resetting the Administrator Password 47056".

To change the password for the Administrator account:

1. Log on to Central Management Console as described in "Accessing the Central Management Console for Report Optimizer" (on page 54).
2. In the Organize section, click **Users and Groups**.
3. Double-click **Administrators**.
4. Right-click **Administrator** and then select **Account Manager**.
5. Enter the new password in the Enterprise Password Settings section.
6. Click **Save and Close** for the new password to take effect.

Changing the Password for "SA" User

To change the password for "SA" User:

Linux:

Enter the following at the command prompt on one line:

```
<Report Optimizer install dir>/bobje/mysql/bin/mysqladmin –u sa -
pPassword123 password <new password> --socket <Report Optimizer
installdir>/bobje//mysql/mysql.sock
```

In this instance, Password123 is the old password for sa user and NewPassword is the new password for sa user.

There is a space between password and <new password> and socket and <Report Optimizer.

Windows:

1. To change the password for the “sa” user:
   a. Select **Start Menu** > **Business Objects XI 3.1** > **Business Objects Enterprise** > **Central Configuration Manager** and stop the Server Intelligence Agent.
   b. To connect to MySQL :

      ```
      INSTALLDIR\MySQL5\bin\mysql.exe -u root –p
      ```

   c. Enter the password when prompted.
   d. Enter the following SQL command to change the password:

      ```
      mysql>UPDATE mysql.user SET Password=PASSWORD('MyNewPass') WHERE
      user='sa';
      ```

      In this instance, MyNewPass is the new password.
   e. Enter the following SQL command:

      ```
      mysql> FLUSH PRIVILEGES;
      ```

2. Select **Start Menu** > **Business Objects XI 3.1** > **Business Objects Enterprise** > **32-bit data sorce(ODBC)**.
   a. Click the **System DSN** tab.
   b. Select **Business Objects Audit server**.
   c. Click **Configure** and update the password for “sa” user.
   d. Select **Business Objects CMS**, click **Configure**, and update the password for “sa” user.
3. Select **Start Menu** > **Business Objects XI 3.1** > **Business Objects Enterprise** > **CentralConfiguration Manager**.
   a. Right-click **Server Intelligence Agent** > **properties** > **configuration**.
   b. Click **BOE120**.
   c. Select **Update Data source settings**.
   d. Click **OK**.
   e. Select **mysql driver**.
   f. Enter the new password for “sa” user.
   g. Repeat steps a through f for BOE120_AUDIT.
   h. Restart BOE120MySQL service from the services console.
   i. Start the “Server Intelligence Agent” service.
4. See the following web sites for more information about changing the passwords for sa:

- http://dev.mysql.com/doc/refman/5.0/en/default-privileges.html
- http://dev.mysql.com/doc/refman/5.0/en/resetting-permissions.html#resetting-permissions-windows

Installing HP Live Network Connector (LNc)

Install and configure LNc on a server running SRM Report Optimizer as soon as possible so you can receive new and updated report templates that are provided periodically through LNc.

Configure LNc for HP Storage Essentials product streams, and use the LNc command line interface to preview and download content.

See the *HP Live Network Installation and Configuration Guide* for instructions. The LNc download and its guide is available on the LNc home page at https://h20034.www2.hp.com/.

Configuring the Report Database to Point to the Management Server

If you are installing Reporter on the same server as the HP Storage Essentials management server, you do not need to configure the Report Database to point to the management server.

To configure the Report Database to point to the management server:

1. To access the Report Database Admin Utility:
   - **Windows**

     Go to `%REPORT_DATABASE_HOME%` and double-click **ReportAdmin.bat**.
   - **Linux**
     i. Set the display if you are accessing the Report Database Admin Utility remotely.
     ii. Go to the `$REPORT_DATABASE_HOME` directory by entering the following at the command prompt:

     ```
     # cd $REPORT_DATABASE_HOME
     ```

     iii. Run the Report Admin Utility by entering the following at the command prompt:

     ```
     # sh ./ReportAdmin.sh
     ```
2. Click **Add**.
3. Enter a site name in the Site Name box. The site name is used to differentiate the server from other servers.
4. Enter the IP address of the management server. The Report Database uses this IP address to contact the management server for report data.
5. Click **OK**. The management server is set as the local management server.

Configuring a Global Report Database

Configuring a global report database enables you to use the Global Reports in Report Optimizer.

To configure a global report database:

1. Add additional management servers on the “Set up report sources” screen.
2. By default, the first management server you enter is configured as the local management server. Data from the local management server is used for the Standard Reports in Report Optimizer. To make one of the other management servers the local server, click **Configure Report Database** in the left pane.
3. Select another management server from the Standard Reports Use drop-down menu, and click **Submit**.
4. Click **Set up report sources** in the left pane. The selected management server becomes the local management server.
5. To view updated reports immediately, click **Refresh Data Now**. Otherwise, updated reports are available after the next report cache refresh is processed.

For additional details about configuring the Report Database, see the Report Database online help.

Accessing the Central Management Console for Report Optimizer

Before you access the central management console for Report Optimizer, verify the following:

- JavaScript is enabled.
- Pop-ups are disabled.

If you are running Windows Server 2008 with Internet Explorer Enhanced Security Configuration” (IEESC) enabled, the server running Report Optimizer was added as a trusted site. See "Adding the Report Optimizer Server as a Trusted Site" (on page 54).

1. Use a web browser to go to:

   http://<fqdn_or_ip_address_of_>:8080/CmcApp/logon.faces
2. Log on to the Central Management Console with the following credentials:
   - Username: Administrator
   - Password:
     - HP Storage Essentials 9.4 and later: The default password is Changeme123.
     - Versions earlier than HP Storage Essentials 9.4: The default password is <blank>.

Adding the Report Optimizer Server as a Trusted Site

If you are running Windows Server 2008 with the Internet Explorer Enhanced Security Configuration (IEESC) enabled, you must add the server running Report Optimizer as a trusted site.

When you access Report Optimizer directly, you are prompted to add the site as a trusted site.

When you access Report Optimizer from within HP Storage Essentials, you are not prompted to add the server as a trusted site and thus, you might run into difficulty with accessing Report Optimizer from within HP Storage Essentials.

To manually add Report Optimizer server as a trusted site:

1. In Internet Explorer, click **Tools** > **Internet Options** > **Security**.
2. Click **Trusted Sites** and then click **Sites**.
3. Add several variations of the server name. For example, if the server running Report Optimizer is named reportserver.usa.mycompany.com with IP address 192.168.1.1, you can enter the following variations of the site name:
   - The IP address of the server; in this example, http://192.168.1.1
   - The full name of the computer; in this example, http://reportserver.usa.mycompany.com
   - The computer name; in this example, http://reportserver

Installing a Named User Permanent License Key

Adding a named user permanent license key enables you to log on as Administrator without consuming a concurrent license.

To install a named user permanent license key:

1. Launch the Central Management Console as described in "Accessing the Central Management Console for Report Optimizer" (on page 54).
2. In the Manage section, click **License Keys**.
3. In the Add Key box, enter the named user license key. Click **Add**.
4. Return to the Central Management Console home page. In the Organize section, click **Users and Groups**.
5. Select **User List** and then double-click **Administrator**.
6. In the Connection Type section, select the **Named User** radio button.
7. Click **Save and Close**.

Setting the Report Parameters in HP Storage Essentials

To set the report parameters in HP Storage Essentials:

1. In HP Storage Essentials, select **Configuration** > **Reports**, and click the **Reporter Configuration** tab.
2. In the Host Name or IP box, enter the host name or IP address of the server running Report Optimizer.
3. In the Port Number box, enter the port number for accessing Report Optimizer. The default is 8080.
4. *(Optional)* Change the password for the ReportUser user account. You must have already changed the password on the Report Optimizer server.
   a. Click **Change Password**.
   b. Enter the old password (Welcome), enter a new password, and confirm the new password.
   c. Click **Submit**.

Modifying the Server Session Timeout Value

You must change the server session timeout value to 120 minutes, as follows:

1. Launch the Central Management Console as described in "Accessing the Central Management Console for Report Optimizer" (on page 54).
2. In the Organize section, click **Servers**.
3. Expand the Server Categories node, and click **Web Intelligence**.
4. Double-click the WebIntelligenceProcessingServer. The Properties window opens.
5. In the Web Intelligence Processing Service section, enter `120` in the Idle Connection Timeout box.
6. Click **Save and Close**.

Configuring Drill-Down Options

The drill-down options must be properly configured to synchronize graphs with drill-down reports.

To configure the drill-down options:

1. Log on to InfoView, as follows:
   a. Go to http://<fqdn_or_ip_address_of_Report_Server>:8080/InfoViewApp/logon.jsp
   b. Log on with a valid username and password.
2. In the upper-right corner of your browser, click the **Preferences** button.
3. Click **Web Intelligence** to expand that section.
4. In the Drill Options section, click the “Synchronize drill on report blocks” check box.
5. Click **OK**.

Disabling Browser Access to Desktop Intelligence

Desktop Intelligence is not installed with Report Optimizer, so references to that feature should be removed from the user interface.

To remove these references by disabling browser access to Desktop Intelligence:

1. Launch the Central Management Console as described in "Accessing the Central Management Console for Report Optimizer" (on page 54).
2. In the Manage section on the home page, click **Applications**.
3. Right-click **Desktop Intelligence**, and select **User Security**.
4. Click **User Security**, select **Administrators**, and click **Assign Security**.
5. Click the **Advanced** tab.
6. Click **Add/Remove Rights**.
7. Click **General** under the General node.
8. Click the **Denied** radio button for every option:
   - Edit this object.
   - Log on to Desktop Intelligence and view this object in the CMC.

- Modify the rights users have to this object.
- Securely modify rights users have to objects.

9. Click **OK**.
10. Click **Desktop Intelligence** under the Application node.
11. Click the **Denied** radio button for the following options:
    - Create Desktop Intelligence Documents
    - Create Templates
    - Save Desktop Intelligence Documents
    - Save Documents for all users
    - Use Templates
12. Click **OK**.
13. Click **OK** to apply the chosen settings.
14. Repeat these steps for the Everyone group.

Adding the Report Designers Group

Report Optimizer does not support Report Optimizer role-based security. The reports visible to a user are determined by the access and security levels set in Report Optimizer.

Add the Report Designers group to allow easy addition and modification of rights for users who will have report creation, modification, and deletion rights.

To add the Report Designers group:

1. Launch the Central Management Console as described in "Accessing the Central Management Console for Report Optimizer" (on page 54).
2. Click **Users and Groups** in the Organize section.
3. Right-click **Group List**, and select **New Group**.
4. Enter `Report Designers` in the Group Name box.
5. Add the following text to the description:

   ```
   Report Designers group. Users added to this group will have the
   rights and privileges to create, modify, and delete new and
   existing reports.
   ```

6. Click **OK**.

Assigning Report Designing Privileges to Report Designers

The Report Designers group must be assigned the appropriate application rights.

To assign the appropriate rights:

1. Launch the Central Management Console as described in "Accessing the Central Management Console for Report Optimizer" (on page 54).

2. In the Manage section, click **Applications**.
3. Right-click **Web Intelligence**, and select **Properties**.
4. Click **User Security** in the left panel, and click **Add Principals**.
5. Select **Report Designers** and click **>** to add it to the Selected users/groups list.
6. Click **Add and Assign Security**. The Assign Security window opens.
7. Select **Full Control** and click **>** to add it to the Assigned Access Levels pane.
8. Click **OK**.
9. Return to the Central Management Console Home page.
10. In the Organize section, click **Folders**.
11. Right-click **All Folders**, and select **Properties**.
12. Click **User Security**, and then click **Add Principals**.
13. Select **Report Designers** and click **>** to add it to the Selected users/groups list.
14. Click **Add and Assign Security**. The Assign Security window opens.
15. Select **Full Control** and click **>** to add it to the Assigned Access Levels pane.
16. Click **OK**.
17. Return to the Central Management Console Home page.
18. In the Organize section, click **Folders**.
19. Expand the All Folders node, right-click **Report Pack**, and select **User Security**.
20. Click **Add Principals**, select **Report Designers,** and click **>** to add it to the Selected users/groups list.
21. Click **Add and Assign Security**. The Assign Security window opens.
22. Select **Full Control** and click **>** to add it to the Assigned Access Levels pane.
23. Click **OK**.
24. Return to the Central Management Console Home page.
25. In the Organize section, click **Universes**.
26. In the right-hand pane, right-click **Report Connector**, and select **User Security**.
27. Click **Add Principals**, select **Report Designers**, and click **>** to add it to the Selected users/groups list.
28. Click **Add and Assign Security**. The Assign Security window opens.
29. Select **Full Control** and click **>** to add it to the Assigned Access Levels pane.
30. Click **OK**.
31. Return to the Central Management Console Home page.
32. In the Organize section, click **Connections**.
33. Right-click **DB Connection**, and select **User Security**.

34. Click **Add Principals**, select **Report Designers**, and click **>** to add it to the Selected users/groups list.
35. Click **Add and Assign Security**. The Assign Security window opens.
36. Select **Full Control** and click **>** to add it to the Assigned Access Levels pane.
37. Click **OK**.

Best Practices

Always use the Report Designers group to add new users who can add, modify, and delete reports and perform report related management operations. This simplifies maintenance when privileges and rights are modified for all users who have report modification and maintenance-related tasks.

Adding New Users to Report Optimizer

To add new users:

1. Launch the Central Management Console as described in "Accessing the Central Management Console for Report Optimizer" (on page 54).
2. Click **Users and Groups** in the Organize section, and click User List in the left-hand pane. All of the valid users are listed in the right-hand pane.
3. Click **Manage**, and select **New** > **New User**.
4. Choose the Authentication type and enter user details. If you select LDAP/Windows or AD/Windows NT, enter the username qualified with the appropriate domain; for example, americas\username.
5. Select **Concurrent User or Named User** for the Connection type at the bottom of the page.
6. Click **Create** or **Create and Close**.
7. Right-click the new user, and select **Member of**.
8. Click **Join Group**.
9. Select the **Report Designers** group and click **>** to add it to the Destination Group(s) list. Remove the Everyone group from the Destination Group(s) list if it is included there.
10. Click **OK**.

The new user can now log on to the web interface at http://<fqdn_or_ip_address_of_Report_Server>:8080/InfoViewApp/logon.jsp

If you changed the port number during installation, enter the selected port number instead of 8080.

For more information, see the “Managing Enterprise and general accounts” section of the “Managing Users and Groups” chapter of the *Administrator’s Guide*.

Best Practices

Assign rights to groups instead of individual users.

All users who need rights for the creation, modification, or deletion of reports should be added to the Report Designers group.

All users who need view-only rights should be added to the Everyone group. The Everyone group has view-only rights by default.

Changing the Server Intelligence Agent's User Account (for Monitoring Remotely Located Files)

To change the Server Intelligence Agent's user account:

1. Use the Central Configuration Manager to stop the Server Intelligence Agent.
2. Right-click the Server Intelligence Agent, and select **Properties**.
3. Uncheck the System Account check box.
4. Enter the Windows user name and password:

   Report Optimizer and the management server are installed on different machines. Both machines must be in the same domain.

   - Click the button to the right of the User field. The Browse User window opens.
   - Click the **Change** button, and select the domain name.
   - Click **OK** to return to the Browse User window.
   - Select the appropriate user, and click **OK** to return to the Server Intelligence Agent window.
5. Click **Apply**, and then click **OK**.
6. Start the Server Intelligence Agent. The server process logs on to the local machine with the specified user account. All reports processed by this server are formatted using the printer settings associated with the user account you entered.

Configuring Active Directory (AD) Authentication

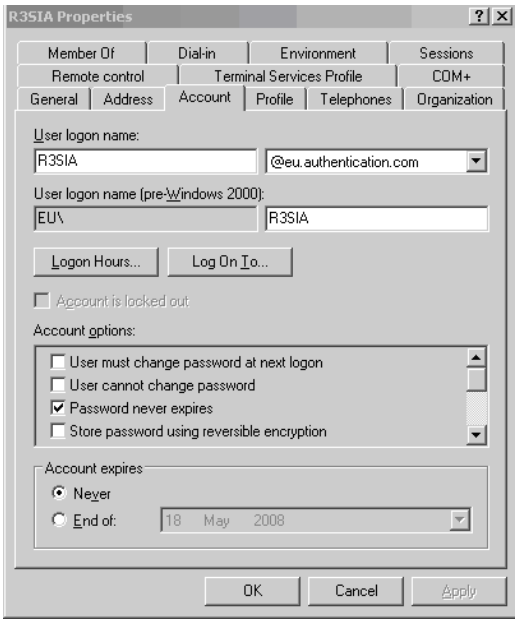
Active Directory is only supported on Windows for Report Optimizer.

You must configure Active Directory (AD) Authentication.

Create a Service Account

Create a domain account that can be used as a service account, and add this account to the local Administrators group on the RO server.

1. Open the Account tab for the user you created and make sure the "Password never expires" checkbox is selected.



2. Add the Service Account user to the local Administrators group.

Register an SPN Account

To add an SPN for the service account of the Central Management Server (CMS):

1. Open a command window.
2. Type the following command as a Domain Admin user:

   ```
   SETSPN.exe -A<service_class>/<domain_name> <service_account>
   ```

   In this instance:

   - <service_class> means any desired name; for example, ROCentralMS)
   - <domain_name> means the domain and server name of the service account; for example, DFDEV.COMPANY.COM)
   - <service_account> means the domain user account you configured; for example, sa ser01

Input example:

```
Setspn.exe -A ROCentralMS/DFDEV.COMPANY.COM sa sero1
```

Output example:

```
Registering ServicePrincipalNames for CN=sa sero1,OU=Service
Accounts,OU=NCSUS,D

C=dfdev,DC=company,DC=com

ROCentralMS/dfdev.company.com

Updated object
```

Grant Rights to Service Account

Grant the service account the rights to act as part of the operating system on each RO server:

1. On the RO server go to **Start > Control Panel > Administrative Tools > Local Security Policy**.
2. Expand **Local Policies**, and then click **User Rights Assignment**.
3. Double-click **Act as part of the operating system** and select **Add**.
4. Enter the name of service account you created and click **OK**.
5. Make sure the Local Policy Setting box is selected and click **OK**.

(*Optional*) Set Delegation Option

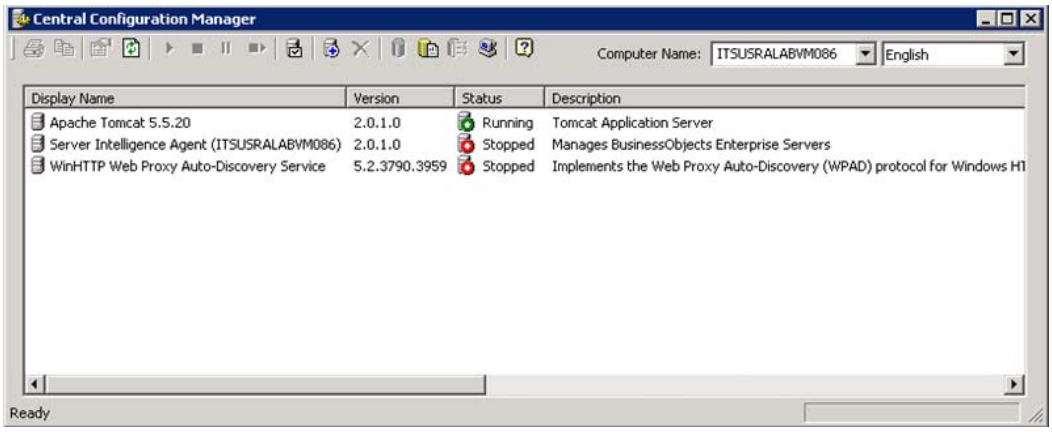
To set the Delegation option for the user:

1. Open the AD Service Account User within the AD Users and Computers tool.
2. Select the Delegation tab for the User.
3. Select **Trust this user for delegation to specified services only** and **Use Kerberos Only**.
   - On Windows 2000, select the **Account is trusted for delegation** check box on the account tab.
   - On Windows 2003 or Windows 2008, a delegation tab appears after an SPN is assigned. Select **Trust this user for delegation (Kerberos only)**.
4. Select **Add > Users and Computers** and enter the Service Account user.
5. Select the <`service_class`> name you specified in step 2.
6. Click **OK**.

Assign Account to Server Intelligence Agent

To set the AD service account to run the Server Intelligence Agent service:

1. Go to **Start Menu** > **Business Objects XI 3.1** > **Business Objects Enterprise** > **Central Configuration Manager** and stop the Server Intelligence Agent.



2. Right-click the Server Intelligent Agent and select **Properties**.
3. In the Log On As section, deselect the System Account and use the new AD account created in step 1. The format should be `selab\ro_svc`.
4. Restart the Server Intelligence Agent.

If the service does not start properly, you have an account issue (such as password or rights)

Create WINNT Directory

Create the `C:\WINNT` directory and then create the `krb5.ini` and `bscLogin.conf` files in the WINNT directory as follows:

1. Create the `bscLogin.conf` file, and copy and paste the following information into the file:

   ```
   com.businessobjects.security.jgss.initiate {
   com.sun.security.auth.module.Krb5LoginModule required;
   };
   ```

2. Create the `krb5.ini` file, and copy and paste the following information into the file:

   ```
   }[libdefaults]
   }default_realm = <DOMAIN.COM>
   }dns_lookup_kdc = true
   }dns_lookup_realm = true
   }[realms]
   }<DOMAIN.COM> = {
   }kdc = <ADSERVER>.<DOMAIN.COM>
   }default_domain = <DOMAIN.COM>
   }
   ```

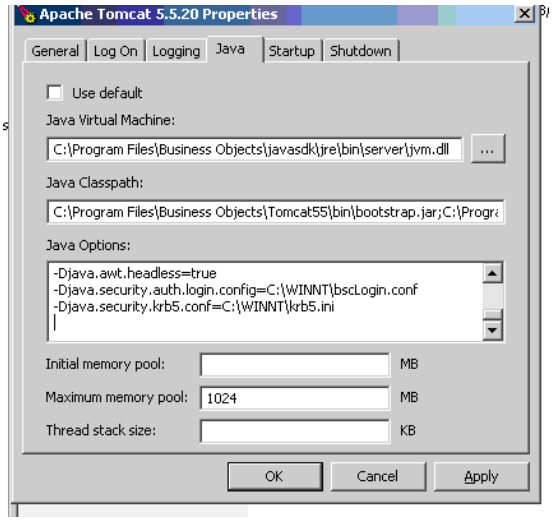
   In this instance, <DOMAIN.COM> means the Windows Fully Qualified Domain Name (FQDN) and <ADSERVER> means the Active Directory Domain Controller name. All names must include only capital letters.

Set File Locations in Tomcat

To set the locations for the files in the Tomcat configuration:

1. Select **Start** > **Programs** > **Tomcat** > **Tomcat configuration** and click the **Java** tab.
2. Copy and paste the following lines into the Java Options section:

   ```
   }-Djava.security.auth.login.config=C:\WINNT\bscLogin.conf
   }-Djava.security.krb5.conf=C:\WINNT\krb5.ini
   ```



3. Open Central Configuration Manager (**Start** > **All Programs** > **BusinessObjects XI 3.1** > **BusinessObjects Enterprise** > **Central Configuration Manager**).
4. Select the Apache Tomcat service and restart it.

Configure Active Directory Plug-In in RO

To configure the AD plug-in within the Configuration Management Console of RO:

1. Log on as Administrator to the Configuration Management Console.
2. On the Central Management Console home page, select **Authentication** from the drop-down menu, and double-click **Windows AD**.
3. Make sure the Enable Windows Active Directory (AD) check box is selected.
4. Set settings in the AD Configuration Summary section:
   a. Click **“”** beside the AD Administration Name, and enter an AD account that can read the AD. This is used to bind to the domain and search for users trying to authenticate.
   b. In the Default AD Domain box, enter the Fully Qualified Domain Name (using capital letters).
5. Add any AD Groups in the Mapped AD Member groups section.
6. In the Authentication Options section, select the Use Kerberos authentication radio button and enter `<service_account>@<DOMAIN.COM>` (see step 2) as the Service principal name of the service account. The domain name must be in capital letters.
7. Make sure the following options are selected in the AD Alias Options section:
   - "Assign each new AD alias to an existing User Account with the same name."
   - "Create new aliases when the Alias Update occurs."
   - "New users are created as concurrent users."
8. Click **Update**.

9. Make sure that AD Users or Groups is a member of the SE Report or Report Designer groups within the Configuration Management Console of RO.

Restart Tomcat

Stop and restart the Tomcat service using the Central Configuration Manager.

Sheduling Reports Based on File Based Events

If you scheduled reports based on file based events, you must reschedule those reports after upgrading. See the “Using file-based events with scheduled reports” section of the HP Storage Essentials Report Optimizer *Quick Start Guide*.

Setting Up an Email Server

To set up an email server:

1. Launch the Central Management Console as described in "Accessing the Central Management Console for Report Optimizer" (on page 54).
2. Click **Servers**. A list of all of the server processes running on your Report Optimizer server is displayed.
3. Click **Servers**.
4. Double-click **<your_servername>.destinationjobserver**.
5. Click **Destination**.
6. Select **Email** from the Destination drop-down menu, click **Add**, and populate your SMTP server details.
7. Click **Save** or **Save** and **Close**.
8. Double-click **<your_servername>.AdaptiveJobServer**.
9. Click **Destination**.
10. Select **Email** from the Destination drop-down menu, click **Add**, and populate your SMTP server details.
11. Click **Save** or **Save and Close**.

For more information, see the “Configuring the destination properties for job servers” section of the “Managing and Configuring Servers” chapter of the *BusinessObjects Enterprise Administrator’s Guide*.

Best Practices

Set up an email account like StorageReporter@mycompany.com and use this account for SMTP mailings.

Tuning the Report Optimizer Server

The following are optional steps for further configuring your server.

This section contains the following topics:

Configuring a Set of User Groups as Read-Only Users

To configure a set of user groups as read-only users:

1. Log on to the Central Management Console as an administrative user.
2. In the Organize section, click **Users and Groups**.
3. Click the **Manage** drop-down menu, and select **New** > **New Group**.
4. Enter a group name, such as Report Viewers, in the Group Name box. Enter a description in the Description box, and then click **OK**.
5. Click the **Manage** drop-down menu and select **New** > **New User**.
6. Enter an account name in the Account Name box, enter other details as appropriate, and then click **Create**. Repeat this step to create additional users.
7. After entering the last user, click **Create and Close**.

   To integrate Active Directory users, see "Configuring Active Directory (AD) Authentication" (on page 60).
8. Select all the users you just created, right-click, and select **Join Group**.
9. From the Available Groups section, select the Report Viewers group, click **>** to move it to the Destination Group(s) section, and then click **OK**.
10. Return to the Central Management Console Home page.
11. In the Define section, click **Access Levels**.
12. Click the **Manage** drop-down menu and select **New** > **Create Access Level**.
13. Enter a title in the Title box and click **OK**.
14. Double-click the access level you just created, and then click **Included Rights**.
15. In the right pane, click **Add/Remove Rights**.
16. In the left pane, select **General** > **General**, and then select the Granted radio button for the following rights:
    - Reschedule instances
    - Reschedule instances that the user owns
    - Schedule document that the user owns to run
    - Schedule document to run
    - Schedule objects that the user owns to destinations

- Schedule on behalf of other users
- Schedule on behalf of other users that the user owns
- Schedule to destinations
- View objects
- View objects that the user owns

17. In the left pane, select **Content** > **Web Intelligence Report**, and then select the Granted radio button for the following rights:
    - Download files associated with the object
    - Export the report's data
    - Refresh List of Values
    - Refresh the report's data
    - Save as CSV
    - Save as excel
    - Save as PDF
    - Use Lists of Values
18. In the left pane, select **Application** > **InfoView**, and then select the Granted radio button for the following rights:
    - View the favorites folder
    - View the Inbox
19. In the left pane, select **Application** > **Web Intelligence**, and then select the Granted radio button for the following rights:
    - Enable drill mode
    - Enable Java Report Panel
20. In the left pane, select **System** > **Connection**, and then select the Granted radio button for the following rights:
    - Data Access
    - Use connection for Stored Procedures
21. In the left pane, select **System** > **Universe**, and then select the Granted radio button for the following right:
    - Data Access
22. Click **OK** and **Close**.
23. Return to the Central Management Console Home page.
24. In the Organize section, click **Folders**.
25. Click **All Folders**.
26. Click the **Manage** drop-down menu and select **Top Level Security** > **All Folders**.

27. Select **Everyone**, and click **Assign Security**.
28. Select **View** from the Available Access Levels section, and click **>** to move to the Assigned Access Levels section.
29. Click **Apply**, **OK,** and **Close**.
30. Expand the All Folder node and select **Report Pack**. Right-click and select **User Security**.
31. Click **Add Principals**.
32. In the Available users/groups section, select **Report Viewers** and click **>** to move it to the Selected users/groups section.
33. Click **Add and Assign Security**.
34. Uncheck the Inherit From Parent Folder and Inherit From Parent Group check boxes.
35. In the Available Access Levels section, select **Report Viewers Access Level** and click **>** to move it to the Assigned Access Levels section.
36. Click **Apply**, **OK**, and **Close**.
37. Return to the Central Management Console Home page.
38. In the Manage section, select **Web Intelligence**, right-click, and select **User Security**.
39. Repeat step 31 through step 37.
40. In the Organize section, click **Connections**.
41. Click the **Manage** drop-down menu, and select **Top-Level Security** > **All Connections**.
42. Repeat step 31 through step 37.
43. In the Organize section, click **Universes**.
44. Click the **Manage** drop-down menu, and select **Top-Level Security** > **All Universes**.
45. Repeat step 31 through step 37.

Disabling Servers that are Not Required

The following servers are not required by Report Optimizer and should be stopped and set to the Disabled state:

- Crystal Reports Cache Server
- Crystal Reports Job Server
- Crystal Reports Processing Server
- Desktop Intelligence Cache Server
- Desktop Intelligence Job Server
- Desktop Intelligence Processing Server
- Report Application Server

To disable these servers:

1. Launch the Central Management Console as described in "Accessing the Central Management Console for Report Optimizer" (on page 54).
2. In the Organize section, click **Servers**.
3. Select the servers, right-click, and select **Disable Server**.

Increasing the Memory Heap Size Value

Increasing the memory heap size value size will prevent potential error messages.

To increase the memory heap size value:

1. Click **Start > Run**. The Run dialog box appears.
2. Enter `regedit` in the Open text field.
3. Click **OK**. The Registry Editor appears.
4. Navigate to `HKEY_LOCAL_MACHINE/SYSTEM/CurrentControlSet/Control/Session Manager/Subsystems`.
5. Right-click the Windows key and select **Modify**.
6. Edit the SharedSection value from `1024,3072,512` to `1024,3072,1024`.
7. Navigate to either of the following:
   - Windows 32-bit servers:

     ```
     HKEY_LOCAL_MACHINE\SOFTWARE\Business Objects\Suite 12.0\default\WebIntelligence\Server\Admin\SwapTimeOut
     ```

   - Windows 2008 64-bit servers:

     ```
     HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Business Objects\Suite 12.0\default\WebIntelligence\Server\Admin\SwapTimeOut
     ```

8. Edit this value to 1500 seconds. Alternatively, set this to a value higher than the Web Intelligence Processing Server connection time out value found in the Central Management Console. This value is written in minutes. The default value is 20.
9. Close the Registry Editor.
10. Restart the Web Intelligence Report Server for the changes to take effect.

Creating a Server Group

Creating a server group that contains all of the Report Optimizer servers enables you to modify the status of the servers from the Central Management Console.

To create a server group:

1. Launch the Central Management Console as described in "Accessing the Central Management Console for Report Optimizer" (on page 54).
2. In the Organize section, click **Servers**.
3. Right-click **Server Groups**, and select **New** > **Create Server Group**.
4. In the Name box, enter Report Connector Services.

5. Click **OK**.
6. Click **Servers List**.
7. Select the following servers:
   - AdaptiveJobServer
   - AdaptiveProcessingServer
   - CentralManagementServer
   - ConnectionServer
   - DestinationJobServer
   - EventServer
   - InputFileRepository
   - ListOfValuesJobServer
   - MultiDimensionalAnalysisServicesServer
   - OutputFileRepository
   - ProgramJobServer
   - PublicationJobServer
   - ReportApplicationServer
   - WebIntelligenceProcessingServer
8. Right-click the selected servers, and select **Add to Server Group**.
9. Select the **Report Connector Services** group, and click the **>** button.
10. Click **OK**.

Adding a Folder for User-Created Custom Reports

To add a folder for user-created custom reports:

1. Log on to InfoView.
   - Go to http://<fqdn_or_ip_address_of_Report_Server>:8080/InfoViewApp/logon.jsp

     If you changed the port number during installation, enter the selected port number instead of 8080.
   - Log on with a valid username and password.
2. Right-click **Public Folders**, and select **New > Folder**.
3. Enter the following name for the folder:

   ```
   <Customer Name> <Management Server Name> reports
   ```

Best Practices

Follow the naming convention described in "Adding a Folder for User-Created Custom Reports" (on page 70). If multiple installations are being configured at the same time, specify the management server name to uniquely identify each installation.

When exporting and importing end-user created reports for backup or support purposes, a unique top-level folder name for the reports ensures that the reports are not overwritten. Unique folder names for end-user reports also ensure that Report Pack updates do not overwrite user-created custom reports.

Deleting Duplicate Folders

To delete duplicate folders:

1. Right-click the folder you want to remove.
2. Select **Organize > Delete**.
3. Click **OK**.

Changing the Passwords for Report Optimizer Accounts

The Reporter installation provides the following default passwords:

- Administrator user account: Changeme123
- MySQL "sa" user account: Password123

Changing the Password for the Administrator Account

If you have since changed the password and you do not remember the old password, you can reset it, as described in the Resetting the Administrator Password section in the *Installation Guide* "Resetting the Administrator Password 47056".

To change the password for the Administrator account:

1. Log on to Central Management Console as described in "Accessing the Central Management Console for Report Optimizer" (on page 54).
2. In the Organize section, click **Users and Groups**.
3. Double-click **Administrators**.
4. Right-click **Administrator** and then select **Account Manager**.
5. Enter the new password in the Enterprise Password Settings section.
6. Click **Save and Close** for the new password to take effect.

Changing the Password for "SA" User

To change the password for "SA" User:

Linux:

Enter the following at the command prompt on one line:

```
<Report Optimizer install dir>/bobje/mysql/bin/mysqladmin –u sa -
pPassword123 password <new password> --socket <Report Optimizer
installdir>/bobje//mysql/mysql.sock
```

In this instance, Password123 is the old password for sa user and NewPassword is the new password for sa user.

There is a space between password and <new password> and socket and <Report Optimizer.

Windows:

1. To change the password for the “sa” user:
   a. Select **Start Menu** > **Business Objects XI 3.1** > **Business Objects Enterprise** > **Central Configuration Manager** and stop the Server Intelligence Agent.
   b. To connect to MySQL :

      ```
      INSTALLDIR\MySQL5\bin\mysql.exe -u root –p
      ```

   c. Enter the password when prompted.
   d. Enter the following SQL command to change the password:

      ```
      mysql>UPDATE mysql.user SET Password=PASSWORD('MyNewPass') WHERE
      user='sa';
      ```

      In this instance, MyNewPass is the new password.
   e. Enter the following SQL command:

      ```
      mysql> FLUSH PRIVILEGES;
      ```

2. Select **Start Menu** > **Business Objects XI 3.1** > **Business Objects Enterprise** > **32-bit data sorce(ODBC)**.
   a. Click the **System DSN** tab.
   b. Select **Business Objects Audit server**.
   c. Click **Configure** and update the password for “sa” user.
   d. Select **Business Objects CMS**, click **Configure**, and update the password for “sa” user.
3. Select **Start Menu** > **Business Objects XI 3.1** > **Business Objects Enterprise** > **CentralConfiguration Manager**.
   a. Right-click **Server Intelligence Agent** > **properties** > **configuration**.
   b. Click **BOE120**.
   c. Select **Update Data source settings**.
   d. Click **OK**.
   e. Select **mysql driver**.
   f. Enter the new password for “sa” user.
   g. Repeat steps a through f for BOE120_AUDIT.
   h. Restart BOE120MySQL service from the services console.
   i. Start the “Server Intelligence Agent” service.
4. See the following web sites for more information about changing the passwords for sa:
   - http://dev.mysql.com/doc/refman/5.0/en/default-privileges.html
   - http://dev.mysql.com/doc/refman/5.0/en/resetting-permissions.html#resetting-permissions-windows

Chapter 4

Required Configuration Steps for HP Data Protector Reporter

First, follow the steps on the Getting Started page.

To access the Getting Started page:

1. Open a web browser and enter the following URL:

   `http://<name_of_the_management_server>`

   In this instance, <name_of_the_management_server> is the name of the server on which you installed the management server. You can also provide an IP address.

2. In the Name text box, enter the following:

   `admin`

3. In the Password text box, enter the following:

   `password`

4. If the Getting Started page does not automatically appear, click **Startup** in the upper-right corner.

   Follow the steps on the Getting Started page. Make sure you import the license as directed. Also, run the Configuration Wizard from the Getting Started page. For more information about the Configuration Wizard, see "Launching the Backup Host Configuration and Discovery Wizard" (on page 79).

Prerequisites for Agentless Discovery of Data Protector

If you have a CIM extension installed, the product will automatically use the CIM extension to discover Data Protector.

Before you discover a Data Protector server that does not have a CIM extension installed, you must do the following:

1. Install the Data Protector Client on the management server. See "Step 1 – Install the Data Protector Client" (on page 74).
2. Create the DPREPORTER user group for HP Data Protector Reporter. See "Step 2 – Create a User Group for HP Data Protector Reporter" (on page 76)
3. (Windows Only) Start the AppStorManager service with the context of the local administrator. "Step 3 – Start the AppStorManager Service with the Context of Local Administrator" (on page 77)
4. Create a user in the DPREPORTER user group. See "Step 4 – Create a User within the DPREPORTER User Group" (on page 78)
5. Install the Data Protector 6.1 patches on top of the Data Protector 6.1 client or upgrade to the Data Protector 6.11 client. See "Step 5 – Install the Data Protector Patch" (on page 78)

Step 1 – Install the Data Protector Client

Install the Data Protector Client on the HP Storage Essentials management server as described in the following steps. These steps apply to Data Protector 6.11, 6.1 and 6.0.

- "Linux Installation Steps" (on page 74)
- "Windows Installation Steps" (on page 74)

Linux Installation Steps

To install the Data Protector Client:

1. Open the /etc/services file in a text editor, such as vi.
2. Search for 5555 in the text editor.
3. Comment the following two lines in the text editor as follows:

   ```
   #personal-agent 5555/tcp # Personal Agent

   #personal-agent 5555/udp # Personal Agent
   ```

4. Save the services file, and exit the text editor.
5. Copy the Data Protector tar file and extract the tar file.
6. Go to the LOCAL_INSTALL directory.
7. Run the Data Protector installation by entering the following command at the command prompt:

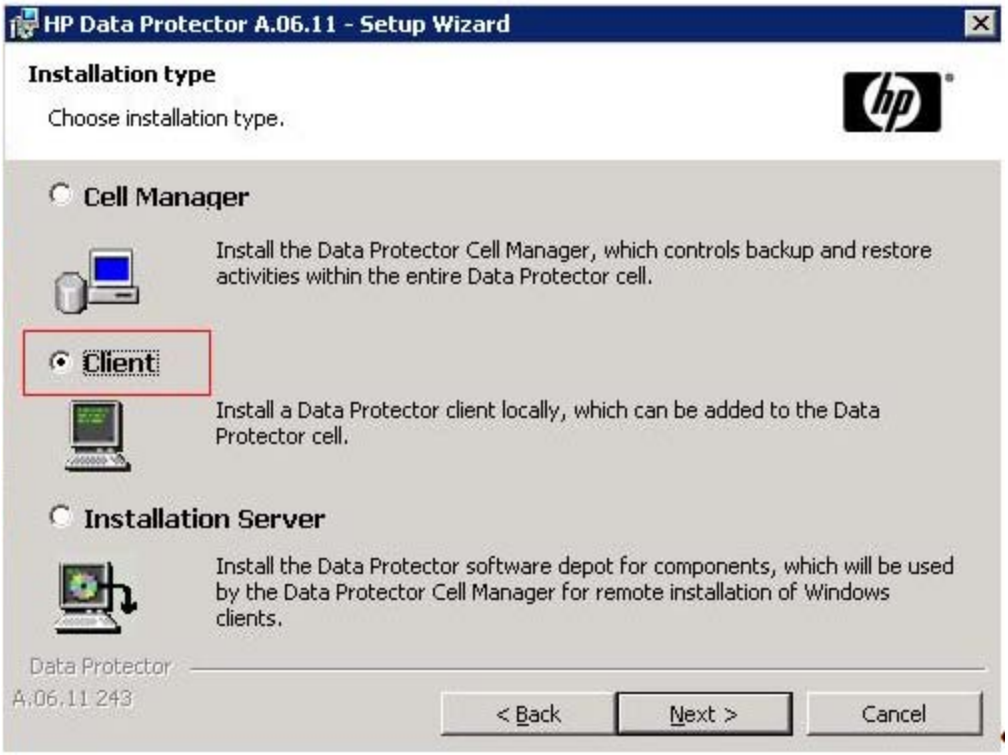
   ```
   ./omnisetup.sh
   ```

8. When asked which components to install, select only the following:
   - User Interface
   - Java GUI Interface

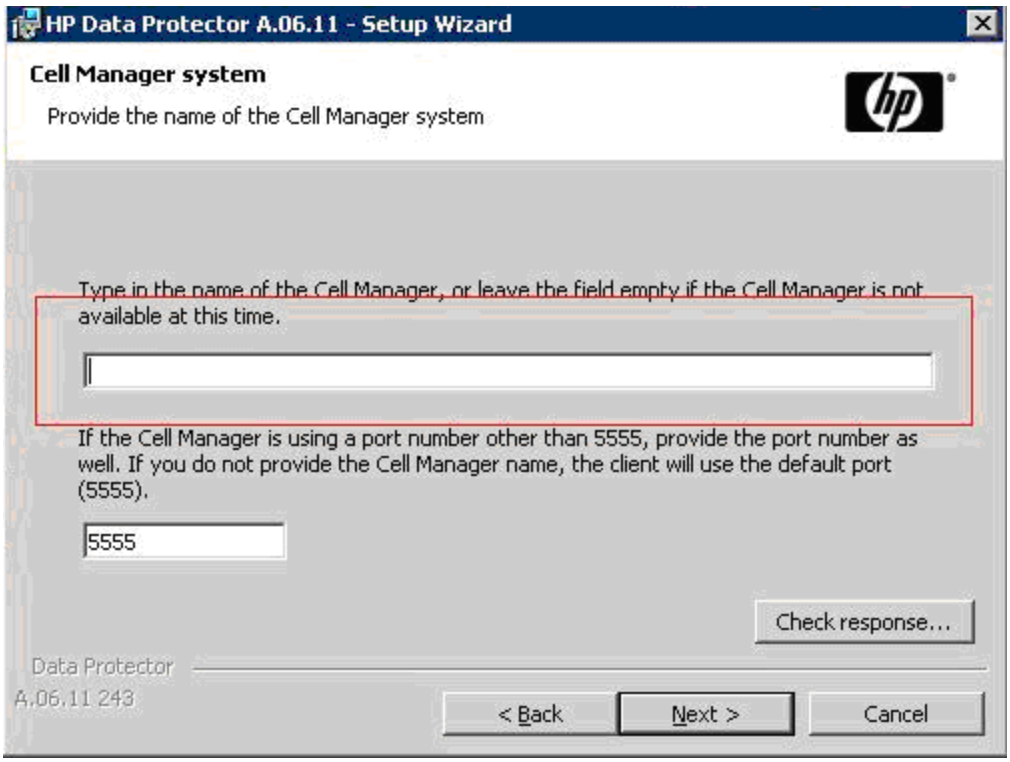
Windows Installation Steps

To install the Data Protector Client:

1. Select the **Client** option in the Setup Wizard and click **Next**.

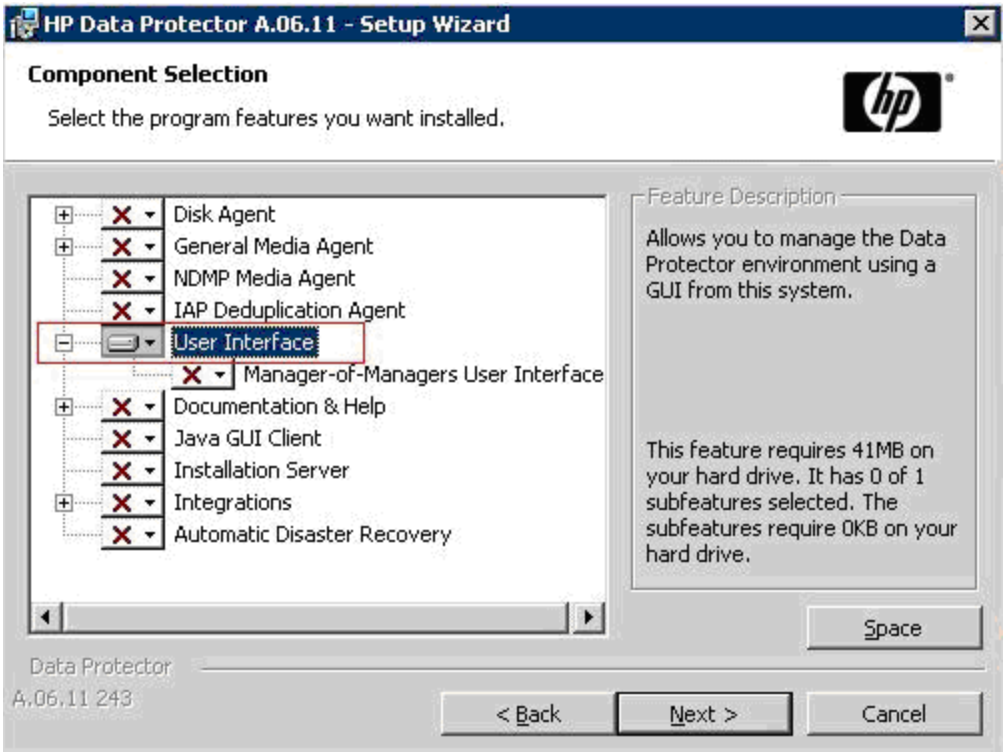


2. Leave the Cell Manager name field blank and click **Next**.



3. Deselect all options, except for the User Interface option, which is selected in the following

figure. Click **Next** when done.



4. Complete the installation by following the steps in the Wizard.

Step 2 – Create a User Group for HP Data Protector Reporter

Ask your Data Protector Administrator to create a user group for HP Data Protector Reporter in the Data Protector Cell Manager Console Client as follows:

1. Open the Data Protector Cell Manager Console Client.
2. Go to **Users**. Right-click **Users**, and then click **Add User Group**.

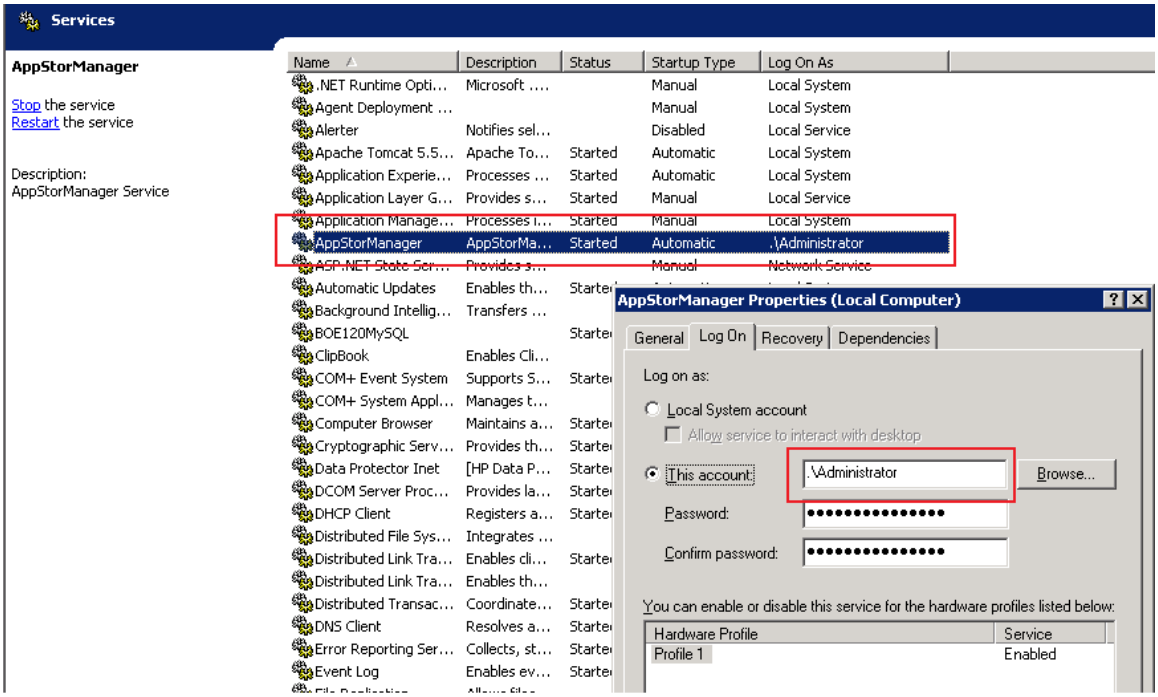
3. Provide the user group name `DPREPORTER`.
4. Deselect the **Start restore** option in the Data Protector User Rights pane. This option is selected by default.
5. Select the following user rights in the Data Protector User Rights pane:
   - Device Configuration
   - Media Configuration
   - Reporting notifications

   The selections should resemble the following:

6. Click **Finish** to create the new user group.

Step 3 – Start the AppStorManager Service with the Context of Local Administrator

1. (*Windows only*) Before creating the user, make sure that the AppStorManager service, which is the service for HP Storage Essentials, is started on the HP Storage Essentials management server with the context of a Local Administrator user as the Log On User. You can check in the properties of the Service as follows:



Step 4 – Create a User within the DPREPORTER User Group

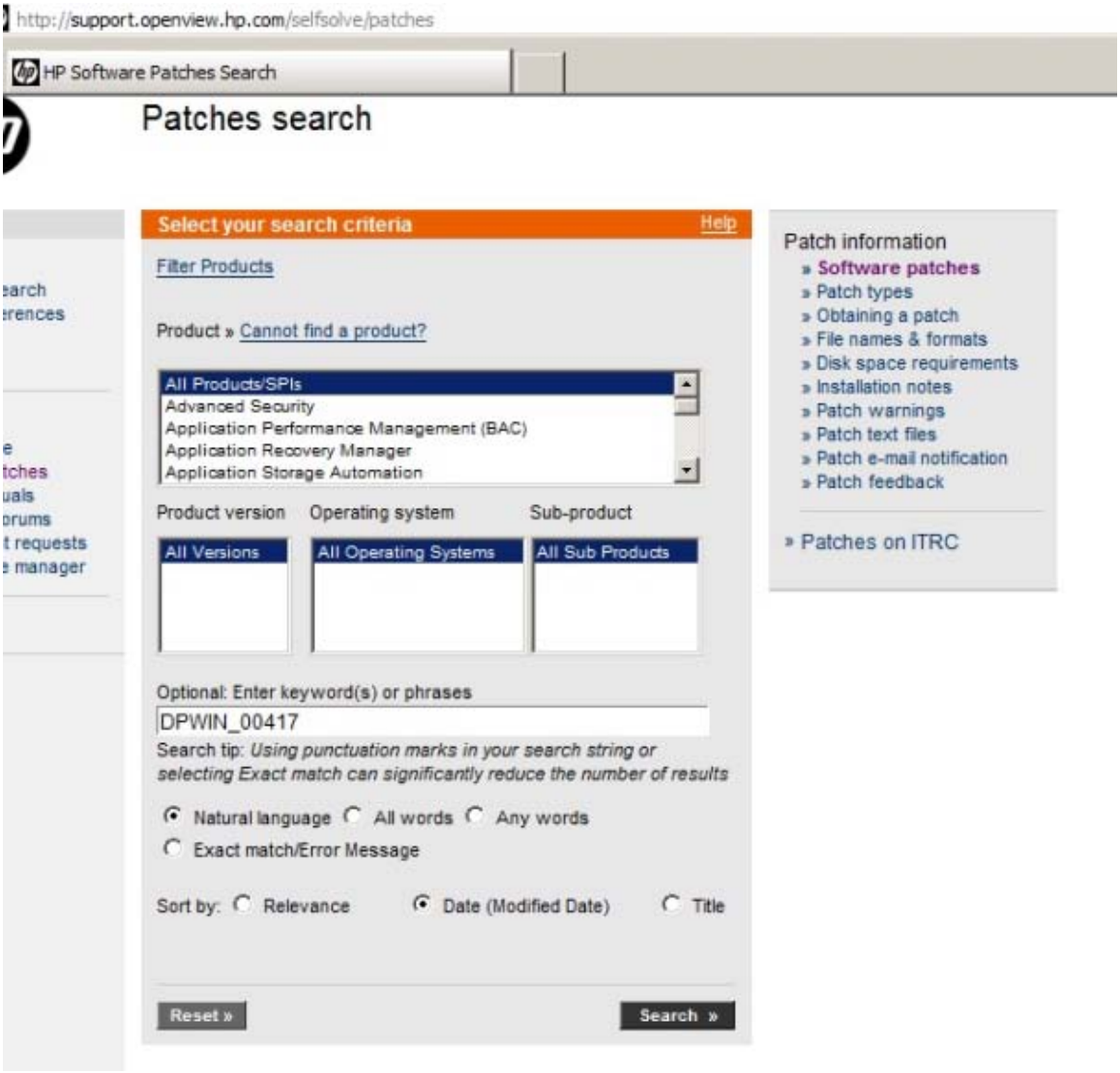
1. Ask your Data Protector Administrator to create a user within the DPREPORTER User Group as follows:
2. Right-click the DPREPORTER group and select **Add/Delete Users**.
3. In the Name field, provide one of the following:
   - **Linux**: The name of the user under which the HP Storage Essentials server process is running. By default, this name is the 'root' user.
   - **Windows**: The name of the user with which the HP Storage Essentials AppStorManager service is running. You can determine the user by looking for the account specified in the **This Account** field on the Log On tab. In this case, the user is Administrator.
4. In the Group/Domain field, provide one of the following:
   - **Linux**: The group information of the user under which the process is running. This can be verified by running the command 'id root' on the HP Storage Essentials management server.
   - **Windows**: The host name of the HP Storage Essentials management server, since the AppStorManager service is started as the Local Administrator User.
5. In the Client field, select the DNS name or IP address of the HP Storage Essentials management server.
6. Click **>>** to apply your new user.
7. Click **Finish** to add your new user to the user group.

Step 5 – Install the Data Protector Patch

You need to install the following patch, depending the operating system of the HP Storage Essentials management server, on top of the Data Protector 6.1 client or upgrade to the Data Protector 6.11 client:

- **Linux**: DPLNX_00077
- **Windows**: DPWIN_00417

If you own a valid support contract, you can download patches from http://support.openview.hp.com/selfsolve/patches. You need an HP Passport Account for login. When you access the Patches Search page, select **All Products SPIs** and enter the name of patch, such as DPWIN_00417, in the Optional: Enter keyword(s) or phrases field. Click **Search**. The link to the patch appears under the Search button.



If you do not install the patch or do not upgrade to Data Protector 6.11, the following occurs in Backup Manager:

- Media and media pools details do not appear for discovered backup hosts.
- Policy Details for any session are not displayed in the Policy Detail tab.
- Schedule Details for any session are not displayed in the Schedule Detail tab.

Launching the Backup Host Configuration and Discovery Wizard

If you installed HP Data Protector Reporter, the Backup Host Configuration and Discovery Wizard is available to you. The Backup Host Configuration and Discovery Wizard assists you perform the initial discovery and configuration tasks using a single user interface. You can invoke the **Backup Host Configuration and Discovery Wizard** from the **Getting Started** page.

Caution: Before you can discover Data Protector, you must complete the requirements provided in "Prerequisites for Agentless Discovery of Data Protector" (on page 73).

The Backup Host Configuration and Discovery Wizard page displays the following tabs:

- Discovery – Helps you discover the hosts running the Data Protector server. It also provides options to configure the discovery details and backup server schedule. See "Step 1 – Discover Backup Host Address" (on page 80).
- Backup – Enables you to set values to retain the backup sessions in the database. See "Step 2 – Set Retention Value for Backup Session Data" (on page 82).
- System – Helps you configure email notifications on reports and policies. You can assign an SMT server from which the management server can send email notifications. "Step 2 – Set Retention Value for Backup Session Data" (on page 82).
- Reports – Provides options to schedule the Report Cache Refresh and configure the Reporter Login. It also provides options to configure the Report Optimizer email and FTP server. See "Step 4 – Configure Report Optimizer Settings" (on page 82).

Step 1 – Discover Backup Host Address

The **Discovery** tab of the configuration wizard helps you configure and discover single or multiple backup servers. Before you discover the backup hosts, you must add and configure the backup hosts.

HP Data Protector Reporter, by default, does not come with MAPs. Therefore, you cannot discover devices that have MAPs, such as switches, arrays and CIM extension, even though this functionality is displayed in the product and mentioned in the documentation. If you are running HP Data Protector Reporter without MAPs, you can only discover the backup servers without a CIM extension installed, as described in"Prerequisites for Agentless Discovery of Data Protector" (on page 73).

To configure a backup host:

1. Provide the backup host's IP address, user name, and password as follows:
   - **Single server**:

     In the IP Address/ DNS Name box, type the IP address of the device and provide the host's user credentials.
   - **Multiple servers**:
     - In the **From IP address** box, type the lowest IP address in the range of elements you want to discover.
     - In the **To IP address** box, type the highest IP address of the range of elements you want to discover.
     - Provide the host's user credentials (optional); otherwise, the default credentials will be used.
   - Select **Import** to import the IP addresses for discovery, and do one of the following:
     - Click **Browse** to find an XML file containing the list of IP addresses to be discovered.

       Or
     - In the **Filename** box, provide a complete path to the file.

- In the **Password** box, type the password for the discovery list. If the discovery list does not have a password assigned to it, leave this field blank.

2. Configure the Discovery Details Schedule as follows:
   - Select **Add the Address to this schedule** option.
   - Select a name from the **Schedule Name** list, or select **New Schedule** to create your own schedule name. Provide a name for the schedule.
   - Type a description for the schedule.
   - Set **Next Schedule Run** date and time. Click the calendar icon to select a date and time.
   - Set **Repeat Interval** period. Type a value for interval and select an unit of time from the list.

   However, you can choose to skip the above step.
3. Configure the Backup server schedule. You can enable the schedules for the following:
   - Image collection
   - Sessions collection
   - Media collection
   - Session monitoring
   - Drive monitoring
4. Click **Add**. This validates the backup configuration details and saves it to the database. The validated IP addresses of the Data Protector backup servers are listed in the **Addresses to Discover** table.

After you configure the backup hosts, you must discover them. You can also edit or delete the backup hosts.

To discover the IP addresses from the **Address to Discover** table:

1. Select the IP addresses you want to discover.
2. Click **Discover**. The following message appears: "Are you sure you want to discover the selected IP addresses?"
3. Click **OK** to start the discovery process. This initiates Discovery Step 1 and Backup Data Collection. The discovery status is displayed as "Discovery is in progress.." You can click on the link to view the discovery logs.

To edit IP addresses from the Address to Discover table:

1. Select the IP addresses you want to edit.
2. Click **Edit**. The Edit window opens.
3. Edit the settings, and then click **Save**. The changes will apply to all the selected backup servers.

   You can also reset your changes by clicking the **Reset** button.

To delete the IP addresses from the Address to Discover table:

1. Select the IP addresses you want to delete.
2. Click **Delete**. The following message appears: "Are you sure you want to delete the addresses?"
3. Click **OK** to delete the selected discovery addresses from the table.

After the configuration and discovery of backup hosts are complete, click **Next** to go to the **Backup** tab.

Step 2 – Set Retention Value for Backup Session Data

The **Backup** tab of the configuration wizard provides options to set the retention value for the Sessions to be stored in the database.

To set the retention value:

1. Type the number of days (a value between 30 and 1098) in the box.
2. Click **Submit**.
3. Click **Next** to go to the **System** tab.

Step 3 – Set Up Email Notifications

The **System** tab of the configuration wizard helps you set notifications from the management server on reports and policies.

To configure email notification:

1. Select **Enable**.
2. In the **Server Name or IP Address** box, type the DNS name or IP address of the Simple Mail Transfer Protocol (SMTP) server, you want to use to send the email notification.
3. In the **Port** box, type the Port number.
4. In the User Name box, type the user name for the SMTP server.
5. In the Password box, type the password of the above user.
6. In the Verify Password box, re-type the password.
7. In the Sender box, type the email address of the sender. This address is displayed in the From box in the email.
8. If you want the replies to go to an email address other than the one specified In the Sender box, type an email address you want to receive the replies to in the Reply box.
9. Click **Save**.

Click **Next** to go to the **Reports** tab.

Step 4 – Configure Report Optimizer Settings

The Reports tab enables you to schedule a reports cache refresh and configure the reporter login. You can also specify the email server to be used for sending the reports and the FTP server to post the reports.

To schedule a reports cache refresh:

1. Select Enable.
2. Click the calendar icon to set the date and time for a scheduled task.
3. In the **Time** box, type the time in 24-hour format with the hour and minutes separate by a colon. For example, 22:15. Click the date on which you want the task to run.
4. Click **Set**.
5. In the **Repeat Interval** box, type an interval. Select a unit of time from the list.
6. Click **Save**.

To configure the reporter login settings:

1. In the **Host Name or IP** box, type the IP of the Reporter Optimizer system.
2. In the **Port Number** box, type the port number.
3. Click **Save**.

You can also reset or change the password. When you click **Reset the password**, the password is set to default.

To configure the Report Optimizer E-mail server:

1. Select a Job Server from the list.
2. In the Domain Name box, type the domain name.
3. In the Host box, type the IP address of the host.
4. In the Port box, type the port number.
5. In the User name box, type the user name.
6. Click **Save**.

To specify the Report Optimizer FTP server:

1. In the Host box, type the IP address of the host.
2. In the Port box, type the port number.
3. In the Account box, type the user name.
4. In the User name box, re-type the user name as above.
5. Type password for the user.
6. Click **Save**.

Click **Close** to complete the discovery and configuration tasks and exit the wizard.

- Select **Do not automatically display this page again** option if you do not want to invoke the Backup Host and Configuration wizard each time you log on to the management server.
- Click **Close** to exit the wizard without completing your configuration tasks. You can, at a later stage, access the wizard by using the **Discovery** menu (**Discovery** > **Wizard**) or **Configuration** menu (**Configuration** > **Wizard**).

Chapter 5

Backup Manager

The Backup Manager monitors the backup applications running on hosts managed by HP Storage Essentials. It monitors the progress of backup processes and provides status on the physical infrastructure that supports those processes. It also helps you visualize your backup configuration and recovery setup.

The following topics in this section describe how to use the Backup Manager and how to view information about backup applications running in your storage environment.

About Backup Manager

The Backup Manager enables you to:

- Monitor the overall status of the backup process.
- Visualize the backup configuration and recoverability of a file, directory, volume, or server.
- View the status of the physical infrastructure supporting the backup process, backup application, backup server, network, tape library, and media.
- Obtain information on reasons for backup failures and advisory information for configuring new back-up schedules.

Backup Manager monitors the backup applications running on discovered hosts. To determine which backup applications are supported, see the support matrix, which is accessible from the Documentation Center.

Caution: The management server is able to detect the presence of the following after you obtain backup details:

- **Backup Application** – A backup application (such as NetBackup, HP Data Protector, EMC NetWorker, or IBM Tivoli Storage Manager) serving as the master in a backup hierarchy. A backup application is responsible for managing other media managers.

- **Backup Manager Host** – A managed host that is running the backup application. The IP address of the Backup Manager host must be specified in Step 1 of discovery before the backup application can be discovered.
- **Media Manager Application** – A backup application functioning as a server to control the media in a backup hierarchy. A media manager application can be responsible for managing different types of hardware, such as tapes and drives.
- **Media Manager Host** – A host that has the backup application running as the media manager application. A media manager application and its host can be discovered through the Backup Manager host (similar to the way that hosts are detected through a switch). If a media manager host is discovered through a backup manager host, the media manager host is considered to be "unmanaged," meaning that the management server has discovered it, but cannot obtain additional information about the element. If the IP address of the media manager host is specified in Step 1 of discovery, the media manager host will be considered "managed."
- **Media** – Any device that is used to store backup data, such as tape
- **Media Pool** – A logical grouping of the backup media
- **Sessions** – Scheduled and executed backup sessions
- **Tape Library** – A device hosting a collection of tapes
- **Robot** – An automated device inside the tape library; responsible for manipulating the tapes
- **Backup Client** – A host that is being backed up by a backup application. A backup client can be managed as a non-generic element if its IP address appears in the discovery list. Otherwise, backup clients that are identified through the backup application are considered generic elements.

Only a single click on an element in the topology is required to obtain more information about the element.

Master servers without the tape library connectivity are not shown in the drive monitoring page.

When the tape library name provided by Data Protector and the name provided by the SMI-S agent of the tape library do not match, a tape library is displayed as two different tape libraries, once as a generic tape library and again as a discovered tape library.

Requirements for Backup Manager

The CIM extension supports only one backup solution on a host. For this reason, Backup Manager does not support both EMC NetWorker or NetBackup Master Server, HP Data Protector Cell Manager, and IBM Tivoli Storage Manager on the same host. If EMC NetWorker or NetBackup Master Server, Data Protector Cell Manager, and IBM Tivoli Storage Manager are installed on the same host, by default only Data Protector Cell Manager is discovered. EMC NetWorker or NetBackup Master Server and IBM Tivoli Storage Manager are ignored by the CIM extension.

Before you can use the Backup Manager feature, you must follow these steps:

1. Install a CIM extension on the host running the backup application. For information about installing CIM extensions, see the *Installation Guide*.
2. Discover the host running the backup application, selecting the **Include backup details** option (refer to the *HP Storage Essentials Installation Guide*). HP recommends that you also select the **Include infrastructure detail** option, so you can also monitor and manage the host itself.

Make sure you have at least 500 MB available if you are using the host as a Backup Manager host in a large environment; for example, 300 clients, 25,000 sessions, and 500,000 images.

3. Schedule backup collection for your Backup Manager hosts as described in the *HP Storage Essentials User Guide*.

Determining if You Have Enough Media to Run a Backup

If you are performing many, or large, backups, you should make sure you have enough media available for the backup. Backup Manager provides several methods for determining this:

- **Media tab** – Provides information about the discovered media, including its usage count.
- **Media Pool tab** – Provides information about media in the pools, such as whether it is Available, Allocated, Frozen, or Suspended.
- **Media Summary reports** – Provides information about all discovered media over a defined time period.

To use these methods:

1. Click **Backup Manager** ().
2. Click the **Topology** tab on the right side of the window.
3. Expand the Backup Applications node in the left pane, and then select a Backup Manager host.
4. If necessary, expand the lower pane so you can view the Media and Media Pool tabs.
5. Click the **Media** tab in the lower pane. The following information is displayed:
   - **Media ID** – The identification number of the media
   - **Media Pool** – The name of the media pool
   - **Usage Count** – How often the media has been used
   - **Barcode** – The barcode associated with the media
   - **Retention** – How long the media is retained
   - **State** – Whether the media is Full, Available, or Active

   To learn more about a specific medium, select its row. Additional information is displayed in the lower-right pane.
6. To learn more about the media pool that contains the media, click the **Media Pool** tab. The following information is displayed:
   - **Media Pool** – The name of the media pool
   - **Backup Manager** – The name of the Backup Manager host to which the media pool belongs
   - **Media Manager** – The name of the media manager to which the media pool belongs
   - **Library** – The name of the library to which the media pool belongs
   - **Available** – The media is available for backup.
   - **Allocated** – The media is currently either actively being used or has a valid backup on it.

- **Frozen** – The media will never become available for backup again, but it is still available for restores.
- **Suspended** – The media will not be used again until all backups written to it expire. It is still available for installations however.

You can also set up a policy that will notify you when the number of available media for a storage pool is running low. For example, you could create a policy that sends you an e-mail when the number of available media for a storage pool is less than two. Refer to the *HP Storage Essentials User Guide*.

Viewing Running Sessions

For information about configuring session monitoringrefer to the *HP Storage Essentials User Guide*.

To view sessions that are running:

1. Click **Backup Manager** ().
2. Click the **Topology** tab on the right side of the window.
3. Right-click a Backup Manager application, and then select **Show Running Sessions**. The Running Sessions page is displayed.
4. If desired, select filter criteria, and then click **Apply Filter**. The table is updated to display only the sessions that meet the filter criteria you entered. The following information about each session is displayed:
   - **Job ID** – The identifier assigned to the session
   - **Backup Manager** – The name of the backup manager
   - **Media Manager** – The name of the media manager
   - **Clients** – The names of the clients
   - **Backup Policies** – The names of the backup policies
   - **Schedules** – The names of the schedules
   - **Session Status** – The session status: Success or Failure
   - **Session State** – The session state: Done, Queued, or Active
   - **Media Used** – The type of media used for the backup

     Media Used information is not available for IBM Tivoli Storage Manager.
   - **Start Time** – The starting time and date of the session
   - **End Time** – The end time and date of the session
   - **Size** – The size of the session in kilobytes (KB)
   - **Files** – The number of files

After Caché is removed and the CIM extensions are installed, the first session monitoring collection collects all of the sessions for the past week. One hour after a fresh installation of Caché, these sessions are removed from the Running Sessions page.

The Running Sessions page is automatically refreshed every two minutes. To manually refresh the page, click **Getting Latest Sessions**.

For IBM Tivoli Storage Manager,the sessions information is collected using the activity log.

Determining Last Successful Backup

Backup Manager provides several tools to help you determine if the last scheduled backup was successful. The quickest way to do this is from the Summary tab in Backup Manager. The following topics provide more information:

- "Viewing the Summary Backup Charts " (on page 89)
- "Viewing Backup Results for a Backup Manager Host" (on page 89)
- "Viewing Backup Results for a Client" (on page 90)
- "Viewing Backup Information for a Client" (on page 90)

Viewing the Summary Backup Charts

To access summary information about last night's backup from the backup charts:

1. Click **Backup Manager** ().
2. Click the **Summary** tab on the right side of the window.

By default, the Backup SLA Performance chart is displayed in the upper-left pane on the Summary page. This chart includes the overall results of the backups made in the past 14 days. It tells you if the overall backup was successful, partially successful, or failed.

For more information, see "About the Summary Backup Charts " (on page 99) and "Modifying Summary Backup Charts " (on page 103).

Viewing Backup Results for a Backup Manager Host

To quickly view the results of the backup sessions performed by a backup application:

1. Click **Backup Manager**().
2. Click the tab on the right side of the window.
3. In the left pane, expand the Backup Applications node, and then select the Backup Manager host.
4. If necessary, expand the lower pane so you can see the tabs.
5. Click the Sessions tab. Backup Manager displays the following information for each session the backup application performed:
   - **Session ID** – The identifier assigned to the session
   - **Client** – The name of the client
   - **Backup Policy** – The name of the backup policy
   - **Schedule** – The name of the schedule
   - **Status** – The status of the backup: Success, Partial, or Failure

- **Start Time** – The starting time and date of the backup
- **Duration** – The amount of time in seconds it took for the backup to be displayed
- **Size** – The size of the backup in gigabytes (GB)
- **Files** – The number of files backed up

6. To learn more about a session, select the session's row in the table and see the Session Detail, Policy Detail, and Schedule Detail tabs in the lower-right pane.

Viewing Backup Results for a Client

To view the results of the last backup for a client:

1. Click **Backup Manager** ().
2. Click the **Topology** tab on the right side of the window.
3. In the left pane, expand the Clients node, and then select the client.
4. In the topology pane, check the color of the check mark above the icon for the client. The icon colors have the following meaning:
   - **Green** – The last backup on the client was successful.
   - **Yellow** – The backup on the client was partially successful.
   - **Red** – The backup on the client failed.

To view detailed backup information for a client, see "Viewing Backup Information for a Client" (on page 90).

Viewing Backup Information for a Client

Backup Manager tracks backup information for a client for the past 30 days. The Backup tab gives an at-a-glance view of the backup coverage for a selected element. For example, you can select the period for the coverage and review the policy, schedule, and results for the backups executed for that period.

To obtain detailed information about the backup sessions for a client:

1. Click **Backup Manager** ().
2. Click the **Topology** tab on the right side of the window.
3. Select the client from the topology pane or from the tree in the left pane.
4. If necessary, expand the lower pane so you can view the Properties and Backup tabs.
5. Click the **Backup** tab to view the following information for each backup policy:
   - **Backup Policy** – The name of the backup policy
   - **Schedule** – The name of the schedule
   - **Date** – The date, end time, and status

6. To learn more about a policy or schedule, select a cell in the table. Additional information is provided on the Policy Detail and Schedule Detail tabs in the lower-right pane.

About the User Interface for Backup Manager

Backup Manager has an easy-to-use interface that provides the following options:

- **Toolbar** – Provides buttons and menus to help you modify the topology and charts in Backup Manager (see "About the Toolbars in Backup Manager" (on page 92))
- **Summary and Topology tabs**:
  - **Summary** tab – Displays summary charts for backup elements (see "About the Summary Backup Charts " (on page 99) and "Modifying Summary Backup Charts " (on page 103)).
  - **Topology** tab – Displays the topology of the backup elements

    The lower pane on the Topology tab becomes visible when you select a discovered element. The tabs are determined by the backup element selected (see "About the Tabs in the Topology Lower Pane " (on page 101)).

    Access to Navigation, Events, Collectors, Policies, and Chargeback – When you click an element on the Topology tab, the following links in the lower-right corner are enabled if that feature is supported for the selected element:

    - **Navigation** – Displays the navigation information for an element, such as which storage systems are connected to the element.Refer to the *HP Storage Essentials User Guide*.
    - **Events** – Displays the events for the element. Refer to the *HP Storage Essentials User Guide*.
    - **Collectors** – Provides links to data collectors and reports about the element. Refer to the *HP Storage Essentials User Guide*.
    - **Policies** – Enables you to set up policies for the element. Refer to the *HP Storage Essentials User Guide*.
    - **Chargeback** – Enables you to provide chargeback information about the element. Refer to the *HP Storage Essentials User Guide*.

    You can also select an element and use the right-click menu options to obtain additional information (see "Right-Click Menu Options on the Topology Tab" (on page 96)).

About the Topology Icons in Backup Manager

The following table describes the icons that appear in the topology in Backup Manager.

Topology Icons in Backup Manager

Icon	Description
	When a client computers is shown with a green check mark, the backup on the computer was successful.

Icon	Description
	When a client computers is shown with a yellow question mark, the backup on the computer was partial.
	When a client computers is shown with a red X, the backup on the computer failed.
	Host
	Master backup server (media). This image is an example of a master backup server for NetBackup.
	Backup server (media), such as NetBackup
	Tape Library
	Tape Drive

About the Toolbars in Backup Manager

Backup Manager has two toolbars:

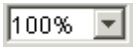
- The main toolbar that appears at the top of its screen. See "Main Toolbar for Backup Manager" (on page 92).
- The toolbar for charts that appears in the middle of its screen. See "Toolbar for Charts" (on page 94).

Main Toolbar for Backup Manager

The following table provides a brief description of the buttons and menus on the main toolbar in Backup Manager. This toolbar is available at the top of the Backup Manager screen.

Toolbar in Backup Manager

Button	Description
	Saves the current topology or summary page, so that when you return to Backup Manager, the saved layout or summary is restored.

Button	Description
	This option can be especially useful if you want to keep the new location of elements you have moved. When you click the button, you are asked if you want the layout to apply to all users. • **Yes** – All users who log into the management server can view the topology or summary you created. Only users with system configuration capability can save their layout for all other users • **No** – No other users can view the topology or summary you saved.
	Prints the topology or the summary.
	Enables you to view information from past backups. For example, if you want to view a backup from last March, just click the Calendar icon, then select the date.
	Enables you to modify the summary charts. Enabled when the Summary tab is active.
	Magnifies the view. Enabled when the Topology tab is active.
	Decreases the magnification. Enabled when the Topology tab is active.
	Enables you to set the magnification to a percentage of the default magnification. Enabled when the Topology tab is active.
	Opens a smaller pane, which provides a global view of the topology. This enables you to position the main view to a certain section of the topology (see Using the Global View). Enabled when the Topology tab is active.
	Fits the topology to the window, so you can view the entire topology. Enabled when the Topology tab is active.
	Enables you to move an element in the topology (see Arranging Elements in the Topology). Enabled when the Topology tab is active.
	Enables you to move the entire topology at once. Click the **Pan** () button, click any place in the topology, and then drag the mouse to a new location. Enabled when the Topology tab is active.
	Opens a new window, containing the topology, which enables you to view different domains of the topology at one time (see About the New Window Option). Enabled when the Topology tab is active.
	Enables you to change the topology layout. Enabled when the Topology tab is active.
	Restores the topology layout to the last saved version. Enabled when the Topology tab is active.
	Enables you to find an element by name or by Worldwide Name (WWN) in

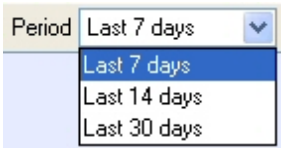
Button	Description
	the topology. Enabled when the Topology tab is active. To find an element, enter the name or part of the name in the Find box, and then click the **Find Next** ( ) button. The management server highlights the elements that match in the topology and in the tree. If the management server has found multiple elements matching your search criteria, click the **Find Next** ( ) button to find the next element that matches your search criteria. To view the previous element that matches the search criteria, click the **Find Previous** ( ) button. The Find Previous ( ) button is disabled when only one element meets your search criteria.
	Exports the topology to an XML file that can be viewed in Microsoft Visio (see "Exporting the Topology to Visio" (on page 96)). Enabled when the Topology tab is active.
	Displays links between shared libraries. Additional connections between media servers and tape libraries, and media servers and disk drives are displayed. If the additional links between shared libraries are currently displayed, clicking the Show MultiPath button a second time will hide the links.
	Change Observer button – Monitors changes in the database status on the server. When changes are detected, the button turns amber. Click on the amber button and a pop-up window displays the elements that have changed on the server. When no changes are detected, the button is grayed out.
	Reloads the Change Observer button to display the latest changes to elements on the server.

Toolbar for Charts

To view a chart on the Topology tab, click an element in the topology. The following toolbar options are available.

Toolbar for Charts

Option	Description
	Converts the data in the chart to a list in a separate browser.
	Click to print a chart. See "Printing Summary Charts " (on page 105) for more information.
	Click to switch the X and Y axes in a chart.

Option	Description
	To change the chart displayed, select another chart from the Title menu (see "About the Summary Backup Charts " (on page 99)).
	To change the period displayed in the chart, select a period from the Period menu.
	In Service Level Agreement charts, Backup Manager provides a green line that serves as a baseline. Use the Average Service Level menu to change the location of this baseline. The default baseline value is 95% of usage.

Changing the Topology Settings

The **Display Layout Settings Dialog** () button enables you to modify the following properties of the topology in Backup Manager:

- **Direction** – Horizontal or Vertical. The direction of the topology is Horizontal by default, with multiple elements of the same type displayed in a row. If you select Vertical, multiple elements of the same type are displayed in a column.
- **Alignment** – Left, Right, or Center. The default alignment of the topology is Center. You can change the alignment of the topology to be left- or right-justified. For example, if you select the Left, the backup clients are aligned along the left side of the topology window.
- **Horizontal Spacing** – The number of spaces in pixels between elements in a row
- **Vertical Spacing** – The number of spaces in pixels between elements in a column

To restore the layout to the default settings, click **Defaults**.

To change the layout settings:

1. Click **Backup Manager** ().
2. Click the **Display Layout Settings Dialog** button.
3. Select one of the following directions:
   - Horizontal
   - Vertical
4. Select one of the following alignments:
   - Left
   - Right
   - Center
5. To change the horizontal spacing, enter a new number in the Horizontal Spacing box.

6. To change the vertical spacing, enter a new number in the Vertical Spacing box.
7. Click **OK**.

You might need to use the scroll buttons to see the rearranged topology.

Exporting the Topology to Visio

To export the topology to an XML file that can be viewed in Microsoft Visio:

1. Click **Backup Manager** ().
2. Click **Export to Visio**.
3. Name the file, and then select the directory in which you want the file to be saved.
4. Click **Save**. The XML file is saved to the directory you selected.

For information about configuring Visio and viewing the exported file, refer to the *HP Storage Essentials User Guide*.

Right-Click Menu Options on the Topology Tab

When you right-click an element on the Topology tab or in the Backup Applications tree, a list of options is displayed. The options displayed in the menu depend on the type of element you selected.

The following table describes the menu options displayed when an element is right-clicked on the Topology tab or in the Backup Applications tree.

Right-Click Menu Options on the Topology Tab

Right-Click Menu Option	Description
Go To Navigation Details	Directs you to the Navigation page. If the element is labeled Discovered, you are shown the Properties page. An element is labeled unmanaged when the management server has become aware of it, but cannot obtain additional information about it (see About the Navigation Tab).
Show Events	Displays events for the selected element (see About the Events Tab).
Show Policies	Displays the backup policies for the selected element (see About the Policies Tab).
Show Collectors	Displays the report collectors for the selected element (see About the Collectors Tab).
Show Chargeback	Displays the chargebacks for the selected element (see About the Monitoring Tab).
Update Element Data	The management server gathers new and changed details from the element and then redraws the topology with the updated information. **Important**:

Right-Click Menu Option	Description
	The Update Element Data functionality does not detect element components that have been removed, such as ports and LUNs. For example, assume you removed several LUNs from an array. If you right-click the storage system, and then select **Update Element Data**, the deleted LUNs still appear in the user interface. You must perform Get Details for the deleted LUNs to be removed from the user interface. For more information, see "Right-Click Menu Options on the Topology Tab" (on page 96).
External Tools	Provides several ways to access an element: • **Telnet** – Enables you to access a host or a switch through the telnet utility. The Telnet feature is only accessible to Web browsers on Microsoft Windows operating systems. • **Browse** – Enables you to access the main Web page for a host or a switch. • **Set Up External Tools** – Enables you to add URLs for accessing the management tools for the storage system. In some instances, the management tool for the storage system is directly accessible from this menu (for example, HiCommand for HDS storage systems and Command View for HP XP storage systems). See Using External Tools
Add Virtual Application	Enables you to add an unsupported application so you can monitor it. For example, you might want to add a virtual application so you can monitor software that was created uniquely for your company. See Creating a Virtual Application.
Custom Commands	Enables you to run a custom command on an element; for example to start an executable or a script. See Setting Up Custom Commands.
Go to System Manager	Provides a topology that enables you to view how the devices in your network are connected. See About .
Show MultiPath/Remove MultiPath	Displays links between shared libraries. Additional links between media servers and tape libraries, and media servers and disk drives are displayed. If the additional links between shared libraries are currently displayed, the menu option becomes Remove MultiPath. Selecting Remove MultiPath hides the links between shared libraries.
Delete Element	This option enables you to delete a backup element in the topology.

The charts in Backup Manager provide a wealth of information about your backups. You can obtain detailed information about a data point displayed in a chart by right-clicking the data point. For example, assume you are looking at a Service Level Agreement (SLA) chart on the Summary tab and you want to obtain more information about a backup performed yesterday. You could right-click the bar **yesterday's date**, and then select **Show Details** to display the Sessions tab showing the

additional details of that data point, such as the backup status of each client, in addition to the start and end time of the backup on that client.

Right-Click Menu Options on the Summary Tab

Right-Click Menu Option	Description
Summary Page Settings	The settings for the charts provided on the Summary tab are displayed. See "About the Summary Backup Charts " (on page 99) and "Modifying Summary Backup Charts " (on page 103).
Go To Topology	A graphical representation of the path of an element is displayed. This also includes multipathing. See Viewing Element Topology.
Show Details	The additional information about the data point you right-clicked is displayed. See the following table.

The following table explains what is displayed when you click **Show Details** on the Summary tab's right-click menu option.

When additional information is not available for a data point, Show Details is disabled.

Additional Information from Charts on the Summary Tab

When you right-click a bar and select Show Details in the following chart...	The Sessions tab displays the following information:
Service Level Agreement	Clients that were backed up, whether successfully or not. The failures are displayed first. To obtain details about a session, select the session in the Session tab and then expand the View the Details pane on the far right. The status you right-clicked is highlighted in the Sessions tab.
Backup Volume	Clients in the backup, sorted by size.
Windows Utilization Chart	The time span represented by the bar you clicked is highlighted in the Sessions tab. For example, assume a bar in the Windows utilization tab shows a duration of seven hours. To determine which sessions were running during that time, right-click the bar, and then select **Show Details**.
Largest Sessions	Clients in the backup, sorted by the size of the session.
Longest Sessions	Clients in the backup, sorted by duration of the session.

You can also obtain additional information from some of the charts that are displayed on the bottom pane of the Topology tab.

Show Details for Tabs on the Lower Pane of the Topology Tab

Right-click...	Select Show Details to view...
Any data point on the Charts tab	The Sessions tab for the data point you right-clicked.
Any element on the Servers tab	The Sessions tab showing the sessions for the element you right-clicked.
Any element on the Resources tab	The Media tab for the element you right-clicked.
Any element on the Media Pools tab	The Media tab for the elements contained in the media pool you right-clicked.

About the Summary Backup Charts

Backup Manager displays six summary backup charts on the Summary tab by default and offers many other charts as well. To learn how to display the various charts and/or modify which charts display by default, see "Modifying Summary Backup Charts " (on page 103).

Backup Manager Summary Charts

View	Description
Servers	Displays the servers Backup Manager monitors with the following information for each server: • Volume • Sessions • Failed • Partial • Successful
Resources	Displays the resources Backup Manager monitors, showing the following information for each server: • Media Pools • Available media • Allocated • Frozen • Suspended In the Available Media, Allocated, Frozen, and Suspended columns, the first number shows the number of available online media, and the second number shows the number of available offline media. This information is available only to the backup manager host.
Service Level Agreements (SLAs)	Displays the performance of backup SLAs, showing the percentage of the following types of sessions for each SLA:

View	Description
	• Successful sessions • Partial sessions • Failed sessions
Backup Volume	Displays the backup volume of all backup applications in gigabytes (GB). This chart can also display the backup volume of a backup manager host.
Window Utilization	Displays the number of hours it takes for all backup sessions on a server to run. Keep in mind this time might seem extended if you have overlapping sessions. For example, bsession1 starts at 11 p.m. on Monday. While it is running, bsession2 starts. At 2 a.m. on Tuesday, bsession1 stops, but bsession2 continues to run until 9 a.m. on Tuesday. The Windows Utilization report shows the backup sessions running for 10 hours – from the beginning of the bsession1 to the end of bsession2.
Backup Manager Hosts with Most Executed Sessions	Displays the five backup manager hosts with the most executed sessions. Only successful sessions are counted.
Most Unsuccessful Backup Manager Hosts	Displays the five backup manager hosts with the most unsuccessful sessions. Unsuccessful sessions include failed and partially completed sessions.
Servers with Most Available Media	Displays the five backup manager hosts with the largest number of media in the Available state and for each of the displayed hosts, the chart shows media that is Allocated, Frozen, or Suspended.
Servers with Fewest Available Media	Displays the five Backup Manager hosts with the lowest number of media in the Available state. The chart displays the following states: • Allocated • Frozen • Suspended • Available
Five Largest Sessions	Displays the five largest sessions in gigabytes (GB).
Five Longest Sessions	Displays the five longest sessions in seconds.

About the Tabs in the Topology Lower Pane

The lower pane on the Topology tab is displayed when you select a discovered backup element. The following tabs are displayed according to the element type you selected.

Tabs in the Lower Pane of Backup Manager Topology

Tab	Element Type	Description
Properties	All elements	Provides property information for an element, including information about whether the element supports backup.
Backup	Clients	Provides information about the last time the client was backed up. See "Viewing Charts for a Backup Manager Host " (on page 105) for more information.
Charts	• Backup Manager Hosts • Media Managers • Tape Libraries	Shows a chart for the selected element.
Servers	• Backup Manager Hosts • Media Managers	Displays the servers Backup Manager monitors with the following information for each server: • **Volume** – The size of the volume backed up, in kilobytes • **Sessions** – The number of backup sessions that have run in the specified time • **Failed** – The number of failed sessions during the specified time • **Partial** – The number of partial sessions during the specified time • **Successful** – The number of successful sessions within the specified time
Resources	• Backup Manager Hosts • Media Managers • Tape Libraries	Displays the resources Backup Manager monitors with the following for each server: • **Media Pools** – The number of media pools that the backup manager host can access • **Available Media** • **Allocated** • **Frozen** • **Suspended** In the Available Media, Allocated, Frozen, and Suspended columns, the first number shows the number of available online media; the

Tab	Element Type	Description
		second number shows the number of available offline media. Note that this information is available only to the backup manager host.
Sessions	• Backup Manager Hosts • Media Managers	Displays the following information for the sessions assigned to a backup server: • **Session ID** – The identifier for the session • **Client** – The DNS name of the computer on which the session is taking place • **Backup Policy** – The name of the backup policy • **Schedule** – The name of the schedule for the session • **Status** – The status of the session • **Start Time** – The time the session started • **End Time** – The time when the session ended • **Duration** – The amount of time in seconds the session ran • **Size** – The size of the session • **Files** – The number of files that were backed up
Media	• Backup Manager Hosts • Media Managers • Tape Libraries	Displays the following information for the media attached to a backup server or tape library: • **Media ID** – The identifier for the media • **Media Pool** – The media pool to which the media belongs • **Usage Count** – How often the media is used • **Retention** – How long the media is retained • **State** – Whether the media is Full, Available, or Active
Media Pool	• Backup Manager Hosts • Media Managers • Tape Libraries	Displays the following information for the media pools containing the selected element: • **Media Pool** – The media pool to which the media belongs • **Backup Manager –** The name of the backup manager host in the media pool • **Library** – The name of the library in the media pool • **Available Media** – The number of available media • **Allocated –** The number of allocated media • **Frozen** – The number of frozen media. • **Suspended** – The number of suspended media

Tab	Element Type	Description
Drive Utilization	• Tape Libraries • Drives	Displays the following information for the drives in a tape library: • **Library** – The name of the tape library that contains the drive • **Drive** – The name of the drive • **Media ID** – The media identifier • **Status** – The running status of the drive For information about configuring drive monitoring, see Drive Monitoring on page 1.

Sorting Information in the Lower Pane

You can sort the information displayed on the tabs in the lower pane by clicking the heading of a column. You can also sort more than one column at a time. The sorting feature for multiple columns can be extremely useful. For example, if you have several clients with failed backups, you would take the following steps to sort the table to show the clients according to their status:

1. Click the **Status** heading in the session column to sort the sessions according to status.
2. Press the **CTRL** key, and then click the **Client** heading.

The clients are sorted first according to their status and second according to their client name. You can now easily view all clients with failed sessions in alphabetical order.

You can sort as many columns as you want on a tab. The arrow indicates ascending or descending sort order. The arrow decreases in size for each additional column that is sorted. The largest arrow corresponds to the column that is sorted first, the second largest arrow corresponds to the second sort, and so on.

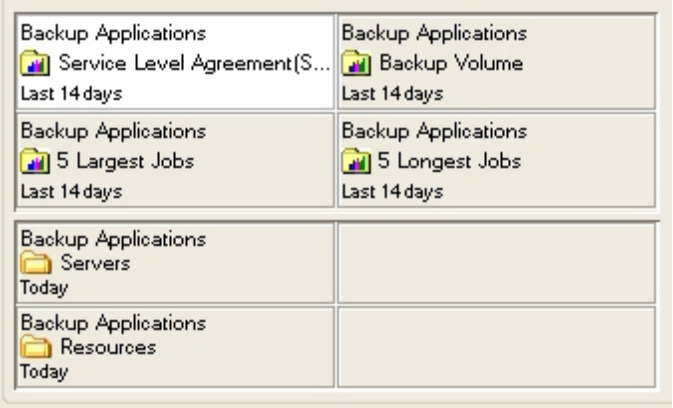
Modifying Summary Backup Charts

You can modify Backup Manager to display charts other than the default. To learn more about the data and options available in the Summary Backup charts, see "About the Summary Backup Charts " (on page 99).

The Summary Settings page shown below displays a grid that lists the charts available on the Summary tab in Backup Manager. To change a chart, select a grid on the this page and change the settings as described in the steps in this section.

The top four grids on the Summary Settings page correspond to the top four charts on the Summary tab, and the lower four grids on the Summary Settings page correspond to the lower Summary tab. There are only two tables on the bottom half of the Summary tab because each of the tables spans two grids.

Summary Settings Page for Backup Manager Charts



You can also modify the Summary tab instantly by clicking one of the buttons displayed in the Summary Settings page. The following table describes these buttons.

Buttons on the Summary Settings Page

Button	Description
Clear All	Clears the settings for all the charts.
Clear	Clears the settings for the selected chart.
Revert	Returns the Summary Settings page to the previous setting.
Defaults	Returns the Summary Settings page to the default setting.

To modify a chart displayed on the Summary tab in Backup Manager:

1. Click **Backup Manager** ( ).
2. Click the icon.
3. To change the title for the summary page, enter a new title in the Title box.
4. Select the grid in which you want the chart to appear on the screen.
5. Select one of the following options from the Backup Element menu:
   - **Backup Applications** – The chart includes the results from all backup applications.

     Or

   - **A specific backup element** – The chart includes the results from only the backup application you selected.
6. Select the type of chart you want from the View menu. To learn more about the available charts, see "About the Summary Backup Charts " (on page 99).
7. Select a period for coverage from the Period menu.
8. Click **OK**.

The Summary page is updated with your changes and the chart accessed from the selected grid will reflect your changes.

Viewing Charts for a Backup Manager Host

To quickly view charts for a backup manager host:

1. Click **Backup Manager**().
2. Select the backup manager host on the Topology tab.
3. Click the **Charts** tab in the lower pane.
4. Select a chart from the Title menu.
5. Select a period of coverage for the chart.

To learn more about the charts in Backup Manager, see"About the Summary Backup Charts " (on page 99).

See "Toolbar for Charts" (on page 94) for information about the toolbar for charts.

Printing Summary Charts

To print a summary chart:

1. Access a backup summary chart by clicking an element on the Topology tab.
2. Scroll to the bottom of the screen.
3. Click the **Print** () button.
4. Click **Landscape** at the top of the new window if you want the picture to be printed in landscape format. To revert to portrait format, click **Portrait**.
5. To change the magnification of the image on the printed page, select the desired percentage.
6. Click **Print** when you are ready to print the chart.

Changing Collection Times for Media and Session Collectors

For CIM extension hosts with Data Protector installed, the CIM extension queries the data from DataProtector for session and media details and puts the data into the cache database as soon as the CIM extension is started.

The background collection occurs every 15 minutes for sessions and every 24 hours for media.

Changing the Frequency of Collection Times

To change the collection time for the session and media collectors:

1. Check if the `dp-connector.properties` file exists in the following directory on the host with the CIM extension:
   - **Windows hosts**: `C:\Program Files\APPQcime\CimExtensions\tools`
   - **Linux, Solaris, and HPUX hosts**: `/opt/APPQcime/tools`
2. If the `dp-connector.properties` file does not exist, create it in the directory specified in the previous step.

3. Add the following properties to the `dp-connector.properties` file if they do not exist in the file:

   ```
   cachedb.sessions.waitBgCollection=300000

   cachedb.media.waitBgCollection=3600000
   ```

   The time shown in the example is in milliseconds.

4. Set the values.
   - `cachedb.sessions.waitBgCollection` Corresponds to the amount of time before the next collection for a session.
   - `cachedb.media.waitBgCollection` Corresponds to the amount of time before the next collection for a media.
5. Save the file.

Stopping Background Collections when a CIM Extension Starts

You can stop the background collection whenever a CIM Extension starts. In this case, the session and media collection will be started only for each get details that includes backup details.

To stop background collections when a CIM extension starts:

1. Check if the `dp-connector.properties` file exists in the following directory on the host with the CIM extension:
   - **Windows hosts**: `C:\Program Files\APPQcime\CimExtensions\tools`
   - **Linux, Solaris, and HPUX hosts**: `/opt/APPQcime/tools`
2. If the `dp-connector.properties` file does not exist, create it in the directory specified in the previous step.
3. Add the following properties to the `dp-connector.properties` file if they do not exist in the file:

   ```
   BUMODEL.startScheduler=no

   BUMODEL.forceStart=yes
   ```

4. Save the file.

Changing the Number of Days Session is Stored in the Cache Database

Seven days of session data is stored in the cached database by default.

To change the number of days session data is stored in the cached database:

1. Check if the `dp-connector.properties` file exists in the following directory on the host with the CIM extension:
   - **Windows hosts**: `C:\Program Files\APPQcime\CimExtensions\tools`
   - **Linux, Solaris, and HPUX hosts**: `/opt/APPQcime/tools`
2. If the `dp-connector.properties` file does not exist, create it in the directory specified in the previous step.

3. Add the following property to the `dp-connector.properties` file if it did not previously exist in the file:

   ```
   sessions.timeframe=2592000000
   ```

   The time in the example is in milliseconds. The value assigned to the sessions.timeframe property is in milliseconds (30 days).

4. Save the file.

Known Issues

- Display Limitation with a large number of Backup Sessions/Savesets. The management server user interface is limited by the number of savesets and/or sessions it may display. In testing when there is in excess of 100,000 items, the user interface will not display the information.
- Restore Sessions not Reported for EMC Networker. Backup Manager does not currently support the display of restore sessions for EMC Networker.
- Backup Details are not Gathered from Multi-homed Hosts if CIM Extension IP is Restricted. The CIM extensions have the capability of being restricted to listening on and using a particular IP address on multi-homed systems (hosts with multiple IP addresses). Although the host information will be returned, backup information will not be sent back to the management server while the CIM extension is in this type of configuration.
- Status not Displayed in Topology for Backup Master Server . The Session Status is not displayed in the Backup Manager Topology for the Backup Master Server Hosts.
- NetBackup Does Not Report Media Information for Disk-based Backups. NetBackup does not report media information for disk-based backups. Consequently, the Media Used field is blank in Backup Manager.
- Disk-based Backup Devices are Shown as Physical Tape Libraries in HP Data Protector. Disk-based backup devices are shown as physical tape libraries in HP Data Protector. In Veritas NetBackup, only robotic tape library devices are shown; other backup devices (simple tape drives or disks) are not shown.

Chapter 6

Troubleshooting Installations/Upgrades

The following topics provide information on troubleshooting installations and upgrades.

Troubleshooting a Failed Installation or Upgrade

(*Windows management servers only*) You can quickly gather system information and log files for troubleshooting by running the srmCapture.cmd program in `<installation directory>/tools`. The program provides a date and time-stamped zip file with this information.

The srmCapture.cmd program requires that zip.exe be in the same folder as srmCapture.cmd. If you are missing zip.exe, you can find it in the tools directory in both the ManagerCDLinux and ManagerCDWindows directories on the StorageEssentialsDVD.

To run the srmCapture.cmd program:

1. Open a command prompt window on the Windows management server, and go to the `<installation directory>/tools` directory.
2. Type the srmCapture command. The command has several parameters:

   ```
   srmCapture [/nowait] [/listmodules] [/?] [/help] [/usage]
   ```

   - `/nowait`

     Non-interactive mode. The srmCapture command runs without prompting you with the message "press any key to continue."

   - `/listmodules`

     Shows the dll files in use by each process (written to srmListProcesses.txt). If you use the /listmodules parameter, you must also include the /nowait parameter.

   - `/?, /help or /usage`

     Provides information on how to use srmCapture.

   The following are examples of srmCapture commands:

- `srmCapture`
- `srmCapture /?`
- `srmCapture /nowait`
- `srmCapture /nowait /listmodules`

The following information is gathered by srmCapture.cmd:

- List of environment variables, look for the `srmListEnvVar.txt` file.
- Results from running `ipconfig /all`, look for the `srmListIpconfigAll.txt` file.
- Results from running `netstat -noab`, look for the `srmListNetstatNoab.txt` file.
- Results from running `netstat -rte`, look for the `srmListNetstatRte.txt` file.
- Results from running `netsh diag show test`, look for the `srmListNetshDiagShowTest.txt` file.
- Install wizard log files (all files are located in `%systemdrive%\srmInstallLogs`).
- srmwiz.ini
- Oracle export log file
- File SRM log files
- File SRM configuration files
- Oracle log files
- Zero G registry content

If a message similar to `Current location, d:\Tools, is not writable` appears, the current working subdirectory is not writable. The srmCapture.cmd program goes through the following directories, in order, until it finds one that is writeable:

1. `%temp%`
2. `%tmp%`
3. `%systemdrive%`

Log Files from the Installation/Upgrade on Windows

The installation/upgrade wizard generates log files in the C:\srmInstallLogs directory. Log files provided at the top level of the C:\srmInstallLogs directory are for the current session of the installation/upgrade wizard or for the last session the installation/upgrade wizard was run. Files from a previous session are stored in a subdirectory with a date and time stamp.

Log files are generated by the installation/upgrade wizard. Some log files also provide an <logfilename>_output.log file. The <logfilename>_output.log file displays information about any errors, and is generated by the component itself instead of the installation/upgrade wizard.

The log files are zipped into a file in the root of the system drive. The zip file can be sent to support to help diagnose installation and upgrade issues, for example: C:\srmLog02-01-2011-16_21_49.zip.

Log Files from the Installation on Linux

When an installation is successful, the installation wizard zips up the log files and places them in the `Installation_Directory/logs` directory. In this instance, `Installation_Directory` is the directory where the product was installed.

The name of the zip file has a date stamp `InstallWizard_MMDD-HHMM.zip`; for example, `InstallWizard_1212-0754.zip`.

The zip file includes two internal log files created by the installation. These files contain debugging for internal use only. You do not need to look at them.

- `/tmp/InstallSRMTemp/InstallWizard.err`
- `/tmp/InstallSRMTemp/InstallWizard.out`

The log files in the following directories are for users:

- `productInstallDir + "/logs"` – Log files for the product installation in general.
- `srmInstallDir + "/logs"` – Log files for the installation of the management server.
- `rdInstallDir + "/logs"` – Log files for the Report Database installation.
- `roInstallDir + "/logs"` – Log files for the Report Optimizer installation.
- `oracleInstallDir + "/oraInventory/logs"` – Log files for the Oracle installation.

If the installation failed, you can find the log files in the `%Installation_Directory%/logs` directory.

Installation Does Not Import the BIAR File

If the installation wizard is unable to import the BIAR file, you must manually import it. See the information for your operating system:

"Linux" (on page 111)

"Windows" (on page 112)

Linux

To import the BIAR file:

1. To restart Report Optimizer:
   a. Stop Report Optimizer by entering the following command:

      ```
      /etc/init.d/BobjEnterprise120 stop
      ```

   b. Start Report Optimizer by entering the following:

      ```
      /etc/init.d/BobjEnterprise120 start
      ```

2. Open the `ImportBiarFileLinux.properties` file in a text editor. The file is located in the following directory: `/opt/HP/ReportOptimizer/`
3. Modify the `ImportBiarFileLinux.properties` file with the correct password and biar file name, as shown in the example below:

- `action=importXML`
- `importBiarLocation=/opt/HP/ReportOptimizer/ReportPackage_9_5_0.biar`
- `userName=Administrator`
- `password=Changeme123`
- `authentication=secEnterprise`
- `CMS=<Computername>:6400`
- `includeSecurity=true`
- `stacktrace=true`

Modify the following values as necessary:

- `importBiarLocation`. Modify the value of this property with the name and location of where your old BIAR file resides.
- `password`. Modify the value of the password.

4. Make sure the services are running for Report Optimizer. for example MySQL, Tomcat, and Bobj120Enterprise.

   The following is an example of how you would start a service, such as Bobj120Enterprise:

   ```
   /etc/init.d/BobjEnterprise120 start
   ```

5. To import the BIAR file, enter the following importbiarfile.sh script on one line at the command prompt:

   ```
   <Report Optimizer install dir>/ImportBiarFile.sh >> <Report Optimizer install dir>/logs/ImportBiarFile.log
   ```

   In this instance, `<Report Optimizer>` is the installation directory for Report Optimizer.

Windows

To import your BIAR file:

1. Restart the BOE120MySQL service.
2. Open the `ImportBiarFileWindows.properties` file in a text editor. The file is located in the following directory: `C:\HP\ReportOptimizer`
3. Modify the `ImportBiarFileWindows.properties` file with the correct password and BIAR file name, as shown in the example below:
   - `action=importXML`
   - `importBiarLocation=C:\HP\ReportOptimizer\ReportPackage_9_5_0.biar`
   - `userName=Administrator`
   - `password=Changeme123`
   - `authentication=secEnterprise`
   - `CMS=<Computername>:6400`

- `includeSecurity=true`
- `stacktrace=true`

Modify the following values as necessary:

- `importBiarLocation`. Modify the value of this property with the name and location of where your old BIAR file resides.
- `password`. Modify the value of the password.

4. Make sure the services are running for Report Optimizer. for example MySQL, Tomcat, and Bobj120Enterprise.
5. To import the BIAR file, enter the following importbiarfile.sh script on one line at the command prompt:

   ```
   <Report Optimizer install dir>\ImportBiarFile.bat >> <Report Optimizer install dir>\logs\ImportBiarFile.log
   ```

   In this instance, `<Report Optimizer>` is the installation directory for Report Optimizer.

Importing One or More Reports

You can import one or more customized reports from one server running Report Optimizer to another without having to import the entire report set.

"Linux" (on page 113)

"Windows" (on page 118)

Linux

With Linux you must specify which items, such as reports, you want exported out of the BIAR file.

1. Copy the following text and save it to a file named `exportBiarFile.properties` in the installation directory, `/opt/HP/ReportOptimizer`, for example:

   ```
   # properties file for BO XI R3 Biar Engine # properties used to export ReportPackage_9_5_0.biar

   action=exportXML

   exportBiarLocation=/opt/HP/ReportOptimizer/ReportPackage_9_4_0_HF.biar

   userName=Administrator

   password=

   authentication=secEnterprise

   exportDependencies=true

   CMS=<Name of the server running Report Optimizer:6400

   includeSecurity=true

   stacktrace=true

   exportQueriesTotal=8
   ```

```
exportQuery1=select * from CI_INFOOBJECTS WHERE SI_KIND='Folder'
and (SI_NAME='Root Folder' or SI_NAME='Report Pack')

exportQuery4=select * from CI_APPOBJECTS where SI_
KIND='WebIntelligence'

exportQuery5=select * from CI_SYSTEMOBJECTS WHERE SI_
KIND='UserGroup' and SI_NAME='SE Reports'

exportQuery6=select * from CI_SYSTEMOBJECTS WHERE SI_KIND='User'
and SI_NAME='ReportUser'

exportQuery7=select * from CI_SYSTEMOBJECTS WHERE SI_KIND='Folder'
and SI_NAME='Servers'

exportQuery8=select * from CI_SYSTEMOBJECTS WHERE SI_KIND='Folder'
and SI_NAME='Users'
```

Properties have to be modified based on your requirements so that you can export them to a BIAR file. If you do not want to export users/user groups and access rights,you can remove queries from 5 to 8 and the properties file will resemble the following example:

```
# properties file for BO XI R3 Biar Engine # properties used to
export ReportPackage_9_5_0.biar

action=exportXML

exportBiarLocation=/opt/HP/ReportOptimizer/ReportPackage_9_4_0_
HF.biar

userName=Administrator

password=

authentication=secEnterprise

exportDependencies=true

CMS=<Name of the server running Report Optimizer:6400

includeSecurity=true

stacktrace=true

exportQueriesTotal=4

exportQuery1=select * from CI_INFOOBJECTS WHERE SI_KIND='Folder'
and (SI_NAME='Root Folder' or SI_NAME='Report Pack')

exportQuery2=select * from CI_INFOOBJECTS WHERE SI_KIND='Webi' and
SI_ANCESTOR=9864

exportQuery3=select * from CI_APPOBJECTS WHERE SI_KIND='Universe'
and SI_NAME='Report Connector'

exportQuery4=select * from CI_APPOBJECTS where SI_
KIND='WebIntelligence'
```

If you want to export only a report, the file would be modified as follows:

```
# properties file for BO XI R3 Biar Engine # properties used to
export ReportPackage_9_5_0.biar

action=exportXML

exportBiarLocation=/opt/HP/ReportOptimizer/ReportPackage_9_4_0_
HF.biar

userName=Administrator

password=

authentication=secEnterprise

exportDependencies=true

CMS=<Name of the server running Report Optimizer:6400

includeSecurity=true

stacktrace=true

exportQueriesTotal=1

exportQuery1=select * from CI_INFOOBJECTS WHERE SI_KIND='Webi' and
SI_NAME='Host Summary'
```

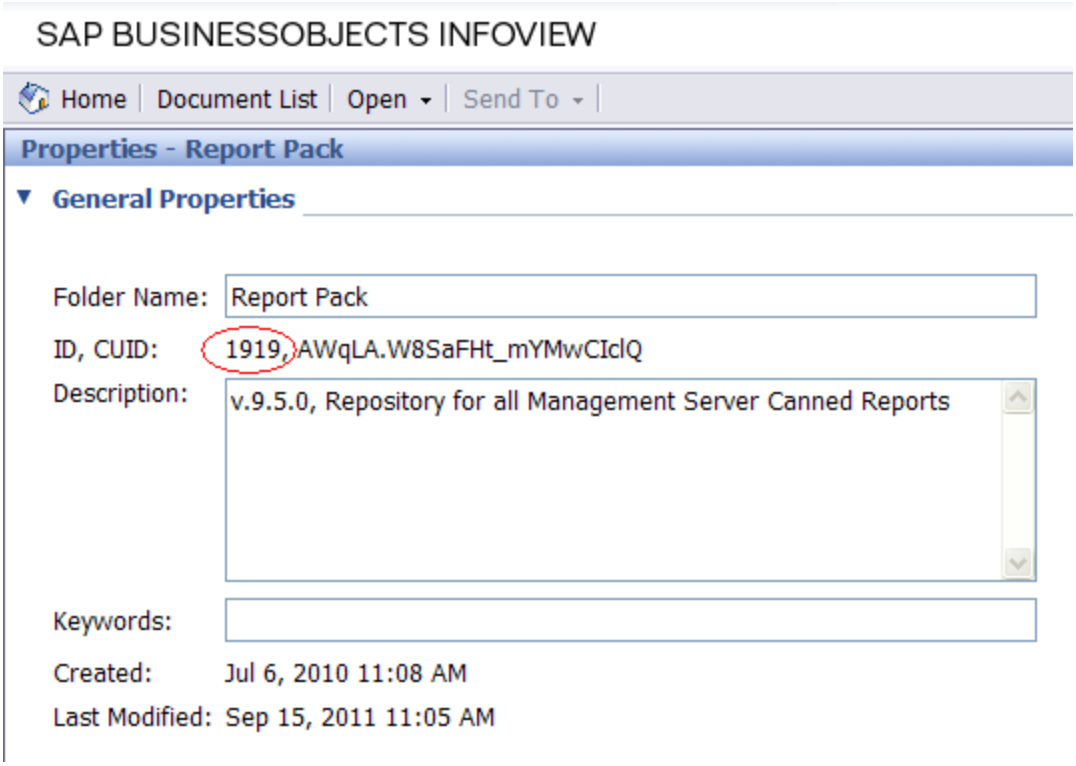
In this example, the file that will be exported is the Host Summary report, as referenced in the `SI_Name` value.

If you want to take backup of a report and universe

```
# properties file for BO XI R3 Biar Engine # properties used to
export ReportPackage_9_5_0.biar

action=exportXML

exportBiarLocation=/opt/HP/ReportOptimizer/ReportPackage_9_4_0_
HF.biar

userName=Administrator

password=

authentication=secEnterprise

exportDependencies=true

CMS=<Name of the server running Report Optimizer:6400

includeSecurity=true

stacktrace=true

exportQueriesTotal=2

exportQuery1=select * from CI_INFOOBJECTS WHERE SI_KIND='Webi' and
SI_NAME='Host Summary'

exportQuery3=select * from CI_APPOBJECTS WHERE SI_KIND='Universe'
and SI_NAME='Report Connector'
```

2. Change the following properties in the `exportBiarFile.properties` file created in the previous step:
   - exportBiarLocation - Make sure the property points to the path for the BIAR file you want to export, for example `/opt/HP/ReportOptimizer/ReportPackage_9_4_0_HF.biar`.
   - username - Do not change the value of the userName property.
   - password - The password for accessing Report Optimizer.
   - CMS - Provide the IP address or DNS name of the server running Report Optimizer
   - SI_ANCESTOR - Change the default value of 9864 to the ID used by your instance of ReportOptimizer. You can obtain your ID from the Report Pack folder properties page.

   To access the properties page:
   a. Click Document list in Report Optimizer (Infoview).
   b. Expand Public Folders.
   c. Select the Report Pack folder.
   d. Right-click **Properties**. The ID for your instance of Report Optimizer is circled in the following screen. You can copy and paste this ID as the SI_ANCESTER value to the `exportBiarFile.properties` file



3. Open a command line window and go to the installation directory of Report Optimizer, `/opt/HP/ReportOptimizer`, for example.
4. Run `biarengine.jar` by entering the following command at the command prompt:

```
<Install dir>/jre/bin/java -jar
<installdir>/bobje/java/lib/biarengine.jar
<installdir>/exportBiarFile.properties
```

This command should be entered on one line.

In this instance replace `<Install dir>` with the name of the installation directory. The default directory is the following: `/opt/HP/ReportOptimizer`. The command prompt is not listed in the previous command.

5. To import the BIAR file:
   a. To restart Report Optimizer:
      i. Stop Report Optimizer by entering the following command:

         ```
         /etc/init.d/BobjEnterprise120 stop
         ```

      ii. Start Report Optimizer by entering the following:

         ```
         /etc/init.d/BobjEnterprise120 start
         ```

   b. Open the `ImportBiarFileLinux.properties` file in a text editor. The file is located in the following directory: `/opt/HP/ReportOptimizer/`
   c. Modify the `ImportBiarFileLinux.properties` file with the correct password and biar file name, as shown in the example below:
      - `action=importXML`
      - `importBiarLocation=/opt/HP/ReportOptimizer/ReportPackage_9_5_0.biar`
      - `userName=Administrator`
      - `password=Changeme123`
      - `authentication=secEnterprise`
      - `CMS=<Computername>:6400`
      - `includeSecurity=true`
      - `stacktrace=true`

      Modify the following values as necessary:

      - `importBiarLocation`. Modify the value of this property with the name and location of where your old BIAR file resides.
      - `password`. Modify the value of the password.

   d. Make sure the services are running for Report Optimizer. for example MySQL, Tomcat, and Bobj120Enterprise.

      The following is an example of how you would start a service, such as Bobj120Enterprise:

      ```
      /etc/init.d/BobjEnterprise120 start
      ```

   e. To import the BIAR file, enter the following importbiarfile.sh script on one line at the command prompt:

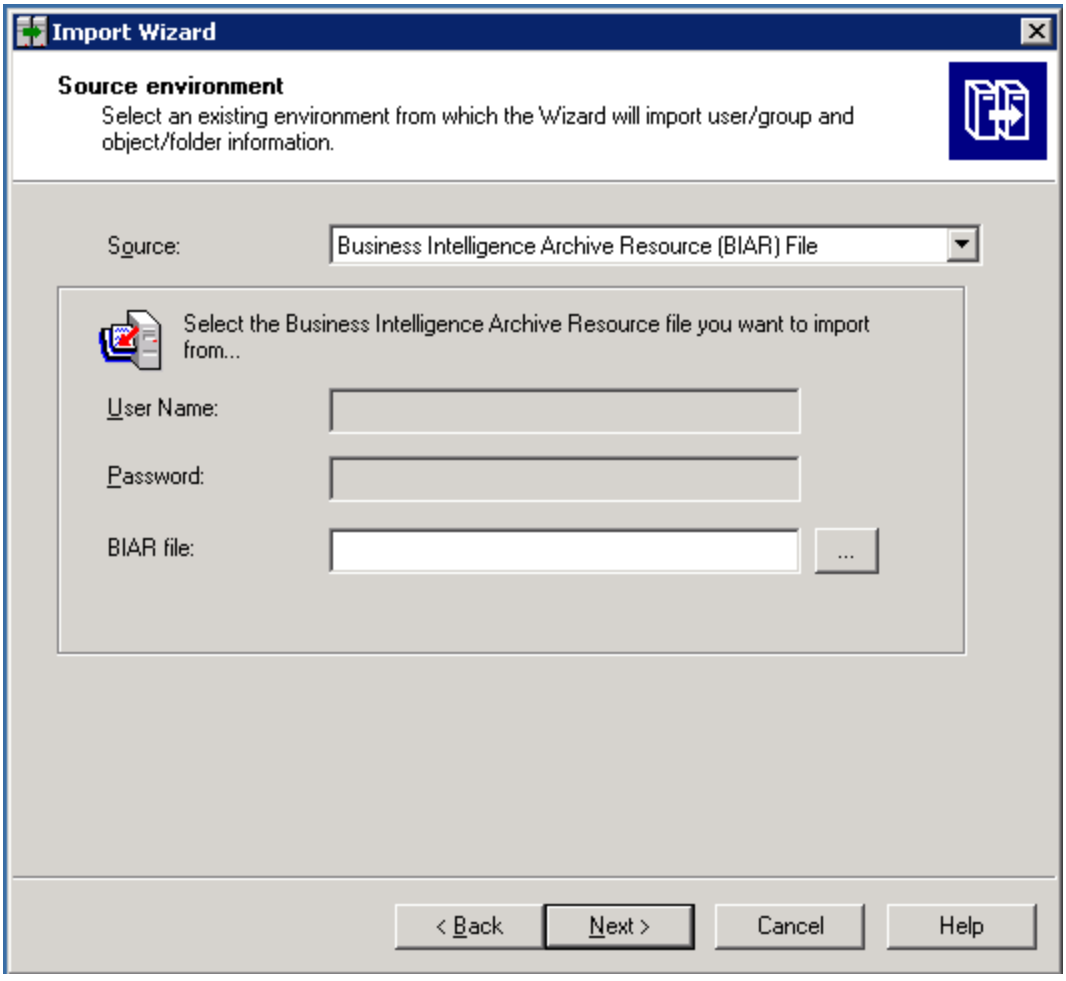
```
<Report Optimizer install dir>/ImportBiarFile.sh >> <Report
Optimizer install dir>/logs/ImportBiarFile.log
```

In this instance, `<Report Optimizer>` is the installation directory for Report Optimizer.

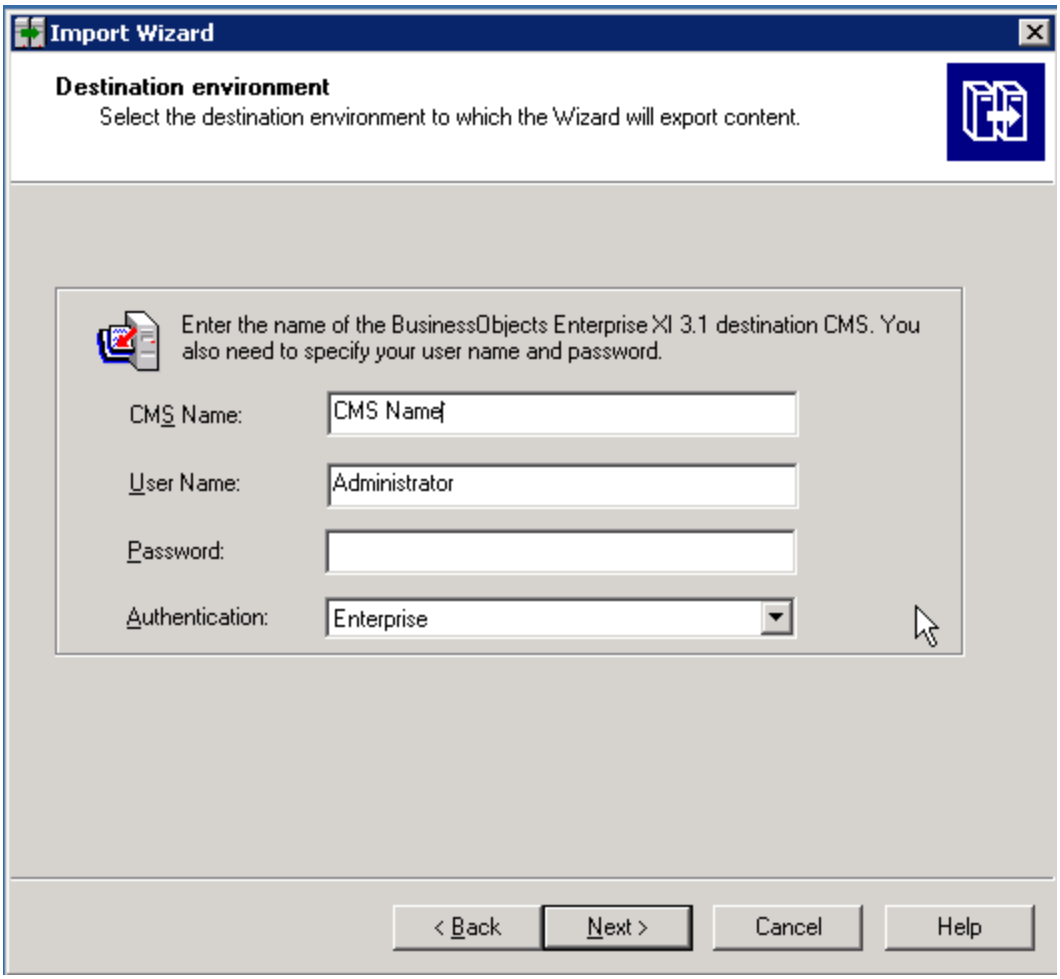
Windows

To import one or more reports:

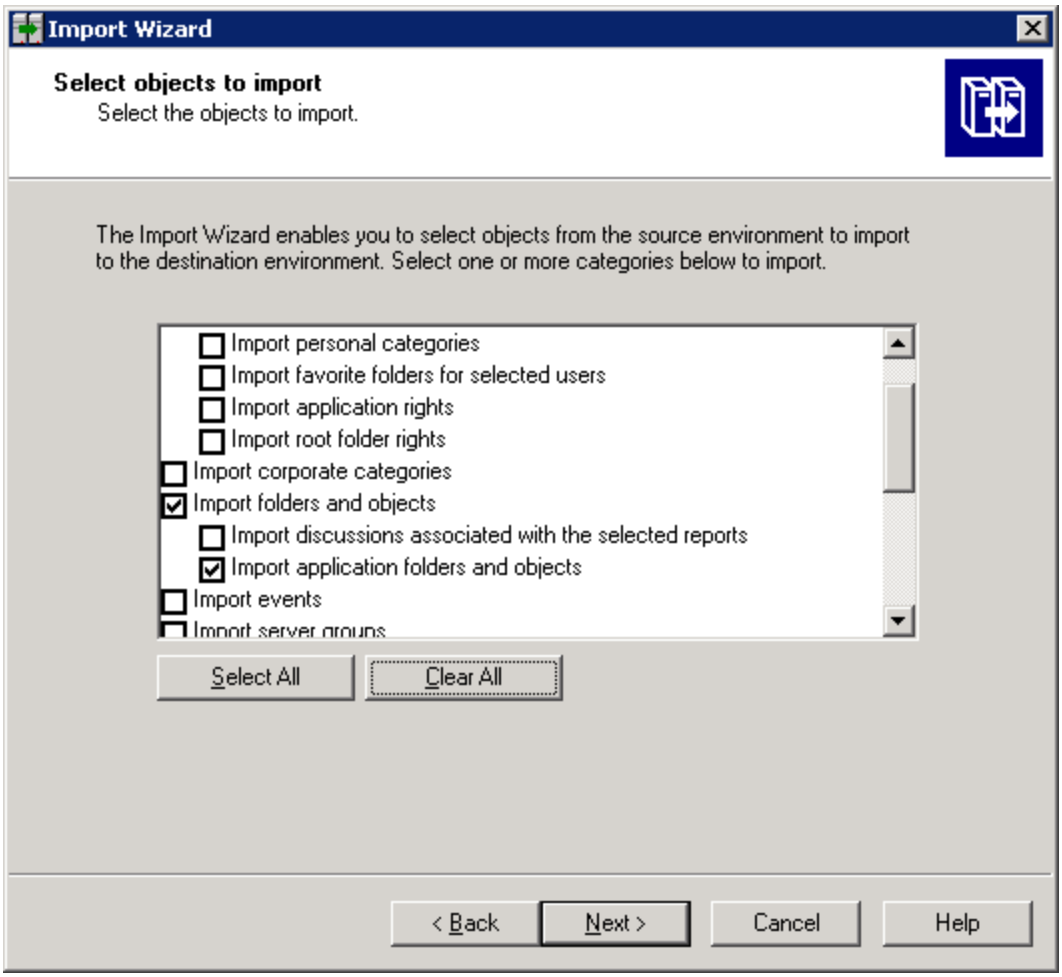
1. Restart the BOE120MySQL service.
2. On the Report Optimizer server, select **Start Menu** > **Programs** > **BusinessObjects XI Release 3.1** > **BusinessObjects Enterprise** > **Import Wizard**. The Welcome to the Import Wizard window opens.
3. Click **Next**. The Source Environment window opens.



4. Select **Business Intelligence Archive Resource (BIAR) File** from the Source drop-down menu. Click the **...** button, browse to the directory where the BIAR file is located, `/HP/ReportOptimizer/ReportPackage_9_5_0.biar`.
5. Click **Open**
6. Click **Next**. The Destination Environment window opens.

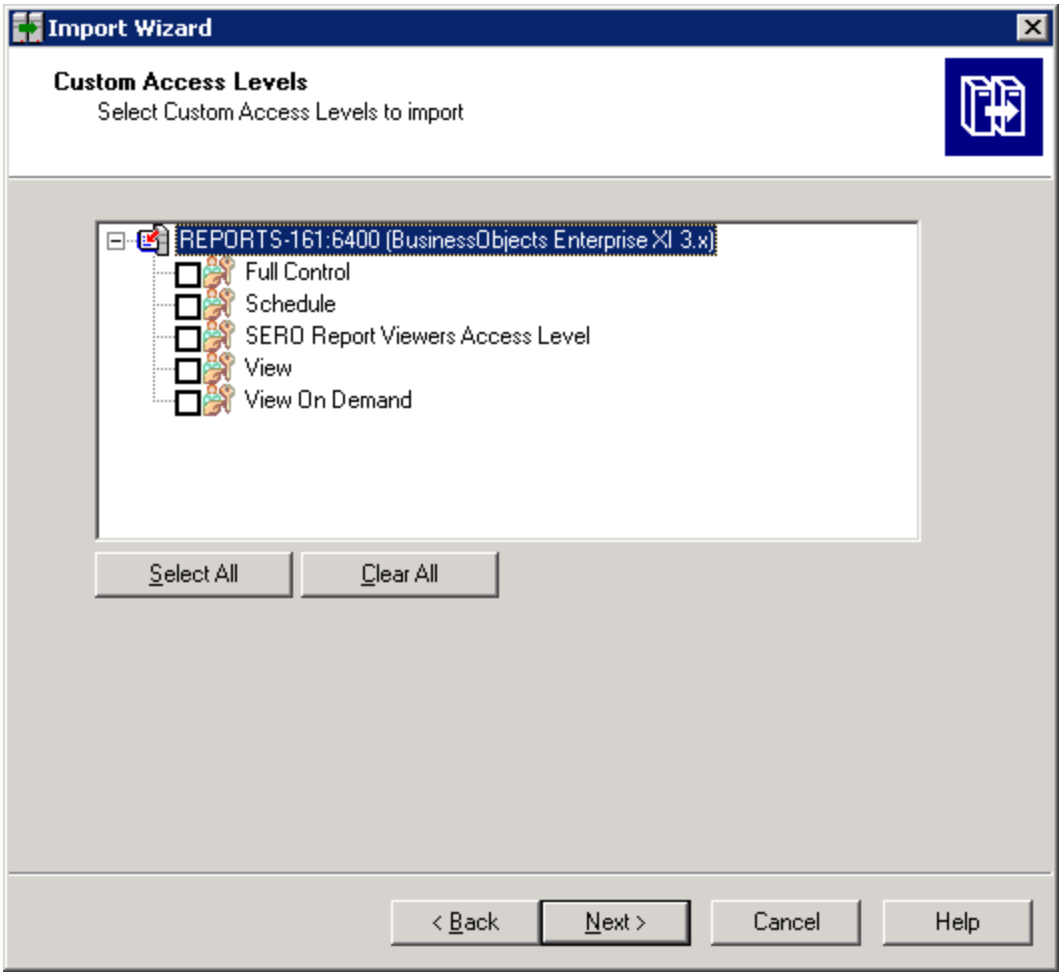


7. Make sure that the name of your Report Optimizer server is entered in the CMS Name box. Enter the Report Optimizer user name and password. Enter Administrator for the user name and the password for the Administrator user. The default password for the Administrator account is Changeme123.
8. Click **Next**. It could take several minutes for the Select Objects to Import window to open.
9. In the Select Objects to Import window, click the **Clear All** All button.
10. Select the **Import application folders and objects** option, as shown in the following image.

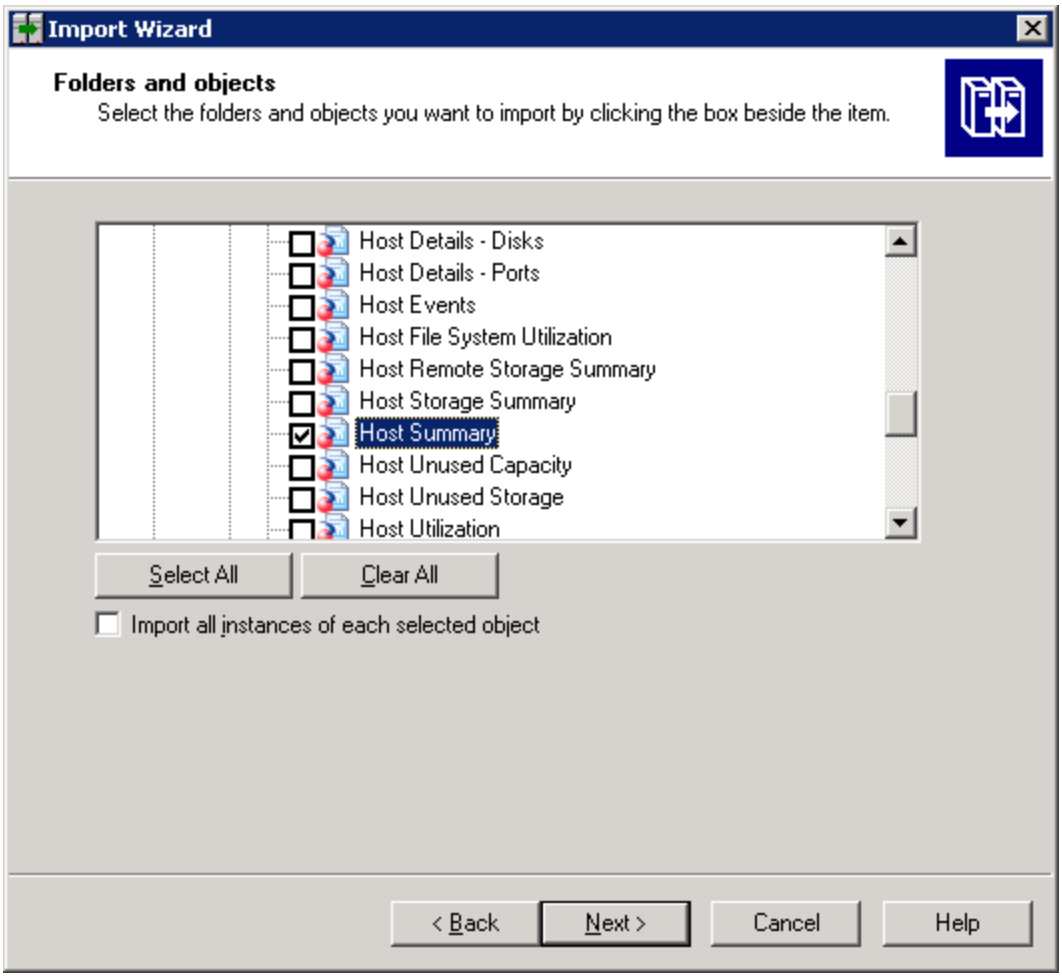


11. Click **Next**.
12. When you are shown the A Note on Importing Universes window, click **Next**.

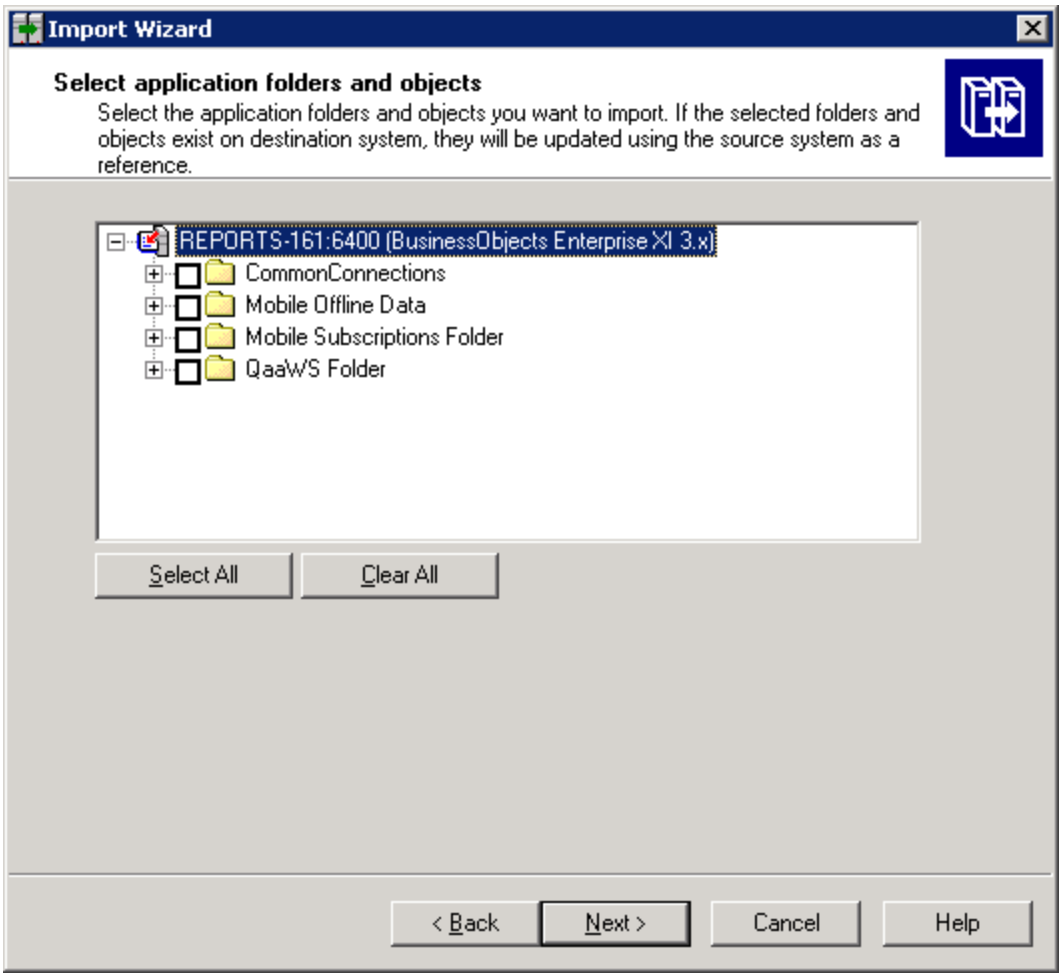
13. Do not select any options in the Custom Access Window, as shown in the following image.



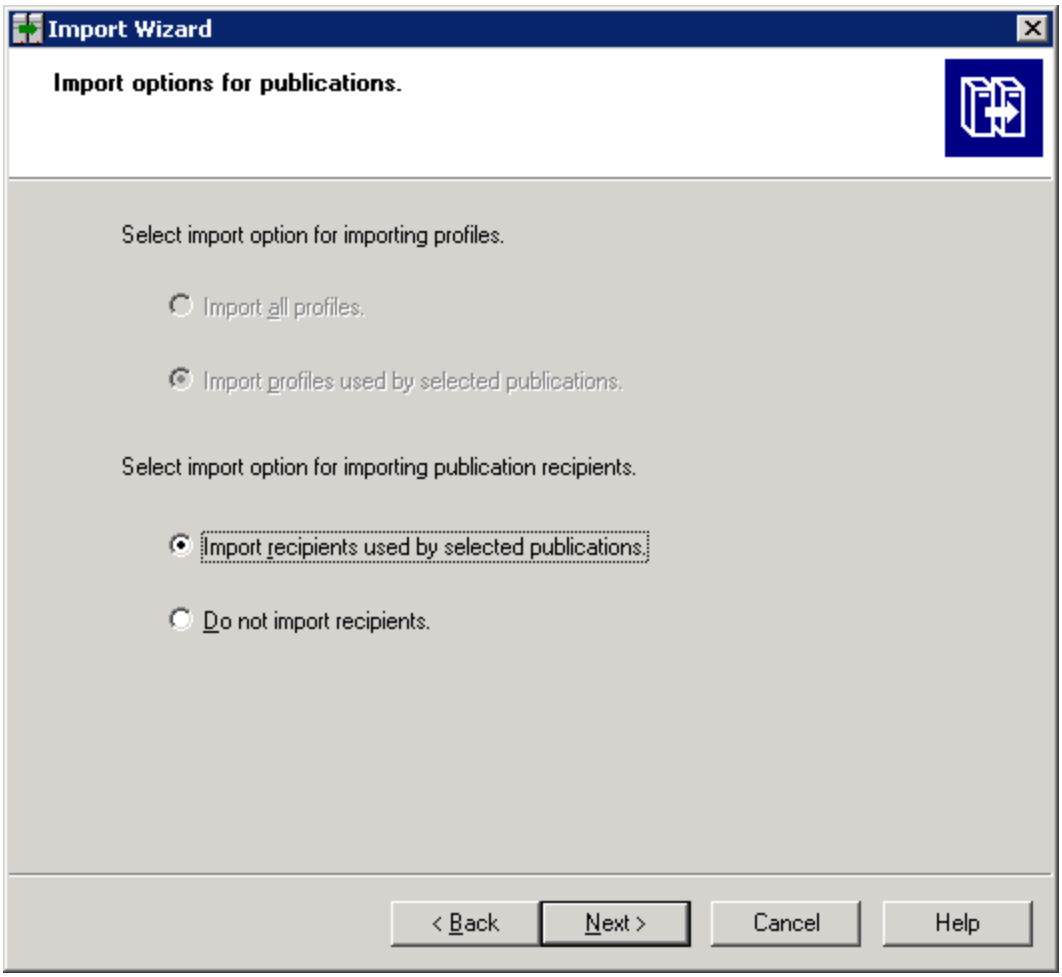
14. Click **Next**.



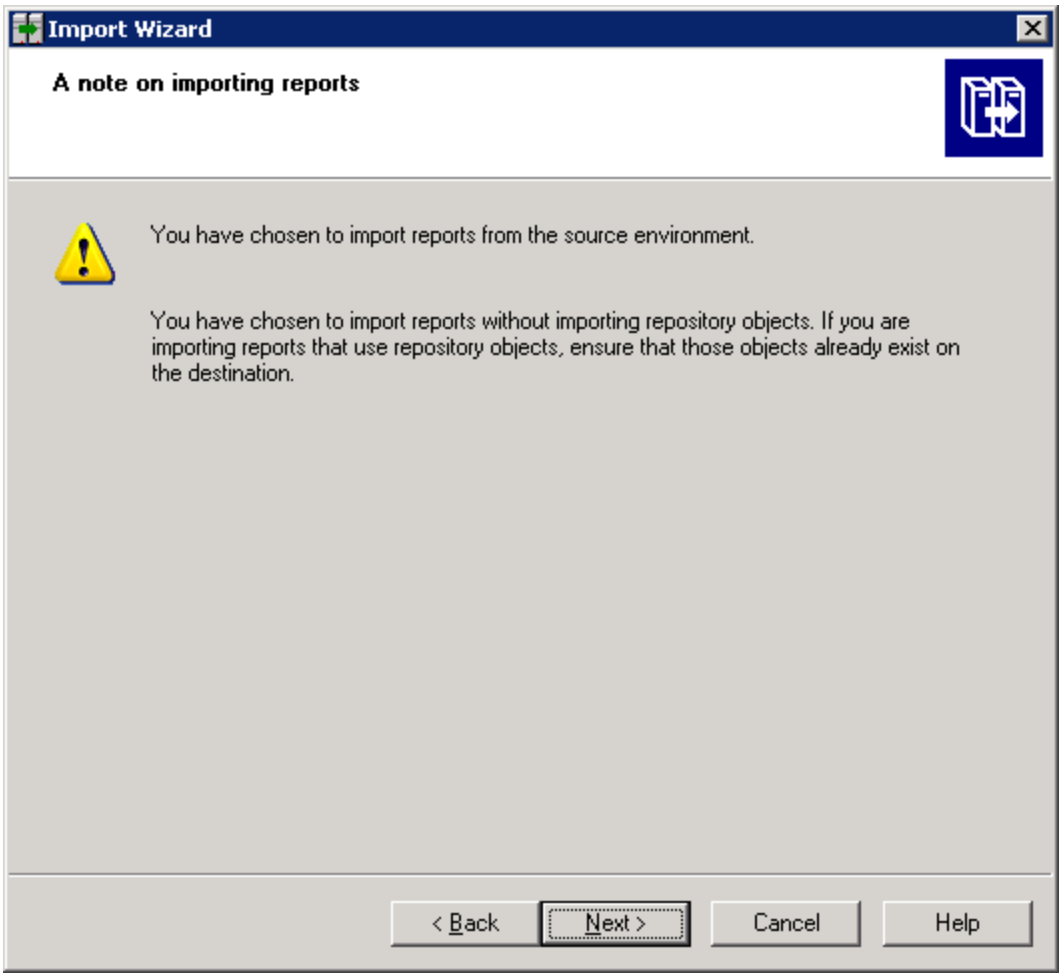
15. Select the customized report that you want to merge into the main BIAR file under “Report Pack”.
16. Click **Next**.
17. Do not select any options in the Select Application Folders and Objects window.



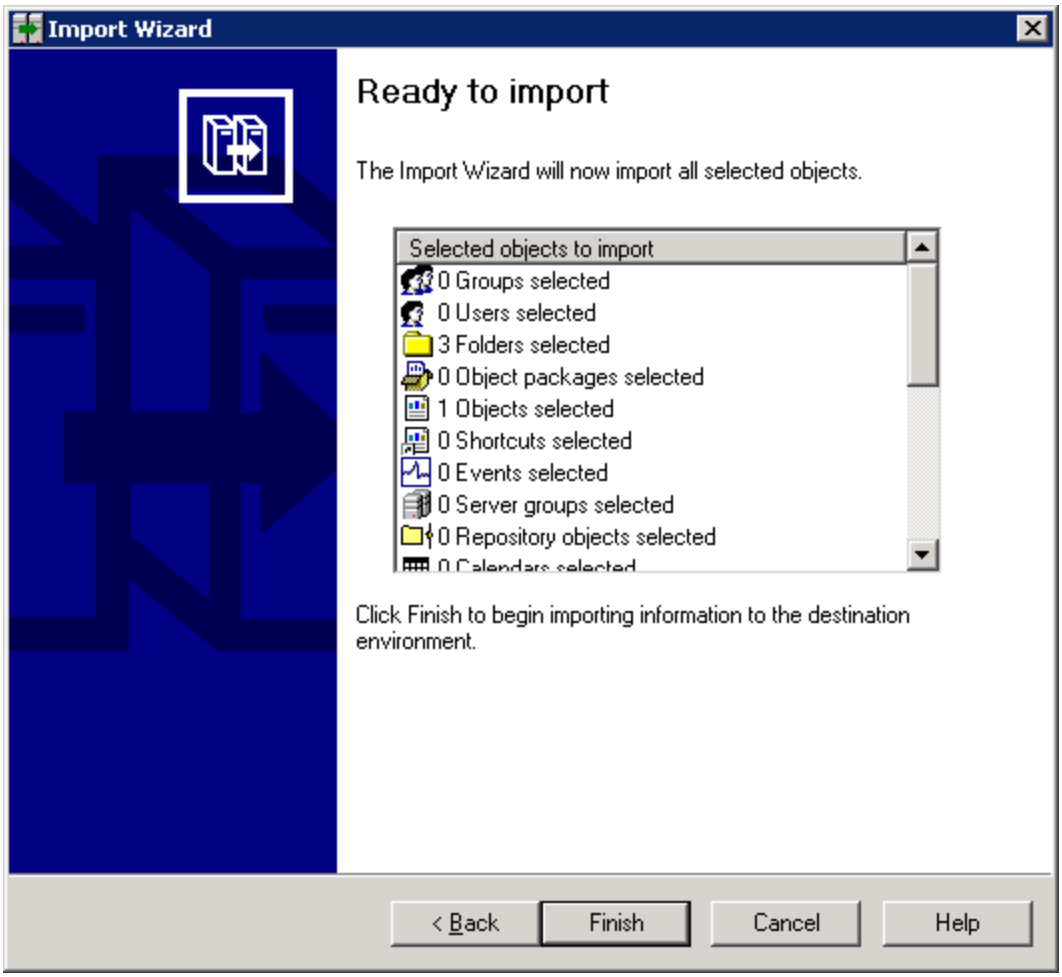
18. Click **Next**. Do not select any options in the Import Options for Publications window.



19. Click **Next**. Then, click **Next** again after viewing the note on importing reports.



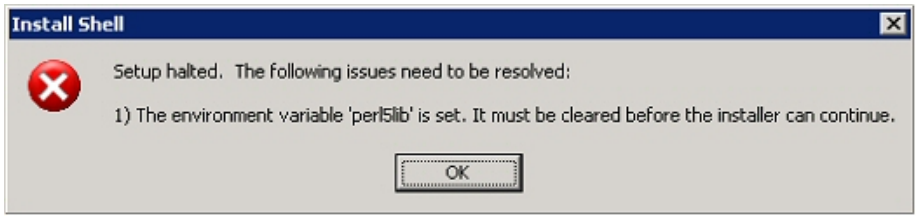
20. Click **Finish** to begin the import process.



"The environment variable 'perl5lib' is set." Message

(*Windows Only*) If the perl5lib environment variable is set, the installation/upgrade fails with the following message:

Perl5lib Environment Variable Message



This variable could have been set by another application. The environment variable could also have been set if your upgrade of Oracle was suddenly stopped; for example, as a result of a power outage. You must remove the perl5lib environment variable before you can run the installation/upgrade again. For information about removing environment variables, refer to the documentation for the Windows operating system.

Additional Entries Appear in the Discovery Pages

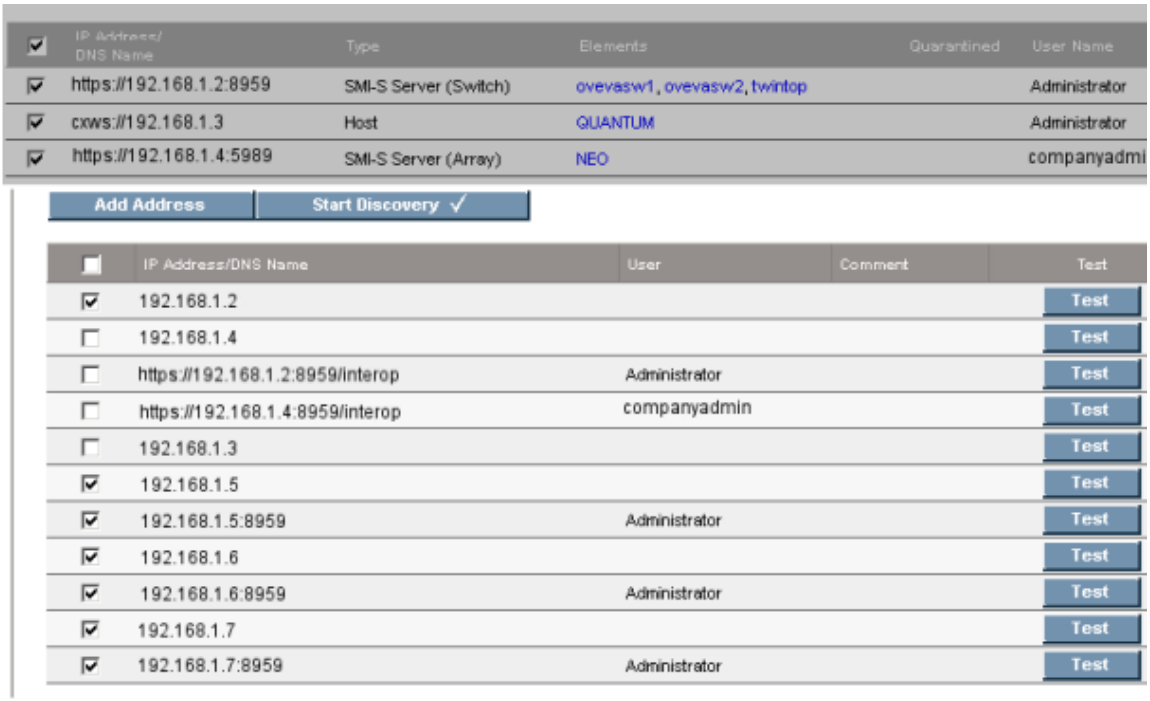
You might see additional entries in the Discovery pages after an upgrade.

For example, assume you have a Brocade SMI Agent running on 192.168.1.2 at 8959 and there are three switches added to this SMI-A, as shown in the following figure. In this example, two entries are created for 192.168.1.2 and six entries are created for three switches: two for each switch.

HP Storage Essentials places a checkmark next to items added in Discovery Step 1 but cannot obtain additional information in Discovery Step 2 or Discovery Step 3.

All entries with a checkmark can be deleted. In this example, seven entries can be deleted.

Duplicate Entries on the Discovery Pages



Troubleshooting the Oracle Database (Windows)

When installing or upgrading an Oracle database, be aware of these known considerations:

- "Use Only the Installation Wizard (or UNIX Scripts) to Install/Upgrade Oracle" (on page 127)
- "Existing Oracle Database Is Detected" (on page 128)
- "Unable to Install the Oracle Database on Linux" (on page 1)

Use Only the Installation Wizard (or UNIX Scripts) to Install/Upgrade Oracle

With this release of the product, the Oracle database is automatically installed using the new Installation Wizard (or UNIX scripts) developed to install the management server along with the Oracle database used by the management server. Installing Oracle separately is no longer recommended.

Do not install the Oracle database separately, the management server Installation Wizard (or UNIX scripts) automatically configures the Oracle database for use with the management server. If you install the Oracle database separately, the database will not meet the configuration settings required by the management server.

Existing Oracle Database Is Detected

(*Linux installations Only*) If the UNIX installation scripts detect an existing Oracle database, the following message is displayed: “Existing Oracle Database is Detected.”

Receiving HTTP ERROR: 503 When Accessing the Management Server

If you receive a message resembling the following when you try to access the management server, make sure your database for the management server is running. If it is not, start the database.

```
Receiving HTTP ERROR: 503 javax.ejb.EJBException: null;
```

Windows

In the Services window, make sure the OracleOraHome11gR2TNSListener service has started and is set to automatic. For information on how to access the Services window, see the Windows documentation.

If the OracleOraHome11gR2TNSListener service has not started, but the AppStorManager service has started, start the OracleOraHome11gR2TNSListener service, and then restart AppStorManager.

UNIX

To verify that the Oracle service started, enter the following at the command prompt:

```
# ps -ef | grep ora
```

If the service started, output similar to the following is displayed:

```
/opt/oracle/product/9.2.0.1.0/bin/tnslsnr LISTENER -inherit

 ./appstormservice /opt/productname/ManagerData/conf/unix-wrapper.

  oracle   356     1  0   Jul 30 ?        0:01 ora_pmon_APPIQ

  oracle   358     1  0   Jul 30 ?        0:26 ora_dbw0_APPIQ

  oracle   360     1  0   Jul 30 ?        1:13 ora_lgwr_APPIQ

  oracle   362     1  0   Jul 30 ?        0:39 ora_ckpt_APPIQ

  oracle   364     1  0   Jul 30 ?        0:10 ora_smon_APPIQ

  oracle   366     1  0   Jul 30 ?        0:00 ora_reco_APPIQ

  oracle   368     1  0   Jul 30 ?
```

To start the service for Oracle, enter the following at the command prompt:

```
# /etc/rc3.d/S98dbora start
```

To stop the service for Oracle, enter the following at the command prompt:

```
# /etc/rc3.d/S98dbora stop
```

If you are starting the services manually, start the Oracle service before the service for the management server.

Web Intelligence Processing Server Does Not Start

(Report Optimizer on Linux) If the Web Intelligence Processing Server does not start or you are shown the error message "Cannot initialize Report Engine server (RWI: 00226) (Error: INF)" when you try to run a report, restart Report Optimizer by entering following commands:

1. To stop Report Optimizer enter the following command:

   ```
   /etc/init.d/BobjEnterprise120 stop
   ```

2. To start Report Optimizer enter the following command:

   ```
   /etc/init.d/BobjEnterprise120 start
   ```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