HP OpenView AssetCenter

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Installation and upgrade

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Introduction

Who is this guide intended for?

This guide is intended for all organizations intending to using AssetCenter 5.01.

It is specifically intended for the engineers who wish to:

- Installing AssetCenter and AssetCenter Web for the first time
- Upgrade a previous version of AssetCenter

What does this guide do?

This guide explains:

- Which programs belong to AssetCenter.
- In which environments AssetCenter functions.
- How to upgrade a previous version of AssetCenter
- How to install AssetCenter and AssetCenter Web for the first time.
- How to configure AssetCenter
- How to tune AssetCenter.

Important:

In order to correctly install this application, you must strictly adhere to the instructions that we provide here.

A start-up screen appears when you insert the CD-ROM(s) that were provided. You will be asked if you want to install one or more packages.

This guide only describes the installation of the following components.

- Installing AssetCenter
- Installing Microsoft MSDE

To learn how to install the other components, refer to their installation guides.

Precautions for preserving AssetCenter data integrity

AssetCenter is extremely rich in functionality. This richness relies on a complex database structure:

- The database contains a large number of tables, fields, links and indexes
- Certain intermediary tables are not displayed by the graphical interface
- Certain links, fields and indexes are automatically created, deleted or modified by the software
- You can create additional tables, fields, links and indexes.

To modify the *contents* of the database with respect to its integrity, you absolutely must use one of the following applications:

- Windows client
- AssetCenter API
- AssetCenter Import
- Web client
- HP OpenView gateways
- Connect-It
- AssetCenter Server
- AssetCenter Web Service

To modify the *structure* of the database with respect to its integrity, you absolutely must use AssetCenter Database Administrator.

Warning:

You must never modify the structure or the contents of the database by any means other than those intended for use with the software. Such modifications might corrupt the database in the following ways:

- Involuntary loss or modification of data or links.
- Creation of "ghost" links or records.
- Serious error messages, etc.

1 Components of AssetCenter

AssetCenter packages

Program name	Program's interface	Windows support	Unix support (Linux, Solaris and AIX)
Windows interface to access the AssetCenter database (see Note)	*Graphical*	Yes	No
Web interface to access the AssetCenter database (see Note)	*Graphical*	Yes	No
AssetCenter Export	*Graphical*	Yes	No
	Command line	Yes	Yes
AssetCenter Import	*Command line*	Yes	Yes
AssetCenter Server	*Graphical*	Yes	No
	Command line	No	Yes
AssetCenter Database Administrator	*Graphical*	Yes	No
	Command line	Yes	Yes
AssetCenter API	*Non graphical*	Yes	Yes
AssetCenter Web Service	*Non graphical*	Yes	Yes

Program name	Program's interface	Windows support	Unix support (Linux, Solaris and AIX)
AssetCenter Script Analyzer	*Graphical*	Yes	No

Note:

The Windows and Web interfaces to the AssetCenter database provide access to the following modules:

- Portfolio
- Contracts
- Software licenses
- Software distribution
- Financing
- Chargeback
- Procurement
- Cable and Circuit
- Bar-code inventory
- Administration
- Reconciliation

Your access to these modules depends on your `license.cfg` file, which is provided with AssetCenter.

Peripheral programs

The following software applications can be integrated with AssetCenter:

- Connect-It
- Crystal Reports
- Enterprise Discovery
- Get-Answers
- Get-Resources

2 Supported environments

Supported operating systems

AssetCenter client programs

The AssetCenter client programs support:

- Windows
- Unix

To find out what operating system versions are supported, consult the compatibility matrix at: www.hp.com/managementsoftware/peregrine_support.

AssetCenter database server

The server may be used with all the operating systems and hardware platforms supported by your DBMS.

To acquire the list of these supported items, refer to the documentation of your DBMS.

Minimal configuration in Windows

All programs except AssetCenter Server

Environment	Windows 95, 98 and ME	Windows 2000, XP and Server 2003
CPU	Pentium II 300	Pentium II 400
RAM	32 MB	256 MB
Disk space (*)	1 GB (all packages installed)	1 GB (all packages installed)

(*) The files installed with AssetCenter require about 350 MB disk space (excluding production database and client database layers).

AssetCenter Server

Environment	Windows 2000, XP Professional Edition and Server 2003
CPU	Pentium III 500
RAM	256 MB reserved for AssetCenter Server
Disk space	500 MB

Recommended configuration in Windows

All programs except AssetCenter Server

Environment	Windows 95, 98 and ME	Windows 2000, XP and Server 2003
CPU	Pentium II 400	Pentium III 500
RAM	96 MB	512 MB
Disk space (*)	2 GB (all packages installed)	2 GB (all packages installed)

(*) The files installed with AssetCenter (client only) require about 350 MB disk space (excluding production database and database layers).

AssetCenter Server

Environment	Windows NT 4, 2000 and XP Professional Edition
CPU	Pentium III 1 GHz
RAM	1 GB reserved for AssetCenter Server
Disk space	1 GB

Environment	Windows NT 4, 2000 and XP Professional Edition
Network	High speed link with DBMS server. (For example: Ethernet 100 Mbps or Gigabit) and low latency (<5 ms).

Supported DBMSs

The following DBMSs are supported for the AssetCenter database:

- Microsoft SQL Server

> Note:
>
> The MSDE version is also supported, but only for using demonstration databases.

- Oracle Database Server
- Sybase Adaptive Server
- IBM DB2 UDB

To find out what DBMS versions are supported (servers, clients, network protocols, drivers, etc.) consult the compatibility matrix at: www.hp.com/managementsoftware/peregrine_support.

> Warning:
>
> We do not guarantee the proper functioning of AssetCenter with versions (even later versions) or Service Packs different from those described in the compatibility matrix.

> Warning:
>
> We do not guarantee the proper functioning of AssetCenter with versions or Service Packs that are no longer supported by their respective vendors.

3 Upgrading a previous version

The upgrade type depends on the previous installed version:

Table 3.1. Upgrade type according to the AssetCenter version number

Number of the version to upgrade	Type of operation to perform	Documentation to consult
Versions 4.2.x, 4.3.x, 4.4.x or 5.0x	In most cases, a *simple upgrade* will suffice	This chapter, section Upgrading AssetCenter 4.2.x, 4.3.x, 4.4.x or 5.0x - Overview [page 19]
	If the simple upgrade fails, you will need to perform a *simplified migration*	*Migration* guide
Versions 4.1.x or earlier	*Full migration*	*Migration* guide

Upgrading AssetCenter 4.2.x, 4.3.x, 4.4.x or 5.0x - Overview

Why upgrade?

- The structure of the standard database (tables, fields, links and indexes) has been modified.

- New functions have been added.

What does the upgrade process consist of?

You need to upgrade:

- The *old-format production database* to the 5.01-format (structure and contents).
- The AssetCenter programs to version 5.01.

Required competencies

The upgrade process is relatively simple and requires:

- An understanding of AssetCenter (installation, administration).
- Preparation
- Technical competency: database administration.
- Methodology

Upgrade process

1. Prepare the upgrade computer.

   ▸ Preparing the upgrade computer [page 22]

2. Prepare the old-format production database:
   1. Verify the integrity of the *old-format production database* (optional).

      ▸ Verifying the integrity of the old-format production database [page 23]

   2. If necessary, make any adjustments to the *old-format production database* by hand.

      ▸ Adjusting the old-format production database by hand [page 24]

3. Test the upgrade on a *copy of the old-format production database*:
   1. Copy the *old-format production database* ().

      ▸ Copying the old-format production database [page 25]

      While you are testing the upgrade on the *copy of the old-format production database*, the users can carry on using the *old-format production database*.

   2. Upgrade the *copy of the old-format production database* ().

      ▸ Upgrading the copy of the old-format production database [page 26]

      If no error messages are displayed by the upgrade program, you can continue with the upgrade as described in this chapter.

      If the upgrade program displays any error messages, you must perform the simplified migration process as described in the *Migration* guide.

The upgrade process described in this chapter is not applicable in this case.

3. Verify the integrity of the *copy of the 5.01-format production database* (3).

   ▸ Verifying the integrity of the copy of the 5.01-format production database [page 27]

   If any problems are encountered by the program, make the necessary modifications to the *old-format production database* and reinitiate the test on a fresh version of the *copy of the old-format production database*.

   If there are no error messages, move on to the next step.

4. Perform the final upgrade using a new *copy of the old-format production database*:
   1. Block the old-format production database.

      ▸ Blocking the old-format production database [page 28]

   2. Make a new copy of the *old-format production databases* (1).

      ▸ Copying the old-format production database [page 25]

   3. Upgrade the *copy of the old-format production database* (2).

      ▸ Upgrading the copy of the old-format production database [page 26]

   4. Verify the integrity of the *copy of the 5.01-format production database* (3).

      ▸ Verifying the integrity of the copy of the 5.01-format production database [page 27]

   5. If required, make any necessary adjustments to finalize the *copy of the 5.01-format production database*.

      ▸ Finalizing the copy of the 5.01-format production database [page 28]

5. Update the AssetCenter programs.

   ▸ Updating AssetCenter programs [page 30]

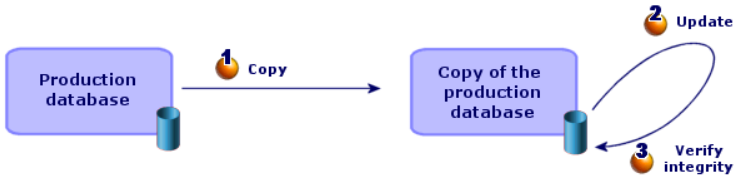
6. If necessary, perform the upgrades of the external programs that access the AssetCenter database.

   ▸ Upgrading the external programs that access the AssetCenter database [page 32]

7. Start AssetCenter server on the *5.01-format production database*.
8. Restart the external programs that access the *5.01-format production database*.
9. Inform users that they can use the database.

The following are the main steps in upgrading a 4.2.x, 4.3.x or 4.4.x database:

Figure 3.1. Upgrading a 4.2.x, 4.3.x or 4.4.x database - Overview



Detail of certain upgrade operations

This section details the steps given in the preceding overviews.

> Warning:
>
> Only perform those operations listed that match your situation.

Preparing the upgrade computer

Before upgrading the *old-format production database*, you must prepare a suitable upgrade computer.

This chapter lists everything you need to install on the upgrade computer.

Installing the AssetCenter version corresponding to the old-format production database

You need to install this version to access the production databases:

- *Production database*
- *Copies of the production database*

At the least, you must install the basic module.

Verifying you have access to the old-format production database

You need to do this in order to:

- Prepare the *old-format production database* for the upgrade.
- Make copies of the *old-format production database* to simulate then perform the upgrade.

Installing AssetCenter 5.01

You need to install at least the following components:

- AssetCenter client
- AssetCenter Database Administrator
- Documentation
- Migration
- Datakit
- AssetCenter Export

Factors affecting the conversion speed

- DBMS performances
- Throughput between the AssetCenter Database Administrator machine and the machine of the old-format databases.
- Performances of the machines where AssetCenter Database Administrator and the old-format databases are installed (but only minimally).

Tip:

If you have a large volume of data in the old-format production database, you must position the computers where AssetCenter Database Administrator is installed as close as possible to the databases (without going through a WAN network, for example). This is true in particular for tables containing very long fields and binary data (**amComment** and **amImage**, for example).

Verifying the integrity of the *old-format production database*

1

Important:

Make a backup of the old-format production database.

2 Perform an initial verification with the old-version AssetCenter Database Administrator:

1 Launch the old-version AssetCenter Database Administrator.

2 Connect to the *old-format production database* (**File/ Open** menu, *Open existing database* option).

3 Display the database-diagnostics window (**Action/ Diagnostics / Repair database** menu).

4 Select *(All tables)* in the list of tables.

5 Specify the name and the location of the log file.

6 Only select the *Check validity of records* option.

7 Select the *Repair* option.
8 Click **Start**.
9 Consult the messages of the execution window.
10 Consult the log file if necessary.

3

Warning:

If the DBMS of the *old-format production database* is DB2, stop here without performing the second verification.

Perform a second verification with 5.01-format AssetCenter Database Administrator:

1 Launch AssetCenter Database Administrator 5.01.
2 Connect to the *old-format production database* (**File/ Open** menu, *Open existing database* option).

Note:

It is fully possible to connect to the previous format database using AssetCenter Database Administrator 5.01.

3 Display the database-diagnostics window (**Action/ Diagnostics / Repair database** menu).
4 Select *(All tables)* in the list of tables.
5 Specify the name and the location of the log file.
6 Select all the verification options, except for the *Check validity of records* option.
7 Select the *Repair* option.
8 Click **Start**.
9 Consult the messages of the execution window.
10 Consult the log file if necessary.

For more information about the analysis and repairs program, consult the *Administration* guide, chapter *Diagnostic and repairs of a database*.

Adjusting the *old-format production database* by hand

In order for the upgrade of the *old-format production database* to be performed correctly, certain data items must first be modified.

Updating the amCounter table

This section concerns users who modified the stored procedure *up_GetCounterVal*. This procedure manages the **amCounter** table according to the directives of the following technical notes:

- Microsoft SQL Server: TN317171736
- Sybase Adaptive Server: TN941931
- Oracle Database Server: TN12516652

If you made the modifications described in these technical notes, certain records in the **amCounter** table are no longer updated by the stored procedure *up_GetCounterVal*.

Before upgrading the *old-format production database*, you must first therefore:

1. Make a copy of the *up_GetCounterVal* stored procedure, if you wish to modify it in the same way after the upgrade.
2. Manually update the counters in the **amCounter** table that were diverted to other tables.
3. Restore the stored procedure *up_GetCounterVal* to its original state.

Procurement and Workflow modules

We recommend minimizing the number of the processes running before the upgrade (partially received purchase orders, assets to be returned, current workflows, for example).

Warning:

We also recommend making a backup copy of the *old-format production database* for reference in case any issues arise after the upgrade.

Copying the *old-format production database*

Problems that can occur during a traditional backup

If you make a backup of the old-format production database using DBMS tools, the backup of the old-format production database will be identical to the original for everything concerning additions, modifications or deletions of the following events using tools other than AssetCenter Database Administrator:

- Index
- Triggers
- Stored procedures
- Views

However the upgrade program cannot handle these structural changes.

You must delete these structural modifications before converting the old-format production database.

We advise making a copy using the DBMS tools and undoing any structural changes mentioned in this section.

Note:

The copy of the *old-format production database* must be accessible from the upgrade computer.

To learn how to make a backup of your database, consult the DBMS documentation.

Copy the old-format production database using the DBMS tools

1. Copy the old-format production database using the DBMS tools.

   The backup is identical to the original old-format production database.
2. Delete all the modifications made to:
   - Index
   - Triggers
   - Stored procedures
   - Views
3. Create an AssetCenter connection to *old-format simulation database*.

Upgrading the *copy of the old-format production database*

To upgrade the *copy of the old-format production database*:

1. Launch AssetCenter Database Administrator version 5.01.
2. Connect to the *copy of the old-format database* using the *Admin* login (**File/ Open/ Open an existing database**).

   Important:

   In the connection detail of AssetCenter:
   - The **Owner** field must not be populated.
   - The **User** field must reference a user that is the *owner* of the database tables (creation rights for all database objects).
   - With Microsoft SQL Server, if the owner of the tables is *dbo*, the connection login must create default tables in the form *dbo.<table>* (typically the login: *sa*).
3. Select **Migration/ Update database**.

Note:

If the *old-format production database* is multilingual (▸ *Administration* guide, chapter *Creating, modifying and deleting an AssetCenter database*, section *AssetCenter client languages*), one of the pages in the wizard offers to propagate the customizations made for the additional languages of the *old-format production database*. This requires AssetCenter version 5.01 to be available in each of the additional language versions, and that you install AssetCenter in these languages on the computer used for the conversion.

All multilingual elements are propagated, except for contextual help on fields and links.

If you wish to automatically propagate customizations for a language X, you must wait for AssetCenter to be made available for this language.

If you wish, you may perform the upgrade in a language version already available, but you will not be able to propagate the customizations made for the language X. You will insert language X into the *5.01-format production database* when AssetCenter 5.01 is made available for that language. You will have to propagate *manually* the customizations you have made to the *old-format production database*.

4 Follow the instructions given by the wizard.

Tip:

Upgrading links whose *User type* parameter is *Comment* takes a significant amount of time (several hours for a very large database).

Because no messages appear during this phase, you might be wondering if the upgrade process is still running.

To check on this, take a look at the system activity of the upgrade computer or database server (CPU or I/O levels).

5 Consult the messages of the `sdu.log` log file.

Verifying the integrity of the *copy of the 5.01-format production database*

1 Launch AssetCenter Database Administrator 5.01.

2 Connect to the *copy of the 5.01-format production database* (**File/ Open**, *Open an existing database* option).

3 Display the database-diagnostics window (**Action/ Diagnostics / Repair database** menu).

4 Select *(All tables)* in the list of tables.

5 Specify the name and the location of the log file.

6 Select all the verification options, except for the *Check validity of records* option.

7 Select the *Analyze only* option.

8 Click **Start**.

9 Consult the messages of the execution window.

10 Consult the log file if necessary.

For more information about the analysis and repairs program, consult the *Administration* guide, chapter *Diagnostic and repairs of a database*.

Blocking the *old-format production database*

Blocking the *old-format production database* consists of stopping the *old-format production database* from being used so that no modifications are made during the upgrade process (they would not be taken into account in this case).

Perform the following tasks:

1 Disconnect all users from the old-format production database.

2 Shut down the:

- AssetCenter Server
- AssetCenter APIs
- External programs that access the old-format production database.

3 Block access to the old-format production database.

Finalizing the *copy of the 5.01-format production database*

Verifying the success of the upgrade

We recommend making sure that the upgrade process has taken place correctly.

You can, for example:

- Go through the *copy of the 5.01-format database* manually on the lookout for obvious anomalies.
- Compare the number of records in certain tables before and after the upgrade.

Modifications to the stored procedure *up_GetCounterVal*

This section concerns users who have modified the *up_GetCounterVal* stored procedure in the old-format production database.

Before upgrading the *old-format production database*, you have already:

1 Manually updated the counters in the **amCounter** table that were diverted to other tables.

2 Restored the stored procedure *up_GetCounterVal* to its original state.

You can adapt the stored procedure *up_GetCounterVal* again according to the directives in the following technical notes:

- Microsoft SQL Server: TN317171736
- Sybase Adaptive Server: TN941931
- Oracle Database Server: TN12516652

Help on fields (optional)

The help on fields (and links) are stored in the **Help on fields** table (amHelp).

The upgrade process leaves the contents of this table alone.

If you wish to upgrade the help on fields, refer to the *Migration* guide, chapter *Step-by-step migration - final conversion (migration database)*, section *Step 20 - Finalize the 5.01-format migration database/ Finalizations concerning all versions of the old-format production database/ Help on fields*.

Importing the standard reports provided with AssetCenter 5.01

To import the reports included in the *Sample Data* into the *copy of the 5.01-format production database*:

1. Start AssetCenter Database Administrator.
2. Select the **File/ Open** menu.
3. Select the **Open database description file - create new database** option.
4. Select the `standard 5.01 gbbase.xml` file, located in the `config` sub-folder of the AssetCenter 5.01 installation folder.
5. Select the **Action/ Create database** menu.
6. Populate the pages of the wizard as follows (navigate through the wizard pages using the **Next** and **Previous** buttons):

   Generate SQL script / Create database page:

Fields	Value
Database	Select the *copy of the 5.01-format production database*.
Creation	Import line-of-business data.
Use advanced creation options	Do not select this option

   Creation parameters page:

Fields	Value
Password	Enter the administrator's password.

Note:

The AssetCenter database administrator is the record in the **Departments and employees** (amEmplDept) table for which the **Name** (Name) field is set to *Admin*.

The database connection login in stored in the **User name** (UserLogin) field. The administration name is *Admin*.

The password is stored in the **Password** field (LoginPassword).

Data to import page:

Fields	Value
Available data	Select the option **Crystal Reports**.
Stop import if error	Select this option for the import to stop if a problem is encountered.
Log file	Full name of the file to which all import operations, including errors and warnings, are logged.

7 Execute the options defined using the wizard (**Finish** button).

User rights, access restrictions and user profiles

Because the structure of the database has changed, you will need to make changes to the user rights, access restrictions and user profiles.

You just need to add the new tables to the existing user rights and profiles and to create new rights and restrictions if necessary.

Updating AssetCenter programs

You must upgrade all the AssetCenter programs on all administration and user machines.

You must also make sure that the version of the programs that interact with AssetCenter are still compatible with AssetCenter 5.01. If necessary, upgrade these programs as well.

For the list of AssetCenter programs and programs that interface with AssetCenter: ▸ Components of AssetCenter [page 13].

To learn which program versions are compatible with AssetCenter 5.01, consult the HP customer support site.

Tip:

There is also some information on compatibility given in this guide, chapter ▸ Configuring in Windows (except AssetCenter Web) [page 47].

Install AssetCenter Server on an administration machine

AssetCenter Server carries out a number of automatic tasks on the AssetCenter database. If it is not launched, AssetCenter cannot function correctly.

You must therefore:

1 Install AssetCenter Server on a client machine.

2 Properly configure AssetCenter Server.

3 Execute AssetCenter Server permanently.

To learn more about how AssetCenter Server works, refer to the *Administration* guide, chapter *AssetCenter Server*.

Delete the AssetCenter caches in the *copy of the 5.01-format production database*

If you are using a cache to connect to the *copy of the 5.01-format production database*, we recommend that you delete it.

To learn more about how caches work, refer to the *User Interface* guide, chapter *Reference information*, section *Connections*, sub-section *AssetCenter performances*.

Upgrade AssetCenter programs

To upgrade the programs:

1 Uninstall the earlier version of AssetCenter.

> Tip:
>
> If you are installing AssetCenter 5.01 on a conversion machine, be sure to conserve your previous version of AssetCenter for the time being.

For information on the uninstallation procedure (safeguards, steps to follow, and ways to remove AssetCenter), refer to the *Installation and upgrade* guide corresponding to the version of AssetCenter to be removed.

2 Install AssetCenter 5.01.

For information on the installation procedure (precautions, methodology and different ways to install AssetCenter), refer the other chapters of this guide.

> Note:
>
> The AssetCenter 5.01 installation program does not look for installed versions of AssetCenter 4.3.2 or earlier.

Verify that AssetCenter can be launched without problems

If you are having problems launching AssetCenter 5.01, contact user support.

Remove the old connections to databases and create new ones

The objective is to make sure the users connect to the *copy of the 5.01-format production database*.

Refer to the *User interface* guide, chapter *Reference information*, section *Connections*.

If you prefer, you can modify the previous connections.

Create an AssetCenter cache for your connections if you consider this will be useful.

Upgrading the external programs that access the AssetCenter database

AssetCenter Web

You must upgrade AssetCenter Web to version 5.01.

If you only use the standard pages of AssetCenter Web, this operation will suffice: You can use the new standard pages of AssetCenter Web.

If you created additional Web pages or customized standard Web pages:

1. Save the previous additional or customized pages.
2. Upgrade AssetCenter Web to the version 5.01.
3. Test and adapt each Web page one after the other.

Get-It

For each Web application developed with Get-It to function with the AssetCenter 5.01 database:

1. Verify that your version of Get-It is listed in the AssetCenter 5.01 compatibility matrix (available on the HP customer support Web site).
2. Upgrade Get-It if necessary.
3. Test and adapt each customized Web page one after the other.

Get-Resources

For Get-Resources to function with the AssetCenter 5.01 database:

1. Verify that your version of Get-Resources is listed in the AssetCenter 5.01 compatibility matrix (available on the HP customer support Web site).
2. Upgrade Get-Resources if necessary.

If you only use the standard pages of Get-Resources, this operation will suffice: You can use the new standard pages of Get-Resources.

If you created additional Web pages or customized standard Web pages:

1. Save the previous additional or customized pages.
2. Upgrade Get-Resources if necessary.
3. Test and adapt each customized Web page one after the other.

Connect-It scenarios

To access the *copy of the 5.01-format production database* using Connect-It, you must use the version of Connect-It provided with AssetCenter 5.01.

If you use standard Connect-It scenarios, you must now use the new standard scenarios.

If you created your own scenarios:

1. Save the previous non-standard scenarios.
2. Upgrade Connect-It.
3. Open each scenario one by one in Connect-It.
4. For each scenario:
   1. Examine the possible warning messages displayed by Connect-It when you open a scenario.
   2. Correct the scenario according to the warning messages.
   3. Execute the scenario using test data.
   4. Correct the possible problems that present themselves during this test.

Importing *Version 5.01 system data*

1. Launch AssetCenter.
2. Connect to the *old-format production database*, which is blocked, via the **File/ Connect to database** menu.
3. Select the **File/Import** menu, option **Execute a script**.
4. Select the script `upgrade.lst` (usually located in the folder: `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\migration\fromxxx`, where *xxx* stands for the version of the *old-format production database*).
5. Click **Import**.
6. Click **Close**.
7. The database you obtain by doing this is called the *5.01-format production database*.

4 Installing and uninstalling in Windows (except AssetCenter Web)

This chapter explains how to install AssetCenter for the first time.

Before installing AssetCenter

Deactivating antiviruses

Certain antivirus programs, when running, disturb the AssetCenter installation program since they block access to the Registry.

We recommend that you suspend any antivirus programs during installation of AssetCenter.

Installing Oracle client layers

Incorrectly installed or configured Oracle client layers (SQL*Net) can affect the way AssetCenter handles accented characters. This problem appears, for example, when a record containing accented characters is inserted: When you reselect it, the text is not displayed correctly. To solve this problem, verify the configuration of SQL*Net.

Installing (or not) Crystal Reports

Before installing AssetCenter, determine whether you should install the runtime (limited version) of Crystal Reports.

If you have a full version 8.5, 9, or 10, do not install the Crystal Reports 10 Runtime.

Note:

Installing Crystal Reports runtime can be done using the AssetCenter installation program.

Installing MSDE or not

What is MSDE used for?

MSDE is a limited and free version of Microsoft SQL Server.

Examples of limitations:

- The SQL optimization tools are not provided.
- The number of concurrent connections to a database is limited.

AssetCenter uses MSDE for its demonstration databases.

The AssetCenter installation CD-ROM enables you to install MSDE if required.

Note:

Because of its limitations, MSDE is not supported for production databases.

Incompatibilities

Do not install MSDE on a station where MS SQL Server has already been installed.

Installing MSDE

If MSDE is already installed on your environment, you can use it to access the demonstration databases as long as the version is supported.

To find out what DBMS versions are supported (servers, clients, network protocols, drivers, etc.) consult the compatibility matrix at: www.hp.com/managementsoftware/peregrine_support.

To install an instance of MSDE provided with AssetCenter:

1. Insert the installation CD-ROM.
2. If the graphical installation program window does not automatically appear when you insert the CD-ROM:
   1. Open the Windows Explorer.

2 Select the installation CD-ROM.
3 Select the root of the CD-ROM.
4 Launch the `Autorun.exe` program.

3 Select the option **Install Microsoft MSDE**
4 Follow the instructions given by the installation program

This instance of MSDE is installed with the following parameters:

Table 4.1. MSDE - Installation settings for the installed MSDE instance

Parameter	Value
Name of the instance	ASSETCENTER
User with administration rights	sa
Password associated with the user *sa*	saacpassword
Security system	SQL
Network protocols	Enabled

Starting the MSDE service

If you are going to install the demonstration databases, make sure the MSDE Windows service to be used is started before starting the installation of AssetCenter.

The MSDE service provided with AssetCenter is called *MSSQL$ASSETCENTER*.

It is not started by the installation program.

However, it is configured to start automatically the next time Windows is restarted.


Note:

To start the equivalent of the MSDE service in Windows 98, restart the computer after installing AssetCenter.

Installing in Windows 2000, XP and Server 2003

If you are using Windows 2000, XP or Server 2003, you need to have administrative rights on the machine to install the software. Without these rights, the installation program will not be able to modify the Registry.

Installing in client-server

1. Install the DBMS on the server and the client workstations.
2. Test communications between client and server.
3. Install AssetCenter on each client computer

Saving time when installing client machines

The `amdb.ini` file contains the list of connections declared at the level of the **File/ Manage connections** screen.

Location of this file: ▸ .ini and .cfg files [page 65].

Rather than defining these options via the user interface on each client machine, you can define them on one machine and copy the `amdba.ini` file to each client machine.

Installing AssetCenter in several languages

You can install the AssetCenter Windows client in several languages on the same computer.

If you do this, make sure you install each language version in a separate folder.

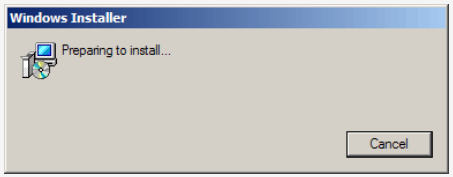
By default, the installation program uses the same installation folder regardless of the language version.

Manual installation (graphical)

1. Insert the installation CD-ROM.
2. If the graphical installation program window does not automatically appear when you insert the CD-ROM:
   1. Open the Windows Explorer.
   2. Select the installation CD-ROM.
   3. Select the root of the CD-ROM.
   4. Launch the `Autorun.exe` program.
3. Select the option **Install AssetCenter 5.01**.
4. Follow the instructions given by the installation program

Warning:

During the installation, a popup window of the following type is repeatedly displayed:



This is normal.

You must not click **Cancel**.

Because simply pressing **Enter** on the keyboard selects the **Cancel** button, we recommend not working with other applications while performing the installation; You might press **Enter** without realizing that the popup window has just been displayed.

Manual uninstallation (graphical)

Before uninstalling AssetCenter

If you installed the demonstration database

The demonstration database is deleted during uninstallation.

You will need to make a copy of the demonstration database if you want to keep it.

▸ To learn how to make a copy of your demonstration database, consult the MSDE documentation.

If you installed the Web client

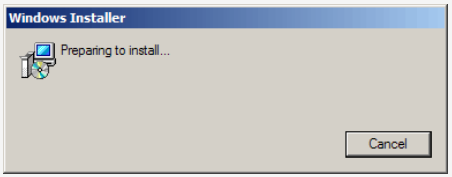
Before uninstalling AssetCenter, you must stop the application servers being used by AssetCenter Web Tier and AssetCenter Web Service in order to unlock the files that will be uninstalled.

Uninstalling AssetCenter

To remove AssetCenter fully from a machine, use the **Add/ Remove programs** icon in the Windows Control Panel.

Warning:

During the uninstallation, a popup window similar to the following will be repeatedly displayed:



This is normal.

You must not click **Cancel**.

Because simply pressing **Enter** on the keyboard selects the **Cancel** button, we recommend not working with other applications while performing the uninstallation; You might press **Enter** without realizing that the popup window has just been displayed.

The uninstallation program:

- Removes all the files and program groups that have been installed.
- Modifies the configuration files to remove some of the modifications made by AssetCenter's installation program.
- Updates the Registry.

Automatic installation and uninstallation from the command line

This section provides information on the following points:

- Overview [page 40]
- Preparation [page 41]
- Execution [page 43]
- Executing an uninstallation from the command line [page 45]

Overview

A command-line installation enables you to standardize and automate the installation of AssetCenter for multiple computers.

Before executing the installations from the command line, you must define certain parameters.

The AssetCenter installation parameters are defined in an `.msi` file.

The file provided by default on the AssetCenter installation CD-ROM is called `AssetCenter.msi`.

Modifying an `.msi` file is performed using a program from Microsoft called *Orca*.

You must install Orca on the computer that will be used to perform the configuration.

Preparation

Installing Orca

To install Orca:

1 Start Microsoft Internet Explorer.

> **Warning:**
>
> Microsoft Internet Explorer (c) version 5.0 or higher is required to display the following page.

2 Go to the following URL:

http://msdn.microsoft.com/library/default.asp?url=/library/en-us/msi/setup/orca_exe.asp

3 Follow the instructions.

Obtaining help on using Orca

To display the Orca documentation:

1 Start an Internet browser.

2 Go to the following URL:

```
http://support.microsoft.com/kb/255905/
```

Obtaining help on the `.msi` files and the `setup.exe` and `msiexec.exe` parameters

To display the documentation on these files and executables, consult the Microsoft Platform SDK on-line Help.

This on-line Help can be displayed using the **Start/ Programs/ Microsoft Platform SDK XXX/ Platform SDK Documentation** menu in Windows.

Configuring the AssetCenter installation

Configuring the AssetCenter installation consists of modifying the `AssetCenter.msi` file with Orca.

Warning:

The `AssetCenter.msi` file can be modified but not renamed.

This section only describes certain parameters of the `.msi` files.

For all other parameters, consult the help on the `.msi` files.

1 Start a Windows Explorer.

2 Copy the contents of the AssetCenter installation folder (installation CD-ROM, `ac` folder) to your hard drive (example `C:\Temp\ac\`).

3 Start Orca.

4 Open the `AssetCenter.msi` file (**File/ Open** menu). It is located in the folder containing the copied contents of the CD-ROM.

5 Configure the components to install:

a Select *Feature* in the **Tables** column.

Orca displays the list of components likely to be installed.

The **Title** column enables you to identify a component.

The **Level** column enables you to control the way a component is installed.

b For each component, populate the **Level** column as follows:

Value of the **Level** column	Installation behavior from the command line	Behavior of *Typical* graphical installation	Behavior of *Custom* graphical installation
0	Not installed	Not installed	Not available
1	Installed	Installed	Available and selected by default
200	Not installed	Not installed	Available and not selected by default

6 Configure the program groups for the Windows **Start** menu to be created.

For example, by default, AssetCenter is installed in the following group: `Programs/ HP OpenView/ AssetCenter 5.01/ HP OpenView AssetCenter`.

To modify the paths:

a Select *Shortcut* in the **Tables** column.

Orca displays a line by program-group entry.

The **Name** column enables you to identify the entry.

The **Directory** columns indicates the program group in which the entry is created.

It is the identifier of a record in the **Directory** table that stores the path of the program group.

b Note the identifiers of the program groups to modify.

For example: The AssetCenter client is identified by the value *PEREGR~1|HP OpenView AssetCenter* in the **Name** column. The value of the **Directory** column is *newfolder2*. Note this value.

c Search each one of these identifiers in the **Directory** table:

d Select *Directory* in the **Tables** column.

e Click the header of the **Directory** column to sort it.

f For each program group to modify, select its identifier in the **Directory** column and modify the value of the **DefaultDir** column.

In our example, search *newfolder2*.

> Warning:
>
> The sort is case sensitive. *newfolder2* is therefore at the end of the list.

7 Save your settings (**File/ Save** menu).

8 Exit (**File/ Close** menu).

Execution

Overview

To launch the installation, execute `setup.exe` from the AssetCenter CD-ROM.

The parameters available for `setup.exe` can be displayed using the following command:

```
setup.exe /?
```

Example of executing using the parameter to hide the initialization dialog box:

```
setup.exe /S
```

1 `setup.exe` installs or updates the `MsiExec.exe` program installed by default by Windows.

2 `setup.exe` triggers the `MsiExec.exe` program which performs the installation using the settings in the `AssetCenter.msi` file that you have customized using Orca.

The parameters available for `MsiExec.exe` can be displayed using the following command:

```
MsiExec.exe /?
```

Warning:

This option only available for *MsiExec* version 3 or later.

For earlier versions, consult the documentation corresponding to your versions of `MsiExec.exe`.

Example of execution with the parameter that enables unattended installation without the graphical interface:

```
MsiExec.exe /qn
```

In order for a parameter to be sent by `setup.exe` to `MsiExec.exe`, the parameter must be prefixed by:

```
/V
```

Example of execution with the parameter that enables unattended installation:

```
setup.exe /V/qn
```

Warning:

Whatever follows */V* must follow */V* without a space.

Executing an installation from the command line

There are several ways of installing AssetCenter from the command line.

This section provides an installation example with the following characteristics:

- `setup.exe` is executed without a dialog box.
- `msiexec.exe` executes without user input or GUI.
- Messages from the installation program are saved to the `C:\Temp\log.txt` file.
- AssetCenter is installed in the folder `C:\Program Files\HP OpenView\AssetCenter 5.01 xx`

1. Open a DOS command prompt.
2. Go to the AssetCenter installation folder where the `setup.exe` program file and a possible customized `AssetCenter.msi` file are located.
3. Execute the following command:
   - ```
     setup.exe /S /V"/qn /l* C:\Temp\log.txt INSTALLDIR=\"C:\Program Files\HP OpenView\AssetCenter 5.01 xx\""
     ```

   Comments:
   - *setup.exe*: The installation is triggered by `setup.exe` in order to test the local version of `msiexec.exe` and to update it if required.
     ```

Note:

The installation of AssetCenter requires version 2 or higher.

- /*S*: `setup.exe` is executed without an initialization dialog box.
- /*V*: The following parameters are sent to `msiexec.exe`.

  Note the double quotation marks which surround everything after /*V*.
- /*qn*: `msiexec.exe` executes without user input or GUI.
- /*l* C:\Temp\log.txt*: Saves most messages from the installation program to the `C:\Temp\log.txt` file.
- *INSTALLDIR*=\"*C:\Program Files\HP OpenView\AssetCenter 5.01 xx*\": installs AssetCenter in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx` folder.

  Note the use of \" to includes spaces in the path between *Program* and *Files*.

4

Note:

After you execute the command line above, the command prompt will be immediately displayed. You will not be notified that the installation has ended.

To find out if the installation has ended, look for the text *Installation complete* on the last line of the log file (*C:\Temp\log.txt* in our example).

Executing an uninstallation from the command line

There are several ways of uninstalling AssetCenter from the command line.

We recommend the following example:

1 Identify the Registry key number corresponding to the AssetCenter uninstallation:

a Start the Registry editor `regedit.exe` (**Start/ Run** menu in Windows).

b Unfold the branch `HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\`

c Search for the key corresponding to AssetCenter: Display the details of the keys surrounded by curly brackets (left pane), and examine the value of the **DisplayName** field (right pane); This field should contain the name AssetCenter and its version.

d Select this key.

e Copy the name of the key (**Copy Key Name** shortcut menu).

The part that interests us is between curly brackets. Example:

```
{A79E51C8-4E8E-40CE-A56E-143395D011C1}
```

f Exit the Registry editor.

2 Open a DOS command prompt.

3 Execute a command with the following form:

- ```
  msiexec.exe /x <Registry key> /qn /l* <Full path of the log file>
  ```
  Example:

  ```
  msiexec.exe /x {A79E51C8-4E8E-40CE-A56E-143395D011C1} /qn /l* C:\Tem
  p\log.txt
  ```

Comments:

- ▶ Executing an installation from the command line [page 44]
- /*x*: `msiexec.exe` Executes an uninstallation.

 Note:

It is not possible to perform a partial removal from the command line.

4

 Note:

After you execute the command line above, the command prompt will be immediately displayed. You will not be notified that the uninstallation has ended.

To find out if the uninstallation has ended, look for the text *Uninstallation completed successfully* on the last line of the log file (*C:\Temp\log.txt* in our example).
  ```

5 Configuring in Windows (except AssetCenter Web)

After having installed the AssetCenter programs, you just need to perform a few more tasks, which depend on the components and applications that you want to use or integrate with AssetCenter.

This chapter explains these additional operations.

C compiler for DB2 databases

The 5.01 databases use SQL stored procedures.

Stored procedures are not handled by DB2 versions 8.1 and earlier, which require a C compiler for this.

> Note:
>
> For DB2 version 8.2, you may ignore this section.

You must therefore:

1 Install a C compiler on the database server.

> Tip:
>
> We recommend Microsoft Visual Studio version 6, which can be easily integrated with DB2.

2 Update the `sr_cpath.bat` file, located in the DB2 installation folder, in the sub-folder `\function\routine\`. This indicates to the DB2 server where to find the C compiler.

Example:

In the standard `sr_cpath.bat` file, the following section:

```
@echo off
REM set VCV6_DRIVE=C:\Microsoft Visual Studio
REM set include=%include%;%VCV6_DRIVE%\VC98\atl\include;%VCV6_DRIVE%\VC
98\mfc\include;%VCV6_DRIVE%\VC98\include
REM set lib=%lib%;%VCV6_DRIVE%\VC98\mfc\lib;%VCV6_DRIVE%\VC98\lib
REM set path=%path%;%VCV6_DRIVE%\Common\Tools\WinNT;%VCV6_DRIVE%\Common
\MSDev98\Bin;%VCV6_DRIVE%\Common\Tools;%VCV6_DRIVE%\VC98\bin;%VCV6_DRIV
E%\VC98\mfc\lib;%VCV6_DRIVE%\VC98\lib
```

has been replaced by:

```
@echo off
set VCV6_DRIVE=F:\Program Files\Microsoft Visual Studio
set include=%include%;%VCV6_DRIVE%\VC98\atl\include;%VCV6_DRIVE%\VC98\m
fc\include;%VCV6_DRIVE%\VC98\include
set lib=%lib%;%VCV6_DRIVE%\VC98\mfc\lib;%VCV6_DRIVE%\VC98\lib
set path=%path%;%VCV6_DRIVE%\Common\Tools\WinNT;%VCV6_DRIVE%\Common\MSD
ev98\Bin;%VCV6_DRIVE%\Common\Tools;%VCV6_DRIVE%\VC98\bin;%VCV6_DRIVE%\V
C98\mfc\lib;%VCV6_DRIVE%\VC98\lib
```

Oracle DLL

There are several DLL versions that can be used to access Oracle. AssetCenter tries to load the supported versions dynamically, starting with the most recent version and working toward the oldest version supported, i.e.:

1 `oraclient10.dll`

2 `oraclient9.dll`

3 `oraclient8.dll`

However, you can however override this order to load a particular DLL by adding the following entry in `am.ini`:

```
[DLL]
orcl = <xxx>.dll
```

Location of this file: ▸ .ini and .cfg files [page 65].

Messaging system

Messaging standards supported in Windows

- VIM
- Extended MAPI
- SMTP

Note:

Simple MAPI is not supported.

Messaging standards supported in Unix

In Unix, AssetCenter supports SMPT.

Installation of the external messaging system

For the external messaging system to function correctly with AssetCenter, the following conditions must be met:

Messaging system standard	Required conditions
VIM	The *PATH* environment variable of your system must point to the folder containing the `vim32.dll` file. Example: In general, the Lotus Notes DLLs are installed by Notes, in the same folder as Notes, and are not included in the PATH.
SMTP	The TCP/IP layers must be installed. This is the case when an SMTP messaging system has been installed correctly.

Configuring AssetCenter to send messages to the external messaging system

To take advantage of all your messaging system's functions, you need to perform the following tasks:

Task to perform	Documentation to consult
Populate the messaging addresses of administrators and other users.	*Administration* guide, chapter *Messaging*, section *Configuring AssetCenter to use messaging systems*.
Create *Messaging* type actions to be used by procurement, helpdesk, alarms, etc.	*Advanced use* guide, chapter *Actions*, section *Creating an action*, sub-section *Populating the* **Messaging** *tab*.

Task to perform	Documentation to consult
Configure AssetCenter Server to send messages linked to procurement, helpdesk, alarms, etc	*Administration* guide, chapter *AssetCenter Server*.
Execute AssetCenter Server.	*Administration* guide, chapter *AssetCenter Server*.
Troubleshooting	*Administration* guide, chapter *Messaging*, section *Common connection problems*.

The use of messaging systems is dealt with in more detail in:

- *Administration* guide, chapter *Messaging*.
- *Advanced use* guide, chapter *Messaging*.

AssetCenter Server

AssetCenter Server is a program independent of the AssetCenter client. The Server monitors alarms, messages and actions to be triggered within the domains of procurement, stocks, history, leasing; calculates the values of certain fields, etc.

In order for these functions to work properly, you must execute AssetCenter Server on at least one machine permanently and connect it to your production database.

The following is required before a Windows or Web client can access the database:

- AssetCenter Server must be running and connected to the database
- The AssetCenter Server *Signal presence of database server* (UpdateToken) module must be activated and scheduled to execute at least once per week.

For further information on AssetCenter Server, please refer to the AssetCenter *Administration* guide, chapter *AssetCenter Server*.

The AssetCenter Server modules use Connect-It and its connectors for all automatic data imports, like in the following examples:

- Inventories carried out by the Enterprise Discovery inventory application.
- Data imports from external applications.

If you use such modules, you will need to install Connect-It.

To find out which environments are supported by Connect-It, and to learn how to install Connect-It, refer to its documentation.

To learn how to integrate Connect-It with AssetCenter Server, refer to the AssetCenter *Administration* guide, chapter *AssetCenter Server*, section *Configuring the modules monitored by AssetCenter Server*.

Implementing AssetCenter Server in Windows

To be able to use this program you must install at least one computer with Windows 2000, XP Professional or Server 2003.

AssetCenter Server is installed to be executed in one of the following modes:

- Manually, by executing the shortcut from the Windows **Start** menu.
- Automatically, as a service.

Tip:

We recommend that you launch AssetCenter Server as a Service.

Note:

To install the AssetCenter Server service correctly, we recommend that you do so as follows:

1. Create a user account in Windows (on the computer where this service will be installed).

   This account must have the rights necessary to start the AssetCenter Server service.

   The environment linked to this account must allow you to use the client layers of the DBMS installed on the computer where the AssetCenter Server service is installed.

   Just a reminder: By default, the local system account only accesses the system environment variables.
2. Install the AssetCenter Server service in this account.

By default, the service is configured to be launched automatically. You can modify this.

The **Services** applet in the Control Panel allows you to start, stop, and configure services available on the machine:

- In Windows 2000, for example:
  -  : starts a stopped service.
  -  : stops the service.
  -  : reboots the service.
  -  : interrupts the service.

To start the AssetCenter Server service in automatic mode in Windows:

1. Select the AssetCenter Server service in the services window.
2. Right-click and select **Properties** in the shortcut menu.
3. In the **Startup type** column, select **Automatic**.

Note:

In practice, once AssetCenter Server is operational, we recommend setting the startup mode to *Automatic*, so that it is launched whenever Windows is started.

Note:

By default, the services use the system account. If AssetCenter Server cannot connect to a database, click **Startup** to configure the service so that it uses an account that can access the database.

Crystal Reports

To install, configure and use Crystal Reports, refer to the *Advanced use* guide, chapter *Crystal Reports*.

Distributing software on sets of computers

To learn how to distribute software on sets of computers, refer to the AssetCenter *Software Distribution* guide.

Integrating with Connect-It

AssetCenter is provided with the complete Connect-It software application and its corresponding documentation.

Required version of Connect-It

Integrating Connect-It with AssetCenter requires that you use the version of Connect-It provided on the AssetCenter installation CD-ROM (or a later version).

Utility of Connect-It

You will need to use Connect-It to perform certain automatic actions, which are triggered by AssetCenter Server, such as:

- Adding NT users to the database in order to use NT security during an AssetCenter database connection.

> Warning:
>
> The *Windows* version of AssetCenter Server is required.

- Recovering the computers declared in an NT domain in the database.

> Warning:
>
> The *Windows* version of AssetCenter Server is required.

- To import inventory data from Enterprise Discovery, for example.

To find out which environments are supported by Connect-It, and to learn how to install Connect-It, refer to its documentation.

To learn how to integrate Connect-It with AssetCenter Server, refer to the AssetCenter *Administration* guide, chapter *AssetCenter Server*, section *Configuring the modules monitored by AssetCenter Server*.

Get-Answers

To find out which environments are supported by Get-Answers, and to learn how to install Get-Answers, refer to its documentation.

To learn how to integrate Get-Answers with AssetCenter, refer to the AssetCenter *User Interface* guide, chapter *Get-Answers*.

Demonstration databases

AssetCenter is installed with a demonstration databases.

This database:

- Can be activated using a license file provided with AssetCenter (`license.cfg`).

  This file grants access to all or part of the software.
- Can also be accessed by AssetCenter Server and AssetCenter Database Administrator.

The demonstration database has been copied to the `acdemo` sub-folder of the AssetCenter installation folder.

The corresponding file is called `ACDemo50.mdf`.

Note:

During the installation, the demonstration database is declared to MSDE using an instance for which the user is *itam* and the password is *password*.

Connect to the database

1. Make sure an MSDE instance has been installed and that the corresponding Windows service is started (*MSSQL$ASSETCENTER* for the MSDE instance installed with AssetCenter).
2. Start AssetCenter.
3. AssetCenter displays the **Connect to database** window.

   Populate this window as follows:

Field	Value
Connection	ACDemo50en
Login	Admin
Password	Empty

Note:

Other logins may also be used.

4. When connecting to the demonstration database for the first time, AssetCenter displays the **License file** window.

   Select the license file `license.cfg` provided with AssetCenter.

6 Installing and configuring in Unix (except AssetCenter Web)

Warning:

The Unix version of AssetCenter is intended for users who have experience and knowledge with the Unix environment. Consequently, we will only discuss those aspects of Unix that apply directly to AssetCenter in this chapter.

Note:

The UNIX programs do not have a native graphical interface. However, AssetCenter Server can be partially configured in UNIX using a Web interface. When installing in UNIX, certain files must be prepared and then copied from a Windows computer. You must install and configure at least one Windows computer with the following:

- AssetCenter Database Administrator
- AssetCenter Server
- AssetCenter client

You can thus configure AssetCenter Database Administrator and AssetCenter Server graphically, even if you will run them from the command line on a UNIX server.

Installing AssetCenter

To install AssetCenter in Unix:

1. Create the AssetCenter database in Windows as described in the *Administration* guide, chapter *Creating, modifying and deleting an AssetCenter database*.
2. Create a UNIX user that will be used to install and configure AssetCenter.

> **Warning:**
>
> If you have already installed Connect-It on the same computer, use the same account to install AssetCenter.

3. Locate the `.tgz` file on the AssetCenter installation CD-ROM.
4. Uncompress the `.tgz` file by launching the following command line:

```
tar xzvf <Name of the tgz>
```

Or in Solaris:

```
gzip -dc <Name of the tgz> | tar xvf -
```

> **Note:**
>
> This operation must be performed from a specific installation folder, for example `/usr/local`.

5. The path of the `libaamapi50.so` dynamic library (`/usr/local/AssetCenter/bin` folder) must be included in the system-library search path:
   - Solaris or Linux: environment variable `LD_LIBRARY_PATH`.
   - Linux: Configuration file of `ld.so`, also.
   - AIX: environment variable `LIBPATH`.

> **Warning:**
>
> You must leave the `libaamapi50.so` file in the `bin` sub-folder of the AssetCenter installation folder.

Example, for compatible *SH* (Shell) command interpreters: Execute or place the following lines in a script that you will execute before launching AssetCenter:

```
LD_LIBRARY_PATH=/usr/local/AssetCenter/bin;$LD_LIBRARY_PATH
export LD_LIBRARY_PATH
```

In Linux, the `ld.so` configuration file is usually `/etc/ld.so.conf`.

In the `ld.so.conf` configuration file, add, for example, the following line:

```
/usr/local/AssetCenter/bin
```

Then relaunch the `ldconfig --verbose` command so that the new parameters are taken into account.

6 AssetCenter can only use the 32-bit DBMS clients.

Also, if you have installed the 64-bit UNIX DBMS clients, they cannot be used in 64-bit mode.

Therefore, you must only use the 32-bit client libraries.

For example, for 64-bit Oracle clients, make sure the environment variable *LD_LIBRARY_PATH* (Solaris or Linux) or *LIBPATH* (AIX) points to the *$ORACLE_HOME/lib32* directory (32-bit libraries) and not *$ORACLE_HOME/lib* (64-bit libraries).

Typically, for a UNIX client with 64-bit Oracle layers, 32-bit Sybase layers and 32-bit DB2 layers, the environment variable are shown as follows:

```
ORACLE_HOME=/space/home/oracle/OraHome1

LIBPATH=/usr/lib:/usr/ccs/lib:/space/home/oracle/OraHome1/lib32:/space/
home/sybase/OCS-12_0/lib:/home/db2inst1/sqllib/lib

PATH=/usr/local/bin:/opt/freeware/bin:/space/home/oracle/OraHome1/bin:/
space/home/sybase/OCS-12_0/bin:/usr/bin:/etc:/usr/sbin:/usr/ucb:/space/
home/test/bin:/usr/bin/X11:/sbin:.:/home/db2inst1/sqllib/bin:/home/db2i
nst1/sqllib/adm:/home/db2inst1/sqllib/misc
```

7 If you use an Oracle DBMS, move the `libslpmprodstab.so` file into the 32-bit Oracle libraries folder.

Note:

The `libslpmprodstab.so` file is part of the `.tgz` file, which was uncompressed previously.

In our example, it is located in the `/usr/local/AssetCenter/bin` folder before you move it.

8 In AIX, create an environment variable *AC_HOME* and set it to the path of the AssetCenter installation folder. In general, this path is:

```
/usr/local/AssetCenter
```

9 If you use DB2 as the DBMS of the AssetCenter database, install an external C++ compiler on the database server.

We recommend Gnu C Compiler versions 2.96 or later, which can be easily integrated with DB2.

Note:

This is because the 5.01 databases use SQL stored procedures.

This function is not performed by DB2.

10 Configure the DBMS client so that it has access to the DBMS and the AssetCenter database.

> **Warning:**
>
> Use the same database and server names that you used when creating the database in Windows.
>
> For example, if your Oracle server is called *AssetCenterServer* in *tnsnames.ora*, use this name again in the *tnsnames.ora* file on the client UNIX computer.

11 Use an SQL query tool to make sure you can connect to the DBMS and the AssetCenter database.

Example for Oracle: *sqlplus*.

Example for Sybase: *isql*.

Example for DB2: *db2*.

> **Tip:**
>
> If you encounter a problem, contact the technical support hotline of your DBMS vendor. Your client is probably misconfigured.

12 Create an `amdb.ini` file on the UNIX computer.

This file stores the declaration for the database connections.

To make these connections accessible in Unix computers:

1. Launch AssetCenter in graphical mode on a Windows computer.
2. Select **File/ Edit connections**.
3. Create the connections.
4. Close the window (click **Close**).
5. Edit the `amdb.ini` file so that the *AmApiDll* entry points to the UNIX `libaamapi50.so` file (`/usr/local/AssetCenter/bin` directory).
6. Copy `amdb.ini` and paste it in the folder containing `amdb.ini` on the Unix computers where AssetCenter will be launched.

   Location of these files: ▸ *AssetCenter - Installation and upgrade* guide, chapter *.ini and .cfg files*.

The following components, among others, are installed:

- `amdbal`, `amimpl`, `amexpl`, `libaamapi50.so` (in `/usr/local/AssetCenter/bin`).

  These components are used in the same way as they are in Windows.

  To learn more, consult the relevant documentation.
- `amsrvl` (in `/usr/local/AssetCenter/amsrv/bin`):

  This component is used in a specific way for Unix.

▸ Implementing AssetCenter Server [page 59]

Tip:

By executing the above components with the `-h` option, you will obtain the list of available options.

Example: `amimpl -h`

Implementing AssetCenter Server

The AssetCenter Server connection to a database is triggered by a Unix command line such as:

```
amsrvl -svc
-webadmin
-cnx:<name of the AssetCenter connection>
-login:<login to connect to the database>
-password:<password associated to login>
-log:<full path of the activity log file>
&
```

With:

- `-svc`: executes the process in the same way as an NT service.
- `-webadmin`: starts the AssetCenter Server Web server.

  For more information about this option: ▸ Configuring AssetCenter Server using the Web interface [page 62].
- `-cnx`, `-login`, `-password`: Do not use these options if you follow the indications in Enabling AssetCenter Server to be configured using the Web interface [page 62].

  If you populate the `-login` option, the login specified must have administration rights for the AssetCenter database.
- `&`: executes the process as a background task.

Configuring AssetCenter Server for the first time using the Windows interface

Certain configurations in AssetCenter Server cannot be made directly in UNIX, even using the Web interface. For this reason, you must start by configuring AssetCenter Server in Windows, then copy the `amsrvcf.ini` and `amsrv.cfg` files from the Windows computers to the UNIX computer (location of these files: ▸ *AssetCenter - Installation and upgrade* guide, chapter *.ini and .cfg files*:

1. Launch AssetCenter in graphical mode on a Windows computer.
2. Select the **File/ Connect to database** menu.

3 Specify the connection parameters by selecting the option **Use this connection in service mode**.

4 Click **Open**.

5 Select the **Tools/ Configure modules**.

6 Configure the modules to be used.

Warning:

The following modules do not function in UNIX:

- Add the computers listed in the NT domain to the database (AddCpu)
- Add NT users to the database (AddUser)

Note:

The configuration of the modules is saved in the `amsrv.cfg` file.

Location of this file: ▸ .ini and .cfg files [page 65].

7 Configure the password to connect to the AssetCenter database.

Note:

The password is stored in the `amsrvcf.ini` file.

Location of this file: ▸ .ini and .cfg files [page 65].

When you configure this file in Windows, the password saved in the `amsrvcf.ini` file remains masked.

When the `amsrvcf.ini` file is configured in this way, it contains a line resembling the following:

```
Password=8D5D1F3C77FE9FC78DE77FA7676E73CB517186D0B71B124254200200
```

8 Select **File/ Disconnect from database**.

9 Exit AssetCenter Server.

10 Edit the `amsrv.cfg` file and remove all references to the modules that do not function in UNIX (*AddCpu*, *AddUser*, *PdiAC*).

To do this, delete the whole of the sections corresponding to these modules.

Example for the *AddUser* module:

```
{ Module AddUser
Active=1
UserData="\"$connectit_exedir$/conitsvc.exe\" -once -wpplog '$connectit
_exedir$/../scenario/ntsec/ntac$version$/adduser.scn' -dc:AssetCenter.S
ERVER=$cnx$ -dc:AssetCenter.LOGIN=$login$ -dc:AssetCenter.TEXTPASSWORD=
$pwd$"
{ Plan
```

```
sunday = ENUM/01:00
}
}
```

Location of this file: ▸ .ini and .cfg files [page 65].

11 If you wish to use the *PdiAc* module, or a module that calls on Connect-It, edit the `amsrvcf.ini` file:

In the `[Option]` section (you will need to create this if it does not already exist), makes sure there is a line resembling the following:

```
/ExecEvent/ConnectItExeDir=/usr/local/ConnectIt/bin
```

12 Copy the `amsrvcf.ini` file from the Windows computer to the UNIX computer hosting AssetCenter Server.

Location of this file: ▸ .ini and .cfg files [page 65].

13 Copy the `amsrv.cfg` file from the Windows computer to the UNIX computer hosting AssetCenter Server.

Make sure AssetCenter Server connects correctly to the AssetCenter database

For this, execute the following command:

```
amsrvl -cnx:<name of the AssetCenter connection> -login:<login to connect
to the database> -password:<password associated with the login>
-log:<full path of the activity log>
```

Next, take a look at the activity log to make sure there are not connection errors.

If the connection fails, check all the points in the installation procedure, in particular make sure that:

- The execution rights are correct
- The libraries are correctly located and that read rights have been assigned to them (read-only is sufficient).
- The name of the DBMS server and the name of the AssetCenter database indicated in the `amdb.ini` file match the names declared when installing the client layers of the DBMS (a frequent error).

  Location of this file: ▸ .ini and .cfg files [page 65].

  Example for Oracle (taken from an `amdb.ini` file):

```
[BaseAssetCenterOracle]
Engine=Oracle
Location=TITANIUM  // MAKE SURE THAT THIS NAME IS THE NAME DECLARED IN
THE DBMS CLIENT LAYERS (TNSNAMES.ORA FOR ORACLE)
Base=AC
EngineLogin=AC
EnginePassword=37681ED114D187562F4561D6B901D7F686BEC410CB21C2855D22E3EA
00A6A1F949C885124254200200
ReadOnly=0
CacheSize=5120000
```

```
AmApiDll=/usr/local/AssetCenter/bin/libaamapi50.so // MAKE SURE THAT TH
IS PATH HAS BEEN MODIFIED
```

Example for DB2 (taken from an `amdb.ini` file):

```
[BaseAssetCenterDB2]
Engine=DB/2
Location=MARANELL  // MAKE SURE THAT THIS NAME IS THE NAME DECLARED IN
THE DBMS LAYERS
Base=ACDB2
EngineLogin=db2admin
EnginePassword=CF188FEB2E1CBEBCE568414D4BB27232D1C43644B4E10CF912425420
0200
AmApiDll=/usr/local/AssetCenter/bin/libaamapi50.so // MAKE SURE THIS PA
TH HAS BEEN MODIFIED
```

If it is possible to connect to the database but there are still persistent errors, they probably originate from the `amsrv.cfg` and `amsrvcf.ini` configuration files.

Location of these files: ▸ *AssetCenter - Installation and upgrade* guide, chapter *.ini and .cfg files*.

If necessary, contact HP technical support. You must provide a log file obtained when connecting to the database.

Enabling AssetCenter Server to be configured using the Web interface

The administrator can access AssetCenter Server graphically using the Web interface.

To enable this possibility:

1. Open the `amsrvcf.ini` file.

   Location of this file: ▸ .ini and .cfg files [page 65].
2. Attribute the value *1* to the *WebAdmin* parameter.
3. Modify the value of the *WebPort* parameter to assign a valid port (in general, port *82*, which is the default port, is not authorized; Port 1024 or higher is generally required. Contact your UNIX system administrator to verify which port to use.

Configuring AssetCenter Server using the Web interface

To administer AssetCenter Server via the Web (once the initial configuration has been performed in Windows), execute the UNIX command that starts AssetCenter Server with the `-webadmin` option.

Thus, executing the command line:

1. Launches AssetCenter Server.
2. Connects AssetCenter Server to the database.

3 Activates the Web access to AssetCenter Server.

The administrator has graphical access to AssetCenter Server from any workstation with a Web browser (URL: `http://<server name of AssetCenter Server>:<port selected in amsrvcf.ini>`). Use the *webadmin* login (the default password is empty):

Accessing the AssetCenter database using the API

To access the AssetCenter database using the API (for example, using Connect-It), first make sure that the AssetCenter API can be used on the UNIX computer.

Execute *genasset* without any parameters.

This program is located in the `bin` sub-folder of the AssetCenter installation folder.

This program tries to access the API. You will receive one of the following error messages:

- ```
  Genasset.exe - Version 1.2
  All rights reserved.
  Powered by AssetCenter APIs Version XXX
  Usage: genasset cnx [AdminPwd]
  Wrong number of arguments
  ```
  In this case, you have access to the API.
- ```
  ld.so.1: genasset: fatal: libaamapi50.so: open failed: No such file or directory
  ```
  In this case, you have a problem with the configuration of your environment.

If you encounter a problem, check all the points in the installation procedure. In particular, make sure that:

- In AIX, you have created an environment variable *AC_HOME* and associated it with the path of the AssetCenter installation folder.
- The execution rights are correct
- The libraries are correctly located and that read rights have been assigned to them.
- The name of the DBMS server and the name of the AssetCenter database indicated in the `amdb.ini` file match the names declared when installing the client layers of the DBMS (a frequent error).

  Location of this file: ▸ .ini and .cfg files [page 65].

7 .ini and .cfg files

Programs belonging to the AssetCenter suite are associated with configuration files (`.ini` and `.cfg` extensions).

Available `.ini` and `.cfg` files

The following is a list of the main available `.ini` and `.cfg` files:

Table 7.1. `.ini` and `.cfg` files - List of main files

Program (add `.exe` or `.dll` in Windows, or possibly `.so` in Unix)	`.ini` or `.cfg` file	Description
AssetCenter `am`	`aamdsk50.ini`	User display options. You may delete this file if you wish to revert the display options of all windows to the default options.
	`am.ini`	AssetCenter user options.

AssetCenter Database Administrator
`amdba`
`amdbal`
	`amdba.ini`
	`amdbal.ini`
		AssetCenter Database Administrator user options.
		User display options.

Program (add .exe or .dll in Windows, or possibly .so in Unix)	.ini or .cfg file	Description
AssetCenter Export	amexp.ini	AssetCenter Export user options.
amexp	amexpl.ini	User display options.
amexpl		
AssetCenter Import	amimpl.ini	AssetCenter Import user options.
amimpl		User display options.
AssetCenter Script Analyzer	amsg.ini	AssetCenter Script Analyzer user options.
amsg		User display options.
AssetCenter Server	amsrv.ini	AssetCenter Server user options.
amsrv	amsrv.cfg	User display options.
amsrvl	amsrvl.ini	
	amsrvcf.ini	Parameters for AssetCenter Server running as a web server
AssetCenter API	aamapi50.ini	Program user options
aamapi50		
All of the following programs	amdb.ini	List of database connections.
	mail.ini	AssetCenter messaging system configuration.

Table 7.2. .ini and .cfg files - Location of main files

.ini or .cfg file	Location
aamdsk50.ini	*In Windows 9x or ME*: Windows root installation folder
am.ini	*In Windows (NT family)*: \<Documents and Settings>\<Windows user> folder
amdba.ini	*In Unix*: ~/.ov/conf/ folder
am.ini	
amdba.ini	
amdbal.ini	
amexp.ini	
amexpl.ini	
amimpl.ini	
amsg.ini	
amsrv.ini	
amsrvl.ini	
aamapi50.ini	
amsrvcf.ini	Same folder as the amsrv executable

.ini or .cfg file	Location
amsrv.cfg	Same folder as the amsrv executable **Note:** If you have upgraded from an older version of AssetCenter, amsrv.cfg might still be located in the parent folder of the amsrv executable. This also functions.
amdb.ini	*In Windows 9x or ME*: Windows root installation folder
	In Windows (NT family): ■ *system* connections: Windows root installation folder ■ *user* connections: \<Documents and Settings\>\<Windows user> folder
	In Unix: ■ *System* connections: /etc/HP OpenView/ folder ■ *User* connections: ~/.ov/conf/ folder
mail.ini	*In Unix*: ~ folder

Modifying the .ini files

.ini file entries can be modified:

- My manipulating them from the software: They are saved when modifications are confirmed, or when exiting the software. In the latter case, modifications are only saved when exiting using the *File / Exit* menu entry.
- And/Or by hand.

Whenever possible, we recommend modifying the *.ini* file entries using AssetCenter and its associated programs.

However, certain *.ini* file entries can only be created and modified manually.

Note:

Manual modifications of the *.ini* files are not trivial and should only be carried out only by knowledgeable users.

The following tables describe the *.ini* file entries you may wish to modify. Those entries can only be modified manually.

Note:

Those tables only describe a selection of *.ini* files entries. They are not meant to be exhaustive. The sections and entries not described in this document must not be modified manually.

Boolean entries are described either by "1" or "0". Alternatively, you can also use "True" or "False".

Am.ini file entries

[OPTION] section

Table 7.3. [OPTION] section

Entry	Description
bSaveOptionOnExit	Set this entry to "0" if you do not want to save modified entries in the [option] section when you exit AssetCenter. By default, modifications are saved.
CmdComboLines	Limits the number of lines displayed in the views and actions lists you can access via the toolbar.
CNtbkTabCfg.bShowFlyby	Displays ToolTips for tabs in detail screens: ■ 0: No. ■ 1: Yes.
KeyIniFileName	Specifies the path of the `aamdsk50.ini` file. `KeyIniFileName=aamdsk50.ini` Example: AssetCenter uses a file, `aamdsk50.dll`, that may be located on a network drive. In this case, it is possible to configure this file as read-only and users will not be able to modify their configuration.
NewMailLastCheck	Time when the AssetCenter messages were last read. Unit: Seconds elapsed since January 1, 1970 at 00:00.
opt_bAskForConcurrentModifications	This entry determines whether AssetCenter prompts for confirmation when a user clicks **Modify** at the same time another user is modifying the same record: ■ 1: Displays a confirmation window. ■ 0: Does not display a confirmation window and saves the modifications straight away.
opt_bCommitDeletesOneByOne	This option is useful when deleting a set of records. If it is activated, AssetCenter erases one record after another (one transaction per record.) Otherwise AssetCenter erases the records in a single transaction. Default value: 0.

Entry	Description
opt_ImportCacheSize	When data is imported using reconciliation keys, this sets the value for the cache memory used to increase import performance. Unit: Number of records found. Default value: 100.
StartSunday	Sets the beginning of a week on Monday (StartSunday=0) or Sunday (StartSunday=1). This option is used for calendars.

[SQL] section

Table 7.4. [SQL] section

Entry	Description
OracleDLL	Sets the name of the Oracle DLL to load in order to dialog with Oracle.

Amsrv.ini file entries

[OPTION] section

Table 7.5. [OPTION] section

Entry	Description
MaxRentPerTrans	This entry is used for generating rent payments. It sets the maximum number of rent calculations per transaction. Default value: 200.
MaxMsgInList	Sets the number of displayed lines in the AssetCenter Server main window list. Default value: 5000.
<Module>LastCheck Where <module> may be set to any of the following values: Alarms, CostCenter, HDAlarms, History, LostVal, Rent, Stats, Stock, TimeZone, UpdateToken, WkGroup, WkGroup <xxx>, WorkflowFinder	The lines suffixed with "LastCheck" correspond to the date of the last module execution. They allow the calculation of the next module execution when AssetCenter Server restarts. It may be useful to erase a line "WkGroup <xxx> LastCheck" (or the "WkGroupLastCheck" line) if an execution group <xxx> does no longer exist (or if a workflow scheme does not exist without an execution group) as the program will not do it automatically.

Amsrvcf.ini file entries

amsrvcf.ini file entries are self-described in the file created with the installation.

Amexp.ini file entries

[OPTION] section

Table 7.6. [OPTION] section

Entry	Description
MaxOldDoc	Maximum number of previous documents displayed in the **File** menu.

Amdb.ini file entries

You may have to modify the following entries for each section describing an AssetCenter connection:

Table 7.7. `Amdb.ini` file entries

Entry	Description
AmApiDll	Sets the path to the `aamapi50` API DLL for AssetCenter. This entry is used for Connect-It and OAA.
FetchingArraySize	Number of lines to fetch when executing SQL statements. Default value: 30.
OdbcLockingTime	In the case of a Microsoft SQL Server database (MSDE included), sets the time after which a record is to be considered as locked by another user. Unit: Seconds. Default value: 60. Warning: If the value is too low, the import process may be interrupted when run on an overloaded server.
OldStyleCatalog	With an Oracle database, this entry enables you to force the use of the "Tab" view instead of the default "All_Catalog" view. This entry can be set to one of two values: ■ 1: Uses "Tab". ■ 0: Uses "All_Catalog".

Controlling the modification of the `.ini` files

The `.ini` files are automatically modified by their respective applications when an option is changed.

When multiple executables or instances of an executable are associated with the same `.ini` file, the last executable to save the modifications wins out.

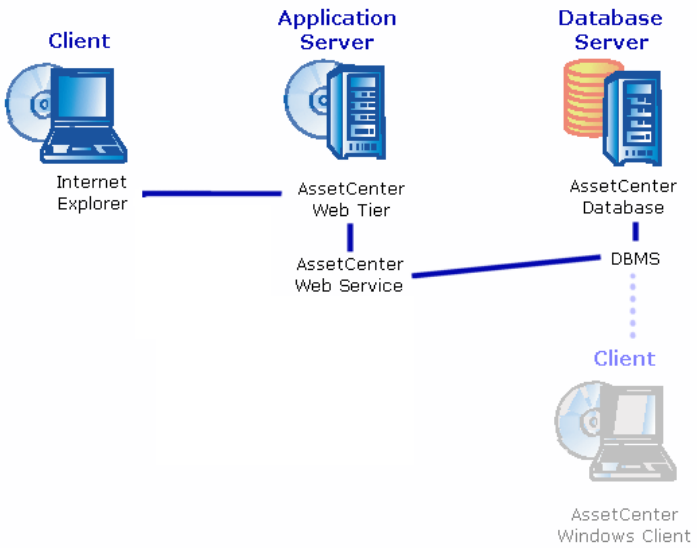
If you wish to keep control over these modifications, we recommend making the `.ini` read-only.

This is particularly true for the `aamapi50.ini` file.

8 Installing, configuring, removing and updating AssetCenter Web

AssetCenter Web Architecture

Figure 8.1. AssetCenter Web Architecture



- Internet explorer enables users to access AssetCenter.
- AssetCenter Web Tier receives requests from Internet explorer and sends them to AssetCenter Web Service.
- AssetCenter Web Service consults or modifies the AssetCenter database using APIs.
- AssetCenter Web Service sends data from the database to AssetCenter Web Tier.
- AssetCenter Web Tier sends the pages to display to Internet explorer.
- AssetCenter Web Tier, AssetCenter Web Service can be hosted on different application servers.
- In order to improve system performance, the number of AssetCenter Web Tier and AssetCenter Web Service instances can be increased as the number of web clients connecting to AssetCenter Web Tier increases.
- The clients and application servers communicate using the HTTP protocol.

Practical case

Warning:

This section provides an example of AssetCenter Web installed on a local test machine running Tomcat 5.0.28 as the application server.

This practical case does not attempt to optimize the performance of AssetCenter Web.

Tomcat 5.0.28 and J2SE v 1.4.2_11 SDK do not necessarily correspond to the software applications to be used or supported in production mode.

Refer to the compatibility matrix at: www.hp.com/managementsoftware/peregrine_support for more information about supported software.

For information about installing in a production environment: ▸ Installing AssetCenter Web [page 78].

1. Install Internet Explorer 6.0.
2. Start Internet Explorer 6.0.
3. Configure Internet Explorer 6.0 (**Tools/ Internet Options** menu, **Security** tab) allowing it to:
   - Execute JavaScript
   - Display pop-up windows
   - Accept cookies

4 Install AssetCenter in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx` folder, where *xx* is replaced by the two letter language code of your AssetCenter installation (▶ *Installation and upgrade* guide, chapters *Before installing AssetCenter* and *Manual installation (graphical)*).

Select the *Custom installation* mode.

Select the following components:

- AssetCenter Client (Windows client)
- AssetCenter API
- Demonstration database
- Web Service and Web Client

5 Start the AssetCenter Windows client (**Programs/ HP OpenView/ AssetCenter 5.01 en/ HP OpenView AssetCenter** Windows menu).

6 Connect to the demonstration database by populating the following fields in the connection window:

Field	Value
Connection	ACDemo50en
Login	Admin
Password	Leave this field empty

7 Enter the license that you received with AssetCenter to use the demonstration database.

8 Exit the Windows client.

9 Install J2SE v 1.4.2_11 SDK in the `C:\j2sdk1.4.2_11` folder from this site: http://java.sun.com/j2se/1.4.2/download.html.

10 Add or modify the *JAVA_HOME* system variable to have it point to the J2SE v 1.4.2_11 SDK installation folder (in Windows click **Start/ Settings/ Control panel**. Double click the *System* tool and then click the **Advanced** tab followed by the **Environment Variables** button, **System variables** frame).

Value to use:

```
C:\j2sdk1.4.2_11
```

11 Install Tomcat 5.0.28 in the `C:\Tomcat50` folder from this site: http://tomcat.apache.org/download-55.cgi#5.0.28

Download *Windows Executable (pgp, md5)*.

Accept the options that are provided by default by the installation program except for the following:

- The installation folder must be: `C:\Tomcat50`
- Clear the box that asks to start Tomcat when the installation is complete.

12 Start the Tomcat configuration console (In Windows click **Start/ Programs/ Apache Tomcat 5.0/ Configure Tomcat**).

13 Click the **Java** tab.

14 Populate the following fields:

Field	Value
Java Classpath	`C:\j2sdk1.4.2_11\lib\tools.jar;C:\Tomcat50\bin\bootstrap.jar`
Java Options	Add this line: `-Djava.library.path=C:\Program Files\HP OpenView\AssetCenter 5.01 xx\bin` where *xx* is replaced by the two letter language code of your AssetCenter installation.
Initial memory pool	512 (or another value adapted to your computer)
Maximum memory pool	1024 (or another value adapted to your computer)

15 Close the Tomcat configuration console.

16 Copy the `ac-constants-50.jar` and `ac-jni-50.jar` files (located by default in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websvc\lib` folder where *xx* is replaced by the two letter language code of your AssetCenter installation).

Paste them in `C:\Tomcat50\shared\lib`.

17 Stop Tomcat.

18 Copy the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\webclient\config\AssetCenter.xml` file where *xx* is replaced by the two letter language code of your AssetCenter installation.

Paste it in `C:\Tomcat50conf\catalina\localhost`.

19 Copy the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websvc\config\AssetCenterWebService.xml` file where *xx* is replaced by the two letter language code of your AssetCenter installation.

Paste it in `C:\Tomcat50\conf\catalina\localhost`.

20 Start a text editor.

21 Open the `C:\Tomcat50\conf\catalina\localhost\AssetCenterWebService.xml` file.

22 Replace the default content with the following:

```
<?xml version="1.0" encoding="UTF-16"?>
<Context path="/AssetCenterWebService" reloadable="true" docBase="C:\Pr
ogram Files\HP OpenView\AssetCenter 5.01 xx\websvc\AssetCenterWebServic
e.war">
```

```
<Environment name="AssetCenter.DB.Name"; value="[MSSQL;ACDemo50en;itam;
Hk9pv/o7lA3mlV1/7cz3Aw==;0;c:/tmp;0;AmApiDll='C:/Program Files/HP OpenV
iew/AssetCenter 5.01 en/bin/aamapi50.dll']" type="java.lang.String" ove
rride="false">
</Environment>
<Environment name="AssetCenter.DB.UserLogin" value="Admin" type="java.l
ang.String" override="false">
</Environment>
<Environment name="AssetCenter.DB.UserPwd" value="bmkBcCAZLK4=" type="j
ava.lang.String" override="false">
</Environment>
<Environment name="acws.jaas.config.location" type="java.lang.String" o
verride="false">
</Environment>
<Environment name="security.keystorePassword" value="falcon" type="java
.lang.String" override="false">
</Environment>
<Environment name="security.keystoreUserAlias" type="java.lang.String"
override="false">
</Environment>
<Environment name="security.keystoreUserPassword" type="java.lang.Strin
g" override="false">
</Environment>
</Context>
```

where *xx* is replaced by the two letter language code of your AssetCenter installation.

23 Save the changes made to the `AssetCenterWebService.xml` file.

24 Exit the text editor.

25 Start Tomcat:

a Start the Tomcat monitoring console (In Windows click **Start/ Programs/ Apache Tomcat 5.0/ Monitor Tomcat**).

b Right click the Tomcat icon in the lower-right corner of the Windows taskbar.

c Select the **Start service** menu item.

d Wait until the red square becomes a green triangle pointing to the right.

26 Test to see if the AssetCenter Web Service deployment has been successful:

1 Start Internet Explorer 6.0.

2 Go to the following URL:

```
http://localhost:8080/AssetCenterWebService
```

> **Warning:**
>
> Text is case sensitive.

3 If deployment has been successful, the page located at the URL will display a header similar to the following:

```
Database  Base: Name  ACDemo50en
Engine  MSSQL
User  itam
AmApiDll  'C:/Program Files/C:/Program Files/HP OpenView/AssetCenter
5.01 en/bin/aamapi50.dll'
User: Admin
Version: 5.01 - build <AssetCenter build number>
```

Tip:

If this header is displayed but is followed by an error, try redefining the application server's memory settings.

Example for Tomcat 5.0: *Initial memory pool* and *Maximum memory pool* settings.

27 Go to the following URL:

```
http://localhost:8080/AssetCenter
```

Warning:

Text is case sensitive.

This displays the connection page.

28 Populate the following fields:

Field	Value
Login	Admin
Password	Leave the password empty.

Installing AssetCenter Web

Important:

It is recommended that AssetCenter Web be only installed by persons with the skills required to properly configure the Web and application servers that will be used to run AssetCenter Web.

This guide does not explain how to install and configure application and Web servers. This is not the object of this guide.

Please consult the guides of the application and Web servers that you will be using for more information on how to use them.

Prerequisites

Components to install

For all application servers

Before installing AssetCenter Web, you must install, configure and start the components listed below and do so following the recommendations provided by each of the components' editors.

- AssetCenter database on the database server.
- AssetCenter Server, on any server from which AssetCenter Server can access the AssetCenter database

  The following actions are required before a Web client can access the database:
  - AssetCenter Server must be running and connected to the database
  - The AssetCenter Server *Signal presence of database server* (UpdateToken) module must be activated and scheduled to execute at least once per week.

    ▸ *Administration Guide*, chapter *AssetCenter Server*, section *Configuring the modules monitored by AssetCenter Server*.
- Application servers.

  The application servers must be protected by your network infrastructure (firewall, proxy, etc.) but allow connections from an Internet browser.

   Note:

  The computers hosting the application servers must be able to access the database.

  This requires that the client layers of the DBMS for the AssetCenter database be installed on these computers.
- The following AssetCenter components, which can be installed via the AssetCenter installation program, on the computers hosting the application servers:
  - Web Service and Web Client
  - AssetCenter API
  - LDAP authentication, if you plan on implementing this functionality

Important:

Install the language version of AssetCenter that you want displayed by the Web clients.

The AssetCenter database, which can be multilingual, must include this language.

If you have installed several language versions of the Web client, you must install the same number of AssetCenter Web instances (AssetCenter Web Service and AssetCenter Web Tier).

These instances can all point to the same database if the database includes the languages being used.

Different URLs will enable users to select the display language used by their Web client.

▸ *Administration* guide, chapter *Creating, modifying and deleting an AssetCenter database*, section *AssetCenter client display languages*.

Important:

Refer to the compatibility matrix at: www.hp.com/managementsoftware/peregrine_support to know which versions of the following components are supported:

- Application servers
- Web servers

- If you install AssetCenter Web Tier on a UNIX server, you must configure the Java Virtual Machine (JVM) to not use the UNIX graphics resources.

  To do this, add the following parameter:

```
-Djava.awt.headless=true
```

If Tomcat is your application server

- J2SE Software Development Kit (SDK) must be installed with the TOMCAT application servers that you are going to use.

Important:

Refer to the compatibility matrix at: www.hp.com/managementsoftware/peregrine_support to find out which Java Development Kit versions are compatible with the application server that you plan on using.

Tomcat must be properly configured in order to achieve maximum performance with AssetCenter Web.

For information on how to configure Tomcat, please refer to the Tomcat documentation.

Below is a sample configuration that was successfully tested using Windows Server 2003 Enterprise Edition on a four-processor, 3.2 GHz machine with 4 GB of RAM:

- Tomcat configuration used by AssetCenter Web Tier:

```
<Connector acceptCount="575" connectionTimeout="9000000" disableUploadT
imeout="true" port="8080" redirectPort="8443" maxThreads="550" minSpare
Threads="5" maxSpareThreads="75"/>
```

- Tomcat configuration used by AssetCenter Web Service:

```
<Connector port="8081" maxThreads="110" minSpareThreads="5" maxSpareThr
eads="75" enableLookups="false" redirectPort="8443" acceptCount="245" d
ebug="0" ConnectionTimeout="9000000"  disableUploadTimeout="true" />
```

- JVM configuration used by AssetCenter Web Tier:

```
set JAVA_OPTS=-Xms1260m -Xmx1260M -XX:+UseTLAB -XX:+UseParNewGC -XX:+Us
eConcMarkSweepGC -XX:NewSize=256m -XX:MaxTenuringThreshold=0 -XX:Surviv
orRatio=128 -server

-Dcatalina.home=c:\tomcat -Djava.endorsed.dirs=C:\Tomcat\common\endorse
d -Djava.io.tmpdir=c:\tomcat -Djava.library.path=C:\Tomcatws\shared\lib
```

- JVM configuration used by AssetCenter Web Service:

```
set JAVA_OPTS=-Xmx600M -Xms600M -Xloggc:c:\tomcat\logs\wsGC.log -XX:Min
HeapFreeRatio=3 -XX:MaxHeapFreeRatio=20 -XX:NewSize=256m -XX:MaxNewSize
=256m -XX:+UseConcMarkSweepGC

-Dcatalina.home=C:\Tomcatws -Djava.endorsed.dirs=C:\Tomcatws\commonws\e
ndorsed -Djava.io.tmpdir=C:\Tomcatws -Djava.library.path=C:\Tomcatws\sh
ared\lib
```

If WebSphere Application Server 5.1 or 6.0 is your application server

- You must use J2SE v 1.4.2_11 SDK SR5.

> **Note:**
>
> For security purposes, make sure there is no other JDK installed on your WebSphere Application Server other than the JDK supplied by IBM in your WebSphere Application Server installation package.

Licenses to acquire

AssetCenter Web Service

You do not need to acquire a specific license in order to use AssetCenter Web Service via AssetCenter Web Tier.

Note:

You must acquire a specific license in order to use AssetCenter Web Service to access the AssetCenter database if you are doing so without AssetCenter Web Tier.

AssetCenter Web Tier

You do not need to acquire a specific license in order to use AssetCenter Web Tier.

What you can do with AssetCenter Web Tier depends on the type of licenses you have acquired for:

- AssetCenter Web Service
- AssetCenter

Preparing your AssetCenter Web installation

Obtain required encrypted passwords

During the installation, you will need to enter certain passwords:

- Password associated with the Login for a user connecting to the AssetCenter database.
- Password associated with the MSSQL User, DB2 User, Oracle Account or Sybase Account of the AssetCenter database.

Passwords were not encrypted when you entered them.

You need to generate the encrypted version of these passwords since they must be entered in the `AssetCenterWebService.xml` file that you will configure when installing AssetCenter Web Service:

1. Open a DOS command prompt.
2. Go to the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websvc\password` folder where *xx* is replaced by the two letter language code of your AssetCenter installation.
3. Execute the command:

```
<J2SE SDK installation folder>\bin\java.exe -jar ac-pwd-crypt-50.jar <D
ecrypted password>
```

4. Note the encrypted value of these passwords.

Installing AssetCenter Web Service

If Tomcat is your application server

1. Stop Tomcat.

2 Copy the `AssetCenterWebService.xml` file (located by default in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websvc\config` folder) where *xx* is replaced by the two letter language code of your AssetCenter installation.

   Paste it in Tomcat's `conf\catalina\localhost` folder.

3 Start a text editor.

4 Open the `AssetCenterWebService.xml` file in Tomcat's `conf\catalina\localhost` folder.

5 Enter the following parameters:

- *docBase*

Value	Complete path of the `AssetCenterWebService.war` file (located by default in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websvc` folder) where *xx* is replaced by the two letter language code of your AssetCenter installation. Note: The `AssetCenterWebService.war` file contains a J2EE-compatible Web application.
Example	`docBase="C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websvc\AssetCenterWebService.war"` where *xx* is replaced by the two letter language code of your AssetCenter installation.

- *AssetCenter.DB.Name*

Value `[<Engine>;<Data source or Server>;<User or Account>;<Encrypted password associated with the User or Account>;<Enable cache>;<Local cache directory>;<Cache size (in KB)>;Owner=<Owner>;AmApiDll='<Complete path of aamapi50.dll>']`

With:

- Engine:
  - MSSQL
  - Oracle
  - Sybase
  - DB2
- Encrypted password: ▶ Obtain required encrypted passwords [page 82]
- Enable cache:
  - 0 : Cache disabled
  - 1 : Cache enabled
- Cache size (in KB): Do not specify unit
- Owner: If there is not one, do not use this parameter (do not leave this parameter with an empty value)
- AmApiDll: The `aamapi50.dll` file is located by default in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\bin` folder where *xx* is replaced by the two letter language code of your AssetCenter installation. Use the / character and not the \ character in the path.

The other parameters correspond exactly to the parameters that appear in the connection details (**File/ Manage connections** menu of the Windows client).

▶ *User interface* guide, chapter *Reference information*, section *Connections / To create a connection to a database*.

Example

```
<Environment name="AssetCenter.DB.Name" value="[MSSQL;ACDemo50en;itam;Hk9pv/o7lA3mlV1/7cz3Aw==;0;c:/tmp;0;AmApiDll='C:/Program Files/HP OpenView/AssetCenter 5.01 en/bin/aamapi50.dll']" type="java.lang.String" override="false">
```

- *AssetCenter.DB.UserLogin*

Value Login name to use to connect to the AssetCenter database.

Example

```
<Environment name="AssetCenter.DB.UserLogin" value="Admin" type="java.lang.String" override="false">
```

- *AssetCenter.DB.UserPwd*

Value Encrypted password for the Login used to connect to the AssetCenter database.

▶ Obtain required encrypted passwords [page 82]

Example

If the password is empty:

```
<Environment name="AssetCenter.DB.UserPwd" value="bmkBcCAZLK4=" type="java.lang.String" override="false">
```

6 Save the changes made to the `AssetCenterWebService.xml` file.

7 Exit the text editor.

8 Enter the Java properties for Tomcat:

Property	Value
Java Classpath	Add the complete path to the following file: ◆ `tools.jar` from the J2SE SDK (located by default in the `lib` sub-folder of the J2SE SDK installation folder) Each of the paths are on the same line and are separated by a semi-colon *;*.
Java Options	Add the complete path to the folder containing the `acjni50.dll` file (located by default in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\bin` folder where *xx* is replaced by the two letter language code of your AssetCenter installation). Parameter example: `-Djava.library.path=C:\Program Files\HP OpenView\AssetCenter 5.01 xx\bin`

9 Copy the `ac-constants-50.jar` and `ac-jni-50.jar` files (located in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websvc\lib` folder).

Paste them in Tomcat's `shared\lib` folder.

10 Start Tomcat.

11 Test to see if deployment has been successful.

For example, you can do the following:

1 Start Internet explorer.

2 Go to the following URL:

```
http://<Name of the AssetCenter Web Service Server>:<Port used by AssetCenter Web Service>/AssetCenterWebService
```

Warning:

Text is case sensitive.

3 If deployment has been successful, the page located at the URL will display a header similar to the following:

```
Database  Base: Name  ACDemo50en
Engine  MSSQL
User  itam
AmApiDll  'C:/Program Files/C:/Program Files/HP OpenView/AssetCenter 5.01 en/bin/aamapi50.dll'
```

```
User: Admin
Version: 5.01 - build <AssetCenter build number>
```

Tip:

If this header is displayed but is followed by an error, try redefining the application server's memory settings.

Example for Tomcat 5.0: *Initial memory pool* and *Maximum memory pool* settings.

If WebSphere Application Server 5.1 or 6.0 is your application server

This section explains how to install AssetCenter Web Service separately from AssetCenter Web Tier.

To install AssetCenter Web Service and AssetCenter Web Tier at the same time: ▸ To install AssetCenter Web Tier and AssetCenter Web Service at the same time [page 97].

1. Open the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere` folder.
2. Decompress the `AssetCenter-webservice.ear` file in the folder named `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenter-webservice.ear_build`.
3. Change to the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenter-webservice.ear_build` folder.
4. Decompress the `AssetCenterWebService.war` file in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenterWebService.war_build` folder.
5. Edit the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenterWebService.war_build\WEB-INF\web.xml` file.
6. Delete the following paragraphs:

Paragraphs to delete

```
<env-entry>
<description>AssetCenter Jaas configuration file</description>
<env-entry-name>acws.jaas.config.location</env-entry-name>
<env-entry-type>java.lang.String</env-entry-type>
</env-entry>
```

```
<env-entry>
<description>Keystore path for Single Sign-On</description>
<env-entry-name>security.keystorePath</env-entry-name>
<env-entry-type>java.lang.String</env-entry-type>
</env-entry>
```

Paragraphs to delete

```
<env-entry>
<description>Single Sign-On keystore user password</description>
<env-entry-name>security.keystoreUserPassword</env-entry-name>
<env-entry-type>java.lang.String</env-entry-type>
</env-entry>
```

```
<env-entry>
<description>Single Sign-On keystore user alias</description>
<env-entry-name>security.keystoreUserAlias</env-entry-name>
<env-entry-type>java.lang.String</env-entry-type>
</env-entry>
```

7 Modify the *AssetCenter.DB.Name* parameter:

Value `[<Engine>;<Data source or Server>;<User or Account>;<Encrypted password associated with the User or Account>;<Enable cache>;<Local cache directory>;<Cache size (in KB)>;Owner=<Owner>;AmApiDll='<Complete path of aamapi50.dll>']`

With:

- Engine:
  - MSSQL
  - Oracle
  - Sybase
  - DB2
- Encrypted password: ▶ Obtain required encrypted passwords [page 82]
- Enable cache:
  - 0 : Cache disabled
  - 1 : Cache enabled
- Cache size (in KB): Do not specify unit
- Owner: If there is not one, do not use this parameter (do not leave this parameter with an empty value)
- AmApiDll: The `aamapi50.dll` file is located by default in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\bin` folder. Use the / character and not the \ character in the path.

The other parameters correspond exactly to the parameters that appear in the connection details (**File/ Manage connections** menu of the Windows client).

▶ *User interface* guide, chapter *Reference information*, section *Connections / To create a connection to a database*.

Example

```
<env-entry>
<description>AssetCenter Database name</description>
<env-entry-name>AssetCenter.DB.Name</env-entry-name>
<env-entry-value>[MSSQL;ACDemo50en;itam;Hk9pv/o7lA3mlV1/7cz3Aw==;0;c:/tmp;0;AmApiDll='C:/Program Files/HP OpenView/AssetCenter 5.01 en/bin/aamapi50.dll']</env-entry-value>
<env-entry-type>java.lang.String</env-entry-type>
</env-entry>
```

8 Edit the *AssetCenter.DB.UserLogin* parameter:

Value	Login name to use to connect to the AssetCenter database.

Example	`<env-entry>`
	`<description>AssetCenter UserLogin for WebService impersonation</description>`
	`>`
	`<env-entry-name>AssetCenter.DB.UserLogin</env-entry-name>`
	`<env-entry-value>Admin</env-entry-value>`
	`<env-entry-type>java.lang.String</env-entry-type>`
	`</env-entry>`

9 Edit the *AssetCenter.DB.UserPwd* parameter:

Value	Encrypted password for the Login used to connect to the AssetCenter database. ▶ Obtain required encrypted passwords [page 82]

Example	If the password is empty:
	`<env-entry>`
	`<description>AssetCenter password for WebService impersonation</description>`
	`<env-entry-name>AssetCenter.DB.UserPwd</env-entry-name>`
	`<env-entry-value>bmkBcCAZLK4=</env-entry-value>`
	`<env-entry-type>java.lang.String</env-entry-type>`
	`</env-entry>`

10 Open the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenterWebService.war_build` folder.
11 Select all files and folders.
12 Compress these files and folders in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenterWebService.war_build\AssetCenterWebService.war` file.
13 Copy it.
14 Paste it in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenter-webservice.ear_build` folder (overwrite the previous file).
15 Delete the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenterWebService.war_build` folder.
16 Change to the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenter-webservice.ear_build` folder.
17 Select all files and folders.
18 Compress these files and folders in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenter-webservice.ear_build\AssetCenter-webservice.ear` file.
19 Start WebSphere Application Server.
20 Start Internet Explorer.
21 Open this url: `http://127.0.0.1:9060/admin`.

22 Enter your user ID:

23 In the menu on the left, click **Security/ JAAS configuration/ Application Logins**.

24 Click **New** and create a new alias named *ACWebServiceLoginContext*.

25 Click **JAAS login modules** in the table under the **Additional Properties** section.

This displays the JAAS login module for the *ACWebServiceLoginContext* alias.

26 Click **New** and enter the Module Classname: *com.peregrine.ac.auth.ACAPILoginModule*.

27 Make sure the *Authentication strategy* is *REQUIRED*.

28 Select the **Use connection module proxy** option.

29 Click *Apply*.

30 Under the *Additional Properties* section, there is a *Custom properties* link.

31 Click this link.

32 Click **New** and create new variables with the following values:

Variable	Value
FunctionalRights	7/WebService/WSDeveloper
ServiceRights	Head
AuthenticationService	ACWSRoot

33 Display the **JAAS login modules** page again.

34 Create a new module named *com.hp.ov.cwc.security.jaas.PkiLoginModule*.

Make sure the *Authentication strategy* is *OPTIONAL*.

35 Select the **Use connection module proxy** option.

36 Click *Apply*.

37 Return to the **JAAS login modules** page, you should see tables similar to the following:

Module Classname: *com.hp.ov.cwc.security.jaas.PkiLoginModule*

Authentication strategy	Module order	Property	Value
OPTIONAL	1		

Authentication strategy	Module order	Property	Value
		delegate	com.hp.ov.cwc.security.jaas.PkiLoginModule

Authentication strategy	Module order	Property	Value
REQUIRED	2		
		FunctionalRights	7/WebService/WSDeveloper
		ServiceRights	Head
		AuthenticationService	ACWSRoot
		delegate	com.peregrine.ac.auth.ACAPILoginModule

Module Classname: *com.peregrine.ac.auth.ACAPILoginModule*

Warning:

Make sure the modules are in the correct order.

If this is not the case, correct it.

Note:

Connection alias: *ACWebServiceLoginContext*.

38 These configuration steps specific to WebSphere Application Server are required before preparing the import of the `AssetCenter-webservice.ear` file.

39 In the menu on the left, click *Applications* / *Install New Application*.

40 Populate the following fields:

Parameter	Value
Local path	Path to the `AssetCenter-webservice.ear` file.

41 Start the installation.

42 If everything functions properly, you should see a page with a table containing the following lines in this order:

- Override
- Virtual Host
- Specific bindings file

43 Click **Next**.

44 WebSphere Application Server displays the `WebSphere Application Server.policy` file.

45 Click **Continue**.

46 Click **Next** for the next four **Install New Application** screens.

47 Click the appropriate link to save your changes.

48 Click **Applications /Enterprise Applications** in the navigation bar on the left.

49 Select **AssetCenterWebService** from the list of applications.

50 Note the value of the **Application binaries** field.

This value has the following format: *$(APP_INSTALL_ROOT)/<Name of the cell>/AssetCenter.ear*.

You will need this value to populate the **Generic JVM arguments** field in a later step.

51 Select **Servers/ Application Servers** in the navigation panel.

52 Select your server in the panel on the right.

53 In the center page, select the **Process Definition** option at the bottom of the table.

54 On the next page, click **Java Virtual Machine** (first line of the table).

55 On the new page, populate the **Generic JVM arguments** field as follows:

Value	*-Djava.library.path=$(APP_INSTALL_ROOT)/<Name of the cell>/AssetCenter.ear* Note: *$(APP_INSTALL_ROOT)/<Name of the cell>/AssetCenter.ear* is the value of the **Application binaries** field that you noted in a previous step.
Example	-Djava.library.path=$(APP_INSTALL_ROOT)/PC1Node01/AssetCenter.ear
Saving changes	1 Click **Apply**. This reloads the page. 2 Click **Save** in the **Message** box that appears at the top of the page. 3 On the next page, click **Save**.

56 Stop the WebSphere Application Server (**Start/ Programs/ IBM WebSphere/ Stop the server** menu).

57 Start the WebSphere Application Server (**Start/ Programs/ IBM WebSphere/ Start the server** menu).

58 Test to see if deployment has been successful.

For example, you can do the following:

1 Start Internet Explorer.

2 Go to the following URL:

```
http://<AssetCenter Web Service server name>:<AssetCenter Web Servic
e port>/AssetCenterWebService
```

Warning:

Text is case sensitive.

3 If deployment has been successful, the page located at the URL will display a header similar to the following:

```
Database  Base: Name  ACDemo50en
Engine  MSSQL
User  itam
AmApiDll  'C:/Program Files/C:/Program Files/HP OpenView/AssetCenter
5.01 en/bin/aamapi50.dll'
User: Admin
Version: 5.01 - build <AssetCenter build number>
```

Tip:

If this header is displayed but is followed by an error, try redefining the application server's memory settings.

Example for Tomcat 5.0: *Initial memory pool* and *Maximum memory pool* settings.

Installing AssetCenter Web Tier

If Tomcat is your application server

1 Stop Tomcat.

2 Copy the `AssetCenter.xml` file (located by default in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\webclient\config` folder).

Paste it in Tomcat's `conf\catalina\localhost` folder.

3 Start a text editor.

4 Open the `AssetCenter.xml` file in Tomcat's `conf\catalina\localhost` folder.

5 Populate the following entries:

- *docBase*

Entry value	Complete path of the `AssetCenter.war` file (located by default in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\webclient` folder) Note: The `AssetCenter.war` file contains a J2EE-compatible Web application.
Example	`docBase="C:\Program Files\HP OpenView\AssetCenter 5.01 xx\webclient\AssetCenter.war"`

- *AssetCenter.WS.EndPoint*

Entry value	<AssetCenter Web Service URL>/services/
Example	`<Environment name="AssetCenter.WS.EndPoint" value="http://localhost:8080/AssetCenterWebService/services/" type="java.lang.String" override="false"/>`

6 If needed, add the following entries:

- *AssetCenter.WS.Version*

  This entry is used to force AssetCenter Web Service to use a given version of the Web services instead of the current version.

Entry type	Environment
Entry value	Identifier of the AssetCenter database (structure and contents) that AssetCenter must use. The *HEAD* value represents the current status of the database when the query was sent by AssetCenter Web Tier.
Example	`<Environment name="AssetCenter.WS.Version" value="Head" type="java.lang.String" override="false"/>`

7 Save the changes made to the `AssetCenter.xml` file.

8 Exit the text editor.

9 Start Tomcat.

10 Test to see if deployment has been successful.

For example, you can do the following:

1 Start Internet Explorer.

2 Go to the following URL:

```
http://<AssetCenter Web Service server name>:<AssetCenter Web Service port>/AssetCenter
```

Warning:

Text is case sensitive.

3 If deployment has been successful, the URL above will display the connection page.

If WebSphere Application Server 5.1 or 6.0 is your application server

This section explains how to install AssetCenter Web Tier separately from AssetCenter Web Service.

To install AssetCenter Web Service and AssetCenter Web Tier at the same time: ▸ To install AssetCenter Web Tier and AssetCenter Web Service at the same time [page 97].

1 Open the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere` folder.
2 Decompress the `AssetCenter-webtier.ear` file in the folder named `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenter-webtier.ear_build`.
3 Open the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenter-webtier.ear_build` folder.
4 Decompress the `AssetCenter.war` file in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenter.war_build` folder.
5 Edit the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenter.war_build\WEB-INF\web.xml` file.
6 Modify the *AssetCenter.WS.EndPoint* parameter:

Entry value	<AssetCenter Web Service URL>/services/

Example	`<env-entry>`
	`<description>Web service url</description>`
	`<env-entry-name>AssetCenter.WS.EndPoint</env-entry-name>`
	`<env-entry-value>http://localhost:9080/AssetCenterWebService/services/</env-entry-value>`
	`<env-entry-type>java.lang.String</env-entry-type>`
	`</env-entry>`

7 Open the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenter.war_build` folder.
8 Select all files and folders.
9 Compress these files and folders in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenter.war_build\AssetCenter.war` file.
10 Copy the file.
11 Paste it in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenter-webtier.ear_build` folder (overwrite the previous file).

12 Delete the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenter.war_build` folder.

13 Open the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenter-webtier.ear_build` folder.

14 Select all files and folders.

15 Compress these files and folders in the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenter-webtier.ear_build\AssetCenter-webtier.ear` file.

16 Open an administration console.

17 Click **Applications/ Install New Application**.

Enter the following data:

Parameter	Value
Specify path	Specify the path to the `AssetCenter-webtier.ear` file.
Example	C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenter-webtier.ear_build

18 If everything functions properly, you should see a page with a table containing the following lines in this order:

- Override
- Virtual Host
- Specific bindings file

Click **Next**.

19 WebSphere Application Server displays the `WebSphere Application Server.policy` file.

20 Click **Continue**.

21 Click **Next** for the next four **Install New Application** screens.

22 Click **Applications /Enterprise Applications** in the navigation bar on the left.

23 Click *AssetCenter*.

24 In the last table named *Related Items*, select *Web Modules*.

25 Select `AssetCenter.war`.

26 In the *General Properties* table, select *PARENT_LAST* for the *Classloader mode* parameter.

27 In the menu on the left, click **Security/ JAAS Configuration/ Application Logins**.

28 Click **New** and create a new alias named *AssetCenterWeb*. Click **Apply**.

29 Click *JAAS login modules*, then **New**.

30 Create *com.peregrine.ac.auth.ACWSLoginModule*.

Make sure the *Authentication strategy* is *REQUIRED*. Click *Apply*.

31 Select the **Use connection module proxy** option.

32 Click *Custom properties*.

33 On the new screen called `Application login configuration> AssetCenterWeb > JAAS login modules > com.peregrine.ac.auth.ACWSLoginModule >`, create the following Custom properties:

Name	Value
AssetCenter.WS.AuthService	ACWSRoot
FunctionalRights	True
ProfileRight	True
AssetCenter.WS.Version	R50

34 Return to the *JAAS login modules* page.

35 Click **New** and create a second module named *com.hp.ov.cwc.security.jaas.PkiLoginModule*.

Make sure the *Authentication strategy* is *OPTIONAL*. Click *Apply*.

36 Select the **Use connection module proxy** option.

37 Click *Apply*.

38 Return to the *JAAS login modules* screen and check that the tables contain the following information:

Module Classname: *com.hp.ov.cwc.security.jaas.PkiLoginModule*

Authentication strategy	Module order	Property	Value
OPTIONAL	1		
		delegate	com.hp.ov.cwc.security.jaas.PkiLoginModule

Module Classname: *com.peregrine.ac.auth.ACWSLoginModule*

Authentication strategy	Module order	Property	Value
REQUIRED	2		
		FunctionalRights	True
		ProfileRight	True
		delegate	com.peregrine.ac.auth.ACWSLoginModule
		AssetCenter.WS.Version	R50

Authentication strategy	Module order	Property	Value
		AssetCenter.WS.AuthService	ACWSRoot

39 Click the appropriate link to save your changes.

40 Stop the WebSphere Application Server (**Start/ Programs/ IBM WebSphere/ Stop the server** menu).

41 Start the WebSphere Application Server (**Start/ Programs/ IBM WebSphere/ Start the server** menu).

42 Test to see if deployment has been successful.

For example, you can do the following:

1 Start Internet Explorer.

2 Go to the following URL:

```
http://<AssetCenter Web Service server name>:<AssetCenter Web Service port>/AssetCenter
```

Warning:

Text is case sensitive.

3 If deployment has been successful, the URL above will display the connection page.

To install AssetCenter Web Tier and AssetCenter Web Service at the same time

If WebSphere Application Server 5.1 or 6.0 is your application server

The following sections explain how to install AssetCenter Web Tier and AssetCenter Web Service separately.

- If WebSphere Application Server 5.1 or 6.0 is your application server [page 86]
- If WebSphere Application Server 5.1 or 6.0 is your application server [page 94]

You can also install AssetCenter Web Tier and AssetCenter Web Service at the same time.

To do this, use the `C:\Program Files\HP OpenView\AssetCenter 5.01 xx\websphere\AssetCenter.ear` file and complete the tasks as for separate installations.

Accessing AssetCenter using Internet Explorer

Configure Internet Explorer

Security settings

You must define the security settings that will enable the AssetCenter Web client to run properly.

Adapted security settings will allow the Web client to:

- Execute JavaScript
- Display pop-up windows
- Accept cookies

Security settings are defined at several levels:

- Globally, by the administrator of the IT department
- Locally, via each user's local Internet Explorer security settings

  Example using Internet Explorer 6.0: **Tools/ Internet Options** menu, **Security** tab.

  You must define the security settings of the zone in which your company has placed the AssetCenter Web client (Internet, Local intranet, Trusted sites).

Tip:

You may find it useful to add the Web client's URL to the list of trusted sites and to define a security level adapted to the Web client for these sites.

Pop-up windows

Pop-up blockers must be disabled.

Example using Internet Explorer 6.0: **Tools/ Pop-up Blocker/ Turn Off Pop-up Blocker** menu.

Start the Web client

To access AssetCenter using the Web client:

1. Start Internet explorer.
2. Enter a URL using the following syntax:

```
http://<AssetCenter Web Tier server name>:<Port used by AssetCenter Web Tier>/AssetCenter
```

3. Populate the following fields:

Field	Value
Login	Login used to connect to the AssetCenter database
Password	Password associated with the login

Optimizing AssetCenter Web

> **Warning:**
>
> This section cannot replace the guides for the application and Web servers that you will be using.
>
> Only those guides, combined with your knowledge and experience will enable you to optimally install and configure the application and Web servers.
>
> This section provides you with some tips and should not be considered an exhaustive list.

Tomcat log files

If you configure Tomcat to produce very verbose log files, thousands of useless lines may be logged.

This can only decrease the performance of AssetCenter Web.

Example showing how to configure Tomcat to avoid this inconvenience:

1. Create a new configuration file to replace `log4j.properties` (located in Tomcat's `common\classes` folder).

   For example: `log4jnew.properties`.
2. Modify the *log.properties* entry of `AssetCenter.xml` to reference the new `log4jnew.properties` file.

   ▸ If Tomcat is your application server [page 92].
3. Open the new file, `log4jnew.properties`.
4. Enter the setting to have only fatal errors logged.

   For example:

```
log4j.rootLogger=FATAL, A1
log4j.appender.A1=org.apache.log4j.ConsoleAppender
log4j.appender.A1.layout=org.apache.log4j.PatternLayout
log4j.appender.A1.layout.ConversionPattern=%d{ABSOLUTE} %-5p %c{1} : %m
%n
log4j.logger.org.apache=FATAL
```

   ▸ Apache log4j documentation.

Time required to display pages generated by Tomcat

You may notice that some time is required to display Web client pages in Internet explorer the first time the pages are accessed.

This is due to the following:

When a user requests a page that has not yet been described in Tomcat's `work` folder (for example, the list of locations), AssetCenter Web Tier creates a `.jsp` file and a `.class` file which is compiled from the `.jsp` file. These files describe the page to display.

This operation takes some time.

When a user requests a page that has already been described in Tomcat's `work` folder, AssetCenter Web Tier recreates the corresponding `.jsp` and `.class` files only if the description of the page has changed in the structure of the AssetCenter database.

If the page has not changed, it is displayed more rapidly in Internet explorer.

 Important:

In order to speed the display of pages, it is recommended to configure Tomcat to maintain the `.jsp` and `.class` files in its `work` folder when it is shut down.

Please read the Tomcat documentation to learn how to do this.

Network performance

The Web client was tested successfully on 256 kbit/s networks with a ping of 400 ms (200 ms of network latency).

Below is a list of various load times:

Action	Load
Display a list	40 KB
Display a detail	Between 50 and 100 KB depending on the complexity (Examples: employee or department = 50 KB, portfolio item = 90 KB)
Selection in lists For example: Modifying the following fields and links of a portfolio item's detail: ■ **Assignment** (seAssignment) ■ **User** (User) ■ **Location** (Location) ■ **Supervisor** (Supervisor)	1.2 MB
Creating a purchase request	530 KB (6 KB from the client to the server, the remainder from the server to the client)

Action	Load
Duplicating a portfolio item, then selecting location, user and supervisor by browsing lists	1.8 MB (10 KB from the client to the server, and 23 round-trips)

Uninstalling AssetCenter Web

If Tomcat is your application server

For each Tomcat instance on which AssetCenter Web Service or AssetCenter Web Tier has been deployed:

1. Remove the AssetCenter Web Service or AssetCenter Web Tier deployment.
2. Stop Tomcat.

   Warning:

   If you do not stop Tomcat, you will not be able to delete certain AssetCenter Web Service and AssetCenter Web Tier files.

   This is a known error in Tomcat.

   ▸ http://tomcat.apache.org/faq/windows.html#lock

3. In Tomcat's `work` and `webapps` folders, manually delete the `AssetCenter` and `AssetCenterWebService` folders.

Problems

AssetCenter Web Tier running on Tomcat

Problem

Tomcat was not stopped properly.

Tomcat is unable to start the Web client.

Solution

1. Stop Tomcat
2. Delete the subfolder `work\Catalina\localhost\AssetCenter` located in Tomcat's installation folder
3. Start Tomcat

If this does not work, redeploy AssetCenter Web Tier.

Updating AssetCenter Web

You can use AssetCenter Web 5.00 with a AssetCenter 5.01 database prior to updating AssetCenter Web only if you are using a tagged version of the AssetCenter Web Web services (and not the *HEAD* version).

However, you will not be able to profit from the improvements brought by AssetCenter Web 5.01.

To update AssetCenter Web:

1 Remove AssetCenter Web.

▸ Uninstalling AssetCenter Web [page 101].

2 Install AssetCenter Web 5.01.

▸ Installing AssetCenter Web [page 78].

9 Performance issues

Overview

AssetCenter's performance depends on several factors:

- DBMS:
  - Hardware.
  - Configuration.

    This task is important but very tricky and requires the skills of a database administrator. It is not uncommon to double the performance of AssetCenter with proper tuning of the DBMS. It is important to pay close attention to the amount of RAM allocated to the database server.
  - The capabilities of the DBMS (taking into account the way in which AssetCenter interacts with the DBMS) and its middleware (support of advanced functionality such as retrieving groups of lines in one single network packet).
- The server's hardware performance: Processor speed, RAM, disk sub-system (disk, controller board, the system's administration of these, number of processors, etc.), use of separate storage devices for tables and indexes.
- The client's hardware performance: Processor speed, RAM, graphics performance.
- Bandwidth and network latency
- The number of records stored in your database.

For information on how to optimize performance of AssetCenter, refer to the *Tuning* guide.

Tuning for low-speed networks, busy high-speed networks or wide-area networks (WAN)

For information on this subject, refer to the *Administration* guide, chapter *Optimizing AssetCenter for use in a WAN environment*.

Locking of records in the AssetCenter database by external applications

Certain external tools lock records, even when consulting them.

This can impact the performance of AssetCenter. We recommend that you avoid record locking.

With Sybase SQL Server and Microsoft SQL Server, for example, it is preferable to use *dirty read* access.

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