

# HP OpenView Configuration Management Reporting Server

for the Windows operating system

Software Release Version: 5.00

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## Installation and Configuration Guide

Document Release Date: September 2007

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## Documentation Updates

This guide's title page 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, visit the following URL:

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Table 1 lists new features added for the Configuration Management v 5.0 release.

**Table 1 New features added for Configuration Management 5.0**

Chapter	Version	Changes
Global	5.00	Updated screen captures to display the latest CM Reporting Server graphics, colors, and icons.
2	5.00	Page 18, <a href="#">CM Reporting Server Requirements</a> : Requirements updated to include Apache. Microsoft IIS is no longer supported.
2	5.00	Page 20, <a href="#">CM Oracle Database Prerequisites</a> : Updated to include new script, RIM PreReq Creation Script 9i-I18n.oracle.
2	5.00	Page 24, <a href="#">Installing the CM Reporting Server</a> : Install updated for version 5.00. Now detects Apache install and creates alias in httpd.conf.
2	5.00	Page 31, <a href="#">Enabling CM Portal Logon Authorization</a> : added section to configuration file section.
2	5.00	Page 27, <a href="#">Modifying the CM Reporting Server Configuration File</a> : added information for Enterprise Discovery report configurations.
3	5.00	Page 49, <a href="#">Windows Vista Readiness Reports</a> : added new section on how to view Windows Vista readiness reports.
4	5.00	Page 58, <a href="#">Using Report Packs</a> : added new section describing report packs.

<b>Chapter</b>	<b>Version</b>	<b>Changes</b>
5	5.00	Page 84, <a href="#">About the CM Reporting Server Log</a> : Log information updated.
5	5.00	Page 86, <a href="#">Modifying the TimeOut Directive</a> : information added for modifying Apache TimeOut directive.
Appendix B	5.00	Page 93, <a href="#">CM Reporting Server Configuration File</a> : Added appendix to describe configuration file parameters.

Table 2 indicates changes made to this document for earlier releases.

**Table 2 Document changes**

<b>Chapter</b>	<b>Version</b>	<b>Changes</b>
2	4.2i	Page 30, Added new section, <a href="#">Adjusting the CM Reporting Server Display Language</a> .
2	4.1.1	Page 18, <a href="#">CM Reporting Server Requirements</a> : Updated Patch database requirements to 2.0 SP1.

## Support

You can visit the HP Software support web site at:

**[www.hp.com/managementsoftware/services](http://www.hp.com/managementsoftware/services)**

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

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- Submit and track support cases and enhancement requests
- Download software patches
- Manage support contracts
- Look up HP support contacts
- Review information about available services
- Enter into discussions with other software customers
- Research and register for software training

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To find more information about access levels, go to:

**[www.hp.com/managementsoftware/access\\_level](http://www.hp.com/managementsoftware/access_level)**

To register for an HP Passport ID, go to:

**[www.managementsoftware.hp.com/passport-registration.html](http://www.managementsoftware.hp.com/passport-registration.html)**



# Contents

1	Introduction .....	11
	Overview.....	12
	The CM Reporting Environment .....	13
	Terminology .....	14
	Summary .....	15
2	Creating the CM Reporting Server Environment .....	17
	CM Reporting Server Requirements .....	18
	Platform Support.....	19
	CM Configuration Server Database Prerequisites .....	19
	CM SQL Server Database Prerequisites .....	19
	CM Inventory Manager Database Updates for SQL Server .....	20
	CM Application Usage Manager Database Update for SQL Server .....	20
	CM Patch Manager Database Update for SQL Server .....	20
	CM Oracle Database Prerequisites.....	20
	CM Inventory Manager Database Updates for Oracle .....	21
	CM Application Usage Manager Database Update for Oracle .....	22
	CM Patch Manager Database Update for Oracle .....	22
	CM Inventory Reporting Auditing Requirements .....	22
	CM Reporting Server System Implementation Tasks .....	24
	Reviewing your SQL Server Access and Database DSNs .....	24
	Installing the CM Reporting Server .....	24
	Modifying the CM Reporting Server Configuration File .....	27
	Enabling Reports and Defining ODBC DSN Settings .....	29
	Adjusting the CM Reporting Server Display Language .....	30
	Enabling the CM Reporting Server Cache Feature .....	30
	Enabling CM Portal Logon Authorization .....	31
	Normalizing Case Sensitive Databases .....	31
	Adding Components to CM Inventory Audits.....	31
	Summary .....	35

<b>3</b>	<b>CM Reporting Server Features.....</b>	<b>37</b>
	Accessing the CM Reporting Server.....	38
	Logging in.....	38
	About the CM Reporting Server Interface.....	38
	Using Search Options to Select Filters.....	40
	The Directory/Group Filters Area.....	41
	The Data Filters Area.....	42
	Using Display Options to Select Reporting Views.....	45
	Applying a View from the Reporting View Area.....	46
	Reporting View Types.....	47
	Usage Manager Reports.....	48
	Viewing HP Hardware Reports.....	49
	Windows Vista Readiness Reports.....	49
	About Reporting Windows.....	50
	Using the Windows Action Bar Icons.....	51
	Summary.....	56
<b>4</b>	<b>Customizing Reports.....</b>	<b>57</b>
	Using Report Packs.....	58
	Reporting Object Files.....	59
	Backing up Your Reporting Object Files.....	60
	Understanding the Reporting Object Files.....	60
	Reporting Object File Construction.....	60
	Reporting Object File Types.....	60
	View Group Objects and View Objects.....	61
	Filter Group Objects and Filter Objects.....	63
	Window Objects.....	65
	Datasource Objects.....	66
	Modifying Reporting Object Files.....	66
	Modifying View Group Objects.....	67
	View Group Object Global Section.....	67
	View Group Object Views Section.....	68
	Modifying View Objects.....	68
	View Object Global Section.....	68
	View Object Header Section.....	69
	View Object Windows Section.....	70



Modifying Filter Group Objects.....	71
Filter Group Object Global Section .....	71
Filter Group Object Filters Section .....	72
Modifying Filter Objects .....	73
Filter Object Global Section .....	73
Modifying Window Objects .....	74
Window Object Global Section .....	74
Window Object Detail Section .....	76
Window Object Graph Section .....	79
Summary .....	81
<b>5 Troubleshooting.....</b>	<b>83</b>
About the CM Reporting Server Log .....	84
Common CM Reporting Server Problems and Solutions .....	84
Modifying the TimeOut Directive .....	86
Summary .....	87
<b>A Sample Reporting Scenario.....</b>	<b>89</b>
Scenario: Report for Sales Department on Devices Needing Service Pack Updates .....	89
<b>B CM Reporting Server Configuration File .....</b>	<b>93</b>
OpenView CM Reporting Server Configuration .....	93
LDAP Configuration.....	95
CM Inventory Manager Configuration.....	97
CM Patch Manager Configuration .....	98
CM Application Usage Manager Configuration .....	100
Server Management Configuration (SCM) .....	101
Configuration Baseline Auditor (CBA).....	102
<b>C Product Name Changes .....</b>	<b>105</b>
<b>Index .....</b>	<b>107</b>



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# 1 Introduction

At the end of this chapter, you will:

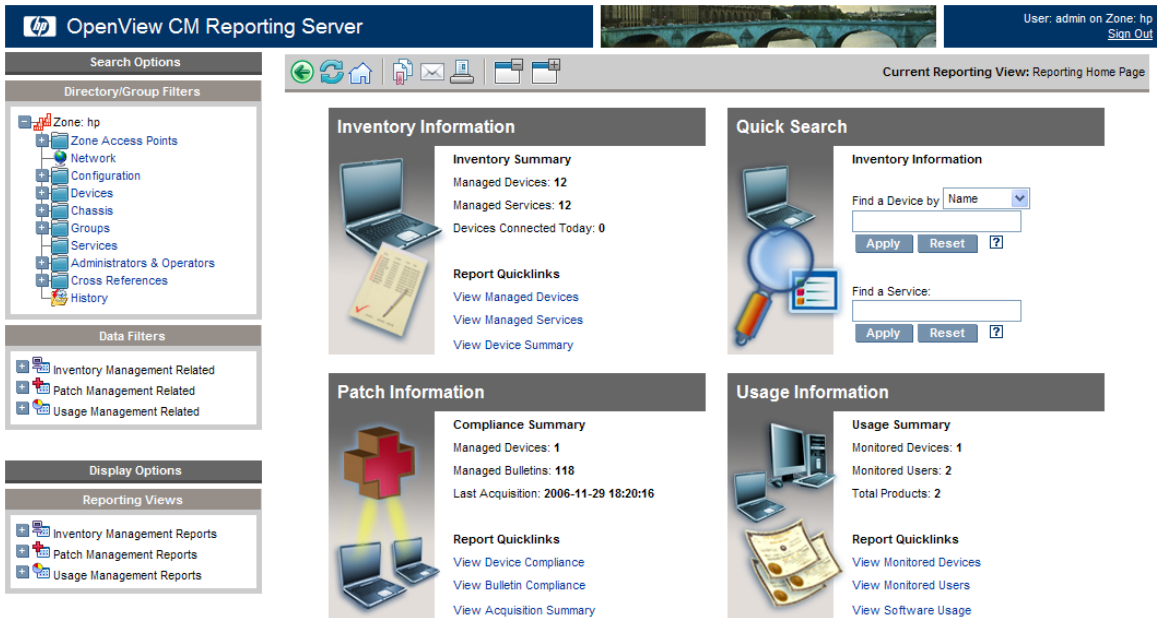
- Be familiar with the HP OpenView Configuration Management Reporting Server (CM Reporting Server) reports.
- Be able to create a CM Reporting Server environment.
- Understand the contents of this guide.

# Overview

As part of the Configuration Management (CM) extended infrastructure, the web-based CM Reporting Server allows you to query the combined data in existing CM Configuration Server Databases (CM-CSDB) and create detailed reports. In addition, you have the option of mounting an existing LDAP directory, which allows you to filter your data using your LDAP directory levels.

The CM Reporting Server interface provides a dynamic and intuitive way to use CM SQL data for reporting and overall environmental assessment.

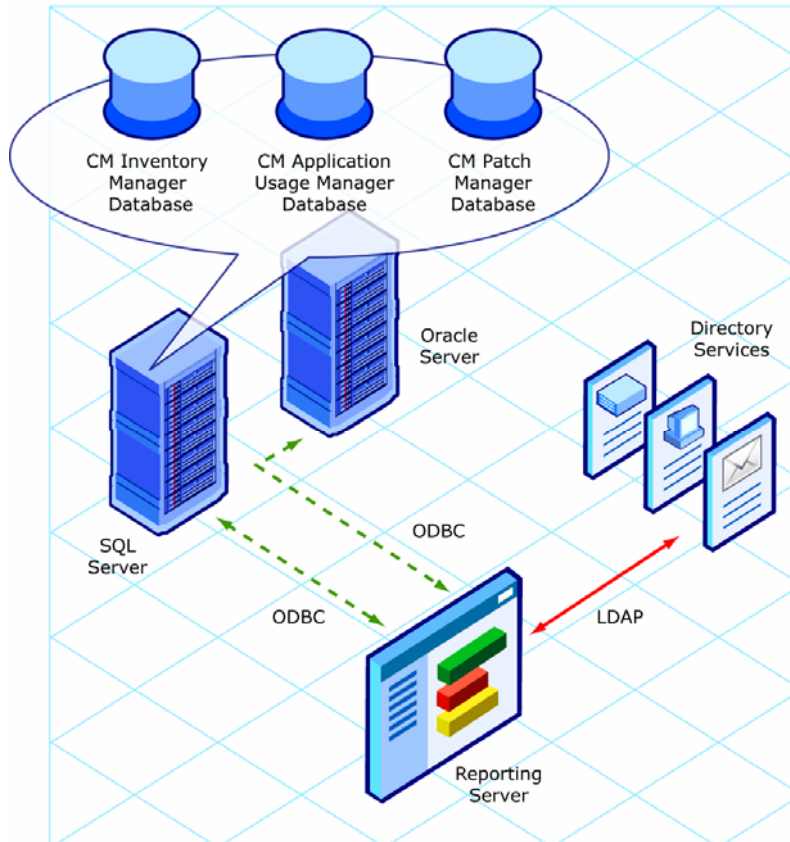
**Figure 1** CM Reporting Server web interface



# The CM Reporting Environment

Figure 2 below illustrates a CM Reporting environment.

**Figure 2 CM Reporting Server environment**



The CM Reporting environment includes the following required and optional components:

- **Reporting System Modules**

The Reporting System modules do not require the CM Portal. They can be installed on any Win32 machine, which includes the required Web server, discussed below.

- **Web Server**  
The CM Reporting Server requires Apache HTTP Server 2.0 or later (2.2x recommended) installed and running on the device you plan on installing CM Reporting Server. Apache is available free from <http://httpd.apache.org>. For more information, refer to the Apache web site.
- **Connections to CM SQL Databases**  
CM Reporting Server can access any CM SQL database, such as those for CM Inventory Manager, CM Patch Manager, CM Configuration Baseline Auditor, CM Server Management, and CM Application Usage Manager. Each SQL database accessed can exist on its own server with its own ODBC DSN connection.
- **Connections to LDAP Directory** (optional)  
The CM Reporting Server supports optional access to an existing LDAP directory in your enterprise. Access to an LDAP directory allows you to filter report data according to the directory entries.

## Terminology

Become familiar with the following terms used throughout this guide.

### bulletin

A bulletin is a vulnerability reported by Microsoft about one of their products.

### patch

The patch is the actual file to be deployed and executed to fix a vulnerability. A bulletin may have multiple patches depending on platform, number of bits, and language.

### qnumber

A qnumber is equivalent to the ticket opened by Microsoft Support. One bulletin can have multiple qnumbers.

## Summary

- The CM Reporting environment requires access to CM SQL or Oracle Databases. All databases accessed by the CM Reporting Server must exist in the same SQL or Oracle server.
- Optionally, the CM Reporting environment can access an existing LDAP Directory in your enterprise.
- The CM Reporting Server must be installed on a Win32 platform with Apache HTTP Server installed.





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## 2 Creating the CM Reporting Server Environment

At the end of this chapter, you will:

- Know the prerequisites for obtaining reports with the CM Reporting Server.
- Be able to apply the prerequisites required for using the CM Reporting Server.
- Be able to add all WBEM components needed for the CM Reporting Server to your CM Inventory Manager reporting audit package.
- Be able to configure the CM Reporting Server to connect to your databases.
- Optionally, be able to configure the CM Reporting Server to connect to an existing LDAP directory.
- Be able to access the CM Reporting Server web site.

# CM Reporting Server Requirements

- ▶ As always, be sure to test any recommended or required environment changes before they are implemented into production.

The CM Reporting Server provides unified access to your existing SQL Server or Oracle databases including the following Configuration Management (CM) products:

- **CM Inventory Manager**
- **CM Patch Manager** - For patch reporting, a patch database created with the latest CM Patch Manager is required. Refer to the *HP OpenView Configuration Management Patch Manager Installation and Configuration Guide* for latest version information.
- **CM Application Usage Manager** - For usage reporting, a usage database created with the latest CM Application Usage Manager is required. Refer to the *HP OpenView Configuration Management Application Usage Manager Installation and Configuration Guide* for latest version information.
- **CM Server Management**
- **CM Configuration Baseline Auditor**

The CM Reporting Server software is located on the CM installation media in the `\infra\extended_infrastructure\reporting_server` directory.

The CM Reporting Server can be installed on a computer system that includes the following:

- Apache HTTP Server 2.0 or later (2.2x or later is recommended). Apache is available free for download at <http://httpd.apache.org>.
- Access to either a SQL Server or Oracle server where your CM extended infrastructure databases are defined. Refer to the individual CM product guides for supported SQL Server and Oracle database version information.

- ▶ All databases accessed from a configured CM Reporting Server must exist on the same SQL Server or Oracle server.

- If needed, access to your enterprise's LDAP directory, such as Active Directory. LDAP access allows you to filter CM Reporting Server queries according to the directory information.



In order to view the CM Reporting Server graphical reports using Windows Server 2003, Java Runtime or Virtual Java Machine is required. For more information, go to <http://java.com/en/index.jsp>.

## Platform Support

For detailed information about supported platforms, see the release note document that accompanies this release.

# CM Configuration Server Database Prerequisites

Modifications must be made to your CM Configuration Server Databases to accommodate the CM Reporting Server. The following sections describe which modifications must be made whether you are using Oracle or SQL Server to store your databases.

## CM SQL Server Database Prerequisites

The following modifications must be applied to each SQL Server database the CM Reporting Server accesses.

A set of SQL scripts was supplied with your CM Reporting Server media, located in the `\Prereq\SQL\` directory. The scripts are located within the RIM, RUM, and RPM, subdirectories. Depending on the databases you will be using, run the appropriate script using the Microsoft SQL Server Enterprise Manager Query Analyzer tool. If you need assistance running these scripts, see your database administrator.

SQL Creation Scripts are as follows:

- **CM Inventory Manager:**
  - `Prereq\SQL\RIM\RIM PreReq Creation Script.sql`
- **CM Application Usage Manager:**
  - `Prereq\SQL\RUM\RUM PreReq Creation Script.sql`
- **CM Patch Manager:**
  - `Prereq\SQL\RPM\RPM PreReq Creation Script.sql`

Before running these scripts, first review them using a text editor and make sure the default table owner names are correct. Make any changes and save the files.

## CM Inventory Manager Database Updates for SQL Server

Before updating the CM Inventory Manager SQL database, make sure the CM agent 5.00 is installed.

A database administrator needs to make the following change to an existing CM Inventory Manager SQL database to support CM Reporting.

- Use the Microsoft SQL Server Enterprise Manager Query Analyzer and run the script `RIM PreReq Creation Script.sql` against your CM Inventory Manager database. One view is created called `DevicesPrimary`. This will add a User Defined Function object called `fn_DATALIAS`.

## CM Application Usage Manager Database Update for SQL Server

A database administrator needs to make the following change to an existing CM Application Usage Manager SQL database to support CM Reporting.

- Use the Microsoft SQL Server Enterprise Manager Query Analyzer and run the script `RUM PreReq Creation Script.sql` against your CM Application Usage Manager database. This will add a User Defined Function object called `fn_USAGESTATUS`, to calculate usage status.

## CM Patch Manager Database Update for SQL Server

A database administrator needs to make the following change to an existing CM Patch Manager SQL database to support CM Reporting.

- Use the Microsoft SQL Server Enterprise Manager Query Analyzer and run the script `RPM PreReq Creation Script.sql` against your CM Patch Manager database. This will add a User Defined Function object called `fn_PATCHSTATUS`.

## CM Oracle Database Prerequisites

The following modifications must be applied to each Oracle database the CM Reporting Server accesses.

A set of scripts was supplied with your CM Reporting Server media, located in the `\Prereq\Oracle\` directory. The scripts are located in the `RIM`, `RUM`,

and RPM subdirectories. Depending on the CM-CSDBs you will be using, run the appropriate script. If you need assistance running these scripts, see your database administrator.

SQL Creation Scripts are as follows:

- **CM Inventory Manager:**
  - Prereq\Oracle\RIM\RIM PreReq Creation Script.oracle
  - Prereq\Oracle\RIM\RIM PreReq Creation Script 9i-I18n.oracle
- **CM Application Usage Manager:**
  - Prereq\Oracle\RUM\RUM PreReq Creation Script.oracle
- **CM Patch Manager:**
  - Prereq\Oracle\RPM\RPM PreReq Creation Script.oracle

Before running these scripts, first review them using a text editor and make sure the default schema names are correct. Make any changes and save the files. When finished, verify that the scripts completes without error. Consult your Oracle DB administrator if changes to the script are required regarding table ownership.

## CM Inventory Manager Database Updates for Oracle

Before updating the Inventory Manager Oracle database, make sure the CM agent 5.00 is installed.

A database administrator needs to make the following change to an existing CM Inventory Manager Oracle database to support CM Reporting. Run the appropriate script depending on the following:

- If your CM Inventory Manager database is using column definition varchar2:
  - Use the Oracle DBA Studio application (for Oracle version 8i and below) or the SQL Plus Worksheet application (for Oracle version 9i and above) and execute the script RIM PreReq Creation Script.oracle, making sure to include the correct path to the script locations. One view is created, called DevicesPrimary. In addition, a DataAlias table is created and populated.
- If your CM Inventory Manager database is using column definition nvarchar2:
  - Use the Oracle DBA Studio application (for Oracle version 8i and below) or the SQL Plus Worksheet application (for Oracle version 9i

and above) and execute the script `RIM PreReq Creation Script 9i-I18n.oracle`, making sure to include the correct path to the script locations. One view is created, called `DevicesPrimary`. In addition, a `DataAlias` table is created and populated.

## CM Application Usage Manager Database Update for Oracle

A database administrator needs to make the following change to an existing CM Application Usage Manager Oracle database to support CM Reporting.

- Use the Oracle DBA Studio application (for Oracle version 8i and below) or the SQL Plus Worksheet application (for Oracle version 9i and above) and execute the script `RUM PreReq Creation Script.oracle`, making sure to include the correct path to the script locations. This will add a User Defined Function object called **fn\_USAGESTATUS**, to calculate usage status.

## CM Patch Manager Database Update for Oracle

A database administrator needs to make the following change to an existing CM Patch Manager Oracle database to support CM Reporting.

- Use the Oracle DBA Studio application (for Oracle version 8i and below) or the SQL Plus Worksheet application (for Oracle version 9i and above) and execute the script `RPM PreReq Creation Script.oracle`, making sure to include the correct path to the script locations. This will add a User Defined Function object called **fn\_PATCHSTATUS**.

## CM Inventory Reporting Auditing Requirements

When using the CM Reporting Server to view a CM Inventory Manager database, the WBEM instances listed in [Table 3](#) on page 23 should be enabled for the CM Inventory Manager Reporting Package in the AUDIT Class of your CM Configuration Server Database (CM-CSDB). These fields are relied upon to produce the primary reporting table or detailed reports shown in later chapters.

For details on how to enable these options, see [Adding Components to CM Inventory Audits](#) on page 31.

**Table 3 CM Inventory Manager reporting WBEM instances**

<b>WBEM Class Instance</b>	<b>WBEM Class Instance</b>
Win32_Bios	Win32_PointingDevice
Win32_ComputerSystem	Win32_Printer
Win32_ComputerSystemProduct	Win32_Processor
Win32_DesktopMonitor	Win32_Product
Win32_DiskDrive	Win32_SerialPort
Win32_DiskPartition	Win32_Service
Win32_Environment	Win32_Share
Win32_Group*	Win32_SoundDevice
Win32_Keyboard	Win32_TimeZone
Win32_LogicalDisk	Win32_USBController
Win32_LogicalMemoryConfiguration	Win32_UserAccount*
Win32_MotherboardDevice	Win32_VideoController
Win32_NetworkAdapter	Win32_CDROMDrive
Win32_NetworkAdapterConfiguration	Win32_Process
Win32_OperatingSystem	Win32_SystemEnclosure

\* Queries may require additional changes. See caution below.



When auditing for Win32\_UserAccount or Win32\_Group, large amounts of data may be returned. Failure to limit the scan may result in high network traffic. In order to limit the amount of data returned by these queries, modify the class.

In order to restrict the results to LOCAL user accounts and LOCAL groups only, modify the CONDITION field of the Win32\_UserAccount and Win32\_Group classes by adding the following syntax:

```
CONDITION Domain = "&(zconfig.zhdwcomp)"
```

Be sure to check the HP OpenView support web site for the most recent information on this topic.

# CM Reporting Server System Implementation Tasks

The CM Reporting Server software and components are located on the CM installation media in the `\infra\extended_infrastructure\reporting_server\win32\`.

To use CM Reporting, complete the following system implementation tasks:


- 1 Review the SQL Server ODBC connections and DSNs for each CM\_CSDB.
- 2 Install the CM Reporting Server.
- 3 Configure Internet Information Services for a CM Reporting \*.Tcl Extension and Web Sharing.
- 4 Modify the CM Reporting Server configuration file.

## Reviewing your SQL Server Access and Database DSNs

All SQL databases accessed by the CM Reporting Server must exist on the same SQL Server. In order to complete the CM Reporting Server configuration in the tasks that follow, you will need to know the DSNs and access credentials assigned to each database in the SQL Server.

## Installing the CM Reporting Server

Identify a Win32 computer with Apache HTTP Server 2.0 or later (2.2x recommended) installed to act as your CM Reporting web server. This computer must be able to communicate with your SQL Server where the CM-CSDBs are defined, the Internet, and your LDAP Directory, if desired.

 The CM Reporting Server runs independently of the CM Portal. It may be installed on any Win32 machine whether or not that machine is running the CM Portal.

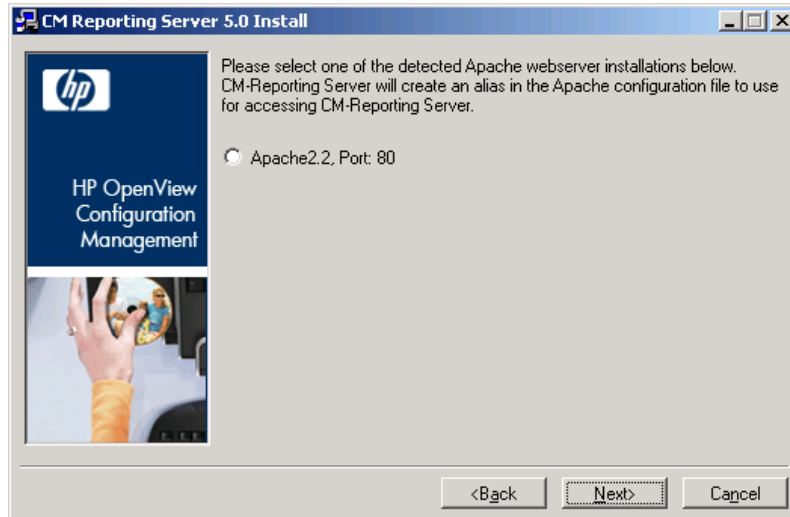
### To install the CM Reporting Server

- 1 Double-click the CM Reporting Server installation executable, `setup.exe`. The Welcome window opens.
- 2 Click **Next**.  
The HP Software License Terms window opens.

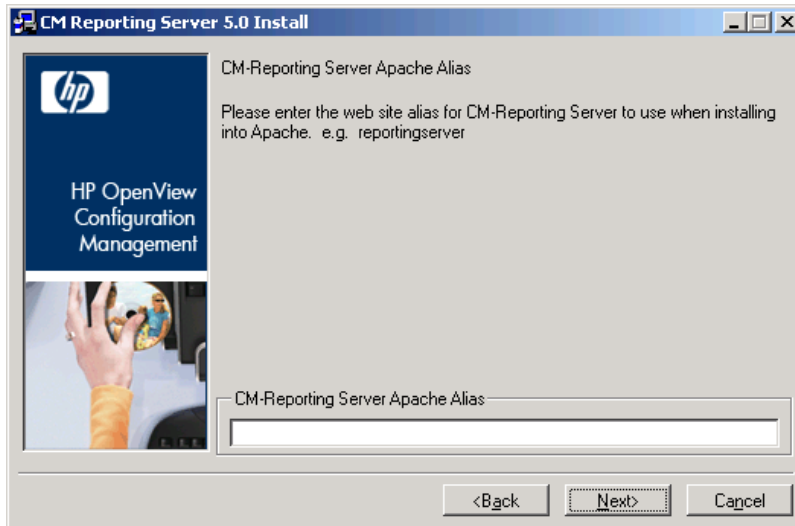


- 3 Read the end-user licensing agreement and click **Accept**.  
The CM Reporting Server installation location window opens.
- 4 Type the installation location of the CM Reporting Server, or click **Browse** to navigate to a location.
- 5 Click **Next**.

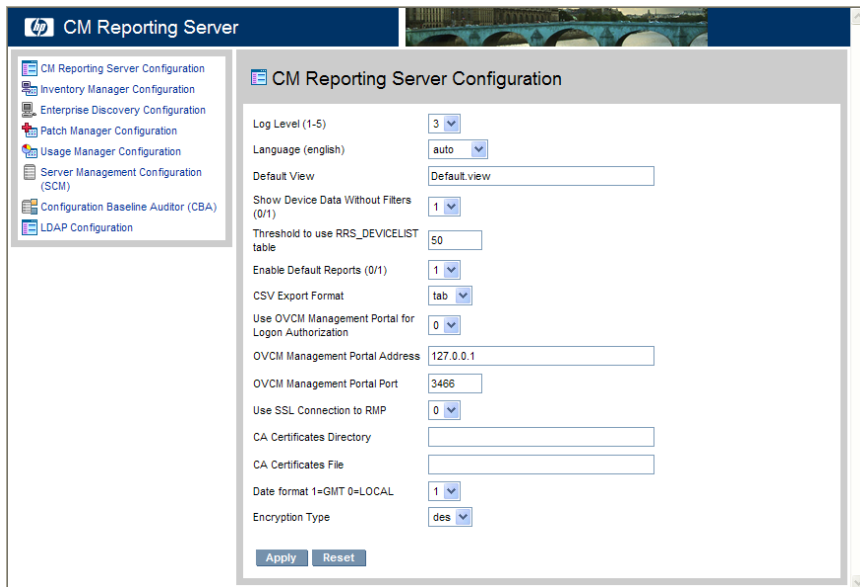
The Apache web server installation window opens.



- 6 Select the detected Apache install you want to use.
- 7 Click **Next**.  
The CM Reporting Server Apache Alias window opens.



- 8 Type a web site alias to use for CM Reporting Server. This is used when accessing CM Reporting Server in a web browser. For example, reportingserver. The Apache configuration file, `httpd.conf` is backed up then updated to point to the CM Reporting Server configuration file, `httpd-rrs.conf`.
- 9 Click **Next**.
- 10 If an existing CM Reporting Server Alias exists, you are prompted to select whether or not to overwrite the configuration file (`httpd-rrs.conf`).
- 11 Click **Next**.  
The installation settings window opens.
- 12 Click **Install**.  
The CM Reporting Server is installed.
- 13 Click **Finish**.  
The CM Reporting Server configuration file opens in your default web browser.



Use the configuration file to configure CM Reporting Server for access to your SQL Server databases, enable reports, and, optionally configure an LDAP directory. See the next section, [Modifying the CM Reporting Server Configuration File](#) on page 27.

For additional information about each configuration file section, see the appendix [CM Reporting Server Configuration File](#) on page 93.

## Modifying the CM Reporting Server Configuration File

The CM Reporting Server configuration file, `setup.Tcl`, includes settings such as the ODBC DSN information and access credentials for each SQL database you are using, as well as LDAP Directory access root and credentials. Use the configuration file to enable or disable specific report types and features.

The configuration file, `setup.Tcl`, populates multiple configuration files stored in the `ReportingServer\etc` folder. These files are generated after the first time you view `setup.Tcl`. You can edit each configuration file manually using any text editor, if you desire. Remember to make a backup copy of any files before you make any changes. See Appendix B, [CM Reporting Server Configuration File](#) for a detailed description of each available setting and parameter.



If you need encrypted passwords, use the web browser to edit the configuration file. Passwords are automatically encrypted when the configuration file is generated. Using a text editor to edit the individual configuration files does not allow for creating encrypted passwords.

To modify the configuration file using a web browser, open the `setup.Tcl` file located in your CM Reporting Server directory with any web browser. This page is opened automatically after the first time you install CM Reporting Server.

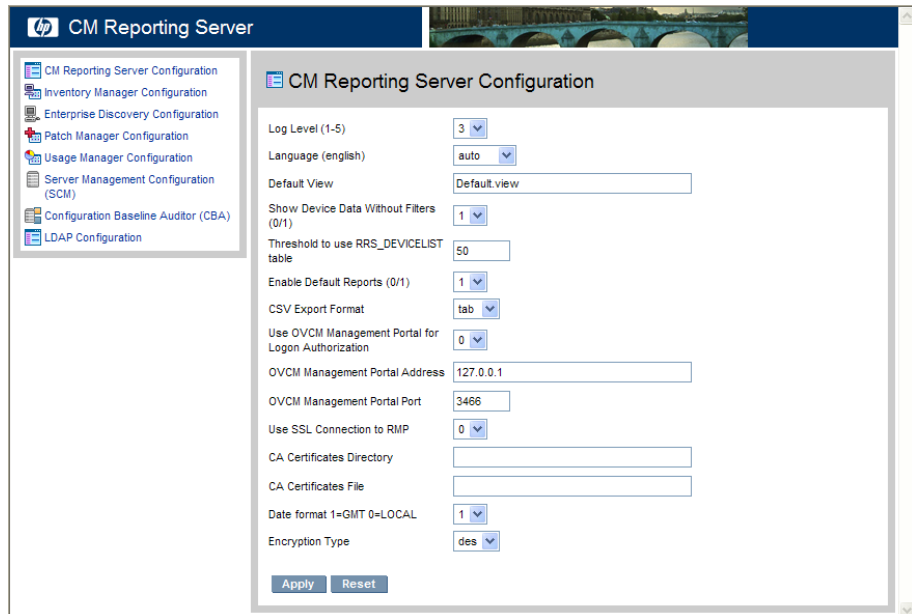
### To modify the CM Reporting Server configuration file

- 1 Open a web browser and type:

```
http://localhost/reportingserver/setup.Tcl
```

where `reportingserver` is the alias created during the CM Reporting Server installation.

The configuration file page opens.



- 2 To modify each configuration file section, click the configuration option link from the left column to display a set of configuration options.
- 3 Refer to the appendix [CM Reporting Server Configuration File](#) on page 93 for a detailed description of each available section and parameter.

- 4 After you are finished making modifications, click **Apply**.


The following sections detail specific configuration tasks available with the CM Reporting Server configuration file.

## Enabling Reports and Defining ODBC DSN Settings

For each CM-CSDB you want to use for reporting, you must enable the specific report types then define the ODBC DSN settings using the CM Reporting Server configuration file.

The configuration file contains a section for each available database and report type settings:

- Inventory Manager Configuration
- Enterprise Discovery Configuration
- Patch Manager Configuration
- Usage Manager Configuration
- Configuration Baseline Auditor (CBA)
- Server Management Configuration (SCM)

 HP Enterprise Discovery Software discovers devices in a network, scans for hardware and inventory, and collects software utilization data. See HP's website for additional details.

Enabling reports and defining ODBC DSN settings is similar for each database. The following example describes how to define settings for a CM Inventory Manager SQL database.

### To enable reports and define ODBC DSN settings for Inventory database

- 1 Access the CM Reporting Server configuration file.
- 2 Click **Inventory Manager Configuration**.
- 3 Set **Enable RIM Reports (0/1)** to 1 using the drop-down box.
- 4 If you want to make reports available for caching, set **Enable RIM Report Caching (0/1)** to 1 and adjust the cache lifetime as desired.
- 5 Enter the **RIM DSN**, **RIM DSN User**, and **RIM DSN Password**.
- 6 Click **Apply**.

For additional information about configuration file settings and parameters, see *Appendix B*, [CM Reporting Server Configuration File](#).

## Adjusting the CM Reporting Server Display Language

Use the **Language (english)** parameter, to determine the language in which CM Reporting Server pages are displayed.

Selecting **auto** will allow the CM Reporting Server to display in the language to which your browser is set.



Any language that is not available in a browser language catalog is displayed in English, by default.

## Enabling the CM Reporting Server Cache Feature

Similar to an HTTP proxy, the CM Reporting Server has the ability to save report data in a cache file. When a user requests a report, that report data is saved in a file on the CM Reporting Server. Then, if any subsequent users request the same reports, the data is readily available in the cache, returning the report much faster by avoiding the processing time used to retrieve the data from the Oracle or SQL database. The cache file is saved in a folder within the CM Reporting Server installation directory, such as `C:\HP\ReportingServer\cache`.

Use the configuration file to enable caching and to determine how long a cache is available.

### To configure caching

- 1 Within the configuration file, click the configuration section for which you want to enable and configure report caching. For example, to adjust the caching parameters for CM Inventory Manager reports, click **Inventory Manager Configuration** in the left pane.
- 2 Caching is disabled by default. To turn on caching for CM Inventory Manager reports, for example, set **Enable RIM Report Caching (0/1)** to **1**.
- 3 To set the amount of time cached CM Inventory Manager reports will be stored, for example, adjust the value for **RIM Cache Lifetime (seconds)**. The default is 1200 seconds, or 20 minutes.
- 4 Click **Apply** to commit your changes.  
Report caching has been enabled and configured.

## Enabling CM Portal Logon Authorization

If you want to enable authorization through the HP OpenView Configuration Management Portal (CM Portal) when logging in to the CM Reporting Server, set the **Use OVCM Management Portal for Logon Authorization** parameter to **1** in the configuration file.

This will prompt for user name, password and directory source each time you visit the CM Reporting Server web page.

To disable logon authorization, set the value to **0**.

## Normalizing Case Sensitive Databases

The configuration file contains an option for normalizing character case when applying filters to your databases: **Normalize case when using filters** or **NORMALIZECASE** in the individual `.cfg` files.

By default, Oracle is a case-sensitive database. So for example, 'A' is not equal to 'a' while SQL databases are *not* case sensitive, so 'A' is equal to 'a.' Microsoft SQL Server databases, by default, are *not* case sensitive.

When the normalize case option is off (set to 0), CM Reporting Server does no post processing on any filters. This means for an Oracle database, if you are looking for a device called DeviceA, but in the Oracle database it is listed as DEVICEA, no match is found. In this example, a SQL database *would* return a match.

If the case-sensitive option is turned on (set to 1), searching for DeviceA in the Oracle database will return a match, DEVICEA. Turning the option on for a SQL database will turn on case sensitivity and, in this example, no match would be found.

▶ When this option is turned on (set to 1), indexes are not used which will result in reporting queries taking much longer to generate results.

## Adding Components to CM Inventory Audits

To obtain the reports available through the CM Reporting Server features, we highly recommend that you audit your CM agents for the Win32 components previously listed in [Table 3](#) on page 23. If you are missing some

of the components, you can use these procedures to add them to your CM Inventory Manager reporting audit package.

For additional information, refer to the *HP OpenView Configuration Management Inventory Manager Installation and Configuration Guide*.

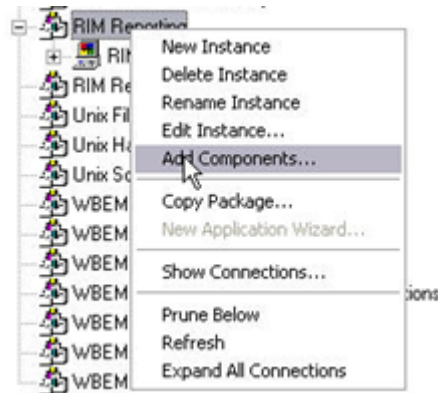
The following example adds the Win32\_MemoryDevice component to the CM Inventory Manager Reporting Package. Use the same procedure to add any component to the CM Inventory Manager Reporting Package or to another audit package that is used to collect CM Inventory Manager data at your site.



Before adding any components, make sure they do not already exist within the reporting audit package. Adding duplicate components will cause errors.

### To add components to CM Inventory Manager reporting audit packages

- 1 Use the CM Admin CSDB Editor and browse to the PRIMARY.AUDIT.PACKAGE class.
- 2 Locate the CM Inventory Manager reporting package and expand all connections to show all component instances.
- 3 Right-click the CM Inventory Manager Reporting Package instance (**RIM Reporting**), and select **Add Components** from the shortcut menu.



- 4 The Add Components dialog box opens. Select **WBEM** from the Available Components drop-down list, and type the component name in the New Component Name text box. For this example, we will type:

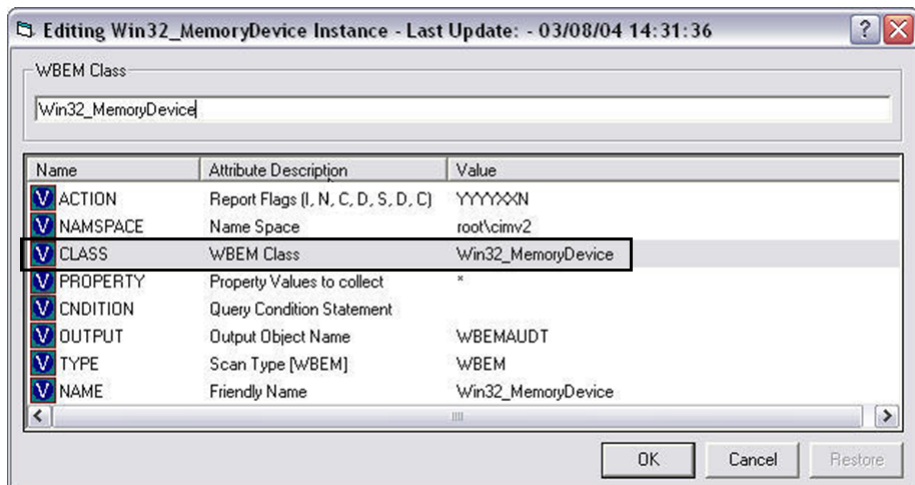
**Win32\_MemoryDevice.**

- 5 Click **Add+Edit**.

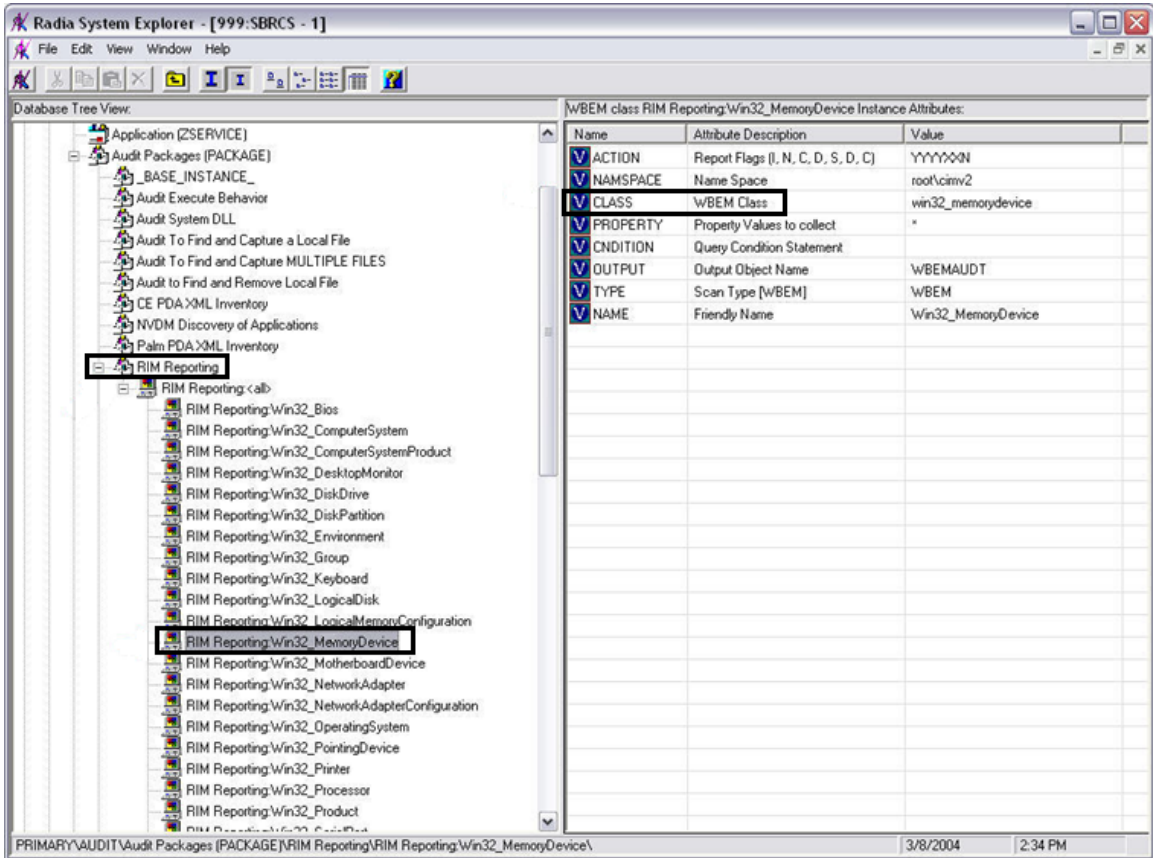




- 6 The Edit Instance dialog box opens. Click the **CLASS** entry, and type the value of the WBEM class. Use the same name as the component name, e.g., **Win32\_MemoryDevice**.
- 7 Click **OK** to save your changes.



- 8 As shown in the next image, the Win32\_MemoryDevice instance is added to the CM Inventory Manager Reporting Package.



9 Repeat this Add Component procedure for each entry in Table 3 on page 23 that is missing from your inventory auditing package.



When auditing for Win32\_UserAccount or Win32\_Group, large amounts of data may be returned. Failure to limit the scan may result in **high network traffic**. In order to limit the amount of data returned by these queries, modify the class.

In order to restrict the results to LOCAL user accounts and LOCAL groups only, modify the CNDITION field of the Win32\_UserAccount and Win32\_Group classes by adding the following syntax:

```
CNDITION      Domain = "&(zconfig.zhdwcomp)"
```

Be sure to check the HP Openview support web site for the most recent information on this topic.

# Summary

- The CM Reporting Server must be installed on a Win32 machine with the Apache HTTP Server 2.x or later installed.
- Modify your CM Configuration Server and CM Inventory Manger Server to support CM reporting.
- Modify the SQL and Oracle database definitions for CM Inventory Manager, CM Patch Manager, and CM Application Usage Manager to support CM reporting.
- If necessary, modify your CM Inventory Manager audits to include the set of Win32 components needed to take advantage of CM reporting.
- Modify the configuration file to point to all DSNs and any LDAP directory you are accessing for CM reporting.



---

## 3 CM Reporting Server Features

At the end of this chapter, you will:

- Be familiar with the HP OpenView Configuration Management Reporting Server (CM Reporting Server) user interface.
- Know how to use the features of the CM Reporting Server.
- Know how to customize the CM Reporting Server interface.

# Accessing the CM Reporting Server

The CM Reporting Server runs as an independent application hosted by Apache. Once installed and configured, users have access to the reports from any web browser connected to the Internet.

## To access the CM Reporting Server

- Open any Web browser and type the following address:

```
http://<hostname>/reportingserver
```

Where *<hostname>* is the host name of the Apache web server on which the CM Reporting Server was installed and where *reportingserver* is the Alias assigned to CM Reporting during installation.



Reporting is optimized for display screen area setting 1024 x 768 or greater.

## Logging in

If you have enabled CM Portal logon authorization in the configuration file, you will be required to log in the CM Reporting Server. By default, the username is admin and the password is secret. Select the CM Portal Directory Source and click **Sign In**.

# About the CM Reporting Server Interface

The CM Reporting Server user interface contains several distinct areas, as described below.

- **Search Options.** Use the Directory/Group Filters or Data Filters area to apply one or more filters to the dataset being accessed for the current View. Any filters you apply are listed as Search Criteria above the reports.
  - **Directory/Group Filters.** Click on a Directory/Group entry to filter the current dataset to that level. The Directory/Group area is discussed on page 40.


- **Data Filters.** Use this area to generate or select a filter to be applied to the current dataset. See [Using Search Options to Select Filters](#) on page 40 for details on how to use this area.
- **Display Options.** Use the Reporting Views area to control your current session and display.
  - **Reporting Views.** A Reporting View defines the set of reporting windows to display for the current dataset and initial settings related to each window (such as minimized or maximized, and the number of items per window). When you first access the CM Reporting Server, the Default View is applied. The current view is listed on the right of the Global Toolbar.


Use the Reporting Views area to change or customize your Reporting View. For details, see [Using Display Options to Select Reporting Views](#) on page 45.

- The **Search Criteria** above the report windows list the filters that have been applied to the dataset using one of the Search Controls.

To remove a filter, click the  to the left of a filter name.

- **Report Windows** display the current View.

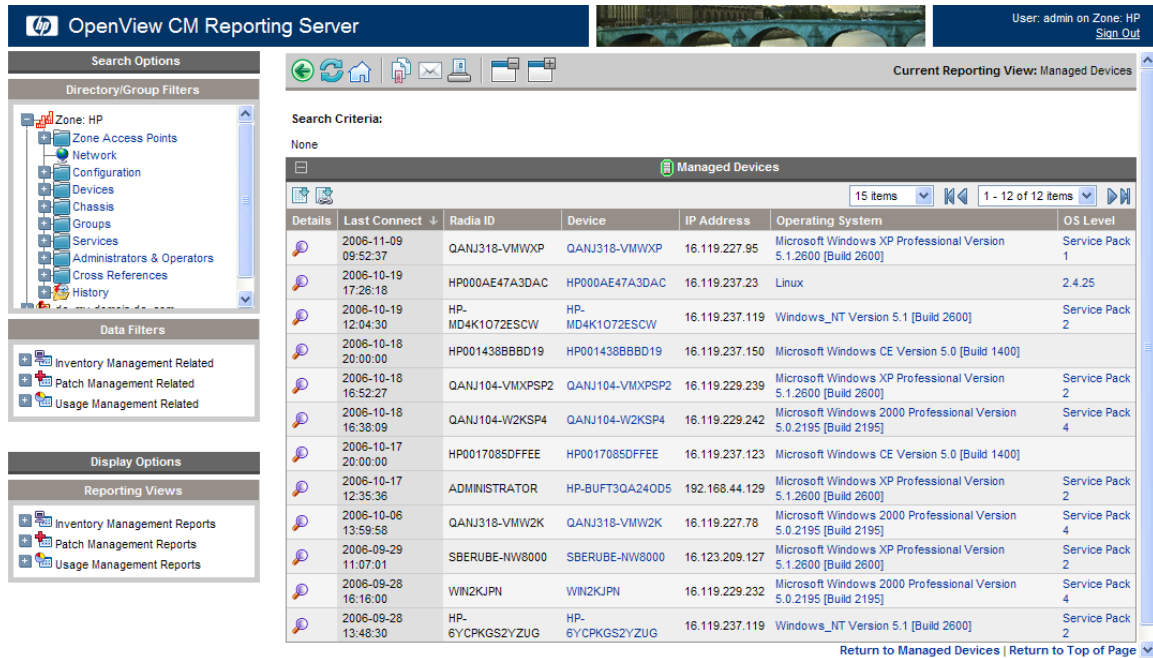
Click minimize  on the Window title bar to collapse a report window.

Click maximize  on the Window title bar to expand a report window.

See [About Reporting Windows](#) on page 50 for details about using the Report Window Action Bar icons, as well as browsing, sorting, and viewing details for the items in a report.

- Each window contains an **Action Bar** that includes icons allowing you to create CSV files from current datasets or switch to graphical views.

**Figure 3 CM Reporting Server user interface**



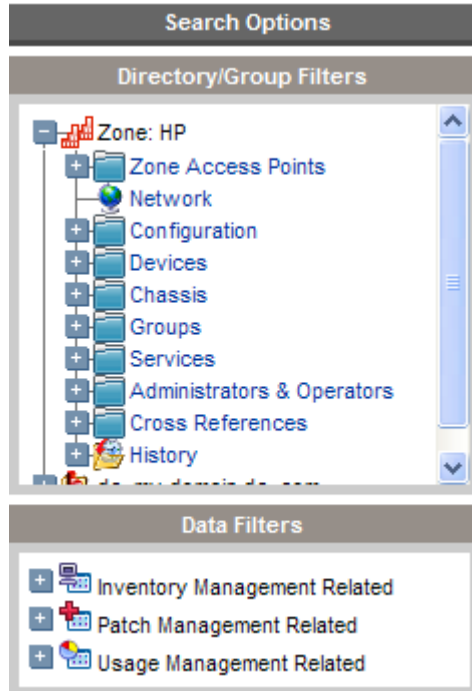
## Using Search Options to Select Filters

The Search Options areas give you two ways to filter datasets within the CM Reporting Server. You can:

- Select a group entry from the Directory/Group Filter area. This limits the results to the group entry level.
- Use the Data Filter area to create or apply a filter. This limits the results to the specific filter you applied.



**Figure 4 Search Options area**



When you select a Directory/Group Filter or apply a Data Filter, your filter is automatically listed as a Search Criteria entry.

## The Directory/Group Filters Area

Use the Directory/Group Filter to browse to a group. As you click a group entry, the CM Reporting Server automatically filters the reporting data displayed for that entry. For example, if you click the **Sales** group entry, the reporting area limits the display to only the devices that are associated with the Sales group.

### Navigating Within the Directory/Group Filters Area

To drill down further into the group click any image within the Directory/Group Filters area allows you. To apply the associated filter to your data click any text.

Once you expand the tree view in the Directory/Group Filters area, the expanded branch becomes the root branch.

## The Data Filters Area

The **Data Filters Area** is always available as a Search Option (along the left side of the CM Reporting Server page). Use it to select a filter to apply to the current dataset. Once a filter is applied, you will see it added to the Search Criteria list above the report windows.

To select and apply a filter using the Data Filter area

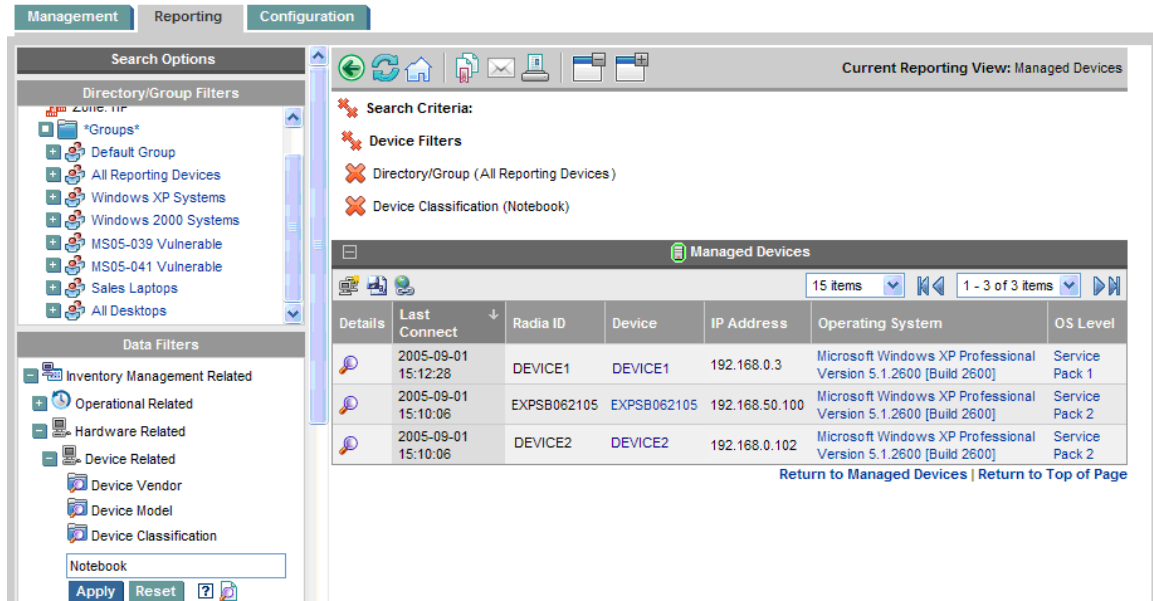
- 1 From the Data Filter area, use the Filter Group tree-view and select a group. The example shown in the figure below selected **Inventory Management Related** then **Hardware Related**.
- 2 Open the Filter tree-view and select a filter. The example shown in the figure below, selected **Device Related** then **Device Classification**.
- 3 In the Filter Value text box, type a specific value. For example, **\*Notebook\***. You can use wildcards, including \* for multiple characters, or ? or \_ (underscore) for single characters.
- 4 Click **Apply** to add this filter to the report. After applying the filter, you will see it added to the Search Criteria list above the report windows.



The Reset button clears the Filter Value field and resets the Filter Group and Filter selections to their default values.

The following figure displays an example of the Data Filter entries used to limit the report to only Notebook devices.

**Figure 5 Applying a Search Criterion to limit report to Notebook Devices**



### Special Filter Value Characters and Wildcards


Finding the right records can be made easier by using special characters and wildcards within your search strings. Use these special characters in conjunction with the text you enter into the Filter Value text box. Table 4 below explains each special character.


**Table 4 Special Characters and Wildcards**

Character	Description
* or %	Return all records of specific text string. Example: Device Vendor Filter HP* returns all HP records. %HP% returns all records including HP.

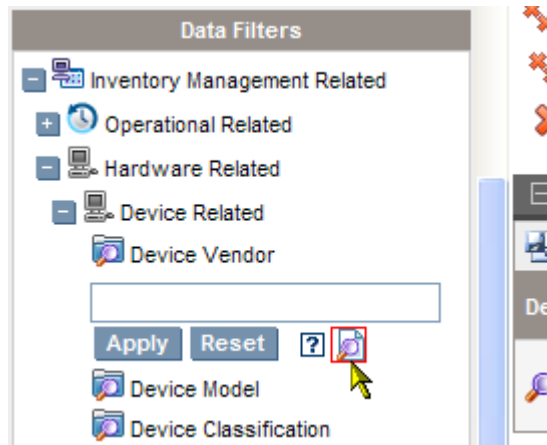
Character	Description
? or _	Return any single character Example: Device Classification Filter Not?book returns all records beginning with 'Not' and ending with 'book'. Note_ook returns all records beginning with 'Note' and ending with 'ook'.
!	Negates filter. The ! must be placed before the text string. Example: Device Vendor Filter !HP* will return all non-HP records.

### Using Filter Lookup

In order to help fine tune searches, especially within filters that may contain a lot of data (for example, Usage Manager Product Lists), filters with the value lookup capability (denoted by ) will use the entered data as lookup criteria.

For example, entering “Compaq\*” in the data field as displayed in the Figure 9 below, and then clicking the value lookup button  will open the lookup window displayed in Figure 10 below.

**Figure 6 Filter Lookup button.**



**Figure 7    Lookup window**



- If no value is entered into the data field then all available lookup criteria records in the database are displayed when you click the value lookup button.

## Using Display Options to Select Reporting Views

Within the Display Options area, Reporting Views specify which windows are to be displayed on the report page, as well as their initial state (maximized or minimized).

View Groups and Views are stored as objects.

**Figure 8     Display Options**




## Applying a View from the Reporting View Area

To apply a View

- 1 From the Reporting Views area, open the View Group drop-down list and select a group. The example shown in [Figure 9](#) on page 47 has Inventory Management Reports, Software Reports expanded.
- 2 Next, select a view for that group. The example shown in [Figure 9](#) on page 47, has Service Details selected for Managed Service Reports.
- 3 After selecting the view, you will see the appropriate report windows displayed for the selected View.
  - ▶ The Reset button resets the View Group and view selections to their default values.

**Figure 9 Software Reports**



Use the back button  to return to any of the previous reporting windows. When you reach the top of the history, the back button disappears.

## Reporting View Types

Depending on the type of data you want to view, select the appropriate Reporting View.

### Inventory Management Reports

Inventory Management Reports display hardware and software information for all devices.

### Patch Management Reports

Patch Management Reports display patch compliance information for managed devices and acquisition information for patches and Softpaqs.

- **Compliance Reports** - The CM Patch Manager Agent sends product and patch information to the CM Patch Manager Database. This information is compared to the available patches to see if managed devices require certain patches to remove vulnerabilities. Compliance

reports show only the information applicable to detected devices in your environment.

- **Patch Acquisition Reports** - Acquisition based reports show the success and failures of the patch acquisition process from the vendor's web site.
- **Research Reports** – Research-based reports display information about the patches acquired from the software vendor's web site. Research based reports offer a Filter bar.

## Usage Manager Reports

Usage Manager Reports show usage information for devices that have the CM Application Usage Manager Agent installed.

- **Device Reports** - Display collected usage information by the individual devices or users.
- **Monthly Usage Reports** – Display usage information by vendor, product, or application.

Usage Management Reports may contain some of the following data columns:

- **Usage Time** – the amount of time an application is running.
- **Focus Time** – the amount of time an application is the active window.
- **Usage Count** – tracks the number of times an application is run on a user's device.
- **Usage Status** – represents the relation of Used versus Unused instances for an individual application or a group of applications.

▶ After the CM Application Usage Manager Agent is deployed, Usage Time collection begins right away. Focus Time collection does not begin until the next time the user logs on.

▶ Most logical folders, Program Files, for example, are machine-related and not associated with an individual user. Therefore, Usage Management Reports, Device Reports, Usage by User report may contain [undefined] in the User Name column.



## Viewing HP Hardware Reports

Use the Display Options to show HP Hardware reports. These reports contain simple alert information captured by HP Client Management Interface (CMI) on compatible, HP devices.

To display HP Hardware reports

- 1 In the Display Options area, select **Inventory Management Reports**.
- 2 Select **Hardware Reports**.
- 3 Select **HP Specific Reports**.



- 4 Select the HP-specific hardware reporting view. The report is displayed in the right pane.

To search for a specific alert type or bios setting (based on the report view you chose) use the additional data filter search box displayed at the top of the report window.

## Windows Vista Readiness Reports

Use the Display Options to show Windows Vista readiness reports. These reports contain information you can use to determine individual device readiness for an upgrade to Windows Vista. The CM Reporting Server determines Vista readiness based on the following criteria:

- CPU Speed
- System Memory

- System Drive Total Space
- System Drive Free Space

Vista-readiness criteria are displayed at the top of the report page. Refer to Microsoft's specifications on their web site for up to date Vista readiness information.

To display Windows Vista Readiness reports

- 1 In the Display Options area, select Inventory Management Reports.
- 2 Select Readiness Reports.
- 3 Select Windows Vista.

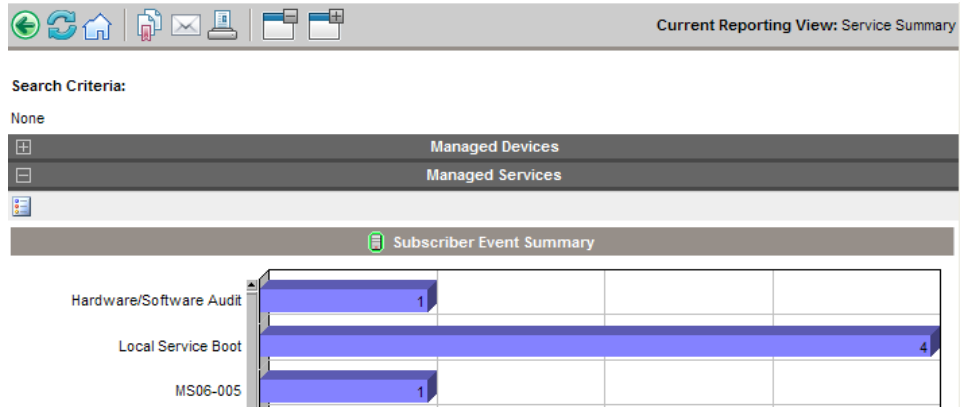


- 4 View the reports and charts available to determine the Windows Vista upgrade readiness of your devices. The Readiness Status and Additional Information columns contain information about the current level of readiness for each device.

## About Reporting Windows


The Report Page displays the windows specified in the applied view. The figure below shows an example of report windows displayed on the Report Page: **Managed Devices** and **Managed Services**. The Managed Devices window is minimized and the Managed Services window is maximized to show report data.


**Figure 10 Sample Reporting Window**



### Using the Windows Action Bar Icons

Each Window contains an **Action Bar** with the following possible icons:

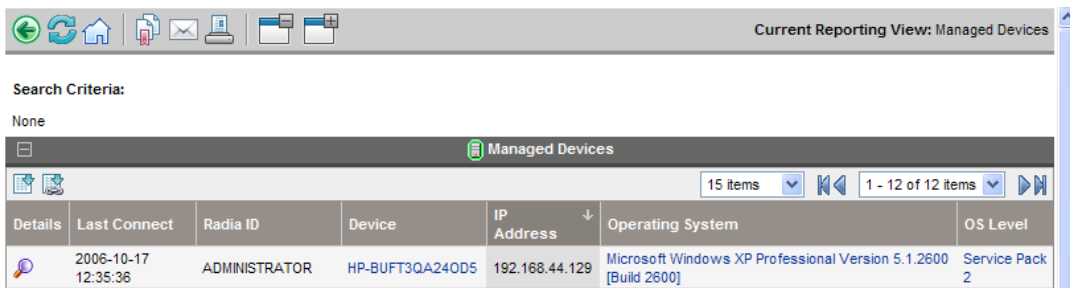
 **Export to CSV** – creates a comma-separated list of the report query that you can open or save.

 **Export to IQY** – creates a Web query list of the report query that you can open or save as an MS Excel file. A live link to the source report is created allowing you to refresh the Reporting data from within the Excel spreadsheet by retrieving the data directly from the CM Reporting Server.

 **Switch to Graphical View**

Click this icon to switch to a graphical view of the data.

**Figure 11 Sample Devices on a Reporting page**



## Browsing Items in a Report

There may be very large numbers of items in any report. The Action Bar lets you customize how many items to view in a given window area. To browse to records outside your current window area, use the Browse buttons or drop-down list, as illustrated in [Figure 12](#) below.

### Maximum items per window.

Use this drop-down list box to limit how many items to display in the current window. For example, if you select a maximum of 30 items, you will be able to scroll 30 items in the current window.

### Browse Back and Forward Buttons.

If you set the maximum items per window smaller than the total items in the report, you will have the ability to browse through multiple windows. Use the browse buttons to go to the First, Previous, Next, or Last window for the current report.

### Browse to a specific window.

Alternatively, select which set of items to view from the list of available windows. For example, select **1 - 15 of 46** items from drop-down list box to view that set of items.

**Figure 12** Report Display Settings: 15 Items per Window, Sort by Class



### Legend

- a** Current sort field and order
- b** Maximum items to display per window
- c** Browse buttons
- d** Current display and total

## Sorting Columns


Click the column heading name to sort items in a report by that column either in ascending or descending order.

To toggle between ascending and descending sorts, click a currently selected column (indicated by the arrow). An up arrow indicates the active sort

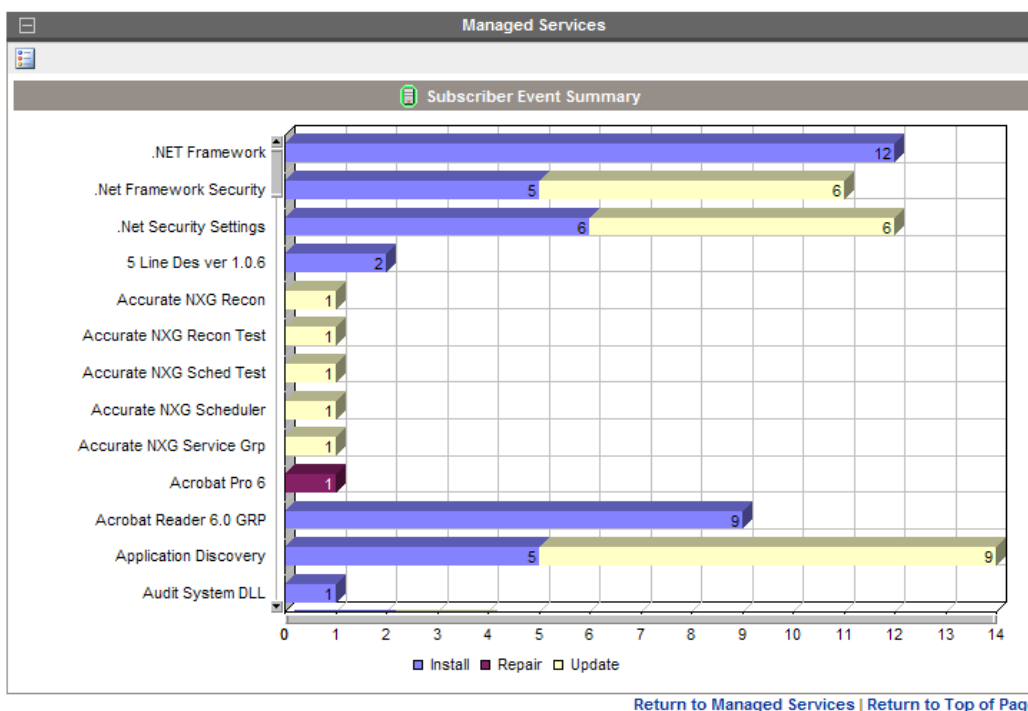
column and ascending order. A down arrow indicates the items are displayed in descending order.

For example, the figure above shows a report sorted on the IP Address column in descending order. Notice the down arrow to the right of the IP Address column heading.


### Switching to a Graphical View of Reporting Data

Click **Switch to Graphical View**  in the action bar area of any report window to switch to a graphical view of the report data. [Figure 13](#) below shows a sample graphical view.


**Figure 13** Sample report in graphical view



Double-click any individual graph object to add a new Search Criteria. A new set of graphs is displayed based on the specific information you selected.

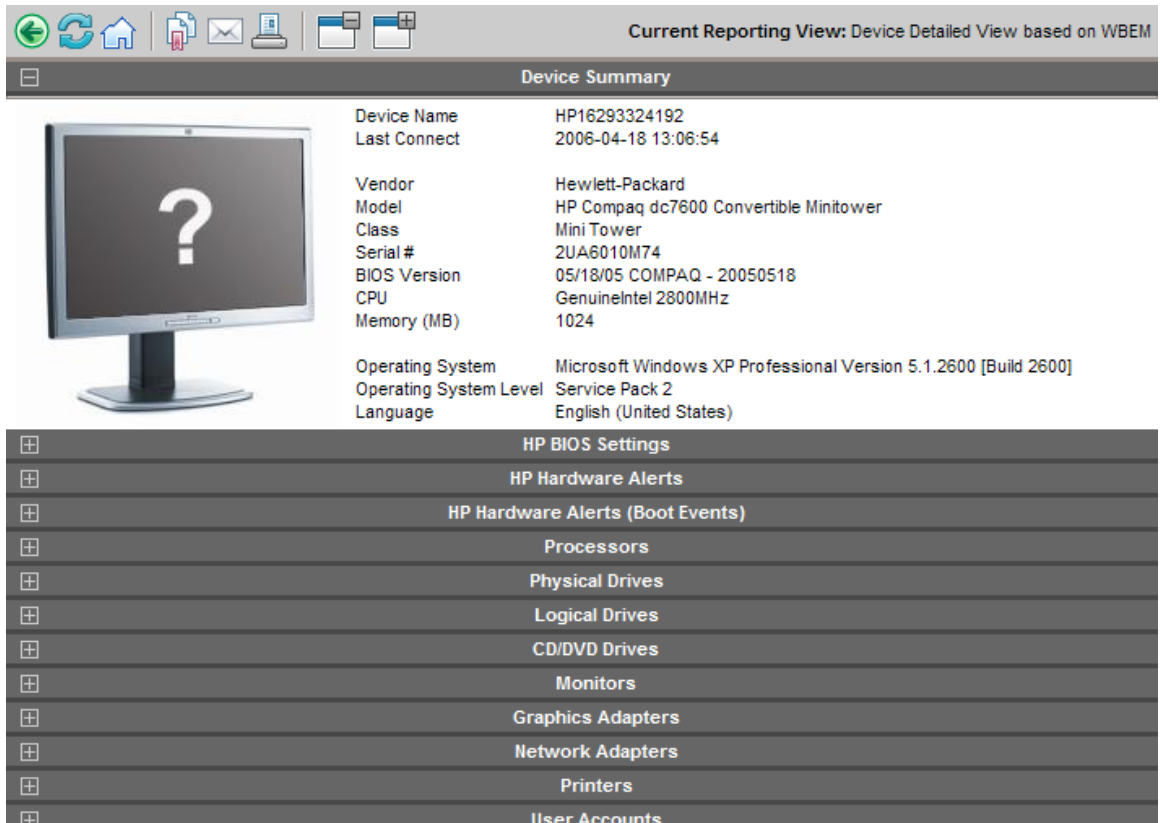
To return to the detailed view at any time, click **Switch to Detailed View**  in the action bar.

## Displaying Device Details

From the Managed Devices report window, click **Show Details**  next to any item to display the details for that device.

The Device Summary window opens, as shown in the following figure. Notice that in addition to the standard global icons, the green arrow icon allows you to return to the previous window.

**Figure 14** Device Summary window



The screenshot shows a software interface for displaying device details. At the top, there is a navigation bar with icons for back, refresh, home, print, email, and a green arrow icon. The title bar reads "Current Reporting View: Device Detailed View based on WBEM". Below this is a "Device Summary" window. On the left is a monitor icon with a question mark. To the right is a table of system information:

Device Name	HP16293324192
Last Connect	2006-04-18 13:06:54
Vendor	Hewlett-Packard
Model	HP Compaq dc7600 Convertible Minitower
Class	Mini Tower
Serial #	2UA6010M74
BIOS Version	05/18/05 COMPAQ - 20050518
CPU	GenuineIntel 2800MHz
Memory (MB)	1024
Operating System	Microsoft Windows XP Professional Version 5.1.2600 [Build 2600]
Operating System Level	Service Pack 2
Language	English (United States)

Below the summary table is a list of expandable sections, each with a plus sign icon:

- HP BIOS Settings
- HP Hardware Alerts
- HP Hardware Alerts (Boot Events)
- Processors
- Physical Drives
- Logical Drives
- CD/DVD Drives
- Monitors
- Graphics Adapters
- Network Adapters
- Printers
- User Accounts

Click any heading at the bottom of the page to expand its listing. For example, if you click **Services**, you'll see the list of Windows Services installed on the system.


The Device Summary contents will vary according to the starting Report Window.

### Applying Filters from Report Data

Click hyperlinked data within a report to filter by that specific criterion. A filter is applied and displayed in the Search Criteria.

### Using Remote Control (VNC)

If you would like to begin a VNC session for an individual device, click

**Remote Control (VNC)**  next to the appropriate device row.

## Summary

- The CM Reporting Server user interface contains several distinct areas. Use these to generate reports based on criteria you supply.
- Use the Search Options to apply one or more filters.
- Reporting Views define the set of reporting windows to display.
- The Search Criteria lists the filters that have been applied to the current dataset.
- Use the Action Bar to navigate throughout your report, generate a CSV file, or switch to a graphical view.



---

# 4 Customizing Reports

At the end of this chapter, you will:

- Understand the different reporting object types, including views, view groups, filters, filter groups, and windows.
- Understand how to modify the reporting object files to create custom reports.
- Be presented with an example scenario showing how to customize reporting objects.

The CM Reporting Server allows extensive report customization by modifying any of the reporting object files. Reporting object files must be extracted or created manually and added to the CM Reporting Server directory structure.

## Using Report Packs

Report packs are included in the CM Reporting Server's `\reportpacks` directory. Each file contains CM Reporting Server object files for specific report types.

**Table 5 Report Packs**

Report Pack File	Reports
<code>cba.kit</code>	Configuration Baseline Auditor
<code>ccm.kit</code>	CM Client Configuration Manger
<code>rim.kit</code>	CM Inventory Manager
<code>rpm.kit</code>	CM Patch Manager
<code>rrs.kit</code>	CM Reporting Server and LDAP
<code>rum.kit</code>	CM Application Usage Manager
<code>scm.kit</code>	Server Management

When extracted, report packs create the file structure necessary to modify reporting objects. Use the **extract** utility to extract reporting object files.

### To extract files from a report pack

- 1 From a command prompt, switch to your CM Reporting Server's `\bin` directory.
- 2 Type the following command (This example will extract the contents of `rum.kit`. Replace **rum** with the report pack you want to extract. The file extension, `.kit`, is not required.):

```
extract rum
```

- 3 Hit **Enter**.

The reporting files are extracted to the CM Reporting Server `\reportpacks` directory in a new folder. The example above created the folder, `\reportpacks\rum.vfs` which contains all reporting object files needed to make any modifications for CM Application Usage Manager reports.

- ▶ Extracted files take precedence over files contained within a reporting pack. For example, if you've created the directory structure, `\reportpacks\rum.vfs\objects`, which contains modified reporting object files, these modifications take precedence over the reporting objects contained within `rum.kit`. This helps maintain any customization you may have made in the event of an update to CM Reporting Server where a newer `rum.kit` is supplied.

## Reporting Object Files

Reporting object files determine what data you will see and in what format it is presented on the CM Reporting Server Web page.

There are multiple reporting object file types that you can modify. Each type is located within a separate sub-directory within the appropriate objects folder. For example, an extracted `rum.kit` will create the `\reportpacks\rum.vfs\objects` directory.

- ▶ Customizing CM Reporting Server reporting object files requires a basic knowledge of XML. Familiarity with Tcl and HTML is also beneficial.

When generating a reporting page, the CM Reporting Server looks for all files of a specific extension type, `*.views`, for example, within the directories mentioned above.

## Backing up Your Reporting Object Files

Before you begin modifying any reporting object files, make sure to backup the original files. We recommend that you rename any of the files you will modify with an easily identifiable designator, your company name or initials, for example. If your company initials are ABC, then you could copy and rename the View Group object, Hardware Reports.viewgroup to ABC\_HardwareReports.viewgroup.

Since the CM Reporting Server only looks for specific extensions, renaming your modified files allows easy incorporation into your reporting environment. Also, any updates to the CM Reporting Server files will be easily incorporated into your existing configuration without undoing any of your report customizations.

## Understanding the Reporting Object Files

Before you customize any reporting object files, become familiar with the purpose of each file and how they are constructed.

### Reporting Object File Construction

Each reporting object file is designed using XML (Extendable Markup Language) as well as Tcl (Tool-Command Language) and HTML. You should have a basic understanding of each of these programming languages before you attempt to make any modifications to your reporting object files. Use any text editor to modify and save new reporting object files.

### Reporting Object File Types

Several reporting object file types can be modified to generate custom report pages. These include:

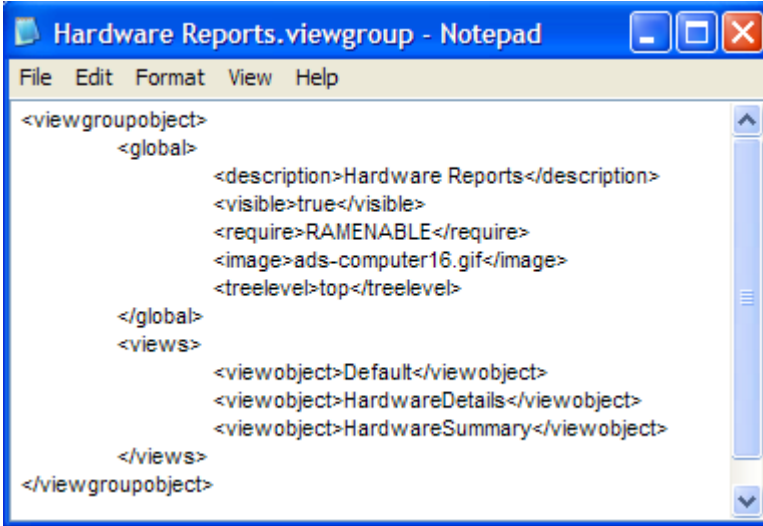
- View Groups
- Views
- Filter Groups
- Filters

- Windows
- Datasources

## View Group Objects and View Objects

View Group (\*.viewgroup) objects contain a selectable list of View objects available for that category. Each View Group contains a specific set of available Views. A view group can include another view group in its list to allow for multiple levels in the tree view.

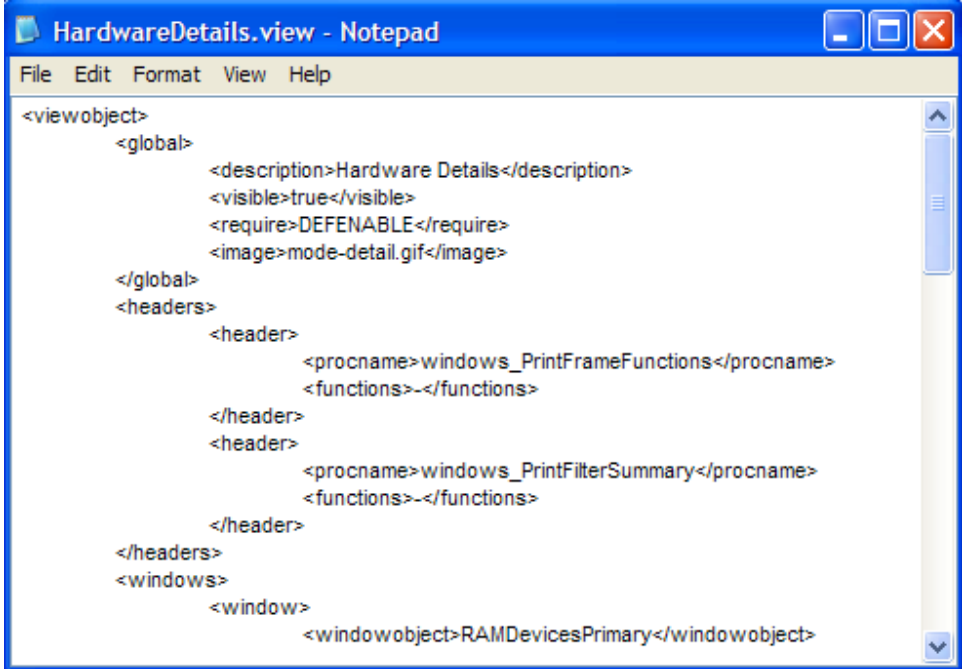
**Figure 15 Sample View Group object file**



```
<viewgroupobject>
  <global>
    <description>Hardware Reports</description>
    <visible>true</visible>
    <require>RAMENABLE</require>
    <image>ads-computer16.gif</image>
    <treelevel>top</treelevel>
  </global>
  <views>
    <viewobject>Default</viewobject>
    <viewobject>HardwareDetails</viewobject>
    <viewobject>HardwareSummary</viewobject>
  </views>
</viewgroupobject>
```

View (\*.view) objects determine the currently active window object displayed on the right side of the CM Reporting Server web page.

**Figure 16** Part of a sample View object file

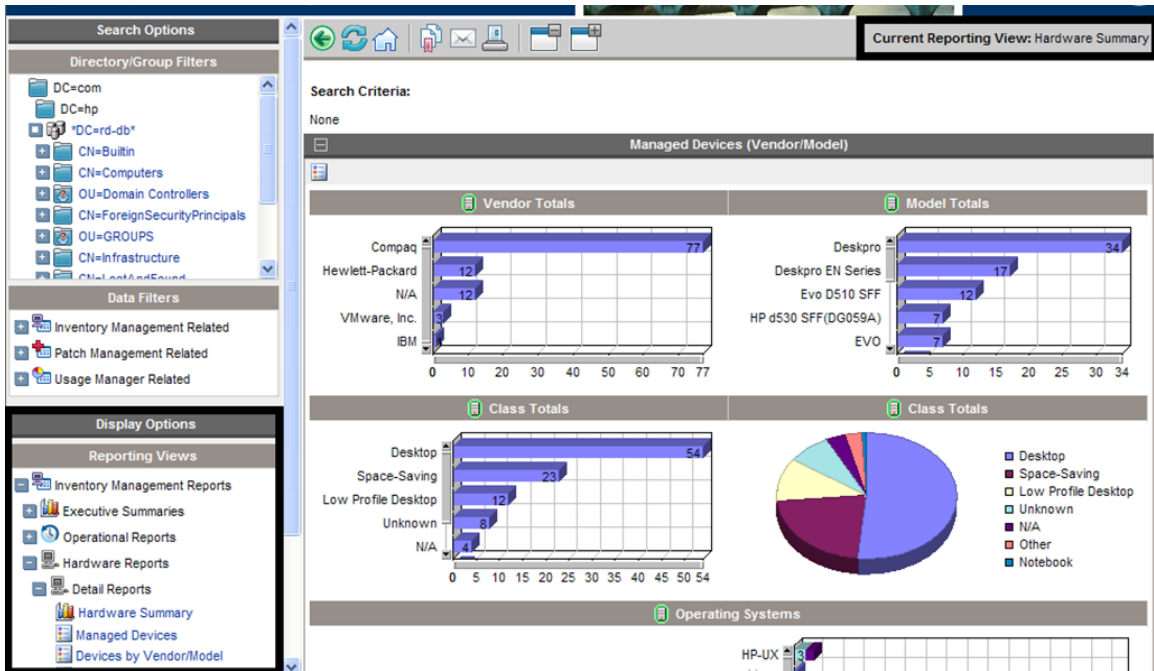


```
<viewobject>
  <global>
    <description>Hardware Details</description>
    <visible>true</visible>
    <require>DEFENABLE</require>
    <image>mode-detail.gif</image>
  </global>
  <headers>
    <header>
      <procname>windows_PrintFrameFunctions</procname>
      <functions>-</functions>
    </header>
    <header>
      <procname>windows_PrintFilterSummary</procname>
      <functions>-</functions>
    </header>
  </headers>
  <windows>
    <window>
      <windowobject>RAMDevicesPrimary</windowobject>
    </window>
  </windows>
</viewobject>
```

Modifying View Group objects and View object files will determine what is displayed on the left-hand side of the CM Reporting Server Web page in the two drop-down list boxes within the Display Controls/Reporting Views section.

The currently active View object is displayed in the top-right corner of the page after **Current Reporting View**.

**Figure 17 View Groups, Views and the Current Reporting View**

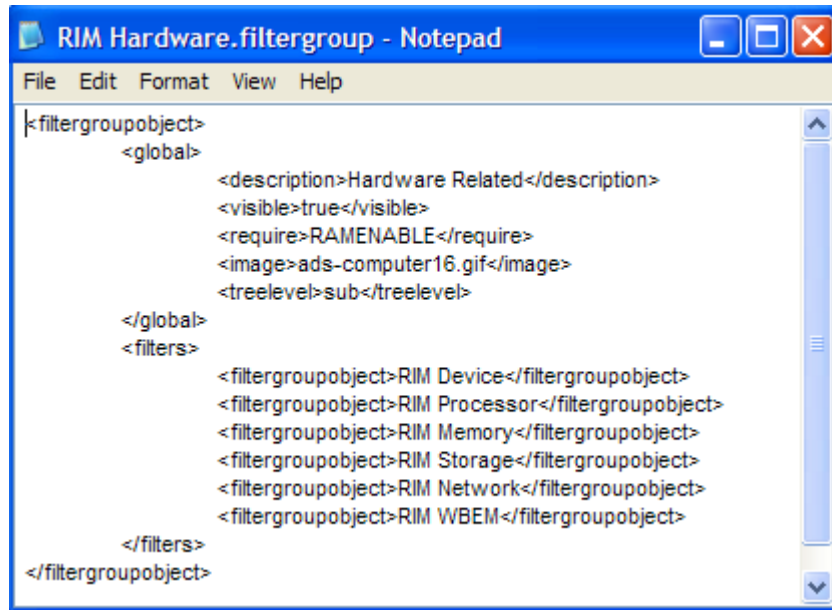


In addition to adding or altering Display Controls, View object files are used to determine which window objects are present. View objects can also determine specific Window object settings using the Window Object Overrides section. The parameter values within this section take precedence over any parameter values within a Window object file.

## Filter Group Objects and Filter Objects

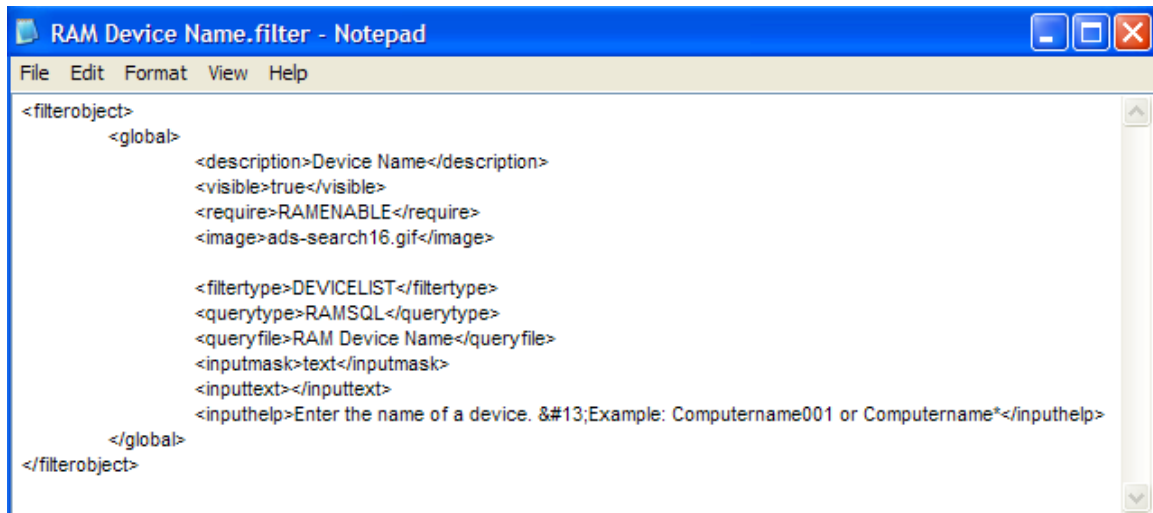
Filter Group (\*.filtergroup) objects determine a selectable list of Filter objects. Like View Groups and Views, Filter Groups contain a specific set of available Filters. Depending on the Filter Groups selected, different Filter objects can be made available. Filter group objects can contain other Filter Group objects to allow for multiple levels in the tree view.

**Figure 18 Sample Filter Group object file**



Filter (\*.filter) object files define which data is displayed within each reporting page.

**Figure 19 Sample Filter object file**

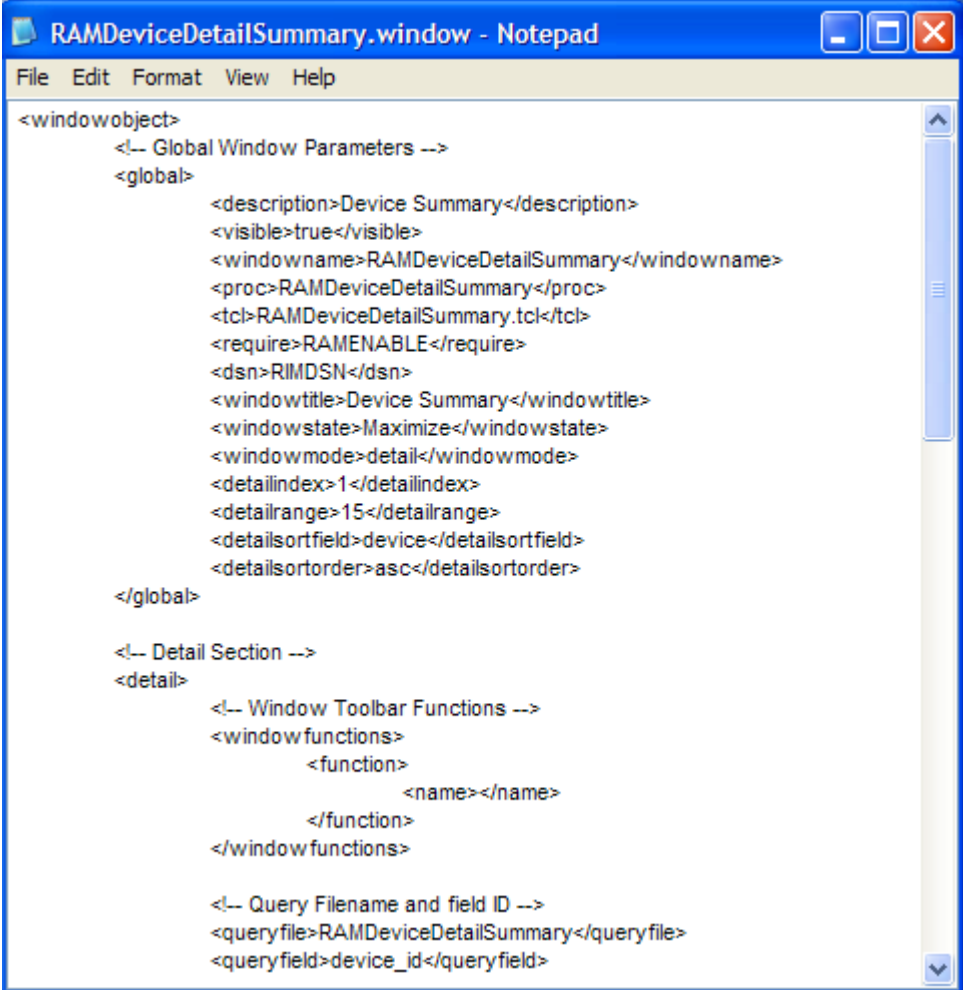




## Window Objects

Window object files (\*.window) define the data layout, including column headings, icons, sort fields, default window mode, default window state, drill down elements and column data appearances.

**Figure 20** Part of a sample Window object file



```
<windowobject>
  <!-- Global Window Parameters -->
  <global>
    <description>Device Summary</description>
    <visible>true</visible>
    <windowname>RAMDeviceDetailSummary</windowname>
    <proc>RAMDeviceDetailSummary</proc>
    <tcl>RAMDeviceDetailSummary.tcl</tcl>
    <require>RAMENABLE</require>
    <dsn>RIMDSN</dsn>
    <windowtitle>Device Summary</windowtitle>
    <windowstate>Maximize</windowstate>
    <windowmode>detail</windowmode>
    <detailindex>1</detailindex>
    <detailrange>15</detailrange>
    <detailsortfield>device</detailsortfield>
    <detailsortorder>asc</detailsortorder>
  </global>

  <!-- Detail Section -->
  <detail>
    <!-- Window Toolbar Functions -->
    <windowfunctions>
      <function>
        <name></name>
      </function>
    </windowfunctions>

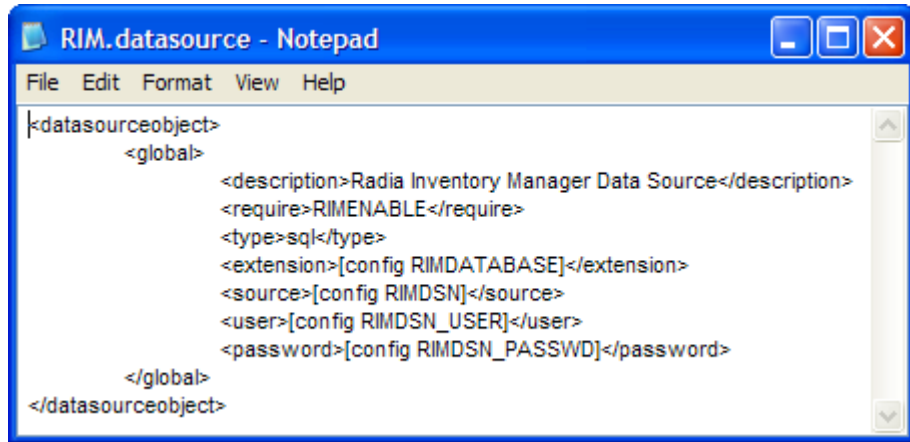
    <!-- Query Filename and field ID -->
    <queryfile>RAMDeviceDetailSummary</queryfile>
    <queryfield>device_jd</queryfield>
  </detail>
</windowobject>
```

Each existing reporting object file type can be modified or copied to create new reporting pages.

## Datasource Objects

Datasource object files (\*.datasource) allow you to add multiple data sources for reporting. For example, you may want to add more SQL data sources or future DSML/LDAP data sources.

**Figure 21** Sample Datasource object file



## Modifying Reporting Object Files

Use a text editor, like Notepad.exe, to modify your reporting object files. Each file is built using XML, Tcl and HTML. Make sure you are familiar with these programming languages before you begin to modify these files.

Parameters within the reporting object files are defined using XML. For example, the global section description parameter within the HardwareDetails.view object file is defined as:

```
<description>Hardware Details</description>
```

Note the leading and trailing XML descriptor tags.

If you wanted to change the HardwareDetails.view object, global description to Hardware Specifics, you would need to change the text between the XML tags to:

```
<description>Hardware Specifics</description>
```

After the file is saved, the next time you view or refresh your CM Reporting Server Web page, the selectable entry within the Views drop-down list box, Hardware Details, will have been replaced with Hardware Specifics.

The following paragraphs and tables explain each object file section and their associated parameters and values. Modify any of these values to change or create reporting objects.

## Modifying View Group Objects

View Group object files (\*.viewgroup) contain two configurable sections: global and views. View groups can contain other View Groups to allow for multiple tree-view levels.

### View Group Object Global Section

The global section is used to define the View Group name within the Display Controls drop-down list box, whether or not this View Group is visible and what settings are required for this View Group to be enabled. A sample <global> section follows:

```
<global>
  <description>Hardware Reports</description>
  <visible>true</visible>
  <require>RAMENABLE</require>
  <image>ads-computer16.gif</image>
  <treelevel>top</treelevel>
</global>
```

**Table 6 View Group Object Global Section Parameters**

Parameter	Description
<description>	What is displayed within the View Group drop-down list.
<visible>	True = This view group will be present in the View Group drop-down list. False = Hide this view group selection.
<require>	Prerequisite files or configuration file settings required for this View Group to be available.
<image>	Image used for tree view icon.

Parameter	Description
<treelevel>	top = load and show at top level. sub = load and show at sub level.

## View Group Object Views Section

The views section determines which view objects are available when the view group is selected. A sample <views> section follows:

```
<views>
  <viewobject>Default</viewobject>
  <viewobject>HardwareDetails</viewobject>
  <viewobject>HardwareSummary</viewobject>
</views>
```

**Table 7 View Group Object Views Section Parameters**

Parameter	Description
<viewobject>	View object name. Define more than one view objects by adding additional viewobject lines.

## Modifying View Objects

View object files (\*.view) contain the following configurable sections: Global, Header and Windows.

### View Object Global Section

The global section is used to define the View name within the Display Controls drop-down list box, whether or not this View is visible and what settings are required for this View to be enabled. A sample <global> section follows:

```
<global>
  <description>Hardware Details</description>
  <visible>true</visible>
  <require>DEFENABLE</require>
  <image>mode-detail.gif</image>
```

</global>

**Table 8 View Object Global Section Parameters**

Parameter	Description
<description>	What is displayed within the Views drop-down list.
<visible>	True = This view will be present in the <b>Views</b> drop-down list. False = Hide this view selection.
<require>	Prerequisite files or configuration file settings required for this View to be available.
<image>	Image used for tree-view icon.

## View Object Header Section

The View object header section contains parameters used to define what items are available within each window heading. A sample <header> section follows:

```
<headers>
  <header>
    <procname>windows_PrintFrameFunctions</procname>
    <functions>--</functions>
  </header>
  <header>
    <procname>PrintFilterSummary</procname>
    <functions>--</functions>
  </header>
</headers>
```

**Table 9 View Object Header Parameters**

Parameter	Description
<procname>	Tcl procedure name to call for the header. The defaults are windows_printframefunctions and windows_printfilterssummary. The default functions draw the respective data displayed.

Parameter	Description
<functions>	List of parameters to pass to the function. Currently, most values are set to – (dash) as this is reserved for future use (with the exception of the sub-views, which have the value back to enable the back button).

## View Object Windows Section

The windows section determines which window objects are available when the view is selected. The Window Object Overrides section allows you to alter the appearance of any window object by overriding parameter values set within the window object with new values. This allows for conformity between window objects available with a certain view object. A sample <windows> section follows:

```
<windows>
  <window>
    <windowobject>RAMDevicesPrimary</windowobject>

    <!-- Window Object Overrides -->
    <windowstate>Maximize</windowstate>
    <windowmode>detail</windowmode>
    <detailindex>1</detailindex>
    <detailrange>15</detailrange>
    <detailsortfield>-</detailsortfield>
    <detailsortorder>-</detailsortorder>
  </window>
</windows>
```

**Table 10 View Object Windows Parameters**

Parameter	Description
<windowobject>	Determines the window object to load.
<b>Window Object Overrides</b>	
<windowstate>	Determines the window object state.
<windowmode>	Determines window object mode.

Parameter	Description
<detailindex>	Starting record number. Usually will be 1 (to start at record number 1).
<detailrange>	Number of records to display at one time.
<detailsortfield>	Default SQL field name by which to sort data results.
<detailsortorder>	Sort order. asc = sort ascending. des = sort descending.

## Modifying Filter Group Objects

Filter Group objects (`*filtergroup`) contain two configurable sections, global and filters. Filter Groups can contain other Filter Groups to allow for multiple levels in the tree view.

### Filter Group Object Global Section

The global section is used to define the Filter Group name within the Filter Group drop-down list box, whether or not this Filter Group is visible and what settings are required for this Filter Group to be enabled. A sample <global> section follows:

```
<global>
  <description>Hardware Related Filters</description>
  <visible>>true</visible>
  <require>RAMENABLE</require>
  <image>ads-computer16.gif</image>
  <treelevel>sub</treelevel>
</global>
```

**Table 11 Filter Group Object Global Parameters**

Parameter	Description
<description>	What is displayed within the Filter Group drop-down list.

Parameter	Description
<visible>	True = This filter group will be present in the Filter Group drop-down list. False = Hide this filter group selection.
<require>	Prerequisite files or configuration file settings required for this filter group to be available.
<image>	Image used for tree view icon.
<treelevel>	top = load and show at top level. sub = object is a sub-level branch.

## Filter Group Object Filters Section

The filters section determines which filter objects are available when the filter group is selected. A sample <filters> section follows:

```
<filters>
  <filterobject>RIM Device Vendor</filterobject>
  <filterobject>RIM Device Model</filterobject>
  <filterobject>RAM Device Name</filterobject>
  <filterobject>RIM Device Class</filterobject>
  <filterobject>RIM Device Serial Number</filterobject>
  <filterobject>RAM Device Memory</filterobject>
  <filterobject>RIM Device CPU Count</filterobject>
  <filterobject>RIM Device CPU Speed Less</filterobject>
  <filterobject>RIM Device CPU Speed More</filterobject>
  <filterobject>RAM Drive Space Free</filterobject>
</filters>
```

**Table 12 Filter Group Object Filters Section Parameters**

Parameter	Description
<filterobject>	Filter object name. Define more than one filter objects by adding additional filterobject lines.



## Modifying Filter Objects

Filter object files (\*.filter) contain a global configurable section.

### Filter Object Global Section

The global section determines the filter name displayed, filter type, query type and parameters as well as any required input configurations. A sample <global> section follows:

```
<global>
  <description>Device ID</description>
  <visible>true</visible>
  <require>RAMENABLE</require>
  <image>ads-search16.gif</image>
  <querytype>RAMSQL</querytype>
  <queryfile>RAM Device ID</queryfile>
  <inputmask>text</inputmask>
  <inputtext></inputtext>
  <inputhelp>Enter the device_id of a device.</inputhelp>
</global>
```

**Table 13 Filter Object Global Section Parameters**

Parameter	Description
<description>	What is displayed within the Filter drop-down list.
<visible>	True = This view will be present in the Filter drop-down list. False = Hide this view selection.
<require>	Prerequisite files or configuration file settings required for this Filter to be available.
<image>	Image used for tree view icon.
<querytype>	Determines from where the data is be retrieved. Either, RAMSQL (for CM Application Manager database), RIMSQL (for CM Inventory Manager database), RUMSQL (for CM Application Usage Manager database) or RPMSQL (for CM Patch Manager database).

Parameter	Description
<code>&lt;queryfile&gt;</code>	The SQL command used to obtain the data.
<code>&lt;inputmask&gt;</code>	<p>date – inserts a calendar icon allowing the user to select a date.</p> <p>text – simple text input.</p> <p>dropdown - create a selectable dropdown list with predefined filters. Edit inputtext to enter values for the drop-down list.</p> <p>none - disables input field. Requires the filter to be hard coded (for example, Device last connect &gt; 30 days).</p>
<code>&lt;inputtext&gt;</code>	<p>Input mask values.</p> <p>For text input mask, whatever is entered here will display as the default text input box value.</p> <p>For date input mask, will display default date. Must be a valid date format.</p> <p>For dropdown input mask value, use a space-delimited list to create the list values. For example:</p> <pre>&lt;inputtext&gt;a b c&lt;/inputtext&gt;</pre> <p>Creates a dropdown list with the elements a b and c.</p> <p>Alternatively, a SQL query can be used to populate the dropdown list. For example:</p> <pre>&lt;inputtext&gt;[sql execute RIMDSN "select distinct os from deviceconfig"]&lt;/inputtext&gt;</pre> <p>Creates a dropdown list of OS values.</p>
<code>&lt;inpuhelp&gt;</code>	Help icon text displayed on mouse-over.

## Modifying Window Objects

Window object files (\*.window) contain three main configurable sections, global, details and graph.

### Window Object Global Section

The global section determines the window object description and initial settings. A view object may override some window object settings. A sample `<global>` section follows:

```

<global>
  <description>Device Summary</description>
  <visible>>true</visible>
  <windowname>RAMDeviceDetailSummary</windowname>
  <proc>RAMDeviceDetailSummary</proc>
  <Tcl>RAMDeviceDetailSummary.Tcl</Tcl>
  <require>RAMENABLE</require>
  <datasource>RIM</datasource>
  <windowtitle>Device Summary</windowtitle>
  <windowstate>Maximize</windowstate>
  <windowmode>detail</windowmode>
  <detailindex>1</detailindex>
  <detailrange>15</detailrange>
  <detailsortfield>device</detailsortfield>
  <detailsortorder>asc</detailsortorder>
</global>

```

**Table 14 Window Object Global Section Parameters**

Parameter	Description
<description>	Window object description.
<vsible>	True = This window will be visible. False = Hide this window object.
<windowname>	A unique descriptive name, same as the filename without the extension.
<proc>	For internal use only.
<Tcl>	Tcl script file to be used.
<require>	Prerequisite files or configuration file settings required for this Filter to be available.
<datasource>	Prerequisite data source setting required within the configuration file.
<windowtitle>	Window object title displayed.
<windowstate>	Window object state.

Parameter	Description
<windowmode>	Window object mode.
<detailindex>	Starting record number. Usually will be 1 (to start at record number 1).
<detailrange>	Number of records to display at one time.
<detailsortfield>	Default SQL field name by which to sort data results.
<detailsortorder>	asc = ascending sort order. des = descending sort order.

## Window Object Detail Section

The detail section determines the window toolbar functions, query files and detail column settings. Within the details section are three sub-sections: Windows Toolbar Functions, Query Filename and Field ID and Detail Mode Columns. A sample <detail> section follows:

```
<detail>
  <!-- Window Toolbar Functions -->
  <windowfunctions>
    <function>
      <name></name>
    </function>
  </windowfunctions>
  <!-- Query Filename and field ID -->
  <queryfile>RAMDeviceDetailSummary</queryfile>
  <queryfield>device_id</queryfield>

  <!-- Detail Mode Columns -->
  <actions>
    <action>
      <enabled>0</enabled>
      <image></image>
      <columnname></columnname>
```

```

        <url></url>
        <urlalt></urlalt>
        <urltarget></urltarget>
    </action>
</actions>
<columns>
    <column>
        <fieldname></fieldname>
        <fieldtype></fieldtype>
        <fieldsettings></fieldsettings>
        <columnname></columnname>
        <columnsettings></columnsettings>
        <url></url>
        <urlalt></urlalt>
        <urltarget></urltarget>
    </column>
</columns>
</detail>

```

### Windows Toolbar Functions Sub-Section

This section allows for icons to be added to the window toolbar. In order to be useful, the icon must match the window mode (a graph cannot be exported, for example).

- **ExportCSV** adds the export to CSV Icon (Detail mode only).
- **ExportIQY** adds the export to IQY Icon (Detail mode only).
- **ViewMode** adds the icon to change to graphical mode or when in graphical mode, adds the icon to change to detail mode. A corresponding mode must exist in the object.
- **NavBar** adds the right side navigation options (detail mode only).

### Query Filename and Field ID Sub-Section

This section determines which query file should be used as well as which query field is required. The query filename used automatically appends an extension of `.sql` or `.oracle`.

CM Inventory Manager and CM Application Manager data require a queryfield of device\_id. The CM Patch Manager and CM Application Usage Manager data requires a queryfield of device\_name.

### Detail Mode Columns Sub-Section

The Detail Mode Columns sub-section determines the default layout for each detail column (the first two columns to the left displayed for each window object). Two additional sub-sections, <actions> and <columns> are included within this section.

**Table 15 Action sub-section parameters**

Parameter	Description
<enabled>	1 = Show detail column. 0 = Hide detail column.
<image>	Determines whether an image file is used to portray the data. Image files are stored within the Images folder.
<columnname>	The name displayed for the column.
<url>	Hyperlink value. Can be an internal reporting function or an external url.
<urlalt>	Mouse-over text.
<urltarget>	Determines whether or not a new window is opened. For example, clicking the Remote Control (VNC) icon opens a new window.

**Table 16 Columns sub-section parameters**

Parameter	Description
<fieldname>	Must match SQL field name in the query 1 for 1 match.
<fieldtype>	text date numeric image dropdown - create a dropdown list based on space separated values.
<fieldsetting>	Manipulate output of data.

Parameter	Description
<columnname>	Friendly name to display on report. If column name is blank, no column will be displayed for that data.
<columnsetting>	Manipulate entire column.
<url>	Hyperlink value. Can be an internal reporting function or an external url.
<ulalt>	Mouse-over text.
<ultarget>	Determines whether a new window is opened. Set to <code>_new</code> to open a new window. For example, clicking the Remote Control (VNC) icon opens a new window.

## Window Object Graph Section

The graph section determines the settings for the graphical representation of your data. This includes two sub-sections, one for incorporating functions (Window Toolbar Functions) and another for manipulating the graphical representation of the data (Chart Objects For Graphical Mode). A sample <graph> section follows:

```

<graph>
  <!-- Window Toolbar Functions -->
  <windowfunctions>
    <function>
      <name>ViewMode</name>
    </function>
  </windowfunctions>

  <!-- Chart Objects for Graphical Mode -->
  <charts>
    <chart>
<queryfile>RUMCoreProductSummary_Graph_UsageTotals</queryfile>
      <queryfield>devicename</queryfield>
      <charttype>chart_drawBarChartStacked</charttype>
      <chartwidth>700</chartwidth>
      <charheight>400</charheight>
    </chart>
  </charts>

```

```
        <charttitle>Usage Totals</charttitle>
        <charturl></charturl>
        <params>
        </params>
    </chart>
</charts>
</graph>
```



# Summary

- Reporting objects are designed using the Extendable Markup Language (XML).
- Before you modify any reporting objects, make sure you are familiar with XML as well as Tcl and HTML.
- Reporting object files are located within the Objects directory.
- Rename any reporting objects files you modify in order to allow for seamless product updates.



---

# 5 Troubleshooting

At the end of this chapter, you will:

- Be able to access the HP OpenView Configuration Management Reporting Server (CM Reporting Server) log file.
- Be able to resolve typical problems, such as reporting toolbars not loading properly.

# About the CM Reporting Server Log

CM Reporting Server log files are stored in the `log` directory located by default:

```
SystemDrive:\Program Files\Hewlett-  
Packard\CM\ReportingServer\log\
```

The log files contain the CM Reporting Server version number and session activity information.

**Results.log** – records information about query results. Results.log contains most of the information that may be required for troubleshooting.

**Navigate.log** – records information about the left pane activity.

**Setup.log** – records information about the setup page.

**Main.log** – records initialization activities.

Use the log files to review or troubleshoot CM Reporting Server session activity. The most recent entries are located at the bottom of each log.

## Common CM Reporting Server Problems and Solutions

- **Problem: Left Toolbar not loading.**  
The left-side navigation toolbar of the CM Reporting page isn't loading properly.  
Solution: This has been resolved on Compaq machines by disabling TEAMING.
- **Problem: CGI Error.**  
When trying to load the main reporting URL a CGI error is displayed.

**Figure 22** CGI Error

### CGI Error

The specified CGI application misbehaved by not returning a complete set of HTTP headers.

**Solution:** This can sometimes be attributed to an incorrect HOMEPATH specified in the CM Reporting Server `config.Tcl` file. Ensure that the path is set correctly, save your changes and try again.

- **Problem: Browser hangs when opening Reporting Page -- navigation bar or reports are not displayed.**

When browsing to the Reporting page, the page hangs when trying to display the navigation bar (`navigate.Tcl`) or reports (`results.Tcl`).

**Solution:** Change the file permissions of `C:\WINNT\Temp` to allow everyone full control, including subfolders.

- **Problem: SQL Server Credentials Error**

This error can occur when one of the DSN Username and or DSN Passwords specified in the CM Reporting Server's `config.Tcl` is set incorrectly.

**Figure 23 SQL server credentials error**



SQL server credentials error.

Error: 28000 18456 {[Microsoft][ODBC SQL Server Driver][SQL Server]Login failed for user

**Solution:** Check the password for each DSN and save any changes.

- **Problem: Object Not Found in Database**

This error typically means that either one of the PREFIXES (RAMPREFIX, RIMPREFIX, RPMPREFIX or RUMPREFIX) in the CM Reporting Server configuration file is wrong, or one of the Database objects (i.e., Tables, Views, Stored Procedures, User Defined Functions) has the wrong ownerships.

**Figure 24 Object not found in database error.**



Object not found in database.

Error: S0002 208 {[Microsoft][ODBC SQL Server Driver][SQL Server]Invalid object name

- **Solution:** modify the configuration file and supply the correct prefix information or adjust the ownership of your database objects.

## Modifying the TimeOut Directive

Complex reports may take more than the five minute default timeout period allowed for by Apache. Use the Apache TimeOut directive to adjust this value. The TimeOut directive is documented on the Web at:

<http://httpd.apache.org/docs/2.0/mod/core.html#timeout>

## Summary

- Log files are saved in the log directory of your CM Reporting Server base directory.
- Refer to the log entries to obtain CM Reporting Server session activity details.





# A Sample Reporting Scenario

This appendix presents a sample reporting scenario that will help you become familiar with CM Reporting Server features. The scenario demonstrates the use of filter options and view options as well as some of the functions available after a report is generated.

## Scenario: Report for Sales Department on Devices Needing Service Pack Updates

The following scenario describes how to use the CM Reporting Server to obtain a list of all Managed Devices in the Sales Department that have the desired operating system for rolling out a new application, but which do not have the latest service pack level. The final report itemizes those devices that need a service pack update prior to installing the application.

The scenario assumes that the CM Reporting Server has been configured to access the Active Directory for your enterprise as well as your CM Inventory Manager SQL database. It has been installed on the Apache server with the hostname: myHostApache.

### **Task 1** Access CM Reporting Server

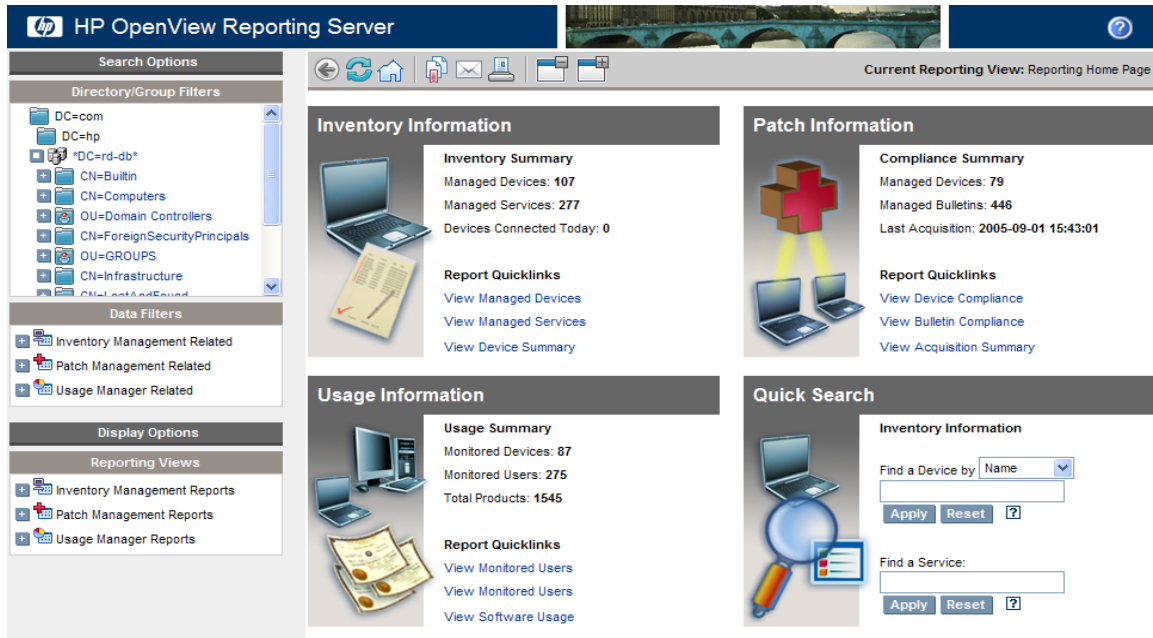
To access the CM Reporting Server, open a browser window and type:

```
http://myhostApache/reportingserver
```

The CM Reporting Server Web page opens with the default toolbars and windows.

At the top-left of the page, the Directory/Group Filters area includes the enterprise's Active Directory tree.

**Figure 25 First Access to the CM Reporting Server**



We will select various filters from the CM Reporting Server interface to limit the report to only those Devices in the Sales Department that need service pack updates for our new application.

### **Task 2** Search for Sales Department Devices Only

Use the Directory/Group Filters area to select the Sales group from the Active Directory structure. Making a selection in this area adds Directory/Group filter of Sales to the Search Criteria, and returns a list of all devices assigned to Sales.

Click **View Managed Devices** in the Inventory Information section to display the list of Sales devices.

### **Task 3** Limit Search to Targeted Operating System

From the list of devices in sales, we will click the following hyperlink entry (found in the Operating System column of the Managed Devices Report) to add another search criterion:

- Microsoft Windows 2000 Professional Version 5.0.2195 [Build 2195]

Now our result set shows all devices in Sales that have the Microsoft Windows 2000 Professional Version 5.0.2195 [Build 2195] operating system.

#### **Task 4** Search for Operating Systems without Service Pack 4

Now we want to drill down further to identify devices from this list that do not have Service Pack 4. To do this, we are going to apply a data filter. Data filters are easily applied from the Search Controls toolbar on the left side of the page.

In the Data Filters area, we will select a Filter Group and a Filter. First, select the Filter Group **OS Related Filters**. Second, select the Filter **Operating System Level**.


In the Filter Value text box, type the value **!Service Pack 4** and click **Apply** (the ! denotes "not").

Our report now shows all Devices in Sales, which have an operating system of Microsoft Windows 2000 Professional Version 5.0.2195 [Build 2195] but which *do not* have **Service Pack 4**.

Our report now lists those devices in the Sales department that need to have a Service Pack upgrade applied prior to rolling out the new application.

#### **Task 5** Save or Print the Report

Print any report by clicking the printer icon above the Search Criteria.

Save the report by exporting it to a CSV file. Use **Export to CSV**  in the Action bar within the report to export the data to a CSV file.



## B CM Reporting Server Configuration File

This appendix describes the CM Reporting Server configuration file parameters in detail.

The configuration file is accessed by visiting the CM Reporting Server Web page, `setup.Tcl` file.

`http://localhost/reportingserver/setup.Tcl`

Each group of parameters in the `setup.Tcl` configuration file is stored in a separate configuration file within the CM Reporting Server directory. These files are created the first time you visit the configuration file. You can use these files to manually edit all CM Reporting Server parameters.

**Table 17 Configuration files**

File	Description
<code>rrs.cfg</code>	OpenView CM Reporting Server Configuration and LDAP Configuration
<code>rim.cfg</code>	Inventory Manager Configuration
<code>rpm.cfg</code>	Patch Manager Configuration
<code>rum.cfg</code>	Usage Manager Configuration
<code>scm.cfg</code>	Server Management Configuration (SCM)
<code>cba.cfg</code>	Configuration Baseline Auditor (CBA)

The following sections describe each parameter within each `setup.Tcl` configuration area.

### OpenView CM Reporting Server Configuration

The OpenView CM Reporting Server configuration values are stored in `rrs.cfg`.

**Table 18 CM Reporting Server configuration parameters**

<b>Setup.Tcl Parameter</b>	<b>rrs.cfg Parameter</b>	<b>Default value</b>	<b>Description</b>
Log Level (1-5)	LOGLEVEL	1	CM Reporting Server logging level
Language (english)	LANGUAGE	auto	CM Reporting Server UI language
Default View	DEFAULTVIEW		Default View to load when none is specified
Show Device Data Without Filters (0/1)	DEVICELIST	1	Show report data when no filters are specified
Threshold to use RRS_DEVICELIST table	DEVICELISTCOUNT		Threshold to use RRS_DEVICELIST table.
CSV Explort Format	EXPORTMODE	tab	CSV Export Mode
Enable Default Reports	DEFENABLE	1	Enable default reports.
Use OVCM Management Portal for Logon Authorization	RMPLOGON		Enable CM Portal Logon Support
OVCM Management Portal Address	RMPPIP		IP/Host Address for CM Portal
OVCM Management Portal Port	RMPPORT		Port for CM Portal
Use SSL Connection to RMP	RMPUSESSL		Use SSL connection to CM Portal. When SSL enabled, CM Portal logon verification is done via SSL.

<b>Setup.Tcl Parameter</b>	<b>rrs.cfg Parameter</b>	<b>Default value</b>	<b>Description</b>
CA Certificates Directory	SSL_CACERTDIR	etc\CACertificates	CA Certificates directory
CA Certificates File	SSL_CACERTFILE	cacert.pm	CA Certificates file
	dl_datefmt		Date format for reports
	dl_timefmt		Time format for reports
Date format 1=GMT 0=LOCAL	dl_gmt	1	Show report data in GMT Time

## LDAP Configuration

The LDAP configuration values are stored within rrs.cfg.

**Table 19 LDAP Configuration Parameters**

<b>Setup.Tcl Parameter</b>	<b>rrs.cfg parameter</b>	<b>Default value</b>	<b>Description</b>
Enable LDAP (0/1)	ENABLE	0	Enable LDAP browsing and filtering
Enable LDAP Caching (0/1)	CACHEENABLE	0	Enable LDAP browsing and filtering caching
LDAP Cache Lifetime (seconds)	CACHELIFE	60	Lifetime (in seconds) for cached files.

<b>Setup.Tcl Parameter</b>	<b>rrs.cfg parameter</b>	<b>Default value</b>	<b>Description</b>
LDAP Server Type	TYPE	ldap	Type of LDAP Connection <ul style="list-style-type: none"> <li>• ldap = Standard LDAP Connection. If SSL is enabled, requires SSL Certificate File.</li> <li>• dsml = Directory Service Markup-Language Connection</li> <li>• rmp-ws = RMP Webservices (Used to connect to CM Portal)</li> </ul>
Server Address	SERVER		IP/Host of LDAP Server (for example, ldap.hp.com)
Port	PORT		LDAP port (for example, 389)
Base DN	BASE		Base DN to start browsing at in UI (for example, ou=groups,dc=hp,dc=com)
Bind DN	BIND		BIND DN (for example, dc=hp,dc=com)
Use Service Account for Browsing (only available on type RMP-WS)	WSSERVICEACT		Use service account for type rmp-ws. If true, then will use the user credential configured in this configuration file. If false, will use the logged on user credentials. Service account credentials are still required in either case.
User	USER		LDAP User ID (for example, administrator@ldap.hp.com)
Password	PASS		LDAP Password



<b>Setup.Tcl Parameter</b>	<b>rrs.cfg parameter</b>	<b>Default value</b>	<b>Description</b>
Paging Support (0/1)	PAGING	1	LDAP paging support
Page Size	PAGESIZE	1000	LDAP page size
Show Friendly Names	SHOWFRIENDLY	0	Show friendly names when browsing LDAP
Use SSL (only available on type LDAP)	SECURE	0	Use SSL connection to LDAP
SSL Certificate File	CERTFILE		Path and filename to SSL certificate. Required when LDAP Server Type set to ldap.

## CM Inventory Manager Configuration

CM Inventory Manager configuration values are stored within `rim.cfg`.

**Table 20 Inventory Manager Configuration Parameters**

<b>Setup.Tcl Parameter</b>	<b>rim.cfg Parameter</b>	<b>Description</b>
Enable RIM Reports (0/1)	ENABLE	Enable Inventory Manager reports
Enable RIM Report Caching (0/1)	CACHEENABLE	Enable Inventory Manager report caching
RIM Cache Lifetime (seconds)	CACHELIFE	Lifetime (in seconds) for cached files.

<b>Setup.Tcl Parameter</b>	<b>rim.cfg Parameter</b>	<b>Description</b>
Temporary Table Name for Device List	DEVICETABLE	Temporary Table in SQL to store the device list, format schema/owner.table (for example, dbo.RRS_DEVICETABLE')
RIM Database Type (sql/oracle)	DATABASE	Database Type, if blank or missing, CM Reporting Server will detect. Options: sql, oracle
RIM Table Prefix	PREFIX	Schema/Owner for tables (for example, 'dbo.')
RIM DSN	DSN	ODBC DSN for Inventory database
RIM DSN User	DSN_USER	ODBC user ID for Inventory database
RIM DSN Password	DSN_PASSWD	ODBC password for Inventory database
Normalize case when using filters.	NORMALIZECASE	Database is case sensitive when doing searches. Default is set to 0 (disabled). When enabled, all filters will convert input and searched fields to lower case for queries. <b>Note:</b> This may cause a performance issue with regard to indexes.

## CM Patch Manager Configuration

CM Patch Manager configuration values are stored in `rpm.cfg`.

**Table 21 Patch Manager configuration parameters**

<b>Setup.Tcl Parameter</b>	<b>rpm.cfg Parameter</b>	<b>Description</b>
Enable RPM Reports (0/1)	ENABLE	Enable Patch Manager reports
Enable RPM Report Caching (0/1)	CACHEENABLE	Enable Patch Manager report caching.
RPM Cache Lifetime(seconds)	CACHLIFE	Lifetime (in seconds) for cached files.
Temporary Table Name for Device List	DEVICETABLE	Temporary Table in SQL to store the device list, format schema/owner.table (for example, 'dbo.RRS_DEVICETABLE')
RPM Database Type (sql/oracle)	DATABASE	Database Type, if blank or missing, CM Reporting Server will detect. Options: sql, oracle
RPM Table Prefix	PREFIX	Schema/Owner for tables (for example, 'dbo.')
RPM DSN	DSN	ODBC DSN for Patch Database
RPM DSN User	DSN_USER	ODBC User ID for Patch Database
RPM DSN Password	DSN_PASSWD	ODBC Password for Patch Database
Enable SQL No Lock (0/1)	NOLOCK	SQL Option to disable locking on query

<b>Setup.Tcl Parameter</b>	<b>rpm.cfg Parameter</b>	<b>Description</b>
Normalize case when using filters.	NORMALIZECASE	Database is case sensitive when doing searches. Default is set to 0 (disabled). When enabled, all filters will convert input and searched fields to lower case for queries. <b>Note:</b> This may cause a performance issue with regard to indexes.

## CM Application Usage Manager Configuration

CM Application Usage Manager configuration values are stored in `rum.cfg`.

**Table 22 Usage Manager Configuration Parameters**

<b>Setup.Tcl Parameter</b>	<b>rum.cfg Parameter</b>	<b>Description</b>
Enable RUM Reports (0/1)	ENABLE	Enable Usage Manager reports
Enable RUM Report Caching (0/1)	CACHEENABLE	Enable Usage Manager report caching.
RUM Cache Lifetime (seconds)	CACHELIFE	Lifetime (in seconds) for cached files.
Temporary Table Name for Device List	DEVICETABLE	Temporary Table in SQL to store the device list, format schema/owner.table (for example, 'dbo.RRS_DEVICETABLE')
RUM Database Type (sql/oracle)	DATABASE	Database Type, if blank or missing, CM Reporting Server will detect. Options: sql, oracle

<b>Setup.Tcl Parameter</b>	<b>rum.cfg Parameter</b>	<b>Description</b>
RUM Table Prefix	PREFIX	Schema/Owner for tables (for example, 'dbo.')
RUM DSN	DSN	ODBC DSN for Usage Database
RUM DSN User	DSN_USER	ODBC User ID for Usage Database
RUM DSN Password	DSN_PASSWD	ODBC Password for Usage Database
Normalize case when using filters.	NORMALIZECASE	Database is case sensitive when doing searches. Default is set to 0 (disabled). When enabled, all filters will convert input and searched fields to lower case for queries. <b>Note:</b> This may cause a performance issue with regard to indexes.

## Server Management Configuration (SCM)

Server Management configuration values are stored within `scm.cfg`.

**Table 23 Server Management configuration parameters**

<b>Setup.Tcl Parameter</b>	<b>scm.cfg Parameter</b>	<b>Description</b>
Enable SCM Reports (0/1)	ENABLE	Enable Server Management reports
Enable SCM Report Caching (0/1)	CACHEENABLE	Enable Server Management report caching.
SCM Cache Lifetime(seconds)	CACHLIFE	Lifetime (in seconds) for cached files.

# Configuration Baseline Auditor (CBA)

Configuration Baseline Auditor configuration values are stored in `cba.cfg`.

**Table 24 Configuration Baseline Auditor Configuration Parameters**

<b>Setup.Tcl Parameter</b>	<b>cba.cfg Parameter</b>	<b>Description</b>
Enable CBA Reports (0/1)	ENABLE	Enable Configuration Baseline Auditor reports
Enable CBA Report Caching (0/1)	CACHEENABLE	Enable Configuration Baseline Auditor report caching.
CBA Cache Lifetime(seconds)	CACHLIFE	Lifetime (in seconds) for cached files.
Temporary Table Name for Device List	DEVICETABLE	Temporary Table in SQL to store the device list, format schema/owner.table (for example, 'dbo.RRS_DEVICETABLE')
CBA Database Type (sql/oracle)	DATABASE	Database Type, if blank or missing, CM Reporting Server will detect. Options: sql, oracle
CBA Table Prefix	PREFIX	Schema/Owner for tables (for example, 'dbo.')
CBA DSN	DSN	ODBC DSN for Configuration Baseline Auditor Database
CBA DSN User	DSN_USER	ODBC User ID for Configuration Baseline Auditor Database
CBA DSN Password	DSN_PASSWD	ODBC Password for Configuration Baseline Auditor Database

<b>Setup.Tcl Parameter</b>	<b>cba.cfg Parameter</b>	<b>Description</b>
Normalize case when using filters.	NORMALIZECASE	<p>Database is case sensitive when doing searches. Default is set to 0 (disabled). When enabled, all filters will convert input and searched fields to lower case for queries.</p> <p><b>Note:</b> This may cause a performance issue with regard to indexes.</p>





## C Product Name Changes

If you have used Radia in the past, and are not yet familiar with the newly rebranded HP terms and product names, Table 25 below will help you identify naming changes that have been applied to the Radia brand.

**Table 25 Product Name and Term Changes**

<b>New Name/Term</b>	<b>Old Name/Term</b>
HP OpenView Configuration Management Reporting Server	Radia Reporting Server
HP OpenView Configuration Management	Radia
HP OpenView Configuration Management Admin CSDB Editor	Radia System Explorer
HP OpenView Configuration Management Application Usage Manager	Radia Usage Manager
HP OpenView Configuration Management Configuration Server	Radia Configuration Server
HP OpenView Configuration Management Configuration Server Database	Configuration Server Database, Radia Database
HP OpenView Configuration Management Inventory Manager	Radia Inventory Manager
HP OpenView Configuration Management OS Manager	Radia OS Manager
HP OpenView Configuration Management Patch Manager	Radia Patch Manager
HP OpenView Configuration Management Solutions for Servers	Server Management



# Index

## A

- access levels, 5
- accessing CM Reporting Server, 38
- Action Bar, 39
  - icons, 51
  - using, 51
- Active Directory, 18, 89, 90
- Apache, 14

## B

- Back and Forward Buttons, 52
- Back button, 47
- Browsing, 52
- Browsing Items in a Report, 52
- bulletin, 14

## C

- Cache Feature, 30
- caching
  - configuring, 30
  - enabling, 30
- CM Application Usage Manager, 18
  - database updates, 20, 22
- CM Inventory Audits, adding components, 31
- CM Inventory Manager, 18
  - database updates, 20, 21
- CM Inventory Reporting auditing requirements, 22
- CM Oracle database, prerequisites, 20
- CM Patch Manager, 18
  - database updates, 20, 22
- CM Portal, 13, 24
- CM Reporting environment, 13

- optional components, 13
- required components, 13

- CM Reporting Server
  - accessing, 38
  - common problems, 84
  - configuration file, 27
  - creating the environment, 17
  - installing, 24
  - interface, 38
  - overview, 12
  - requirements, 18
  - system implementation tasks, 24
  - web interface, 12

- CM SQL database, 12, 14
  - prerequisites, 19
- configuration file parameters
  - defined, 93
- copyright notices, 2
- Current Reporting View, 62
- Customizing Reports, 57

## D

- Data Filters, 39
- Data Filters area, 42
- Datasource objects, 66
- Datasources, 61
- Detail Mode Columns Sub-Section, 78
- Device Details, 54
- Directory/Group Filters, 38, 41
  - navigating, 41
- Display Controls, reporting views section, 62
- Display Options, 39
- document changes, 3, 4
- documentation updates, 3

DSN, 24

## E

Enterprise Discovery  
report configuration, 29

Export as CSV, 91

Export to CSV, 51

Export to IQY, 51

ExportCSV, 77

ExportIQY, 77

## F

filter group object, 63  
filters section, 72  
global section, 71  
modifying, 71

Filter Groups, 60

Filter Lookup, 44

filter object, 63  
global section, 73  
modifying, 73

Filter Value Characters, 43

filtergroup, 63

Filters, 60

filters, applying, 42

fn\_USAGESTATUS, 20, 22

Focus Time, 48

## G

Graphical View, 53  
switching, 53

## H

HP Hardware reports, 49

HTML, 60

## I

installing CM Reporting Server, 24

Inventory Management Reports, 47

## L

language, adjusting, 30

LDAP directory, 12  
connections to, 14

legal notices  
copyright, 2  
restricted rights, 2

log file, 84

## M

Main.log, 84

Maximum items per window, 52

## N

NavBar, 77

Navigate.log, 84

navigation toolbar, failing to load, 84

## O

Oracle DBA Studio, 21, 22

## P

passport registration, 6

patch, 14

Patch Management Reports, 47

prerequisites, CM Inventory Reporting auditing, 22

## Q

qnumber, 14

query filename, 77

## R

Remote Control, 55

Report  
print, 91  
save, 91

- Report packs, 58
  - Report Windows, 39
  - Reporting Object Files
    - backing up, 60
    - construction, 60
    - modifying, 66
    - types, 59, 60
    - understanding, 60
  - Reporting System Modules, 13
  - Reporting Views, 39, 45
  - reporting windows, 50
  - restricted rights legend, 2
  - Results.log, 84
- ## S
- sample reporting scenario, 89
  - Search Criteria, 39
  - Search Options, 38
    - filters, 40
  - Setup.log, 84
  - setup.tcl, 27
  - Sort Column, 52
  - SQL Server Access, 24
  - Switch to Detailed View, 53
  - Switch to Graphical View, 51
- ## T
- Tcl, 60
  - terminology, 14
  - timeout, 86
  - TimeOut directive, 86
  - Troubleshooting, 83
- ## U
- updates to doc, 3
  - updating
    - CM Application Usage Manager database, 22
    - CM Application Usage Manager database, 20
    - CM Inventory Manager database, 20
    - CM Inventory Manager database, 21
    - CM Patch Manager database, 20, 22
  - Usage Count, 48
  - Usage Managed Products (Used), 47
  - Usage Manager Reports, 48
  - Usage Status, 48
  - Usage Time, 48
  - User Defined Function object, 20, 22
  - user interface, 38
- ## V
- view group object, 61
    - global section, 67
    - modifying, 67
    - views section, 68
  - View Groups, 45, 60
  - view object, 61
    - global section, 68
    - header section, 69
    - modifying, 68
    - windows section, 70
  - View, applying, 46
  - viewgroup objects, 61
  - ViewMode, 77
  - Views, 45, 60
  - Vista readiness, 49
  - VNC, 55
- ## W
- WBEM class instances, 23
  - Web Server, 14
  - wildcards, 43
  - window object, 65
    - detail section, 76
    - global section, 74
    - graph section, 79

modifying, 74  
Windows, 61  
windows toolbar, 77

Windows Vista readiness reports, 49

X

XML, 60