HP Configuration Management

Application Usage Manager

for the Windows® operating systems

Software Version: 7.20

User Guide

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

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

Table 1   Document Changes

Chapter	Version	Changes
All	7.20	Most components within the HP Configuration Management family of products have been rebranded to HP Client Automation Enterprise (HP CAE). This product has not been rebranded. For more information, refer to the HPCAE Release Notes for Version 7.20.
	Aug 2008	Throughout this guide, several references to "CM" components now refer to "HPCA" components to reflect the correct branding for Version 7.20.
Chapter 1	7.20	Page 13, Hardware and Software Requirements, Added support for SQL Server 2008 and Oracle 11g databases.

Chapter	Version	Changes
Chapter 2	7.20	Page 26, Defining a Application Usage Manager Database for Microsoft SQL Server, updated procedures for using a SQL Server 2008 database

Page 28, Defining a Application Usage Manager Database for Oracle, updated scripts for using Oracle 11g database and running the schemas using SQL Developer with Autocommit enabled. |
Chapter 2	7.20	Page 48, Adding the USAGE Domain, filenames used to import the Usage Domain changed from USAGE510.xp* to USAGE720.xp*.
Appendix A	7.20 Aug 2008	Page 135, Implementing Application Usage Manager in a Non-HPCA Environment, title corrected from Implementing Application Usage Manager in a Non-CM Environment since other products have been renamed to HPCA for Version 7.20.
Appendix A	7.20 Aug 2008	Page 145, Common Files Required by Application Usage Manager Agent, deleted reference to these files being located in the \Infrastructure directory of the Client Automation Enterprise media; they are only located on the \Usage Manager directory.

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HP Software 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:

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Most of the support areas require that you register as an HP Passport user and sign in. Many also require an active support contract. To find more information about support access levels, go to the following URL:

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1 Introduction

Audience

This guide was written for system administrators who want to use the HP Configuration Management Application Usage Manager (Application Usage Manager) to assess and obtain reports on software usage in their IT enterprises. The Application Usage Manager allows an administrator to know who is using what applications, and how often. Armed with this information, an administrator can increase efficiency by prioritizing and implementing IT projects, accordingly.

The Application Usage Manager agent is installed with or without an existing Configuration Management (CM) or HP Client Automation (HPCA) infrastructure. However, implementation is much faster and more flexible if you leverage your existing CM or HPCA infrastructure. In order to implement the Application Usage Manager in a CM or HPCA environment, you need a basic understanding of a few components, including the HP Client Automation Administrator CSDB Editor (Admin CSDB Editor) and the Portal, as well as a general understanding of the agent connect process.

What is the Application Usage Manager?

You can use the Application Usage Manager to assess patterns of application usage in your environment. This allows you to facilitate adherence to license agreements, re-provision licenses if needed, and monitor user productivity.

The Application Usage Manager monitors the use of every application on all of your servers, desktops, and laptops. This enables you to:

- Enforce corporate standards by identifying non-standard software and software versions in use within your enterprise.

- Implement license tracking, giving you the ability to purchase and maintain only those licenses that are needed.

- Enable OS migration support by prioritizing software distribution based on actual usage.

- Use reporting to view the actual use of application resources.

The Application Usage Manager can be used in your existing environment whether or not you are currently using CM or Client Automation for software distribution. For implementation details regarding non-HPCA environments see Appendix A, Implementing Application Usage Manager in a Non-HPCA Environment.

Figure 1   Application Usage Manager

Data Collection Types

The Application Usage Manager collects two types of application data: usage and inventory.

- Inventory data consists of information about all applications currently installed on a computer.

- Usage data consists of information about what applications were in use over a specific time period.

  Usage data incorporates another form of data called concurrency usage. Concurrency usage data is a more specific form of usage data.

  Regular usage data is collected on a daily basis anytime an application is used during the course of a day, while concurrency data can be collected for a single application over a period of time as short as fifteen minutes. This ability allows for capacity planning as well as provides specific data to organizations that may be interested in migrating users into a terminal server environment.

System Requirements

- Windows 2000, XP, or Server 2003 (XP Server), Vista 32-bit
- Windows XP Professional x64 or Windows 2003 Enterprise Edition x64
- Windows running on Itanium on top of EL-32 layer
- You must have administrator rights to the computer to install the Application Usage Manager.

Platform Support

- For more information about the platforms that are supported in this release, see the accompanying release notes.

Hardware and Software Requirements

- **Application Usage Manager Agent**

  Windows 2000, XP, or Server 2003.

64-bit support for Windows XP Professional or 2003 Enterprise Edition.

- **Knowledge Base Server**

  Windows 2000, XP, or Server 2003.

- **Application Usage Manager Knowledge Base**

  Microsoft SQL Server 2000 with service pack 3, SQL Server 2005 or SQL Server 2008

  Oracle 9i Rel 2, 10g, or 11g Rel 1. Apply the latest Oracle patchset.

- **Reporting**

  Reporting Server, v5.00 or above

  Portal with Application Usage Manager Tcl Server Pages

  Application Usage Manager Administrator (formerly called the Rule Editor)

- **Applications and Infrastructure**

  Application Manager or Application Self-Service Manager

  Configuration Server

  Administrator CSDB Editor

  Portal

  Integration Server (typically, from the Portal)

Platform Support

For more information about the platforms that are supported in this release, see the accompanying release notes.

Processing

You can distribute and install the Application Usage Manager agent on your computers using your existing CM or Client Automation infrastructure. Default CM-defined installation settings install and configure the Application Usage Manager agent to perform executable inventory scanning, application usage, and usage data collection through predefined Application Usage Manager packages. The next time an agent connects to the Configuration

Server, the package is delivered and Application Usage monitoring begins automatically.

Periodically, the usage data is collected based on user-defined parameters. This data is sent to a predefined collection point for further processing. Collection points may be a network share or a ManagementPortal destination. This location is monitored by the Knowledge Base Server, which in turn extracts the usage data from the files collected from each agent computer and loads this data into your SQL-enabled database, making the data available for reporting purposes. Reports can be generated using the Reporting Server, the Portal with Tcl Server Pages.

Application Usage Manager Environment

The Application Usage Manager has different infrastructure requirements, based on whether or not CM or Client Automation is being used to manage the environment.

Figure 2   Application Usage Manager Environment
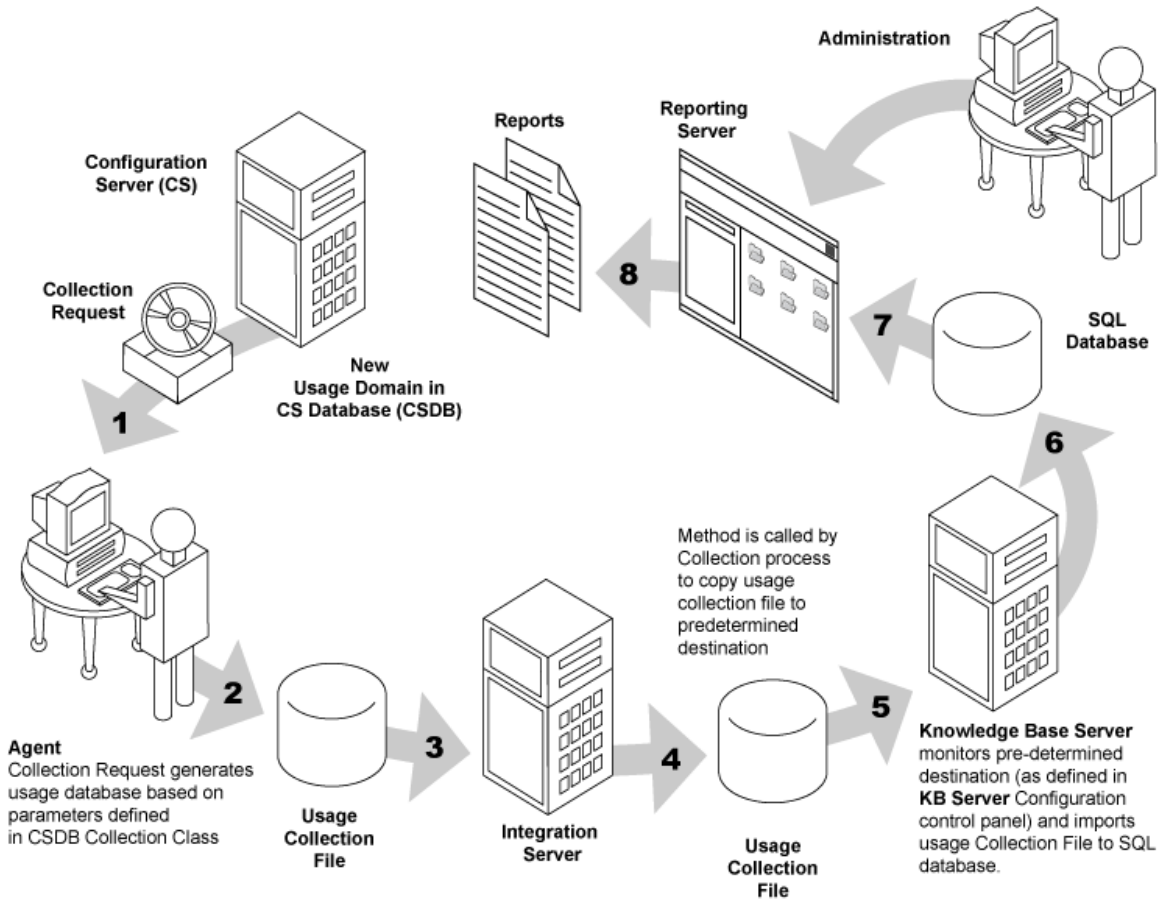
Common Infrastructure Requirements

Common infrastructure requirements are needed for both CM and non-CM management of the Application Usage Manager environment to capture usage data on the agent and move the data to a server, and ultimately to an SQL database for reporting purposes.

Common infrastructure includes the following computers with the required software installed:

- **Monitored Agent or Server**
  Application Usage Manager Agent and its collection configuration

- **SQL Server or Oracle Database**
  Microsoft SQL Server and its enterprise management tools (may be an MSDE version for evaluation) or an Oracle database with SQL Plus tools.

- **Knowledge Base Server**
  The KB Server imports the usage data into the database.

- **Usage Manager Administrator**
  Application Usage Manager Administrator provides a Rule Editor

For information regarding non-CM management of the Application Usage Manager see Appendix A, Implementing Application Usage Manager in a Non-HPCA Environment.

Infrastructure Requirements

In addition to the common infrastructure requirements, additional components must be available for CM or Client Automation management of the Application Usage Manager environment. CM or Client Automation infrastructure requires the following computers and installed software:

- **Administrator**
  This is the HP Client Automation Administrator selection on the Windows Start menu.

- **Configuration Server and Database**
  Configuration Server Database requires the PRIMARY File USAGE Domain

- **Portal**
  The Portal is typically used.

- **Enable HTTP File Copy**

Infrastructure Requirements for Reporting

The infrastructure needed to support reporting offers choices, based on whether the Reporting Server has been installed and whether the Portal is available. Web-enabled reporting is available through Reporting Server or through the Portal's use of Tcl Server Pages (TSP). The reporting software may be installed by anyone who requires the ability to view and generate reports.

- Reporting Server 5.00 or above

  or

- Portal 5.00 or above – for reporting using Application Usage Manager Tcl Server Pages

Recommended Software Configurations

A single server may have one or more software components installed to minimize the number of computers required. The following are recommendations for consolidating software:

SQL or Oracle Database Server
To minimize hard-drive thrashing, the SQL or Oracle database server should have at least two hard drives. Each drive would store:

— The SQL database

— Collection files from each monitored machine

Knowledge Base Server
may be installed on:

— SQL or Oracle Database Server (recommended)

— Portal

— Another server

Application Usage Manager Administrator
may be installed on the:

— Administrator's workstation (recommended)

— Knowledge Base Server

Agent for Application Usage Manager -- Collection File Destination
The Application Usage Manager generates files on the monitored machines that contain both the current executable inventory and the usage information. This information is transferred through the network so it can be imported into an ODBC database. To eliminate network transfer during database import, it is recommended that collection files be placed on the Knowledge Base Server when it also serves as the SQL or Oracle database server machine.

Application Usage Manager Agent Operation Overview

The Application Usage Manager agent supports monitoring of all executable usage.

Once monitoring has started, there are three usage files on the agent machine: the **active application monitoring file**, the **history file**, and the **collection file**.

Active Application Monitoring File

- Contains current application usage information, including (where available):

  Machine name

  Machine domain name

  OS major, minor, build versions

  User name

  User domain name

  Vendor name

  Product name

  Product version

  Application name

  Application version

  Original application name (if renamed)

  Application description

  Application module file type

  Path name application was launched from

  Logical root folder name (i.e., ProgramFilesFolder)

  Remaining path name

  MD5 hash

  Link time

  Number of times application was launched

Number of seconds application was active

Number of seconds application was in the foreground or "in-focus"

History File

- Data will be accumulated in a history file by machine, user, executable, and day. Note that data is summarized by day in the history file.

- The usage history file will be maintained for a designated period (default is the last 12 months).

- Old data is aged out of the file.

- The agent history file will maintain separate entries for all executable inventory and usage data reported to each database.

Collection files

- Contains the usage and current executable inventory data that is to be imported into a specific SQL Server or Oracle database. Data collection will be done on a per database basis.

- Each database has a filter policy associated with it that contains a set of filtering rules. A collection file is built for each database.

- There can be any number of usage monitor databases that can request the same or different data from any agent based on the filtering rules.

- Filter policies will be maintained for each database on the agent or as objects in the Configuration Server.

- The agent-generated collection file must be sent to the correct database import path. The Knowledge Base Server will perform importing of the collection data file. The Portal performs the role of moving the collection files to the database import path location.

- When implemented through HP Client Automation, the default collection file name is the &ZOBJID of the UMCOLLCT Class.

Collection Processing

When collection is requested for a database, the agent will compare the current archive data against the reported data for that database. All file inventory data will be compared. Usage data is only compared for files that pass the inclusion filter. Any differences in inventory or usage are added to the collection file.

Once the collection file has been created, it is sent to the destination defined in the PRIMARY.USAGE.UMDESTPT class, COLLDEST instance attribute, or the USDBCOLL.ini **CollectionPoint** parameter for non-CM or non-Client Automation implementations.

To minimize bandwidth requirements, the collection files contain only what has not yet been sent to the specific database requesting the collection. These files also contain data aging and deletion information for removing old data from the database.

The history file contains all usage data, regardless if it has been requested for upload into a database for the machine and all of its users. The history file contains up to one year's data and as new days are added, data older than one year is deleted. The number of months is determined by the History Retention Months setting. This feature allows a database collection process to modify policy collection filters to capture any data that is up to a year old. If a new database is added as a destination point, then it can request any of this data from any machine that the Application Usage Manager has monitored—either presently or in the past.

Collection Point Destinations

A collection point is a directory destination to which a collection file is copied, and then automatically imported into a SQL database by the Knowledge Base Server.

Automated Import

Automated import directories are watched by the Knowledge Base Server automated import service. Each time a new collection file is placed in an autoimport directory, the Knowledge Base Server will recognize this and then:

- Connect to its pre-configured SQL database through a system-level ODBC connection.

- Import the contents of the collection file into the SQL database.

- Archive the collection file once the import is successful, or copy it to an error directory should the import fail for any reason.

- Perform a rollback of the import if the import is unsuccessful.

Collection Destination Point Unavailable

If a collection request fails to successfully copy the current usage data, then the collection file is placed in the Usage Manager\Collect directory with the

file name *DatabaseName*`.USDBase,` where *DatabaseName* is the file name set in the DBNAME instance of the PRIMARY.USAGE.UMDBASE class, or the `USDBCOLL.ini` **DatabaseName** parameter for non-CM or non-Client Automation implementations. This file can then be manually collected by copying it from the machine, or it will be recreated with the latest application usage data and then collected when the agent receives the next collection request.

Agent Processing of Data Collection Request

The monitoring process collects data for every executable that has been run on the machine. This data is saved in the **active monitoring file**. Since administrators need reports on what exists on the machine, but has not been used, an **executable inventory** is also run to augment the active usage data collected.

Executable Inventory Scan and Options

Since the inventory capture process may take several minutes to complete, the inventory process can be configured during installation to be collected at a pre-defined time, daily or weekly at, for example, 1:00 AM Sunday. The request for data collection can aggregate this pre-collected inventory data with the current usage monitoring data at the time of the collection request. Also, the inventory collection can be configured to run at the time the collection request is issued to provide a more up-to-date inventory. Since the executable file inventory scan can take several minutes, the request for collection is performed synchronously once the inventory scan has finished.

Initiating Collection of Agent Data

Collection of monitoring data is initiated by running an executable with the appropriate command line parameters. Each collection request is SQL database-specific and the technique of launching an executable allows one or more collection requests to the same agent computer for either the same or differently filtered data destined for different SQL databases.

The usage time for appropriate applications is collected based on parameters that you select. This usage time should not be confused with focus time (the time that an application was in focus, that is, the active window in the forefront on a user's desktop).

Portal and the Application Usage Manager

The Application Usage Manager requires components that run under the control of a Portal. The Portal or Integration Server provide Web services that are shared by all loaded modules in their respective resource control file (httpd*.rc), resulting in a single entry point for all HTTP (Web-based) requests. The Application Usage Manager leverages the abilities of these servers to perform HTTP-based file copying. If the Portal or Integration Server is secured using SSL, HTTPS-based file copying is supported.

The Portal can be used to move the application usage data collection files from the monitored machines to one or more server directories. From the server directories, the data are imported into a database.

2 Configuring Your Environment

Configuring Your Client Automation environment

Before you can use the Application Usage Manager, your Client Automation environment must be prepared. To configure your components to use the Application Usage Manager you will need to complete the following tasks:

1 Create and configure your Application Usage Manager database.

    — Define a SQL Server database or Oracle database.

    — Execute the provided script files to configure the Application Usage Manager DB table schema.

    — Configure your ODBC connection.

2 Install and configure Application Usage Manager software:

    — **Configuration Server**
    Installation requirements, as well as instructions for installing the Configuration Server, are documented in the *Configuration Server User Guide*.

    > Make sure you select the **Application Usage Manager** option during the installation.

    — **Administrator**
    Installation requirements, as well as instructions for installing the Administrator, are documented in the *Administrator User Guide*.

    — **Knowledge Base Server** (one per SQL database) and a configured ODBC connection.

    — **Portal**
    You must have an active Portal available for processing requests to copy the application usage files (.USDB) from each agent computer to a central location.

    General requirements and instructions for installing the Portal are documented in the *Portal Installation and Configuration Guide*. The Integration server that the Application Usage Manager uses comes along with the Portal.

The Integration server is also installed with several infrastructure components, such as the Proxy Server, Policy Server or Patch Manager, and these can also be used for Usage reporting.

— **Application Usage Manager Administrator**

— Configure your Application Usage Manager agent using the Admin CSDB Editor.

3 Install the Application Usage Manager agent.

> The Application Usage Manager requires that the USAGE Domain be included in your Configuration Server Database. The latest USAGE Domain is included with versions 4 and 5 of the Configuration Server Database. If you are using an earlier version of the Configuration Server Database, you will need to import the USAGE Domain into your database. For more information, see Adding the USAGE Domain on page 48.

• The following sections describe the steps needed to configure your environment. Installing and configuring the Application Usage Manager agent (steps 3 and 4 above) is covered in Chapter 4, Application Usage Manager Agent.

Task 1   Create and Configure Application Usage Manager Database and Schema

The Application Usage Manager Knowledge Base is a database that contains the application usage data that is needed to effectively manage the enterprise including information about the machines, users, files, and file usage. It is designed such that application packaging and other state file data generated by the HP Configuration Mangement Extensions for Windows Installer and Inventory Manager can be leveraged during data analysis and reporting.

Refer to the appropriate set of instructions below to define and configure your database schema for a SQL Server database or an Oracle database.

Defining a Application Usage Manager Database for Microsoft SQL Server

New Application Usage Manager databases are created using the SQL data definition language files referenced below.

Use the following tasks to create the Application Usage Manager database for a Microsoft SQL Server database. The first task creates the database and the second task creates the table schema.

1   Open the SQL Server Enterprise Manager or SQL Server Management
    Studio.

2   Right-click the Database folder for the appropriate server and select **New
    Database**. Complete the entries as follows:

    General Tab

    — **Name**
        CMUsage (or a name of your choice excluding blanks and
        underscores)

    — **Collation Name:**

    — Usage Schema Supports Unicode. Leave the collation as server
        default or Choose a collation name of your choice, for example:
        French_CI_AS or Japanese_CI_AI_KS.

    Data Files Tab

    — **File Name**
        CMUsage_Data (or name of your choice excluding spaces). Set the
        initial size to 1000 MB.

    — Select Automatically grow file by 20%

        > For improved performance, we recommend that you create the
        > Application Usage Manager database on a drive other than the
        > drive that is used to create state files.

    Transaction Log Tab

    — **File Name**
        CMUsage_Log (or a name of your choice excluding blanks). Set the
        log size to 250 MB.

3   Click **OK** to create the database and log files. The Application Usage
    Manager database is now added to the Databases folder of your server,
    within the Server Manager.

4   When you are finished creating the database, create the database table
    schema.

To create the table schema for SQL Server

1   Within the SQL Server Enterprise Manager, in the Tools menu, select
    SQL Query Analyzer.

2   Make sure the drop-down box displays the database you just created.

3　From within the Query Analyzer or SQL Server management Studio, open your Application Usage Manager media and navigate to the appropriate folder for your SQL Server version: `\SQL Server\SQL Server 2000\` or `\SQL Server\SQL Server 2005\` or `\SQL Server\SQL Server 2008\`.

4　Execute each SQL script in the directory in order (the scripts are named accordingly) beginning with Step 2.

Use Query Execute or press **F5** to run each script.

At the end of the query execution you will see a series of messages possibly displaying `sysdepends` dependency and several row insertions. This indicates a successful installation of the database definitions.

— Step2_Define_UsageManager_Tables.sql

— Step3_Define_Common_Tables.sql

— Step4_Define_Views.sql

— Step5_Define_Stored_Procedures.sql

— Step6_Insert_Common_Functions.sql

— Step7_Insert_Common_DefaultData.sql

5　Close the SQL Query Analyzer.

6　Continue with

Defining a Application Usage Manager Database for Oracle

First create a database for Oracle of your choice. If you require a Unicode Oracle database with a Unicode data type, create a Unicode database with a DB Character Set that supports Unicode data, preferably the DB character set Al32UTF8 and National Character Set UTF8.

Configuring your database schema for Oracle requires the execution of several SQL script files that are provided with your Application Usage Manager media in the `Oracle` directory. Copy these files to a location accessible by your Oracle administrator. Make sure to use the files located in the appropriate Oracle version directory. The scripts will, by default, install the database into the user's schema.

To configure your Application Usage Manager database schema for Oracle

1　For the scripts to run successfully, replace the `%Install_Path%` in `Step1_Define_Tablespaces.sql` and make sure that it references the

Oracle installation path. (For example a typical `%Install_Path%` with a default installation of Oracle 11g would refer to `C:\app\Administrator` and Oracle 10g would refer to `c:\oracle\product\10.2.0` and on Oracle 9i would refer to `C:\ORACLE`)

2   Choose an Oracle application and logon as database administrator:

Oracle 9i and 10g users:
Use the Oracle SQL Plus Worksheet application (for Oracle version 9i and above) and log on as a database administrator.

Oracle 11g users:
Oracle 11g users may use the SQL Plus or Oracle SQL Developer *with the Autocommit feature enabled* to execute the scripts; log on as database administrator.

To enable Autocommit in Oracle SQL Developer:

a   From Oracle SQL Developer, go to the **Tools → Preferences → Database → Worksheet Parameters** page.

b   Ensure **Autocommit** is checked; if necessary, save your changes.

> Certain SQL PLUS commands may be ignored when executing the schemas using SQL Developer; you can ignore these warning messages.

3   Make sure the folders described in Step 1 (CM and Under CM REDO01,REDO02,DB) are created before running the scripts.

4   Review the tablespaces parameters and change them to suite your database needs and physical hard drive space.

5   Execute the SQL scripts that are just modified by you, in order, as determined by their filenames, making sure to include the correct path to the script locations. Review the comments within each script (step 1 through step 5).

For example, if your SQL scripts are located in the directory `\CMAppUsageManager\Oracle\Schema`, you would execute the first script by typing

SQL> @C:\CMAppUsageManager\Oracle\Schema\Step1_Define _TableSpaces.sql

followed by **Enter**.

> Make sure to select the correct group of SQL files depending on the version of Oracle you are using:
> - Oracle\Oracle_9i
> - Oracle\Oracle_10g
> - Oracle\Oracle_11g

For Oracle 9i, 10g or 11g: (These scripts are version-specific.)

— `Step1_Define_TableSpaces.sql`

— `Step2_Define_Common_Roles.sql`

— `Step3_Define_Common_Tables.sql`

— `Step4_Define_UsageManager_Tables.sql`

— `Step5_Insert_Common_DefaultData.sql`

For example, if your SQL scripts are located in the directory `\CMAppUsageManager\Oracle\Schema`, you would execute the first script by typing:

**SQL> @C:\CMAppUsageManager\Oracle\Schema\Step1_Define
_TableSpaces.sql**

followed by **Enter**.

If you are using SQL Developer, browse and open the file, and click **Run Script**.

6 Make sure each script executes properly.

7 Log on as SYSDBA and execute `Step6_Create_CMDBA_Role.sql`.

> Additional scripts are located in the `\Optional_Features` directory for performance enhancements or for removing the Application Usage Manager Database. They are not required here.

Service Pack Installation (If applicable)

When you are finished executing the SQL scripts, check to see if the SQL or Oracle version directory folder on the Application Usage Manager media includes a `ServicePacks` folder.

> Schema Version 7.2 does not include any service packs.

- If the `ServicePacks` folder does not exist, continue with

- If a `ServicePacks` folder exists, you need to apply the supplied service packs located within the Oracle version directories. There are two types of service packs supplied, **required** and **optional**. Apply the required service packs first, in the proper order, then, if desired, apply the optional service packs.

To apply any supplied service packs for SQL Server

1 Within the SQL Server Enterprise Manager, in the Tools menu, select **SQL Query Analyzer**.

2 Make sure the drop-down box displays the correct database.

3 From within the Query Analyzer, open your Application Usage Manager media and navigate to `\SQL server\SQL Server 2000\ServicePacks` or `\SQL server\SQL Server 2005\ServicePacks` or `\SQL server\SQL Server 2008\ServicePacks`.

4 Execute the service pack SQL scripts. Make sure each script executes properly.

To apply any service packs for Oracle

1 The service packs are located within the Oracle version directories within the `ServicePacks` folder.

2 Use the appropriate Oracle application (SQL Plus for 9i and 10g or SQL Developer for 11g) and login as a database administrator.

3 Execute the service pack SQL scripts located within the `ServicePacks` folder within the proper Oracle version directory of your Application Usage Manager media, making sure to include the correct path to the script locations. Run the scripts in order as determined by their filenames.

> After applying the `SERVICE_PACK_XXX.SQL` files, the Oracle server does not recompile all of the parent views when a child view is updated. This may leave a number of views invalid after applying the updates. To make sure all views are valid, select all of the views in the Oracle Enterprise Manager, right-click and select **Recompile**. This will re-validate all of the views.

Optional Features for Database Performance and Maintenance

An `\Optional Features` folder within the `\SQL Server` and `\Oracle` folders include several scripts that can be applied to enhance reporting performance.

Using Standard Materialized Views or Filtered Materialized Views

The Materialized View options are explained below. Both enhance reporting performance. Either one can be optionally applied to a database. Refer to the comments in the scripts for additional information.

Standard Materialized Views (SMV) – A feature where all the views (which is what the reports access) are converted into tables, and indexes are added to enhance the query speed.

Filtered Materialized Views (FMV) – A feature similar to SMV, but differs in that it requires filters to be applied at the time the views are converted into tables. The filters are stored in a separate table. As an example, if a filter for `Notepad.exe` is selected, the FMV table will be populated with only notepad details for all the devices. In this way the customer can choose to see only those applications which are important to them.

To apply the scripts for SMV or FMV:

1   Stop the service for the **HP OpenView CM KB Server.** The service may be stopped and started through the Administrative Tools\Services options of Windows Control Panel.

2   Use normal procedures to execute the database scripts, in the given order, provided in the following locations:

   — For SQL Server:

     `\SQL Server \Optional Features\Filter Materialized Views`

     or

     `\SQL Server\Optional Features\Standard Materialized Views`

   — For Oracle:

     `\Oracle\Optional Features\Filtered Materialized Views`

     or

     `\Oracle\Optional Features\Standard Materialized Views`

Each of the above locations also includes a script to remove the view from your database. For example, for SQL Server and Filtered Materialized Views, the script name is:

```
SQLServer –Remove All Filter Materialized Tables and
Indexes.sql.
```

Create an ODBC Connection

To create an ODBC connection

1 From your system's control panel, go to **Administrative Tools** and double click **Data Sources (ODBC)**.
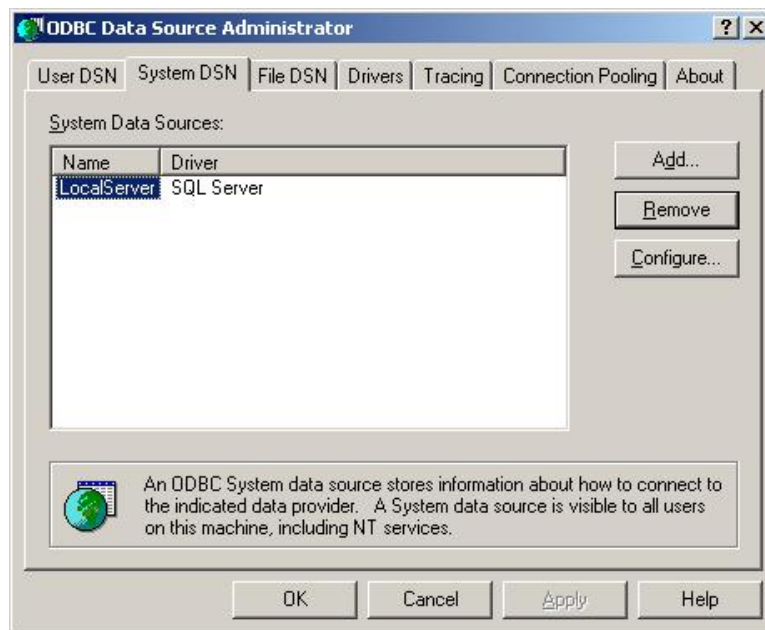
2 Click the **System DSN** tab and then click **Add**.

3   A list of drivers is displayed. Select SQL Server (if the database you just installed is in Sql server) or Microsoft ODBC for Oracle (if the database you installed is in Oracle).

4   For an Oracle database, enter the Data Source Name, Description, Username, and Server.

5   For Sql Server, select **SQL Server** and click **Finish**.

6   The following window opens.
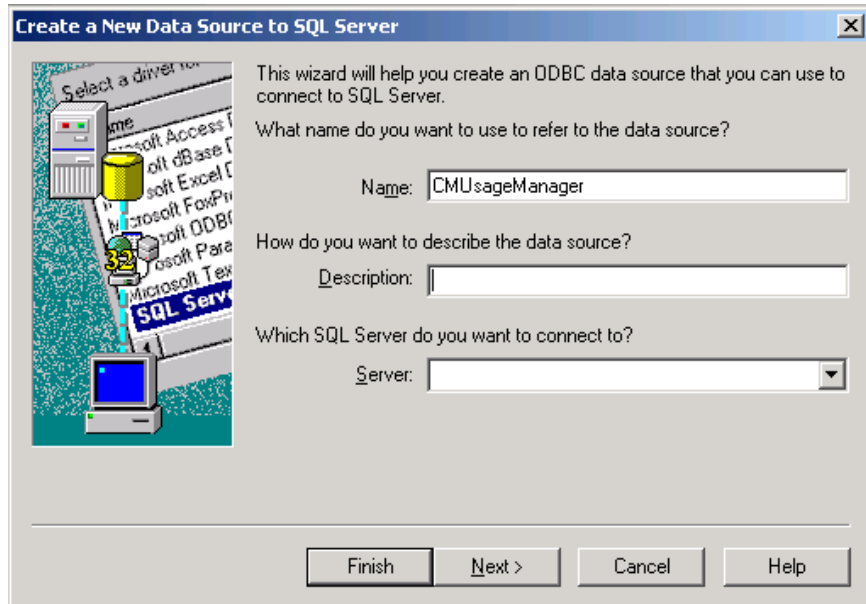
7   Enter the appropriate name (any name of your choice), description and the server name. The Server name may be selected from the drop down list or may be entered manually.

8   Click **Next**.

9   For the Authenticity of the login ID option, select the option, **With SQL Server authentication using a login ID and password entered by the user**.
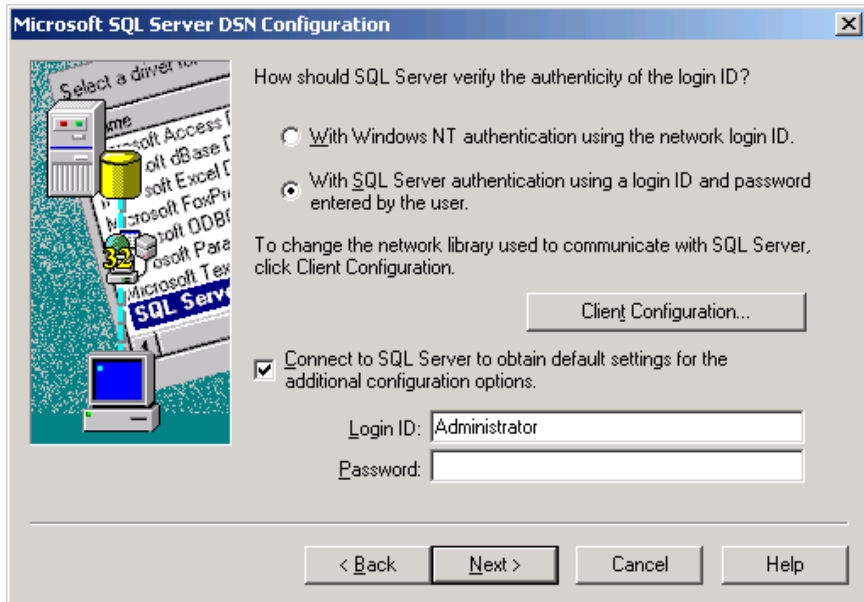
10 Enter the Login ID and password, and click **Next**.

11 Select the database Name from the drop-down list or enter it manually.
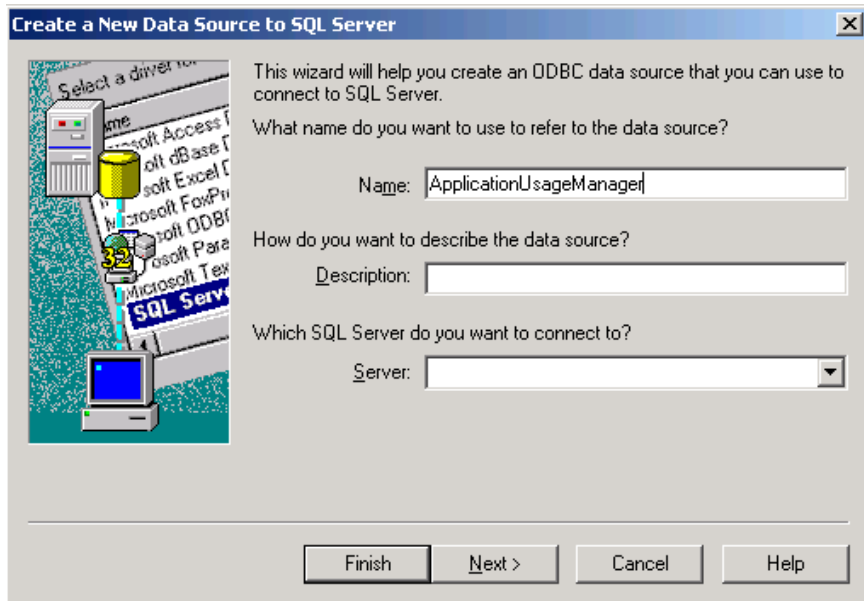
12 The remaining options can be left with their default settings.

13 Click **Next**.
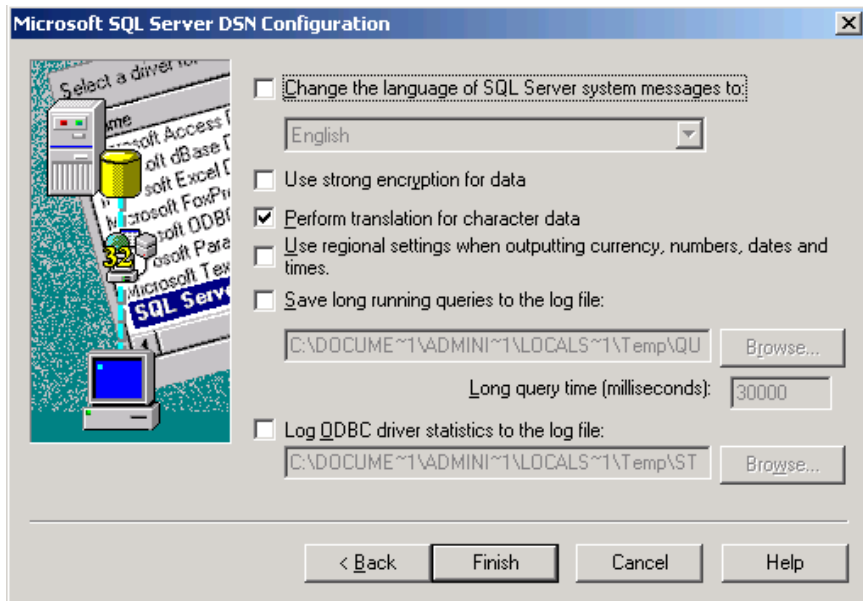
14 Click **Finish**.

15 The ODBC connection is created. Test the connection by using the Test Data Source feature.

Task 2   Configure the Portal and Web Reporting Components

> Oracle requires an Oracle agent be installed on the computer where the Portal is installed, as well as on the computer where the Knowledge Base Server is located.

You must have an active Portal available for processing requests to copy the application usage files (.USDB) from each agent computer to a central location. This server listens for requests to copy the usage files from the individual devices and transfers them to a common collection point. Once transferred, the KB Server monitors this common collection point and imports the data into the appropriate database.

A single Portal may server as the focal point for gathering usage files that are to be imported from each agent into different SQL databases. However, it is recommended that only one server be used to service a single SQL database. The KB Server may run on the same computer as the Portal.

Your Portal must be restarted after configuring the components required by the Application Usage Manager.

⚠️ Before copying and replacing any files on the Portal, make sure to create a backup.

Update httpd*.rc File

Update the `httpd*.rc` file of the server (Portal) that will copy the application usage files (`.USDB`) from each agent computer to a central location.

To update an httpd*.rc file for a Portal

Stop the **HPCA Portal** service through the **Administrative Tools\Services** options of the Control Panel.

Edit the `httpd-managementportal.rc` file located in `[ProgramFilesPath]\Hewlett-Packard\CM\ManagementPortal\etc`.

Add the following plug-in commands to the existing module load statements near the end of the file:

```
# HTTP Put Server
module load put

# Radia Usage Manager
module load usage
```

▶ These module load statements may exist in the `httpd*.rc` file as comments. To activate them, delete any characters in front of the word `module`.

Save your changes and restart the HPCA Portal service. When you start the service, this updated `httpd-managementportal.rc` file is used.

Configuring the put.cfg file (For Knowledge Base Server)

When the Portal is started with an `httpd*.rc` file that includes the `module load put` command, a `put.cfg` file is created in the target `\ManagementPortal\etc` directory. The `put.cfg` file identifies and correlates an HTTP URL with a destination directory to which to copy the `.USDBASE` files.

If you already have the `put.cfg` file in your `\ManagementPortal\etc` directory, it will not be overwritten.

The file must be updated if you intend to use multiple SQL databases.

No editing of this file is required unless you want to change the default location of the automated import directory that the KB Server monitors and will use to update the SQL database. The default location is the `\etc\Usage\KB_Mgr1_Usage` subdirectory under the root directory of where the Portal is installed. For the Portal, this default directory is:

```
C:\[ProgramFilesPath]\Hewlett-Packard\CM\ManagementPortal\
etc\Usage\KB_Mgr1_Usage
```

Using Multiple SQL Database Destinations

To configure the Portal to accept usage database files to be imported into multiple SQL databases, modify the `put.cfg` script to create a new destination directory for each of the unique SQL databases. Do this by adding the text in the code sample below between the `Begin` and `End` comment lines. Lines beginning with a pound sign (#) are comment lines that are not processed.

The following is a sample script:

```
# ---------------------------------------------------------------------
# - CMIS Application Usage Manager Destination Directories - BEGIN   -
# ---------------------------------------------------------------------
# -  The following two lines create a directory that a
# -  Knowledge Base Server  service is watching so it can autoimport
# -  Application Usage Manager information into a SQL database.  This
# -  directory creation can be extended to any number of specific
# -  directory/Knowledge Base Server/SQL database environments.
# -
# -  This request is configured as the Collection Point destination
# -  For example:
# -    CollectionPoint=HTTP://192.168.101.151:3466/KB_Mgr1_Usage/
# -
# ---------------------------------------------------------------------
# - CMIS Application Usage Manager Destination Directories – BEGIN

file mkdir $Config(ROOT)/etc/usage
file mkdir [set dir "$Config(ROOT)/etc/usage/KB_Mgr1_Usage"]

Put_AddRoot /KB_Mgr1_Usage $dir

# ---------------------------------------------------------------------
# -  The 'file mkdir' line defines the physical directory that is the HTTP
# -  request file destination.
# -  The 'Put_AddRoot' line defines the last node in the HTTP request.
# -  For example:
# -    HTTP://192.168.101.151:3466/KB_Mgr1_Usage/
# -  would result in the Usage Collection File being copied to the directory
# -    <<CMIS Path>>\etc\usage\KB_Mgr1_Usage
# ---------------------------------------------------------------------
# -  Repeat the above two file mkdir lines to create additional

# -  CollectionPoint/KB Server auto import directories
# ---------------------------------------------------------------------
#file mkdir $Config(ROOT)/etc/usage
```

```
#file mkdir [set dir "$Config(ROOT)/etc/usage/KB_Mgr2_Usage"]

#Put_AddRoot /KB_Mgr2_Usage $dir

# ------------------------------------------------------------------
# - CMIS Application Usage Manager Destination Directories - END    -
# ------------------------------------------------------------------
```

In the sample script an enterprise and a local level SQL database are used by the organization on a single Portal. There is a Knowledge Base Server automated import service running on two separate computers. One of these monitors activity in the KB_Mgr1_Usage folder and the other monitors activity in the KB_Mgr2_Usage folder.

The file mkdir[set dir "physical directory name"] command sets the physical directory that the usage files are going to be copied into from the HTTP_PUT request.

The Put_AddRoot /logical_name $dir command associates the http logical collection point with the name of the physical file into which the file is copied.

The collection point is defined in the Configuration Server Database's PRIMARY.USAGE Domain in the UMCOLLCT Class object as:

    HTTP://*Portal_Server_IP_destination:port_number/*
    Logical_name

For example, by setting a collection point destination of:

HTTP://192.168.0.150:3471/KB_Mgr1_Usage

The agent usage files will be sent to the Portal and copied into the directory:

    <Portal_Path>\usage\KB_Mgr1_Usage\UsageFile.USDBase

The above entry configures the Knowledge Base Server to watch for activity on the directory <<Portal_Path>>\usage\KB_Mgr1_Usage and perform automated import processing of the data into its associated SQL database once the file has been copied.

After copying and editing the files, start the Portal Server. The following folder is created under the base install directory of the Portal Server:

\etc\usage\KB_Mgr1_Usage.

Defining an SSL-Secured Collection Point

For an SSL-secured Portal, the collection point is defined using HTTPS and the secure port number, such as 443:

HTTPS://*Integration_Server_IP_destination:secure_port_num/*
Logical_name

Configuring the Database usage.cfg File

The `\Usage` folder of the HPCA media contains this directory:

`\IntegrationServer\etc`

1 Copy the entire `\mc` folder from the above `\Usage Manager\IntegrationServer\etc` media location to your `\ManagementPortal\etc` directory. By default, this directory is:

    `C:\[`*`ProgramFilesPath`*`]\Hewlett-Packard\CM\ManagementPortal \etc`

2 Also copy the appropriate `usage*.cfg` configuration file from the `Usage Manager\IntegrationServer\etc` media location to your Portal Server `\etc` directory; choose the configuration file for your database type:

    — For Oracle, copy `usage_Oracle.cfg`

    — For SQL, copy `usage_SQL_Server.cfg`

3 Once copied, rename this file to `usage.cfg`.

4 Then, using a text editor, open the `usage.cfg` file and enter your ODBC name, user ID, and password. You may also change the DSN value if required. The next code sample is an example of a configured `usage.cfg` file that uses `sa` as the user name and a blank password.

> ▶ The user ID used in the `usage.cfg` file must have sufficient access rights to select and execute stored procedures and functions.

A sample configured `usage.cfg` file for SQL Server will look like the following:

```
usage::init {
    DATABASE            "SQLSERVER"
    DSN                 "ApplicationUsageManager"
    DSN_USER            "sa"
    DSN_PASSWD          ""
    DL_DATEFMT          {%Y-%m-%d %T}
}
```

Enable Web Reporting from the Portal

To enable Web reporting, copy the Tcl server pages `\usage` directory,, located in the Application Usage Manager media `\Server Pages - Web Reports` directory, to the `\modules` directory of the Portal.

Task 3   Install the Application Usage Manager Administrator

The Application Usage Manager Administrator allows you to create rules that will enable you to select which data will be used to create your usage reports. Install this component on an administrator's workstation (preferred), or on the computer that houses the Knowledge Base Server.

To install the Application Usage Manager Administrator

1   From your HP Client Automation Enterprise media for the Application Usage Manager, navigate to the `Usage Manager Administrator` folder.

2   Double-click **UsageManagerAdministrator.msi** to start the installation.

3   Click **Next**. The end-user license agreement dialog box opens.

4   Read and accept the HP Software License terms. Click **Next**. The installation location dialog box opens, showing the default location.

5   If you want to install the Application Usage Manager Administrator in a different location, click **Browse** to navigate to the location.

6   Click **Next**. The Ready to Install dialog box opens.

7   Click **Install**.

8   When the installation is finished, click **Finish**.

The Application Usage Manager Administrator is installed and a shortcut is added to your Programs under **HP OpenView Application Usage Manager Administrator**. Once an ODBC connection to a database is established, use the start menu shortcut or the `RADPIMGR.exe` file to access the Application Usage Manager Administrator. By default, `RADPIMGR.EXE` is located in the directory: `[ProgramFilesPath]\Hewlett-Packard\CM\Usage Manager Administrator\bin\`.

Task 4   Install and Configure the Knowledge Base Server

> Oracle requires that an Oracle client be installed on the computer where the Knowledge Base Server is located, as well as the computer where the Portal is installed.

The **Knowledge Base Server** provides services to manage the Application Usage Manager Knowledge Base. It also services requests for a Knowledge Base available through the Extensions for Windows Installer product. The Knowledge Base Server installs as a Windows service.

The Knowledge Base Server performs automated import processing of the state files and other files into the Knowledge Base. Automated importing may be defined for the following types of directory structures:

- Application Usage Manager Collection files extension (USDBase).

- Simple state file automated import directories containing state files (.ISState extensions). These are typically created by the Packager for Windows Installer or the Patch Manager.

- Configuration Server service export directories that have required subdirectory structures that are built by the Extensions for WI features which enable extraction and conversion of packages contained in Services to .ISState file formats.

The Knowledge Base Server automated import server runs independently of the Configuration Server to import files found in the automated import directories.

Installing and Configuring the Knowledge Base Server

For installation instructions, refer to the *Knowledge Base Server Guide*, available on the HP Software support web site.

After an ODBC connection to a database is established, configure the Knowledge Base Server using the Windows Control Panel application CM KB Server Configuration. When finished with the configuration, start the **HP OpenView CM KB Server** service.

Configuring the Knowledge Base Server

Configuration for the Knowledge Base Server is controlled through the CM KB Server Configuration control panel.

Figure 3   CM KB Server Configuration icon on Control Panel
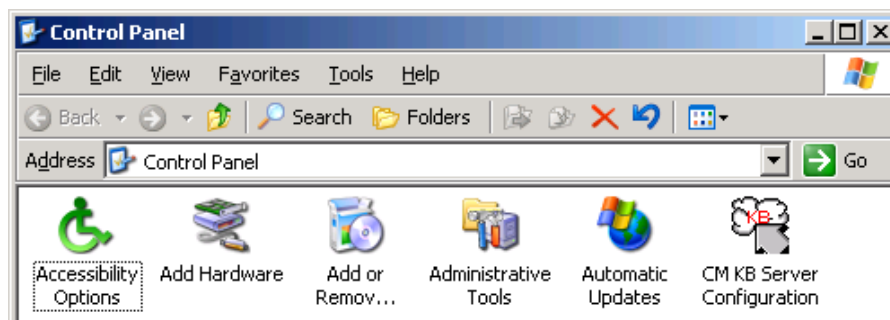
To access the CM KB Server Configuration from Control Panel

1   Click **Start→Settings→Control Panel**.

2   Double-click the **CM KB Server Configuration** icon.

    The CM Knowledge Base Server Configuration window opens.
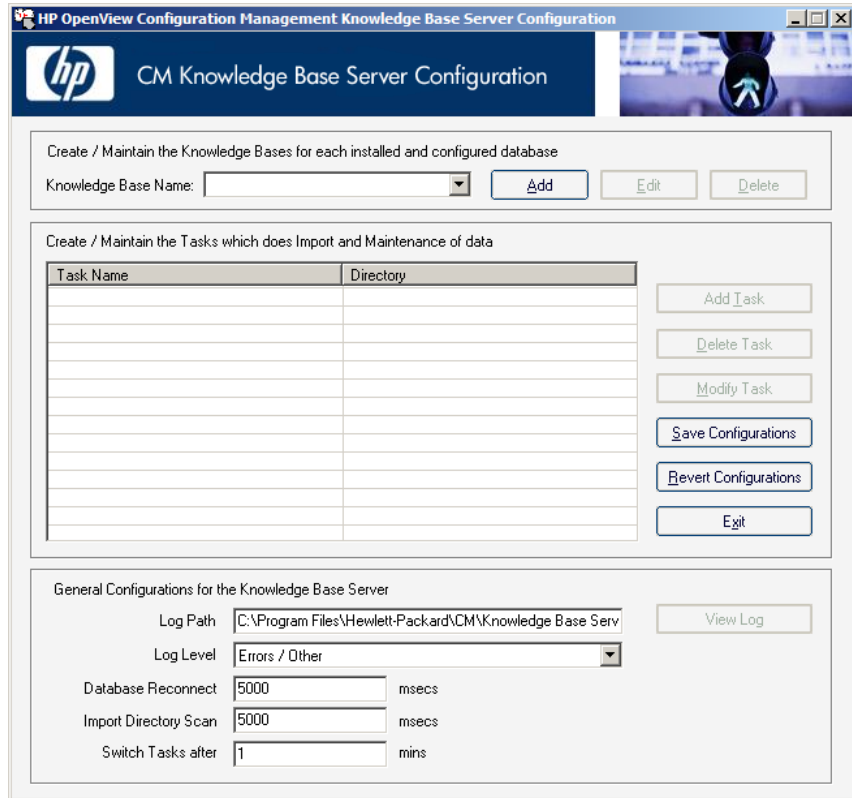
To configure the KB Server automated import directories

1   Click **New** to add a new Knowledge Base data source. The New
    Knowledge Base – Configuration dialog box opens.
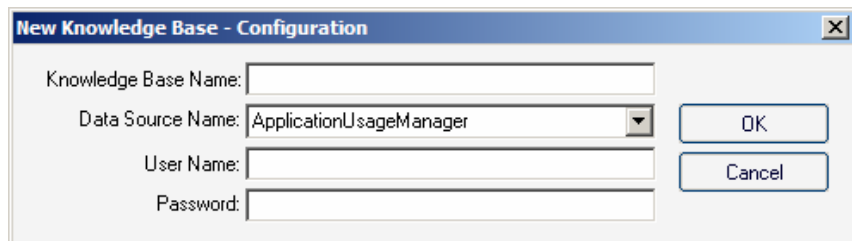
2   Enter the following information:

Knowledge Base Name:	Enter the Knowledge Base name. (Any name of your choice)
Data Source Name:	Enter the Data Source Name (DSN).
User Name:	Type a user ID that has owner authority for the database.
Password:	Type a valid password for the user ID.
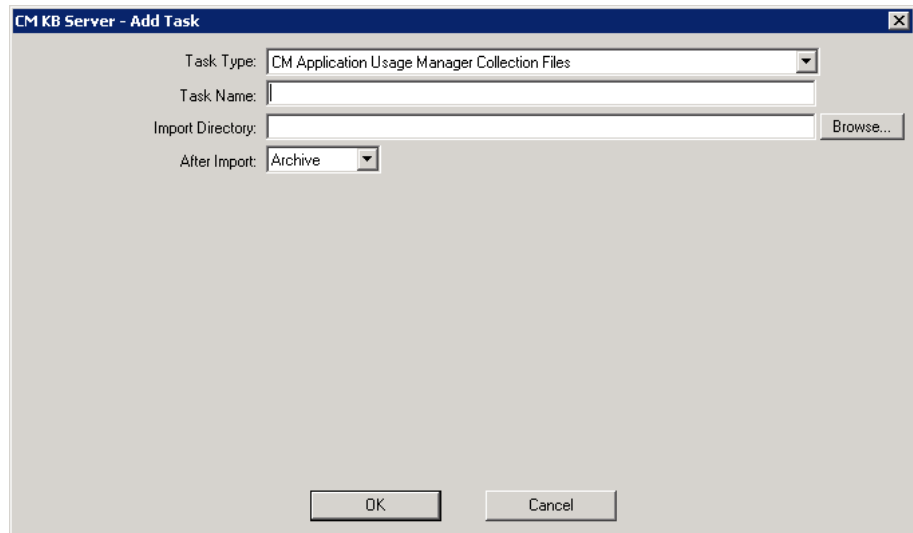
— The CM KB Server administrator must supply a logon ID and password for the person who has rights to access the SQL database. This ID must have full access rights to the database objects including table and stored procedures. Enter the ID with these rights and its password.

3   Click **OK**.

When you are finished adding a Knowledge Base, create a task by clicking **Add Task**.

4   From the Task Type drop-down list, select one of the following tasks related to Application Usage Manager:

— **Application Usage Manager Collection Files**
Create a task of this type to define your automated import directory for usage files that are collected.

— **Application Usage Manager Purge Criteria**
Use this task to purge usage data from your database. You must
define whether the purging will take place daily, monthly, or yearly.
Recommended settings:
Daily: 31-62 days
Monthly: -1
Yearly: -1

— **Application Usage Manager Move File(s)**
Use this task to move the USDBase files from your Archive / Error
directory to the import directory (for re-import purposes). Refer to the
Knowledge Base Server Guide for more information on the Move
File(s) task.

5   The type of task you select will determine what information is required in
the following text boxes. Depending on the task you select, some of these
text boxes may not appear.

Task Name:	Type a name for the task, for example, `Collection Files`.
Import Directory:	Enter the path for the directory from which files will be imported. Click **Browse** to navigate to it. For example: `C:\Program Files\Hewlett-Packard\CM\ ManagementPortal\etc\Usage\Kb_Mgr1_Usage`
After Import:	Select the action taken after import, Archive, or Delete. This option allows you to remove the files from the import directory immediately after they are imported.

6   Click **OK** and you are returned to the CM KB Server Configuration
window. It now displays the information you just entered.

7   Click **Save Configurations** to save the just entered configuration settings.
Click **OK**.
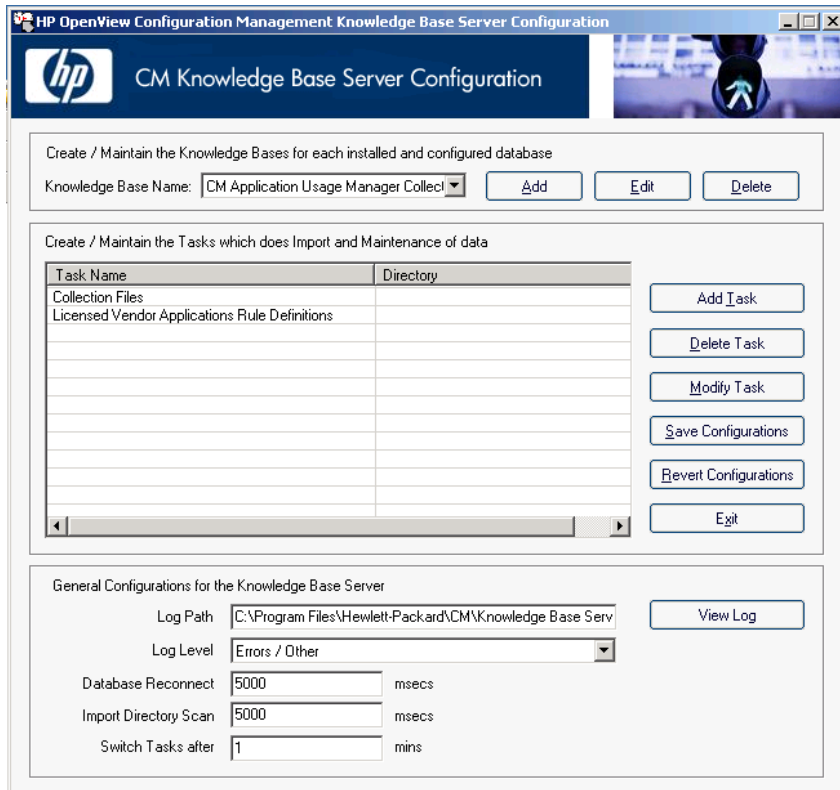
8 To complete the CM KB Server configuration, edit the following text boxes located at the bottom of the CM KB Server Configuration window:

— **Log Path** (default is `C:\`)
Default log path for AutoImport processing status information. All exceptions are logged as well as successful imports and `\Notify` file deletions after successful imports of CM Service state files.

> The log path must exist before starting the service for the CM KB Server.

— **Log Level**
Select the level of logging from the drop-down list. Select **Errors Only, Errors/Other** (default) for specific information only, **Verbose** for all errors and messages, or **Debug** for debugging related messages only.

— **Database Reconnect (msecs)** (default is 5000)
Number of milliseconds to wait between reconnect attempts to the SQL database server. Recommended: 60000.

— **Import Directory Scan (msecs)** (default is 5000)
Number of milliseconds to wait between each check of the import directory for new files. Recommended: 60000.

— **Switch Tasks after (mins):** (default is 1)
Number of minutes to wait before switching to the next scheduled task.

— Click **Save Configuration & Exit**.

9 Restart the CM OpenView CM KB Server service to have the new configuration take effect. For details, refer to the topic below.

Starting and Stopping the KB Server

The KB Server is controlled as a Windows service. The friendly service name is **HP CM KB Server** and the executable is **hpkbmanager.exe**. The service may be stopped and started through the Administrative Tools\Services options of the Control Panel.

SQL Server Requirements for the KB Server

To process Knowledge Base requests, the KB Server requires a SQL Server or Oracle logon ID. A user ID of any name can be configured (the default is **sa** for SQL Server or **usage** for Oracle). This ID is used to define the DB_OWNER for the Knowledge Base database with full permissions for administering the database. This ID is referred to as the AppLogin user ID.

Adding the USAGE Domain

Configuration Server Database users who did not enable the Application Usage Manager option while installing Configuration Server will need to import the USAGE Domain into their Configuration Server Database. To do this, import the latest class, instance, and resource files using the Client Automation tool ZEDMAMS.

The files for importing located in the \Usage Manager\CSDB_Classes\ USAGE_DOMAIN\ directory of the Client Automation Enterprise media and listed below:

USAGE720.xpc   Usage domain class

USAGE720.xpi   Usage domain instances

USAGE720.xpr   Usage domain resources

To import the class, instance and resource files

1   Stop the Configuration Server Service.

2   Copy the above mentioned files to `Root\Program Files\` `Hewlett-Packard\CM\ConfigurationServer\bin` **folder**

3   At the command prompt, navigate to the `Root\Program Files\` `Hewlett-Packard\CM\ConfigurationServer\bin` **folder and then** execute the following commands:

```
Zedmams verb=import_class,file=usage720.xpc,
preview=no,replace=yes,continue=yes,duplicates=manage,
commit_changes=yes
```

```
Zedmams verb=import_instance,file=usage720.xpi,
xpr=usage720.xpr,preview=no,replace=yes,
continue=yes,duplicates=manage,commit_changes=yes
```

Additional instructions for using this tool can be found on the HP Software support website.

4   Copy all the `.ico` files in `\CSDB_Classes\USAGE_DOMAIN\` directory on your Application Usage Manager media to the directory that contains the Admin CSDB Editor of the Administrator. (The executable is `radxplor.exe`).

5   Start the HPCA Configuration Server Service.

6   Open the Admin CSDB Editor from the HP Client Automation Administrator program group. Check that the USAGE Domain exists in the PRIMARY File.

3 Aggregation of Usage Data Files with Tier-Level Store and Forward

Introduction

The Aggregation of Application Usage Manager (Usage) data files with Tier-Level Store and Forward support is based on the methodology that the Usage data files will pass through a set of existing upstream servers within a centralized network (Store and Forward Messaging Servers), which reduces the need to install multiple Usage Databases and Knowledge Base Servers. The Store and Forward Messaging Servers will accept the incoming Usage data files and forward them to another upstream server. Upon receipt and prior to being forwarded, the Usage data files will undergo an Aggregation process.

Making use of tiered store and forward servers with aggregation tools drastically improves scalability and reduces large-scale issues that can arise when dealing with large numbers of Application Usage Manager agents across an enterprise. When using store and forward aggregation, a single KB Server can support much larger numbers of Application Usage Manager agents, as well as show improved performance when supporting the same number of agents.

What is Aggregation?

Aggregation is a process of merging two or more USDBase files into a single USDBase by eliminating all the duplicate data among the USDBase files.

When the Knowledge Base Server imports the Usage data, it must query the database for each import data record to check for its existence, and then updates the database accordingly. If there are N number of files with common data to import, the KB Server has to query the database N number of times. If the data in these common files can be aggregated into a single file, the KB Server only needs to query the database and update it once. Thus,

aggregating the data for common files prior to import improves the KB Server performance enormously.

An aggregated file contains only a single reference of a data for each file involved in aggregation. This will reduce the size of an aggregated file and reduces the overhead of multiple queries to the database when importing.

Implementation

The Messaging Server's Store and Forward capability is used to implement the Usage Data Files Store and Forward. The Messaging Server is responsible of storing all the USDBase files, trigger the aggregation process once the trigger constraint satisfied, and forward the aggregated file.

In the non-Store and Forward scenario, all the Usage Agents will be sending its usage data collection files to a predefined collection point that is monitored by Knowledge Base Server which in turn extracts the usage data from the files collected from each agent computer and loads this data into your SQL-enabled database, making the data available for reporting purposes.

With Store and Forward, all the Usage Agents will send its usage data collection files to a Messaging Server. We can have multiple such Messaging Servers in an enterprise to form a tier level architecture. The Tier Level architecture should be implemented according to the number of Usage Agents available in that Enterprise to get better performance.

In an n-tier level architecture, the level 0 is the tier with only the Usage Agents, level n is the final tier having the Portal installed with Knowledge Base Server configured for importing usage data files. All middle level tiers will have Messaging Server with Aggregation enabled and may have Usage Agents. Each middle level can have one or more Messaging Servers configured to forward the aggregated usage file (AU file) to the next level Messaging Server.

All the Usage Agents should be configured to send their usage data collection files to its immediate next level tier Messaging Server. This is the only change required in the Usage Agent needed to implement Store and Forward Aggregation.

Once the Messaging Server in a middle tier receives the USDBase files, depending on the configurations set it will trigger the Aggregation Process by executing the USDBAggr.exe which is the tool for performing Aggregation. After the Aggregation Tool is successfully executed, the Messaging Server

will transfer the aggregated usage file to the next tier server. If the next tier is one of the middle level tiers, then the aggregation process continues till it reaches the final tier. If the next tier is the final tier, then the aggregated usage file gets imported into the database by the Knowledge Base Server (KB Server).

Figure 4 below illustrates a multi-tiered Messaging Server architecture being used to provide aggregated usage (AU) files for import into the usage database.

Figure 4   Tier-Level Architecture for Usage File Aggregation
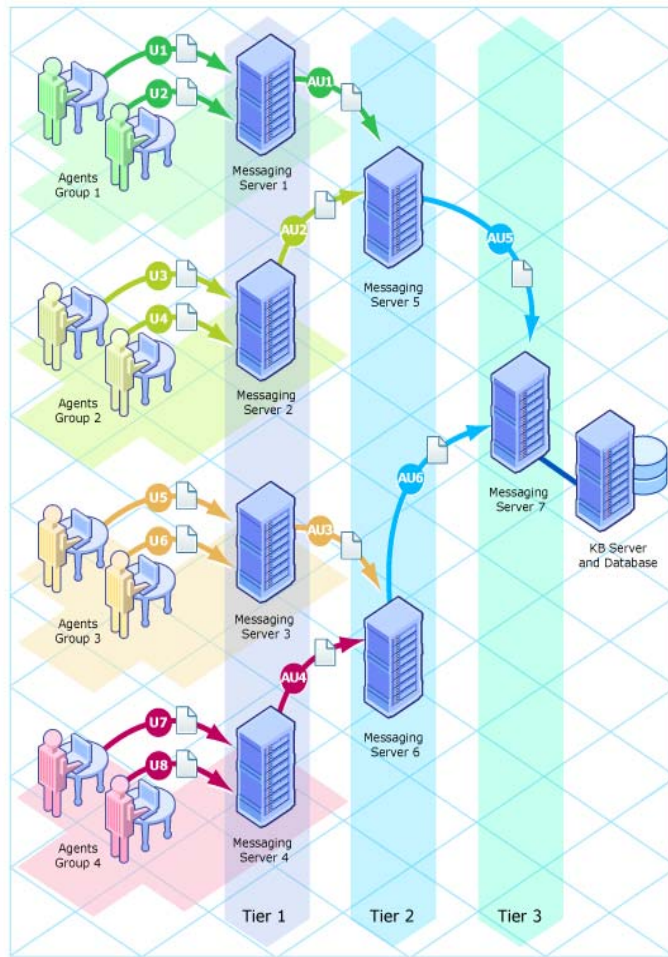
Installing Messaging Server and Configuring Usage Data Files Store and Forward

System Requirements for Messaging Server

You must have administrator rights to the computer to install the Messaging Server.

Messaging Server v5.10 or above must be installed on a supported Windows platform.

Platform Support

> Even though Messaging Server supports non-Windows platforms, the aggregation of usage files and the Usage Data Delivery Agent is only supported by a Messaging Server on a Windows platform.

- Windows 2000 Server, Service Pack 3 on x86
- Windows Server 2003, Service Pack 1 on x86
- Windows Server 2003 x64 on AMD64/EM64T

For detailed information about the supported Windows platforms for Messaging Server, refer to the release note document that accompanies this release.

Installing Messaging Server with Aggregation Support

Installation requirements, as well as instructions for installing the Messaging Server, are documented in the *Messaging Server Installation and Configuration Guide.*

To provide support for the aggregation of usage data, run, or rerun, the standard installation for Messaging Server v 5.10 or above. When prompted to **Select each Data Delivery Agent (DDA) to Install**, make sure to select the option:

Load the usage.dda module

Following installation, you must add and configure the aggregation-related code and parameters as discussed in Configuring Aggregation on page 55.

Configuring Aggregation

Before you can use the Aggregation support, you need to add and configure Aggregation Tools within the Messaging Server.

1 From the HPCA Media's `\Usage\Aggregation` location, copy the entire `\Usage` folder to your Messaging Server's `\etc` directory. By default, this directory is:

   `[MessagingServerInstallPath]\etc`

2 Configure the entries in the `usage.dda.cfg` file, using the topic below.

3 Following configuration, restart the service for the **HPCA Messaging Server**, `rms.tkd`.

You can have multiple tiers of Messaging Servers performing aggregation. The URL parameter in the **msg::register usage-forward** section of the usage.dda.cfg will determine whether the aggregated usage data is forwarded to the next-tier Messaging Server, or to a KB Server import location.

About the Sections in USAGE.DDA.CFG File

The `usage.dda.cfg` file within the Messaging Server's defines the configurations available for Aggregation. The file has the following main sections after the header and the required lines.

```
# DO NOT REMOVE FOLLOWING LINE

package require nvd.httpd
```

msg::register usagehttpd

This is the HTTPD Section Type for the `usage.dda` configuration. If the Messaging Server is receiving USDBase files from one or more Usage Agents or another Messaging Server, define the URLHANDLER location on which to look for the files. This location is the source folder for the Aggregation Tool.

The parameters in the URLHANDLER are summarized below:

USE defines the name of AGGREGATE Type that will receive the incoming file

DIR defines the directory for the HTTPD Type.

URL defines the prefix that that will be accepted by the Messaging Server. When messages are received with the designated URL they are deposited in the associated queue

HTTPMETH defines the method used by the agent to transfer the file. Set the HTTMETH type to PUT.

msg::register usage-aggregate-queue-in

This is the AGGREGATE Type section for the usage.dda configuration. This defines the Aggregation Queue in which the USDBase files will be queued up for processing by the aggregation tool.

DIR defines the source directory for the Aggregation Tool. This should be same as that of the HTTPD Type.

USE defines the name of the HTTP Type that will forward the aggregated file.

COUNT defines the minimum number of USDBase files expected in the DIR directory to initiate the Aggregation Process. (what are min, max, default?)

POLL defines the interval, in seconds, used to poll the source DIR directory for USDBase files.

TIMEOUT defines the maximum interval to wait, in minutes, for the number of USDBase files to reach the COUNT.

USER_DEFINED is a flag to allow a user-defined procedure to execute whose return value will control the triggering of the Aggregation. Set to Y if a user-defined procedure is to be used. When set to Y, the COUNT and TIMEOUT parameter are ignored, and the UD_TCL_FILE and UD_PROC parameters must be used to define the location and procedure name to execute.

UD_TCL_FILE defines the fully-qualified path to the TCL file containing the user-defined procedure, when USER_DEFINED is set to Y.

UD_PROC defines the user-defined procedure name to execute, when USER-DEFINED is set to Y.

USDBAGGRPATH defines the full path of the Aggregation Tool.

TARGET defines the fully-qualified path to the directory where the aggregated USDBase file will be placed.

ERRORPATH defines the fully-qualified path to the directory where the erroneous USDBase file will be moved from the DIR directory.

ARCHIVE Set to Y to archive the USDBase file after aggregation; set to N to delete the USDBase file after aggregation.

ARCHIVEPATH defines the fully-qualified path of the directory where the USDBase file is placed when ARCHIVE is set to Y.

MAXSIZE defines the maximum size, in bytes, for the generated aggregated file.

> If the Input USDBase file size is larger than the MAXSIZE, the file will not be aggregated and will be sent without any modification.

LOGPATH defines the fully-qualified path of the directory where the log files are written by the aggregation tool.

`msg::register usage-forward`

This is the HTTP Type for the `usage.dda` configuration. This will define the forwarding server to which the aggregated file will be sent.

PRI denotes the priority in which to send the files to the companion URL. The default Priority is 10. This setting only matters if multiple ADDRESS entries are configured.

URL specifies the URL to use to send the aggregated file. This URL entry uses the same syntax as the COLLDEST for the CM Usage Agents, discussed on page 63.

— To send the aggregated file to a Portal that has the KB Server installed on it, code the URL as:

URL   **http://**_Portal_IP_**:3471/KB_Mgr1_Usage/**

— To forward the aggregated file to the next tier Messaging Server enabled for the aggregation of usage data, code the URL as:

URL   **http:**_//messaging_svr_IP_**:3461/proc/usage**

> If the target servers are SSL-secured, adjust the URL syntax to include **https** and the secure port number.

For more information on these section types, please refer to the *Messaging Server Guide*.

Performance

You must fine tune the configuration parameters in `usage.dda.cfg` to obtain the best aggregation performance. The main parameters that need tuning include:

MAXSIZE – This parameter directly impacts the compression ratio of an aggregated file, because MAXSIZE determines the number of files that can be placed in an aggregated file.

COUNT – This will affect the MAXSIZE. Make sure the number of files in COUNT is sufficient enough to reach the aggregated file size set in MAXSIZE.

POLL – This parameter determines how often the files are collected from the source folder.

4 Application Usage Manager Agent

The USAGE Domain Defined

The Application Usage Manager utilizes the USAGE Domain within your Configuration Server Database, enabling management of the Application Usage Manager in the enterprise. The USAGE Domain is comprised of classes that you use to create Application Usage Manager services to distribute to your agent computers. These services install the Application Usage Manager agent, which collects usage data based on your specifications. The next few sections describe the USAGE Domain classes.

Use the HP Client Automation Administrator CSDB Editor to configure each class in the USAGE Domain.

Figure 5   USAGE Domain in the Admin CSDB Editor
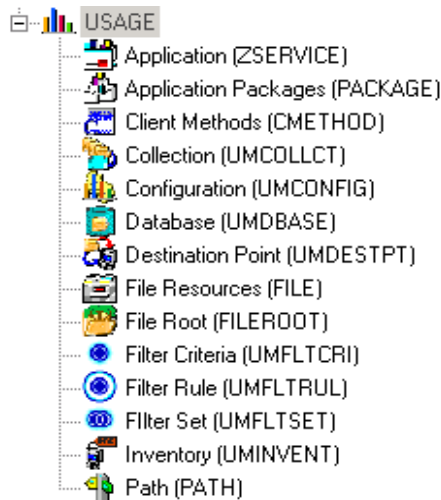
Table 2   USAGE Domain classes

Class	Description
Application (ZSERVICE)	Contains the Application Usage Manager services
Application Packages (PACKAGE)	Contains the Application Usage Manager packages
Client Methods (CMETHOD)	Client methods used to process each instance
Collection (UMCOLLCT)	Controls the Application Usage Manager collection options that represent the unique collection criteria with which the usage collection files on each computer are associated. A single computer may have multiple collections targeted, each associated with a unique data store. The collection file contents are sent to different collection points and ultimately to different SQL databases.
Configuration (UMCONFIG)	Controls the Application Usage Manager installation options.
Database (UMDBASE)	Unique usage database name, which correlates to a backend SQL database.
Destination Point (UMDESTPT)	Location where usage data is stored.
File Resources (FILE)	File instances included within a package.
File Root (FILEROOT)	Defines the base location of a file without any extended path information. Can be a drive, like `C:\`, or a well known folder location, like `ProgramFiles` folder. File Roots are only used for filtering the collection file content collected from the agent in the Admin CSDB Editor.
Filter Criteria (UMFLTCRI)	Defines usage filtering criteria.

Class	Description
Filter Rule (UMFLTRUL)	Connects to usage filtering criteria. The filter type determines whether it is an inclusion or exclusion Filter Rule, and its priority determines its importance when compared with other Filter Rules defined in a Filter Set. Refer to Filters on page 69 for more information.
Filter Set (UMFLTSET)	Connects to one or more Filter Rules. Filter Sets are in turn connected to collections in the UMCOLLCT Class. Each UMCOLLCT Class may then have specific filtering associated with its data collection.
Inventory (UMINVENT)	Defines default configuration criteria for the Application Usage Manager inventory scan.
Path (PATH)	A unique path to one or more components.

Significance of Collection Instances

Collection class instances, and their related filter class instances, establish the content that is uploaded to a specific SQL database from the device which the usage data is collected. Collection class instances define the database-specific agent collection properties; they also define the destination location once the usage and inventory data has been aggregated on the agent machine and is ready to be passed through the network for import into a specific SQL database.

Configuring the Application Usage Manager Agent

The Application Usage Manager agent is installed as a service to the existing Client Automation Agents in your environment.

The Application (ZSERVICE) class in the USAGE Domain contains a service out of the box that requires minimal configuration. This is named **Application Usage Mgr Agent Install – Enterprise Collection**. Connect this service to the appropriate agent machines and then during the next agent connect the Application Usage Manager agent is distributed.

Use this service to define inventory and collection parameters and for distribution to your agent computers.

Go to **View→Options**. Open the Instance Options tab and select **Both** and click **OK**.

Reopen the Admin CSDB Editor.

To configure the Application Usage Manager agent for distribution

1 Start the Admin CSDB Editor and double-click **PRIMARY**, then **USAGE**.

2 Double-click to expand the **Application (ZSERVICE)** class.

   This class contains several services you can use to distribute the Application Usage Manager agent as well as apply any collection filters. The service **Application Usage Mgr Agent Install – Enterprise Collection** distributes the Application Usage Manager agent to your environment and contains a default collection instance.

   The service contains four configurable connections:

Application Usage Manager Agent Configuration – Entire Enterprise	Application (PACKAGE) instance
Configuration – Entire Enterprise	Configuration (UMCONFIG) instance
Inventory – Sundays at Midnight	Inventory (UMINVENT) instance
Collection – Entire Enterprise	Collection (UMCOLLCT) instance

3 Double-click **Configuration – Entire Enterprise**. The Editing Instance dialog box opens.

4 Click **SERIAL** to edit the instance. Enter your Usage Manager serial number.
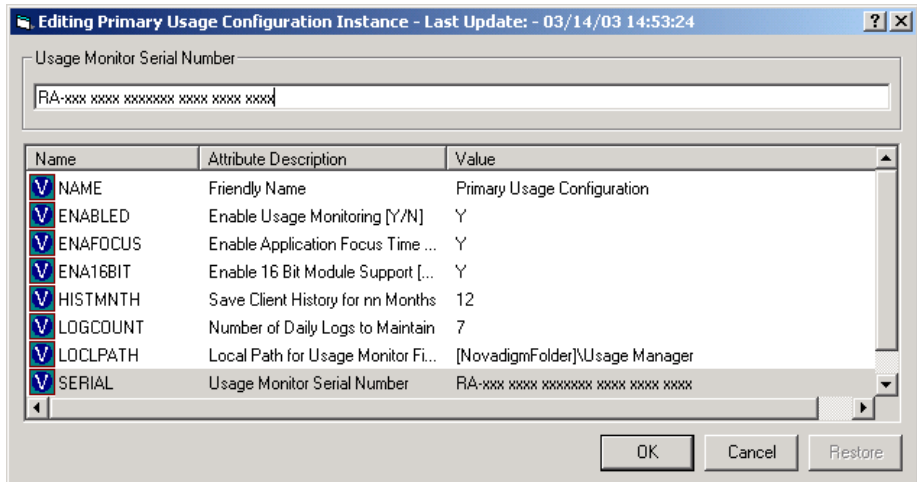
5   Click **OK** to close the window.

6   Double-click **Collection – Entire Enterprise**.

7   Double-click **HTTP - CMIS_IP_ADDR:Port\URL.**
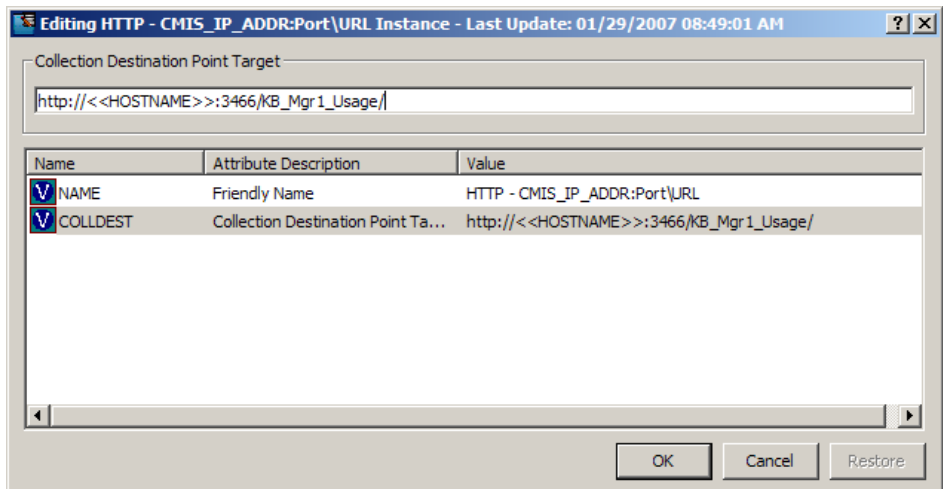
8   Select **COLLDEST** and enter the url and port of the HPCA Server being used to collect the USDBase files from the HPCA Agents in your environment.

— If you are using Messaging Servers enabled for usage aggregation to collect usage files from the HPCA Agents, specify COLLDEST using the hostname and the listening (store and forward) port of your Messaging Server:

http://1.1.1.10:3461/proc/usage

or

https://1.1.1.10:3461/proc/usage

— If you are using a Portal to collect usage files from the CM Agents, follow the examples below.

http://1.1.1.10:3471/KB_Mgr1_Usage/

If your Portal has been SSL-secured, specify the **COLLDEST** url using **https,** such as: **https://1.1.1.10:443/KB_Mgr1_Usage/.**

The Knowledge Base Server monitors this collection point and moves any files it finds into your SQL database for viewing. After the files are moved out of the collection point, they are saved in a subdirectory called Archive.

The default collection parameters are described in Table 3 below.

Table 3   Default Collection Parameters (UMCOLLCT)

Instance	Default Value	Description
NAME	Primary Collection Parameters	Friendly Name.
INTERVAL	Weekly	When the collection will take place. [Monthly/Weekly/Daily/None]
DAYOFMON	1	Day of the month collection will take place. [01-31]
DAYOFWK	1	Day of the week collection will take place [1=Sun] [1-7]
COLLHOUR	00	The hour of the collection. Midnight is hour 00. [00-23]
COLLMIN	00	The minute of the collection. [00-59]

Instance	Default Value	Description
COLLRAND	0	Randomized Collection. Maximum delay minutes to use to randomize the collection start time. If non-zero, randomizes the collection process to occur anytime from the start time through a randomly generated number of minutes later. [0-720]
ENABLED	Y	Whether or not collection is enabled.
COLLCNCT		Collect on CM Agent Connect? [Y/N] *Note:* CM Agent Connect now refers to a Client Automation Agent connect.
DBASCONN	USAGE.UMDBASE.PRIMARY	Usage database connection.
DESTCONN		This is a connection to a predefined collection point. This is the location where files will be stored until the Knowledge Base Server moves them into your SQL database.
CMETHOD	CMETHOD.UMCOLLCT	The collection method.
FLTSET01	USAGE.UMFLTSET.USAGE_INCLUDE_ALL_FILES	Filter Set connection.
FLTSET02 through FLTSET10		Filter Set connections.

9 Click **OK** to close the dialog box.

10 Connect any Filter Sets you would like to include with your service by dragging the Filter Set instance onto the service name. For more information on creating and applying filters, see Filters on page 69.
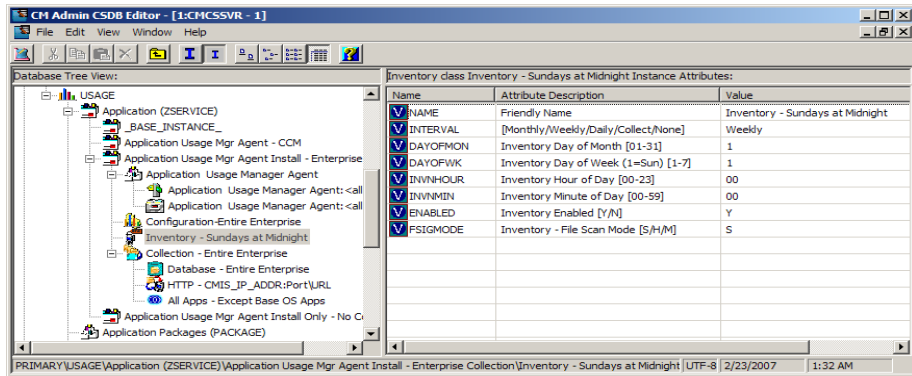
11 If you want to adjust the inventory time, double-click **Inventory –
   Sundays at Midnight**. Table 4 below describes each inventory parameter.

Table 4   Default Inventory Parameters (UMINVENT)

Attribute	Default Value	Description
NAME	Default Inventory Parameters	Friendly Name
INTERVAL	Weekly	When each inventory will take place. [Monthly/ Weekly/ Daily/Collect/None]
DAYOFMON	1	The day of the month to begin the inventory. [0-31]
DAYOFWK	1	Day of the week each inventory will take place. [1-7] (1=Sunday).
INVNHOUR	00	The hour of the day at which the inventory will take place. [00-23]
INVNMIN	00	The minute at which the inventory will take place. [00-59]
ENABLED	Y	Whether or not inventory is enabled.

Attribute	Default Value	Description
FSIGMODE	S	Three levels of scanning depth for executables inventoried on each agent device are available. The type of scan defined here can determine the amount of time a collection may take. **S** File Sizes Only. Faster, less comprehensive (default) **H** Entire Module Header. Slower, more comprehensive **M** Complete MD5 Signature. Slowest, most comprehensive
CMETHOD	CMETHOD.UMINVENT	The inventory method.

These parameters can be adjusted to adhere to your specific needs. The default inventory will begin on the first of the month and repeat once a week every Sunday at midnight.

12 Connect the **Application Usage Mgr Agent Install – Enterprise Collection** service to the appropriate users or workgroups using the Admin CSDB Editor. For example, to connect this service to the default Administrator User, follow the steps below:

a Login to the Database Editor.

b Expand the PRIMARY file, USAGE domain and Application (ZSERVICE) class.

c Select **Application Usage Mgr Agent Install – Enterprise collection** and drag-and-drop it on the default user instance under `PRIMARY\POLICY\Users\Administrator`.

The Application Usage Manager Agent Installation using an HPCA environment

To install the Agent for Application Manager or Application Self-Service Manager

Installation requirements, as well as instructions for installing the Client Automation agent, are documented in the *HP Client Automation Application Manager and Application Self-service Manager Installation and*

Configuration Guide (Application Manager and Application Manager Self-service Manager Guide).

1   Open Application Self-Service Manager, in the list of software displayed.

2   Select **Application Usage Manager Agent** and right-click.

3   Select **Install** from the shortcut menu to install the Application Usage Manager Agent.

> After it is installed, you can also use the Application Self-service Manager to **Update**, **Verify** and **Remove** the Application Usage Manager Agent. Refer to the *Application Manager and Application Self-service Manager Guide* for more information.
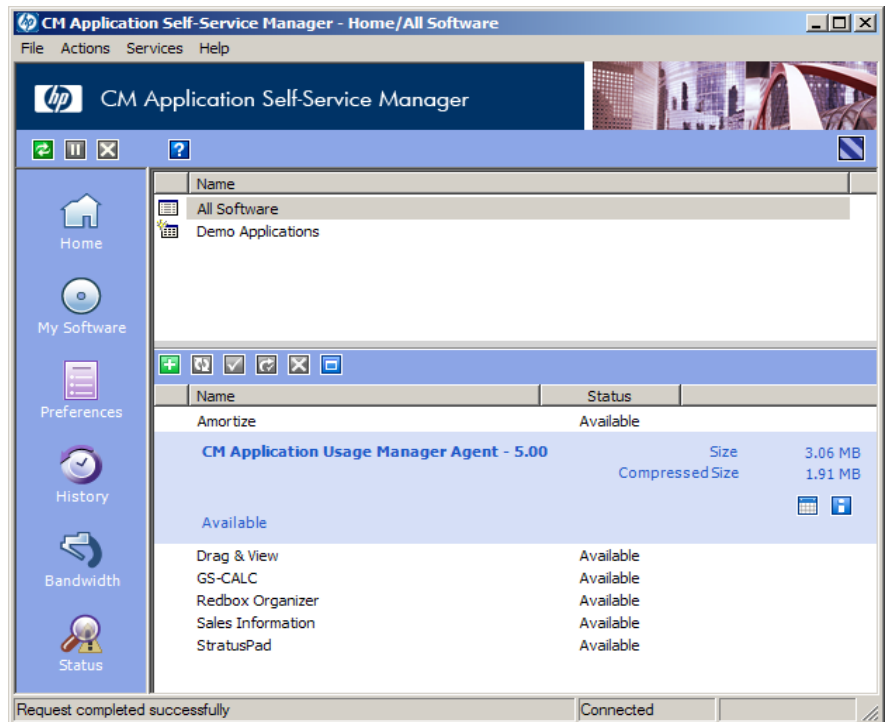
For implementation details regarding non-Client Automation environments refer to Appendix A, Implementing Application Usage Manager in a Non-HPCA Environment.
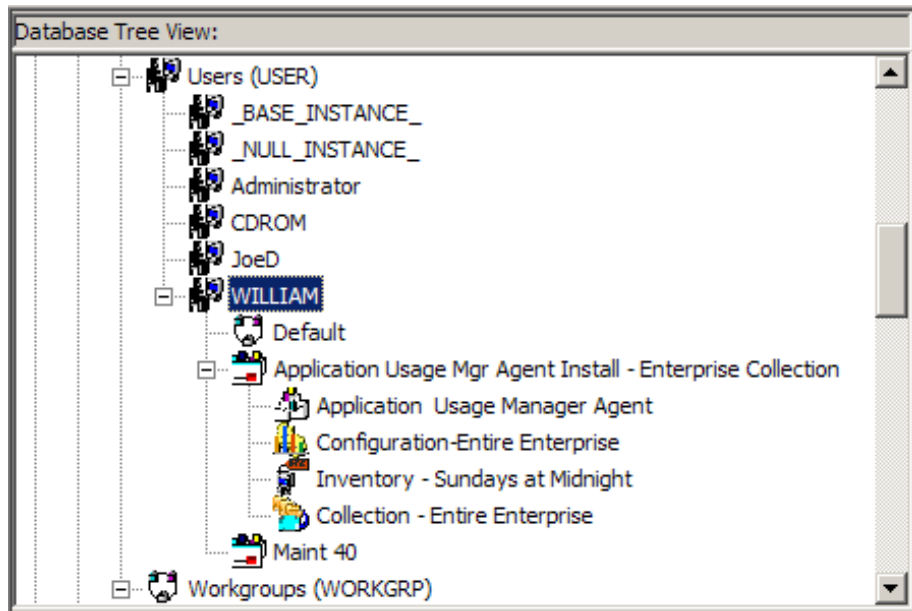
During the next agent connect to the Configuration Server, the service will be installed, and based on your settings, collection will begin.

Filters

By default, the Application Usage Manager collects usage information for every executable installed on the agent computer. To collect only specific executable information, filters can be defined and attached to the collection instance. Because all executable information is collected by default, the **Exclude All** filter rule must be included with any filters you use.

The USAGE Domain contains classes associated with creating filters for your usage data. This enables you to collect specific information based on parameters you define. The filter related classes are:

- Filter Criteria
- Filter Rule
- Filter Set

Each of these classes contains configurable instances you can use to define your filter.

Criteria, Rule, and Set

To help you define filter parameters, the Application Usage Manager uses filter criteria, rules, and sets.

- **Criteria**
  Criteria are specific attributes that an application may contain, such as "member of the Microsoft family of applications."

- **Rule**
  When multiple criteria are combined, they form a rule. A rule is a simple way of grouping criteria, making it easier to apply the same set of criteria to multiple services.

- **Set**
  When multiple rules are grouped into one instance, a set is created. A set is the highest level of criteria collection containing multiple rules, which in turn may contain multiple criteria.

Filter Criteria Class (UMFLTCRI)

Figure 6   Filter Criteria Class (UMFLTCRI) pre-defined instances
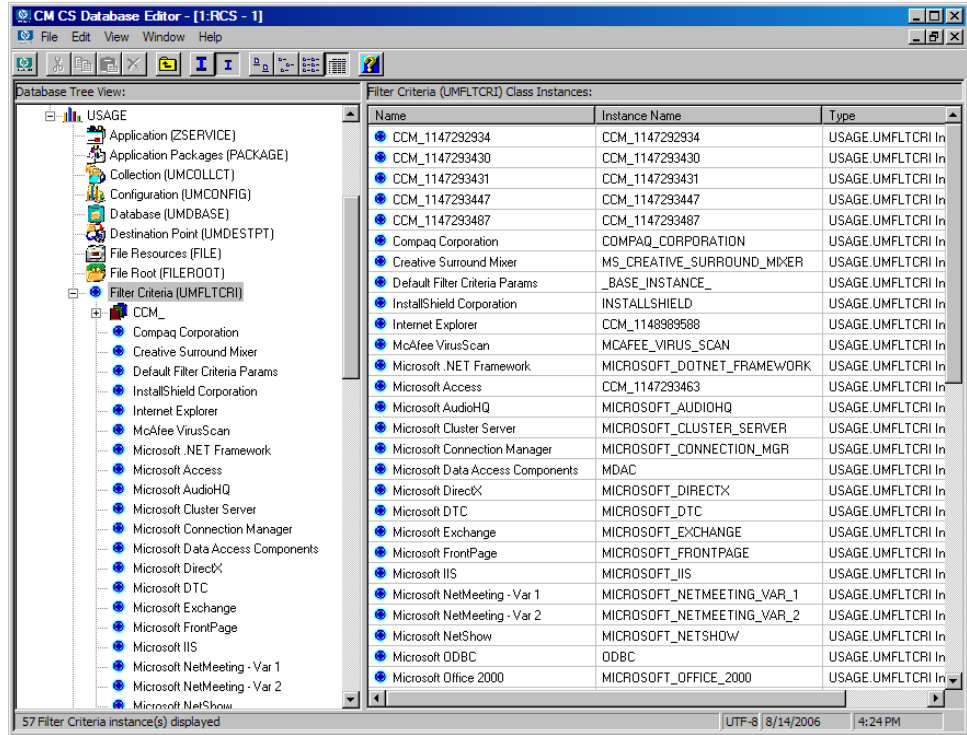
The Filter Criteria Class contains various instances that reflect vendor-specific applications. Use these to attach a filter criterion using one of the included applications. The instances include filter criteria for Compaq, McAfee, Microsoft, and InstallShield, as well as many others.

Filter Rule Class (UMFLTRUL)

Figure 7   Filter Rule Class (UMFLTRUL) pre-defined instances
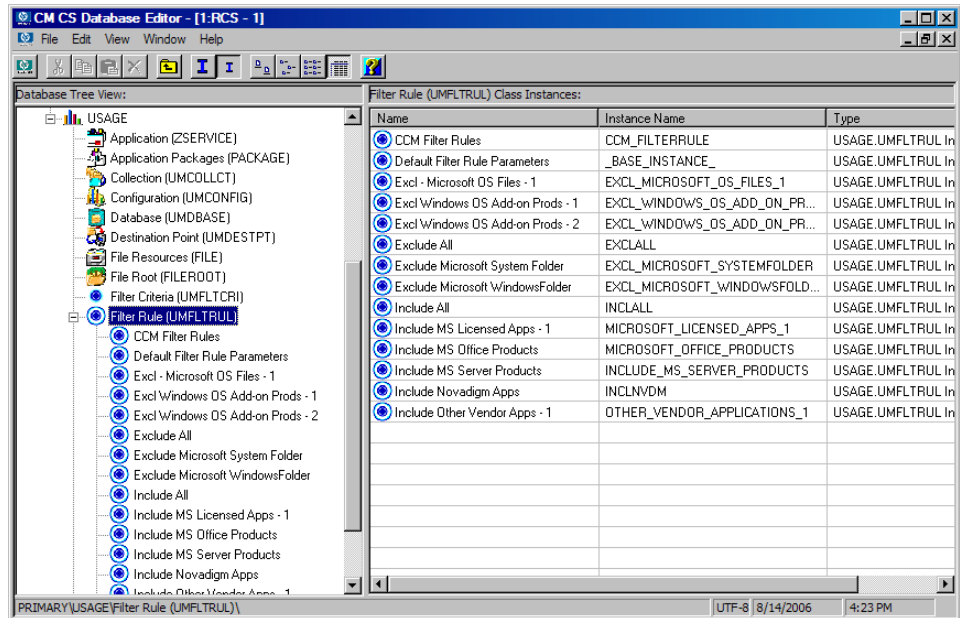
The Filter Rule Class contains pre-configured rules using common vendor-specific parameters. For example, Include MS Office Products will include all Microsoft Office applications, and Exclude Microsoft Windows will exclude all Microsoft Windows files.

This Filter Rule Class connects to the usage filtering criteria. The filter type determines whether it is an inclusion or exclusion Filter Rule and its priority determines its importance when compared with other Filter Rules in a Filter Set (Zero is the lowest priority). In the event priorities are equal within a Filter Set, inclusion filters take precedence over exclusion filters.

If no criteria are specified for an inclusion filter, than all usage information is captured in the collection file. If no criteria are specified for an exclusion filter, then all usage is excluded.

Filter Set Class (UMFLTSET)

Figure 8   Filter Set Class (UMFLTSET) pre-defined instances
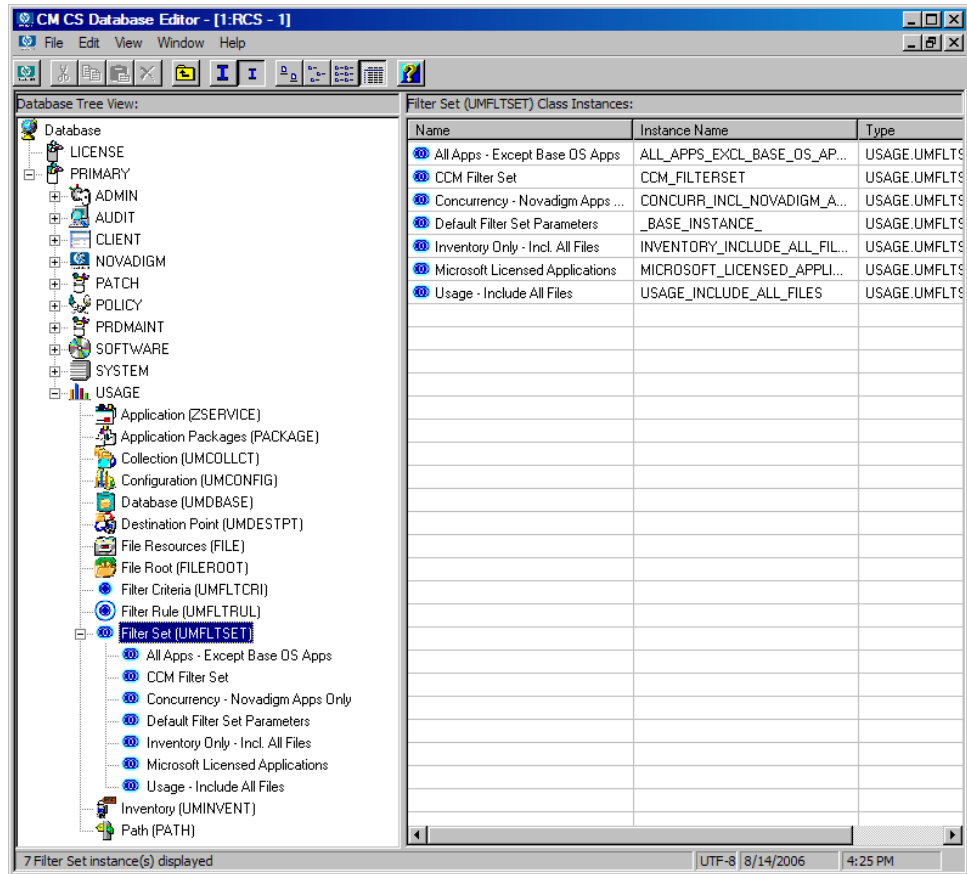
A Filter Set is comprised of one, or a collection of, Filter Rules. The Filter Set class contains pre-configured Filter Sets you can use to collect or exclude vendor-specific information.

Once a Filter Set has been created, or you decide which existing Filter Set to use, connect it to a Collection class (UMCOLLCT) instance to enable the filter. Only Filter Sets may be connected to a collection class. All criteria associated with that Filter Set are then processed. By connecting the Filter Set to a Collection class instance, each data collection can then contain specific filtering.

Table 5   Default filter set parameters

Attribute	Default Value	Description
NAME	Default Filter Set Parameters	Filter Set Friendly Name
INCLUSAG	Yes	Determines whether or not to include usage data as well as inventory data in the collection.
CONCURR	No	Defines whether to collect concurrent usage data. See Using Concurrency on page 81 for more information.
CMETHOD	CMETHOD.UMFLTSET	Client method used to process Filter Set class instances
FLTRUL##		Filter Rules connections

Using Filters

Filters can be applied to Collection class instances. Use the existing Filter Set instances, or create your own using the filter classes provided. The following exercises explain how to apply a filter as well as how to create a new filter based on parameters you define.

Filter Set Class Instances

The Filter Set Class (UMFLTSET) contains a few default Filter Sets that can be used for generic data collections. Each class instance collects a specific type or set of data. Table 6 below describes each class instance in detail.

Table 6   Filter set class (UMFLTSET) instances

Instance Name	Description
All Apps – Except Base OS Apps	Collects data for all installed applications with the exception of base operating system applications.

Instance Name	Description
CCM Filter Set	Collects data for the Microsoft and Internet Explorer applications defined in the Filter Criteria connections.
Concurrency – Novadigm Apps Only	Collects concurrency data. This default setting collects data for all HPCA applications. HPCA applications were formerly known as Novadigm and Radia applications, as well as HP OpenView CM applications.
Default Filter Set Parameters	Contains the default Filter Set instance values and is used to create custom Filter Sets.
Inventory Only – Incl All Files	Collects inventory data for installed applications - no usage data is collected.
Microsoft Licensed Applications	Collects data for Microsoft applications as defined in each Filter Criteria connection.
Usage – Include All Files	Collects all usage data.

Applying Filters

Filters can be applied to Collection class instances by simply dragging the Filter Set instance onto the appropriate Collection class instance.

To apply a filter to a Collection Class

1   Start the Admin CSDB Editor and navigate to the PRIMARY File, USAGE Domain.

2   Connect the appropriate Filter Set to the connection class you would like to apply the filter to.

3   Click **Copy** and accept the changes.

Creating Filters

Creating a Filter is comprised of three basic steps:

1 Create or select a Filter Criteria instance.

2 Create or select a Filter Rule instance and attach the Filter Criteria instance.

3 Create or select a Filter Set instance and attach the Filter Rule instance.

The following example demonstrates how to create a filter that will collect usage information for Adobe Acrobat.

To create a Filter Criteria instance

1 Start the Admin CSDB Editor and navigate to the PRIMARY File, USAGE Domain.

2 Double-click **Filter Criteria (UMFLTCRI)**.
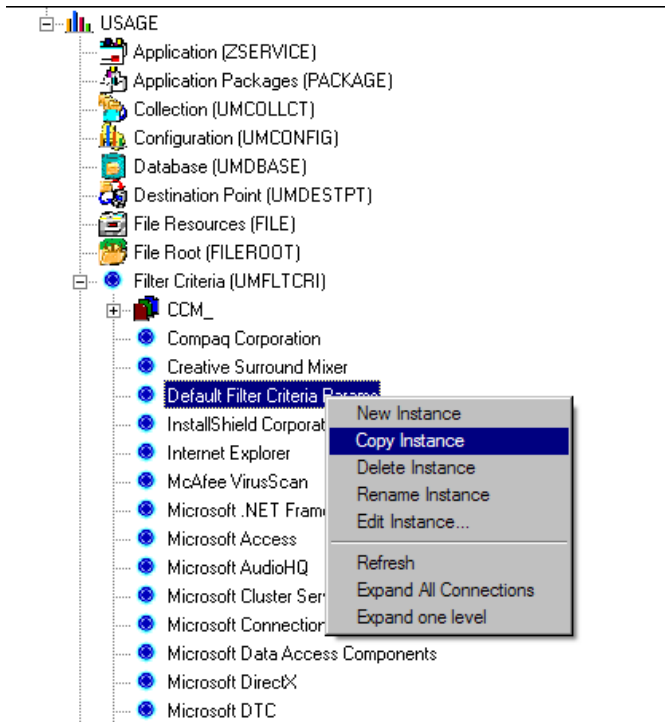
3 To create a new instance right-click **Default Filter Criteria Params**, and from the shortcut menu select **Copy Instance**. The Copy Instance dialog box opens.

4   Rename the new instance Adobe Acrobat, and then click **OK**.

5   In the tree view of the Admin CSDB Editor, double-click the newly
    created instance.

    The Editing Instance dialog box opens.
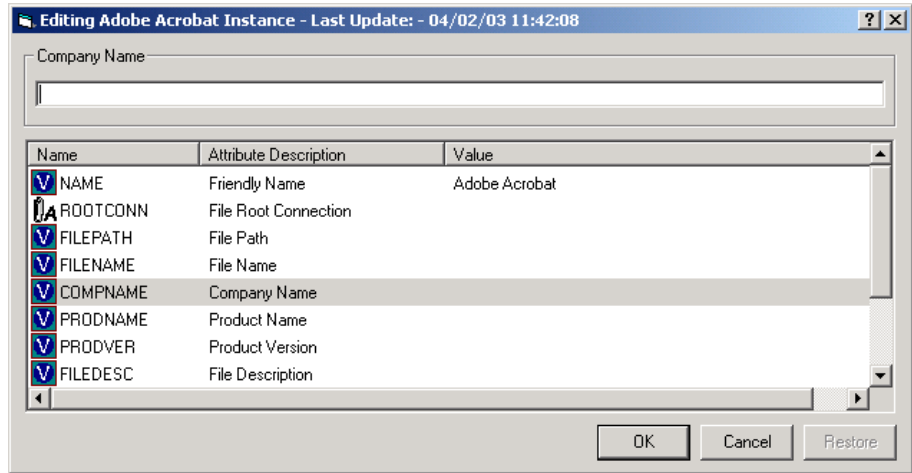
6   Use the attributes defined in the following table to define your filter
    criteria.

Table 7   Filter criteria attributes

Attribute	Description
NAME	Friendly Name
ROOTCONN	Compares for applications that reside in any of the predefined shell folder names, such as `ProgramFilesFolder`, `WindowsFolder`, or `SystemsFolder`. These can be used to filter based on a well-known folder, such as `TempFolder`.
DESCRIPT	Description of filter criteria.
ENABLED	Whether or not this filter is enabled. [Y/N] Default is Y.
FILEROOT	Defines the file root path, or the base location of a file without any extended path information. Can be a drive, like `C:\`, or a well known folder location, like `ProgramFiles` folder.

Attribute	Description
FILEPATH	Defines the suffix of the path name that is appended to the file root path. For example, this would contain the characters `\Microsoft Office` regardless if the installation for the Microsoft Office application was to the `ProgramFilesFolder\Microsoft Office` **path** or to the `TempFilesFolder\Microsoft Office` path.
FILENAME	The application file name executable, for example `winword.exe`.
COMPNAME	The vendor name defined in the executable's header.
PRODNAME	The product name defined in the executable's header.
PRODVER	The product version defined in the executable's header.
FILEDESC	The file description defined in the executable's header.
FILEVER	The internal file version defined in the executable's header.
ORIGNAME	The original file name defined in the executable's header. This string does not change if the file is renamed.
MD5HASH	The MD5 hash file signature that uniquely identifies the contents of the file. Any change to a file results in it being assigned a unique MD5 hash signature.
CMETHOD	The client method used to process Filter Criteria instances.

7   In the Editing Instance dialog box (see the figure on page 77) double-click the **COMPNAME** attribute and in the text box provided and type **Adobe**.

8   Click the **PRODNAME** attribute and type **Acrobat**.

9   Click **OK** and save the changes.

You have successfully created a new Filter Criteria instance.

1 In the tree view of the Admin CSDB Editor, double-click **Filter Rule (UMFLTRUL)**.

2 Right-click **Default Filter Rule Parameters.**

3 In the shortcut menu, select **Copy Instance**. The Copy Instance dialog box opens.

4 Rename the new Filter Rule instance Adobe Apps, and click **OK**.

5 In the Admin CSDB Editor window, connect the Filter Criteria instance you created, Adobe Acrobat, to the newly created Adobe Apps Filter Rule instance.
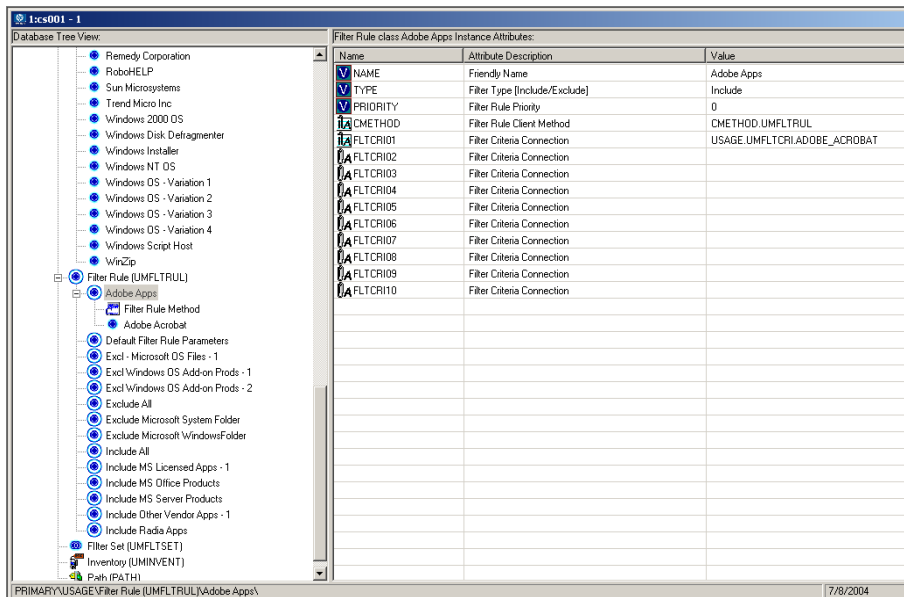
6 Click **Copy** and accept the changes by clicking **Yes**, and then **OK**. The Filter Criteria instance is now connected to a Filter Rule instance.

7 In the list view of the Admin CSDB Editor (right pane), double-click the PRIORITY instance attribute and set the value to **1** to ensure this rule will be applied before any default rules may be used. (Zero is the lowest possible priority as well as the default value.)
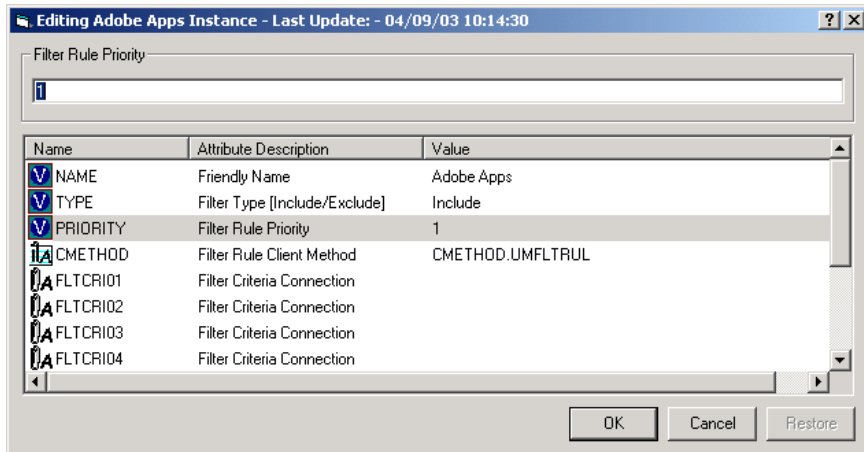
The Filter Rule instance is now complete.

To create the Filter Set instance

1 In the Admin CSDB Editor window, double-click **Filter Set (UMFLTSET)**.

2 Right-click Default Filter Set Parameters.

3 In the shortcut menu select, **Copy Instance**. The Copy Instance dialog box opens.

4 Rename the new Filter Set instance Adobe Licensed Applications.

5 Connect the Filter Rule instance you created earlier, Adobe Apps to the newly created Adobe Licensed Applications Filter Set instance.

6 Also connect the existing Filter Rule instance, Exclude All, to the newly created Filter Set instance. This ensures that only usage data for the specific executable defined in your criteria, Adobe Acrobat, will be collected.

   By default the priority setting for this instance is 0, the lowest possible. By setting the priority for the Adobe Apps rule to 1 earlier, you have given priority to that Filter Rule instance, ensuring it will be applied before any default rules.
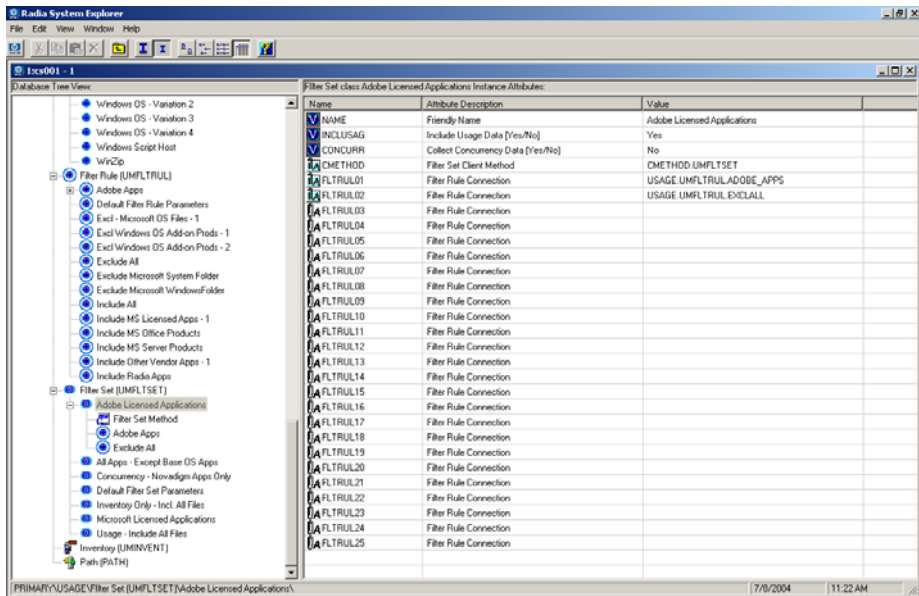
The Filter Set instance is complete. You are now ready to apply the filter to a collection instance. See the section Applying Filters on page 75 for more information.

Using Concurrency

Data usage collection is available either on a daily basis or on a more specific basis using concurrency. Concurrent data collection is enabled at the Filter Set level (UMFLTSET) in the CONCURR instance attribute.

Database Tree View:		
USAGE		

Filter Set class All Apps - Except Base OS Apps Instance Attributes:

Name	Attribute Description	Value
NAME	Friendly Name	All Apps - Except Base OS Apps
INCLUSAG	Include Usage Data [Yes/No]	Yes
CONCURR	Collect Concurrency Data [Yes/No]	No
FLTRUL01	Filter Rule Connection	USAGE.UMFLTRUL.INCLALL
FLTRUL02	Filter Rule Connection	USAGE.UMFLTRUL.EXCL_MICROSOFT_OS_FILES_1
FLTRUL03	Filter Rule Connection	USAGE.UMFLTRUL.EXCL_WINDOWS_OS_ADD_ON_P...
FLTRUL04	Filter Rule Connection	USAGE.UMFLTRUL.EXCL_WINDOWS_OS_ADD_ON_P...
FLTRUL05	Filter Rule Connection	
FLTRUL06	Filter Rule Connection	
FLTRUL07	Filter Rule Connection	
FLTRUL08	Filter Rule Connection	
FLTRUL09	Filter Rule Connection	
FLTRUL10	Filter Rule Connection	

28 Filter Set CLASS All Apps - Except Base OS Apps attribute(s) displayed   UTF-8 4/4/2007   6:04 PM

To enable concurrency usage data collection

1 Navigate to an existing Filter Set instance (see To create the Filter Set instance on page 80 for details on how to create Filter Sets instances).

2 Double-click the **CONCURR** instance attribute.
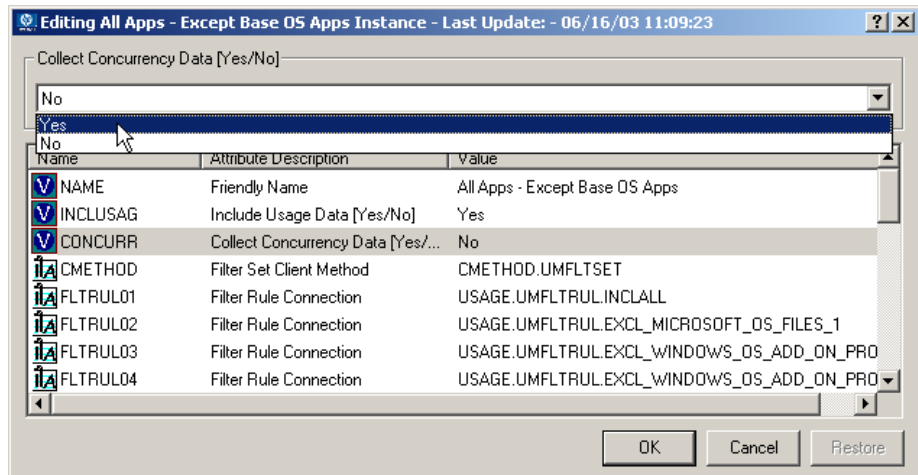
3 From the drop-down list select **Yes**, and then click **OK**. Click **Yes** to save your changes.

Concurrency usage data collection has been enabled. Concurrent usage data will now be collected for the appropriate applications in fifteen-minute intervals, by default.

⚠ Concurrent usage data collection generates a large amount of data. Make sure you have enough available resources before you begin collecting this type of data.

Initiating Inventory and Usage Collections

The executables, `USDBInvn.exe` and `USDBColl.exe` can be used to initiate the collection of inventory and usage data respectively. After a default installation, these files are located in the `\Program Files\Hewlett-Packard\CM\AUM Agent\bin\` folder.

Initiating Inventory Data Collection

The executable `usdbinvn.exe`, collects current inventory data on a target machine. Run this executable to force inventory collection for any machine with the Application Usage Manager Agent installed. No parameters are required. The inventory information is stored within the `history.usdbase` file, on the local machine at the root of the `\Usage Manager\` directory.

Configuring Usage Data Collection

The executable, `usdbcoll.exe`, is responsible for configuring the Application Usage Manager data collection environment on the agent device.

Defining a Database Collection Point

A database definition contains the information required to send the collected usage data to a specific collection point in the backend infrastructure. It has a unique name and associated parameters.

Database entries can be configured in the Configuration Server Database in the PRIMARY File USAGE Domain. Default database and associated configuration parameters are shipped with the Application Usage Manager. To manually define a database collection point, run the following command:

```
USDBCOLL.EXE /i DatabaseName=SQL_database_name
```

The `/i` parameter indicates an **install database** operation.

Initiating a Usage Data Collection Request

Execute the USDBColl.exe module to initiate a data collection request. It can be launched by the Application Usage Manager internal scheduler, by an HPCA service or Notify request, or otherwise. Any filtering is applied during the collection process.

To launch a collection, run the following command for the specific database name defined in the command line:

USDBCOLL.EXE DatabaseName=SQL_database_name

Initiating a Usage Data Re-collection Request

Once data has been collected, it is not sent to the server again during a normal collection request.

⚠️ Consider the consequences before recollecting usage data. Recollection may result in duplicate data or a corrupted SQL database if not done within strict guidelines and without the consent of HP Technical Support.

To initiate a re-collection of data (data already sent to the server), execute the usdbcoll.exe module using the following command line options:

USDBCOLL.EXE DatabaseName=SQL_database_name, RecollectMode=3

See Table 13 on page 148, for a description of the USDBCOLL.EXE parameter values.

Table 8   USDBCOLL.EXE Command Line Parameters

Parameter	Description
DatabaseName=UniqueSQLDatabaseName	Defines a unique SQL database name for collection purposes.

Parameter	Description
RecollectMode=Value	Defines the type of data to be re-collected. Value can be 1, 2, or 3 as defined below.
	1 – **Signatures** - all file signature data is re-collected for all files that meet the collection filter. This includes the data for the FileSignatures and FileSignatureProperties tables.
	2- **Files** - all Windows file data is recollected for all files that meet the collection filter. This includes all of the data collected in Signature mode as well as data for the WindowsFiles and WindowsFileInstances tables.
	3 – **Usage** - all Windows file usage data is re-collected for all files that meet the collection filter. This includes all of the data collected in File mode as well as data for the WindowsFileUsage table.

Enabling Privacy

The Application Usage Manager allows for the obfuscation of certain data attributes in order to ensure privacy, if required. The following information can remain undisclosed:

- **User Name**
  The user name is reported as [AnyUser].

- **Computer Name**
  The computer name is reported as a random set of alphanumeric values.

- **Domain Name**
  The domain name is reported as a random set of alphanumeric values.

- **Usage Times**
  The executable file usage times and launch counts are all reported as zero values.

Figure 9   UMCONFIG class -- Instance Attributes related to obfuscation
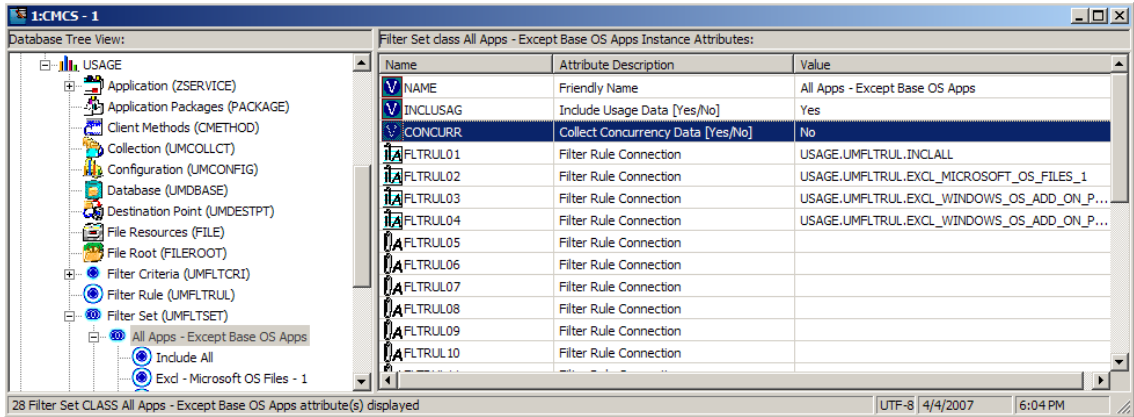
- Four attributes in the UMCONFIG Class directly relate to this information. Set these values to Y to hide the related data.

Table 9   Obfuscation attributes of the UMCONFIG class

Attribute	Description
OBFSUSER	Set this value to Y to obfuscate user name data.
OBFSCOMP	Set this value to Y to obfuscate computer name data.
OBFSDOMN	Set this value to Y to obfuscate domain name data.
OBFSUSAG	Set this value to Y to obfuscate user usage time data.

Internet Explorer Usage Counts for Windows Vista

When the Internet Explorer is running on Windows Vista (x64) with the "Enable Protected Mode" selected (from the Tools → Internet Options → Security menu), each launch of the application will result in a usage count of two.

This is because when the user launches Internet Explorer, it first runs IEUser.exe, which runs at the default medium-integrity level. IEUser.exe then spawns a low-integrity level executable, IExplorer.exe, which is the program the user sees and interacts with. Hence the usage count will always be two for each launch of the Internet Explorer.

5 Viewing Application Manager Usage Reports

At the end of this chapter, you will:

- Know how to access and use the Reporting Server to view the usage information obtained from agent computers.

- Be able to navigate through the information collected by clicking hyperlinks embedded within any table.

- Alternatively, know how to access and use a Web browser to view the usage information obtained from agent computers.

Accessing the Reporting Server

- Open a Web browser and type the following address:

      http://*<hostname>*/reportingserver

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

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

  > For better performance, stop the **HP OpenView CM KB Server** before viewing usage reports from the Reporting Server. Refer to Starting and Stopping the KB Server on page 48 for more information.

Viewing Usage Information Using the Reporting Server

The Reporting Server provides web-based reports for Application Usage Manager. For installation and configuration instructions for the Reporting Server, refer to the *Reporting Server Guide*. The Reporting Server installation media is included with the CM Infrastructure media.

> Usage reports may need to be enabled. This is done using the Reporting Server configuration file (setup.tcl). Refer to the *Reporting Server Guide* for more details.

Reporting Views for Usage Reports

To view the reports, first access your Reporting Server. Then, under Reporting Views, click **Usage Management Reports** to expand the list of reports.

There are different types of inventory reports:

- Device Reports Summaries
- Monthly Usage Reports

Figure 10   Usage Management Reports
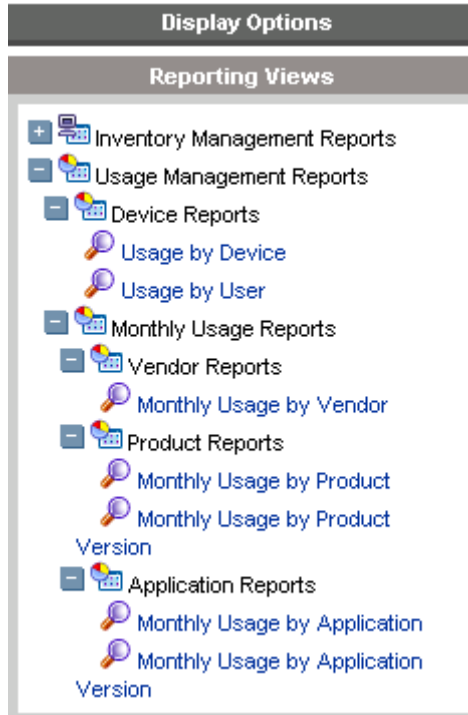
Filtering Usage Management Reports with Reporting Server

Reporting Server provides extensive filtering capabilities. To access the filters, expand Usage Management Related in the Search Options section of the Reporting Server page.

Filter types include:

- Device Related
- OS Related
- Software Related
- Interval Related

Figure 11   Usage Management Related Data Filters
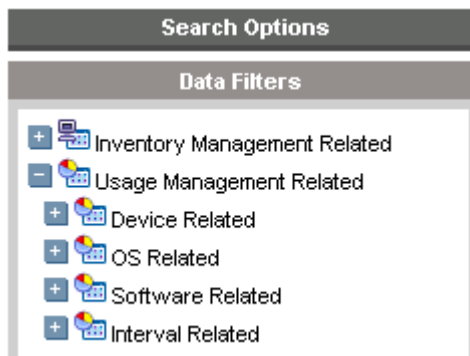
Expand each individual Usage Management Related Data Filter to refer to the available filters you can apply to the current Reporting View.

For more information on creating filters and using the Reporting Server in general, refer to the *Reporting Server Guide*.

Accessing the Application Usage Manager Reports on a Web Server with TCL Server Pages

The Application Usage Manager reports can also be accessed through a Web Server (the Portal) that has been enabled with the provided Application Usage Manager Tcl Server pages. Refer to Enable Web Reporting on page 41 for information on how to do this.

To access the Application Usage Manager reports using a Web browser

1   Open a web browser and type the location where you installed the Application Usage Manager, for example,

   http://<*Portal*>**:3471**

   The Application Usage Manager can be accessed through the Portal. The address you enter here should reflect whichever HPCA server you are currently using.

2   Click the **USAGE** tab to access the Application Usage Manager reports.

Creating Usage Reports

Use the Application Usage Manager to generate reports based on the data you collected and made available in your SQL database. There are two main categories, Application Usage and Operational Reports, and several different report types within each category.

Figure 12   Application usage reports main page
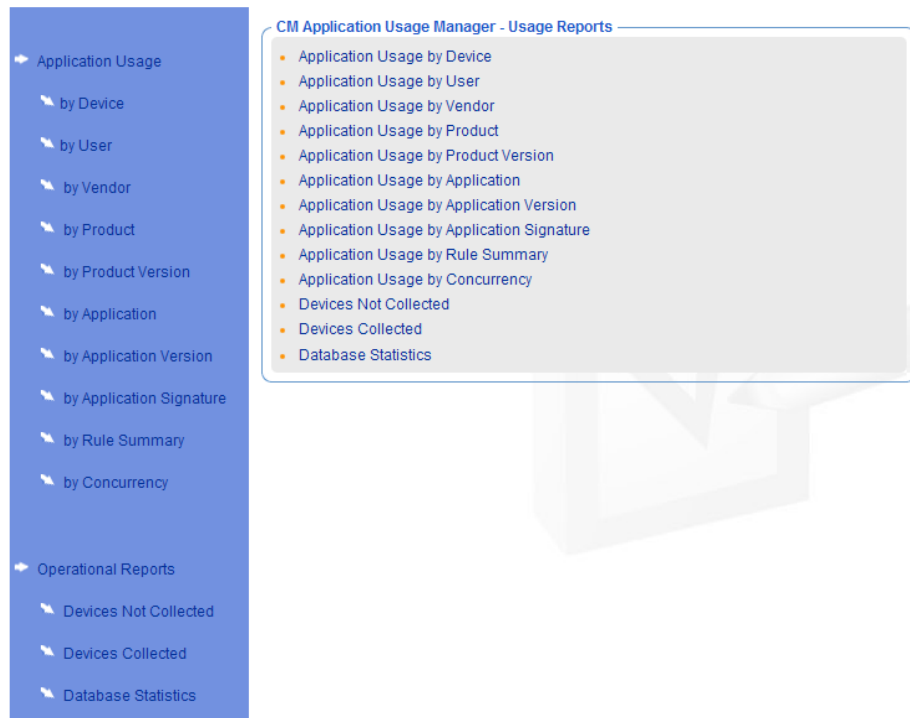
Click a report name to bring you to the summary report page of your choice. Each summary page is described in detail in later sections.

We suggest you determine what you would like to report on and use the report generator to create your own customized reports. Each page offers different text boxes to customize the information that is searched for and displayed. In these text boxes, type the complete name, or the beginning of a name, to customize your reports (e.g., on the by Device page type `w%` in the Domain text box to return all domains beginning with a "w"). When you are finished filling in the values, click **Submit Request**. The information is displayed beneath the search criteria section in table format.

Figure 13   Summary data displayed

Each search criteria text box in the Device group box is optional. Leave a text box blank and click **Submit Request** to return all occurrences.

The data displayed in each table is customizable. Click any column heading to sort the data or click any individual record to find out more information about that specific application, device, user, or any of the other available choices.

Creating Application Usage Reports

Application Usage Reports offer an extensive and customizable tool for displaying reports. Application Usage Reports allow you to query your CM Usage database and return an informative and interactive report based on, among other things, application, product, device, and user.

Some reports offer the options to select, include, or exclude group rules. Group rules are created and maintained by the Application Usage Manager Administrator. Each item in the drop-down lists for Include Rule and Exclude Rule is prefixed by a code indicating the type of rule.

- **(C) Criteria**
  Lowest level search. Elements of a Criteria are AND'ed together during the search.

- **(R) Rule**
  A group of chosen criteria. Criteria in a Rule are OR'ed together during the search.

- **(RS) RuleSe**t
  A group of Rules. Rules in a RuleSet are OR'ed together during the search.

- **(RSG) RuleSetGroup**
  A group of RuleSets. RuleSets in a RuleSetGroup are OR'ed together during the search.

By Device

Select **by Device** to generate a report based on individual device descriptions, locations, or even operating systems.

Figure 14   Application usage by device page
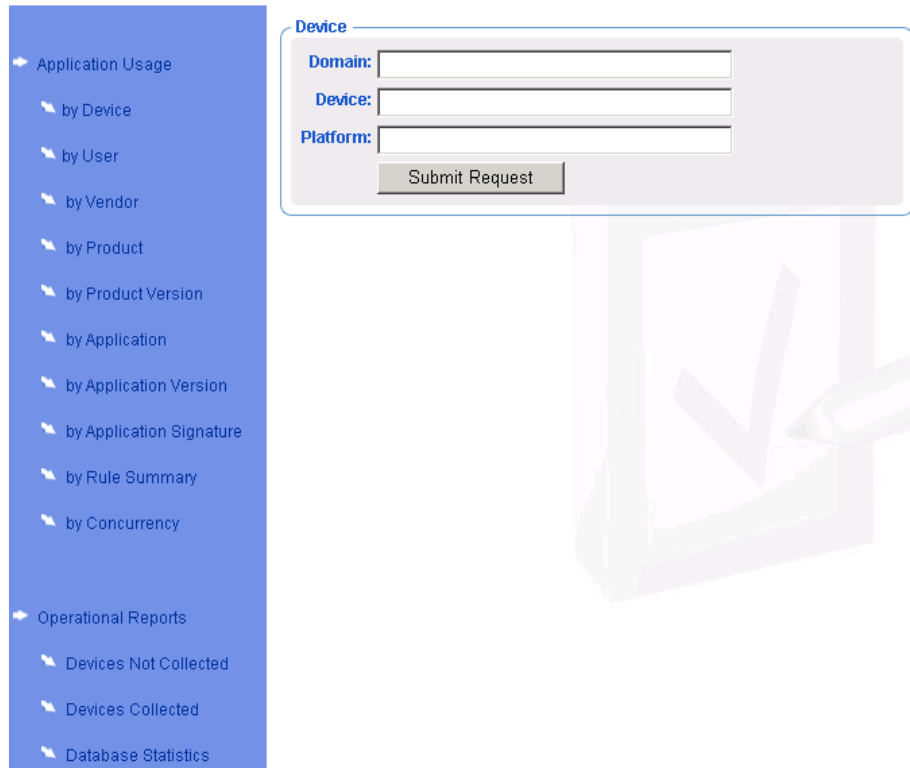
Three options are available when you choose to display the information by device:

- **Domain** – Type the name of the domain you want to display.

- **Device** – Type the individual device name you want to report on.

- **Platform** – Enter the operating system name for which you would like to see reports.

Remember, entering just the beginning of a value in any text box followed by % will return all appropriate occurrences. For example, entering `Win%` in the Platform text box could possibly return, Windows 2000 or Windows XP.

By User

Select **by User** to generate a report based on individual user information.

Figure 15   Application usage by user
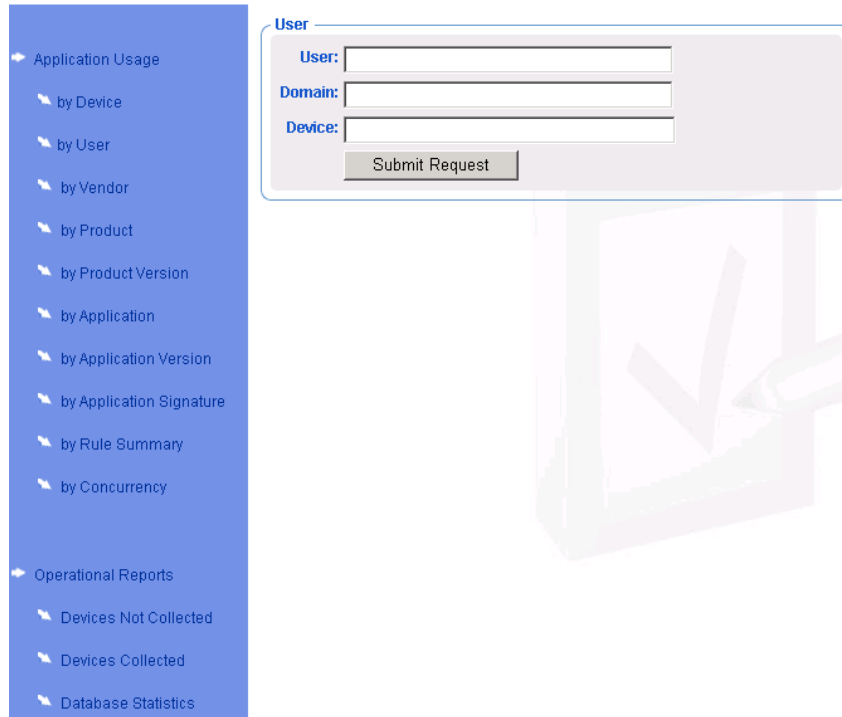
Three options are available when you choose to display the information by user:

- **User** – Type the name of the user for whom you want to display information.

- **Domain** – Type the name of any domain containing the machine that the individual user may have used.

- **Device** – Enter the specific device name for which you want to see user information.

To return all collected data for any user beginning with the letter b, type `b%` in the User text box and click **Submit Request**. Any user fitting that criterion will be returned, such as Barry, Brenda, B1295, bpL200, and so on.

By Vendor

Select **by Vendor** to generate a report based on specific vendor details.

Figure 16   Application usage by vendor

The following options are available when generating vendor reports. Values are not required for every option. Leaving all options blank will return all information in your database – we do not recommend this as it may take a very long time depending upon the size of your database.

- **Report Type** – From the drop-down list, select the type of vendor report you want to see. This includes used and unused applications as well as application inventory information.

- **Include Rule** – From the drop-down list, select an Include Rule, or leave blank.

- **Exclude Rule** – From the drop-down list, select an Exclude Rule, or leave blank.

- **Application Install State** – Select whether or not to return information for applications that are currently installed.

- **Search Database For** – From the drop-down list, select a category and click **Search** to return a report of every related item. Then click any returned values to automatically fill in the current search criteria text boxes with the related information. Click **Clear** to reset the list.

- **Vendor Name** – Type a vendor name to display all relevant products.
- **Product Name** – Type a specific product name.
- **Product Version** – Enter a product version.
- **Application Exe Name** – Type a specific application executable name.
- **Application Version** – Enter a specific application version.
- **Application Description** – Enter an application description.
- **Domain Name** – Type the name of a domain you want to display.
- **Device Name** – Type the individual device name you want to report on.
- **User Name** – Enter the user name for which you want to see applications displayed.
- **Interval Data Type** – Select a Daily, Monthly, or Yearly interval.
- **Start Date** – Use the drop-down lists to select a start date for the report.
- **End Date** – Use the drop-down lists to select an end date for the report.
- **Show Usage Hours** – Select whether or not to show Usage hours in the report.
- **Show Database Totals** – Select whether or not to display a database totals report along with your generated usage report.

By Product

Select **by Product** to generate a report based on specific product details.

Figure 17   Application usage by product

The following options are available when generating product reports. Values are not required for every option. Leaving all options blank will return all information in your database – we do not recommend this as it may take a very long time depending upon the size of your database.

- **Report Type** – From the drop-down list, select the type of product report you want to see. This includes used and unused applications as well as application inventory information.

- **Include Rule** – From the drop-down list, select an Include Rule or leave blank.

- **Exclude Rule** – From the drop-down list, select an Exclude Rule or leave blank.

- **Application Install State** – Select whether or not to return information for applications that are currently installed.

- **Search Database For** – From the drop-down list, select a category and click **Search** to return a report of every related item. Then click any returned values to automatically fill in the current search criteria text boxes with the related information. Click **Clear** to reset the list.

- **Vendor Name** – Type a vendor name to display all relevant products.
- **Product Name** – Type a specific product name.
- **Product Version** – Enter a product version.
- **Application Exe Name** – Type a specific application executable name.
- **Application Version** – Enter a specific application version.
- **Application Description** – Enter an application description.
- **Domain Name** – Type the name of a domain you want to display.
- **Device Name** – Type the individual device name you want to report on.
- **User Name** – Enter the user name for which you want to see applications displayed.
- **Interval Data Type** – Select a Daily, Monthly, or Yearly interval.
- **Start Date** – Use the drop-down lists to select a start date for the report.
- **End Date** – Use the drop-down lists to select an end date for the report.
- **Show Usage Hours** – Select whether or not to show Usage hours in the report.
- **Show Database Totals** – Select whether or not to display a database totals report along with your generated usage report.

By Product Version

Select **by Product Version** for reports based on product version information.

Figure 18   Application usage by product version

The following options are available when generating product version reports. Values are not required for every option. Leaving all options blank will return all information within your database – we do not recommend this as it may take a very long time depending upon the size of your database.

- **Report Type** – From the drop-down list, select the type of product version report you want to see. This includes used and unused applications as well as application inventory information.

- **Include Rule** – From the drop-down list, select an Include Rule or leave blank.

- **Exclude Rule** – From the drop-down list, select an Exclude Rule or leave blank.

- **Application Install State** – Select whether or not to return information for applications that are currently installed.

- **Search Database For** – From the drop-down list, select a category and click **Search** to return a report of every related item. Then click any returned values to automatically fill in the current search criteria text boxes with the related information. Click **Clear** to reset the list.

- **Vendor Name** – Type a vendor name to display all relevant products.
- **Product Name** – Type a specific product name.
- **Product Version** – Enter a product version.
- **Application Exe Name** – Type a specific application executable name.
- **Application Version** – Enter a specific application version.
- **Application Description** – Enter an application description.
- **Domain Name** – Type the name of a domain you want to display.
- **Device Name** – Type the individual device name you want to report on.
- **User Name** – Enter the user name for which you want to see applications displayed.
- **Interval Data Type** – Select a Daily, Monthly, or Yearly interval.
- **Start Date** – Use the drop-down lists to select a start date for the report.
- **End Date** – Use the drop-down lists to select an end date for the report.
- **Show Usage Hours** – Select whether or not to show Usage hours in the report.
- **Show Database Totals** – Select whether or not to display a database totals report along with your generated usage report.

By Application

Select **by Application** to generate a report based on the individual applications within your database.

Figure 19   Application usage by application

The following options are available when generating application reports. Values are not required for every option. Leaving all options blank will return all information within your database – we do not recommend this as it may take a very long time depending upon the size of your database.

- **Report Type** – From the drop-down list, select the type of application report you want to see. This includes used and unused applications as well as application inventory information.

- **Include Rule** – From the drop-down list, select an Include Rule or leave blank.

- **Exclude Rule** – From the drop-down list, select an Exclude Rule or leave blank.

- **Application Install State** – Select whether or not to return information for applications that are currently installed.

- **Search Database For** – From the drop-down list, select a category and click **Search** to return a report of every related item. Then click any returned values to automatically fill in the current search criteria text boxes with the related information. Click **Clear** to reset the list.

- **Vendor Name** – Type a vendor name to display all relevant products.
- **Product Name** – Type a specific product name.
- **Product Version** – Enter a product version.
- **Application Exe Name** – Type a specific application executable name.
- **Application Version** – Enter a specific application version.
- **Application Description** – Enter an application description.
- **Domain Name** – Type the name of a domain you want to display.
- **Device Name** – Type the individual device name you want to report on.
- **User Name** – Enter the user name for which you want to see applications displayed.
- **Interval Data Type** – Select a Daily, Monthly, or Yearly interval.
- **Start Date** – Use the drop-down lists to select a start date for the report.
- **End Date** – Use the drop-down lists to select an end date for the report.
- **Show Usage Hours** – Select whether or not to show Usage hours in the report.
- **Show Database Totals** – Select whether or not to display a database totals report along with your generated usage report.

By Application Version

Select **by Application Version** to generate a report based on the version of individual applications within your database.

Figure 20   Application usage by application version

The following options are available when generating application version reports. Values are not required for every option. Leaving all options blank will return all information within your database – we do not recommend this as it may take a very long time depending upon the size of your database.

- **Report Type** – From the drop-down list, select the type of application version report you want to see. This includes used and unused applications as well as application inventory information.

- **Include Rule** – From the drop-down list, select an Include Rule or leave blank.

- **Exclude Rule** – From the drop-down list, select an Exclude Rule or leave blank.

- **Application Install State** – Select whether or not to return information for applications that are currently installed.

- **Search Database For** – From the drop-down list, select a category and click **Search** to return a report of every related item. Then click any returned values to automatically fill in the current search criteria text boxes with the related information. Click **Clear** to reset the list.

- **Vendor Name** – Type a vendor name to display all relevant products.
- **Product Name** – Type a specific product name.
- **Product Version** – Enter a product version.
- **Application Exe Name** – Type a specific application executable name.
- **Application Version** – Enter a specific application version.
- **Application Description** – Enter an application description.
- **Domain Name** – Type the name of a domain you want to display.
- **Device Name** – Type the individual device name you want to report on.
- **User Name** – Enter the user name for which you want to see applications displayed.
- **Interval Data Type** – Select a Daily, Monthly, or Yearly interval.
- **Start Date** – Use the drop-down lists to select a start date for the report.
- **End Date** – Use the drop-down lists to select an end date for the report.
- **Show Usage Hours** – Select whether or not to show Usage hours in the report.
- **Show Database Totals** – Select whether or not to display a database totals report along with your generated usage report.

By Application Signature

Select **by Application Signature** to generate a report based on the signature of individual applications in your database.

Figure 21   Application usage by application signature

The following options are available when generating application signature reports. Values are not required for every option. Leaving all options blank will return all information within your database – we do not recommend as it may take a very long time depending upon the size of your database.

- **Report Type** – From the drop-down list, select the type of application signature report you want to see. This includes used and unused applications as well as application inventory information.

- **Include Rule** – From the drop-down list, select an Include Rule or leave blank.

- **Exclude Rule** – From the drop-down list, select an Exclude Rule or leave blank.

- **Application Install State** – Select whether or not to return information for applications that are currently installed.

- **Search Database For** – From the drop-down list, select a category and click **Search** to return a report of every related item. Then click any returned values to automatically fill in the current search criteria text boxes with the related information. Click **Clear** to reset the list.

- **Vendor Name** – Type a vendor name to display all relevant products.
- **Product Name** – Type a specific product name.
- **Product Version** – Enter a product version.
- **Application Exe Name** – Type a specific application executable name.
- **Application Version** – Enter a specific application version.
- **Application Description** – Enter an application description.
- **Domain Name** – Type the name of a domain you want to display.
- **Device Name** – Type the individual device name you want to report on.
- **User Name** – Enter the user name for which you want to see applications displayed.
- **Interval Data Type** – Select a Daily, Monthly, or Yearly interval.
- **Start Date** – Use the drop-down lists to select a start date for the report.
- **End Date** – Use the drop-down lists to select an end date for the report.
- **Show Usage Hours** – Select whether or not to show Usage hours in the report.
- **Show Database Totals** – Select whether or not to display a database totals report along with your generated usage report.

By Rule Summary

Select **by Rule Summary** to generate a report using rule summary information.

Figure 22   Application usage by rule summary

The following options are available when generating rule summary reports. Values are not required for every option. Leaving all options blank will return all information in your database – we do not recommend this as it may take a very long time depending upon the size of your database.

- **Type** – From the drop-down list, select the type of rule summary report you want to see. This includes products, product versions, applications, and application versions.

- **Include Rule** – From the drop-down list, select an Include Rule or leave blank.

- **Exclude Rule** – From the drop-down list, select an Exclude Rule or leave blank.

- **Application Install State** – Select whether or not to return information for applications that are currently installed.

- **Vendor** – Type a vendor name to display all relevant products.

- **Product Name** – Type a specific product name.

- **Product Version** – Enter a product version.

- **Application** – Enter the name of an application.

- **Domain** – Type the name of a domain you want to display.

- **Device** – Type the individual device name you want to report on.

- **User** – Enter the user name for which you want to see applications displayed.

- **Interval Data Type** – Select a Daily, Monthly, or Yearly interval.

- **Start Date** – Use the drop-down lists to select a start date for the report.

- **End Date** – Use the drop-down lists to select an end date for the report.

By Concurrency

Select **by Concurrency** to generate reports that correlate concurrent application usage across multiple devices from your database. Concurrency must be turned on in order to collect the required information. See Using Concurrency on page 81 for more information on enabling concurrency.

Figure 23   Application usage by concurrency

The following options are available when generating concurrency reports. Values are not required for every option. Leaving all options blank will return all information in your database – we do not recommend this as it may take a very long time depending upon the size of your database.

> We strongly recommend that you select a specific application executable to search for over a reasonable time period.

- **Grouping Rule** – From the drop-down list, select a Group Rule or leave blank.

- **Application** – Enter the name of an application.

- **Domain** – Type the name of a domain you want displayed.

- **Device** – Type the individual device name you want to report on.

- **User** – Enter the user name for which you want to see applications displayed.

- **Start Date** – Use the drop-down lists to select a start date and time for the report.

- **End Date** – Use the drop-down lists to select an end date and time for the report.

Creating Operational Reports

Operational Reports, unlike Application usage Reports, display database-specific statistics as well as information for devices in your environment.

Devices Not Collected

Select **Devices Not Collected** to generate a report detailing all devices not collected since a specific date.

Figure 24   Operation reports devices not collected
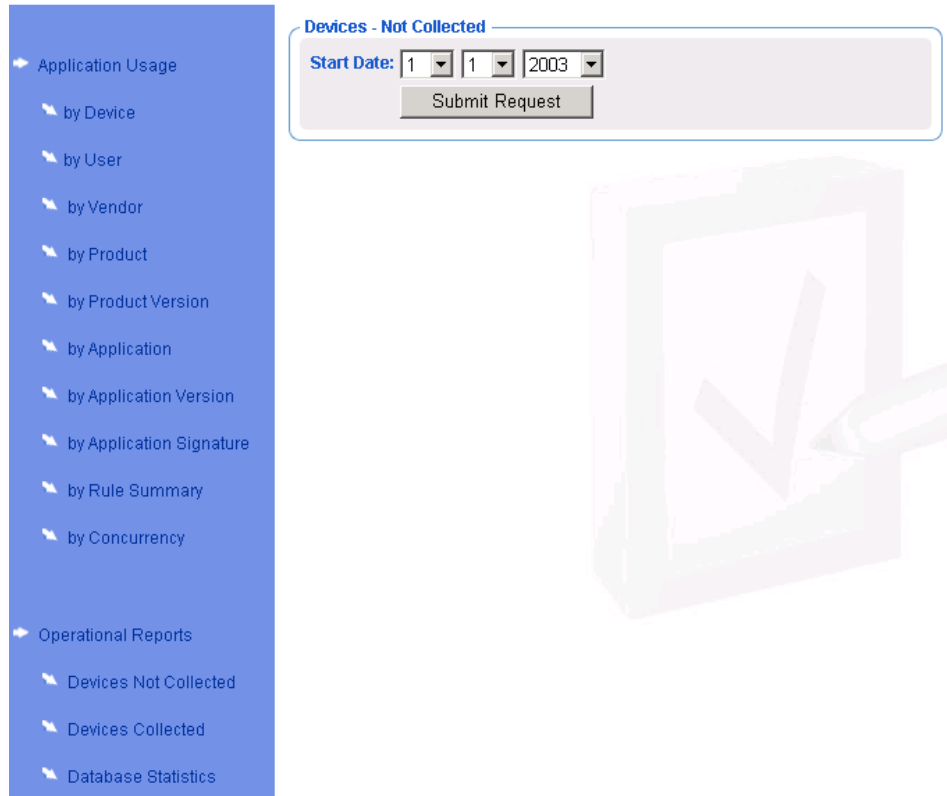
Enter a start date to collect and display any information for devices whose
Usage data have not been collected and are defined in the Application Usage
Manager Knowledge Base.

Devices Collected

Select **Devices Collected** to generate a report detailing all devices that were
collected during a time period you designate.

Figure 25   Operation reports devices collected
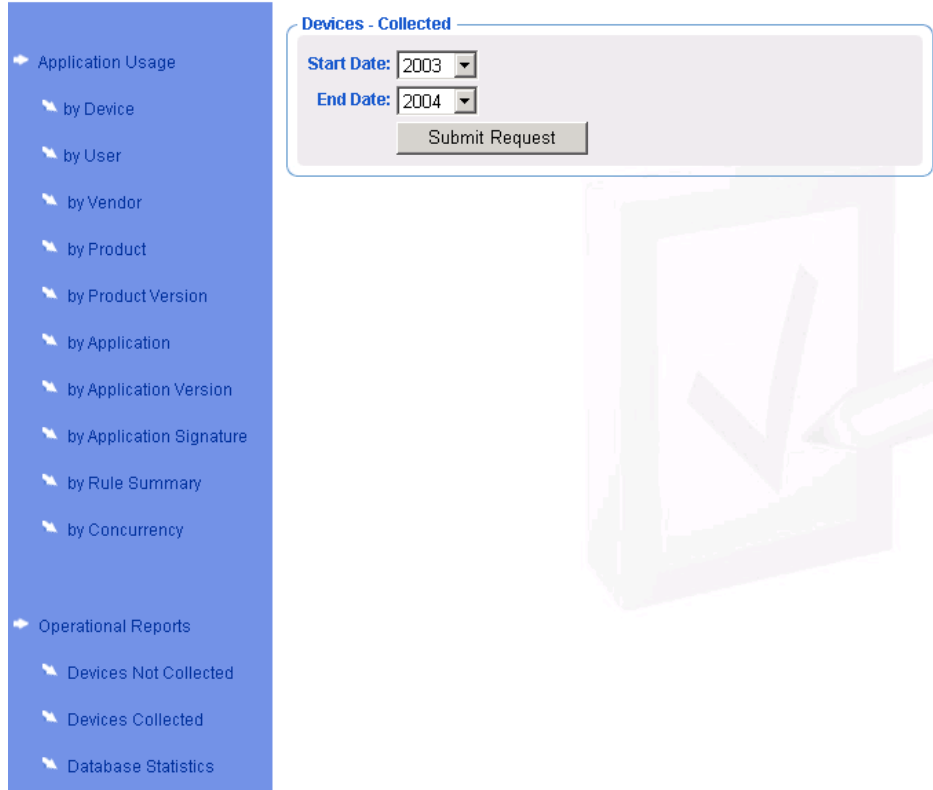
Enter a start and end date to collect and display any information for all devices that were collected and exist in your enterprise.

Database Statistics

Select **Database Statistics** to generate a report detailing the current database statistics.

Figure 26   Operation reports database statistics
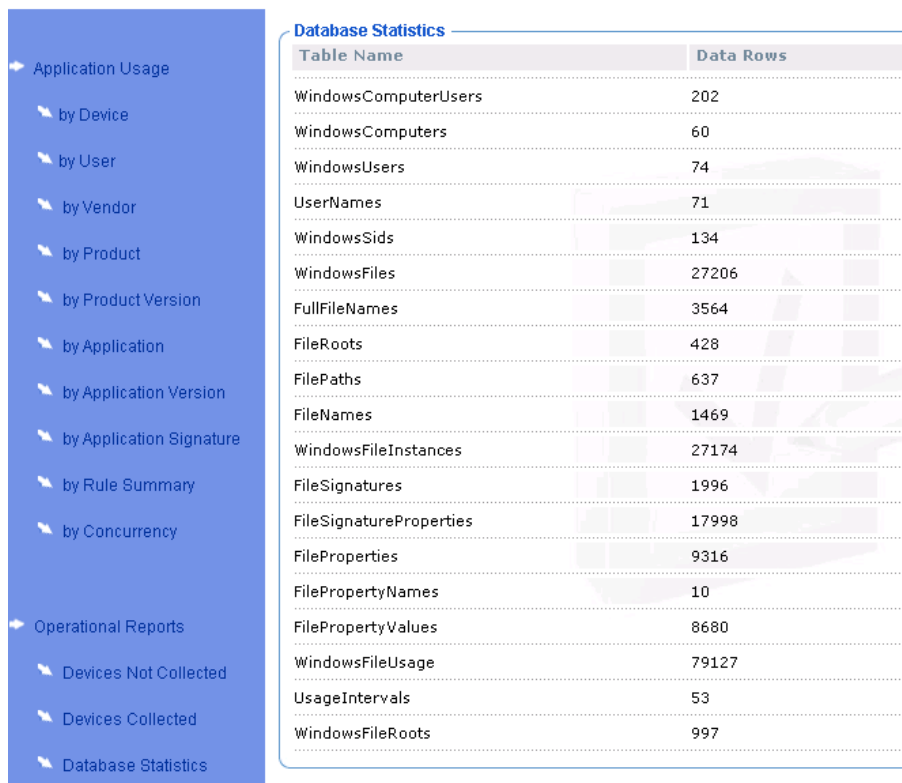
Database Statistics displays a list of current database information.

Understanding Rules

Rule Criteria, Rules, Rule Sets, and Rule Set Groups are created and maintained using the Application Usage Manager Rule Editor. Use this tool to create specific search criteria when generating usage monitoring reports.

A Rule Criteria is a specific attribute that is inherent to an application. For instance, if you want to define a rule that finds and displays all Microsoft Word applications, you would define the Rule Criteria as Application = winword.exe (the application that executes MS Word) and Vendor = Microsoft. Rule Criteria are then what are bundled together to form Rules.

If you want to create a more complex set of rules and criteria, create a group of Rules, called a Rule Set, then group Rule Sets together to form Rule Set

Groups. These are the highest-level rule groupings available. Creating Rules and Rules Sets is described in Chapter 6, Using the Application Usage Manager Admin.
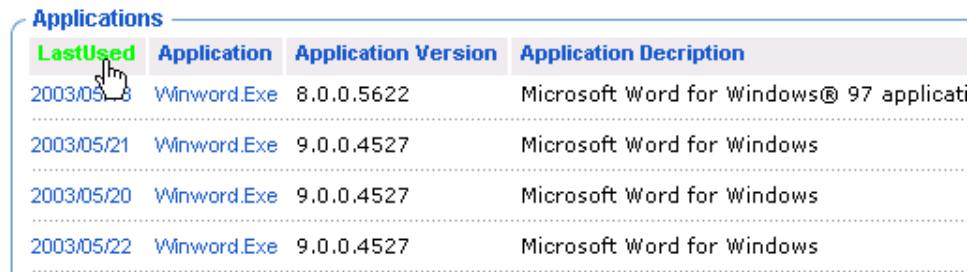
Examining Reports

After the reports are generated, you can use the built-in HTML features to sort each list or find out more information about a specific record.

Sorting by Column Headings

The titles at the top of each heading are active links, allowing you to click each one to sort the data by the items in that column. Clicking the link again will sort the data in reverse order.

Figure 27   Click on any column heading to sort data

Retrieving More Information

Many of the records displayed will have active links allowing you to click on an item and reveal more information about that particular device, user, application, and so on.

Figure 28   More information displayed

You can also navigate to other summary report pages by clicking the links in the existing records. For example, after generating a Summary by Device report, click the Users link in any record to be transferred to the Summary by User page.

Figure 29   Users link in Summary by Device report record

Retrieving Record-Specific Information

Once a report is displayed, the Navigate To feature becomes available. Use the Navigate To drop-down list box to return specific information for any report record.

Figure 30   Navigate To drop-down list

Select an item from the list, and then select a report record.

Figure 31   Selecting record-specific information

A new report is generated in a new window, detailing all the related information for the record you selected.

Figure 32   New record-specific report

6 Using the Application Usage Manager Administrator

Use the Application Usage Manager Administrator to create specific search criteria to be implemented when you are generating your usage monitoring reports. Creating these criteria allow you to supplement the existing search options and create better reports based on your individual organization's needs. The Application Usage Manager Administrator is installed as part of the HP Open View Application Usage Manager.

To access the Application Usage Manager Administrator

1 From the **Start** menu, go to **HP OVCM Application Usage Manager** → **Application Usage Manager Admin**.

2 Select the name of the DSN you will be using and type your User Name and Password in the text boxes provided.

3 When finished, click **OK**.

The Application Usage Manager Admin consists of four tabs you can use to define criteria, rules, rule sets, and rule set groups.

Application Usage Manager Admin Search Function

After selecting criteria, rule, rule set, or rule set group, click the **Search** button near the bottom of the window to preview your query results. Query results are displayed in a table at the bottom of the Application Usage Manager Admin window.

The search function can be used at any stage of the rule creation process.

Creating Criteria, Rules, Rule Sets, and Rule Set Groups

Use the Application Usage Manager Admin to create criteria, rules, rule sets, and rule set groups that can then be used when you generate usage reports. Once created, these rules and criteria will then be available in the Include Rule and Exclude Rule drop-down lists within the usage report generation pages.

Figure 33   Include rule and exclude rule drop-down lists

Each process used to define criteria, rules, rule sets, and rule set groups is similar. Each tab allows you to either use an existing rule to search for records or create your own with any customizations you apply. Rules can be created as specific as you would like depending on the criteria you choose.

Operators AND versus OR

There are two types of criteria, rules, rule sets, and rule set groups you can create: AND and OR. Before creating the rule, decide which type you would like to create and select the appropriate operator from the Operator drop-down list.

Figure 34   Operator drop-down list
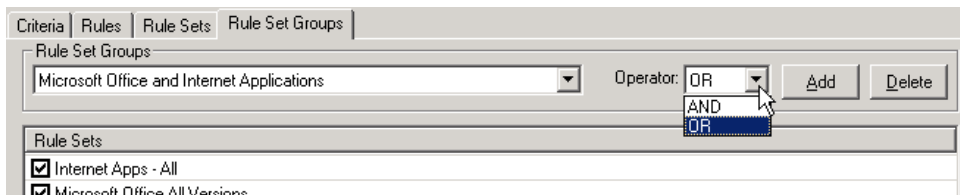
Creating a criterion using the AND operator specifies that in order for a record to match that criterion, all of the properties specified must be true. For example, a criterion designed with

Vendor property	=	Equals Microsoft
Application property	=	Like WinWord
Operator	=	AND

will return only Microsoft Word records.

If the OR operator was selected in the above example, all applications with Vendor Microsoft will be returned.

The AND operator is most effective when creating criteria only. The OR operator is more appropriate for creating rules, rule sets, and rule set groups.

Criteria Tab

Use the Criteria tab to define specific application criteria you will use to display collected information when generating usage monitoring reports.

Figure 35   Criteria tab
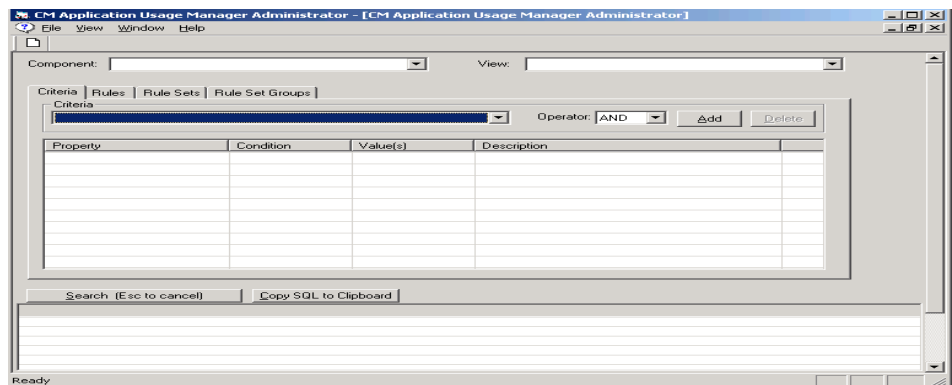
Before you select application criteria, you can use the Criteria drop-down list to check if any of the existing applications can be used.

Figure 36   Choose an existing application to define criteria
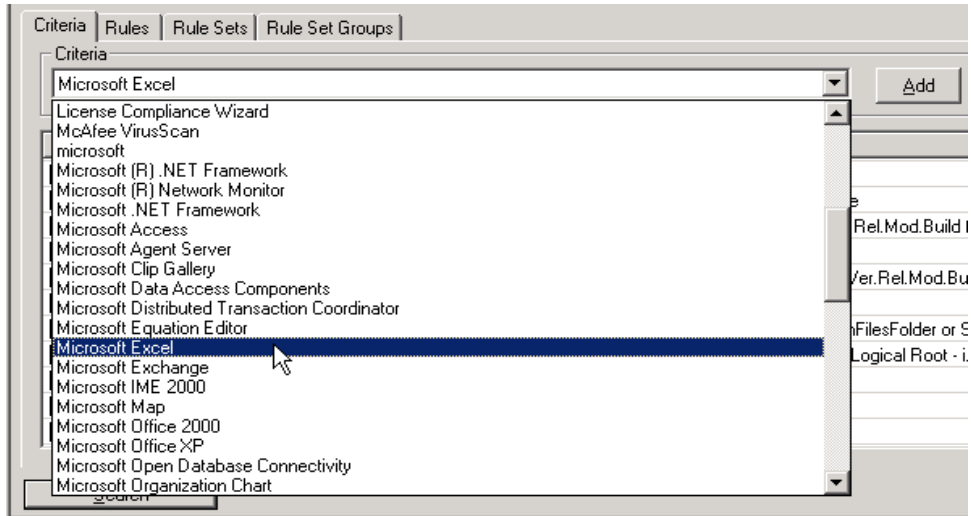
Once you select an application from this list, check a Property box to add that to the Criteria.

Figure 37   Select a property to include in the criteria
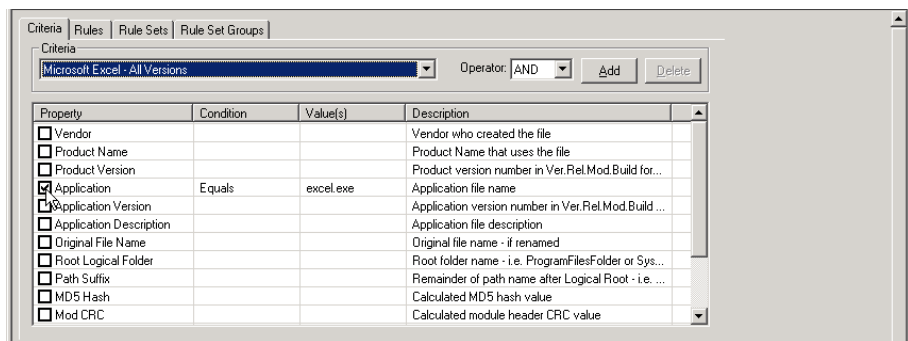
Double-click any row in the Condition or Value columns to add a condition and value to the criteria. As an example, the steps below describe how to create rule criteria where the Vendor property is equal to Microsoft.

Figure 38   Select a criteria condition and value
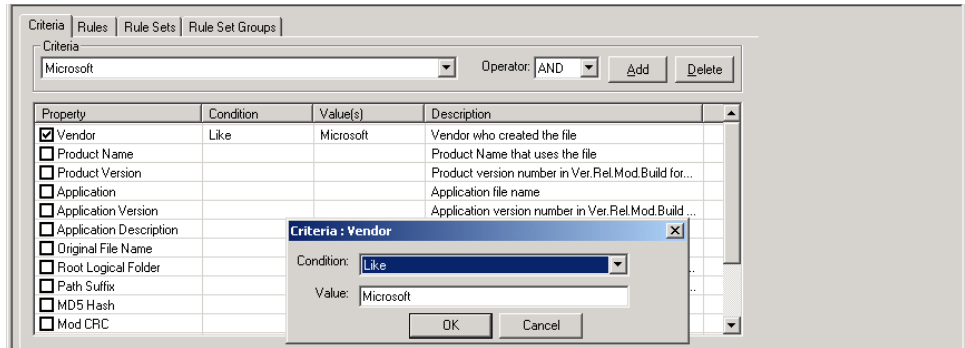
To create a criterion

1   To the right of the Criteria drop-down box, click the **Add** button to create new criteria. Enter a name for the criteria in the dialog box that opens.
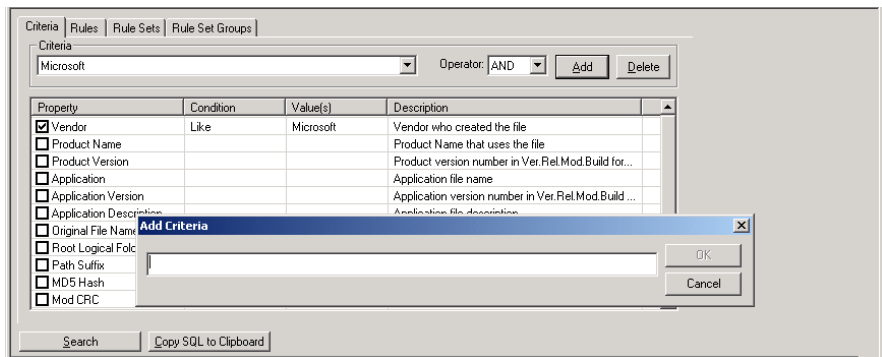
> Names are sorted in the report pages in ascending sequence so frequently used names should be prefixed with a character that places them at the top of the sort sequence.

2   Click **OK** to close the Add Criteria dialog box.

3   Double-click on the **Vendor** attribute row.

4   In the dialog box that opens, select **Equals** in the Condition text box.

5   In the Value text box, type **Microsoft**. Note that this value is used in a SQL command and must conform to SQL syntax rules.

> The typed text must conform to SQL Server query rules, for example, you can select the **LIKE** clause and type text such as `%Microsoft%` to define a criterion for any application whose Vendor definition contains the character string Microsoft.
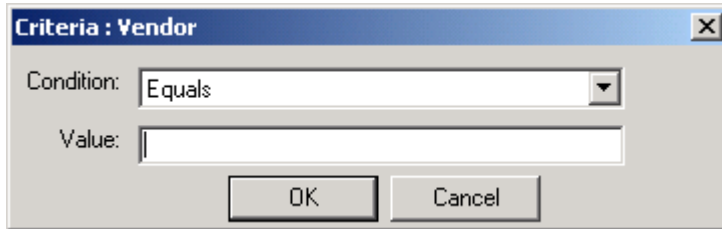
> The use of LIKE clauses with preceding % may cause lengthy search times during reporting. We strongly recommend that you use the EQUALS clause.

6 Test the criteria by clicking **Search** to retrieve all entries in the Application Usage Manager Knowledge Base that match the criteria you defined. Entries are displayed in the table at the bottom of the window.
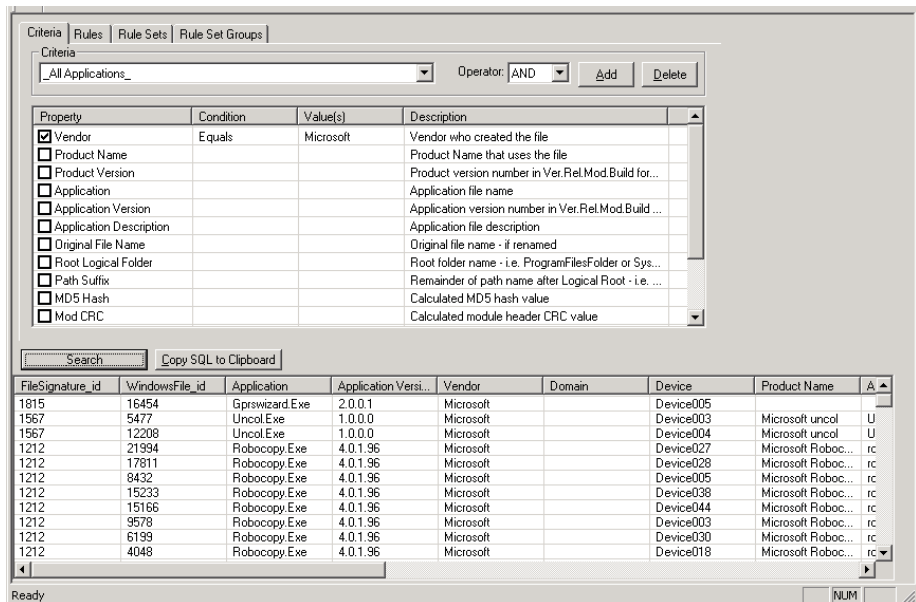
The new criterion is complete and ready to be used in any rules you generate.

Rules Tab

Rules are a combination of Criteria. Use the Rules tab to define rules based on the criteria you selected in the Criteria tab.

Figure 39   Rules tab
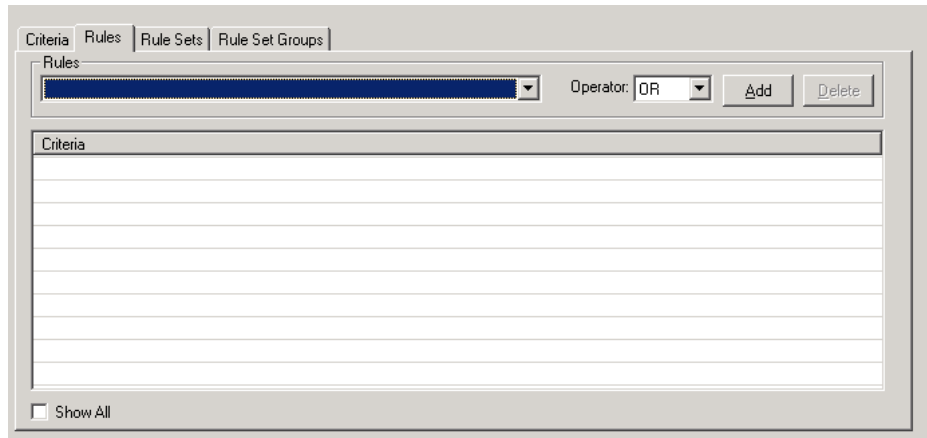
Use the Rules drop-down list box to select any default rules. Once a rule is selected, the criteria that are part of that rule are displayed.

Figure 40   Criteria for each rule is displayed
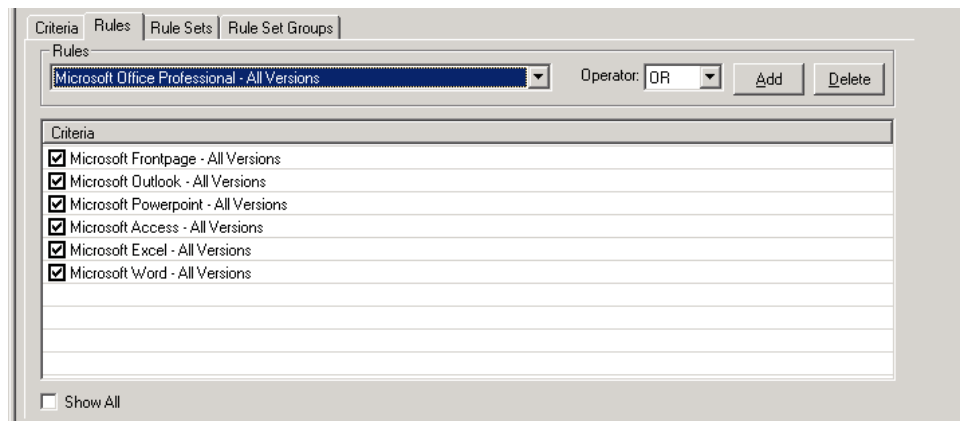
1   Click **Add** to define a new rule. Enter a name for the rule in the dialog
    box that opens.

Add Rule	✕
	OK
	Cancel
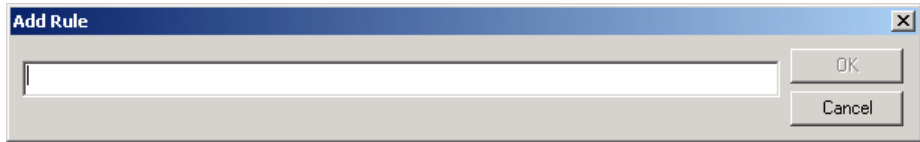
2   Click **OK**.

3   Select any criteria you would like to include in the new rule by clicking
    the check box to the left of the criterion name.

Criteria	Rules	Rule Sets	Rule Set Groups

Rules

Microsoft Apps   ▼   Operator: OR ▼   Add   Delete

Criteria ▲
☐ _All Applications_
☐ Countrywide
☐ Microsoft Office 2000 Only
☐ FileNet Corporation
☐ FileNet LTS Executable
☐ Filenet Dispimg Executable
☑ Microsoft Internet Explorer - All Versions
☐ WinZip
☑ Microsoft Windows Explorer

☑ Show All
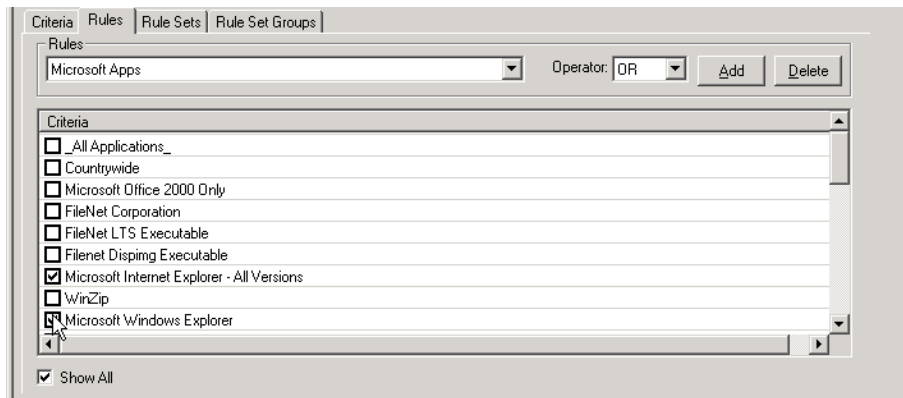
4   Test the rule by clicking **Search**. All matching records are displayed in
    the table at the bottom of the window.
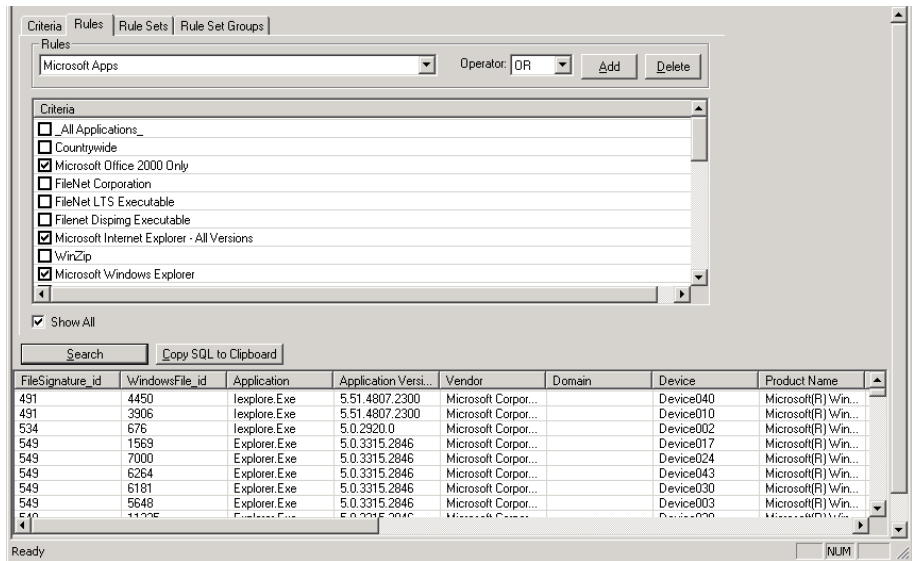
The new rule is complete and ready for inclusion in any Rule Sets you generate.

Rule Sets Tab

A Rule Set is a grouping of Rules. Use the Rule Sets tab to define which rules you would like to combine to form a Rule Set instance.

Figure 41   Rule Sets tab
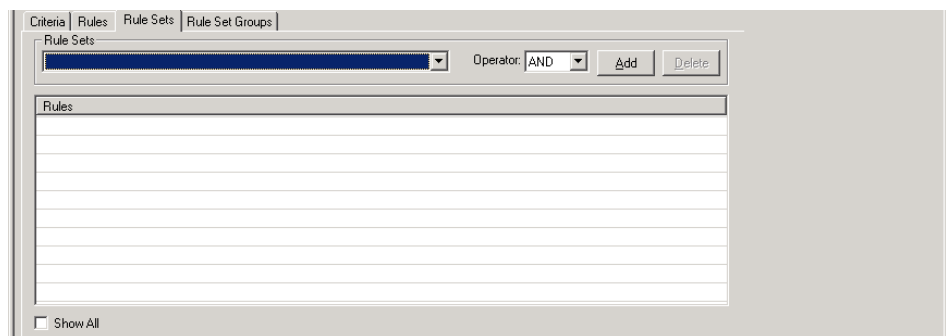
Use the Rule Sets drop-down list to select any existing Rule Sets. Once a Rule Set is selected, the rules that make up that Rule Set are displayed.

Figure 42   Rules included in the Rule Set are displayed.
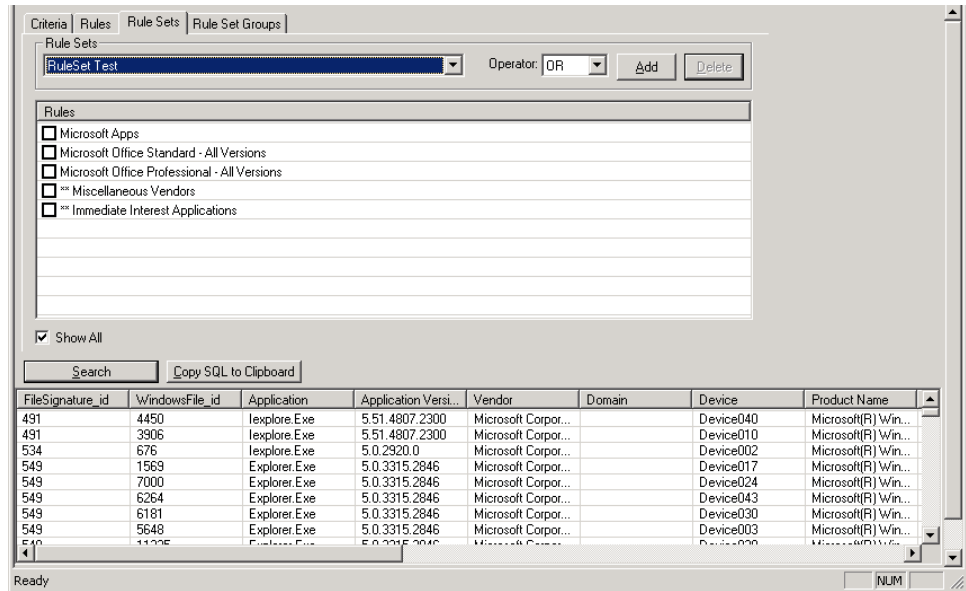
To create a new Rule Set

1   Click **Add** to define a new Rule Set. Enter a name for the Rule Set in the dialog box that opens.

2   Click **OK**.

3   Select any rules you would like to include in the new Rule Set by clicking the check box to the left of the rule name.
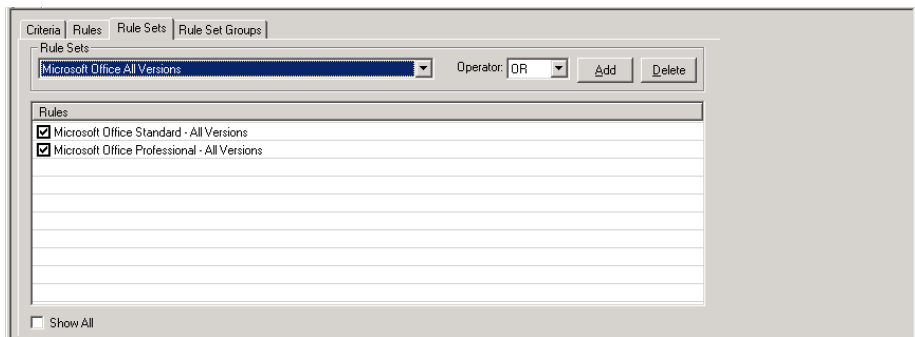
4   Test the Rule Set by clicking **Search**. All matching records are displayed in the table at the bottom of the Application Usage Manager Admin window.
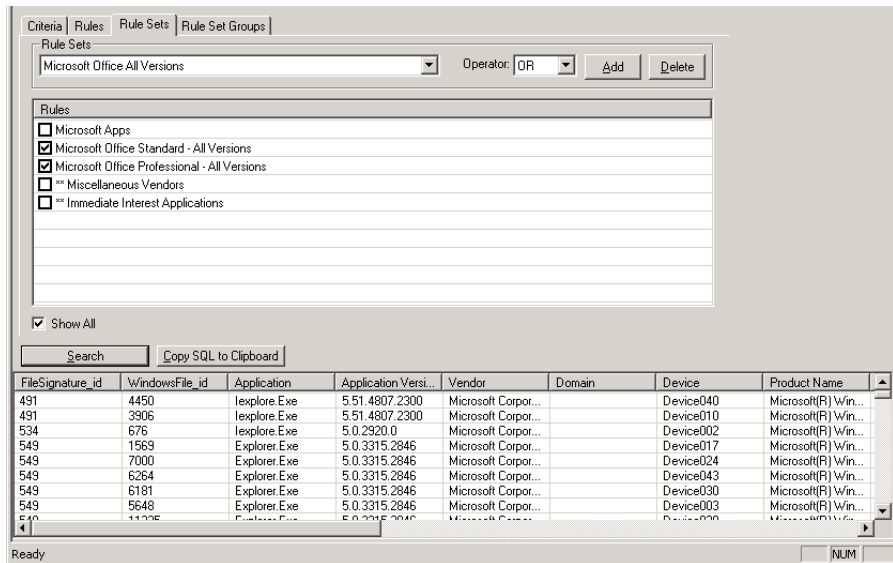
The new Rule Set is complete and ready for inclusion in any Rule Set Groups you may generate.

Rule Set Groups Tab

If you want to combine multiple Rule Sets, create a Rule Set Group instance.

Figure 43   Rule Set Groups tab
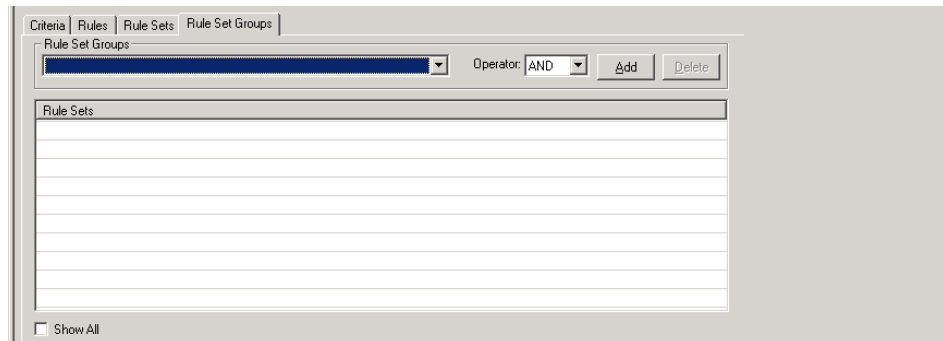
Use the Rule Set Groups drop-down list to select any existing Rule Set Groups. Once a Rule Set Group is selected, all of the Rules Sets that make up that Rule Set Group are displayed.

Figure 44   Rule Sets included in the Rule Set Group are displayed
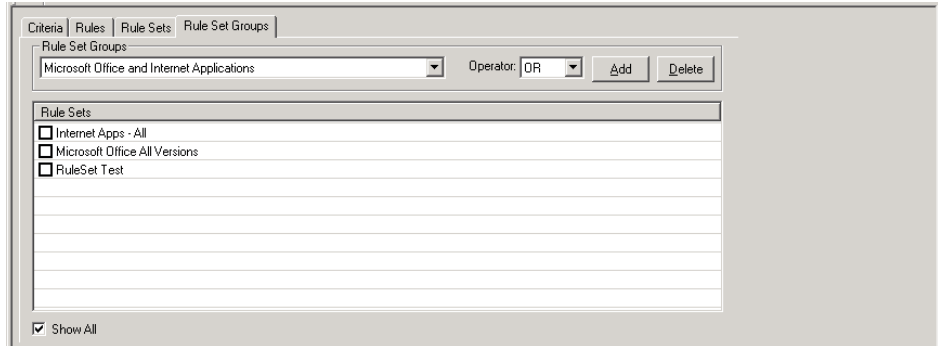
To create a new Rule Set Group

1 Click **Add** to define a new Rule Set Group. Enter a name for the Rule Set
   Group in the dialog box that opens.

2 Click **OK**.

3 Select any Rule Sets you would like to include in the new Rule Set Group
   by clicking the check box to the left of the Rule Set name.
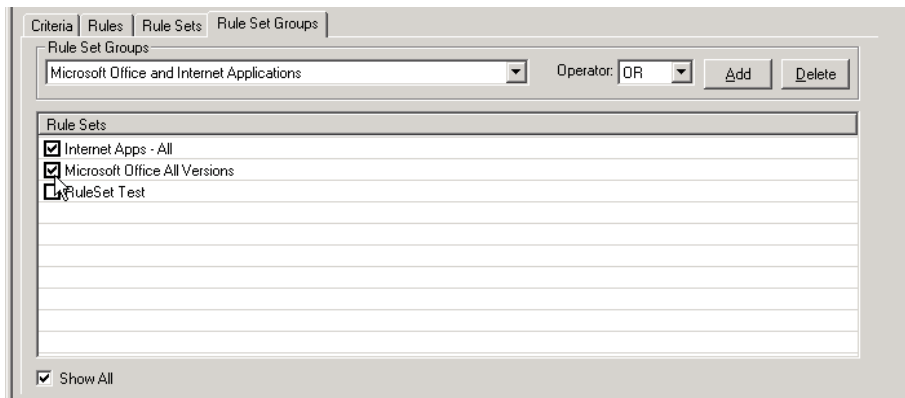
4 Test the Rule Set Group by clicking **Search**. All matching records are
   displayed in the table at the bottom of the Application Usage Manager
   Admin window.
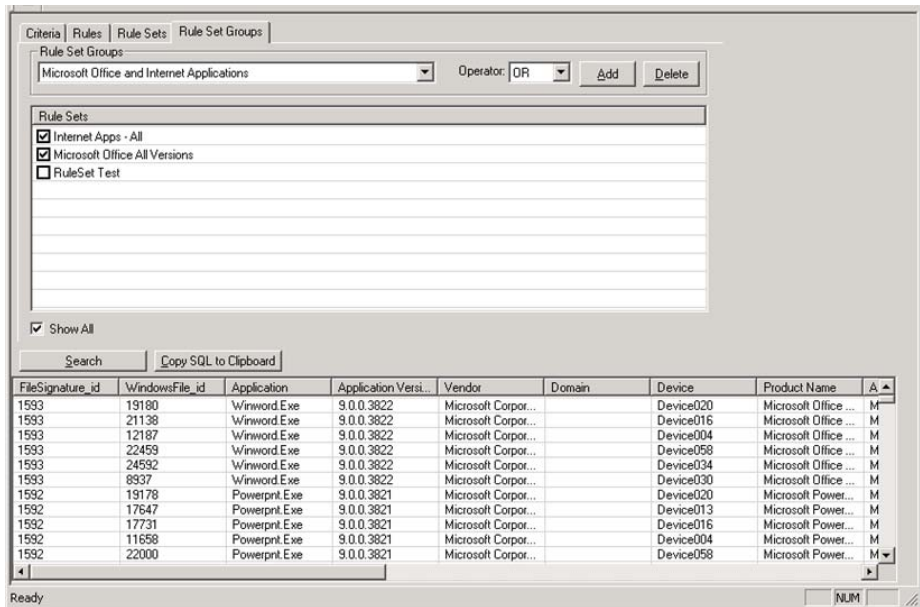
The new Rule Set Group is complete.

Now that you have finished creating criteria, rules, rule sets, and rule set groups, you can generate reports based on your own specifications using the report generator options Include Rule and Exclude Rule. For more information, refer to Viewing Application Manager Usage Reports on page 87.

A Implementing Application Usage Manager in a Non-HPCA Environment

The Application Usage Manager agent can operate independently of an HPCA environment. This implementation is often used by organizations to determine priorities for application or operating system migrations.

Included with the Application Usage Manager media is an MSI-based program to install and configure the Application Usage Manager agent.

These files are located in your Application Usage Manager media in the `\Agent Install\Setup\` directory and are described in Table 10 below.

Table 10   Application Usage Manager Agent files

Filename	Description
AUMAgent.msi	Agent installation program.
USDBColl.ini	Collection configuration file

Application Usage Manager Configuration: Non-HPCA Infrastructure

To configure your Application Usage Manager components for this environment, refer to Chapter 2, Configuring Your Environment on page 25. Once your Application Usage Manager components are configured, you are ready to configure and install the agent and collection parameters.

Installing and Configuring the Application Usage Manager Agent

The Application Usage Manager agent is installed by either an HPCA service, independently through any distribution methodology, or by running the Agent Installation Wizard.

> Non-HPCA implementation does not support filters inherently. Specific Registry keys must be configured.

Using the Installation Wizard

To install the Application Usage Manager agent using the Installation Wizard

1 From the media location for Application Usage Manager, navigate to the `\Agent Install\Setup` folder, and double-click **AUMAgent.msi**.

   The Installation Wizard for the Application Usage Manager Agent opens.

2 Click **Next**. The License Agreement window opens.

3 After reading and accepting the license agreement, click **Next**. The installation configuration options window opens.
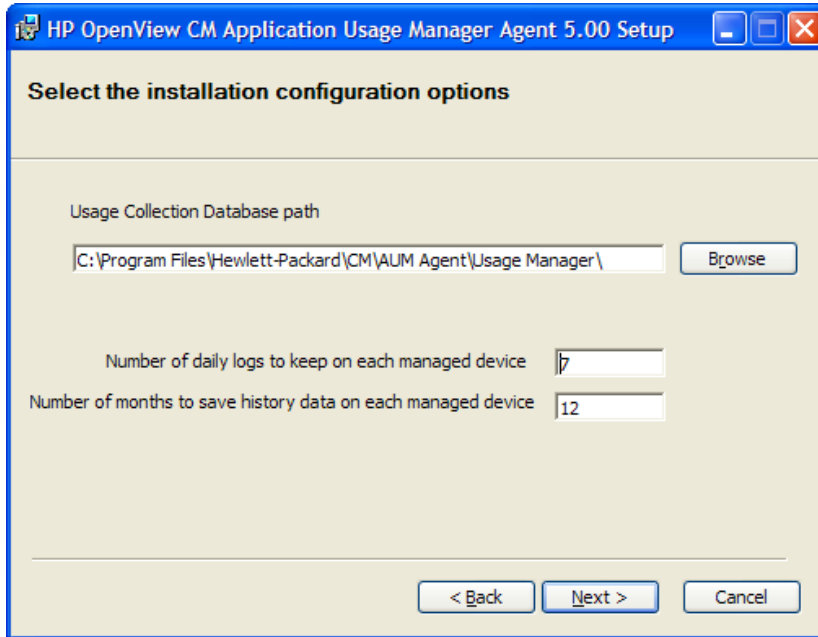
Use this window to specify a Usage Collection Database Path, how many daily logs to keep, and how many months of data to save on each managed device.

— In the **Usage Collection Database Path** area, **s**pecify a local path where the agent will be installed and usage data history and monitoring files will be stored. The default location is *SystemDrive*:\Program Files\Hewlett-Packard\CM\AUM Agent. If you want to select a different path, click **Browse** and then navigate to an appropriate local folder.

— In the **Number of daily logs to keep** text box, type the maximum number of daily log files to be maintained in the \Log folder. The default is 7.

— In the **Number of months to save history data** text box, type the number of months to maintain data in the History.USDBase file**.** Old data is automatically aged out of the file after the specified retention period.

> The History data file serves as a backup location for monitored data in case it needs to be recollected. (For example, in case the CM KB Server is faulty.)

4   Click **Next**.

The Usage Monitoring Options window opens. Select the monitoring options to be enabled for this Agent.

— Leave **Enable Usage Monitoring** checked to monitor application usage, or remove the check-mark to disable it.

— Leave **Enable Focus Time Monitoring** checked to monitor the application focus time, or remove the check-mark to disable it.

> The HP OVCM Application Usage Manager Agent Service (AUMService.exe) performs usage and focus time monitoring.

5   Click **Next**. The Data Obfuscation Options window opens.
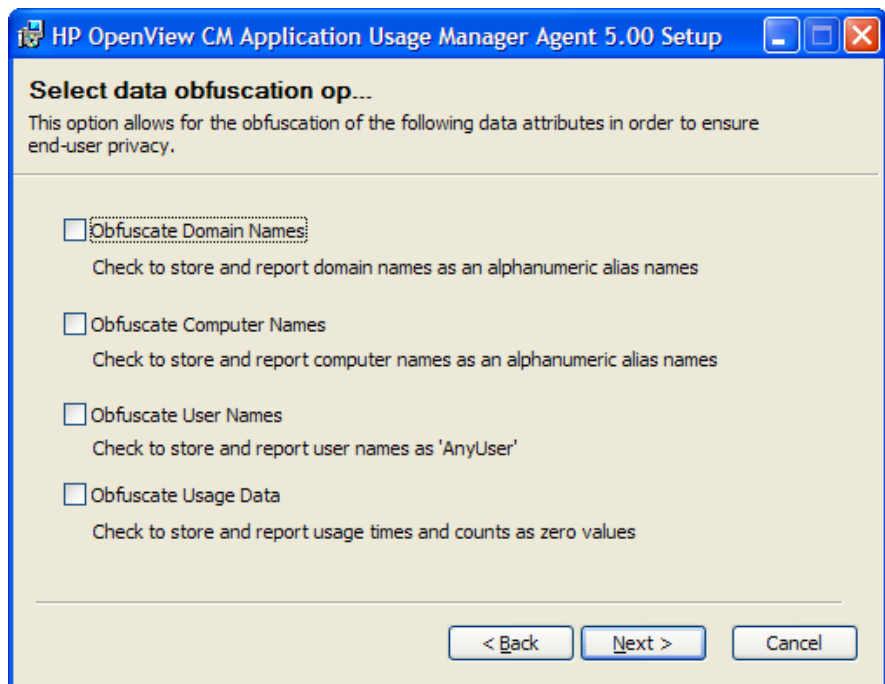
The Application Usage Manager allows for the obfuscation of certain data attributes in order to ensure privacy, if required.

6   Select from the following obfuscation options to have that type of data remain undisclosed:

— **Obfuscate Domain Names**
When selected, the domain name is reported as a random set of alphanumeric values.

— **Obfuscate Computer Names**
When selected, the computer name is reported as a random set of alphanumeric values.

— **Obfuscate User Names**
When selected, the user name is reported as [AnyUser].

— **Obfuscate Usage Data**
When selected, the executable file usage times and launch counts are all reported as zero values.

7 Click **Next**. The Select Inventory Options window opens.
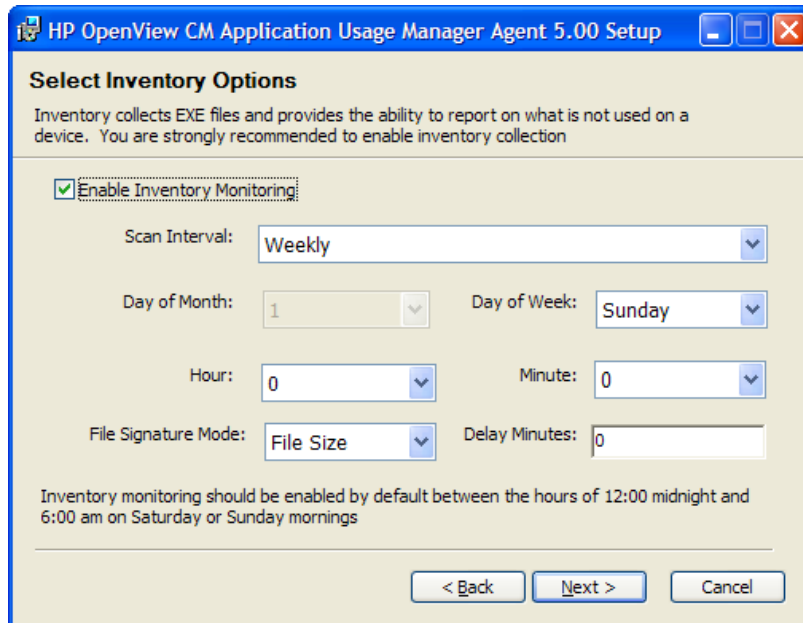
8 Leave Enable Inventory Monitoring checked to perform a software and hardware inventory scan on the Agent machine on a regular basis. Remove the check-mark to disable inventory monitoring.

9 If inventory monitoring is enabled, specify a scan schedule as follows:

— Use the **Scan Interval** drop-down box to select an interval of **Daily**, **Weekly**, or **Monthly**.

— For a Daily scan, also select an **Hour** and **Minute** for the scan to run.

— For a Weekly scan, also select a **Day of Week**, **Hour** and **Minute** for the scan to run.

— For a Monthly scan, also select a **Day of Month**, **Hour** and **Minute** for the scan to run.

10 In the **Delay Minutes** text box, optionally type a maximum delay period, in minutes, to use to randomize the inventory collection time. Valid values are 0 (no randomized collection) to 720 minutes (collection is randomized between the specified hours and minutes and 12 hours later).

11 Select one of the following **File Signature Mode** options:

— **File Size** (Default).

— **File Header**. Scans the entire file header. Slower than File Size scans.

— **MD5 Signature**. Most complete scan and slowest.

12 Click **Next**. The Ready to Install the Application window opens.

13 Click **Next** to begin the installation. The installation takes place.

After installation, a final window opens to indicate the Application Usage Manager Agent has been successfully installed.

14 Click **Finish** to close the Installation Wizard.

Silent Installation using a Command Line

Alternatively, use the following command to install the CM Application Usage Agent silently.

```
msiexec.exe /i AUMAgent.msi /lv* optional_parameters
```

Refer to Table 11 on page 141 for the list of optional parameters and their default values.

• Space separate parameter entries.

• Enclose all parameter values in quotation marks, as shown in the command sample below.

Sample Command

The following command shows a sample silent installation of the Application Usage Manager Agent.

```
msiexec.exe /i AUMAgent.msi /lv* <LogFilePath>
NOVADIGM_PATH=<NovadigmPath> LOCAL_PATH="\[NovadigmFolder\]"
ENABLED="1" ENABLE_FOCUS_TIME="1" HISTORY_SAVE_MONTHS="12#"
```

```
LOG_COUNT="7" OBFUSCATE_USER="0" OBFUSCATE_COMPUTER="0"
OBFUSCATE_DOMAIN=0 OBFUSCATE_USAGE="0"
```

Silent Installation Configuration Parameters

Table 11   Silent installation parameters for AUMAgent.msi

Parameter and Values	Description
<LogFilePath>	Defines an alternate path for storing Log files. The default location is the \Log subdirectory of the UM_LocalPath value.
NOVADIGM_PATH=[ProgramFilesFolder]\Hewlett-Packard\CM\AUM Agent\	Defines the root directory of where the Application Usage Manager agent binaries are to be installed on the agent machine. The binaries are stored in the \bin folder under this folder. The path must be a local drive; it cannot be a network drive.
LOCAL_PATH=[ProgramFilesFolder] \Hewlett-Packard\CM\AUM Agent\ Usage Manager\	Defines where the active usage monitoring and history files are stored on the agent machine. This path must be a local drive; it cannot be a network drive.
ENABLED= 0 or 1	Defines whether application usage profiling is installed as **active**. If set to 0, then application usage is not monitored for any application.
ENABLE_FOCUS_TIME= 0 or 1	Defines whether application focus time is monitored and reported on. If set to 0, then focus time is not monitored.

Parameter and Values	Description
FILE_SIGNATURE_MODE= S | H | M representing File <u>S</u>izes|File Header | MD5 Signature	Determines the scanning depth for executables inventoried on each agent device. The type of scan defined here can determine the amount of time a collection may take. **S = File Sizes.** Scans only file sizes. This is faster, but less comprehensive (default) **H=File Header.** Scans entire Module Header. Slower, more comprehensive. **M=MD5 Signature**. Slowest, most comprehensive.
HISTORY_SAVE_MONTHS= 0 – nnn Default is <u>12</u>	Defines the number of months to maintain data in the history file, History.usdbase. Old data is automatically aged out of the file. Default is 12.
INVENTORY_INTERVAL = 0 | 1 | <u>2</u> | 3 representing No Inventory | Monthly | <u>Weekly</u> | Daily	Defines when the current executable inventory for the machine is run.
INVENTORY_DAY_OF_MONTH = 1 - 31	If the Inventory Interval is 1 [monthly], defines the relative day of the month that the current executable inventory should be run.
INVENTORY_DAY_OF_WEEK = 1 – 7	If the Inventory_Interval is 2 [weekly], defines the relative day of the week that the current executable inventory should be run. 1 = Sunday, 7 = Saturday.
INVENTORY_HOUR= 00 – 23 where 13 is 01:00 pm	If the Inventory_Inventory is non-zero, defines what hour of the day the current executable inventory for the machine is run.

Parameter and Values	Description
INVENTORY_MINUTE = 00 – 59	Defines what minute of the hour the current executable inventory for the machine is run.
INVENTORY_RANDOM_MINUTE = 0 - 720	Defines a maximum period, in minutes, to use to randomize the inventory collection time. If non-zero, randomizes the collection process to occur anytime from the start time through a randomly generated number of minutes later. [0-720]
LOG_COUNT= 0 – nn	Maximum number of log files to be maintained in the \Log folder. Default is 7.
OBFUSCATE_COMPUTER = 0 | 1	Obfuscate computer name to conform to privacy laws. 1 = Yes 0 = No
OBFUSCATE_DOMAIN = 0 | 1	Obfuscate domain name to conform to privacy laws. 1 = Yes 0 = No
OBFUSCATE_USAGE = 0 | 1	Obfuscate usage information to conform to privacy laws. 1 = Yes 0 = No
OBFUSCATE_USER = 0 | 1	Obfuscate user name to conform to privacy laws. 1 = Yes 0 = No

Configuring the Application Usage Manger Agent for SSL Communications with a Secured Portal

The Application Usage Manager (AUM) Agent can support communications with a secured Portal or Integration Server using HTTPS.

To configure the AUM Agent for this support, do the following:

1 Stop the AUM Agent Service.

2 Create the following `\CM\Agent` directory on the machine where the AUM Agent is installed:

   `[ProgramFilesFolder]\Hewlett-Packard\CM\Agent`

3 Locate the AUM Agent folder on the CM v5 media and copy the `\CACertificates` folder and its contents to the `\Agent` directory created in Step 2:

   `[ProgramFilesFolder]\Hewlett-`
   `Packard\CM\Agent\CACertificates`

4 Locate the file for the Server's certificate, located at:
   CM Server Path`\etc\Certificates\`
   Server-hostname`.netcert.pem`

5 Copy the contents from the line that begins::

   -----BEGIN CERTIFICATE

   until

   -----END CERTIFICATE

6 Paste this contents into the end of the `cacert.pem` file, located in the `\CACertificates` folder on the agent machine

7 Save your changes.

8 Use `Regedit` to modify the Registry information for the AUM Agent collection point.

9 Modify the URL from http to https and modify the port number to include the secured port, such as 443:

   https://xxx.xxx.xxx.xxx:443/KB_Mgr1_Usage/

10 Restart the AUM Agent Service.

Modifying the Application Usage Manager Agent

After the installation of the Application Usage Manager Agent, rerun the `AUMAgent.msi` program to modify it. Following modification, you must restart the service for the **HP OpenView CM Application Usage Manager Agent** to put the changes into effect.

1 Double-click **AUMAgent.msi** on the installation media. The Application Maintenance window opens.

2   Select **Modify** and click **Next**. Complete the prompts to modify the AUM Agent.

3   After modifying the AUM Agent, you must restart the **HP OpenView CM Application Usage Manager Agent Service**.

Removing the Application Usage Manager Agent

After the installation of the Application Usage Manager Agent, rerun the `AUMAgent.msi` program to delete it.

1   Double-click **AUMAgent.msi** on the installation media. The Application Maintenance window opens.

2   Select **Remove** and click **Next**. The Uninstall window opens.

3   Confirm you want to remove the agent and click **Next.**

4   The agent is removed. Click Finish when it is complete.

Silent Removal of the Agent

Use the following command to remove the Application Usage Manager agent silently:

```
msiexec.exe /i AUMAgent.msi /x
```

Common Files Required by Application Usage Manager Agent

Once the Application Usage Manager agent is installed, three files must be copied to the same directory where you installed the agent, for example, *Drive*:*ProgramFilesFolder*\Hewlett-Packard\CM\AUM Agent\. These files are included with the Application Usage Manager media and are listed below:

*   `gzip.exe`
    Located in the `\Agent Install\Setup\GZIP` folder., the GZIP (generic zip) utility is used by the Application Usage Manager Agent and Knowledge Base Server to compress and decompress data during transfer to and from a SQL database.

*   `Readme.txt`
    Located in the `Agent Install\Setup\GZIP` directory, the `Readme.txt` file explains where to obtain the following files, also needed by the Agent in a non-HPCA environment:

— `nvdkit.exe`
  Collection of components used by the Application Usage Manager.

— `hide.exe`
  Hides the `nvdkit.exe` user interface from the process.

Collecting Data

The Usage Database Collection is installed using the `USDBColl.exe` program, which is placed in the `\Application Extensions\Bin` folder of the agent's base installation directory. By default, the `USDBColl.exe` file is location in:
`C:\Program Files\Hewlett-Packard\CM\AUM Agent\Bin`.

Configuring Collection Parameters

Collect usage data by first defining collection parameters. Optionally, these parameters can be placed within a file `USDBColl.ini` and then named during the batch program to install the collection.

The collection parameters are installed when `USDBColl.exe` is executed.

Table 12, below, lists the collection configuration parameters used to define your usage data collection. They can be placed in a file named USDBColl.ini, if desired.

Table 12   Collection Configuration File (USDBColl.ini)

Parameter	Description
DatabaseName	Name of your Application Usage Manager database.
CollectionEnabled	Enable or disable collection. [Y/N].
CollectionInterval	When to process collections, monitor only (no collection), monthly, weekly, daily. [0 | 1 | 2|3] Default is Daily (3).
CollectionDayOfMonth	When the interval is monthly, day of the month to process collection. [01-31]
CollectionDayOfWeek	When the interval is weekly, day of the week to process collection. Default is Sunday (1). [1-7].

Parameter	Description
CollectionHour	Hour to begin data collection process. [00-23] Default is Midnight (00).
CollectionMinute	Minute to begin data collection process. [00 – 59] Default is 00.
CollectionRandom	Randomizes collection process to occur anytime from the start time through a randomly generated number of minutes later. [0 – 720]
CollectionPoint	The IP address and port number of the associated Integration Server or Portal. Supports an SSL-secured server (requires the URL to specify HTTPS and the secure port number, such as 443).

Command to Install Usage Database Collection

Open a batch window and execute one of the following commands to install usage collection. You can either specify all collection parameters directly on the command line, or place the parameters in a configuration file named USDBCOLL.INI, and then name that file when you run USDBColl.exe.

USDBColl.exe /I <collection_parameter_list>

or

USDBColl.exe /I USDBCOLL.INI

To run USDBColl.exe using a parameter list

1 Open a command prompt, go to the *InstallDir*\AUM Agent\Bin.

2 Execute the following command:

```
USDBColl.exe /I DatabaseName=Usage_Database CollectionEnabled=1
CollectionInterval=3 CollectionDayOfMonth=1 CollectionDayOfWeek=1
CollectionHour=0 CollectionMinute=0 CollectionRandom=0
CollectionPoint=http://<<IS_Server_IP_Address:3466>>/KB_Mgr1_Usag
e/
```

> Specify a secured Collection Point using the format:
> CollectionPoint=https://<<IS_Server_IP_Address:443>>/K
> B_Mgr1_Usage

Configuring Database Specific Collection

The executable `usdbcoll.exe` initiates the data collection process and can be launched by an HPCA Service or otherwise. Two command-line parameters are passed that indicate the SQL database specific configuration parameters to use when copying the information from the inventory and active monitoring files to the database specific collection file, for example:

```
USDBCOLL.EXE /i DatabaseName=SQL_database_name
```

See Table 13 below for a description of the `USDBCOLL.EXE` parameter values.

Re-collecting Usage Data

In the event you need to collect lost or damaged usage data, `USDBCOLL.EXE` supports the recollection of data with the `/r` parameter. To initiate recollection, use the `/r` parameter and define the **RecollectMode** value on the command line. For example:

```
USDBCOLL.EXE /r RecollectMode=1 DatabaseName=MyDatabase
```

See Table 13 below for a description of the different RecollectMode values.

Table 13   USDBCOLL.EXE command line parameters

Parameter	Description
`DatabaseName=UniqueSQLDatabaseName`	Defines a unique SQL database name for collection purposes.
`RecollectMode=Value`	Defines the type of data to be re-collected. Value can be 1, 2, or 3 as defined below. 1 – **Signatures** - all file signature data is re-collected for all files that meet the collection filter. This includes the data for the FileSignatures and FileSignatureProperties tables. 2- **Files** - all Windows file data is recollected for all files that meet the collection filter. This includes all of the data collected in Signature mode as well as data for the WindowsFiles and WindowsFileInstances tables. 3 – **Usage** - all Windows file usage data is re-collected for all files that meet the collection filter. This includes all of the data collected in File mode as well as data for the WindowsFileUsage table.

Generating Reports

Once the Application Usage Manager agent and collection parameters are installed, refer to Chapter 5, Viewing Application Manager Usage Reports on page 87 to learn about generating reports to view your usage data.

Installing the Application Usage Manager Agent and Collection Parameters

After you have configured your Application Usage Manager agent and configuration parameters using the two `.ini` files, you are ready to install the components to your agent computers.

These files will install the Application Usage Manager agent as well as the collection parameters you defined within each `.ini` file.

A sample batch file, `AUMAgent.bat`, is supplied with the Application Usage Manager media in the `\Samples\ AUM Agent - Batch Install\` directory. The directory also contains these files:

- `AUMAgent.bat`
- `AUMAgent.msi`
- `Collect.bat`
- `Sleep.exe`
- `USDBColl.ini`

Run `AUMAgent.bat` to install the Application Usage Manager agent as well as the collection parameters you defined within each `.ini` file.

After the Application Usage Manager agent and collection parameters are installed, refer to Chapter 5, Viewing Application Manager Usage Reports on page 87 to learn about generating reports to view your usage data.

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