# HP Client Automation Enterprise Reporting Server

For the Windows® operating system

Software Version: 9.00

## Reference Guide

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## Acknowledgements

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

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This product includes OVAL language maintained by The MITRE Corporation (oval@mitre.org).

# Documentation Updates

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

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# Contents

# Chapter 1

# Introduction

## Overview

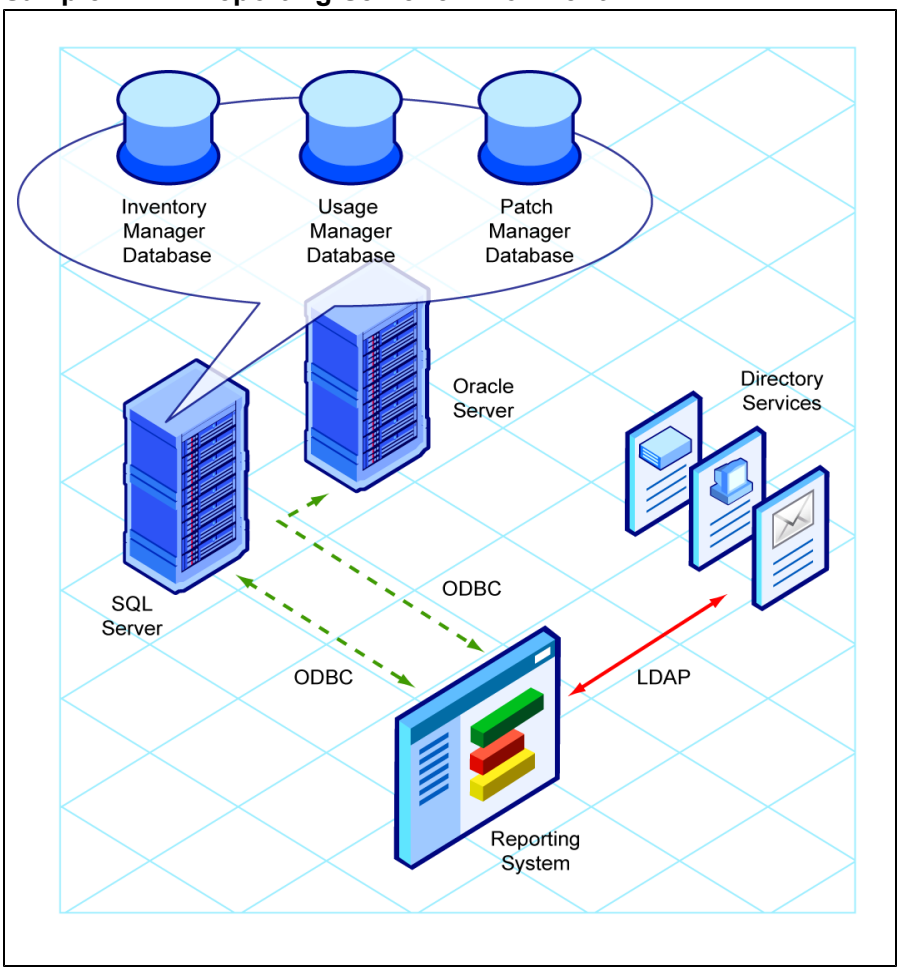
As part of the HP Client Automation (HPCA) extended infrastructure, the web-based Reporting Server allows you to query the combined data in existing HPCA Configuration Server Databases (CSDB) and create detailed reports. In addition, you have the option of mounting an existing LDAP directory, which allows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

The Reporting Server interface provides a dynamic and intuitive way to use HPCA data for reporting and overall environmental assessment. The Reporting Server home page displays summary information based on the reports that are enabled. See "Modifying the Reporting Server Configuration File" on page 24 for information on enabling reports.

## The HPCA Reporting Environment

The following figure illustrates a Reporting environment.

**Sample HPCA Reporting Server environment**




The Reporting Server can access any HPCA SQL or Oracle database, such as those for HPCA Inventory, Vulnerability Management, Patch, and Application Usage. Each database accessed can exist on its own server with its own ODBC DSN connection. The Reporting Server also 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.

The Reporting Server provides unified access to your existing SQL Server or Oracle HP Client Automation (HPCA) databases. These include the following:

- **Inventory** — For inventory reporting. For information on creating and connecting to this database, see the *HP Client Automation Enterprise Inventory Manager Reference Guide*.
- **Vulnerability Management** – For vulnerability management reporting. For information on creating and connecting to this database, see the *HP Client Automation Enterprise User Guide*.
- **Patch** – For patch reporting, a patch database created with the latest Patch Manager is required.
- **Application Usage** – For usage reporting, a usage database created with the latest Application Usage Manager is required.
- **Compliance** – Compliance Management Reports provide information about software configuration problems detected on managed client devices in the enterprise. For information about compliance scanning, see the *HP Client Automation Enterprise User Guide*.

- **Security Tools Management** – Security Tools Management Reports provide information about the anti-virus, anti-spyware, and firewall products installed in your environment. For information about security tools scanning, see the *HP Client Automation Enterprise User Guide*.

**Note:** In order to view the 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.

# 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.

# Abbreviations and Variables

**Abbreviations Used in this Guide**

| Abbreviation | Definition |
|---|---|
| HPCA | HP Client Automation |
| Core and Satellite | HPCA Enterprise environment consisting of one Core server and one or more Satellite servers. |
| CSDB | Configuration Server Database |
| Portal | HPCA Portal |

**Variables Used in this Guide**

| Variable | Description | Default Values |
|---|---|---|
| *InstallDir* | Location where the HPCA server is installed | For a 32-bit OS: `C:\Program Files\Hewlett-Packard\HPCA`<br>For a 64-bit OS: `C:\Program Files(x86)\Hewlett-Packard\HPCA` |
| *SystemDrive* | Drive label for the drive where the HPCA server is installed | C: |

# Chapter 2

# Configuring the Reporting Server

## HPCA Database Configurations

The following sections list the modifications that the Reporting Server makes, based on whether you are using Oracle or SQL Server to store your databases.

**Note:** Reporting users must have INSERT, DELETE, SELECT, and UPDATE access to the tables created by each script (RRS_DEVICETABLE, RRS_DEVICECACHE and RRS_SESSION) in order for Reporting Server to work correctly.

**Note:** If you are using a 64-bit operating system, a 32-bit DSN is required on that server.

## HPCA Oracle Database

A set of scripts are provided supplied with your Reporting Server media, located in the `\Prereq\Oracle\` directory. The scripts are located in the RIM, RUM, and RPM subdirectories. The following modifications are applied to each Oracle database the Reporting Server accesses.

- **Inventory**:
  `Prereq\Oracle\RIM\RIM PreReq Creation Script.oracle`
  Creates a view, called `DevicesPrimary`. In addition, a `DataAlias` table is created and populated.
- **Application Usage**:
  `Prereq\Oracle\RUM\RUM PreReq Creation Script.oracle`
  (Supports Oracle 10G and 11G. See the notes section of the script for additional information)
  Adds a user defined function object called `fn_USAGESTATUS`, to calculate usage status.
- **Patch**:
  `Prereq\Oracle\RPM\RPM PreReq Creation Script.oracle`
  Adds a user defined function object called `fn_PATCHSTATUS`.

## HPCA SQL Server Database

A set of SQL scripts are provided with the Reporting Server media, located in the `\Prereq\SQL\` directory. The scripts are located within the RIM, RUM, and RPM subdirectories. The following modifications are applied to each SQL Server database the Reporting Server accesses.

- **Inventory**:
  `Prereq\SQL\RIM\RIM PreReq Creation Script.sql`
  Creates a view called `DevicesPrimary`. This will add a user defined function object called `fn_DATALIAS`.

- **Application Usage**:
  `Prereq\SQL\RUM\RUM PreReq Creation Script.sql`
  Adds a user defined function object called `fn_USAGESTATUS`, to calculate usage status.
- **Patch**:
  `Prereq\SQL\RPM\RPM PreReq Creation Script.sql`
  Adds a user defined function object called `fn_PATCHSTATUS`.

# Reporting Server Configuration Files

The Reporting Server configuration files include 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 table Configuration files lists the configuration files available for modifications in the Reporting Server.

These configuration files are stored in the *<InstallDir>*`\ReportingServer\etc` folder. You can edit each configuration file manually using any text editor.

**Note:** 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

**Configuration files**

| File | Description |
|---|---|
| `amp.cfg` | Application Management Profile configuration |
| `cba.cfg` | Configuration Baseline Auditor configuration |
| `ccm.cfg` | Client Configuration Manager configuration |
| `compliance.cfg` | Compliance management configuration |
| `ed.cfg` | DDM Inventory configuration |
| `hpca.cfg` | HPCA Management reports configuration |
| `mobility.cfg` | Contains configuration parameters for mobile device reporting. |
| `rim.cfg` | Inventory manager configuration |
| `rpm.cfg` | Patch manager configuration |
| `rrs.cfg` | Reporting server configuration and LDAP configuration |
| `rum.cfg` | Usage Manager configuration |
| `scm.cfg` | Settings management configuration |
| `stm.cfg` | Security tools management configuration |
| `va.cfg` | Virtual application management configuration |
| `vm.cfg` | Vulnerability Management configuration |

The following sections provides details on the parameters available in each configuration file.

# Application Management Profiles Configuration (AMP)

Application Management Profiles configuration values are stored within `amp.cfg`.

**Application Management Profiles parameters**

| Parameter | Description |
|---|---|
| ENABLE | Enable Application Management Profiles |
| CACHEENABLE | Enable Application Management Profiles report caching. |
| CACHLIFE | Lifetime (in seconds) for cached files. |

# Client Configuration Manager Configuration

Client Configuration Manager configuration values are stored within `ccm.cfg`.

**Client Configuration Manager Parameters**

| Parameter | Description |
|---|---|
| ENABLE | Enable Client Configuration Manager reports |
| CACHEENABLE | Enable Client Configuration Manager report caching |
| CACHELIFE | Lifetime (in seconds) for cached files. |
| URL | URL to Client Configuration Manager Host |

# Configuration Baseline Auditor Configuration

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

**Configuration Baseline Auditor parameters**

| Parameter | Description |
|---|---|
| ENABLE | Enable Configuration Baseline Auditor |
| CACHEENABLE | Enable Configuration Baseline Auditor report caching. |
| CACHLIFE | Lifetime (in seconds) for cached files. |
| DEVICETABLE | Temporary Table in SQL to store the device list, format schema/owner.table (for example, aggregate.RRS_DEVICETABLE) |
| DATABASE | Database Type, if blank or missing, Reporting Server will detect. The only option available for DDM Inventory is mysql. |
| PREFIX | Schema/Owner for tables (for example, 'aggregate.') |

| Parameter | Description |
|---|---|
| DSN | ODBC DSN for Inventory database (for example, EDDB). |
| DSN_USER | ODBC user ID for Inventory database |
| DSN_PASSWD | ODBC password for Inventory database |
| 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.<br><br>**Note:** This may cause a performance issue with regard to indexes. |

# Compliance Management Configuration

Compliance Management configuration values are stored within `compliance.cfg`.

**Compliance Management Configuration Parameters**

| Parameter | Description |
|---|---|
| ENABLE | Enable Compliance Management Reports |
| CACHEENABLE | Enable Compliance Management Report caching |
| CACHELIFE | Lifetime (in seconds) for cached files. |
| HOMEPAGEENABLE | Enables the report for viewing in the Reporting home page. |
| HOMEPAGESUMMARYENABLE | Enables the report summary in the Reporting home page. |

# DDM Inventory Configuration

DDM Inventory configuration values are stored within `ed.cfg`.

**Enterprise Discover Configuration Parameters**

| Parameter | Description |
|---|---|
| ENABLE | Enable DDM Inventory reports |
| CACHEENABLE | Enable DDM Inventory report caching |
| CACHELIFE | Lifetime (in seconds) for cached files. |
| DEVICETABLE | Temporary Table in SQL to store the device list, format schema/owner.table (for example, aggregate.RRS_DEVICETABLE) |
| DATABASE | Database Type, if blank or missing, Reporting Server will detect. The only option available for DDM Inventory is mysql. |
| PREFIX | Schema/Owner for tables (for example, 'aggregate.') |

| Parameter | Description |
|---|---|
| DSN | ODBC DSN for Inventory database (for example, EDDB). |
| DSN_USER | ODBC user ID for Inventory database |
| DSN_PASSWD | ODBC password for Inventory database |
| 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.<br>**Note:** This may cause a performance issue with regard to indexes. |
| AGGREGATE | Enable Aggregate Reporting. If enabled (1), all reports will use aggregate data. If disabled (0), all reports will use local data only. |

# HPCA Management Reports Configuration

HPCA Management Reports configuration values are stored within `hpca.cfg`.

**HPCA Management Reports Configuration Parameters**

| Parameter | Description |
|---|---|
| ENABLE | Enable HPCA Management Reports. |
| CACHEENABLE | Enable HPCA Management Reports caching. |
| CACHELIFE | Lifetime (in seconds) for cached files. |

# Inventory Manager Configuration

Inventory Manager configuration values are stored in the `rim.cfg`.

**Inventory Manager Configuration Parameters**

| Parameter | Description |
|---|---|
| ENABLE | Enable Inventory Manager reports |
| CACHEENABLE | Enable Inventory Manager report caching |
| CACHELIFE | Lifetime (in seconds) for cached files. |
| DEVICETABLE | Temporary Table in SQL to store the device list, format schema/owner.table (for example, dbo.RRS_DEVICETABLE') |
| DATABASE | Database Type, if blank or missing, Reporting Server will detect. Options: sql, oracle |
| PREFIX | Schema/Owner for tables (for example, 'dbo.') |

| Parameter | Description |
|---|---|
| DSN | ODBC DSN for Inventory database |
| DSN_USER | ODBC user ID for Inventory database |
| DSN_PASSWD | ODBC password for Inventory database |
| 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.<br><br>**Note:** This may cause a performance issue with regard to indexes. |
| IGNOREWILDCARDS | The Reporting Server interprets the characters that you specify in this parameter as literal characters, rather than considering them as wildcard characters. |
| USETEMPDEVTABLE | Ensures that the temporary table is used for RRS_ DEVICETABLE. HP recommends that you do modify this parameter. |
| HOMEPAGEENABLE | Enables the report for viewing in the Reporting home page. |
| HOMEPAGESUMMARYENABLE | Enables the report summary in the Reporting home page. |

# Mobile Device Configuration

The configuration parameters for mobile device reporting are stored in the file `mobility.cfg`.

**Mobile device configuration parameters**

| Parameter | Description |
|---|---|
| ENABLE | Enables the reporting for mobile devices. |
| CACHEENABLE | Enables caching for mobile device reports. |
| CACHLIFE | Lifetime (in seconds) for cached files. |
| HOMEPAGEENABLE | Enables the report for viewing in the Reporting home page. |
| HOMEPAGESUMMARYENABLE | Enables the report summary in the Reporting home page. |

# Patch Manager Configuration

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

**Patch Manager configuration parameters**

| Parameter | Description |
|---|---|
| ENABLE | Enable Patch Manager reports |
| CACHEENABLE | Enable Patch Manager report caching. |
| CACHLIFE | Lifetime (in seconds) for cached files. |
| DEVICETABLE | Temporary Table in SQL to store the device list, format schema/owner.table (for example, 'dbo.RRS_ DEVICETABLE') |
| DATABASE | Database Type, if blank or missing, Reporting Server will detect. Options: sql, oracle |
| PREFIX | Schema/Owner for tables (for example, 'dbo.') |
| DSN | ODBC DSN for Patch Database |
| DSN_USER | ODBC User ID for Patch Database |
| DSN_PASSWD | ODBC Password for Patch Database |
| NOLOCK | SQL Option to disable locking on query |
| 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.<br><br>**Note:** This may cause a performance issue with regard to indexes. |
| IGNOREWILDCARDS | The Reporting Server interprets the characters that you specify in this parameter as literal characters, rather than considering them as wildcard characters. |
| USETEMPDEVTABLE | Ensures that the temporary table is used for RRS_ DEVICETABLE. HP recommends that you do modify this parameter. |
| HOMEPAGEENABLE | Enables the report for viewing in the Reporting home page. |
| HOMEPAGESUMMARYENABLE | Enables the report summary in the Reporting home page. |

# Reporting Server Configuration

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

**Reporting Server Configuration Parameters**

| Parameter | Description |
|---|---|
| LOGLEVEL | Reporting Server logging level |
| LANGUAGE | Reporting Server UI language |
| DEFAULTVIEW | Default View to load when none is specified |
| DEVICELIST | Show report data when no filters are specified |
| DEVICELISTCOUNT | Threshold to use RRS_DEVICELIST table. |
| EXPORTMODE | CSV or tab export mode |
| DEFENABLE | Enable default reports. |
| RMPLOGON | Enable Portal Logon Support |
| RMPIP | IP/Host Address for Portal |
| RMPPORT | Port for Portal |
| RMPUSESSL | Use SSL connection to Portal. When SSL enabled, Portal logon verification is done via SSL. |
| SSL_CADIR | CA Certificates directory |
| SSL_CAFILE | CA Certificates file |
| dl_datefmt | Date format for reports |
| dl_timefmt | Time format for reports |
| dl_gmt | Show report data in GMT Time |
| FORCEDFILTERNAME | Forced filter name. Applies a filter to all reports. This option is not visible. |
| FORCEDFILTERVALUE | Forced filter value. Applies a filter to all reports. This option is not visible. |

# Security Tools Management (STM) Configuration

Security Tools Management configuration values are stored within `stm.cfg`.

**Security Tools Management Configuration Parameters**

| Parameter | Description |
|---|---|
| ENABLE | Enable Security Tools Management Reports |
| CACHEENABLE | Enable Security Tools Management Report caching |
| CACHELIFE | Lifetime (in seconds) for cached files. |

| Parameter | Description |
|---|---|
| HOMEPAGEENABLE | Enables the report for viewing in the Reporting home page. |
| HOMEPAGESUMMARYENABLE | Enables the report summary in the Reporting home page. |

# Settings Management Configuration

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

**Settings Management Configuration Parameters**

| Parameter | Description |
|---|---|
| ENABLE | Enable Settings Management reports |
| CACHEENABLE | Enable Settings Management report caching |
| CACHELIFE | Lifetime (in seconds) for cached files. |

# Virtualization Management Configuration

Virtualization Management configuration values are stored within `va.cfg`.

**Virtualization Management Configuration Parameters**

| Parameter | Description |
|---|---|
| ENABLE | Enable Virtualization Management reports |
| CACHEENABLE | Enable Virtualization Management report caching |
| CACHELIFE | Lifetime (in seconds) for cached files. |

# Vulnerability Management Configuration

Vulnerability Management configuration values are stored within `vm.cfg`.

**Vulnerability Management Configuration Parameters**

| Parameter | Description |
|---|---|
| ENABLE | Enable Vulnerability Management reports |
| CACHEENABLE | Enable Vulnerability Management report caching |
| CACHELIFE | Lifetime (in seconds) for cached files. |
| DEVICETABLE | Temporary table in the database to store the device list, format schema/owner.table. For SQL, the format is dbo.RRS_DEVICETABLE. For Oracle, the format is dbo.#RRS_DEVICETABLE. |
| DATABASE | The database type. If the entry is blank or missing, the Reporting Server automatically detects the database. Options: |

| Parameter | Description |
|---|---|
| | sql, oracle |
| PREFIX | Schema/Owner for tables (for example, 'dbo.') |
| DSN | ODBC DSN for <ask - database name> database |
| DSN_USER | ODBC user ID for <ask - database name> database |
| DSN_PASSWD | ODBC password for <ask - database name> database |
| 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.<br><br>**Note:** This may cause a performance issue with regard to indexes. |
| HOMEPAGEENABLE | Enables the report for viewing in the Reporting home page. |
| HOMEPAGESUMMARYENABLE | Enables the report summary in the Reporting home page. |

# Application Usage Manager Configuration

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

**Usage Manager Configuration Parameters**

| Parameter | Description |
|---|---|
| ENABLE | Enable Usage Manager reports |
| CACHEENABLE | Enable Usage Manager report caching. |
| CACHELIFE | Lifetime (in seconds) for cached files. |
| DEVICETABLE | Temporary Table in SQL to store the device list, format schema/owner.table (for example, 'dbo.RRS_ DEVICETABLE') |
| DATABASE | Database Type, if blank or missing, Reporting Server will detect. Options: sql, oracle |
| PREFIX | Schema/Owner for tables (for example, 'dbo.') |
| DSN | ODBC DSN for Usage Database |
| DSN_USER | ODBC User ID for Usage Database |
| DSN_PASSWD | ODBC Password for Usage Database |
| 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. |

| Parameter | Description |
|---|---|
| | **Note:** This may cause a performance issue with regard to indexes. |
| IGNOREWILDCARDS | The Reporting Server interprets the characters that you specify in this parameter as literal characters, rather than considering them as wildcard characters. |
| USETEMPDEVTABLE | Ensures that the temporary table is used for RRS_ DEVICETABLE. HP recommends that you do modify this parameter. |
| HOMEPAGEENABLE | Enables the report for viewing in the Reporting home page. |
| HOMEPAGESUMMARYENABLE | Enables the report summary in the Reporting home page. |

# LDAP Configuration

The LDAP configuration values are stored within `rrs.cfg`.

**LDAP Configuration Parameters**

| Parameter | Description |
|---|---|
| ENABLE | Enable LDAP browsing and filtering |
| CACHEENABLE | Enable LDAP browsing and filtering caching |
| CACHELIFE | Lifetime (in seconds) for cached files. |
| TYPE | Type of LDAP Connection<br>• ldap = Standard LDAP Connection. If SSL is enabled, requires SSL Certificate File.<br>• dsml = Directory Service Markup-Language Connection<br>• rmp-ws = RMP Webservices (Used to connect to Portal) |
| SERVER | IP/Host of LDAP Server (for example, ldap.hp.com) |
| PORT | LDAP port (for example, 389) |
| BASE | Base DN to start browsing at in UI (for example, ou=groups,dc=hp,dc=com) |
| BIND | BIND DN (for example, dc=hp,dc=com) |
| 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 | LDAP User ID (for example, administrator@ldap.hp.com) |

| Parameter | Description |
|---|---|
| PASS | LDAP Password |
| PAGING | LDAP paging support |
| PAGESIZE | LDAP page size |
| SHOWFRIENDLY | Show friendly names when browsing LDAP |
| SECURE | Use SSL connection to LDAP |
| CERTFILE | Path and filename to SSL certificate. Required when LDAP Server Type set to ldap. |

# Modifying the Reporting Server Configuration File

The Reporting Server configuration files 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 files to enable or disable specific report types and features.

**Note:** 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.

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

# Adjusting the Reporting Server Display Language

Use the `Language` parameter in the `rrs.cfg` file to determine the language in which Reporting Server pages are displayed.

If you set the value as `auto`, the Reporting Server pages are displayed in the language to which your browser is set.

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

# Enabling the Reporting Server Cache Feature

Similar to an HTTP proxy, the 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 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 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. Use a text editor to edit the `rim.cfg` file, located in the `etc` folder of the Reporting Server directory.
2. Set `CACHEENABLE` to 1 to make the reports available for caching.
3. Set the value for the parameter `CACHELIFE` to set the amount of time cached Inventory Manager reports will be stored. The default is 1200 seconds, or 20 minutes.
4. Save your changes and refresh the Reporting Server home page.

# Enabling Portal Logon Authorization

To enable authorization through the HP Client Automation Portal (Portal) when logging in to the Reporting Server:

1. Use a text editor to edit the `rrs.cfg` file, located in the `etc` folder of the Reporting Server directory.
2. Set `RMPLOGON` to 1.
3. Save your changes and refresh the Reporting Server home page.

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

# Setting Security for Session ID Cookies

By default, Reporting server can be accessed using HTTP and HTTPS, ensuring that the session ID cookies are available for Reporting server. You can secure the session ID cookies and ensure that the cookies are available only when the Reporting server is accessed using HTTPS. Add the parameter `MARKCOOKIESSECURE` to the Core configuration section in the `rrs.cfg` to set the security for session ID cookies.

To enable security for Session ID cookies:

1. Navigate to the `\etc` folder in the `<InstallDir>\ReportingServer` directory.
2. Use a text editor to edit the `rrs.cfg` file.
3. Add the parameter `MARKCOOKIESSECURE` in the `Core configuration` section. Set `MARKCOOKIESSECURE` to `1`.
4. Save your changes and log on to the Core Console again.

# Normalizing Case Sensitive Databases

The configuration files contain an option for normalizing character case when applying filters to your databases. 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), 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.

To enable normalizing character case for Inventory Management reports:

1. Use a text editor to edit the `rim.cfg` file, located in the `etc` folder of the Reporting Server directory.
2. Set `NORMALIZECASE` to 1.
3. Save your changes and refresh the Reporting Server home page.

**Note:** 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.

The `NORMALIZECASE` settings are to be applied for individual configuration files.

# Configuring LDAP

Use the LDAP Configuration section in the rrs.cfg to enable LDAP and configure Reporting Server to use LDAP as a filtering source for report data.

To enable and configure LDAP:

1. Use a text editor to edit the `rrs.cfg` file, located in the `etc` folder of the Reporting Server directory.
2. In the `::rrs::mount LDAP LDAP {` section, set `ENABLE` to 1.
3. Save your changes and refresh the Reporting Server home page.
   When you next use Reporting Server, the Search Options will contain Directory/Group Filters you can add based on the information stored in LDAP.

# Using Report Packs

Report packs are stored in the Reporting Server's `<InstallDir>\ReportingServer\reportpacks` directory. Each file contains Reporting Server object files for specific report types.

**Report Packs**

| Report Pack File | Reports |
|---|---|
| cba.kit | Configuration Baseline Auditor |
| ccm.kit | HPCA Starter and Standard |
| compliance.kit | Compliance Management |
| ed.kit | DDM Inventory |

| Report Pack File | Reports |
|---|---|
| hpca.kit | HPCA Management Reports |
| mobility.kit | Mobile devices reports. A mobile device can either be a smartphone or a tablet running on an Android or iOS operating system. For more details on the supported operating system versions, see the HP Client Automation Support Matrix available at the URL: http://h20230.www2.hp.com/sc/support_matrices.jsp. |
| rim.kit | Inventory Manager |
| rpm.kit | Patch Manager |
| rrs.kit | Reporting Server and LDAP |
| rum.kit | Application Usage Manager |
| scm.kit | Application Management Profiles |
| stm.kit | Security Tools Management |
| vm.kit | Vulnerability 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 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. Press **Enter**.
   The reporting files are extracted to the Reporting Server `\reportpacks` directory in a new folder. The example above created the folder, `\reportpacks\rum\objects`, which contains all reporting object files needed to make any modifications for Application Usage Manager reports.

   **Note:** Extracted files take precedence over files contained within a reporting pack. For example, if you've created the directory structure, `\reportpacks\rum\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 Reporting Server where a newer `rum.kit` is supplied.

# Inventory Reporting Auditing Requirements

When using the Reporting Server to view an Inventory database, the WBEM instances listed in the table, Inventory Manager reporting WBEM instances, should be enabled for the Inventory Manager

Reporting Package in the AUDIT Class of your 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 Inventory Audits" on next page.

**Inventory Manager reporting WBEM instances**

| WBEM Class Instance | WBEM Class Instance |
|---|---|
| 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 |
| Win32_PhysicalMemory | Win32_WinSAT |
| MSStorageDriver_FailurePredictStatus** | |
| * Queries may require additional changes. See caution below. | |
| ** Query is stored in Name Space root\wmi | |

**Caution:** 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 value: `Domain = "&(zconfig.zhdwcomp)"`. Be sure to check the HP support web site for the most recent information on this topic.

**Note:** The Win32_WinSAT table from root\cimv2 should be queried in order to populate data for the Windows Experience Index report. Note that the query should have a CNDITION value of TimeTaken = "MostRecentAssessment"

# Adding Components to Inventory Audits

To obtain the reports available through the Reporting Server features, we highly recommend that you audit your HPCA agents for the Win32 components previously listed in the table, Inventory Manager reporting WBEM instances. If you are missing some of the components, you can use these procedures to add them to your Inventory Manager reporting audit package.

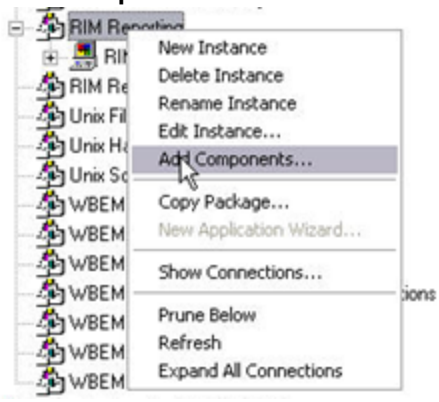
For additional information, see the *HP Client Automation Enterprise Inventory Manager Reference Guide*.

The following example adds the Win32_MemoryDevice component to the Inventory Manager Reporting Package. Use the same procedure to add any component to the Inventory Manager Reporting Package or to another audit package that is used to collect Inventory Manager data at your site.

**Caution:** 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 Inventory Manager reporting audit packages:

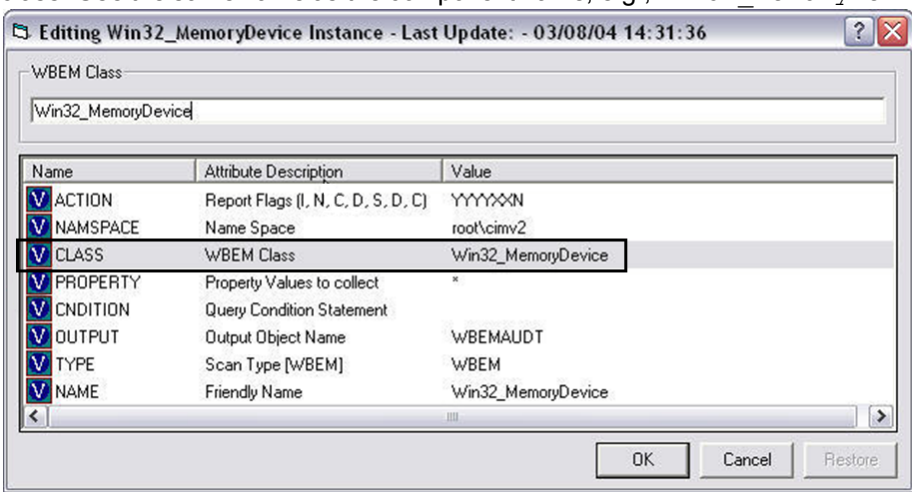
1. Use the HPCA Admin CSDB Editor and browse to the PRIMARY.AUDIT.PACKAGE class.
2. Right-click the Inventory Manager Reporting Package instance (**RIM Reporting**), and select **Add Components** from the shortcut menu.




3. 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`.

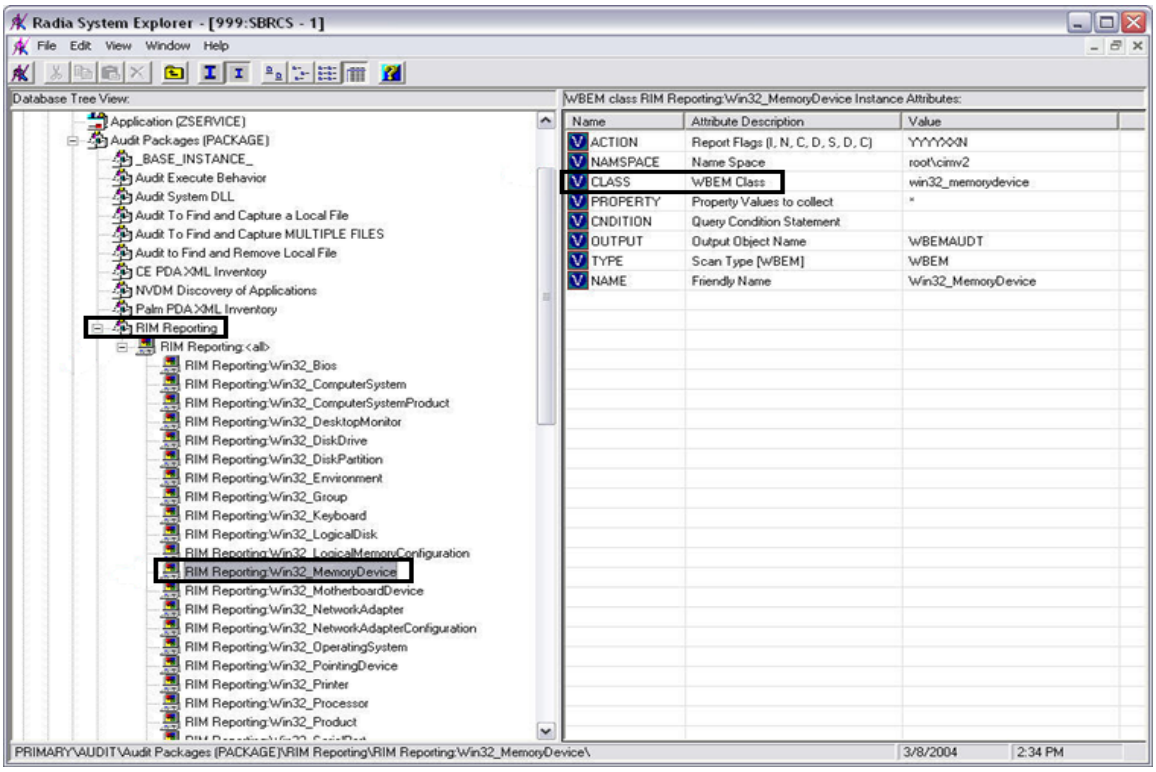
4. Click **Add+Edit**.


5. 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`.




> **Note:** When adding MSStorageDriver_FailurePredictStatus, you must also edit the NAMESPACE attribute and change the value to: root\wmi.

6. Click **OK** to save your changes.
7. As shown in the next image, the Win32_MemoryDevice instance is added to the Inventory Manager Reporting Package.




8. Repeat this Add Component procedure for each entry in the table "Inventory Manager reporting WBEM instances" that is missing from your inventory auditing package.

**Caution:** 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 value: `Domain = "&(zconfig.zhdwcomp)".` Be sure to check the HP support web site for the most recent information on this topic.

# Chapter 3

# Reporting Server Features

You can view the different reports by accessing the Reporting tab in the HPCA Console.

# About the Reporting Server Interface

The 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 from 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 "Using Search Options to Select Filters" below.
  - 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" below 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).
    Use the Reporting Views area to change or customize your Reporting View. For details, see "Using Display Options to Select Reporting Views" on page 38.
- After you open a reporting view, 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.
- After you open a reporting view, **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 41 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.

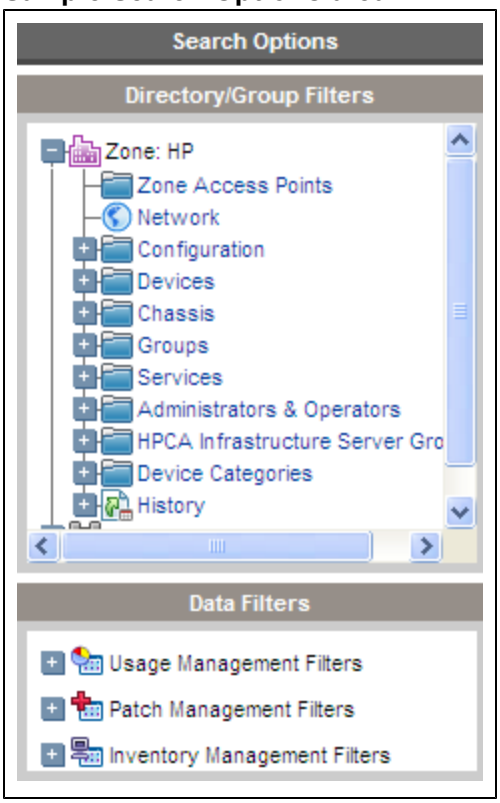
# Using Search Options to Select Filters

The Search Options areas give you two ways to filter datasets within the 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.

**Sample 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 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 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.

The Data Filters that are available depend on what you enabled in the Reporting Server configuration page.

To select and apply a filter using the Data Filter area:

1. In the Data Filters section of the left navigation tree, expand the filter group that you want to use.
2. In the Filter Value text box, specific the filter criteria, or select a criteria from the list. You can use wildcards, including * for multiple characters, or ? or _ (underscore) for single characters.
3. 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.

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

## 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. The following table explains each special character.

**Special Characters and Wildcards**

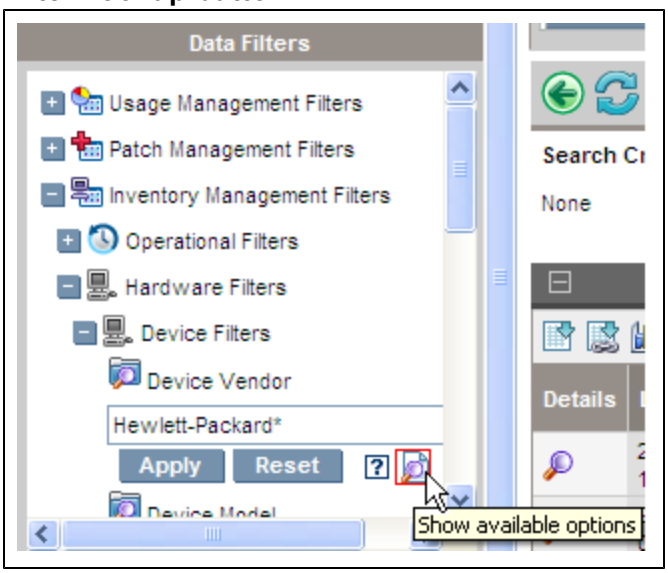
| Character | Description |
|---|---|
| * or % | Return all records of specific text string.<br>Example:<br>Device Vendor Filter<br>HP* returns all HP records.<br>%HP% returns all records including HP. |
| ? or _ | Return any single character<br>Example:<br>Device Classification Filter<br>Not?book returns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

## Using Filter Lookup

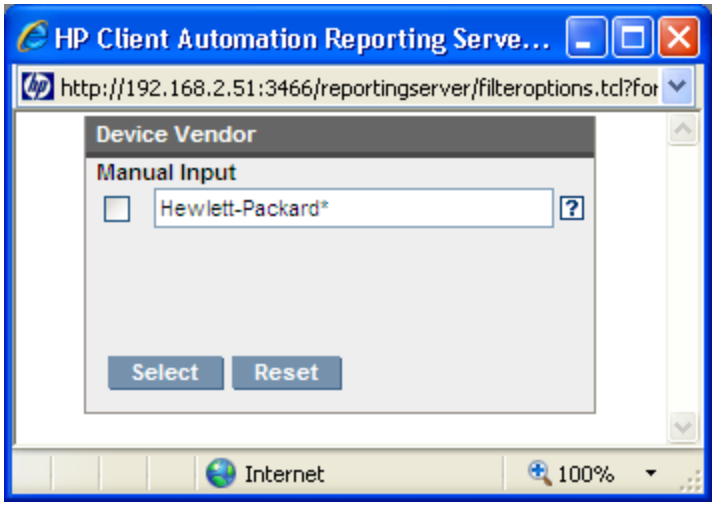
In order to help fine tune searches, especially within filters that may contain a lot of data (for example, Usage Manager Product Lists), filters with the **Show available options** capability (denoted by ) will use the entered data as lookup criteria.

For example, entering "Compaq%" in the data field as displayed in the figure Filter Lookup button, and then clicking the **Show available options** button will open the lookup window displayed in the figure Lookup window.

**Filter Lookup button**




**Lookup window**




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

## Applying a Forced Filter

A forced filter is a filter applied to every report that is displayed in Reporting Server. To apply a forced filter, modify the `rrs.cfg` file.

For example, to filter all reports to display data for Hewlett-Packard devices only, add the FORCEDFILTERNAME and FORCEDFILTERVALUE parameters with the following values to the `packconfig` section of `rrs.cfg`:

```
# Core configuration

::rrs::packconfig "" {
        -DEFAULTVIEW      "Default.view"
        -LOGLEVEL         5
        -LANGUAGE         "auto"
        -DEVICELIST       1
        -DEVICELISTCOUNT        50
        -DEFENABLE        1
        -EXPORTMODE               tab
        -RMPLOGON         0
        -RMPIP            "rmphost"
        -RMPPORT          3471
        -RMPUSESSL                      0
        -SSL_CADIR                      ""
        -SSL_CAFILE                     ""
        -dl_datefmt       ""
        -dl_timefmt       ""
        -dl_gmt           1
        -ENCRYPTIONTYPE   aes
        -FORCEDFILTERNAME "RIM Device Vendor.filter"
        -FORCEDFILTERVALUE "%HP%"
}
```

Any Reporting Server filter can be used as a valid value for FORCEDFILTERNAME.

# 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.

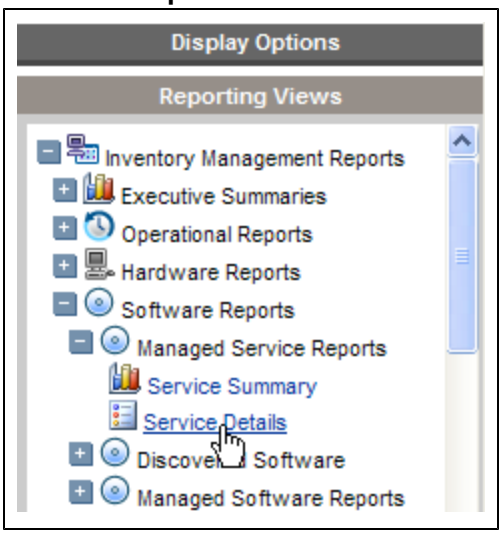
## Applying a View from the Reporting View Area

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 the figure "Software Reports" has Inventory Management Reports, Software Reports expanded.
2. Next, select a view for that group. The example shown in the figure "Software Reports", 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.

**Note:** The Reset button resets the View Group and view selections to their default values.

**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. The Reporting Views that are available depend on what you enabled in the Reporting Server configuration page. The following table lists the different reports that you can access from the Reporting tab in HPCA console.

### Types of Reports

| Report Type | Description |
|---|---|
| Inventory Management Reports | Display hardware and software information for all devices in HPCA. |
| Application Management Profiles Reports | Display information about Application Management Profiles (AMPs), a set of tools that enable you to deploy and manage complex software products. |
| Settings Management Reports | Display settings profile information for the devices on which a settings profile is deployed. |
| HPCA Management Reports | Display management information for various HPCA functions, such as Live Network and the Remote Control report. |
| Patch Management Reports | Display patch compliance information for managed devices and acquisition information for patches and Softpaqs. |
| Usage Management Reports | Display usage information for devices that have the Usage Collection Agent installed. |
| Vulnerability Management Reports | Display the following information:<br>• Vulnerability management activities and trends in your environment.<br>• Vulnerability definitions and detailed information about vulnerabilities detected in your environment<br>• Vulnerabilities detected on specific devices in your environment. |
| Compliance Management Reports | Display the following information:<br>• Snapshot of your environment from the compliance management perspective.<br>• Number of client devices that are currently in or out of compliance with each Secure Content Automation Protocol (SCAP) benchmark included in your scans.<br>• Most recent compliance scan for each scanned client device. |
| Security Tools Management Reports | Display the anti-virus, anti-spyware, and firewall products detected on your client devices. You can also view when the anti-virus and anti-spyware definitions were last updated on your client devices. |
| Virtualization Management | Display the current status for the VMware ThinApp and Microsoft Application Virtualization applications that are deployed on the HPCA agents. |

# Windows 8, Windows 7, and Windows Vista Reports

The following sections describe Windows Vista® related reports:

- "Windows Readiness Reports" below
- "Windows Experience Index Reports" below

## Windows Readiness Reports

Use the Display Options to show Windows 8, Windows 7, and Windows Vista readiness reports. These reports contain information you can use to determine device readiness for an upgrade to Windows 8, Windows 7, or Windows Vista operating systems. The Reporting Server determines OS-readiness based on the following criteria:

- CPU Speed
- System Memory
- System Drive Total Space
- System Drive Free Space

The OS-specific readiness criteria are displayed at the top of the report page. See Microsoft's specifications on their web site for up to date Windows 8, Windows 7, and Windows 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.

## Windows Experience Index Reports

Use the Display Options to show Windows Experience Index reports. The Windows Experience Index is used to determine how Windows Vista and other software will perform on a device. For a detailed explanation of the Windows Experience Index ratings, see Microsoft's web site.

To display Windows Experience Index reports

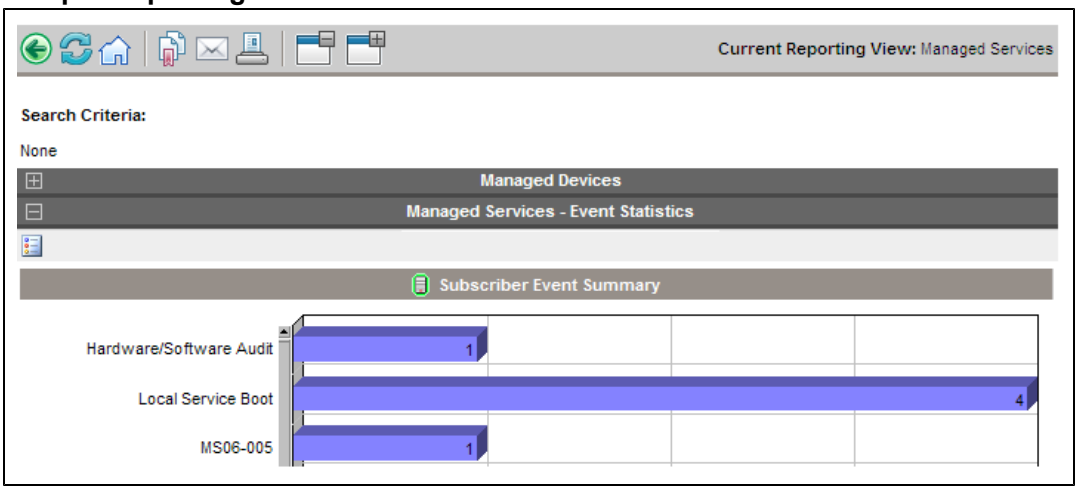
1. In the **Display Options** area, select **Inventory Management Reports**.
2. Select **Readiness Reports**.
3. Select **Windows Experience Index**.

**Note:** Windows Experience Index Reports require the Win32_WinSAT wbem instance. For details, see "Inventory Reporting Auditing Requirements" on page 27.

# 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.

**Sample Reporting Window**




# Using the Windows Action Bar Icons

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

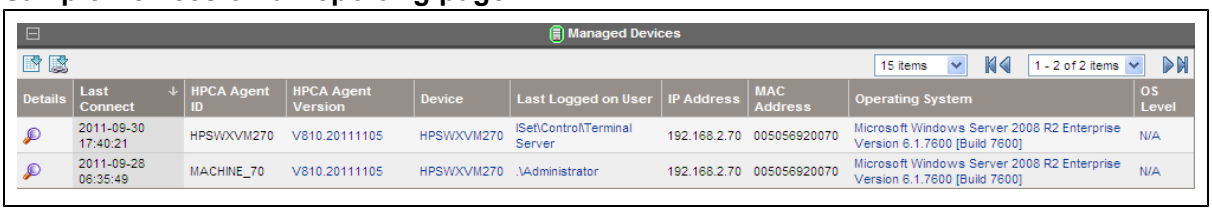
**Export to CSV** – creates a comma-separated list of the report query that you can open or save.

**Export to IQY** – creates an Internet query list of the report query that you can open or save as a Microsoft 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 Reporting Server. If Reporting Server is configured for authentication, when you open the IQY file, you are prompted for access credentials. Use the following defaults or enter the values defined by your administrator:

- **Enter your Reporting Server User ID** = admin
- **Password** = secret
- **Directory Source** = (Select the directory source from the available list)

**Switch to Graphical View**
Click this icon to switch to a graphical view of the data.

**Sample Devices on a Reporting page**




## Browsing Items in a Report

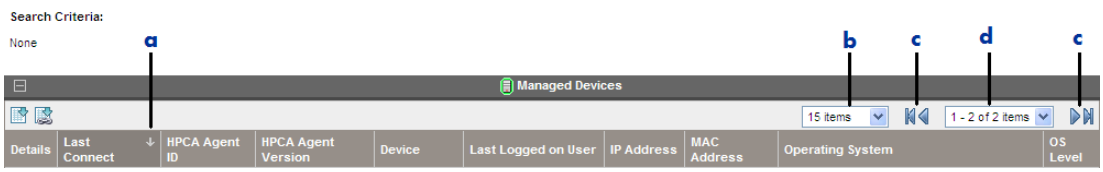
There may be very large numbers of items in any report. The Action Bar lets you customize how many items to view in a given window area. To browse to records outside your current window area, use the Browse buttons or drop-down list, as illustrated in the figure Report Display Settings: 15 Items per Window, Sort by Class.

**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.

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




| Legend |
|---|
| 1. Current sort field and order |
| 2. Maximum items to display per window |
| 3. Browse buttons |
| 4. 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.

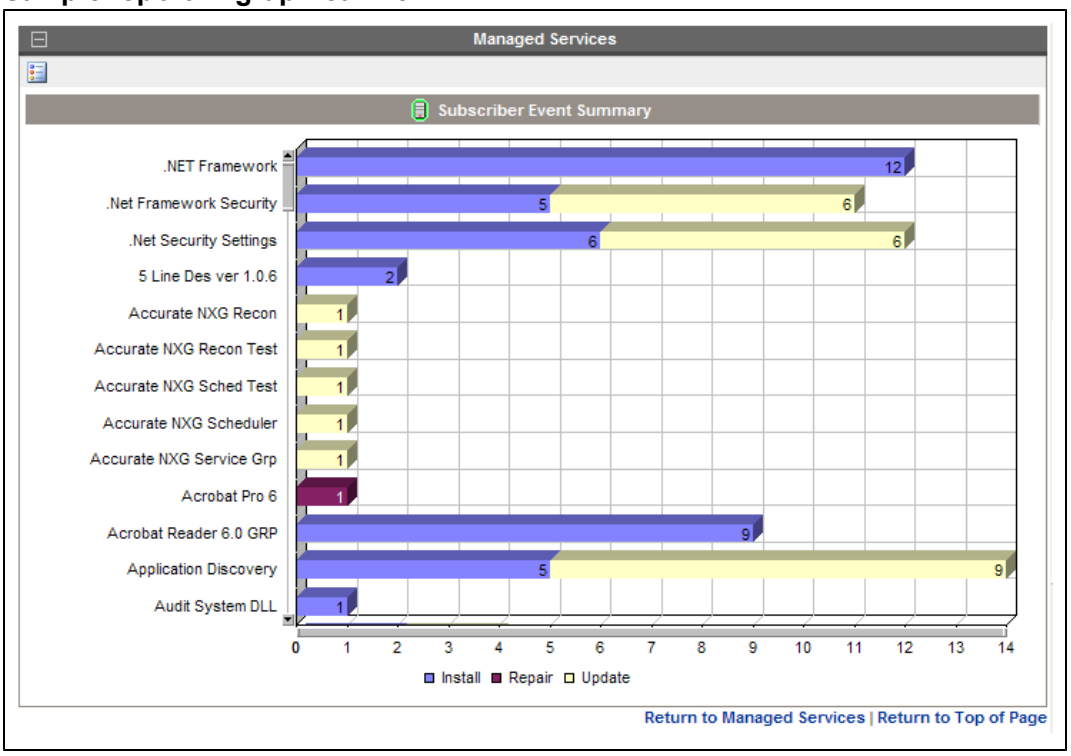
To toggle between ascending and descending sorts, click a currently selected column (indicated by the arrow). An up arrow indicates the active sort column and ascending order. A down arrow indicates the items are displayed in descending order.

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. The figure Sample report in graphical view shows a sample graphical view.

**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.

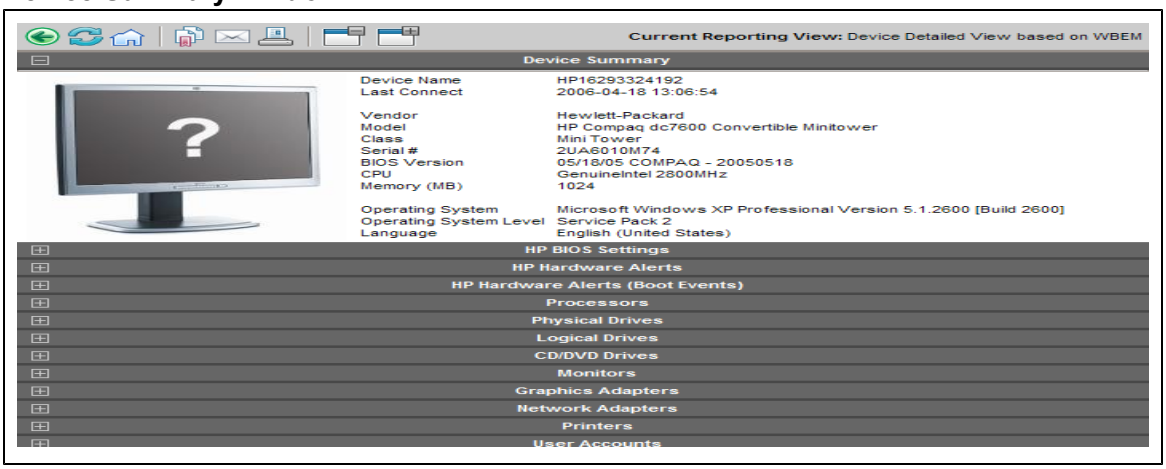
To return to the detailed view at any time, click **Switch to Detailed View** in the action bar.

## 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.

**Device Summary window**




Click any heading at the bottom of the page to expand its listing. For example, if you click **Services**, you will 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.

# Leaf Node Filtering

You can limit what LDAP classes are browsed when using Reporting Server by applying a filter to the Reporting Server configuration file. By limiting the LDAP classes Reporting Server will browse to only those you require, you can greatly improve tree navigation response times when browsing through the directory tree.

To apply a leaf node filter:

1. Edit the Reporting Server configuration file, `rrs.cfg`. This is located in the Reporting Server's `\etc` directory, by default.
2. Within the `LDAP Configuration` section, add the `BROWSEFILTER` attribute and the classes that should be filtered.
   The following example will filter out the *user* and *computer* sample classes, allowing Reporting Server to browse only the LDAP classes that remain.

   ```
   # LDAP Configuration

   ::rrs::mount LDAP LDAP {
   ```

```
-ENABLE           0
-CACHEENABLE      0
-CACHELIFE        300
-TYPE             "ldap"
-SERVER           ""
-PORT             389
-BROWSEFILTER   "!(|(objectclass=user)(objectclass=computer)))"
```

# Chapter 4

# Customizing Reports

The 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 Reporting Server directory structure.

## Reporting Object Files

Reporting object files determine what data you will see and in what format it is presented on the 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\objects` directory.

> **Note:** Customizing 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 Reporting Server looks for all files of a specific extension type, `*.view`, 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. HP recommends 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 Reporting Server only looks for specific extensions, renaming your modified files allows easy incorporation into your reporting environment. Also, any updates to the 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

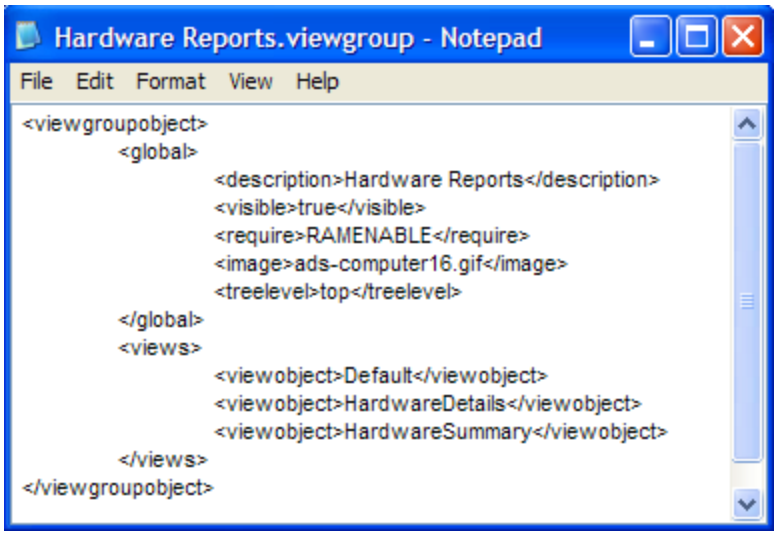
Several reporting object file types can be modified to generate custom report pages. These include:

- View Groups
- Views
- Filter Groups
- Filters
- Windows

## View Group Objects and View Objects

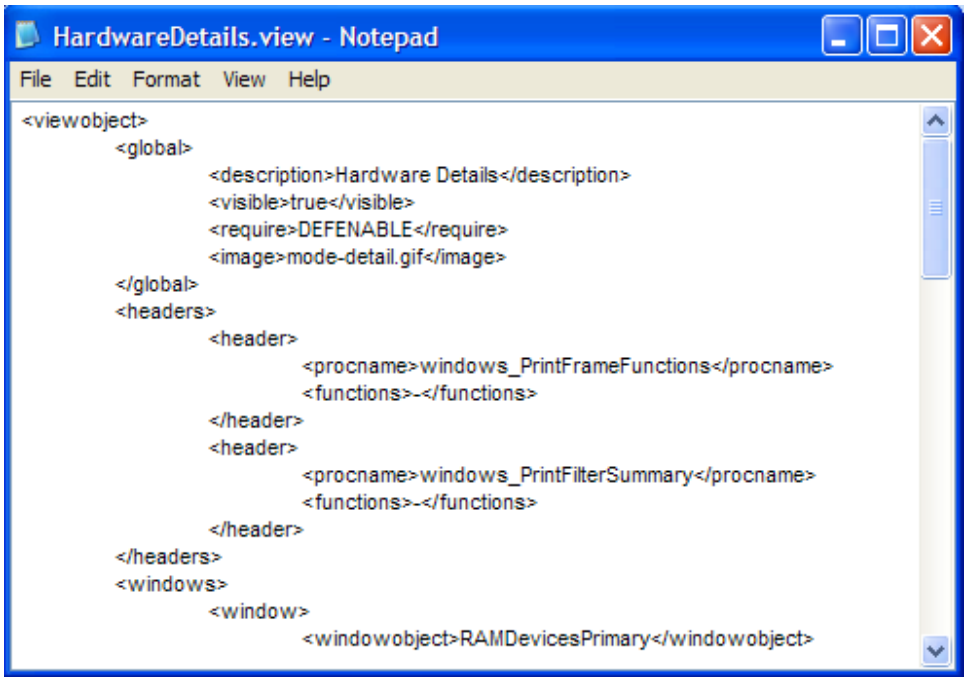
View Group (`*.viewgroup`) objects contain a selectable list of View objects available for that category. Each View Group contains a specific set of available Views. A view group can include another view group in its list to allow for multiple levels in the tree view.

**Sample View Group object file**




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

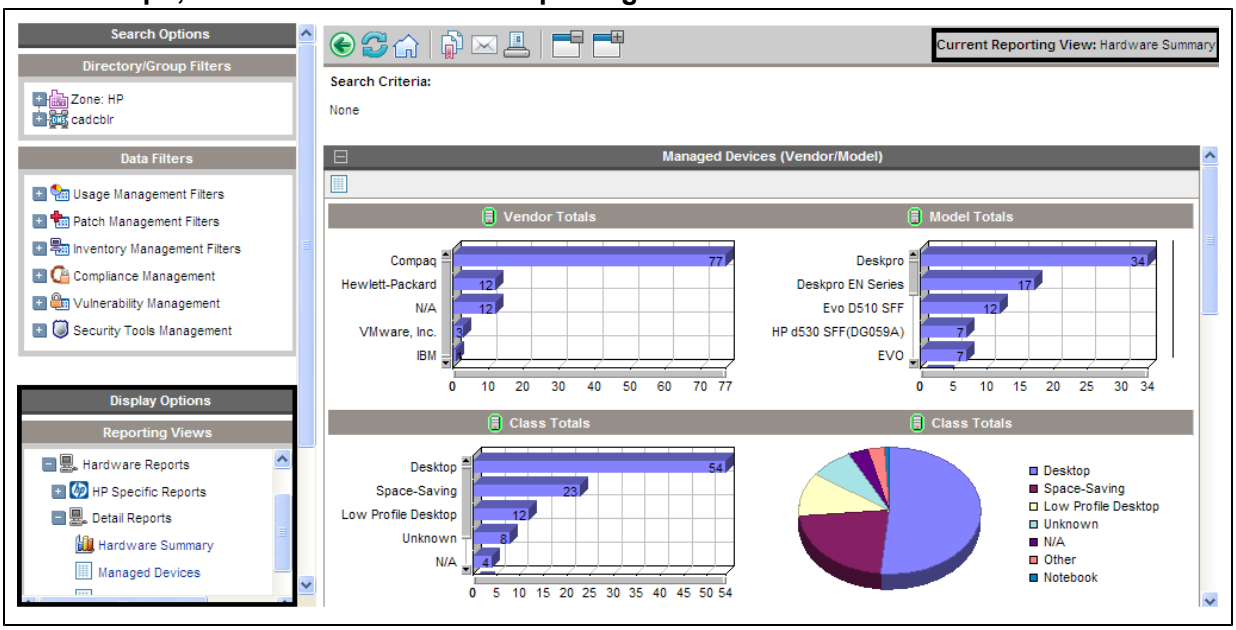
### Part of a sample View object file




Modifying View Group objects and View object files will determine what is displayed on the left-hand side of the 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**.

### View Groups, Views and the Current Reporting View



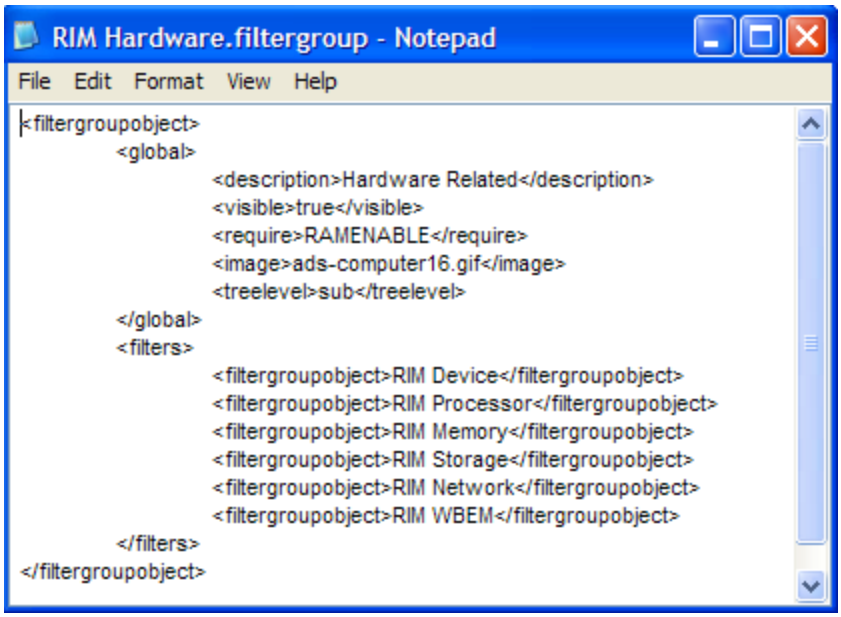

In addition to adding or altering Display Controls, View object files are used to determine which window objects are present. View objects can also determine specific Window object settings

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

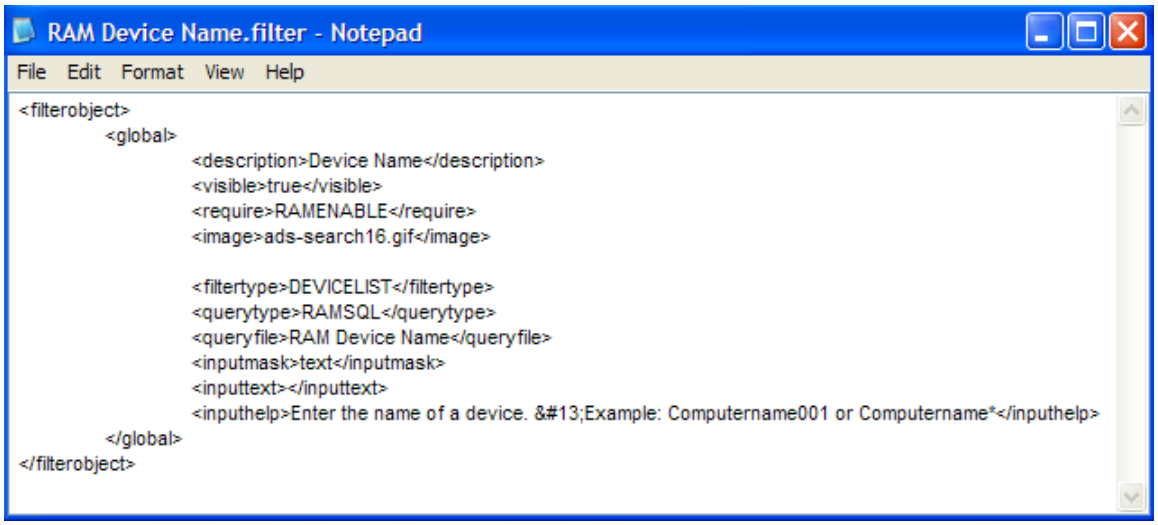
Filter Group (`*.filtergroup`) objects determine a selectable list of Filter objects. Like View Groups and Views, Filter Groups contain a specific set of available Filters. Depending on the Filter Groups selected, different Filter objects can be made available. Filter group objects can contain other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

### Sample Filter Group object file




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

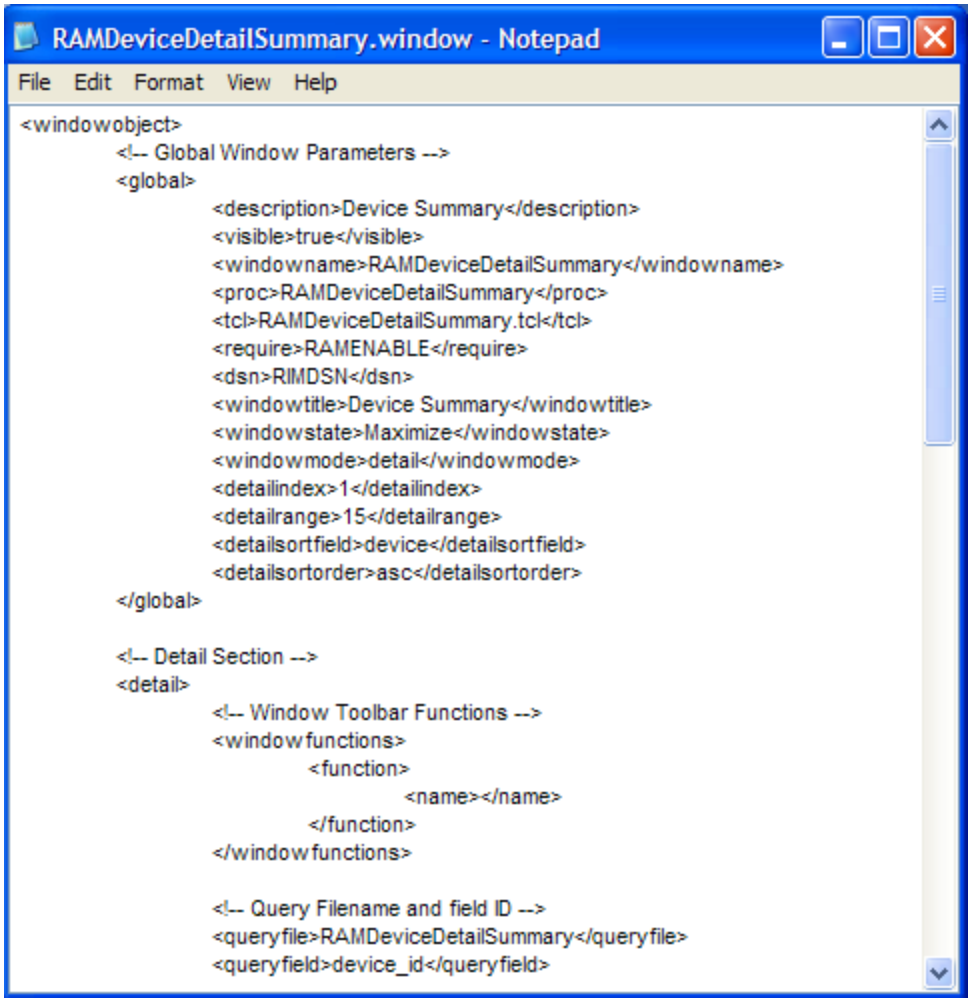
### Sample Filter object file



## 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.

**Part of a sample Window object file**




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

# 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.

To change the `HardwareDetails.view` object, global description to Hardware Specifics, 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 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>
```

**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.<br>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. |
| `<treelevel>` | top = load and show at top level.<br>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>
```

**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>
```

**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 Views drop-down list.<br>False = Hide this view selection. |
| `<require>` | Prerequisite files or configuration file settings required for this View to be |

| Parameter | Description |
|---|---|
| | 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>
```

**View Object Header Parameters**

| Parameter | Description |
|---|---|
| <procname> | Tcl procedure name to call for the header. The defaults are windows_ printframefunctions and windows_printfiltersummary. The default functions draw the respective data displayed. |
| <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>
```

**View Object Windows Parameters**

| Parameter | Description |
|---|---|
| `<windowobject>` | Determines the window object to load. |
| Window Object Overrides | |
| `<windowstate>` | Determines the window object state. |
| `<windowmode>` | Determines 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>` | Sort order.<br>asc = sort ascending.<br>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>
```

**Filter Group Object Global Parameters**

| Parameter | Description |
|---|---|
| <description> | What is displayed within the Filter Group drop-down list. |
| <visible> | True = This filter group will be present in the Filter Group drop-down list.<br>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.<br>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>
```

**Filter Group Object Filters Section Parameters**

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

**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.<br>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 Application Manager database), RIMSQL (for Inventory Manager database), RUMSQL (for Application Usage Manager database) or RPMSQL (for Patch Manager database). |
| `<queryfile>` | The SQL command used to obtain the data. |
| `<inputmask>` | Valid input mask values are as follows:<br>**date** – Inserts a calendar icon allowing the user to select a date. |

| Parameter | Description |
|---|---|
| | **text** – Simple text input.<br>**dropdown** - Create a selectable dropdown list with predefined filters. Edit inputtext to enter values for the drop-down list.<br>**none** - Disables input field. Requires the filter to be hard coded (for example, Device last connect > 30 days).<br>**numeric** – A numeric value (for example, 256).<br>**numeric_list** – A list of numeric values (for example, @256\|\|384).<br>**decimal** - A decimal value (for example, 5.0).<br>**decimal_list** – A list of decimal values (for example, @5.0\|\|4.0). |
| `<inputtext>` | Input mask values.<br>For **text**, **numeric**, **numeric_list**, **decimal**, and **decimal_list** input masks, whatever is entered here will display as the default text input box value. |
| | For **date** input mask, will display default date. Must be a valid date format.<br>For **dropdown** input mask value, use a space-delimited list to create the list values. For example:<br>`<inputtext>a b c</inputtext>`<br>Creates a dropdown list with the elements a b and c.<br>Alternatively, a SQL query can be used to populate the dropdown list. For example:<br>`<inputtext>[sql execute RIMDSN "select distinct os from deviceconfig"]</inputtext>`<br>Creates a dropdown list of OS values. |
| `<inputhelp>` | 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>
```

**Window Object Global Section Parameters**

| Parameter | Description |
|---|---|
| <description> | Window object description. |
| <visible> | True = This window will be visible.<br>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. |
| <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. |

| Parameter | Description |
|---|---|
| | 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). This button enables you to export the report as a Comma Separated Value (CSV) file.
- **ExportIQY** adds the export to IQY Icon (Detail mode only). This button enables you to export the report as an Internet Query file, which allows a live link to the report when viewed using Microsoft Excel.
- **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.

Inventory Manager and Application Manager data require a queryfield of device_id. The Patch Manager and 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.

**Action sub-section parameters**

| Parameter | Description |
|---|---|
| `<enabled>` | 1 = Show detail column.<br>0 = Hide detail column. |

| Parameter | Description |
|---|---|
| <image> | Determines whether an image file is used to portray the data. Image files are stored within the ReportingServer/html/images folder. |
| <columnname> | The name displayed for the column. |
| <url> | Hyperlink value. Can be an internal reporting function or an external url. For example, http://[index/ $row 2]:5800, will add a link using the value from row 2 from the SQL query as a symbolic. |
| <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. |

**Columns sub-section parameters**

| Parameter | Description |
|---|---|
| <fieldname> | Must match SQL field name in the query 1 for 1 match. |
| <fieldtype> | Set to one of the following values: |

| Value | Description |
|---|---|
| text | Displays the text. This is the default. |
| date | Converts the incoming value to YYYY-MM-DD HH:MM:SS format. |
| numeric | Displays the number in comma separated format. For example, 12345 is displayed as 12,345. |
| image | Treats the contents of this column as image. |
| dropdown | Creates a drop-down list based on space separated values. |
| datecfg | Converts the incoming value to YYYY-MM-DD HH:MM:SS format. This value is again converted to gmt or local zone based on the configuration in the rrs.cfg. |
| megabyte | Displays the number as the nearest MB. |
| text_bold | Displays the number as the nearest MB. |
| count_ success | Displays the values greater than 0 as green. |

| Parameter | Description |
|---|---|
| | <table><tr><th>Value</th><th>Description</th></tr><tr><td></td><td></td></tr><tr><td>count_ failure</td><td>Displays the values greater than 0 as red.</td></tr><tr><td>Pieimagepct</td><td>Displays the contents as a percentage in pie-chart.</td></tr><tr><td>Barimagepct</td><td>Displays the contents as percentage in horizontal bar graph.</td></tr></table> |
| `<fieldsetting>` | Manipulate output of data. |
| `<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. For example, http://[index/ $row 2]:5800, will add a link using the value from row 2 from the SQL query as a symbolic. |
| `<urlalt>` | Mouse-over text. |
| `<urltarget>` | Determines whether a new window is opened. Set to _ new 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>
          <chartheight>400</chartheight>
          <charttitle>Usage Totals</charttitle>
          <charturl></charturl>
          <params>
          </params>
       </chart>
    </charts>
</graph>
```

# Generating Reports in CSV Format

The HPCA installation media includes the `CacheUtility` script that enables you to generate reports in CSV format. This script is stored at the location `<InstallDir>\ReportingServer\tools`. The reports generated in the CSV format are similar to the reports that are available in the HPCA Core Console. Note that using the `CacheUtility` script, you cannot merge two reports or add columns to the existing reports.

Complete the following steps to generate the reports in CSV format:

1. Using a text editor, create a new file *`report_name.cfg`* with the list of reports to be generated and save this file at the location `<InstallDir>\ReportingServer\tools\cacheutility`. The report names should be in window file name format. For more information on how to add report names to this file, see "Report Name and Window File Name Mapping" on next page
2. Using a text editor, create a new file *`filter_apply.cfg`* with the list of filters that are applied to each report and save this file at the location `<InstallDir>\ReportingServer\tools\cacheutility`. For more information on how to add filters to this file, see "Report Filters" on page 70
3. Copy the nvdkit.exe file from the `<InstallDir>\ReportingServer\bin` directory to the `<InstallDir>\ReportingServer\tools\cacheutility` directory.
4. Open the command prompt and navigate to the `<InstallDir>\ReportingServer\tools\cacheutility` directory.

5. Enter the following command:
   ```
   Nvdkit.exe CacheUtility.tcl -reportingPath
   "InstallDir/ReportingServer" -reportingurl
   "http://localhost:3466/reportingserver" -outputpath "output_folder"
   -reportsets "report_name.cfg" -filtersets "filter_apply.cfg" -
   deletecache "YES" -deleteoutputpath "YES" -userid "console_userID"
   -password "console_password"
   ```

   where,
   *output_folder* is the location where you want to store the new CSV format reports.
   *report_name.cfg* contains the list of window file names for the reports that you want to generate.
   *filter_apply.cfg* contains the list of filters that are applied to each report that you specify in the *report_name.cfg* file.
   *console_userID* is the user ID to logon to the Core Console.
   *console_password* is the password for the `console_userID` variable.

# Report Name and Window File Name Mapping

The report names in the `CacheUtility` script are referenced using window file names.

For example, to generate a report of all managed devices, add the following line of code in the *report_name.cfg* file:

```
"RAMDevices.window"
```

Note that the window file names are case-sensitive and each window file name must be separated by a line feed.

The following table lists the mapping between the report name and window file name that you must set in the *report_name.cfg* file when using the `CacheUtility` script for generating reports in CSV format.

**Report Name and Window Mapping**

| Report Name | Window File Name |
|---|---|
| Manage Devices | `RAMDevices.window` |
| Count by Memory | `RAMCountByMemory.window` |
| Count by Operating System | `RAMCountByOS.window` |
| Device Summary | `RAMDeviceDetailSummary.window` |
| MSI Package Event Details | `RAMDeviceMSIServices.window` |
| Preloaded Services | `RAMDevicePreloadServices.window` |
| Count by Memory | `RAMCountByMemory.window` |
| Native Package Event Details | `RAMDeviceRNPServices.window` |
| Managed Devices | `RAMDevices.window` |

| Report Name | Window File Name |
|---|---|
| Managed Services | RAMDeviceServices.window |
| Managed Services (Historical) | RAMDeviceServicesHistorical.window |
| Historical Connects | RAMDevicesHistorical.window |
| Managed Devices - Connection Statistics | RAMOperationalDeviceConnections.window |
| Managed Services - Event Statistics | RAMOperationalServices.window |
| Managed Services (Details) | RAMServiceDetailSummary.window |
| Managed Services (Failed Details) | RAMServiceDetailSummaryFailed.window |
| Managed Servicesadmi | RAMServicesPrimary.window |
| Managed Services (Failures) | RAMServicesPrimaryFailed.window |
| Managed Blades | RIMBlades.window |
| CD/DVD Drives ( With Device Name) | RIMCIMDeviceCDROMS.window |
| Physical Drives ( With Device Name) | RIMCIMDeviceDiskDrives.window |
| HPUX Software Bundles ( With Device Name) | RIMCIMDeviceHPUXBundles.window |
| Logical Drives ( With Device Name) | RIMCIMDeviceLogicalDisks.window |
| Network Adapters ( With Device Name) | RIMCIMDeviceNetworkAdapters.window |
| Processors ( With Device Name) | RIMCIMDeviceProcessors.window |
| Software Elements (With Device Name) | RIMCIMDeviceSoftwareElement.window |
| Unix® Local File System (With Device Name) | RIMCIMDeviceUnixLocalFileSystem.window |
| Count by CPU | RIMCountByCPU.window |

| Report Name | Window File Name |
|---|---|
| Executable File Scan ( With Device Name) | RIMDeviceFileAudit.window |
| Managed Software ( With Device Name) | RIMDeviceManagedSoftware.window |
| Managed Devices (Baseboard ID) ( With Device Name) | RIMDevicesBaseBoardID.window |
| Blades by Enclosures ( With Device Name) | RIMDevicesbyEnclosures.window |
| Blades by Racks ( With Device Name) | RIMDevicesbyRacks.window |
| Managed Devices (CPU/Memory) ( With Device Name) | RIMDevicesCPUMEM.window |
| HP Hardware Alerts ( With Device Name) | RIMDevicesHPBiosEvent.window |
| HP Hardware Alerts (Boot Events) | RIMDevicesHPBiosSensor.window |
| HP BIOS Settings ( With Device Name) | RIMDevicesHPBiosSettings.window |
| Logical Drives ( With Device Name) | RIMDevicesLogicalDisks.window |
| Managed Devices (Battery Information) | RIMDevicesPortableBattery.window |
| Managed Devices (Serial/BIOS) | RIMDevicesSERIALBIOS.window |
| S.M.A.R.T. Drives Predicting Failure | RIMDevicesSMART.window |
| {S.M.A.R.T. Attributes Exceeding (Below) Threshold | RIMDevicesSMARTAttributeData.window |
| TPM Chipset Information ( With Device Name) | RIMDevicesTPM.window |
| Managed Devices (Vendor/Model) ( With Device Name) | RIMDevicesVENDORMODEL.window |

| Report Name | Window File Name |
|---|---|
| Discovered Software by Application - by Device | RIMFileAuditApplicationDetail.window |
| Discovered Software by Application Version | RIMFileAuditApplicationDiscovered.window |
| Managed Software by Application | RIMFileAuditApplicationManaged.window |
| Managed Software by Application - by Device | RIMFileAuditApplicationManagedDetail.window |
| Discovered Software by Application Version - by Device | RIMFileAuditApplicationVersionDetail.window |
| Discovered Software by Application Version | RIMFileAuditApplicationVersionDiscovered.window |
| Managed Software by Application Version | RIMFileAuditApplicationVersionManaged.window |
| Discovered Software by Application Version - by Device | RIMFileAuditApplicationVersionManagedDetail.window |
| Discovered Software File Details | RIMFileAuditFileDetail.window |
| Discovered Software by Product - by Device | RIMFileAuditProductDetail.window |
| Discovered Software by Product | RIMFileAuditProductDiscovered.window |
| Managed Software by Product | RIMFileAuditProductManaged.window |
| Managed Software by Product - by Device | RIMFileAuditProductManagedDetail.window |
| Discovered Software by Product Version - by Device | RIMFileAuditProductVersionDetail.window |
| Discovered Software by Product Version | RIMFileAuditProductVersionDiscovered.window |
| Managed Software by Product Version | RIMFileAuditProductVersionManaged.window |
| Managed Software by Product Version - by Device | RIMFileAuditProductVersionManagedDetail.window |

| Report Name | Window File Name |
|---|---|
| Discovered Software by Vendor - by Device | RIMFileAuditVendorDetail.window |
| Discovered Software by Vendor | RIMFileAuditVendorDiscovered.window |
| Managed Software by Vendor | RIMFileAuditVendorManaged.window |
| Managed Software by Vendor - by Device | RIMFileAuditVendorManagedDetail.window |
| HP BIOS Settings | RIMHPBIOSEvent.window |
| HP Hardware Alerts (Boot Events) | RIMHPBIOSSensor.window |
| HP Hardware Alerts | RIMHPBIOSSettings.window |
| Group Accounts | RIMNVDDeviceGroupAccounts.window |
| Registered Application Scan | RIMNVDDeviceInstalledApps.window |
| Add/Remove Programs Scan | RIMNVDDeviceInstalledUninstall.window |
| NIS Group Accounts | RIMNVDDeviceNISGroupAccounts.window |
| NIS User Accounts | RIMNVDDeviceNISUserAccounts.window |
| User Accounts | RIMNVDDeviceUserAccounts.window |
| Power Assistant | RIMPowerAssistant.window |
| Windows Printers | RIMPrintersPrimary.window |
| Windows Vista Readiness Report | RIMReadinessVista.window |
| Windows 7 Readiness Report | RIMReadinessWindows7.window |
| CD/DVD Drives | RIMWBEMDeviceCDROMS.window |
| Physical Drives | RIMWBEMDeviceDiskDrives.window |
| Graphics Adapters} | RIMWBEMDeviceGraphicsAdapters.window |
| Logical Drives | RIMWBEMDeviceLogicalDisks.window |
| Monitors | RIMWBEMDeviceMonitors.window |
| Network Adapters | RIMWBEMDeviceNetworkAdapters.window |
| Physical Memory | RIMWBEMDevicePhysicalMemory.window |
| Printers | RIMWBEMDevicePrinters.window |
| Windows Processes | RIMWBEMDeviceProcesses.window |
| Processors | RIMWBEMDeviceProcessors.window |

| Report Name | Window File Name |
|---|---|
| Windows System Services | RIMWBEMDeviceServices.window |
| User Accounts | RIMWBEMDeviceUserAccounts.window |
| Windows Experience Index Report | RIMWindowsExperienceIndex.window |
| User Accounts | RIMWBEMDeviceUserAccounts.window |
| Patch Device Status | RPMCompliancebyDevices.window |
| Managed Services | RAMDeviceServices.window |
| Bulletin Status | RPMCompliancebyBulletins.window |

# Report Filters

You must set the filter that you want to apply to the reports in the file *filter_apply.cfg*.

For example, to create a filter that filters for device name starting from WIN2k3-, add the following line of code in the *filter_apply.cfg* file:

```
"RAM Device Name.filter" "WIN2k3-*"
```

The following table lists the filters that you can manually set in the *filter_apply.cfg* file when using the CacheUtility script for generating reports in CSV format.

**Report Filters List**

| Filter | Filter Description |
|---|---|
| RAM Client Version.filter | {HPCA Agent Version} |
| RAM Device CPU Vendor.filter | {CPU Vendor} |
| RAM Device ID.filter | {Device ID} |
| RAM Device Last Connect GT.filter | {Device Last Connect >} |
| RAM Device Last Connect Hour.filter | {Connected in Last X Hours} |
| RAM Device Last Connect LT.filter | {Device Last Connect <} |
| RAM Device Last Connect.filter | {Device Last Connect <} |
| RAM Device Memory Less.filter | {Memory (MB) Less Than} |
| RAM Device Memory More.filter | {Memory (MB) More Than} |
| RAM Device Memory Range.filter | {Memory Range} |
| RAM Device Memory.filter | {Memory (MB)} |
| RAM Device Name.filter | {Device Name} |
| RAM Device Not Connect 30 Days.filter | {Device Last Connect > 30 Days} |

| Filter | Filter Description |
|---|---|
| RAM Device Not Last Connect Hour.filter | {Not Connected in Last X Hours} |
| RAM Drive Size.filter | {Drive C: Minimum Size (GB)} |
| RAM Drive Space Free.filter | {Drive C: Space Free (GB)} |
| RAM IP Address.filter | {IP Address} |
| RAM Last User.filter | {Last Logged on User} |
| RAM MAC Address.filter | {MAC Address} |
| RAM Operating System.filter | {Operating System} |
| RAM Operational Last Connected12Months.filter | {Last Connected by Month} |
| RAM Operational Last Connected30Days.filter | {Last Connected by Day} |
| RAM Operational Total Connections12Months.filter | {Total Connections by Month} |
| RAM Operational Total Connections24Hours.filter | {Total Connections within 24 Hours} |
| RAM Operational Total Connections30Days.filter | {Total Connections by Day} |
| RAM OS Level.filter | {Operating System Level} |
| RAM Radia ID.filter | {HPCA Agent ID} |
| RAM Service Event Failed.filter | {Service Event Failed} |
| RAM Service Event Successful.filter | {Service Event Successful} |
| RAM Service Event.filter | {Service Event} |
| RAM Service Failed Event.filter | {Service Failed Event} |
| RAM Service ID.filter | {Service ID} |
| RAM Service Installed Failed.filter | {Service Install Failed} |
| RAM Service Installed.filter | {Service Installed} |
| RAM Service Not Subscribed.filter | {Service Not Subscribed} |
| RAM Service Other Failed.filter | {Service Other Failed} |
| RAM Service Other.filter | {Service Other} |
| RAM Service Repaired Failed.filter | {Service Repair Failed} |

| Filter | Filter Description |
|---|---|
| RAM Service Repaired.filter | {Service Repaired} |
| RAM Service Subscribed.filter | {Service Subscribed} |
| RAM Service Uninstalled Failed.filter | {Service Uninstall Failed} |
| RAM Service Uninstalled.filter | {Service Uninstalled} |
| RAM Service Updated Failed.filter | {Service Update Failed} |
| RAM Service Updated.filter | {Service Updated} |
| RAM Service Verified Failed.filter | {Service Verify Failed} |
| RAM Service Verified.filter | {Service Verified} |
| RAM Subnet Address.filter | {Subnet Address} |
| RAM WF Service Domain.filter | {Service Domain} |
| RAM WF Service ID.filter | {Service Name} |
| RIM Device BaseBoardID.filter | {Device Baseboard ID} |
| RIM Device BIOS Version.filter | {Device BIOS Version} |
| RIM Device Class.filter | {Device Classification} |
| RIM Device CPU Count.filter | {CPU Count} |
| RIM Device CPU Speed Less.filter | {CPU Speed (MHz) Less Than} |
| RIM Device CPU Speed More.filter | {CPU Speed (MHz) More Than} |
| RIM Device CPU Speed Range.filter | {CPU Speed Range} |
| RIM Device CPU Speed.filter | {CPU Speed (MHz)} |
| RIM Device Model.filter | {Device Model} |
| RIM Device Serial Number.filter | {Device Serial Number} |
| RIM Device Vendor.filter | {Device Vendor} |
| RIM FileAudit Application Name Managed.filter | {Application Name Managed} |
| RIM FileAudit Application Name Unmanaged.filter | {Application Name Unmanaged} |
| RIM FileAudit Application Name.filter | {Application Name} |
| RIM FileAudit Product Name Managed.filter | {Product Name Managed} |

| Filter | Filter Description |
|---|---|
| RIM FileAudit Product Name Unmanaged.filter | {Product Name Unmanaged} |
| RIM FileAudit Product Name.filter | {Product Name} |
| RIM FileAudit Product Version.filter | {Product Version} |
| RIM FileAudit Vendor Name Managed.filter | {Vendor Name Managed} |
| RIM FileAudit Vendor Name Unmanaged.filter | {Vendor Name Unmanaged} |
| RIM FileAudit Vendor Name.filter | {Vendor Name} |
| RIM Network Adapter.filter | {Network Adapter} |
| RIM Power Date GT.filter | {Scan Date >} |
| RIM Power Date LT.filter | {Scan Date <} |
| RIM Power Date.filter | {Last Scan Date} |
| RIM WBEM Graphics Adapter.filter | {Graphics Adapter} |
| RIM WBEM Printer Driver Name.filter | {Printer Driver Name} |
| RIM WBEM Process Name.filter | {Windows Process Name} |
| RIM WBEM Service Name.filter | {Windows Service Name} |
| RIM WF FileAudit Application Name.filter | {Application Name} |
| RIM WF FileAudit Application Version.filter | {Application Version} |
| RIM WF FileAudit Managed Software.filter | {Managed Software} |
| RIM WF FileAudit Product Name.filter | {Product Name} |
| RIM WF FileAudit Product Version.filter | {Product Version} |
| RIM WF FileAudit Unmanaged Software.filter | {Unmanaged Software} |
| RIM WF FileAudit Vendor Name.filter | {Vendor Name} |
| RIM Windows Experience Index.filter | {Windows Experience Index Overall Score} |
| RIM_WF_HPBIOSEvent_Name.filter | {Hardware Alert Name} |
| RIM_WF_HPBIOSSensor_Name.filter | {Hardware Alert Name} |
| RIM_WF_HPBIOSSensor_State.filter | {Hardware Alert State} |
| RIM_WF_HPBIOSSetting_Name.filter | {BIOS Setting Description} |

| Filter | Filter Description |
|---|---|
| RIM_WF_HPBIOSSetting_Value.filter | {BIOS Setting Value} |
| RIM_WF_SMARTAttributeData_ID.filter | {S.M.A.R.T. Attribute ID} |
| RPM Device Name.filter | {Device Name} |
| RPM WF Bulletin Name.filter | {Bulletin Name} |

# Scheduling CSV Format Reports

You can create a Job Action Template that generates the reports in CSV format, and then schedule a job based on this template.

Prior to scheduling a job, make sure that the Core agent is installed on the HPCA Core server. The DTM job is then run for this Core agent.

While creating the template, enter the following value in the Command text box under Action Parameters view in the Job Action Template Parameters page of the Job Action Template Creation wizard:

```
Nvdkit.exe ..\ReportingServer\tools\cacheutility\CacheUtility.tcl -
reportingPath "InstallDir\ReportingServer" -reportingurl
"http://localhost:3466/reportingserver" -outputpath "output_folder" -
reportsets "..\ReportingServer\tools\cacheutility\report_name.cfg" -
filtersets "..\ReportingServer\tools\cacheutility\filter_apply.cfg" -
deletecache "YES" -deleteoutputpath "YES" -userid "console_userID" -
password "console_password"
```

where,
*report_name.cfg contains the list of window file names for the reports that you want to generate.*
*filter_apply.cfg contains the list of filters that are applied to each report that you specify in the report_name.cfg file.*
*output_folder* is the location where you want to store the reports.
*console_userID* is the user ID to logon to the Core Console.
*console_password* is the password for the `console_userID` variable.

For instructions on how to create a Job Action Template, see the *HP Client Automation Enterprise User Guide*.

# Appendix A

# Sample Reporting Scenario

This appendix presents a sample reporting scenario that will help you become familiar with 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 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 Reporting Server has been configured to access the Active Directory for your enterprise as well as your Inventory Manager SQL database.

**Task 1 Access Reporting Server**

Access the Reporting Server home page by clicking Reporting tab in the HPCA Console. At the top-left of the page, the Directory/Group Filters area includes the enterprise's Active Directory tree.

Select various filters from the Reporting Server interface to limit the report to only those Devices in the Sales Department that need service pack updates for the 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, 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]

The 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**

Drill down further to identify devices from this list that do not have Service Pack 4. To do this, 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, 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").

The 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**.

The 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.

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**Product name and version:** HP Client Automation Enterprise Reporting Server, 9.00

**Document title:** Reference Guide

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