

HP OpenView Configuration Management Solutions for Servers

for the Windows and Linux operating systems

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Configuration Baseline Auditor Guide

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Documentation Updates

This guide's title page contains the following identifying information:

- Software Version number, which indicates the software version
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To check for recent updates or to verify that you are using the most recent edition, visit the following URL:

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

Table 1 indicates changes made to this document since the last released edition.

Table 1 Document Changes

Chapter	Version	Changes
All	5.00	Rebranded product and component names.

Support

Please visit the HP OpenView support web site at:

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

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

- Search for knowledge documents of interest
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- Enter into discussions with other software customers
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Most of the support areas require that you register as an HP Passport user and log in. Many also require a support contract.

To find more information about access levels, go to:

www.hp.com/managementsoftware/access_level

To register for an HP Passport ID, go to:

www.managementsoftware.hp.com/passport-registration.html

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1 Introduction

At the end of this chapter, you will:

- Be familiar with the HP OpenView Configuration Management Solutions for Servers Configuration Baseline Auditor (Configuration Baseline Auditor).
- Be familiar with the platforms supported.
- Understand the software requirements.
- Have a basic understanding of how the Configuration Baseline Auditor (CBA) works.

What is the Configuration Baseline Auditor?

The HP OpenView Configuration Management Solutions for Servers Configuration Baseline Auditor (CBA) is a component of Configuration Management that allows you to:

- Define a logical group of resources (files and registry settings), known as subsystems, for which you define scan filters to determine what information will be captured.



The intent of the CBA is not to capture all components of an entire system as a subsystem, but to define a logical group of resources, which is typically an application.

- Collect configuration information about the subsystems, and capture its state at a specific point in time.
- View configuration changes.

Typical uses of the CBA are to review changes to a subsystem over time, to review differences between subsystems that should be configured identically, or to review differences between a subsystem and a well-defined baseline configuration.

When defining a subsystem, you define collection options and filters used to scan the resources on the device. As you collect information about configuration changes on your device, a state is created within the subsystem. Then, you use the CBA to compare different states within a subsystem.

Benefits of the CBA are that you can:

- Collect detailed file and registry value information.
- Collect the subsystem state at regular intervals, such as daily or weekly.
- Transfer information about configuration changes only, which reduces data transfer and database import overhead.
- Easily define the resources that belong to specific subsystems.

This guide describes how to install the CBA and its components, how to define subsystems and how to compare states in a subsystem.



To use the CBA, you must own a Server LTU for Configuration Management.

Audience

This document is for system administrators who are proficient in working with the CM environment, including but not limited to, the CM Administrator Configuration Server Database Editor (CM Admin CSDB Editor), CM agent, and CM Integration Server.

Supported Platforms

Collection of information is supported on the following platforms:

- Windows 2000 and 2003 Server
- Linux Red Hat Enterprise 3 and 4
- SUSE Linux Versions 8 and 9

The Configuration Baseline Importer and CBA are supported on Windows 2000 and above.

Software Requirements

- Microsoft SQL Server 2000 SP3 or later
- HP OpenView common components (If you do not have these installed, they will be installed when you perform the tasks in [Installing the Configuration Baseline Importer](#) on page 26.).
- CM Infrastructure
 - HP OpenView Configuration Management Configuration Server (CM Configuration Server)
 - CM Integration Server
 - HP OpenView Configuration Management Administrator (CM Administrator)



The CM Admin CSDB Editor must be Version 5.00 or later in order to have all of the features that you will need to perform the tasks described in this document.

- HP OpenView Configuration Management Application Manager (CM Application Manager) or HP OpenView Configuration Management Application Self-Service Manager Agent (CM Application Self-service Manager agent) version 5.00 or above
- HP OpenView Configuration Management Reporting Server (CM Reporting Server) 5.00 (optional)

How the Configuration Baseline Auditor Works

CBA processes can be divided into three categories.

1 **Defining Subsystems**

The CM Configuration Server contains a BASELINE Domain used to define subsystems. It also contains a scanning script, known as the Configuration Baseline Scanner.

2 **Collecting and Importing Data**

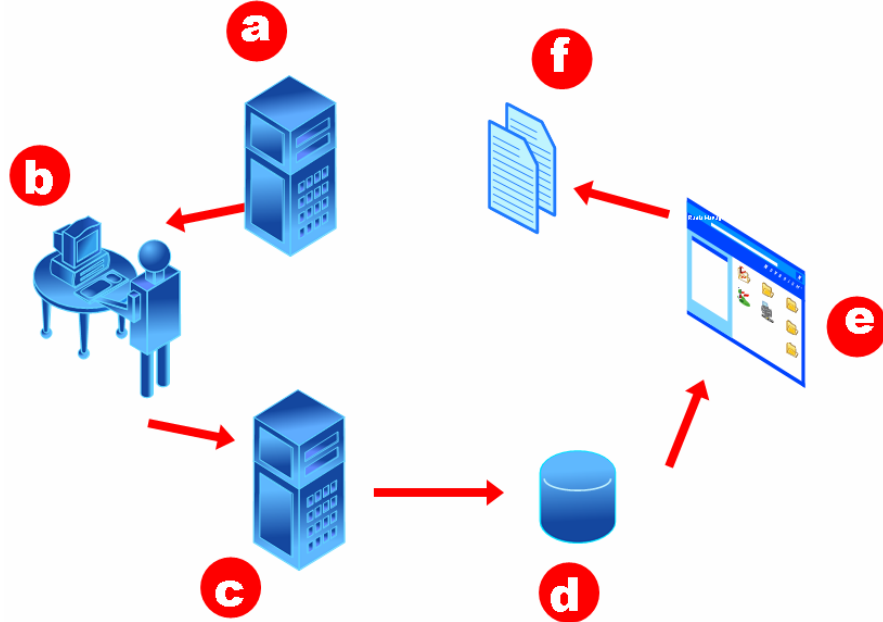
A CM agent connect or timer initiates the Configuration Baseline Scanner. The scanner scans the device and creates a set of files (compressed XML files) that are sent to the CM Integration Server. The CM Integration Server stores the XML files from the device in a directory that you specify during the installation. The Configuration Baseline Importer component reads the XML files and imports them into a Microsoft SQL Server database.

3 **Reporting**

Use the CBA or the CM Reporting Server to view the results of the collection. These reports can be exported into multiple formats.

[Figure 1](#) on page 15 is a diagram of the process flow.

Figure 1 Process flow



Legend

- a** The CM Configuration Server contains the BASELINE Domain. Use this domain to define subsystems, configure your filters, and specify collection options.
- b** A CM agent connect or timer initiates the Configuration Baseline Scanner which is a script stored in the BASELINE Domain.
- c** When the scan is complete, XML files containing the collected subsystem information are created and stored in a pre-determined directory (typically the HP OpenView data directory).
- d** The Configuration Baseline Importer retrieves the XML files from the pre-determined directory and imports them into the Microsoft SQL Server database.
- e** Use the CBA or CM Reporting Server to view and compare subsystem states.
- f** You can also use the CBA or CM Reporting Server to export reports of the comparisons into various formats.

Chapters Summary

Chapter 1, Introduction

This chapter describes the CBA, how it works, and provides information about the supported platforms and hardware and software requirements.

Chapter 2, Configuring Your Environment

This chapter provides installation and configuration instructions.

Chapter 3, Defining Subsystems

This chapter provides information about how to use the CM Admin CSDB Editor to define subsystems.

Chapter 4, Viewing the Results

This chapter describes how to use the CBA or CM Reporting Server to compare states within subsystems.

Appendix A, About the Baseline Domain

This appendix provides detailed information about the classes and instances in the Baseline Domain.

Appendix B, Troubleshooting

This appendix describes how to identify problems.

Appendix C, Product Name Changes

If are not yet familiar with the newly rebranded HP product names, this appendix has a list of old and new names.

Related Documents

HP OpenView Configuration Management Administrator Configuration Server Database Editor Guide

HP OpenView Configuration Management Reporting Server Installation and Configuration Guide

2 Configuring Your Environment

At the end of this chapter, you will:

- Be able to install and configure the CM environment.
- Be able to set up the necessary Microsoft SQL Server Database.
- Be able to install the Configuration Baseline Importer.
- Be able to install the Configuration Baseline Auditor.
- Be able to configure the CM Reporting Server if you choose.

Before you can use the HP OpenView Configuration Management Solutions for Servers Configuration Baseline Auditor (CBA), you must prepare your environment. To configure the components to use the CBA you will need to complete the following tasks:

- 1 Install and configure the CM environment.
 - Import the BASELINE Domain into your existing CM Configuration Server DB
 - Add drag and drop support for the BASELINE Domain
 - Make configuration changes to your existing CM Integration Server.
- 2 Set up a Microsoft SQL Server Database.
- 3 Install the Configuration Baseline Importer.
- 4 Install the Configuration Baseline Auditor.
- 5 Configure the CM Reporting Server (optional).

The following sections describe the steps needed to configure your environment.

Task 1 Configure the CM Environment

Importing the BASELINE Domain

You must import the BASELINE Domain to the CM Configuration Server DB. This domain contains:

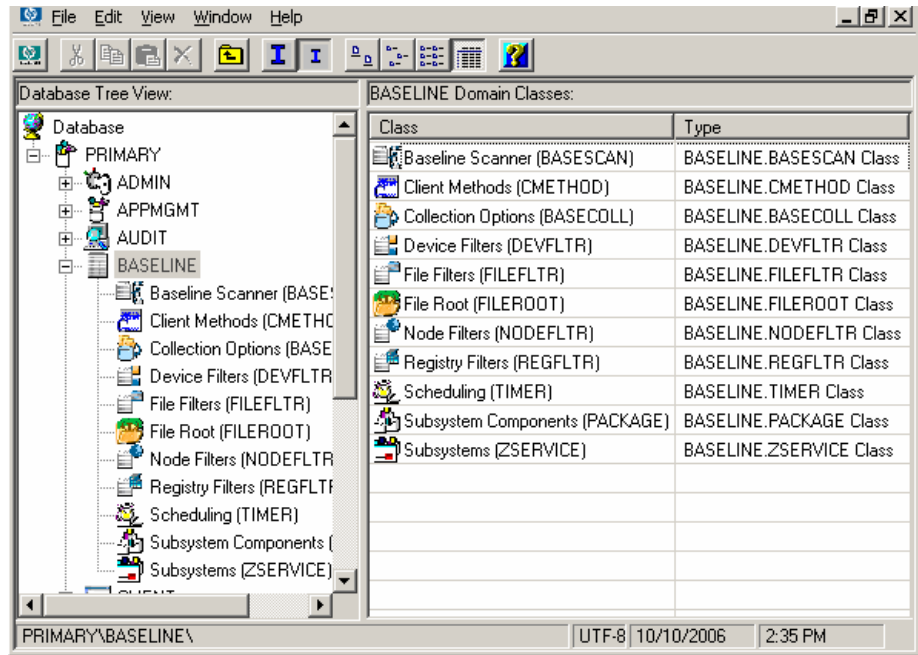
- Definitions for subsystems which have filters based on file system and/or Windows registry.
- Collection options attached to the subsystem.
- A timer for scheduling client connections.

To update the CM Configuration Server DB

- 1 Stop the CM Configuration Server service.
- 2 From the Server Management section of the CM media, go to `\Configuration Baseline\CM Database` and copy the files to your CM Configuration Server `bin` folder.
- 3 If importing to a Windows hosted CM Configuration Server, run `import_baseline.cmd`. If importing to a UNIX-hosted CM Configuration Server, run `import_baseline.sh`.

A return code of 0 indicates that there were no errors reported during the import, and the updates are applied to the CM Configuration Server DB. You may see a return code of 4 as well, which you can ignore.

- 4 Start the CM Configuration Server service.
- 5 Use the CM Admin CSDB Editor to view the new BASELINE Domain.



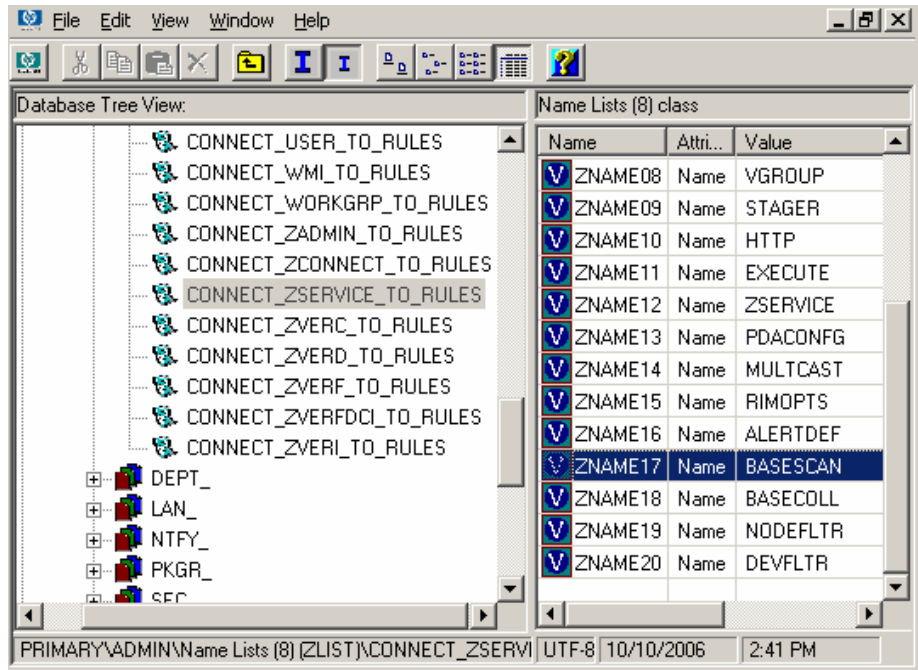
Adding Drag-and-Drop Support for the BASELINE Domain

Use the CM Admin CSDB Editor to add drag-and-drop support for the new BASELINE Domain classes.

To add drag-and-drop support

- 1 Open the CM Admin CSDB Editor.
- 2 Go to PRIMARY.ADMIN.ZLIST.
- 3 Add a new ZLIST instance called CONNECT_FILEFLTR_TO_RULES and set ZNAME01 to FILEROOT.
- 4 Go to the ZLIST instance called CONNECT_ZSERVICE_TO_RULES and add the following values to the ZNAME attributes:
 - BASESCAN

- BASECOLL
- NODEFLTR
- DEVFLTR



Specifying the Data Collection Directory

You must specify the directory that will store the zipped XML files sent from the CM agent.

- ▶ This directory *must* match the directory where the Configuration Baseline Importer will look for data to import into the SQL Server Database. This directory is set during the installation of the Configuration Baseline Importer. See [Installing the Configuration Baseline Importer](#) on page 26 for details.

To specify the data collection directory to store the XML files

- 1 Stop the OVCN Integration Server service.
- 2 From the Server Management section of the CM media, open `Configuration Baseline\importer\putcfg.txt`.
- 3 Copy the text in this file to the clipboard.

- 4 Open `SystemDrive:\Program Files\Hewlett-Packard\CM\IntegrationServer\etc\put.cfg`.
- 5 Paste the text that you copied before the CM Application Usage Manager section. It should read as follows.

```
# -----
# - Configuration Baseline Auditor Destination Directories
# -----
if {[info exists env(OvDataDir)]} {
    file mkdir [set dir [file join $env(OvDataDir) datafiles/cba/import]]
    Put_AddRoot /CBA_Import $dir
} else {
    syslog warning "Prerequisite installation of the HP OpenView Cross Platform Library has not
        been performed. Configuration baseline auditing is unable to receive baseline related
        data files from client systems."
}
}
```

- The first statement checks to see if the HP OpenView common components have been installed. The default location is `ProgramFilesFolder\HP OpenView\Data`.
- If the HP OpenView common components have been installed, the second statement creates a directory in `ProgramFilesFolder\HP OpenView\Data` called `datafiles\cba\import`.
- The third statement specifies where to save data “put” to the `CBA_Import` http target location as specified in the collection options (BASELINE.BASECOLL Class defined in the CM Configuration Server DB).
- The final statement adds an information message to the CM Integration Server log if the HP OpenView Foundation Components (specifically, the Cross Platform Library) are not installed or the environment variable is not found.

If you want to store the files in a different location, you can modify the directories specified above. However, if you modify the values in `put.cfg`, you must change the default value for the directory where the Configuration Baseline Importer will read the files from as described in [Installing the Configuration Baseline Importer](#) on page 26.

Below is an example of using an absolute path.

```
# -----
# - Configuration Baseline Auditor Destination Directories
# -----
if {[info exists env(ovDataDir)]} {
    file mkdir [set dir "c:/program files/HP OpenView/data/datafiles/cba/import"]
    Put_AddRoot /Cba_Import $dir
}
```

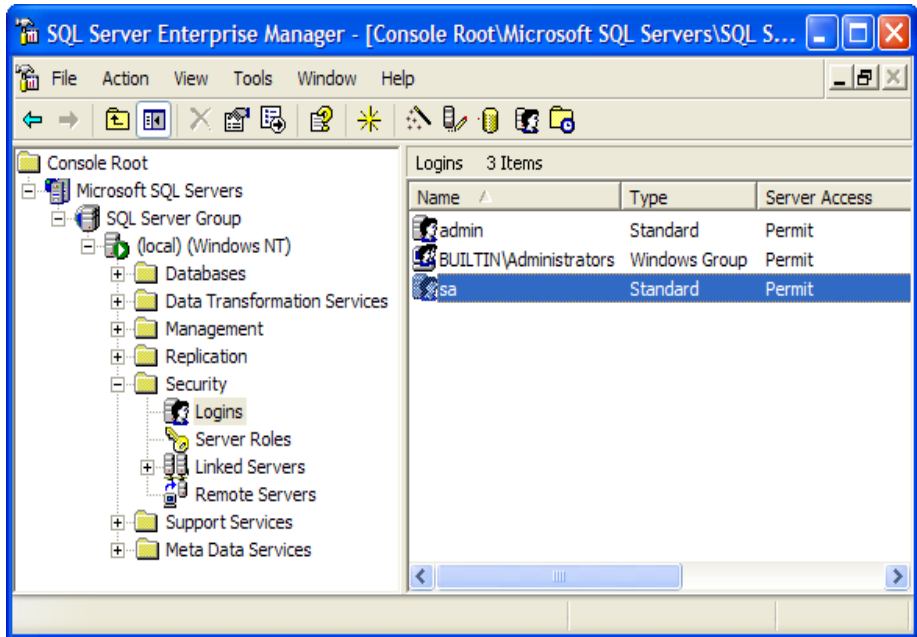
- 6 Save and close the file.
- 7 Start the CM Integration Server service.

Task 2 Setting up the Microsoft SQL Server Database

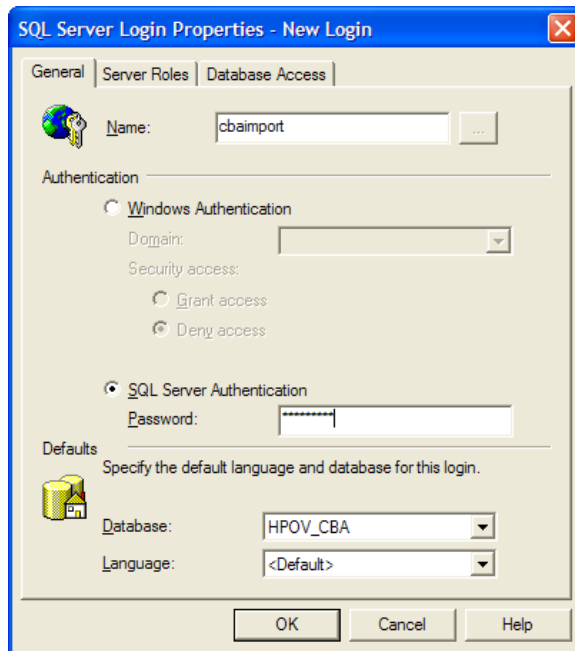
The Configuration Baseline Importer retrieves the XML files from the collection directory and imports them into the SQL Server database.

To set up your SQL Server database

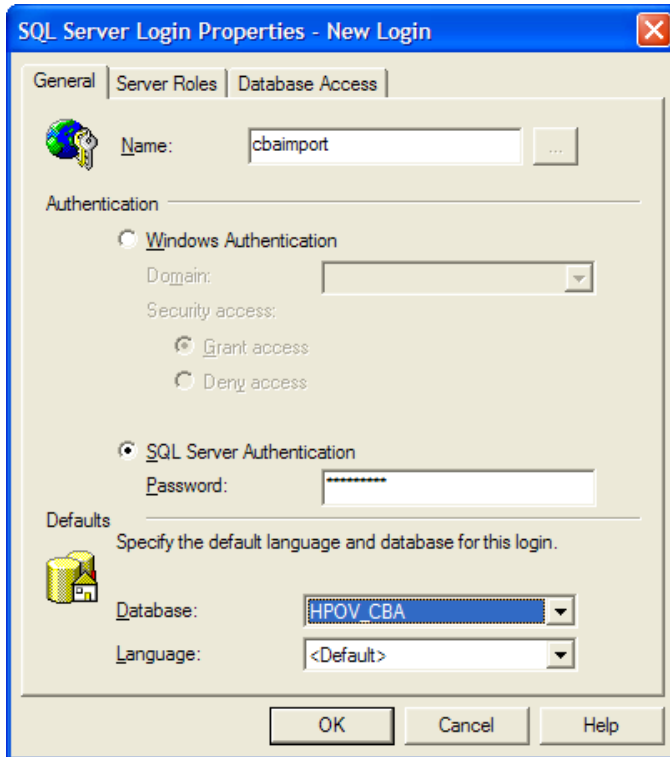
- 1 Setup a SQL Server Database. To do this, go to **Start** → **Program Files** → **Microsoft SQL Server** → **Enterprise Manager**.
- 2 Expand the Console Root section until you see (local) (Windows NT).
- 3 Right-click **Databases** and select **New Database**.
- 4 Type a name for the Database, such as **HPOV_CBA**.
- 5 Click the **Data Files** tab and set the Initial Size (MB) to 100.
- 6 In File Growth area, select **In Megabytes** and type 10 in the text box.
- 7 Click the **Transaction Log** tab and set the Initial Size (MB) to 20.
- 8 In File Growth area, select **In Megabytes** and type 5 in the text box.
- 9 Click **OK**.
- 10 In the left pane, go to Security and expand it until you see Logins. Note that the Login "sa" is the default SQL server system administrator account.



- 11 To create a new login for the SQL Server, right-click **Login** and select **New Login**. If you would like to use Windows authentication, consult the Microsoft SQL Server documentation.
- 12 In the Name field, type a name such as **cbainport**.
- 13 Select **SQL Server Authentication** and type a password.
 - ▶ Neither Windows Authentication, nor SQL Server Named Instances are supported in this version of CBA. Choose **SQL Server Authentication**.



- 14 Click the **Database Access** tab. Select the database that you created and confirm that **public** and **db_owner** are selected in the Permit in Database Role list box.
- 15 Click **OK**.
- 16 Type your password again and click **OK**.
- 17 In the left pane, under Databases, click the new database, **HPOV_CBA**.
- 18 In the right pane, right-click **Users** and select **New Database User**.
- 19 In the Login Name field, type a name such as **cbaimport**.
- 20 In the Permit in Database Role area, select **db_owner**.



- 21 Click **OK**.
- 22 From the Tools menu, select **SQL Query Analyzer**.
- 23 From the File menu, select **Open**.
 - ▶ Make sure the HPOV_CBA database is selected.
- 24 From the Server Management section on the CM media, go to Configuration Baseline\SQL Databases\SQL Server\2000 and select **Step_1_Create_Schema.sql**.
- 25 Click **Open**.
- 26 From the Query menu, select **Execute**. The status bar will tell you when the Query Batch is completed.
- 27 From the Server Management section on the CM media, go to Configuration Baseline\SQL Databases\SQL Server\2000 and select **Step_2_Create_StaticTables.sql**.
- 28 Click **Open**.

- 29 From the Query menu, select **Execute**. The status bar will tell you when the Query Batch is completed.
- 30 From the Server Management section on the CM media, go to `Configuration Baseline\SQL Databases\SQL Server\2000` and select **Step_3_Create_Views.sql**.
- 31 Click **Open**.
- 32 From the Query menu, select **Execute**. The status bar will tell you when the Query Batch is completed.
- 33 From the Server Management section of the CM media, go to `Configuration Baseline\SQL Databases\SQL Server\2000` and select **Device Creation Script.sql**, which is used to enable the CM Reporting Server.
- 34 Click **Open**.
- 35 From the Query menu, select **Execute**. The status bar will tell you when the Query Batch is completed.
- 36 Close the Analyzer and SQL Enterprise Manager.

Task 3 Installing the Configuration Baseline Importer

The Configuration Baseline Importer component reads the XML files and imports them into a SQL database.

To install the Configuration Baseline Importer

- 1 From the Server Management section of the CM media, go to `\Configuration Baseline\Importer` and double-click `setup_for_sqlserver.cmd`.

First, the HP OpenView common components will be installed. These components are a pre-requisite for the Configuration Baseline Importer and provide secure communication and control, configuration, and installation of other components. They also install a local java runtime that is necessary for the HP OpenView environment.

The Welcome to the Installer for HP OpenView Cross Platform Component window opens.



The interface for the HP OpenView Cross Platform Component window opens only if you have not previously installed the HP OpenView common components on the machine. If the components are already installed, you will see several progress bars and when they are done, skip to step 6.

2 Click **Next**.

The End User License Agreement window opens.

3 Select whether you accept the terms of the agreement or not and then click **Next**. If you do not accept the terms, the installation will be terminated.

The Destination folder window opens.

4 Accept the defaults or click **Change** to change the installation directories. Then, click **Next**.

The Ready to Install the Program window opens.

5 Click **Install**.

6 Click **Finish** when the HP OpenView Cross Platform component installation is complete. You will see several progress bars appear while the rest of the components are installed.

When they are done, the Welcome to the Configuration Baseline Importer Setup window opens.

7 Click **Next**.

The End User License Agreement window opens.

8 Click **Next**.

The SQL Server host name or IP address window opens.

9 Type the hostname or IP address for your SQL Server and then click **Next**.

The Enter the SQL Server port number window opens.

10 Type the port number for your SQL Server (typical default is 1433) and then click **Next**.

The Configuration Baseline Auditor database name window opens.

11 Type the name of your CBA database that you created on your SQL Server and then click **Next**.

The User ID window opens.

- 12 Type the User ID that you set up in your CBA database that you created on your SQL Server and then click **Next**.

Note that the User ID "sa" is the default SQL server system administrator account.

The Password window opens.

- 13 Type password that you set up in your Configuration Baseline Auditor database that you created on your SQL Server and then click **Next**.

The Wait time window opens.

- 14 Type the maximum time, in seconds, to wait before polling the CM Integration Server for new files to be imported to the SQL Server Database and then click **Next**.

The Archive option window opens.

- 15 Select whether you would like to have the compressed XML files that have been imported successfully stored in an archive directory. See [Table 1](#) on page 29 for where these files are stored.

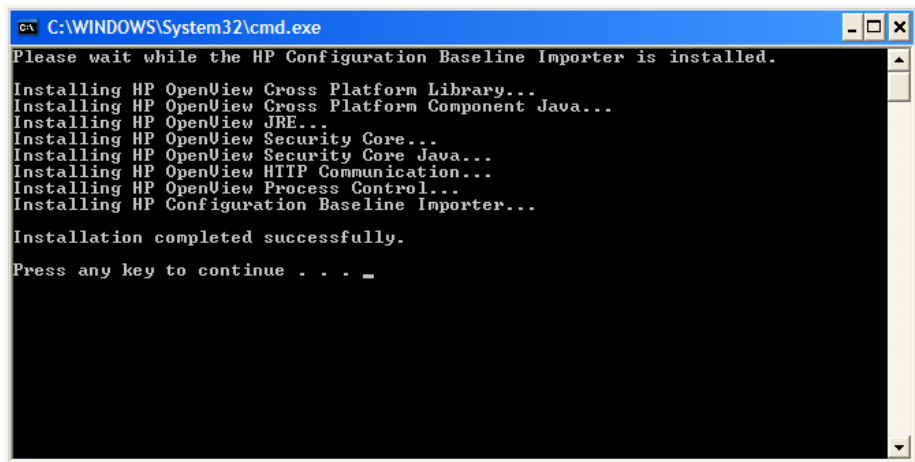
The Ready to Install window opens.

- 16 Click **Install**.

Several command windows will open and close.

- 17 Click **Finish** to complete the installation.

The final command window opens.



```
C:\WINDOWS\System32\cmd.exe
Please wait while the HP Configuration Baseline Importer is installed.
Installing HP OpenView Cross Platform Library...
Installing HP OpenView Cross Platform Component Java...
Installing HP OpenView JRE...
Installing HP OpenView Security Core...
Installing HP OpenView Security Core Java...
Installing HP OpenView HTTP Communication...
Installing HP OpenView Process Control...
Installing HP Configuration Baseline Importer...

Installation completed successfully.
Press any key to continue . . . _
```

- 18 Press any key to continue. This completes the installation for the Configuration Baseline Importer.

Modifying Configuration Baseline Importer Values after Installation

In some cases, you may need to modify the values that you set during the installation of the Configuration Baseline Importer.

▶ The defaults are listed in `path\cbainport.ini`. *Do not make changes directly to this file* If you do so, the changes will not be stored properly.

- To change Configuration Baseline Importer installation information, open a command prompt and type:

```
ovconfchg -ns cbainport -set keyname value
```

▶ If there are spaces in the value, type the value with quotes (“ ”). For example, if you want to change the value for `input_data_path`, the command line would read as follows:

```
ovconfchg -ns cbainport -set input_data_path  
"D:\IntegrationServer\etc\cba\CBA_Import"
```

- If you make a mistake and want to set a value back to its default, type

```
ovconfchg -ns cbainport -clear keyname
```

- If you want to set all values back to their defaults, type

```
ovconfchg -ns cbainport -clear -all
```

- If you want to see all of the non-default values, type

```
ovconfchg -edit
```

The keys and values that you may change are listed in the table below.

Table 1 Configuration Baseline Importer keys and values

Key	Default value	Description
db_name	HPOV_CBA	The name of the Configuration Baseline Auditor database created on the SQL Server.
host_ip	Localhost	The host name or IP address for the SQL Server.
port	1433	The port number for the SQL Server.

Key	Default value	Description
username	Sa	The User ID for the Configuration Baseline Auditor database created on the SQL Server.
error_data_path	<i>SystemDrive:</i> /HP OpenView/data/ datafiles/cba /import/error	The path where collected data will be stored if it cannot be imported into the Configuration Baseline Auditor database.
input_data_path	<i>SystemDrive:</i> /HP OpenView/data/dataf iles/cba/import	The path where the Configuration Baseline Importer looks for data to import into the Configuration Baseline Auditor database. Note: This directory should be the same as the directory specified earlier in <code>put.cfg</code> .
archiving	Default value is whatever was chosen during the installation.	This indicates whether you want to archive collected data or not. Set this key to True or False.
archive_data_path	<i>SystemDrive:</i> /HP OpenView/data/dataf iles/cba/import/arc hive	The path where collected data will be stored after it is successfully imported into the Configuration Baseline Auditor database if Archiving is set to TRUE. Note: Do not move any files from the <code>archive_data_path</code> directory to the <code>input_data_path</code> directory with the intention of re-importing the information. If a file is in the archive directory, it has already been successfully imported to the database.

Key	Default value	Description
pause_time	60	The time the Configuration Baseline Importer waits, in seconds, before checking to see if there is new data to import.

After making the changes, you must perform the following steps to ensure the changes get picked up.

- 1 Run `ovc -stop cbaimport`.
- 2 Run `ovc -start cbaimport`. For further information on the `ovc` command, see *SystemDrive:\Program Files\HP OpenView\help\en\ov_java\control\control\html*.



If you want to confirm that the Configuration Baseline Importer is running, type `ovc -status`.

Changing your Configuration Baseline Auditor Database Password

If necessary, you can change the password that you set up during the initial configuration in your Configuration Baseline Auditor Database that you created on your SQL Server.

To change your password

- 1 Go to *SystemDrive:\Program Files\HP Openview\bin* and double-click **cbaimport_chgpwd.bat**.
- 2 When prompted, type the new password and press **Enter**.
- 3 Run `ovc -stop cbaimport`.
- 4 Run `ovc -start cbaimport`. For further information on the `ovc` command, see *SystemDrive:\Program Files\HP OpenView\help\en\ov_java\control\control\html*.

Task 4 Installing the Configuration Baseline Auditor

Use the CBA to compare different states within a subsystem.

To install the Configuration Baseline Auditor

- 1 From the Server Management section of the CM media, go to `\Configuration Baseline\auditor` and double-click **setup_for_sqlserver.cmd**.

First, the HP OpenView common components will be installed. These components are a pre-requisite for the Configuration Baseline Importer and provide secure communication and control, configuration, and installation of other components. They also install a local java runtime that is necessary for the HP OpenView environment.

The Welcome to the Installer for HP OpenView Cross Platform Component window opens.



The interface for the HP OpenView Cross Platform Component window opens only if you have not previously installed the HP OpenView common components on the machine. If the components are already installed, you will see several progress bars which will perform additional installations to the same directory used previously. When they are done, skip to step 6.

- 2 Click **Next**.

The End User License Agreement window opens.

- 3 Select whether you accept the terms of the agreement or not and then click **Next**. If you do not accept the terms, the installation will be terminated.

The Destination folder window opens.

- 4 Accept the defaults or click **Change** to change the installation directories. Then, click **Next**.

The Ready to Install the Program window opens.

- 5 Click **Install**.

- 6 Click **Finish** when the HP OpenView Cross Platform component installation is complete. You will see several progress bars appear while the rest of the components are installed.

When they are done, the Welcome to the Configuration Baseline Auditor Setup window opens.

- 7 Click **Next**.

The End User License Agreement window opens.

- 8 Click **Next**.

The Launch the Configuration Baseline Auditor window opens.

- 9 Click the checkbox if you would like to launch the CBA.



If you do not have any data imported into your CBA database, you will receive an error message “Could not retrieve data from the database”. Close the CBA and see the remaining chapters in this book to create a subsystem and capture data.

- 10 Click **Next**.

The Install window opens.

- 11 Click **Install**.

- 12 Click **Finish** to exit the Setup Wizard.

- 13 When prompted to restart your machine, click **Yes**.

- 14 When the machine reboots, go to **Start → Administrative Tools → Services** and start the **HP OpenView Ctrl service**.

- 15 Change the Startup Type for the HP OpenView Ctrl service to automatic.

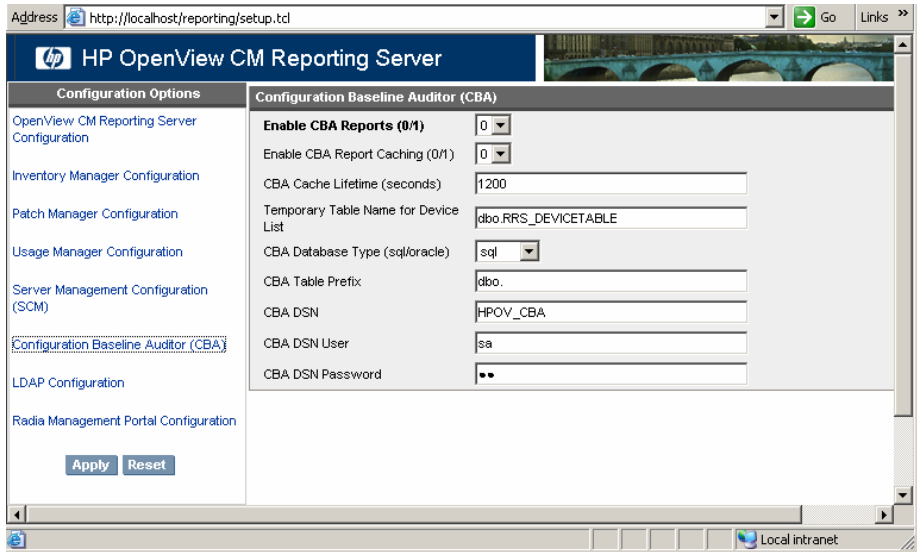
Task 5 Configuring the CM Reporting Server

The CM Reporting Server has been enhanced to enable reporting against your CBA SQL database to provide summary reports of CBA data.

To enable CBA Reporting

- 1 Open a Web browser and type the address **http://ip_address/reporting/setup.tcl** and press **Enter** on your keyboard.

This launches the interface for configuring the CM Reporting Server.



- 2 In Configuration Options, click **Configuration Baseline Auditing** and then review the following options.

Table 2 Configuration Options for the CM Reporting Server

Option	Description	Defaults
Enable Configuration Baseline Auditing Reports	Set this option to 1 to enable reporting or to 0 to disable reporting.	1
Enable CBA Caching	Set this option to 1 to enable caching or to 0 to disable caching. Caching stores the report information to the CM Reporting Server so it can be retrieved locally instead of retrieving the information from the database.	0
CBA Cache Lifetime (in seconds)	Defines how long to keep cached information on the CM Reporting Server before purging it and retrieving subsequent requests from the database.	1200 (20 minutes)

Option	Description	Defaults
Temporary Table Name for Device List	This is an internal CM Reporting Server requirement.	Dbo.RRS_DEVICETABLE is the default. Typically, this is not modified.
CBA Database Type	Sql is for Microsoft SQL Server and is currently the only option.	SQL
CBA Table Prefix	Owner name of the CBA database.	dbo
CBA DSN	ODBC Data Set Name.	HPOV_CBA
CBA DSN User	ODBC Data Set Name User ID	Sa
CBA DSN Password	ODBC Data Set password. Note: This password will be encrypted by the CM Reporting Server.	sa

3 Click **Apply**.

Enabling the CM Reporting Server Configuration File

You must enable the new CM Reporting Server configuration file, `SystemDrive:\Program Files\Hewlett-Packard\CM\ReportingServer\config.new.tcl`. To do this:

- 1 Close any open CM Reporting Server windows.
- 2 Rename your old configuration file from `config.tcl` to `old_config.tcl` or save it elsewhere.
- 3 Rename `config.new.tcl` to `config.tcl`.
- 4 Launch the CM Reporting Server.

You will learn about how to define subsystems, collect data and compare states in the next chapters.

3 Defining Subsystems

At the end of this chapter, you will:

- Be able to define subsystems.

The key to successful implementation of the Configuration Baseline Auditor (CBA) is to properly define subsystems. Remember, a subsystem is a logical group of resources (files and registry settings) for which you define scan filters to determine what information will be captured. When defining a subsystem, you need to:

- 1 Specify the subsystems to track in your environment. Subsystems should be associated with a well-known set of resources. Typically, this is an application or service. In some cases, it might be a common infrastructure component such as a Java runtime engine.
- 2 Determine the resources to be included or excluded from a subsystem. Common techniques for determining resources are to examine installation program metadata and scan for differences after an application has been installed.
- 3 Determine the attributes to monitor for changes.
 - Resources such as executable files should be scanned for changes in size, CRC and MD5 signatures. MD5 signatures for Windows executables are always generated, but MD5 generation is optional for non-executable files.
 - Data files that routinely change as part of normal processing should be excluded from a subsystem, or at least be defined to ignore their volatile attributes.
 - Permission attributes should be monitored for protected resources.


Use the BASELINE Domain in the CM Admin CSDB Editor to define subsystems.

Example: Creating and Configuring a Subsystem

This section provides a simple example of how to create and configure a subsystem. See [About the Baseline Domain](#) on page 63 for more information about the BASELINE Domain.

In this example, we will create a subsystem called Microsoft SQL Server 2000 that uses file and registry filters. File filters define the specific files that you want to scan in the subsystem. Registry filters define specific registry keys to scan.

Note that to use this example, you must have Microsoft SQL Server 2000 installed. If you do not have Microsoft SQL Server 2000, you can choose an application that is on your machine and define filters that match that application.

 The steps below assume knowledge of how to use the CM Admin CSDB Editor. If you are not familiar with this tool, please refer to the *HP OpenView Configuration Management Administrator Configuration Server Database Editor Guide (CM CSDB Editor Guide)* for details about how to use this tool.

Creating a Subsystem

Task 1 Specify Collection Options

Collection options define the type of collection to be performed and when. Types of collections include full, differential or none. The collection is performed during a CM agent connect.

- 1 Open the CM Admin CSDB Editor.
- 2 Go to **PRIMARY.BASELINE.BASECOLL**.
- 3 Open the **Default Collection Options** instance.
- 4 Open the **COLLURL** attribute and modify it to point to your CM Integration Server. For example:

```
http://your_server_IP_address:port_number/CBA_Import/
```

becomes

```
http://192.168.1.1:3466/CBA_Import/
```
- 5 For this example, do not change any of the other default options.

- 6 Click **OK** and **Yes** to confirm your changes.

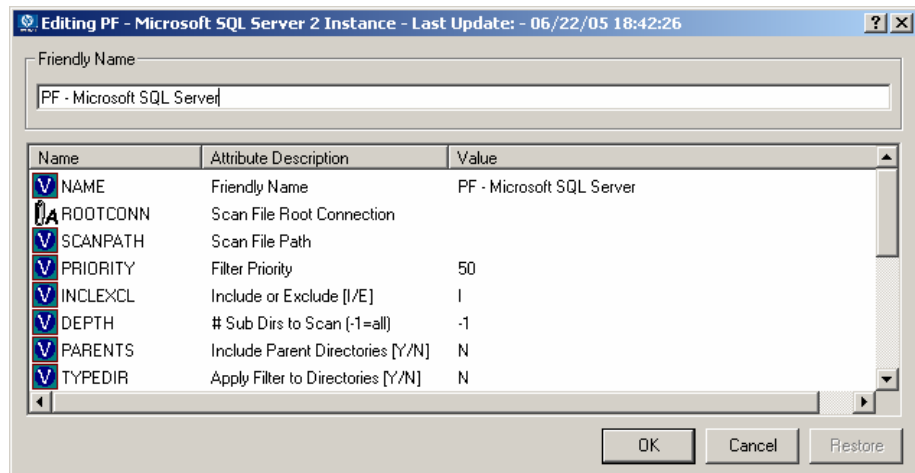
Task 2 Create a package and specify the file and registry filters

- 1 If necessary, open the CM Admin CSDB Editor.
- 2 Go to **PRIMARY.BASELINE.PACKAGE**.
- 3 Create a new package instance. In our example, we will name the package **MS_SQLSERVER_2000**.
- 4 Click **OK**.
- 5 Right-click the new package and select **Add Components**.

The Add Components window opens.

- 7 From the Available Components drop-down menu, select **File Filters**.
- 8 In the New Component Name text box, type the friendly name for the directory containing the files that you want to capture. For example, you might type **PF – Microsoft SQL Server** to indicate that you want to capture the files from Program Files\Microsoft SQL Server.
- 9 Click **Add + Edit**.

The Edit Class window opens.



- 10 You have two options for defining the path contents.

- You can use the logical folder settings that are predefined in the **BASELINE** Domain in the **FILEROOT** Class. If this option is chosen, the path name defined in the **SCANPATH** attribute is appended to this **FILEROOT** chosen to form a fully qualified path name.

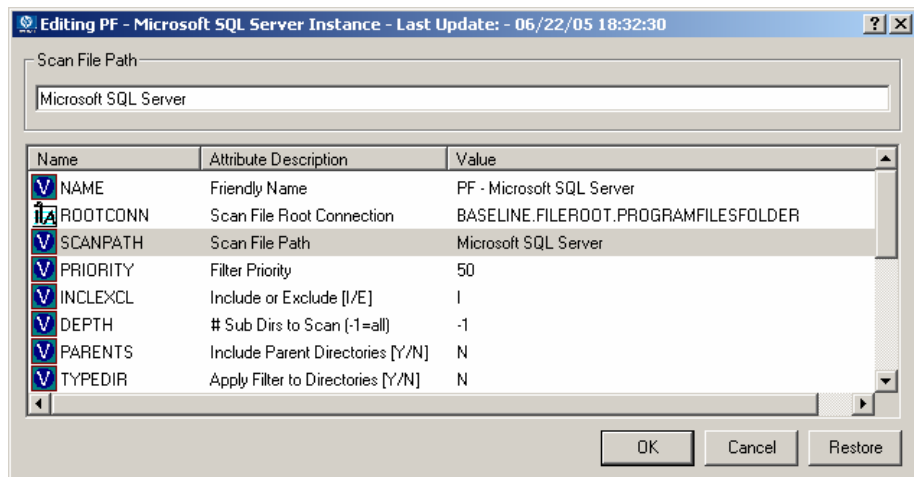
- You may also choose to use define the SCANPATH attribute as a fully qualified name (i.e., C:\Program Files\Microsoft SQL Server). When using the ROOTCONN option, connect the appropriate logical folder instance (in the FILEROOT Class) to the package.



You may need to review the instances in the BASELINE.FILEROOT Class to determine what the appropriate instance is for your needs.

- 11 For this example, go to the **ROOTCONN** attribute and type the connection to the logical folder, such as

BASELINE . FILEROOT . PROGRAMFILESFOLDER.



- 12 When a ROOTCONN is defined, set the SCANPATH attribute to the folder where the files that you want to scan are stored. If you opened Windows Explorer, typically Microsoft SQL Server files are stored in C:\Program Files\Microsoft SQL Server. Therefore, in this example, you would type **Microsoft SQL Server**.



Do not specify the full path (C:\Program Files) since you connected this instance to a logical folder to define where the folder can be found on a particular device.

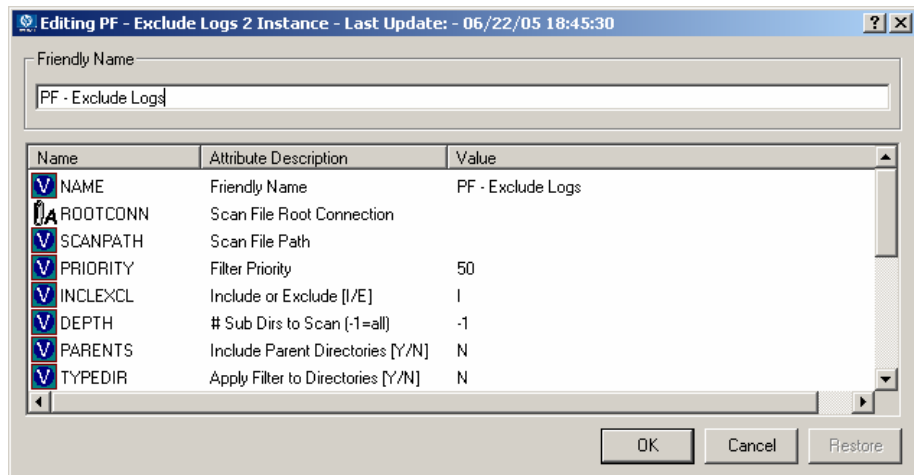
You may also choose to use define the SCANPATH attribute as a fully qualified name (i.e., C:\Program Files\Microsoft SQL Server) and leave the ROOTCONN attribute empty.

- 13 Click **OK**.
- 14 Click **Yes** to save your changes.

The Add Components dialog box opens again.

- 15 From the Available Components drop-down menu, select **File Filters**.
- 16 In the New Component Name text box, type the friendly name for the directory containing the files that you want to capture. For example, you might type **PF - Exclude Logs** to indicate that you do not want to capture log files from the logs directory in Program Files\Microsoft SQL Server.
- 17 Click **Add + Edit**.

The Edit Class window opens.

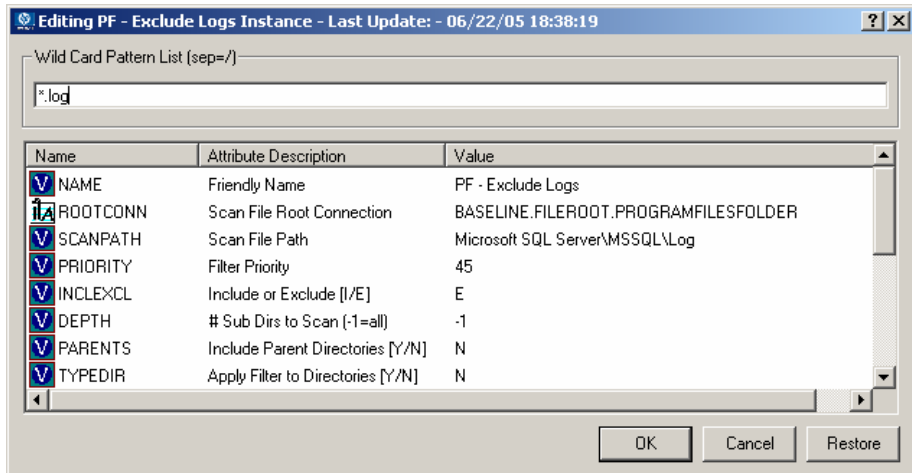


- 18 Connect the appropriate logical folder instance (in the **FILEROOT** Class) to the package.



You may need to review the instances in the **BASELINE.FILEROOT** Class to determine what the appropriate instance is for your needs.

- 19 For this example, go to the **ROOTCONN** attribute and type the connection to the logical folder, such as **BASELINE . FILEROOT . PROGRAMFILESFOLDER**.



- 20 When a ROOTCONN is defined, set the SCANPATH attribute to the folder where the files that you want to scan are stored. If you opened Windows Explorer, typically Microsoft SQL Server files are stored in C:\Program Files\Microsoft SQL Server\MSSQL\LOG. Therefore, in this example, you would type **Microsoft SQL Server\MSSQL\LOG**.



Do not specify the full path (C:\Program Files) since you connected this instance to a logical folder to define where the folder can be found on a particular device.

You may also choose to use define the SCANPATH attribute as a fully qualified name (i.e., C:\Program Files\Microsoft SQL Server\MSSQL\LOG) and leave the ROOTCONN attribute empty.

- 21 Set the INCLEXCL attribute to E to exclude the logs from the scan.
- 22 Change the PRIORITY from the default of 50 to a higher priority, such as 45.
- 23 Set the WILDCARD attribute to *.log to ensure that all logs with the .log extension will be excluded.
- 24 Click **OK**.
- 25 Click **Yes** to save your changes.
- The Add Components dialog box opens again.
- 26 From the Available Components drop-down list box, select **Registry Filters**.
- 27 In the New Component Name text box, type a friendly name for the registry filter such as **HKLM - Microsoft SQL Server**.

28 Click **Add + Edit**.

The Editing HKLM – Microsoft SQL Server window opens.

29 Set the SCANPATH attribute to the path to be scanned in the registry editor, such as Software\Microsoft\Microsoft SQL Server.

30 Click **OK**.

31 Click **Yes** to save your changes. The Add Components window opens again.

32 Click **Done**.

You have created a package that contains three filters—two for files and one for registry keys.

Task 6 Create a periodic timer

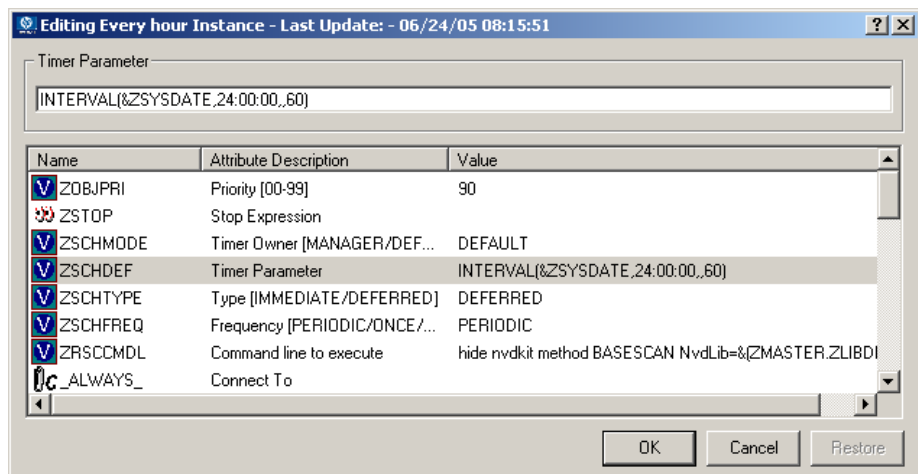
1 If necessary, open the CM Admin CSDB Editor.

2 Go to PRIMARY.BASELINE.TIMER.

3 Create a new timer instance that will run every hour starting at midnight. In our example, we will name the timer **EVERY_HOUR**.

4 Click **OK**.

5 Open the new instance and change the ZSCHDEF attribute to reflect an interval baseline scan occurring every hour. Set the ZSCHDEF attribute to **INTERVAL (&ZSYSDATE, 24 : 00 : 00 , , 60)** to indicate that this timer should expire every 60 minutes starting at midnight.



6 Click **OK** and then **Yes** to confirm the changes.

Task 7 Create a service

- 1 Create a new BASELINE.ZSERVICE instance called Microsoft SQL Server 2000.
- 2 Click **OK**.
- 3 Drag your Microsoft SQL Server 2000 package and drop it on the new ZSERVICE instance.
- 4 In the Select Connection Attribute dialog box, click **Copy**.
- 5 Click **Yes** to confirm that you want to make the connection. Then, click **OK**.
- 6 Drag your Every Hour timer and drop it on the new ZSERVICE instance.
- 7 In the Select Connection Attribute dialog box, click **Copy**.
- 8 Click **Yes** to confirm that you want to make the connection. Then, click **OK**.

In most cases, subsystems will be managed as mandatory services through the CM Application Manager. Open the Microsoft SQL Server ZSERVICE and change the following attributes:

— **ZSVCNAME = Baseline - SQLServer2000**

Modify this attribute because this is what appears as the service definition in the SQL database service name and the CM Application Self-service Manager catalog.

— **DESCRIPT = Microsoft SQLServer 2000**

This will be the subsystem description that will be stored as the subsystem name in the SQL Database and displayed in the CBA.

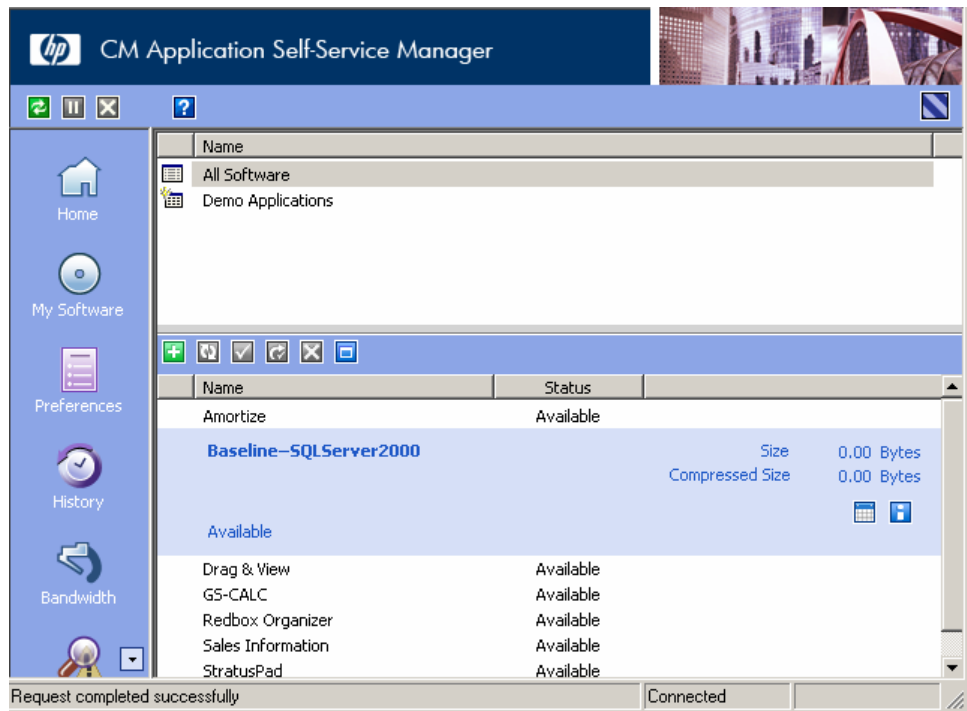
- 9 Click **OK**.
- 10 Click **Yes**.
- 11 Now that your service is configured, you must connect it to a policy instance. For this example, go to **PRIMARY.POLICY.WORKGROUPS**.
- 12 Drag the Microsoft SQL Server 2000 ZSERVICE instance to the Default workgroup. Click **Copy** and then click **Yes** to confirm the connection.
- 13 Click **OK**.


Task 8 Run a CM agent connect to initiate a scan

Now that your subsystem is configured, the next time a CM agent connect or a timer expires and runs, the scan will be performed.

For unit testing purposes, you may want to use the CM Application Self-service Manager agent. To do so, set ZSVCTTYP to S and ZSVCMO to O so the service will appear in the CM Application Self-service Manager catalog. Refer to the *CM Application Self-service Manager Guide* for more information.

In this example, we have set up our subsystem to appear in the CM Application Self-service Manager catalog.



- 1 Notice Baseline SQLServer2000 in the catalog.
- 2 Click **Baseline SQLServer2000**, and then click the **Install**  button.
- 3 The Baseline scanner runs a scan based on the subsystem you defined.
- 4 When the scan is complete, the status bar will say "Request completed successfully".



If you would like to perform a simple test, you can go into the *SystemDrive:\Program Files\Microsoft SQL Server* folder and make changes (add, remove or modify) to the files or directories.

Use the CM Admin CSDB Editor to make sure that the VERMODE attribute in the Collection Options (BASECOLL) instance is set to D.

Then, select **Baseline – SQLServer2000** again, and click **Verify** which is set to perform a differential scan by default.

4 Viewing the Results

At the end of this chapter, you will:

- Be able to use the Configuration Baseline Auditor (CBA) to view and compare the information collected.
- Be able to use the CM Reporting Server to review summary reports of CBA data.

There are two ways to review the results of scans performed with the Configuration Baseline Auditor (CBA)—using the CBA or the CM Reporting Server.

- Use the CBA to view the results of your scheduled scans and select the subsystems that you want to compare. The CBA is Java-based and runs in a server/administrator environment.

Use the CBA to view and compare detailed information collected with each scan.

- The CM Reporting Server allows reporting against your CBA SQL database to provide summary reports of CBA data.

Use the CM Reporting Server when you need summary information about which servers and subsystems are under management and to see when the latest collections have occurred for these subsystems.

Subsystems

These are the subsystems that you have defined. Expand a subsystem to view the states captured for the subsystem.

A baseline is a state that you select as the standard against which you want to compare other states for the subsystem. A state is set as the baseline by selecting it first, or by right-clicking any state and selecting **Set as Baseline State**. Baselines are shown in bold.



Expand all subsystems.



Collapse all subsystems.



Toggle between View by Subsystem and View by Node.



Refresh.



Compare selected states.

File System Browser/Registry Browser

This browser allows you to view the files or registry entries that have been scanned.



Expand all.



Collapse all.



Show details for selected items.

Comparison Details

This area allows you to compare the attributes for the states you selected.



Expand all.



Collapse all.



Export report as CSV, HTML or XML.



Enable or disable autofit for columns.



Hide/show missing items.



Hide/show different items.



Hide/show added items.



Hide/show identical items.

Menu Bar

- Go to **File** and select **Connection** to connect to another SQL database.
 - Go to **File** and select **Exit** to close the Configuration Baseline Auditor.
 - Go to **Tools** and select **Options** to set the default filters that will be in effect when performing a new comparison.
- ▶ You can also perform many tasks in the interface via pop-up menus. Right-click within the interface to become familiar with the tasks that may be performed this way.

Using the Configuration Baseline Auditor Interface

One of the most general uses of the CBA is to set up a reference machine and capture the baseline of a subsystem. Then, you can check to see if subsystems on other machines in your environment match the baseline, or if there are differences in the configuration.

As you learned in the introduction to the interface, the left side of the interface displays subsystem definitions. Beneath each subsystem is a state that has been captured. You can select one or more states to review the details of the capture and, if you've selected more than one state, make comparisons.

Use the filters available in the Comparison Details window to limit the scope of the comparison. For example, you can limit the scope so that you can view

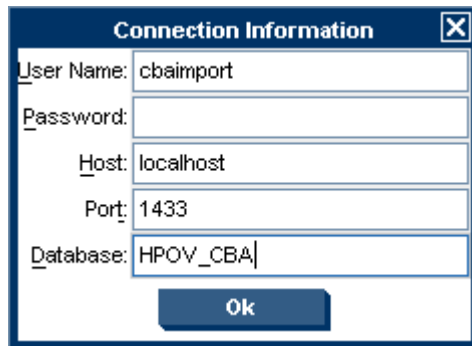
only items that have been added. If you expand the components, you can see the attributes. Finally, you can export the displayed information to a CSV, XML or HTML file.

In the example below, we assume that you ran a full scan of your Microsoft SQL Server 2000 subsystem. Imagine that we later installed Service Pack 3a for Microsoft SQL Server 2000 and ran another scan. The steps below will show you how to compare the states of the subsystem to see how the subsystem has changed.

To compare states

- 1 From the Start menu, go to **HP Configuration Baseline Auditor** → **Configuration Baseline Auditor**.

The Connection Information dialog box opens.

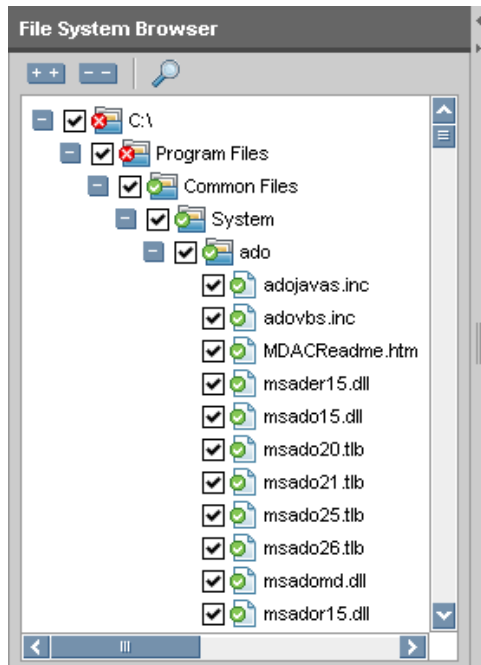



The screenshot shows a dialog box titled "Connection Information" with a close button in the top right corner. It contains five text input fields: "User Name" (containing "cbaimport"), "Password" (empty), "Host" (containing "localhost"), "Port" (containing "1433"), and "Database" (containing "HPOV_CBA"). An "Ok" button is located at the bottom center of the dialog box.

- 2 In the User Name text box, type your user name for the SQL database.
- 3 In the Password text box, type the password for the SQL database.
- 4 In the Host text box, type the location of the SQL database.
- 5 In the Port text box, type the port for the SQL database.
- 6 In the Database text box, type the name of the SQL database.
- 7 Click **OK**.

The Configuration Baseline Auditor window opens.


- 8 In the Subsystems area, select the subsystems or nodes that you want to compare. Remember, you can toggle between subsystems and nodes.
- 9 Specify a baseline. A state is set as the baseline by selecting it first, or by right-clicking any state and selecting **Set as Baseline State**. Baselines are shown in bold.



- 12 Click  show details for selected items.

The Comparison Details area is populated.

- 13 Use the buttons available to filter the items to review. For example, you can hide identical items, but show missing, different, or added items. In this example, we hid everything except for missing items.

Comparison Details		
		
File System Components	demock01 Microsoft SQLServer 2000 2005-06-05 21:43:51.0	demock01 Microsoft SQLServer 2000 2005-06-05 21:58:26.0
C:\Program Files\Microsoft SQ...		

- 14 Click to plus sign to expand the items listed in the File System or Registry Components column for detailed information.

Comparison Details		
File System Components	demockt01 Microsoft SQL Server 2000 2005-06-05 21:43:51.0	demockt01 Microsoft SQL Server 2000 2005-06-05 21:58:26.0
C:\Program Files\Microsoft SQL...	✓	✗
File Name	XPADSI.EXE	----
Physical Root	C:\	----
Physical Path	Program Files\Microsoft SQL Server\M...	----
Logical Root	ProgramFilesFolder\	----
Logical Path	Microsoft SQL Server\MSSQL\Binn	----
Product Version	8.0.1.94	----
Vendor	Microsoft Corporation	----
File MD5	883EA23715CD1C79E75BFD5EA8C6E...	----
File dateTime	2000-08-06 08:50:34.0	----
Product	Microsoft SQL Server	----
File Size	65600	----
File Version	2000.80.194.0	----

Notice that the file `XPADSI.EXE` existed in the original Microsoft SQL Server scan. However, when Service Pack 3a was installed, this file was removed and this difference is shown in the later scan.

To remove devices or subsystems from the database

You can right-click on a device or subsystem to remove the information from the SQL database.

▶ The delete option is available only if you are using the View by Node option in the Subsystems pane on the left. If you are using the View by Subsystem option, you can not delete items.

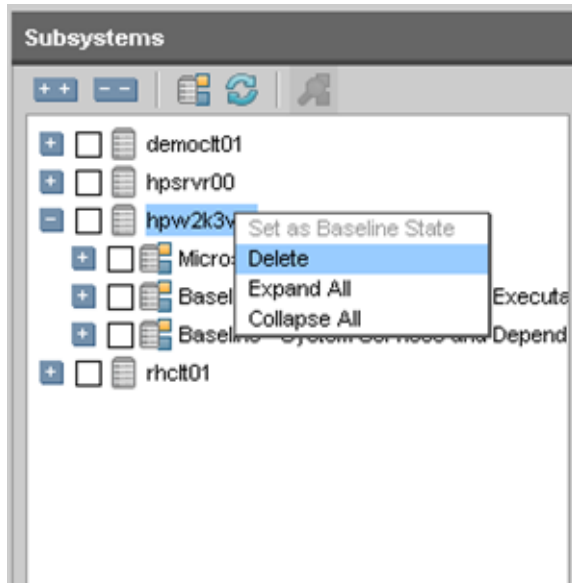
When a device is deleted, the device, all subsystems associated with the device, and all states associated with all subsystems are marked for permanent deletion from the SQL database.

When a subsystem is deleted, the subsystem associated with the specific device, and all states associated with the specific subsystem are marked for permanent deletion from the SQL database. The device will not be deleted.

The Configuration Baseline Auditor interface will no longer display the items selected for permanent deletion.

To delete a device

- 1 In the Subsystems pane, right-click a device and select **Delete**.

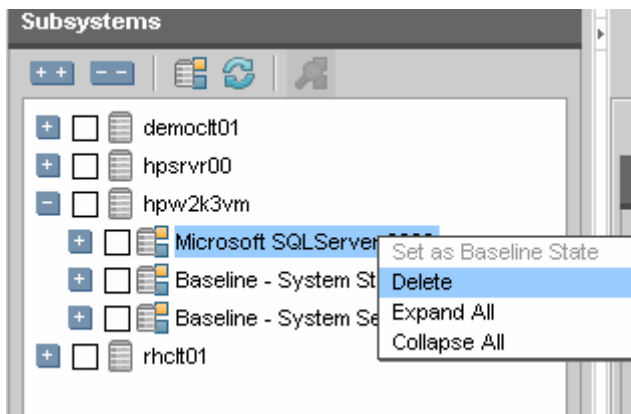


A confirmation dialog box opens.

- 2 Click **Yes** to delete the device and all related subsystem data from the SQL database. Click **No** to cancel the request.

To delete a subsystem and all associated states

- 1 In the Subsystems pane, right-click the subsystem to be deleted and select **Delete**.



A confirmation dialog box opens.

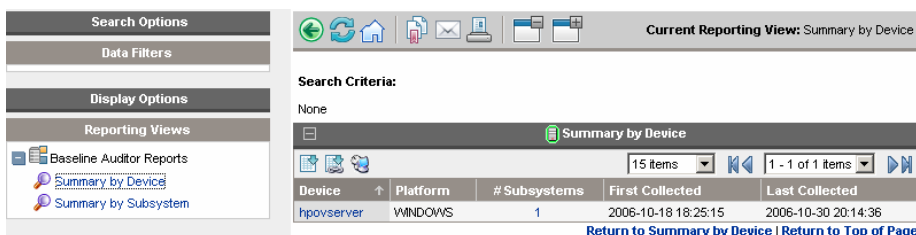
- 2 Click **Yes** to delete the subsystem and all related state data from the SQL database. Click **No** to cancel the request.

Generating Configuration Baseline Auditor Reports

To generate Configuration Baseline Auditor Reports

- 1 In your Web browser session, type the address `http://ip_address/reporting/` to launch the CM Reporting Server home page. If enabled, Baseline Auditor Reports will be available in the Reporting Views pane.
- 2 Click **Baseline Auditor Reports** to see two reporting options.
 - Summary by Device
 - Summary by Subsystem

In the image below, you can see a Summary by Device report.

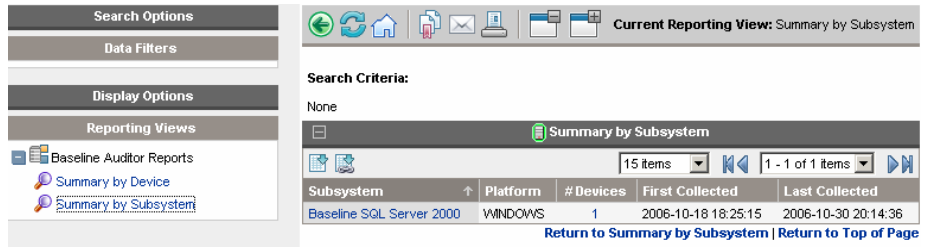


This report provides the following information.

Table 3 Summary by Device Report

Column Name	Description
Device	Click the device name to display a list of the subsystems that exist in the database for this device.
Platform	Describes the operating system platform.
# Subsystems	The number of unique subsystems in the SQL database for each device. Click on the number to show the subsystem information for this device. This is displayed in the Summary by Device, by Subsystem report.
First Collected	The first date/time that data was collected for any of the subsystem scans for the device.
Last Collected	The last date/time that data was collected for any of the subsystem scans for the device.

In the image below, you can see a Summary by Subsystem report.



This report provides the following information.

Table 4 Summary by Subsystem Report

Column Name	Description
Subsystem	Click the subsystem name to display a list of the devices that exist in the SQL database for this subsystem.
Platform	Describes the operating system platform.
# Devices	The number of unique devices in the SQL database for a subsystem. Click the number to show the names of the devices associated with a subsystem. This is displayed in the Summary by Subsystem, by Device report.
First Collected	The first date/time that data was collected for any of the subsystem scans for all devices.
Last Collected	The last date/time that data was collected for any of the subsystem scans for all devices.

The Summary by Subsystem, by Device report shows the number of states associated with a specific device for a specific subsystem. Click the # States column to see detailed state information.

Search Options

Data Filters

Display Options

Reporting Views

- Baseline Auditor Reports
- Summary by Device
- Summary by Subsystem

Current Reporting View: Summary by Subsystem, by Device

Search Criteria:

Report Specific Filters

- Platform Name (WINDOWS)
- Subsystem Name (Baseline SQL Server 2000)

Summary by Subsystem

15 items | 1 - 1 of 1 items

Subsystem	Platform	# Devices	First Collected	Last Collected
Baseline SQL Server 2000	WINDOWS	1	2006-10-18 18:25:15	2006-10-30 20:14:36

[Return to Summary by Subsystem](#) | [Return to Top of Page](#)

Summary by Subsystem, by Device

15 items | 1 - 1 of 1 items

Subsystem	Device	# States	First Collected	Last Collected
Baseline SQL Server 2000	hpovserver	4	2006-10-18 18:25:15	2006-10-30 20:14:36

[Return to Summary by Subsystem, by Device](#) | [Return to Top of Page](#)

The Summary by Subsystem, by State report shows further detail for each State.

Search Options

Data Filters

Display Options

Reporting Views

- Baseline Auditor Reports
- Summary by Device
- Summary by Subsystem

Current Reporting View: Summary by Subsystem, by State

Search Criteria:

Device Filters

- Device Name (hpovserver)

Report Specific Filters

- Platform Name (WINDOWS)
- Subsystem Name (Baseline SQL Server 2000)

Summary by Subsystem, by State

15 items | 1 - 4 of 4 items

Subsystem	State Description	File Data	Registry Data	Snapshot Date
Baseline SQL Server 2000	2006-10-30 15:56:06.0	Yes	Yes	2006-10-30 20:14:36
Baseline SQL Server 2000	2006-10-30 20:14:36.0	Yes	Yes	2006-10-30 20:14:36
Baseline SQL Server 2000	2006-10-30 15:37:56.0	Yes	No	2006-10-30 15:56:06
Baseline SQL Server 2000	2006-10-18 18:25:15.0	No	No	2006-10-30 15:37:56

[Return to Summary by Subsystem, by State](#) | [Return to Top of Page](#)

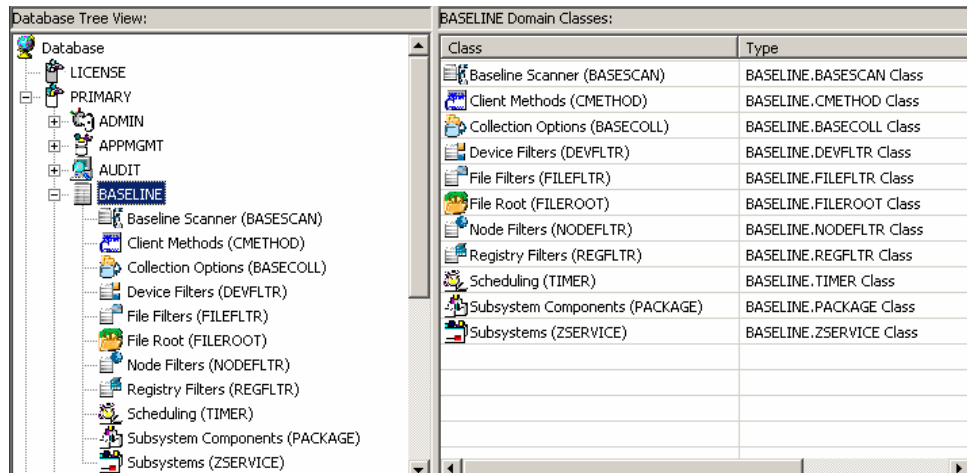
Table 5 Summary by Subsystem, by State report

Column Name	Description
Subsystem	Click the name of the subsystem to display the device names for which subsystem information exists in the database.
State Description	The description assigned to the subsystem during the scan request. It is automatically set to the time/date (GMT) when the scan was started on the target device.
File Data	Indicates whether file system data was captured during the scan.

Column Name	Description
Registry Data	Indicates whether Windows registry data was captured during the scan.
Snapshot Date	The date/time the scan was started.

A About the Baseline Domain

Now that you have configured a subsystem and its collection options, you may want to become more familiar with the BASELINE Domain. This domain contains several standard CM class definitions, as well as several specific definitions associated with the Configuration Baseline Auditor (CBA).



The screenshot shows a 'Database Tree View' on the left and a 'BASELINE Domain Classes' table on the right. The tree view shows a hierarchy starting with 'Database', then 'PRIMARY', 'ADMIN', 'APPMGMT', 'AUDIT', and 'BASELINE'. Under 'BASELINE', there are several classes listed: 'Baseline Scanner (BASESCAN)', 'Client Methods (CMETHOD)', 'Collection Options (BASECOLL)', 'Device Filters (DEVFLTR)', 'File Filters (FILEFLTR)', 'File Root (FILEROOT)', 'Node Filters (NODEFLTR)', 'Registry Filters (REGFLTR)', 'Scheduling (TIMER)', 'Subsystem Components (PACKAGE)', and 'Subsystems (ZSERVICE)'. The table on the right lists these classes and their corresponding types.

Class	Type
Baseline Scanner (BASESCAN)	BASELINE.BASESCAN Class
Client Methods (CMETHOD)	BASELINE.CMETHOD Class
Collection Options (BASECOLL)	BASELINE.BASECOLL Class
Device Filters (DEVFLTR)	BASELINE.DEVFLTR Class
File Filters (FILEFLTR)	BASELINE.FILEFLTR Class
File Root (FILEROOT)	BASELINE.FILEROOT Class
Node Filters (NODEFLTR)	BASELINE.NODEFLTR Class
Registry Filters (REGFLTR)	BASELINE.REGFLTR Class
Scheduling (TIMER)	BASELINE.TIMER Class
Subsystem Components (PACKAGE)	BASELINE.PACKAGE Class
Subsystems (ZSERVICE)	BASELINE.ZSERVICE Class

The standard Configuration Management (CM) classes are:

- Subsystems (ZSERVICE)
- Subsystem Components (PACKAGE)
- Scheduling (TIMER)

The specific definitions associated with the CBA are described in the following sections.

Baseline Scanner (BASESCAN)

The Baseline Scanner Class defines the agent methods of the CBA, which capture subsystem information for a managed server.

This class is for internal use only.



Do not alter the instances in this class.

The Baseline Scanner package (currently file `basescan.tkd`) is distributed with the CM Application Manager installation and is maintained using normal CM agent update procedures through the PRDMAINT Domain.

For more information on configuring agent maintenance refer to the *HP OpenView Configuration Management Configuration Server Database Reference Guide (CM CSDB Reference Guide)*.

Client Methods (CMethod)

This class is for internal use only.



Do not alter the instances in this class.

Collection Options (BASECOLL)

Use this class to define the scope of the collection during a CM agent connect. The collection may be done during an install, verify, update, repair, delete or ad hoc execution. You can select what type of collection to perform, if any.

- **Full (F)**
A full scan is performed and all data gathered by the baseline scanner and its filters is transferred to the CM Integration Server.
- **Differential (D)**
A differential scan is performed and only the data which has changed since the last scan was taken is transferred to the CM Integration Server. If this is the first time that the scan is performed and the collection type is set to Differential, a full scan will be performed. In the future, only the differences will be collected.
- **None (N)**
No scanning is performed.

Table 6 Collection Options (BASECOLL) attributes

Attribute	Description	Default values
NAME	Friendly name.	N/A
INSTMODE	Indicates what type of scan to perform when a service is installed.	F
VERMODE	Indicates what type of scan to perform when a service is verified.	N

Attribute	Description	Default values
UPDMODE	Indicates what type of scan to perform when a service is updated.	D
REPMODE	Indicates what type of scan to perform when a service is repaired.	N
DELMODE	Indicates what type of scan to perform when a service is deleted.	D
EXECMODE	Indicates what type of scan to perform when a service is executed.	D
LOCALDAT	Indicates whether to save a local copy of the data collected (and stored in an XML file).	N
COLLURL	Defines the target URL on the CM Integration Server where the collected XML data files will be stored.	http://your server IP address:port_number/CBA_Import/ <i>You must update this attribute with the IP address and port for your CM Integration Server.</i>

Device Filters (DEVFLTR)

This class is for future use.

File Filters (FILEFLTR)

Use this class to define what specific files should be scanned.

One or more file filters can be connected to a Subsystem (ZSERVICE) instance.

Table 7 FILEFLTR attributes

Attribute	Description	Default values
NAME	Friendly name	N/A

Attribute	Description	Default values
ROOTCONN	Specifies a connection to a logical folder such as PROGRAMFILESFOLDER.	N/A
SCANPATH	Defines the path to scan.	<p>Specifies where the files that you want to scan are stored.</p> <p>If a ROOTCONN attribute is defined, the path name defined in the SCANPATH attribute is appended to associated FILEROOT to form a fully qualified path name. For example, PROGRAMFILESFOLDER\Microsoft SQL Server.</p> <p>You may also choose to use define the SCANPATH attribute as a fully qualified name (i.e., C:\Program Files\Microsoft SQL Server\MSSQL\LOG) and leave the ROOTCONN attribute empty.</p>
PRIORITY	Sets the filter priority; 0 is the highest.	50
INCLEXCL	Specifies the type of filter—whether it includes information or excludes information.	I
DEPTH	Specifies the number of subdirectories to scan. Type -1 to scan all subdirectories.	-1
PARENTS	Specifies whether to include the parent directories in the captured data.	N
TYPEDIR	Indicates whether to apply the filter to directory names.	N

Attribute	Description	Default values
TYPEEXEC	Indicates whether to apply the filter to executable names.	Y
TYPEDATA	Indicates whether to apply the filter to data files (non-executable files).	Y
EXACT	Specifies exact file names to match. Use a forward slash to separate file names if you are specifying more than one.	N/A
WILDCARD	Specifies a wildcard file name pattern to match. Use a forward slash to separate multiple generic names. Use the asterisk (*) or the question mark (?) to identify patterns. For example: ABC???EF.exe/*.dll/*.ocx	*
REGEXP	Enter a regular expression. A regular expression is a string pattern. It can be used to match file and registry name patterns. Configuration Baseline Auditor uses the TCL regular expression parser. <i>Refer to the TCL documentation about regular expression parsing.</i>	N/A
SIZEDATA	Indicates whether to collect file size data during the scan.	Y
TIMEDATA	Indicates whether to collect file time data during the scan.	Y

Attribute	Description	Default values
CRCDATA	Indicates whether to compute a full CRC for the data content during the scan process. A CRC is automatically generated for Windows executables even when this option is set to "N."	N
MD5DATA	Indicates whether to compute a full MD5 signature for the data content during the scan process. An MD5 signature is automatically generated for Windows executables even when this option is set to "N."	N
PERMDATA	Indicates whether to collect file permission and access right data during the scan process.	N

File Root (FILEROOT)

Use this class to define the base location of a file. For example, you can specify a drive such as **C Drive**, or a well known folder location, like **ProgramFilesFolder**.

Node Filters (NODEFLTR)

This class is for future use.

Registry Filters (REGFLTR)

Use this class to identify the registry keys to be scanned.

Table 8 Registry Filters (REGFLTR) attributes

Attribute	Description	Default values
NAME	The friendly name.	_BASE_INSTANCE_
SCANROOT	Indicates where to begin the scan by specifying the root name of the path.	HKLM
SCANPATH	Specifies the pathname where the files that you want to scan are stored. For example, Software\Microsoft\Microsoft SQL Server.	N/A
PRIORITY	Specifies the filter priority. 0 is the highest.	50
INCLEXCL	Specifies whether the filter type is an include or exclude.	I
DEPTH	Specifies the subkey scan depth. Enter a positive integer number or -1 for all subkeys.	-1
PARENTS	Indicates whether to include parent keys in the captured scan data.	N
TYPEKEY	Indicates whether to apply filter to registry key names.	N
TYPEVALU	Indicates whether to apply filter to registry value names.	Y
EXACT	Specifies exact file names to match. Use a forward slash to separate multiple file names.	N/A
WILDCARD	Specifies a wildcard file name pattern to match. Use a forward slash to separate multiple generic names. Use the asterisk (*) or the question mark (?) to identify patterns. For example: VAL????00/VALU*/*VALU	*
REGEXP	Enter a regular expression . A regular expression is a string pattern. It can be used to match file and registry name patterns. Configuration Baseline Auditor uses the TCL regular expression parser. <i>Refer to the TCL documentation about regular expression parsing.</i>	N/A

Attribute	Description	Default values
REGDATA	Indicates whether to collect registry value data information during the scan process.	Y
MAXDATA	Specifies the maximum size of the registry value data information to be collected. Maximum data size c collected is 254 bytes followed by a null.	255
PERMDATA	Indicates whether to collect registry key permission and access right data during the scan process.	N

Subsystem Components (PACKAGE)

Use this class to define the components for the subsystem. When you create an instance, you can specify file filters, registry filters or both.

Subsystems (ZSERVICE)

Use this class to define the service, noting the following.

- The value for the ZSVCNAME attribute is what appears in the CM Application Manager or CM Application Self-service Manager.
- The value for the DESCRIPT attribute is the friendly name used within the CM Configuration Server DB. It is also used to identify the subsystem in the SQL database and when displaying subsystems in the CBA.

B Troubleshooting

To troubleshoot the Configuration Baseline Auditor (CBA), you must first attempt to determine where the problem occurred. Some questions you might ask yourself are:

- **Did you configure your subsystem properly?**
For example, did you update the IP address and port number in COLLURL attribute in the Collection Options to specify the directory on the CM Integration Server to store the collected information?
- **Is the Importer running?**
From a command prompt, run `ovc -status` to see the status of the Importer.
- **Is your agent connect working?**
View the `connect.log` file located in your `SystemDrive:\Program Files\Hewlett-Packard\CM\Agent\Log` directory to view the status of the data capture request.
- **Did you specify the same directory in the `put.cfg` file and in the Configuration Baseline Importer?**
The directory specified in `put.cfg` *must* match the directory where the Configuration Baseline Importer will look for data to import into the SQL Server Database. This directory is set during the installation of the Configuration Baseline Importer.

Logging

You can find the answers to some of this information in more in the following logs:

Table 9 **Logs**

Component	Location of Log
CM Integration Server	<code>SystemDrive:\Program Files\Hewlett-Packard\CM\IntegrationServer\logs</code>

Component	Location of Log
HP OpenView Configuration Baseline Auditor interface and the Importer	<i>SystemDrive</i> :\Program Files\HP Openview\data\log
CM agent connect issues	<i>SystemDrive</i> :\Program Files\Hewlett-Packard\CM\Agent\Log and review the connect.log. Note that it may help to search for the keyword “basescan” to review the actions related to the scan.
ZSERVICE object	<i>SystemDrive</i> :\Program Files\Hewlett-Packard\CM\Agent\Lib\username\radia\software\ZSERVICE\servicename\00000000.000

Increased Logging Details in the CM method.log

You can use the following options to provide detailed debugging information and logging in the *method.log* (stored by default in *SystemDrive*: \program files\Hewlett-Packard\CM\Agent\Log). The *method.log* is created when a timer instance is run.

To use these parameters, go to **BASELINE.TIMER.InstanceName** and open the **ZRSCCMDL** attribute which is set to `hide nvdkit method BASESCAN NvdLib=&(ZMASTER.ZLIBDRV) &(ZMASTER.ZLIBDIR)` by default.

You can use any of the debug options described in the table below as follows:

```
BASESCAN debug option
NvdLib=&(ZMASTER.ZLIBDRV) &(ZMASTER.ZLIBDIR)
```

NVDLIB tells the scanner where the service is installed on the local machine so that the script can run properly.

Table 10 Debug options

Debug options	Description
-debugtree	Debugs <i>SystemDrive</i> :\program files\Hewlett-Packard\CM\Agent
-debugsend	Debugs HTTP send issues

Debug options	Description
-debugobject	Debugs captured object issues
-debugfile	Debugs file scan issues
-debugregistry	Debugs registry scan issues
-debugfilter	Debugs file/registry filter issues if the -debugfile or -debugregistry is turned on.
-debugid	Debugs element id issues
-debugscan	Debugs general scan issues
-debuglogical	Debugs logical name issues

C Product Name Changes

If you have used Radia in the past, and are not yet familiar with the newly rebranded HP terms and product names, Table 11 below will help you identify naming changes that have been applied to the Radia brand.

Table 11 Product Name and Term Changes

New Name/Term	Old Name/Term
CM environment	Radia environment
CM Administrator Configuration Server Database Editor (CM Admin CSDB Editor)	System Explorer for the HP OpenView Administrator Workstation using Radia
CM agent	Radia client
CM Integration Server	Integration Server
CM infrastructure	Radia infrastructure
HP OpenView Configuration Management Configuration Server (CM Configuration Server)	HP OpenView Configuration Server Using Radia (RCS)
HP OpenView Configuration Management Administrator (CM Administrator)	HP OpenView Administrator Workstation using Radia (RAW)
HP OpenView Configuration Management Application Manager (CM Application Manager)	HP OpenView Application Manager client using Radia
HP OpenView Configuration Management Application Self-Service Manager Agent (CM Application Self-service Manager agent)	HP OpenView Software Manager client using Radia
HP OpenView Configuration Management Reporting Server (CM Reporting Server)	HP OpenView Reporting Server using Radia (RRS)
CM Configuration Server service	Configuration Server service

Glossary

baseline

A baseline is a state that you select as the standard against which you want to compare other states for the subsystem.

Baseline Scanner

Performs periodic scans on monitored devices to collect data for subsystems. The data collected by the Baseline Scanner is used to produce reports comparing subsystem states.

device

A physical machine on which subsystems exist. The Baseline Scanner can collect hardware related state data for monitored devices.

node

A node is typically associated with an operating system running on a device. There can be multiple nodes per device. For example, a dual boot device would have two nodes.

subsystem state (state)

A subsystem state (state) is the data captured for a subsystem at a specific point in time.

subsystem

A subsystem is a logical group of resources (files and registry settings) for which you define scan filters to determine what information will be captured.

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