HP Asset Manager

Software version: 9.30

Portfolio

Legal Notices

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Introduction

Who is the Portfolio module intended for?

The Portfolio module spans a wide range of uses, and thus can be used by nearly every department in a company.

For the most part, it is used by the following people:

- IT managers
- Stock managers
- Asset Manager deployment technicians
- Financial managers
- Purchasers
- Security managers
- Helpdesk supervisors
- General departments
- Network managers
- Telephony managers

The Portfolio module is the point of focus for Asset Manager's other module. This guide covers the general concepts of this module that will come in handy for a wide range of Asset Manager users.

What does the Portfolio module do?

The Portfolio module enables you to perform the following tasks:

- Keep a detailed, physical inventory of all the items composing your portfolio. For each item you can take into account its:
    - Description
    - User and manager
    - Geographic location
    - Cost center
- Precisely track the portfolio items using:
    - Individual tracking
    - Collective tracking (by batch)
    - Undifferentiated management

Managing these tasks enables you to:

- Describe each portfolio item (features, location, etc.)
- Track each portfolio item according to its constraints or requirements.
- Manage the portfolio items in a differentiated manner.
- Easily perform work orders on the portfolio items.
- Create projects necessitating the use of portfolio items.

How to use this guide

Chapter Overview

This chapter presents the different portfolio management styles proposed by Asset Manager. It also presents the tables that you must populate to structure your portfolio.

You should read this information to form a general idea of how Asset Manager functions.

Chapter Portfolio items

This chapter discusses what you need to do to manage your portfolio items.

Read this chapter to familiarize yourself with the Portfolio module.

Chapter IT portfolio

This chapter explains how to manage your IT portfolio using the Portfolio module.

Read this chapter to familiarize yourself with how computers, computer connections and IT configurations are managed.

This chapter also deals with automatic computer inventory.

Chapter Telephones

This chapter explains how to manage telephones using the Portfolio module.

Read this chapter if you want to manage your telephones with the Portfolio module. You can also associate certain functions with the buttons of the telephones.

Chapter Helpdesk

This chapter explains how to manage helpdesk tickets using the Portfolio module.

Chapter Business services

This chapter explains how to manage business services using Asset Manager's **Portfolio** module.

Read this chapter to familiarize yourself with how business services and client-resource relationships that make up business services are managed.

Chapter Work orders

This chapter explains how to perform work orders on your portfolio and how to include portfolio items in your projects.

Chapter Projects

This chapter explains how to create a project and how to synchronize the project data from HP Project and Portfolio Management.

Chapter Adjusting items

This chapter explains how to adjust the fields of your records.

To explain how adjusting items work, we created an example that you can reproduce in order to familiarize yourself with their functions.

Chapter Glossary

The terminology specific to the Portfolio module is specialized. The glossary contains the key terms that we use to describe the Portfolio module.

Read this chapter to understand these terms.

1 Overview

Asset Manager helps you manage the items in your company's portfolio. These items can be physical objects (computers, machines-tools, consumables, office supplies) or intangible objects (software installations).

Asset Manager lets you closely track portfolio items throughout their lifecycle. Different management types enable you to apply the most suitable form of management to items in your portfolio depending on their value and/or their use.

Three management types

Asset Manager offers you three management types that are suited to the value of items in your portfolio:

- Individualized management (by asset)
- Collective management (by batch)
- Undifferentiated management (by untracked batch)

What sets these three management types apart is the level of tracking applied to each one.

Whether or not you track an item in your portfolio depends on whether or not it has a record in the Assets table. All items with records in this table can be tracked according to their financial, technical and contractual information. The notion of untracked portfolio items refers to those items that do not have records in this table (untracked batches).

With Asset Manager, you can increase the level of tracking for your portfolio items. Example: You can transform an untracked batch to a tracked batch, which corresponds to a record in the Assets table.

Individualized management (by asset)

Assets are portfolio items of substantial value, and they are tracked individually in Asset Manager. In the case of a server, for example, Asset Manager can hold information about its location, supervisor, price, depreciation type, etc. All this information is specific to the asset. Technically, an asset in Asset Manager corresponds to a record in the Portfolio items table that is linked to a record in the Assets table.

Collective management (by batch)

Certain, identical portfolio items of lesser value can be tracked collectively as a batch. In this case, the Assets table holds information that helps you track the entire batch, and not individual items within the batch. This management mode avoids superfluous duplication of tracking information, such as the acquisition price. Technically, a batch in Asset Manager corresponds to one record in the Assets table and one or more records in the Portfolio items table. This is especially the case when a batch is divided, and the resulting batches are used by different departments.

Undifferentiated management (by untracked batch)

Certain portfolio items of little value, or consumables, are managed as untracked batches (pencils, ink cartridges). An untracked batch does not have a linked record in the Assets table. Most of the time, these items are indirectly tracked by default via items with which they are associated. You can transform a untracked batch into a tracked batch at any given time.

Main tables used in portfolio management

The main tables used in portfolio management are:

- The Models table (amModel) and the Natures table (amNature).

  These two tables are prerequisites for creating items in your portfolio. Portfolio items are based on a model, which in turn is based on a nature. The Models table enables you to organize your portfolio (▶ Portfolio items [page 27]).
- The Portfolio items table (amPortfolio)

All portfolio items are recorded in this table.

Click the **Asset lifecycle/ Infrastructure management/ Portfolio items** link on the navigation bar to display the list of portfolio items.
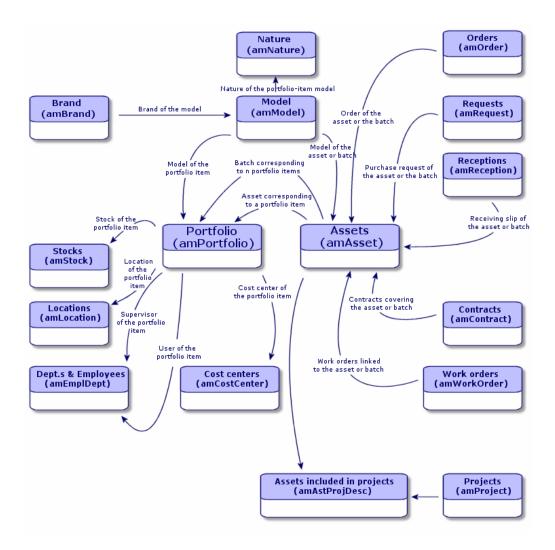
By using the detail of an asset you can access the detail of a portfolio item.

The Portfolio items table is linked to other tables, which enable you to put these items into context:

- The Employees and Departments table (amEmplDept) provides the items' users and supervisors.
- The Locations table (amLocation) provides their location.
- The Cost Centers table (amCostCenter) provides their related expense lines.

- The Assets table:

Portfolio items with records in the Assets table can be tracked more closely, since, here, they are linked to their corresponding financial, technical and contractual information. This information is recorded in multiple tables with which the Assets table is linked. Among the most important of these tables are:

- The Contracts table (amContract)
- The Work Orders table (amWOrder)
- The table of assets assigned to projects (amAstProjDesc)
- The Requests table (amRequest)
- The Purchase Orders table (amPOrder)
- The Receipt Lines table (amReceiptLine)

Figure 1.1. Portfolio - Data model

Overflow tables

Why Asset Manager uses overflow tables?

Certain portfolio items are very specific and thus necessitate the use of specific fields. Example: Managing and tracking computers requires that you store

large amounts of information. Adding fields in the Portfolio items table to contain this specific information would:

- Slow down Asset Manager's performance.
- Be useless for many other items not needing such information specified.

A typical solution is to have specific tables to contain this information. For example: Any portfolio item corresponding to a computer is recorded in the Portfolio items table and then in a second table: the Computers table. However, this method makes the synchronization process very difficult, since you must constantly make sure that:

- The computers are recorded in both the Portfolio items table and the Computers table.
- The deletion of a computer from the portfolio automatically deletes the computer from the Computers table.
- Etc.

To avoid these synchronization problems, Asset Manager uses overflow tables. Each time you specify one or more overflow table for a portfolio-item record, this record is simultaneously created in the Portfolio items table and the overflow table: the Assets table and the Computers table, for example. Each creation or deletion of a record in one of these two tables is automatically carried over into the other tables, saving you precious time in the synchronization process.

The overflow tables enable you to more easily integrate Asset Manager with other applications. For example: Asset Manager provides out-of-the-box integration with different software distribution tools and stores all information required by this functionality. All this information is present in the Computers overflow table.

You can easily add new overflow tables. This expands Asset Manager's physical data model without you having to make large modifications to its database.

For further information, refer to the **Administration** guide, chapter **Standard database description files**.

How to use the overflow tables?

In order that a portfolio item be recorded in an overflow table, you need to specify this action in the nature of this item's model (▶ A nature's creation criteria [page 23]).

Available overflow tables

The available overflow tables are the:

- Assets table (amAsset)

This is the main overflow table in Asset Manager. The only portfolio items not recorded in this table are those defined as untracked batched. (▶ Untracked batches [page 40]).

✎ Note:

The overflow link (PortfolioItems) contained in this table enables the creation of batches and shares the foreign key.

This table enables you to store detailed information on assets:

- Purchase date
- Status
- Rent
- Acquisition method
- Fixed Asset number
- Etc.

- Computers table (amComputer)

  This table is an overflow table of the Assets table: Creating a computer generates a record in the Portfolio Items table, the Assets table, and the Computers table.

  In particular, it is used to store information relating to integration with software distribution tools:

  - **Software distribution identifier** (SWDID)

- Telephones table (amPhone)

  This table is an overflow table of the Assets table: Creating a telephone generates a record in the Portfolio Items table, the Assets table, and in the Telephones table.

  It enables you to store information relating to telephony assets:

  - Voice mail
  - Extension
  - Number
  - Etc.

- Software installations table (amSoftInstal)
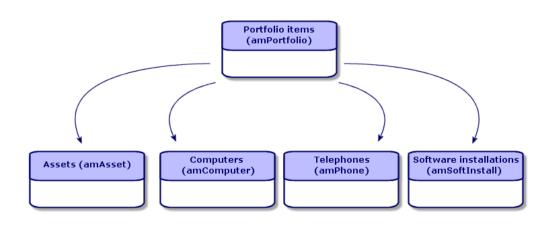
  This is an overflow table stemming from the Portfolio items table: The creation of a software installation does not necessitate the creation of a record in the Assets table: The creation of a software installation generates a record in the Portfolio items table and a record in the Software installations table.

  This table enables you to store information about your software installations.

  - License number
  - Certification

- Installation type
- Number of points consumed by each software installation (for Microsoft Select type licenses).
- Etc.

Figure 1.2. Overflow tables - data models

Description and tracking of portfolio items

Asset Manager enables you to contextualize items in your portfolio.

Contextualization

One of the main goals in managing your portfolio is to be able to contextualize its items. Whether you manage a thousand items or a hundred thousand items, you can contextualize them with accuracy. Asset Manager provides the following contextual information for each item or batch of items:

- Its status.
- Its user and supervisor.
- Its location.
- Its cost center.
- All other linked items in the portfolio (associated assets, consumables, supplies).

By being able to precisely locate portfolio items and see how they are used, you can:

- Efficiently monitor their movements (Example: assignment of a group of computers to another department).
- Evaluate the needs of each department (Example: calculate the ratio of photocopiers per department).
- Distribute new computer hardware evenly.
- Locate hardware given to a customer.
- Avoid allocating 2 identical assets to the same person (For instance: a consultant who uses several laptops).
- Rapidly reorganize cost centers related to portfolio items.
- Etc.

Tracking
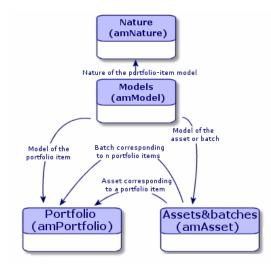
The tracking of portfolio items is fundamental. Asset Manager lets you choose whether to track portfolio items individually or by batch. For portfolio items that you don't consider worth tracking closely (office supplies or consumables), an undifferentiated tracking (by untracked batch) lets you simply contextualize them.

For each asset or batch, the tracking options enable you to:

- Create a fixed asset.
- Obtain linked requests, estimates, purchase orders and receiving slips when using the Procurement module.
- Obtain cost-related information.
- Obtain work order and project-related information.
- Look up its acquisition method (purchase, lease, rental, loan).

Nature: Creation and behavior

The organization of your portfolio depends on the organization of models, which are in turn based on natures. Therefore, you need to create the natures before creating the models.

The nature of a model determines different criteria that are inherited by the portfolio items and all other items based on the models in Asset Manager: Contracts, Trainings, Work orders, Cables, etc.

Each nature specifies the tables in which you can create records for the model linked to this nature. Example: A **Computer** nature enables you to create models that will in turn create computers in the Portfolio items table. In order for natures to enable you to create portfolio items, a second condition must be entered: the management constraint.

For each nature enabling you to create portfolio item models, you can also select behavior options. Example: For a **Computer** nature, the **Can be connected** option enables you to display tabs relating to connection ports.

A nature's creation criteria

For each nature, you must indicate the table in which the models based on this nature will be able to create records.

Example: One nature enables you to create models of portfolio items; another nature enables you to create models of contracts; etc.

For the natures enabling you to create portfolio item models, you must indicate an overflow table: Computers table, Software installations table, Telephones table, or any table of your choice.

Example: A nature enables you to create models for portfolio items and computers. In this case, creating a portfolio item based on this nature automatically creates a corresponding record in the Computers table. ▶ Creating a nature for computers [page 59].

For further information, refer to the **Administration** guide, chapter **Standard database description files**.

Management constraint

The management constraints enable you to define the way in which you manage a portfolio item.

The management constraint is rendered by the use or absence of an asset tag. An asset tag conditions whether the portfolio item is linked to a record in the Assets table. There are three options for the management constraint:

- Unique asset tag

  Portfolio items with their own asset tag are individually tracked assets. Using a unique asset tag is recommended for more important portfolio items that require close and constant tracking. Examples: A server, a machine tool, a photocopier.

- Unique or shared asset tag

  Portfolio items sharing the same asset tag are grouped together in a batch and tracked collectively. Items in the same batch share the same asset tag. This management mode is recommended for identical items that do not need to be tracked individually. Example: A batch of 100 chairs; a batch of 20 hard hats.

- Free

  If this option is selected for the portfolio item, you are free to choose whether to give it an asset tag or not. Portfolio items without asset tags are those for which accurate tracking is not required. These items are grouped together in untracked batches and do not appear in the Assets table. Example: Office supplies of little value (pencils, erasers, paperclips) or consumables that are tracked indirectly through the items that consume them.

A nature's behavior criteria

Selecting one or more behavior option for the nature of an item conditions the availability of certain fields and tabs in the tables of these items. Example: Selecting **License** in the nature of a portfolio item enables the **License** tab to be displayed in the Models table. The following behavior options are available in Asset Manager:

- Has software installed
- Can be connected
- Consumable
- Cable device
- License

Models: Organizing your portfolio

By creating models, you determine a number of features that the portfolio items inherit when you create them: name, brand, other technical features related to computers, etc.

Models are organized hierarchically: Generic models enable you to classify your models more precisely. The way in which you organize your models governs the way in which your portfolio will be organized.

2 Portfolio items

This chapter describes the procedures for managing portfolio items. These procedures concern how records are edited in the following tables:

- Natures (amNature)
- Models (amModel)
- Portfolio items (amPortfolio)
- Assets (amAsset)
- Computers (amComputer)
- Software installations (amSoftInstall)
- Telephones (amPhone)

Natures

Natures are required to create the models that you use to create the portfolio items. Because the nature governs the management constraints of the portfolio items, you must create as many natures as you require for a given type of portfolio item. Example: If you manage software as assets, batches and untracked assets, you must create three corresponding natures: Software, Software (batch), Software (untracked batch).

To display the list of natures, click the **Portfolio management/ Asset configurations/ Natures** link on the navigation bar.

Creating the nature for a portfolio item

To create the nature for a portfolio item:

1 Display the natures (**Portfolio management/ Asset configurations/ Natures** link on the navigation bar).
2 Click **New**.
3 Enter a value in the **Name** field.
4 Modify the **Code** field, if required.

   By default, the **Code** field uses the value of the **Name** field. This field enables you to enter a code to uniquely identify the record. It can be used as a reconciliation key between records in the Asset Manager and other applications when importing or exporting data.
5 Select **Portfolio item** in the **Create** field.
6 Select **Telephone** or **Computer** in the **Also create** field if you want to create a nature that allows you to create models of telephones or computers.
7 Select a management constraint.
8 Select, if required, one of the options in the **Behavior** frame.
9 Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.

Examples of natures

We recommend creating as many natures as there are models of portfolio items. The following table presents a non-exhaustive list of examples of natures.

Table 2.1. Portfolio - Examples of natures

Name	Also create	Management constraint	Behavior
General			
Asset	Nothing	Unique asset tag	No option
Batch	Nothing	Asset tag	No option
Untracked batch	Nothing	Free	No option
Consumable	Nothing	Free	◆ Consumable
Raw material	Nothing	Asset tag	No option
IT			
Computer	Computer	Unique asset tag	▪ Has software installed ▪ Can be connected
Computers (batch)	Nothing	Asset tag	No option
Software installation	Software installations	Unique asset tag	No option

Name	Also create	Management constraint	Behavior	
Software installations (batch)	Software installations	Asset tag	No option	
Software installations (untracked batch)	Software installations	Free	No option	
License	Nothing	Unique asset tag	◇	License
Licenses (batch)	Nothing	Asset tag	◇	License
Licenses (untracked batch)	Nothing	Free	◇	License
Standard configuration	Computer	Asset tag	▪	Has software installed
			▪	Can be connected
Other				
Cable device	Nothing	Unique asset tag	◇	Cable device
Telephone	Telephone	Unique asset tag	No option	

Models

Models, which are based on natures, enable you to organize your portfolio items. Depending on your requirements, models can go from very generic to very specific.

Example of organization of software models

The following example represents a way of organizing your software models:

1 All the software models are based on a nature that creates a portfolio item. The management constraint depends on the way you want to manage your software: individually, by batch or by untracked batch.
2 A generic **Software** model is created.
3 Sub-models enable you to classify software according to their use: Office automation, ERP, Project management, etc.
4 Other models are created for the Office Automation sub-model for specific applications: Word processor, Spreadsheet, DTP, File Management.
5 Models created at the bottom of the hierarchy correspond to specific models which can be used to create individual software items in the Portfolio items table: Software/Office Automation/Word processor/Microsoft Word 2000.

To display the list of models, click the **Portfolio management/ Asset configurations/ Models** link on the navigation bar.

Creating a portfolio item model

To create a model:

1 Click **New**.

2 Enter a value in the **Nature** field of the **General** tab.

3 Enter a value in the **Name** field.

4 Enter a parent model in the **Sub-model of** field.

   Example: When creating the **Office Automation** model, enter **Software** in the **Sub-model of** field.

5 Enter a value in the **Brand** field in the case of a specific model.

   Example: When creating the **Word 2000** model, enter **Microsoft** in the **Brand** field.

6 In the case of a batch, select the unit used.

7 Select **Certified** if the model created can be used in a purchase request. If necessary, enter a date and a certification level.

8 Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.

9 Populate the different tabs according to the features that the items in your portfolio have inherited from the created model.

Units used in batches

You sometimes need to specify a unit of measure when you create a model for a batch of items. Example: Let's say you create a model for a batch that contains sand. You want to use the unit of measure **Ton**, for example.

To create units, you need to have already created reference units for each of the dimensions that you use in your portfolio. Here are some examples of dimensions: **Temperature**, **Measure**, **Mass**. After having created reference units, you can create an unlimited number of other units whose coefficients of conversion with the reference unit need to be specified. Example: For the **Mass** dimension, you create the reference unit **Kilogram** and the unit **Ton** whose conversion coefficient is 1000 (1000 kg = 1 ton).

The unit selected in the model of a portfolio item appears in symbolic form after the **Quantity** field in the Portfolio items table and Assets table.

Creating a reference unit

To create a reference unit:

1 Display the units (**Administration / System/ Units** link on the navigation bar).

2 Click **New**.

3 Populate the **Name**, **Dimension** and **Symbol** fields. (Example: Kilogram, Mass, Kg.)

4 Enter **1** in the **Conv. coeff.** field.

5   Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.

To create a unit:

1   Display the units (**Administration / System/ Units** link on the navigation bar).

2   Click **New**.

3   Populate the **Name**, **Dimension** and **Symbol** fields. (Example: Pound, Mass, Lb.)

Once you have chosen your dimension, the reference unit symbol of this dimension appears in the field next to the **Conv. coeff.** field.

4   In the **Conv. coeff.** field, enter the number that converts the reference unit into the created unit. Example: For the pound, you would enter 0.454. (One pound equals 0.454 kilograms.)

5   Click **Create** (Windows client) or **Save** (Web client) to validate.

> 💡 Tip:
>
> In the Windows client, you can customize the units screen and create a virtual hierarchy for ease of use.
>
> You can, for example, group the information by the dimensions of units:
>
> 1   Display the units (**Administration / System/ Units** link on the navigation bar).
>
> 2   Right-click the **Dimension** field.
>
> 3   Select **Group by this field** from the shortcut menu.
>
> The list is sorted by dimension, each dimension defining a level in the hierarchy.

Portfolio item users

For each portfolio item, you need to choose between 2 modes of user management

- Assign a single user
- Assign a principal user and secondary users

Assign a single user

1   Display portfolio item detail.

2   Display the **General** tab.

3   Uncheck the **Shared portfolio item** box (bUsers).

4   Populate the **User** link (User).

Assign a principal user and secondary users

1   Display portfolio item detail.
2   Display the **General** tab.
3   Check the **Shared portfolio item** box (bUsers).
4   Populate the **User** link (User).

> ☞ Important:
>
> This link plays a key role, as certain processes are based on this link and not on the **Users** link (Users) in the **Users** tab.
>
> For example, the default requester of a deployment work order is determined by the **User** (User) link.

5   Display the **Users** tab.
6   Add secondary users.

> 💡 Tip:
>
> It can be useful to add the user who has been selected at the level of the **User** (User) link.
>
> Values in the **User** link are not automatically updated in the **Users** link.
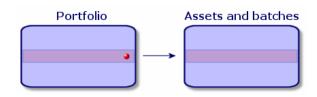
Find all portfolio item users

When searching for all portfolio item users (filter or request, for example), think of referring to the following links:

- **User** (User)
- **Users** (Users)

Assets

In Asset Manager, an asset corresponds to a portfolio item whose nature has the management constraint: Unique asset tag (▶ Management constraint [page 24]). The Unique-asset-tag management constraint means an asset will be managed individually (individual management). In the database, an asset

is represented by a record in the Assets table and a record in the Portfolio items table.

Note:

For each record in the Assets table, you can select the Portfolio tab to consult the detail of the corresponding portfolio item.

To display the list of assets, click the **Asset lifecycle/ Infrastructure management/ Assets** link on the navigation bar.

Creating an asset

To create an asset:

1 Display the assets (**Asset lifecycle/ Infrastructure management/ Assets** link on the navigation bar).
2 Click **New**.

Tip:

In the **General** tab, an asset tag is automatically assigned to a new record.

3 Select a model in the **Model** field.

Note:

The model of an asset must rely on a nature whose management constraint is **Unique asset tag** (▶ Management constraint [page 24]).

If the selected model has a prefix, this prefix appears in front of the asset's asset tag.

4 Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.
5 Populate the tabs according to the different tracking information that is available for that asset.

Other than the **General**, **Portfolio** and **Project** tabs, the tabs available for the Assets table concern different domains of tracking:

- Financial domain
  - Costs
  - Acquisition
  - Fixed assets
  - ▸ Financial tracking of assets [page 43].
- IT domain
  - License
  - Connections
  - Port
  - ▸ IT portfolio [page 59].
- Contractual domain
  - Contracts
  - Maint. (maintenance)
  - ▸ Assets linked to a contract [page 52] and the **Contracts** guide.
- Cabling domain
  - Slots
  - Pins/Terminals
  - Traces
  - Ports
  - ▸ **Cable** guide.

Portfolio items associated with an asset

An asset is the only item in the portfolio that can be associated with other portfolio items. The portfolio items associated with other items can be divided into:

- Consumables

  Consumables are the portfolio items whose model is based on a nature for which the option **Consumables** has been selected.

  For more information about behavior options, refer to section Nature: Creation and behavior [page 23].

- Software installations

  Software installations are portfolio items whose model is based on a nature for which the option **Software installation** has been selected (in the **Also create** field (seOverflowTbl)).

  ▸ **Software assets** guide.

- Licenses

  Licenses are the portfolio items whose model is based on a nature for which the **License** option is selected.

▶ **Software assets** guide.

Associating portfolio items to an asset

To associate portfolio items with an asset, several methods are available depending on the following criteria:

- The portfolio item already exists in the database.
- The portfolio item must be created on the fly when associated to an asset.
- The portfolio item is a batch in stock, and you want to associate some of the batch to an asset.

To filter by nature the portfolio items associated with an asset (consumables, licenses, installations), select one of the options displayed by default to the left of the list of items associated to an asset.

To filter by date of association the portfolio items associated with an asset, enter values in the **To** and **From** fields.

To associate an existing portfolio item to an asset

1. Display the portfolio items (**Asset lifecycle/ Infrastructure management/ Portfolio items** link on the navigation bar).
2. Select the portfolio item that you want to associate with your asset.
3. Click **Modify**.

> 💡 Tip:
>
> Skip this step if you are in the Windows client, modify the fields and links directly.

4. Select the asset in the **Component of** link (Parent) in the **General** tab.
5. Click **Modify** (Windows client) or **Save** (Web client) to confirm your creation.

To associate an asset with a portfolio item on the fly

1. Display the assets (**Asset lifecycle/ Infrastructure management/ Assets** link on the navigation bar).
2. Select the asset with which you want to associate the portfolio item.
3. Select the **Components** sub-tab in the **Portfolio** tab.
4. Click ⊞ (Windows client) or **Add** (Web client).
5. Create the portfolio item that you are associating to your asset.
6. Click **Add**.

To associate an asset to certain items of a batch in stock

1. Display the portfolio items (**Asset lifecycle/ Infrastructure management/ Portfolio items** link on the navigation bar).

2   Select the asset with which you want to associate a portfolio item from a batch in stock.
3   Launch the **Add an item from stock** wizard:
    - Windows client: click **Stock**.
    - Web client: select **Add an item from stock** from **Actions**.
4   Wait until the **Add an item from stock** wizard appears.
5   In the **Select an item from stock** page, select the batch that you want to associate with your asset.
6   Click **Next**.
7   In the **Quantity** page, select the number of items from your batch to associate with your asset.
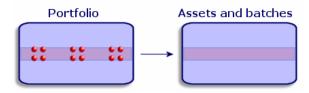
    You can also populate the other fields on this page if you wish.
8   Click **Finish**.

Batches

In Asset Manager, a batch corresponds to a portfolio item whose nature has the management constraint: **Asset tag** (▶ Management constraint [page 24]).

The **Asset tag** management constraint means that an item will be managed collectively instead of individually (unique Asset tag). The batches contain identical items whose quantity is indicated. Example: a batch of 1000 safety helmets. These batches can be composed either of countable items (keyboards, bags of cement, etc.) or uncountable items (cement, sand, kerosene, etc.). For uncountable items, a unit of measurement is used: kilogram, ton, liter, meter, etc. When you create a batch, a double-record is created: one in the Portfolio items table and one in the Assets table.

For each batch record in the Assets table, you can select the Portfolio tab to consult the detail of the corresponding portfolio item.

No matter how many divisions exist for a batch, each of these divisions in the Portfolio items table all correspond to the same, single record in the Assets table (▶ Dividing a batch [page 38]).

To display the list of assets, click the **Asset lifecycle/ Infrastructure management/ Assets** link on the navigation bar.

Creating a batch

To create a batch:

1 Display the assets (**Asset lifecycle/ Infrastructure management/ Assets** link on the navigation bar).
2 Click **New**.
3 Select a model in the **Model** field.

📝 Note:

The model of an asset must rely on a nature whose management constraint is **Asset tag**. (▶ Management constraint [page 24]).

💡 Tip:

In the **General** tab, an asset tag is assigned to this new record immediately after selecting the **Model**.

If the selected model has a prefix, this prefix appears in front of the batch's asset tag.

4 Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.
5 Specify the quantity in your batch.
   ▪ Windows client: Click **+/-Qty.**.
   ▪ Web client: Select **Modify the quantity of the batch** from **Actions**.

📝 Note:

You must choose the batch's reference unit of measurement in the model used to define your batch (▶ Units used in batches [page 30]).

6 Populate the tabs according to the different tracking information that is available for that batch.

Other than the **General**, **Portfolio** and **Project** tabs, the tabs available for the Assets and batches table concern different domains of tracking:
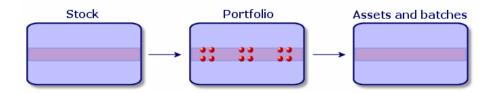
- Financial domain
  - Costs
  - Acquisition
  - Fixed assets
  - ▶ Financial tracking of assets [page 43]
- IT domain
  - License
  - Connections
  - Port
  - ▶ IT portfolio [page 59].
- Contractual domain
  - Contracts
  - Maint. (maintenance)
  - ▶ Assets linked to a contract [page 52] and the **Contracts** guide.
- Cabling domain
  - Slots
  - Pins/Terminals
  - Traces
  - Ports
  - ▶ **Cable** guide.

Dividing a batch

Overview
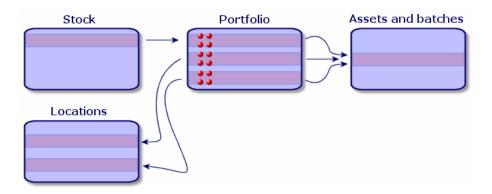
Dividing a batch enables you to create, from the initial record in the Assets table, several records in the Portfolio items table that are associated with that initial record. Each of these records corresponds to the batch obtained from dividing the record of the initial batch.

For example: Let's say you receive a batch of 12 chairs in stock. You create a record in the Assets table for these chairs. In the database, a record is created in the Assets table and in the Portfolio items table. This batch is put in stock.

Next, let's say you divide this batch into three batches of 4 chairs. One batch of 4 stays in stock and the other two batches of 4 go to two different locations in your company. In this case, the record corresponding to the batch is identical to the one in the Assets table, but it is henceforth linked to three records in the Portfolio items table, corresponding to:

- A batch of 4 chairs still in stock.
- A batch of 4 chairs linked to the first location.
- A batch of 4 chairs linked to the second location.

How to divide a batch

There are two ways to divide a batch:

- Using a **Divide a batch** wizard.
- Creating several links from the Assets table to the Portfolio items table.

Using the **Divide a batch** wizard

To use the **Divide a batch** wizard:

1 Display the Portfolio items screen.
2 Select the batch that you want to divide.

3 Launch the **Divide a batch** wizard:
   ▪ Windows client: Click **Divide**.
   ▪ Web client: Select **Divide a batch** from **Actions**.

> 🖋 Note:
>
> You should select **Visible in the menu** for the **Divide a batch** wizard in the Windows client before you can select it in the Web client.

4 Wait for the first page of the **Divide a batch** wizard to appear.
5 Enter the number of items of the new batch in the **Quantity to extract** field.
6 Enter the new data that will enable you to contextualize the new batch: Supervisor, User, Location, etc.
7 Click **Finish**

In the Portfolio items table, the number of items contained in the new batch is subtracted from divided batch. The new batch then appears as a new record in the Portfolio items table.

Creating several links to the Portfolio items table from the Assets table

To create several links to the Portfolio items table from the Assets table:
1 Display the Assets screen.
2 Select a record corresponding to a batch.
3 Go to the **Portfolio** tab.

> 💡 Tip:
>
> If you are in the Windows client, select **Display in list-form** from the contextual menu before continuing with the next step.
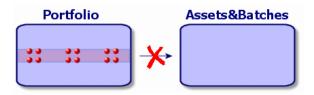
4 Add a link toward the Portfolio items table.

Untracked batches

In Asset Manager, an untracked batch corresponds to a portfolio item that uses a nature whose management constraint is free. (▶ Management constraint [page 24]). This management constraint corresponds to the undifferentiated management type.

An untracked batch only appears in the Portfolio items table, which enables it to be contextualized: It is linked to a location, a user, a manager, a cost center. The absence of an untracked batch in the Assets table means that it doesn't

contain financial, technical or contractual information. Untracked batches are reserved for items of little value (office supplies, for example) or consumables. In fact, consumables can be tracked indirectly by managing the portfolio items that consume them.

Click the **Asset lifecycle/ Infrastructure management/ Portfolio items** link on the navigation bar to display the list of portfolio items.

Creating an untracked batch

To create an untracked batch:

1 Display the portfolio items (**Asset lifecycle/ Infrastructure management/ Portfolio items** link on the navigation bar).

2 Click **New**.

A code is assigned to this new record.

3 Select a model in the **Model** field.

4 Specify the quantity in your untracked batch.

You must choose the batch's reference unit of measurement in the model used to define your batch. (▶ Units used in batches [page 30])

5 Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.

6 Populate the tabs according to the different contextual information that is available for that batch. (▶ Contextualizing portfolio items [page 48])

Consumables

Consumables are portfolio items that, once they are associated with an asset, can no longer be disassociated from it. Consumables are created from models whose nature has a **Free** management constraint. The **Consumable** behavior option must also be selected. (▶ Management constraint [page 24])

▶ Portfolio items associated with an asset [page 34]

Dividing an untracked batch

To divide an untracked batch:

1 Display the list of portfolio items.
2 Select the batch that you want to split up.
3 Launch the **Divide a batch** wizard:
   - Windows client: Click **Divide**.
   - Web client: Select **Divide a batch** from **Actions**.

   > 📝 Note:
   >
   > You should select **Visible in the menu** for the **Divide a batch** wizard in the Windows client before you can select it in the Web client.

4 Wait until the **Divide the batch** wizard appears.
5 Enter the number of items in the new batch into the **Quantity to extract** field.
6 Enter the new data that will enable you to contextualize the new batch: location, user, supervisor, etc.
7 Click **Finish**.

   In the Portfolio items table, the number of items contained in the new batch is subtracted from divided batch. The new batch then appears as a new record in the Portfolio items table.

Transforming an untracked batch into a tracked batch

You might need to change an untracked batch into a tracked batch for a variety of reasons. Example: You need to link a batch of desks, which you use for several offices, to different projects. To do this, this batch must correspond to a record in the Assets table.

To transform an untracked batch:

1 Display the list of portfolio items.
2 Select the untracked batch.
3 Launch the **Create an asset for this portfolio item** wizard:
   - Windows client: Click **Tag**.
   - Web client: Select **Tag a portfolio item and create the corresponding asset** from **Actions**.

   This action creates a record corresponding to that batch in the Assets and batches table. The tag assigned to the batch's record is actually an asset tag, which is one of the features of the records located in the Assets table.

Financial tracking of assets

Overview

Financially tracking assets enables you to:

- Describe their mode of acquisition.

  Was the messaging server purchased, rented or borrowed?
- Log the expenses resulting from them.

  How many times did we need to order batches of 50 reams of paper for the photocopier in the documentation department?
- Describe their fixed-asset accounting information.

  What type of depreciation method has been chosen for company vehicles?

To consult or modify financial information, you must display the list of assets and select one of the three following tabs:

- **Acquis.** (Acquisition)
- **Costs**
- **Fixed assets**

> 📝 Note:
>
> In this section, **Assets** covers both assets and batches, which have similar-type records in the Assets table.

Asset-acquisition information

The **Acquis.** tab enables you to view the main information on how an asset was acquired. Most of this information is organized into sub-tabs.

Acquisition method

Asset Manager manages four acquisition methods for assets:

- Purchase
- Rental
- Lease
- Loan

The acquisition method you choose determines the information displayed:

- Certain tabs in the asset detail.
- Certain fields in the **Acquis.** tab.
- Certain sub-tabs in the **Acquis.** tab.

An asset's acquisition method (SQL name: seAcquMethod) is Purchase by default. The other acquisition methods available are the following: Rental, Lease, Loan.

Contracts related to asset acquisition

No matter what acquisition method you select, you can always link a contract to the acquisition from the **Procurement** sub-tab. The selected contract then appears in the **Contracts** tab of the asset detail.

> **Warning:**
>
> If you confirm your selection of a contract, the **Acq. method** (SQL name: seAcquMethod) is modified automatically to indicate the financing mode specified in the **Default acquisition method for assets** field (SQL name: seAcquMethod), in the **General** tab of the contract detail.

Companies related to the acquisition of an asset or batch

In the **Procurement** sub-tab, you can select:

- A **Lessor** (SQL name: Lessor) for rented or leased assets.
- A **Lessor** for assets on loan.

Additional rent description sub-tabs

Whatever acquisition method you select, it is possible to add rent description sub-tabs in the **Acquis.** tab. To add a sub-tab, right-click the sub-tab zone and select **Add linked record**.

We use rent in the broadest possible sense of the word: It can be taken to mean any sum to be paid periodically for an asset such as insurance premiums, maintenance contract payments, etc.

These sub-tabs are similar to lease-rent description sub-tabs.

Costs of an asset

The **Costs** tab in an asset detail displays the expense lines associated with that asset.

Specific filters are located at the top of the list.

> **Tip:**
>
> In the Windows client, you can click ▦ to total the costs displayed in the list after filtering.

Fixed-asset information

This section describes the following points:
- Describing fixed assets.
- How to associate fixed-asset accounting information with assets.

Describing fixed assets

Describing and calculating the depreciation of an asset

The information concerning the depreciation of an asset appears in the **Fixed Asset** tab of an asset's detail.

This tab only appears if you set the **Acq. method** field (SQL name: seAcquMethod) in the **Acquis.** tab to **Purchase**.

There are two kinds of information contained in this tab:
- In the left-hand frame, there is information (fields and links) used for calculating the depreciation and residual value of an asset.
- In the right-hand frame, there is information (records) from the **Fixed assets** table (SQL name: amFixedAsset) associated with the asset after it is imported into Asset Manager.

The depreciation calculation formulas are defined in the **Depreciation calculation formulas** table (SQL name: amDeprScheme).

You can select the calculation formula used for the asset via the **Depreciation type** link (SQL name: DeprScheme) in the left-hand frame of the tab.

Defining the depreciation calculation formulas

To define a depreciation calculation formula:
1 Display the Asset screen detail.
2 Go to the **Fixed Asset** tab.
3 Click ▣ (Windows client) or ▢ (Web client) to the right of the **Depreciation type** (DeprScheme) field.

> 💡 Tip:
>
> If you are using the Windows client, you can also define the depreciation calculation formula via the **Administration/ List of screens** menu, which opens a window:
> 1 Select **List of depreciation types** (SQL name: amDeprScheme).
> 2 Click **New**.
> 3 Populate the **General** tab.
> 4 Create a calculation script in the **Script** tab.

The objective of the script is to calculate the depreciation values using the following fields:

- In the **Depreciation calculation formulas** table:
  - **Duration** field (SQL name: tsDeprDur)
  - **Coefficient** field (SQL name: fCoeff)
  - **Rate** field (SQL name: pRate).
- In the **Assets** table (SQL name:amAsset):
  - **Start date** field (SQL name: dStartAcqu)
  - **Depreciation basis** field (SQL name: mDeprBasis)
  - **Estimation date** field (SQL name: dDeprRecalc)

The amount obtained must modify the value of the **Depreciation** field (SQL name: mDeprVal).

Note:

The **Residual value** field (SQL name: mNetValue) is automatically recalculated by Asset Manager when the **Depreciation basis** and/or **Depreciation** fields are modified.

Simplified example of a calculation script describing a straight-line depreciation:

```
Dim iNbOfDays As Integer
iNbOfDays = amDateDiff([dDeprRecalc],[dStartAcqu])
If (iNbOfDays <= 0) Or ([DeprScheme.tsDeprDur] <= 0) Then
Set [mDeprVal] = 0
ElseIf (iNbOfDays >= [DeprScheme.tsDeprDur]) Then
Set [mDeprVal] = [mDeprBasis]
Else
Set [mDeprVal] = [mDeprBasis] * iNbOfDays / [DeprScheme.tsDeprDur]
End If
Set [dDeprRecalc] = amDate -> Set [dDeprRecalc] = amDate()
```

Asset Manager uses an automatic mechanism to recalculate the value of the **Depreciation** field if the reference fields are modified.

Estimating depreciation for a group of assets

In some cases, you might want to update the value of the **Depreciation** field on a given date for a selection of assets. To do this, you simply need to modify the value of the **Estimation date** field after having selected the assets to be updated together.

You can also create a **Script Type** action (SQL name: seActionType) to perform this task. Its script will resemble:

```
Set [dDeprRecalc] = amDate
```

Asset Manager will then use an automatic default mechanism to update the **Depreciation** field.

You can even create a workflow that triggers the above action on a periodical basis for a group of assets.

How to associate fixed-asset accounting information with assets

Two methods are available:

From the asset detail

1   Click the **Fixed Asset** tab.
2   Add or remove fixed assets associated with the asset.

> 💡 Tip:
>
> If you are using the Windows client, you can also display the list of fixed assets in another window, select the fixed asset to be associated with the asset, and drag it into the list in the asset's **Fixed asset** tab.

From the fixed asset detail

1   Click the **Assets** tab.
2   Add or remove assets associated with the fixed asset.

> 💡 Tip:
>
> If you are using the Windows client, you can also display the list of fixed assets in another window, select the fixed asset to be associated with the asset, and drag it into the list in the fixed asset's **Asset** tab.

Movements of portfolio items

The Portfolio items table enables you to monitor the movements of portfolio items.

For each selected item, you have contextual information. Other operations in Asset Manager are reflected in the Portfolio items table. Example: If a photocopier is reassigned to another department in the Employees and Departments table, you simply need to consult the record in the Portfolio items table in order to see that this change has been made. The Portfolio items table also helps you find out who has reserved items that are on order but not yet received.

In the Portfolio items table, two tabs enable you to monitor movements of portfolio items:

- The **General** tab enables you to monitor the physical movements of portfolio items.
- The **Reservation** tab enables you to reserve unassigned items.

Contextualizing portfolio items

The following fields in the **General** tab of the Portfolio items table enable you to contextualize each item by associating them with:

- A particular assignment.
- The dates they were put into production and inventoried.
- A user.
- A manager.
- A location, or a stock if the item is not yet assigned.
- A cost center.

If the contextual information given by default is insufficient, you can add as many fields and features as necessary. To add features, refer to chapter **Customizing the database** in the Asset Manager **Tailoring** Guide.

In the Portfolio items table, you can also divide a batch. The Dividing a batch [page 38] wizard enables you to assign a batch a new location, a new department, a new cost center, etc. Each batch created using the Dividing a batch [page 38] wizard stays linked to the same record in the Assets table. This enables you to track together items that have different contextual information.

▶ Batches [page 36]

Reserving portfolio items

An item can only be reserved if the **Assignment** field (SQL name: seAssignment) in the **General** tab of the detail of the item is set to **In stock** or **Awaiting receipt**.

Several methods are available for reserving portfolio items.

From the portfolio item detail

To reserve a portfolio item:

1 Display the portfolio items (**Asset lifecycle/ Infrastructure management/ Portfolio items** link on the navigation bar).
2 Display the **Reservations** tab of the detail of the portfolio item you want to reserve.
3 Add a reservation:

- Windows client: Select **Add linked record** from the contextual menu of the sub tab.
- Web client: Click **Add**.

4 Specify the request line of the selected portfolio item.
5 Specify the reservation start and end dates as well as the person who reserved the asset.

To delete a reservation, modify the value of the **Assignment** field, or delete the values of the fields relative to the reservation.

From a purchase request

A purchase request may include:

- Items to be ordered that do not yet exist in the Portfolio items table.
- Items to be reserved via the purchase request. These items have already been created in the Portfolio items table, and they meet the conditions defined above.

To reserve a portfolio item via a purchase request:

1 Display the purchase request detail (**Asset lifecycle/ Procurement lifecycle/ Requests/ Purchase requests** link on the navigation bar).
2 Select the **Composition** tab of the detail of the request that you want to reserve the portfolio item from.
3 Select the request line and display the details.
4 Go to the **Reservations** tab.
5 Add a reservation:
   - Windows client: Select **Add linked record** from the contextual menu of the sub tab.
   - Web client: Click **Add**.
6 Click the ▣ (Windows client) or ▢ (Web client) button to the right of the **Portfolio item** field.
7 The displayed window lists portfolio items whose **Assignment** field (SQL name: seAssignment) indicates **In stock** or **Awaiting delivery**.
8 Select the item you want to reserve.

9 You can also populate the **End date** (SQL name: dReservEnd) field of the asset detail. To do so, click the calendar icon in the **Reservations** tab in the detail of the request composition.

10 Confirm the reservation:
- Windows client: Validate the reservation by clicking **Modify** in the detail of the request line.
- Web client: Click **Add** in the detail of reservation screen.

To delete a reservation made through a request:

1 Select the reservation you want to delete in the **Reservations** tab of the request line detail.

2 Delete a reservation:
- Windows client: Select **Delete link** from the contextual menu of the sub tab.
- Web client: Click **Delete**.

3 Click **Modify** (Windows client) or **Yes** (Web client) to confirm the deletion.

Impact on stock management

Reserving a portfolio item affects the management of the stock for that portfolio item: Reserved portfolio items are no longer counted when stock levels are checked (▶ Creating stock rules [page 54]).

> ### 🖊 Note:
>
> The stock to which a reserved portfolio item is assigned is indicated in the **Stock** field (SQL name: Stock) in the **General** tab of the portfolio item detail.

Managing the end of a portfolio item's life

When a portfolio item is no longer used (written off, destroyed, stolen, sold, etc.), you may want to leave it in the database and just modify its description to take into account its new status.

To show that a portfolio item is no longer used:

1 Select the item that is no longer used.
2 On the **General** tab, set the **Assignment** field (SQL name: seAssignment) to **Retired (or consumed)**.
3 If necessary, unlink the item from its parent item by clearing the **Component of** (SQL name: Parent) field.
4 In the case of an asset or a tracked batch, update the **Fixed Asset**, **Contracts**, **Maint.**, **Acquis.**, **Connections** and **Projects** tabs in the Assets table.

Note:

When the record of a portfolio item is destroyed, all information concerning this item is lost for good. We recommend simply retiring items that are no longer used but for which information needs to be kept.

Return a portfolio item to a supplier

If a portfolio item was delivered and accepted, but there is a problem (for example, the portfolio item is damaged):

1 Select the portfolio in question.
2 Set the **Assignment** field (SQL name: seAssignment) to **Return to supplier**.

This status is temporary as how the portfolio item will be handled is currently unknown:

- If the portfolio item is repaired and recovered: set the **Assignment** field to **In use**.

   The portfolio item's identifiers (**Asset tag** field) remain unchanged.
- If the portfolio item is replaced by another portfolio item: Set the **Assignment** field to **Retired (or consumed)** and create the new portfolio item (with new identifiers).
- If the portfolio item is taken back by the supplier: Set the **Assignment** field to **Retired (or consumed)**.

Entrust temporarily the portfolio item to a third-party company

If a portfolio item has been temporarily entrusted to a third-party company for repair, preventive maintenance or to be updated:

1 Select the portfolio in question.

2   Set the **Assignment** field (SQL name: seAssignment) to **Return for maintenance**.

The portfolio item should be returned to the portfolio at a later date.

Set a portfolio item as missing

If a portfolio item cannot be found:

1   Select the portfolio in question.

2   Set the **Assignment** field (SQL name: seAssignment) to **Missing**.

It is recommended that you select this value for a software installation whose **Inventory date** (dtInvent) field value is previous to the computer's **Last software scan** (dtSoftScan) field value.

Assets linked to a contract

You can associate an asset with one or more contracts.

These associated contracts can be viewed in two of the tabs in the Asset's table: **Contracts** and **Acquis**.

✎ Note:

In this section, **Assets** covers both assets and batches, which have similar records in the Assets table.

The Contracts tab

The **Contracts** tab presents the list of all the contracts associated with the asset.

You can apply filters to this list:

■   If you are using the Windows client, the specific filters are at the upper part of the tab.

■   If you are using the Web client, find the filters by selecting **Filter by contract validity/expiration** from **Filters**.

This filter enables you to view the contracts based on three conditions:

■   **All**: displays all the contracts.

■   **Current**: displays only the current, valid contracts for a given period.

■   **Expired**: displays out-dated contracts.

The associated contracts are listed and sorted according to their nature, company, start date, end date or the date the asset was put on that contract.

When you add a contract, or when you consult the contract line, a new window opens displaying the detail of that contract line.

- Select the desired contract, then enter the date on which the asset is added to it, as well as the asset's planned removal date from the contract.
- You can also populate the **Authorization** and **No. of utilizations** fields, but they are not mandatory.

The Acquis. tab

An asset can be acquired within the framework of a contract.

The **Acquis.** tab enables you to associate a contract with an asset using any of the following methods:

- Purchase
- Rental
- Lease
- Loan

According to the acquisition method, sub-tabs enable you to specify the details of the acquisition contract.

Refer to the **Contracts** guide for more information on how to create and manage contracts associated with an asset.

Stocks

A stock contains in-stock portfolio items or those awaiting delivery.

In the detail of a portfolio item, the **Assignment** field (SQL name: seAssignment) in the **General** tab is set to **In stock** or **Awaiting receipt**. For example, a portfolio item that was recently bought but has not yet been installed or given to a user. These portfolio items can be seen in the **Portfolio** tab of the stock detail.

Asset Manager enables you to set up automatic stock reorder rules.
Asset Manager Automated Process Manager monitors stock reorder levels.

🔔 Warning:

You need to run Asset Manager Automated Process Manager on a client or server station so that it can monitor the stock reorder levels.

You can create as many stocks as you want using Asset Manager.

To display the stocks table, click the **Organization management/ Operations/ Stocks** link on the navigation bar.

Creating stock rules

Asset Manager enables you to associate rules with a stock that will trigger automatic purchase requests in order to replenish your stock with portfolio items.

These stock management rules are defined in the **Management** tab of a stock detail. Each rule is associated with a model and indicates the quantity that is needed in order for the portfolio items to exist in the same number as indicated for the model.

It is Asset Manager Automated Process Manager that verifies the level of replenishment of stock lines.

To create a stock rule:

1 Click the **Management** tab.
2 Click ⊞ (Windows client) or **Add** (Web client).
3 Wait until the **Add rule to stock** window appears.
4 Specify the model of the portfolio item for which you want to create a stock rule (Example: ink cartridges for printers).
5 Populate the **Reorder level** field with the quantity for which the purchase order request is automatically created (Example: 5).
6 Populate the **To order** field with the number of portfolio items to order.

   If a portfolio item is an asset or a tracked batch, Asset Manager Automated Process Manager creates a purchase order whose **Quantity** field is equal to 5. Upon receipt of an order based on this request:

   ■ In the case of an asset, 5 records are created in the Portfolio items table.
   ■ In the case of a tracked batch, a record with a quantity of 5 is created in the Portfolio items table.

For each stock management rule relating to a model:

1 Asset Manager Automated Process Manager calculates the quantity of items available from the **Portfolio** tab of the stock detail.

   For portfolio items corresponding to tracked batches, Asset Manager Automated Process Manager verifies that the quantity of the items in the batch equals the amount indicated in the **Quantity** field.

2 Using the quantity indicated in the **Reorder level** field (SQL name: lReordLevel) of the stock rule detail, Asset Manager Automated Process Manager automatically creates a purchase request order.

3 As long as the request has not been entirely received, Asset Manager Automated Process Manager will not verify the stock management rule that it has generated. So, no new requests will be sent out until the previous request has been fully received.

4 As soon as the request has been entirely received, Asset Manager Automated Process Manager:

- Readjusts the stock levels.
- Deletes the contents of the **Request line** field (SQL name: ReqLine) from the stock rule detail.
- Re-enables the stock management rule.

📝 Note:

The frequency with which the stock table is verified is defined at the level of Asset Manager Automated Process Manager.

Calculation of the number of items effectively available

To count the number of items currently available during each stock-rule verification for a given model, Asset Manager Automated Process Manager counts the number of items based on this model contained in the **Portfolio** detail of the stock.

Only the unreserved portfolio items are counted.

Creating reorder requests

If necessary, Asset Manager Automated Process Manager generates a purchase-order-request line to reorder stock for each stock rule:

- The purchase-order parameters are described in the **Auto-request** tab of the stock detail.
- The purchase order specifies the quantity to be reordered in the **To order** field (SQL name: lQtyToOrder) of the stock rule detail.

When a purchase request created automatically through stock level verification is delivered, the quantities in stock are adjusted.

Stock management procedure

This section details the following points:

- Viewing the list of portfolio items in stock.
- Placing portfolio items in stock.
- Issuing portfolio items from a stock.

Viewing the list of portfolio items in stock

The **Portfolio** tab of the stock detail lists all the portfolio items in the selected stock.

Filters

You can use the filters to display the records which meet your criteria.

> 💡 **Tip:**
>
> If you are using the Windows client, above the list of portfolio items in stock are three filters:
> - 🔖 First simple filter.
> - 🔖 Second simple filter.
> - 🔖 Third simple filter.
>
> Between the filters there is an "AND" condition (in the SQL sense).

Tree view of the list of the portfolio items in stock

When you list the portfolio items in stock using a tree view:
- If an item in stock contains items associated with it, but that are not in stock, these items will not be displayed.
- If an item in stock is a sub-item of other items, the entire chain of parent items appears. The parent items that are not in stock appear in gray.

Placing items in stock

There are several ways of putting items in stock:

From the detail of portfolio items

In the **General** tab of portfolio items:
1 Set the **Assignment** (SQL name: seAssignment) field to **In stock**.
2 Select the stock in the **Stock** field (SQL name: Stock).

From the stock detail

In the **Portfolio** tab of the stock detail, click ➕ (Windows client)/ **Add** (Web client) to add items.

From an order detail

The purchase-order composition lines creating portfolio items can create items in stock. To do this:

1 Select the appropriate order in the table of orders (**Asset lifecycle/ Procurement lifecycle/ Purchase orders and estimates/ Orders** link on the navigation bar).

2 For each purchase-order composition line creating a portfolio item, verify that the **Deliv. stock** field (SQL name: Stock) of the **Purchase** tab indicates the name of the stock. Otherwise, you need to populate this field.

3 To create the portfolio items awaiting receipt, make sure the **Ord. status** field is set to **Validated** or **Ordered**. Click **Create**: The portfolio items are created in the portfolio items table.

For each item thus created in the Portfolio items table:

- The **Assignment** field in the **General** tab of the item's detail indicates **Awaiting receipt**.

- The **Stock** field has the same value as in the **Delivery** field of the **Purchase** tab of the item's order-composition line.

Issuing assets from a stock

There are several ways to take items out of stock:

From the detail of portfolio items

In the **General** tab of a portfolio item's detail:

1 Display the list of portfolio items in "List and Detail" mode.

2 Select the portfolio item that you want to remove from stock.

> ### 💡 Tip:
>
> If you are using the Windows client, you can select multiple portfolio items so that you can modify their properties in batch .

3 Set the **Assignment** field (SQL name: seAssignement) to **In use**.

4 Select the user and the manger of these items if they all items belong to the same user and manager.

5 Define the location as well, if they all have the same location.

From the stock detail

1 Go to the **Portfolio** tab of the stock detail.

2 Select all the items to remove from stock.

3 Click ⁻ to the right of the list (Windows client) or **Delete** (Web client).

   In this case, the value of the item's **Assignment** field changes to **In use**.

Or:

1 Go to the **Portfolio** tab of the stock detail.

2   Display the detail of each of the items that you want to remove from stock.

3   Select **In use** for the **Assignment** field, in the **General** tab of each item's detail.

4   Select the user, the manager and the location for each the portfolio item.

3 IT portfolio

Asset Manager has been specifically designed to help manage your IT portfolio. For every computer in your IT portfolio (computer, workstation, laptop, server, etc.) Asset Manager provides you with a multitude of fields and tables to help you manage it.

Computers

We recommend that you manage your computers individually. This method of management enables you to define a computer's technical data in its model.

Individualized management is also the only type of management allowing a record to be present in the Portfolio items table, the Assets table and the Telephones table at the same time (▶ Overflow tables [page 18]).

Creating a nature for computers

To create a nature for a computer that you want to manage individually:
1 Display the natures (**Portfolio management/ Asset configurations/ Natures** link on the navigation bar).
2 Click **New**.
3 Enter the name and the code of the nature you are creating (example: Computer and Computer).

4   Select **Portfolio item** in the **Create** field.

5   Select **Computer** in the **Also create** field.

    The Computers table is used to integrate software distribution tools with Asset Manager.

6   Select **Unique asset tag** in the **Management constraint** field.

7   Select the **Has software installed** and **Can be connected** options.

8   Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.

Creating a computer model

Creating a computer model is exactly the same as creating any other model (▶ Models [page 29]). You just need to choose the nature for computers (▶ Creating a nature for computers [page 59]).

Since the Models table enables you to organize your portfolio, we suggest that you create generic models. For example: Let's say you create the model **Computer** and sub-models **Office computers**, **Laptops** and **Servers**. Using these sub-models, you can create computer models that you will use to create the computer assets in your portfolio.

Creating a computer model (example)

This section will show you how to create a computer model with the following features:

- HP VECTRA VL 800 computer
- Intel® Pentium® 4 1.3 GHz processor
- 128 Mo standard RDRAM memory
- 40 GB hard drive
- 3.5", 1.44 MB disk drive
- DVD-ROM 12x/40x
- HP multimedia keyboard
- HP optical mouse device

To create the model of this computer:

1   Display the models (**Portfolio management/ Asset configurations/ Models** link on the navigation bar).

2   Click **New**.

3   Enter **VECTRA VL 800** in the **Name** field.

4   Enter **Hewlett-Packard** in the **Brand** field.

5   Select, for example, **Office computer** in the **Sub-model of** field.

6   In the **General** tab, enter or select in the **Nature** field a nature which will allow you to create computer models. (▶ Creating a nature for computers [page 59])

7   In the **Hardware** tab, enter the data corresponding to your computer:
    ■ **Pentium 4** in the **CPU** field.
    ■ **1300** in the **CPU speed** field (in megahertz by default).
    ■ Enter **128** in the **Memory** field.
    ■ Enter **40000** in the **Disk size** field.

8   Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.

9   Repeat the same steps to create models corresponding to the different items associated with your computer:
    ■ Disk drive
    ■ DVD drive
    ■ Keyboard
    ■ Mouse
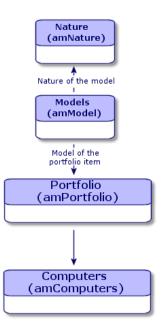
You cannot associate models with other models. On the other hand, you can, when you create your VECTRA VL 800 computer, associate it with these different assets based on these models (▶ Portfolio items associated with an asset [page 34]).

Creating computers manually

The computers are recorded in three different Asset Manager tables:
■ The Portfolio items table (amPortfolio)
■ The Assets and batches table (amAsset)
■ The Computers table (amComputer)

The following diagram illustrates which tables deal with computers.

Since the creation of a computer is similar to the creation of an asset, you should refer to the section Creating an asset [page 33]. To associate portfolio items with a computer, refer to the section Associating portfolio items to an asset [page 35]. The assets associated with a computer are its peripheral devices (keyboard, printer, various drives), its software applications and its consumable products.

Creating computers automatically

The most effective and reliable way to represent the status of your computer portfolio is to use automatic network inventory tools such as HP Discovery and Dependency Mapping Inventory.

✏ Note:

You can, of course, use other inventory tools. You must make the required changes to the HP Connect-It scenarios and the Asset Manager Automated Process Manager modules for them to work with your inventory software.

These tools are used to identify computers that are present in your portfolio. Inventoried computers can be transferred to the Asset Manager database.

Configure your environment to import the inventory database created using HP Discovery and Dependency Mapping Inventory

1 Perform the computer inventory using HP Discovery and Dependency Mapping Inventory. Use the version specified in the HP Connect-It Support Matrix that ships with Asset Manager 9.30 (available at www.hp.com/go/hpsoftwaresupport).

2 Install HP Connect-It in the version as provided with Asset Manager 9.30.

3 Start the HP Connect-It scenario builder.

4 Open the `edac.scn` scenario (located in the `scenario\ed\ed<HP Discovery and Dependency Mapping Inventory version number>\ed<HP Discovery and Dependency Mapping Inventory version number>ac<Asset Manager version number>` sub-folder of the HP Connect-It installation folder) (**File/ Open** menu).

   For example: `C:\Program Files\HP\Connect-It <Version number> <Language>\scenario\ed\ed25ac93`.

5 Configure the **Enterprise Discovery** connector (select the connector in the scenario diagram, **Configure connector...** shortcut menu).

   On the **Select a connection type** wizard page, select a connection type and then populate the related pages in the wizard.

6 Configure the **Asset Management** connector (select the connector in the scenario scheme, shortcut menu **Configure connector...**).

   Populate the **Define the connection parameters** page of the configuration wizard.

7 Save your modifications and then exit HP Connect-It.

8 Start Asset Manager Automated Process Manager.

9 Connect to the Asset Manager database (**File/Connect to database**).

10 Display the modules (**Tools/ Configure modules** menu).

11 Select the **Update the database using Enterprise Discovery inventory results** module (EdAc).

12 Check the **Enabled** box.

13 Modify the **User data item** field as follows:

```
"$connectit_exedir$/conitsvc.exe" -once -wpplog '$connectit_exedir$/../
scenario/ed/ed2ac$version$/edac.scn' -dc:'Asset Management.SERVER'=$cnx
$ -dc:'Asset Management.LOGIN'=$login$ -dc:'Asset Management.TEXTPASSWO
RD'=$pwd$
```

   Replace the number **2** with the version number of HP Discovery and Dependency Mapping Inventory that is installed on your station.

14 Define the frequency of the **Update the database using Enterprise Discovery inventory results** module (**Verification schedules** frame.)

15 Click **Modify** to save your modifications.

16 Exit Asset Manager Automated Process Manager.

Import the inventory database obtained by HP Discovery and Dependency Mapping Inventory

Importing the inventory database

Asset Manager Automated Process Manager, when running in the background with the appropriate modules activated, automatically imports the information from the HP Discovery and Dependency Mapping Inventory inventory database.

What is imported from the inventory database

The inventory database contains all the inventoried computers.

To each inventoried computer is attached the components (screen, printer, etc.) and the identified software.

Result of the import in the Asset Manager database

A portfolio item is created for every computer, computer component and software item identified on the computer.

Viewing computers in the HP Discovery and Dependency Mapping Inventory database from Asset Manager

From a computer detail, users can display the detail of the computer in the HP Discovery and Dependency Mapping Inventory database by clicking on the computer's URL address.

Preliminary tasks

Make the HP Discovery and Dependency Mapping Inventory database accessible via Internet Explorer

Users who want to display the computer detail in the HP Discovery and Dependency Mapping Inventory database must be able to access the HP Discovery and Dependency Mapping Inventory database via Internet Explorer.

Import the **Portfolio - Line-of-business data** into your database

The **Portfolio - Line-of-business data** must be imported in order for the integration to work properly.

Importing the Line-of-business data when you create the database

Follow the instructions in the **Administration** guide, chapter **Creating, modifying and deleting an Asset Manager database/ Creating the database structure with Asset Manager Application Designer**.

On the **Data to import** page, select the **Portfolio - Line-of-business data** option.

Importing the Line-of-business data into an existing database

Proceed in the following manner:

1 Execute Asset Manager Application Designer.
2 Select the **File/ Open** menu item.
3 Select the **Open database description file - create new database** option.
4 Select the gbbase.xml file which is located in the config sub-folder of the Asset Manager installation folder.
5 Start the database creation wizard (**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 connection to the database into which you wish to import the line-of-business data.
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 Asset Manager database administrator is the record in the **Employees and departments** (amEmplDept) table for which the **Name** (Name) field is set to **Admin**.
	The database connection login is 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 **Portfolio - Line-of-business data** option
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 Click **Finish** to execute the options defined using the wizard.

Declare the URL address of the HP Discovery and Dependency Mapping Inventory Web client

1 Start the Asset Manager Windows or Web client.
2 Start the **Edit the URL address of the application servers...** wizard (BstBackEndOpt) (**Administration/ Edit the URL address of the application servers...** link on the navigation bar).
3 Populate this wizard as follows:

Field	Value
Add and/or modify properties of the application servers page	
Name of the application server to add	If, in the lower part of the page, there is no line whose **Application** column equals **ED**, populate this field with the value **ED**, then click **Add the application server**.
List of applications, line whose **Application** column equals **ED**, **Server's URL address** column	http or https://<HP Discovery and Dependency Mapping Inventory server name>:<Port used by HP Discovery and Dependency Mapping Inventory>
Summary page	
Verify the contents of the page and click **Finish**.	
If you are using the Windows client, click **OK** in the **Progress** page.	

✎ Note:

If you are using the Windows client, you need to reconnect to the database to validate the modification.

Create computers in the Asset Manager database

1 Start the Asset Manager Windows or Web client.
2 Display the computers (**Portfolio management/ Asset configurations/ IT equipment/ IT equipment** link).
3 Click **New**.

4 Populate the detail of the computer, and in particular the following fields and links:

Name of the field or link	SQL name of the field or link	Value
Network tab		
Physical address	PhysicalAddress	Computer identifier in the HP Discovery and Dependency Mapping Inventory database.
		The format of this identifier is **AB-CD-EF-GH-IJ-KL**.
		This identifier must be provided in order to find the computer in the HP Discovery and Dependency Mapping Inventory database.

View the computer in the HP Discovery and Dependency Mapping Inventory database from Asset Manager

1 Start the Asset Manager Windows or Web client.
2 Display the computers (**Portfolio management/ Asset configurations/ IT equipment/ IT equipment** link on the navigation bar).
3 Select the computer to display in the HP Discovery and Dependency Mapping Inventory database.
4 Display the **Hardware** tab.
5 Click the **Display the detail in Enterprise Discovery** link to display the page corresponding to the URL address associated with the link.

> ### Tip:
> If you are using the Windows client, the default Internet browser starts and displays the page corresponding to the URL address associated with the **Display the detail in Enterprise Discovery** link.

How did it work?

Asset Manager uses the **Enterprise Discovery** (sysCoreWebED) calculated field to generate an HTML **<A>** anchor with an **HREF** attribute whose label is **Display the detail in Enterprise Discovery**. This points to a URL address generated by concatenation:

■ Text strings
■ The URL address of the HP Discovery and Dependency Mapping Inventory defined by the **Edit the URL address of the application servers...** wizard (BstBackEndOpt)

- **Physical address** field of the computer

When you click the **Display the detail in Enterprise Discovery** link, Asset Manager processes the URL address.

Displaying incidents, changes and problems for the computer in the HP Service Manager database

From a computer detail, users can display the list of incidents, changes and problems declared for the computer in the HP Service Manager database.

Preliminary tasks

Make the HP Service Manager database accessible via Internet Explorer

Users who want to display the computer detail in the HP Service Manager database must be able to access the HP Service Manager database via Internet Explorer.

Import the **Portfolio - Line-of-business data** into your database

The **Portfolio - Line-of-business data** must be imported in order for the integration to work properly.

▶ Import the Portfolio - Line-of-business data into your database [page 64]

Declare the URL address of the HP Service Manager Web client

1 Start the Asset Manager Windows or Web client.
2 Start the **Edit the URL address of the application servers...** wizard (BstBackEndOpt) (**Administration/ Edit the URL address of the application servers...** link on the navigation bar).
3 Populate this wizard as follows:

Field	Value
Add and/or modify properties of the application servers page	
Name of the application server to add	If, in the lower part of the page, there is no line whose **Application HP Service Manager** column equals , populate this field with the value **HP Service Manager**, then click **Add the application server**.
List of applications, line whose **Application** column equals **HP Service Manager**, **Server's URL address** column	http or https://<HP Service Manager server name>:<Port used by HP Service Manager>
Summary page	
Verify the contents of the page and click **Finish**.	

Field	Value
If you are using the Windows client, click **OK** in the **Progress** page.	

> 📝 Note:
>
> If you are using the Windows client, you need to reconnect to the database to validate the modification.

Create the computers in the Asset Manager and HP Service Manager databases

In order for computers selected in the Asset Manager database to be found in the HP Service Manager database, they must be identified in the same way for the following fields:

	Table	Field
Asset Manager	Computers (amComputer)	Name (Name)
HP Service Manager	computer	logical.name

In order to automate reconciliation between the Asset Manager database and the HP Service Manager database, you can use HP Connect-It integration scenarios between Asset Manager and HP Service Manager or between an inventory tool and Asset Manager and between the same inventory tool and HP Service Manager.

View incidents, changes and problems for the computer in the HP Service Manager database

Windows client

1 Start the Windows client.
2 Display the computers (**Portfolio management/ Asset configurations/ IT equipment/ IT equipment** link on the navigation bar).
3 Display the computer detail.
4 Do one of the following tasks:

Objective	Action to perform
View incidents in HP Service Manager	Do one of the following tasks: ■ Click the **HP Service Manager** button. ■ Select **View incidents in HP Service Manager** from the contextual actions (**Actions** shortcut menu).
View changes in HP Service Manager	Select **View changes in HP Service Manager** from the contextual actions (**Actions** shortcut menu).

Objective	Action to perform
View problems in HP Service Manager	Select **View problems in HP Service Manager** from the contextual actions (**Actions** shortcut menu).

Web client

1 Start the Web client.
2 Display the list of computers (**Portfolio management/ Asset configurations/ IT equipment/ IT equipment** link on the navigation bar).
3 Select the computer from the list (check box in the left-hand column).
4 Do one of the following tasks:

Objective	Select the following value from the **Contextual actions** list.
View incidents in HP Service Manager	View incidents in HP Service Manager
View changes in HP Service Manager	View changes in HP Service Manager
View problems in HP Service Manager	View problems in HP Service Manager

How did it work?

To generate a URL address, Asset Manager uses the following calculated fields (**Administration/ System/ Calculated fields** link on the navigation bar):

- Changes in HP Service Manager (sysCoreWebSCChanges)
- Problems in HP Service Manager (sysCoreWebSCProblems)
- Incidents in HP Service Manager (sysCoreWebSCTickets)

To open the appropriate page of the HP Service Manager Web client, Asset Manager uses the following actions (**Administration/ Actions** link on the navigation bar):

- View changes in HP Service Manager (BstSCChanges)
- View problems in HP Service Manager (BstSCProblems)
- View incidents in HP Service Manager (BstSCTickets)
- View incidents in HP Service Manager (BstHP Service ManagerTickets)

These actions use the calculated fields to retrieve the URL of the HP Service Manager page to display.

Standard configurations

Standard configurations include a CPU, its standard peripheral devices and standard software applications. They correspond to the packaged offers that many IT suppliers provide.

Depending on your needs, you can manage the entire standard configuration as an individual asset, or you can manage each separate element of the configuration as its own asset and then associated them with each other.

Managing a standard configuration as an individual asset

To manage a standard configuration as an individual asset, you need to create a model corresponding to this configuration. Once the configurations that rely on this model have been created, you can associate them with other items in the portfolio that are not included in the configuration: consumables, new software, new peripheral devices, etc.

Advantages

Managing a standard configuration as an individual asset enables you to reduce the number of records you create. Since this standard configuration represents just one record in the Assets and Batches table, you reduce costs tied to tracking these assets financially: depreciation, individual purchasing price, simplified accounting, etc. On the other hand, tracking major changes (deletions, updates) of one of the configuration items can only be done with the help of a complex adjustment operation.

Managing standard configuration items as associated assets

To manage standard-configuration items as associated assets, you need to:

1 Create records corresponding to these assets in your portfolio (▶ Creating an asset [page 33])
2 Choose a main item among all those included in the standard configuration (example: the CPU).
3 Associate this main item with the other items in the configuration (▶ Portfolio items associated with an asset [page 34]).

Advantages

Managing a standard configuration as individual, associated assets enables you to track each item precisely. Thus, all you need to do to replace a keyboard, for example, is delete the link going to that keyboard and create a new link to the new keyboard that you are going to use instead.

Connections between computers

Asset Manager enables you to describe the connections that exist between computers.

The connection model used in Asset Manager describes a generic connection between computer A and computer B. You can customize this model and describe any type of connection you want, and, in particular, the Client/Server type connection. This idea of connections between computers can be found in the following parts of Asset Manager:

- In the **Ports** tab of a model detail (amModel) or an asset detail (amAsset).
- In the list of connection types (amCnxType).

Prerequisites

The connections are described in the **Ports** tab of an asset detail. This tab only appears if the **Can be connected** option has been selected for this asset's model in the Nature table. (▶ A nature's behavior criteria [page 24] and Natures [page 27]).

✎ Note:

A computer can have an unlimited number of ports, each one identified individually by a number. Each port, however, can only be involved in one connection.

Ports

The connection between two computers is created with ports. This connection is only valid when the port of computer A and the port of computer B are linked together. This connection is reciprocal: It appears in the **Ports** tab of details of all of the computers involved in the connection. A connection port can be:

- Occupied (linked to a port of another computer or to a different port of the same computer). In this case, it is described in the following way:

```
<Computer> <Port number> - <Port number> <Computer>
```

For example, the connection between computer A and computer B is described in the following way:

- In the detail of computer A:

```
<Computer A> <Port number of computer A> - <Port number of computer
B> <Computer B>
```

- In the detail of computer B:

```
<Computer B> <Port number of computer B> - <Port number of computer
A> <Computer A>
```

- Free (available for a connection). In this case, it is described in the following way:

```
<Computer> <Port number> -
```

Creating a connection

In this section, we will use an example to illustrate the method we use to create a connection between two computers: a server and a client post. The example breaks itself down into the following steps:

1 Creating a connection type.
2 Creating computers to connect.
3 Declaring the connection.
4 Providing supplementary information on the connection.

Creating a connection type

Creating a connection type enables you to link two types of ports, identified by the following fields:

- **Type** (SQL name: Type), which designates the source port.
- **Targ. type** (SQL name: TargetType), which designates the target port associated with the source port.

This relation only works in one direction. In a connection, selecting for your port a source port-type forces you to choose a destination-port type to which to connect it. On the other hand, selecting for your port a target-port type does not force you to choose the type of source port for the computer to which it is connected. The result is that, to create a reciprocal connection, you need to create two symmetrical connection types. For example, in the case of a Client/Server connection:

- From "Client" type to "Server" type.
- From "Server" type to "Client" type.

In this section, we are going to create a reciprocal Client/Server connection model. Selecting this model when you create the connection between computer A and computer B triggers the following automatic mechanisms:

- If the type of port for asset A is "Client", then type of port to which it is connected on asset B becomes "Server".
- If the type of a port on asset A is "Server", then the type of port to which it is connected on asset B becomes "Client".

> ✎ Note:
>
> This automatic mechanism is invoked only when the connection is created directly.

Opening the Connection types screen

Display the connection types (**Administration/ Connection types** link on the navigation bar).

Creating a Client/Server type of connection

Create the Client/Server type of connection by following these steps:

1 Click **New**.
2 Set the **Type** field to "Client".
3 Set the **Targ. type** field to "Server".
4 You can enter an additional description in the **Description** field (SQL name: memDescription), but this is not mandatory.
5 Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.

Creating a Server/Client type of connection

Create the Server/Client by following these steps:

1 Click **New**.
2 Set the **Type** field to "Server".
3 Set the **Targ. type** to "Client".
4 You can enter an additional description in the **Description** field (SQL name: memDescription), but this is not mandatory.
5 Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.

Creating the computers to connect

Step 1: Create two computer models

To create a server model and a client model, refer to the section Creating a computer model (example) [page 60].

When you create the computer models, populate the fields in the **Ports** tab. The computers later on created from these two models in the Assets table will inherit the features that you enter in this tab.

The following table shows you examples of a server model and a client model.

Server	Client
■ Sun Fire 15K ■ UltraSparc III 64-bit 900 MHz	■ HP VECTRA VL 800 computer ■ Intel® Pentium® 4 1.3 GHz processor ■ 128 Mo standard RDRAM memory ■ 40 GB hard drive

Once you have created your two computer models, you can create the computers' records in the Assets table using the information from the computer models (▶ Creating an asset [page 33]).

Step 2: Create the computers in the Assets table

Display the assets (**Asset lifecycle/ Infrastructure management/ Assets** link on the navigation bar).

Create two new assets by selecting for each one of them one of the two models previously created. Validate these creations by clicking **Create** (Windows client) or **Save** (Web client).

Declaring the connection

Methods for creating a connection

There are two ways to create a connection between two computers:

- Creating a port on each of the computers in question, then by attaching these ports to create the connection. We suggest you use this method to create connections.
- Creating the connection directly from either of the two computers.

We will connect two assets using both methods.

Create ports on each asset, then attaching these ports

From the list of records in the Assets and Batches table, select **Sun Fire 15K** and click the **Ports** tab in the asset detail. Now you will create a vacant port for this computer in the following steps:

1. Click ➕ (Windows client) or **Add** (Web client). Asset Manager displays the screen for creating connection ports on the **Sun Fire 15K**.
2. We simply want to create a vacant "Server"-type port. Consequently, the **Targ. asset** and **Targ. port** fields (SQL: TargetAsset and TargetPort) will be left empty. (These are the fields that enable you to identify the asset and the port of the asset to which you are connected.)
3. Set the **Port type** field (SQL name: Type) to "Server".
4. Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.
5. Note that the port is displayed in the **Ports** tab as:

```
1
```

Now you will perform the same operation for the **VECTRA VL 800** computer:

1. Select **VECTRA VL 800** and click the **Ports** tab in the asset detail.
2. Click ▪ (Windows client) or **Add** (Web client). Asset Manager displays the screen for creating connection ports for this asset.
3. Populate the **Type** field only; set its value to "Client".
4. Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.
5. Note that the port is displayed in the **Ports** tab as:

```
1
```

All that remains is to connect these two ports. You can do this from one of the two computers:

1. Select **Sun Fire 15K** and click the **Ports** tab.
2. Display the detail of port **1**:
   - Windows client: Select port **1** and then click ▪.
   - Web client: Display the detail of port **1** and click **Modify**.
3. Now populate the **Target asset** field (SQL name: TargetAsset) by selecting the **VECTRA VL 800** client.
4. The **Target port** field lists all the vacant ports for this asset.

> 🖉 Note:
>
> If you are using the Windows client, you can also choose a port directly from the list of ports by clicking ▪. When you choose a port from this list, Asset Manager automatically populates the **Target asset** field (SQL name: TargetAsset).

5. Click **Modify** (Windows client) or **Save** (Web client).
6. In the detail of the **Sun Fire 15K** asset, the connection is displayed as:

```
1 - 1 (<AssetTag of the target asset>)
```

In the detail of the **VECTRA VL 800** asset, the reciprocal connection is created, i.e.:

```
1 - 1 (<AssetTag of the target asset>)
```

7. The connection is validated.

Directly create a connection

> **Note:**
>
> To create this connection while keeping the previously created computers, you must delete the entries in the **Ports** tab for each of the computers. To do this, select them and then click - (Windows client) or **Delete** (Web client).

From the list of records in the Assets table, select **Sun Fire 15K** and click the **Ports** tab in the asset detail. Now you will create a connection to **Sun Fire 15K** using the following steps:

1 Click + (Windows client) or **Add** (Web client). Asset Manager displays the screen for creating connection ports on the **Sun Fire 15K** computer.
2 Populate the **Targ. asset** field (SQL name: TargetAsset) and set its value to **VECTRA VL 800**.
3 Set the **Type** to "Server".
4 Click **Add**.

Asset Manager automatically creates:

- A "Server" type port on the **Sun Fire 15K** computer.
- A "Client" type port on the **VECTRA VL 800** computer.
- A connection between these two ports.

Additional information on a connection

Asset Manager enables you to add information about a connection via the connection detail. In the asset detail, click the **Ports** tab, select an existing connection and click ◄ (Windows client) or **Modify** (Web client). Asset Manager displays the connection detail. Use the **Connection** field (SQL name: Connection) to define additional information.

> **Note:**
>
> No automatic calculations are associated with the fields in this screen. In particular, expense lines are not generated for expenses related to a connection.

Managing connections

This section explains how to manage a connection. You will find information on the following topics:

- Viewing the number of connections.
- Terminating a connection between two assets.
- Impact of deleting a connected asset.
- Impact of changing the port assignment of a connection.

View the number of connections

The information in the **Ports** tab of an asset detail enables you to track an asset's connections. The **Max no. connections** and **Current connections** fields (SQL names: sMaxCnxCount and sCnxCount) describe the number of possible connections and the actual number of connections for an asset, respectively. Asset Manager updates the **Current connections** field (SQL name: sCnxCount) when adding or deleting a connection.

📝 Note:

The **Max no. connections** field provides an approximate value; it does not trigger any automatic mechanisms. Asset Manager does not prevent you from creating an additional connection if the actual number of connections is greater than the number of possible connections.

Delete a connection between two assets

This is the procedure for deleting a connection:

1 Move to the detail of one of the assets.
2 Click the **Ports** tab and select the connection you want to delete.
3 Click ▨ (Windows client) or **Modify** (Web client). Asset Manager displays the connection detail.
4 Clear either the **Target asset** or the **Target port** fields (SQL names: TargetAsset and TargetPort) and click **Modify** (Windows client) or **Save** (Web client), Asset Manager deletes the connection between the two assets. As a result:
   - Additional connection information (accessible from the **Connection** field (SQL name: Connection)) is erased.
   - The ports used for the connection are freed.

📝 Note:

If you click ▬ (Windows client) or **Delete** (Web client) in the **Ports** tab of the detail of one of the connected assets, you will also delete the ports used in the connection.

Impact of deleting a connected asset

When you delete a connected asset, Asset Manager performs the following operations. It:

- Deletes all the connections associated with the asset.
- Deletes all the ports of the asset.
- Frees the ports of all the assets connected to the asset just deleted.

Impact of changing the port assignment of a connection

You can modify the assignment of a connection port by:

- Completely freeing the port; now it is available for a new connection.
- Connecting the port to a port other than the one originally assigned. In this case, the target port to which the port was previously connected is freed, and it is available for a new connection.

Mobile devices

Mobile devices correspond to communication devices and accessories such as mobile phones, PDAs, etc.

Like computers, mobile devices are stored as portfolio items. They are listed in the computers table and have specific fields.

You can view the mobiles devices via the **Portfolio management/ Asset configurations/ IT equipment/ Mobile devices** link on the navigation bar.

A mobile device can be linked to a service provider (for example, a telephone carrier).

Mobile devices can be managed in different ways:

- Creating mobile devices manually [page 79]
- Creating mobile devices automatically [page 83]

Creating mobile devices manually

Create natures

If none exist, create one or more mobile device natures:

1 Display the natures (**Portfolio management/ Asset configurations/ Natures** link on the navigation bar).
2 Add a nature.

   Populate in particular the following fields and links:

Name	SQL Name	Value
General tab		
Create	seBasis	Portfolio item
Also create	OverflowTbl	Computers (amComputer)

Name	SQL Name	Value
Type of equipment	seComputerType	Mobile device

Associating this type of nature to a portfolio item (via its model) determines how and on which screens information specific to mobile devices will be displayed.

To learn how to create a nature, please read paragraph ▶ Natures [page 27].

Instead of creating a nature manually, you can use the nature that is provided in the **Portfolio - Line-of-business** data after this data has been imported into your database.

To learn how to import the **Portfolio - Line-of-business data**: ▶ Import the Portfolio - Line-of-business data into your database [page 64].

After importing the line-of-business data, the **Mobile device** nature will be available.

Create mobile device models

Create the models that will be required when creating the portfolio items to represent the mobile devices that will be in the portfolio.

To learn how to create a model, please read paragraph ▶ Models [page 29].

The procedure for creating mobile device models is exactly the same as for creating any other model (▶ Models [page 29]). Once created, you need to link them to a mobile device nature (▶ Create natures [page 79]).

We recommend that you create several models to categorize your items and then create a model for each mobile device model that will be in your portfolio and link them to one of the categorization models.

Example of a model hierarchy used to categorize items:
- Mobile device
  - PDA
  - Mobile phone

Instead of creating models manually, you can use the models that are provided in the **Portfolio - Line-of-business** data after this data has been imported into your database.

To learn how to import the **Portfolio - Line-of-business data**: ▶ Import the Portfolio - Line-of-business data into your database [page 64]

After importing the line-of-business data, you will have a model structure that is organized as follows:
- IT and Telecom
  - Communications Devices and Accessories
    - **Mobile device**
      - **PDA**
      - **Mobile phone**

You can link the models that correspond to the mobile devices in your portfolio to one of the models in this model structure.

Create mobile devices

1 Display the mobile devices (**Portfolio management/ Asset configurations/ IT equipment/ Mobile devices** link on the navigation bar).

2 Add a mobile device.

Populate the **Model** (Model) link by selecting a mobile device model (▶ Create mobile device models [page 80]).

The following fields and links are specific to mobile devices:

Name	SQL Name
Status of the mobile device	MDStatus
Hardware tab	
ROM	lROMMb
External RAM	lExternalRAMMb
Network tab	
Telephone number	PhoneNum
Service providers tab	

This indicates the link to the service providers. You cannot update the **Resources** directly from the mobile device's record. You need to access the **Client-resource relationships** in order to do this (▶ Creating clients and resources involved in a business service [page 186]).

Create service provider models

You must create a model for each service provider. This model will be selected when creating the portfolio item used to represent the service provider.

There are no special constraints concerning the nature to which you are linking the models.

Create service providers

To create a service provider:

1 Display the portfolio items (**Asset lifecycle/ Infrastructure management/ Portfolio items** link on the navigation bar).

2 Add a portfolio item.

Populate the **Model** (Model) link by selecting a service provider model (▶ Create service provider models [page 81]).

Create client-resource relationship types

Asset Manager uses client-resource relationships to represent the link that exists between a mobile device and a service provider.

To describe your client-resource relationships accurately, you will need to use the correct client-resource relationship types (for example: **Uses the carrier's network**).

To create a client-resource relationship type:

1 Display the client-resource relationship types (**Asset lifecycle/ IT services and virtualization/ Business services/ Client-resource relationship types** link on the navigation bar).

2 Add a client-resource relationship type.

   You are only required to populate the mandatory fields, unless you want to manage your business services in greater detail (▶ Business services [page 183]).

Link mobile devices to service providers

To link a mobile device to a service provider:

1 Display the client-resource relationship (**Asset lifecycle/ IT services and virtualization/ Business services/ Client-resource relationship types** link on the navigation bar).

2 Add a client-resource relationship.

   Populate in particular the following fields and links:

Name	SQL Name	Value
Client	Client	Select the mobile device
Relationship type	CRType	Select the client-resource relationship type that exists between the mobile device and the service provider
Resource	Resource	Select the service provider

▶ Please read section Practical case: Create a mobile device [page 86] for an example on how to link to a service provider.

Create software installation models for software that is present on a mobile device

Create the models that will be required when creating the portfolio items to represent the software installations that are in use on a mobile device (antivirus, GPS navigator, etc).

The procedure for creating software installation models for software which is present on a mobile device is exactly the same as for creating any other model (▶ Models [page 29]).

We recommend the following:

■ First, create a **Software for mobile devices** model and link it to a software installation nature.

- Second, create a software installation model for each software application that is present on your mobile device.
- Third, link those models to the **Software for mobile devices** model.

Examples of the models hierarchy:
- Software for mobile devices
  - Cyberon VoiceCommander
  - Google Maps
  - Norton Antivirus

You can now create records in the **Software installations or utilizations** (amSoftInstall) table (**Portfolio management/ Asset configurations/ Software installations** link on the navigation bar) and link them to these models, as well as specify the mobile device on which the software is installed in the **IT equipment** (ParentPortfolio) field.

Note:

If you are using HP Discovery and Dependency Mapping Inventory to inventory the mobile devices and the software installed on these mobile devices, the `edac-mobiledevices.scn` HP Connect-It scenario (▶ Creating mobile devices automatically [page 83]) will automatically create the **Software for mobile devices** model.

This provides you with a model structure that is organized as follows:
- IT and Telecom
  - Software
    - Software installation
      - **Software for mobile devices**

The sub-models that are required for the software installations that are present on your mobile devices are created automatically by the `edac-mobiledevices.scn` HP Connect-It scenario (▶ Creating mobile devices automatically [page 83]) and are linked to the **Software for mobile devices** model.

HP Connect-It creates or updates the record in the **Software installations or utilizations** (amSoftInstall) table which is automatically associated with the portfolio item.

Creating mobile devices automatically

The most effective and reliable way to represent the status of your mobile devices portfolio is to use automatic network inventory tools such as HP Discovery and Dependency Mapping Inventory.

> ✎ Note:
>
> You can, of course, use other inventory tools. You must make the required changes to the HP Connect-It scenarios and the Asset Manager Automated Process Manager modules for them to work with your inventory software.

These tools are used to identify the mobile devices that are present in your portfolio and the software that is installed on those devices. Once the mobile devices have been inventoried, this information can be transferred to the Asset Manager database.

Prerequisites

- You must import the **Portfolio - Line-of-business** data before importing the mobile device data.

  ▸ Import the Portfolio - Line-of-business data into your database [page 64]

  This must be done because the HP Connect-It edac-mobiledevices.scn scenario requires the nature and model information that is included in the **Portfolio - Line-of-business** data.

- Do not delete the nature (**Mobile device**) nor the models (**Mobile device**, **PDA** and **Mobile phone**) that are imported.

- Do not modify the value of the nature's **Code** (Code) field, nor the value of the **Barcode** (BarCode) field of the imported models.

- If you decide to create your own natures and models different from those specified below, you will need to modify the edac-mobiledevices.scn HP Connect-It scenario.

Configure your environment to import the inventory database created using HP Discovery and Dependency Mapping Inventory

1 Perform the mobile device inventory using HP Discovery and Dependency Mapping Inventory. Use the version specified in the HP Connect-It Support Matrix that ships with Asset Manager 9.30 (available at www.hp.com/go/hpsoftwaresupport).

2 Install HP Connect-It in the version as provided with Asset Manager 9.30.

3 Start the HP Connect-It scenario builder.

4 Open the edac-mobiledevices.scn scenario (**File/ Open** menu).

   This scenario is located in the scenario\ed\ed<HP Discovery and Dependency Mapping Inventory version number>\ed<HP Discovery and Dependency Mapping Inventory version number>ac<Asset Manager version number> sub-folder of the HP Connect-It installation folder).

For example: `C:\Program Files\HP\Connect-It <Version number>` `<language>\scenario\ed\ed25\ed25ac93`.

5   Configure the **Enterprise Discovery** connector (select the connector in the scenario diagram, **Configure connector** shortcut menu).

On the **Select a connection type** wizard page, select a connection type and then populate the related pages in the wizard.

6   Configure the **Asset Manager** connector (select the connector in the scenario scheme, shortcut menu **Configure connector**).

Populate the **Define the connection parameters** page of the configuration wizard.

7   Save your modifications and then exit HP Connect-It.

8   Start Asset Manager Automated Process Manager.

9   Connect to the Asset Manager database (**File/Connect to database**).

10   Display the modules (**Tools/ Configure modules** menu).

11   Select the **Update mobile devices in the database using Enterprise Discovery inventory results** (EdAcMD) module.

12   Select the **Enabled** option.

13   Modify the **User data item** field as follows:

```
"$connectit_exedir$/conitsvc.exe" -once -wpplog '$connectit_exedir$/../
scenario/ed/ed2ac$version$/edac-mobiledevices.scn' -dc:'Asset Managemen
t.SERVER'=$cnx$ -dc:'Asset Management.LOGIN'=$login$ -dc:'Asset Managem
ent.TEXTPASSWORD'=$pwd$
```

Replace the number **2** with the version number of HP Discovery and Dependency Mapping Inventory that you are using.

14   Define the frequency of the **Update all mobile devices in the database using the Enterprise Discovery inventory results** module (**Verification schedules** frame.)

15   Save your modifications (**Modify** button).

16   Exit Asset Manager Automated Process Manager.

Import the inventory database obtained by HP Discovery and Dependency Mapping Inventory

Importing the inventory database

Asset Manager Automated Process Manager, when running in the background with the appropriate modules activated, automatically imports the information from the HP Discovery and Dependency Mapping Inventory inventory database.

What is imported from the HP Discovery and Dependency Mapping Inventory inventory database

What's imported	Result in Asset Manager
Mobile devices	Portfolio item + model
Service providers	Portfolio item + model
Links between mobile devices and service providers	Client-resource relationship + Client-resource relationship type
Software installations present on a mobile device	Model + item in the **Software installations** (amSoftInstall) table

Result of the import in the Asset Manager database

The missing portfolio items, models and client-resource relationships are added to the Asset Manager database.

If they already exist, they are updated.

The **Uses the carrier's network** client-resource relationship type is created if it is missing.

> ⚠ Warning:
>
> Mobile devices and service providers that are deleted from the HP Discovery and Dependency Mapping Inventory database are not deleted from the Asset Manager database.

Practical case: Create a mobile device

In this practical case you will create a record for a **PDA HP iPAQ hx2790** that is linked to telephone carrier **AT&T Mobility (AT&T)**.

Prerequisites

If you are not using the demonstration database, you will need to import the **Portfolio - Line-of-business data** (▶ Import the Portfolio - Line-of-business data into your database [page 64]).

Step 1: Creating the telephone carrier

Creating the brand

1 Display the brands (**Portfolio management/ Catalog/ Brands** link on the navigation bar).
2 Add a new record and populate the fields and links specified in the following table:

Name	SQL Name	Value
Name	Name	000/AT&T

3 Click **Create** (Windows client) or **Save** (Web client) to confirm the creation.

Creating the model

1 Display the models (**Portfolio management/ Asset configurations/ Models** link on the navigation bar).

2 Add a new record and populate the fields and links specified in the following table:

Name	SQL Name	Value
Name	Name	000/AT&T Mobility
Brand	Brand	000/AT&T
General tab		
Nature	Nature	Standard asset

3 Click **Create** (Windows client) or **Save** (Web client) to confirm the creation.

Creating the portfolio item

1 Display the portfolio items (**Asset lifecycle/ Infrastructure management/ Portfolio items** link on the navigation bar).

2 Add a new record and populate the fields and links specified in the following table:

Name	SQL Name	Value
Model	Model	000/AT&T Mobility
Assignment	seAssignment	In use

3 Click **Create** (Windows client) or **Save** (Web client) to confirm the creation.

Step 2: Creating the mobile device

Creating the brand

1 Display the brands (**Portfolio management/ Catalog/ Brands** link on the navigation bar).

2 Add a new record and populate the fields and links specified in the following table:

Name	SQL Name	Value
Name	Name	000/Hewlett Packard

3 Click **Create** (Windows client) or **Save** (Web client) to confirm the creation.

Creating the model

1 Display the models (**Asset lifecycle/ Infrastructure management/ Models** link on the navigation bar).

2 Add a new record and populate the fields and links specified in the following table:

Name	SQL Name	Value
Name	Name	000/HP iPAQ hx2790
Sub-model of	Parent	PDA
Brand	Brand	000/Hewlett Packard
General tab		
Nature	Nature	Mobile device

3 Click **Create** (Windows client) or **Save** (Web client) to confirm the creation.

Creating the mobile device

1 Display the mobile devices (**Portfolio management/ Asset configurations/ IT equipment/ Mobile devices** link on the navigation bar).

2 Add a new record and populate the fields and links specified in the following table:

Name	SQL Name	Value
General tab		
Model	Model	000/HP iPAQ hx2790
Click **Create** (Windows client)		
General tab		
Assignment	seAssignment	In use
Hardware tab		
ROM	lROMMb	192
External RAM	lExternalRAMMb	1000
Network tab		
Telephone number	PhoneNum	555-9635

3 Click **Modify** (Windows client) or **Save** (Web client) to confirm the creation.

Step 3: Creating the client-resource relationship

Creating the client-resource relationship type

1 Display the client-resource relationship types (**Asset lifecycle/ IT services and virtualization/ Business services/ Client-resource relationship types** link on the navigation bar).

2 Add a new record and populate the fields and links specified in the following table:

Name	SQL Name	Value
Name	Name	000/Uses the provider's network

3 Click **Create** (Windows client) or **Save** (Web client) to confirm the creation.

Creating the client-resource relationship

1 Display the client-resource relationship (**Asset lifecycle/ IT services and virtualization/ Business services/ Client-resource relationship types** link on the navigation bar).

2 Add a new record and populate the fields and links specified in the following table:

Name	SQL Name	Value
General tab		
Client	Client	Select the **000/Hewlett Packard 000/HP iPAQ hx2790** record.
Relationship type	CRType	000/Uses the provider's network
Resource	Resource	Select the **000/AT&T 000/AT&T Mobility** record

3 Click **Create** (Windows client) or **Save** (Web client) to confirm the creation.

Checking that the mobile device has been created

1 Display the mobile devices (**Portfolio management/ Asset configurations/ IT equipment/ Mobile devices** link on the navigation bar).

2 Select the **000/HP iPAQ hx2790** record.

3 On the **Service providers** tab, make sure you see the **000/AT&T 000/AT&T Mobility** resource.

Virtual environments

General overview

Asset Manager enables you to describe virtual environments.

Virtual environment components include:

- **Virtual machines**
- **Virtual machine hosts**: physical computers on which a **virtual machine management software** is installed

  Examples: ESX Server, Solaris Zoning
- **Virtual machine management software**: software installed on a **virtual machine host** and managing **virtual machines**
- **Virtual environment management servers**: physical computers on which a **virtual environment management software** is installed

  Examples: VMWare VirtualCenter
- **Virtual environment management software**: software installed on a **virtual machine host** and managing **virtual environments**

Relationships between some of those components are described:

- Between **Virtual machines** and **Virtual machine hosts**: using the **Component of** (Parent) link in the **Portfolio items** (amPortfolio) table as well as a client-resource relationship (with a **Manages VM** (ManagesVm) client-resource relationship type.
- Between **Virtual machine hosts** and **Virtual environment management servers**: using client-resource relationships (with a **Manages VM host** (ManagesVmHost) client-resource relationship type.

A business service is created and associated to the client-resource relationships for each:

- **Virtual machine host**
- **Virtual environment management server**

You can create virtual environment components either manually or by importing data from HP Discovery and Dependency Mapping Inventory using HP Connect-It.

This section covers the following topics:

Preliminary tasks

Before you are able to create virtual environments in Asset Manager either manually or through a HP Discovery and Dependency Mapping Inventory import using HP Connect-It, you need to perform the preliminary tasks described in this section.

Import the **Virtualization - Line-of-business data** into your database

Thes line-of-business data contain:

- Client-resource relationship types:
  - Manages VM host (ManagesVmHost)
  - Manages VM (ManagesVm)
- Natures:
  - Virtual machine (CPUVM)
  - Business service (BIZSVC)
- Models:
  - Virtual machine (VMCPU)
  - VMware ESX Server (SIESX)
  - VMware VirtualCenter (SIVC)
  - VMware ESX Server (ESXSERVER)
  - VirtualCenter Server (VCSERVER)
  - Virtual machine management software (SIVM)
- **Dashboard** type actions:
  - ◆ Dashboard: Virtualization (BstVirtualizDashBoard)
- Statistics:
  - Breakdown of physical computers versus virtual machines (StdStatVirtPhys_virt)
  - Breakdown of virtual machines by Oper. System (StdStatVirtOS_virt)
  - Breakdown of virtual machines by State (StdStatVirtStatus_virt)
  - Breakdown of virtual machines per CPU speed (StdStatVirtCPUSpeed_virt)
  - Breakdown of virtual machines by Assignment (BstStatVMsByAssignment_virt)

Importing the Line-of-business data when you create the database

Follow the instructions in the **Administration** guide, chapter **Creating, modifying and deleting an Asset Manager database/ Creating the database structure with Asset Manager Application Designer**.

On the **Data to import** page, select the **Virtualization - Line-of-business data** option.

Importing the Line-of-business data into an existing database

Proceed in the following manner:

1 Execute Asset Manager Application Designer.
2 Select the **File/ Open** menu item.
3 Select the **Open database description file - create new database** option.
4 Select the gbbase.xml file which is located in the config sub-folder of the Asset Manager installation folder.
5 Start the database creation wizard (**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 connection to the database into which you wish to import the line-of-business data.
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 Asset Manager database administrator is the record in the **Employees and departments** (amEmplDept) table for which the **Name** (Name) field is set to **Admin**.
	The database connection login is 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 **Virtualization - Line-of-business data** option
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   Click **Finish** to execute the options defined using the wizard.

Importing virtual environments from HP Discovery and Dependency Mapping Inventory

This section describes how to import data from HP Discovery and Dependency Mapping Inventory to Asset Manager using HP Connect-It.

Supported product versions

HP Discovery and Dependency Mapping Inventory must be version 7.50 or above.

HP Connect-It must be version 3.90 or above.

Overview of the integration

The integration of Asset Manager and HP Discovery and Dependency Mapping Inventory is based around HP Connect-It scenarios delivered with HP Connect-It.

These scenarios support one-way integration from HP Discovery and Dependency Mapping Inventory to Asset Manager, permitting data in mapped fields to be transferred.

▶ To know what virtual environment components and relationships between some of those components are transferred, refer to General overview [page 90].

Enabling the integration

The integration assumes that the components included in **Virtualization - Line-of-business data** have been imported in the Asset Manager database.

▶ Preliminary tasks [page 91].

The HP Connect-It scenarios can then transfer data that can be linked to the natures, models and client-resource relationship types imported from the **Virtualization - Line-of-business data**.

Use the appropriate HP Connect-It scenario

You will find the following scenario files under `<HP Connect-It installation folder>\scenario\ed\ddmi<HP Discovery and Dependency Mapping Inventory version>\ddmi<HP Discovery and Dependency Mapping Inventory version>am93>`:

- ddmiac.scn
- ddmiac-hpovcmse.scn
- ddmiac-reconc.scn
- ddmi-swnorm.scn

You have to select one and only one of these scenarios to perform the transfer.

They all transfer virtual environment components and relationships the same way.

Differences between these scenarios are not related to the way virtual environments are transferred but to other criteria.

▶ Refer to the HP Connect-It documentation to understand which scenario to choose.

How does HP Discovery and Dependency Mapping Inventory identify a virtual machine

HP Discovery and Dependency Mapping Inventory identifies that a machine is virtual and not physical in one of the following ways:

- The machine is linked to another machine using the **VirtualDevice** link.
- If there is no such link, the value of the **Name** field for the HP Discovery and Dependency Mapping Inventory machine is found in the map table.

> ### ✎ Note:
> The standard procedure should flag all virtual machines as such during the transfer to Asset Manager. However, if for any reason some machines are not correctly flagged, use the following workaround:

1 Run the HP Connect-It Scenario Builder.
2 Open the scenario you are using.
3 Select the **Scenario/ Maptables...** menu.
4 Select the **ddmi.mpt** maptable.
5 Search for **MapTable UnmanagedVMTypes**.
6 Add the name of the machine that should be transferred as a virtual machine to Asset Manager.

   Use the value **Name** filed in HP Discovery and Dependency Mapping Inventory for the machine.

How does DDMI; identify a computer is a **Virtual machine host** or a **Virtual environment management server**

Virtual machine hosts and **Virtual environment management servers** are computers that are linked to another computer using the **VirtualLink** link.

Reference Documents

Asset Manager, HP Connect-It and HP Discovery and Dependency Mapping Inventory are each provided with comprehensive installation, user and reference guides, to which you should refer as required for further details and in-depth explanations of the concepts mentioned in this section.

Create virtual machines manually

1 Display the virtual machines (**Portfolio Management/ Asset configurations/ IT equipment/ Virtual machines** link on the navigation bar).
2 Add a virtual machine.

   Populate the **Model** link (Model) by selecting a virtual machine model (▶ Preliminary tasks [page 91]).

The fields and links specific to virtual machines are:

Label	SQL name
Host	sysCoreVMParent
This field is for informational purposes only: A calculated field indicates the host machine on which the virtual machine is installed.	
General tab	
Installation folder	Folder
Serial #	SerialNo
Hardware tab	
Virtualization type	VmType
State of the virtual machine	VmStatus
Max. CPUs	fMaxCpu
Min CPUs	fMinCpu
Max. RAM	lMaxMemory
Min. RAM	lMinMemory

Manually specify the host of a virtual machine

The host of a virtual machine cannot be selected directly in the screen displayed by the **Portfolio Management/ Asset configurations/ IT equipment/ Virtual machines** link on the navigation bar.

To specify the host machine (element in the **Computers** (amComputer) table) on which the virtual machine is installed:

1 Display the portfolio items (**Asset lifecycle/ Infrastructure management/ Portfolio items** link on the navigation bar).
2 Display the virtual machine details.
3 In the **Component of** (Parent) link, select the host computer.
4 Save your changes.

Display a dashboard on your virtualization environments

Click the **Portfolio management/ Asset configurations/ IT equipment/ Dashboard: Virtualization** link on the navigation bar.

Display virtual environment management servers

1 Click the **Portfolio management/ Asset configurations/ IT equipment/ Virtual environment management servers** link on the navigation bar.

4 Telephones

Telephones in Asset Manager are considered as portfolio items. If you decide to manage them as assets, they can be recorded in the Telephones table.

Telephones and functions

All of the management types can be used to describe telephones (▶ Individualized management (by asset) [page 16]).

In Asset Manager, the following tables are concerned by telephone management:

- The Natures table

  In this table, you define the model of a portfolio item as being able to create a record in the Assets and Telephones tables.
- The Models table

  In this table, you create the models of the portfolio items that are recorded in the Assets and Telephones tables.
- The Telephones table

  This table contains all the records corresponding to telephones.
- The Assignments of functions to keys table
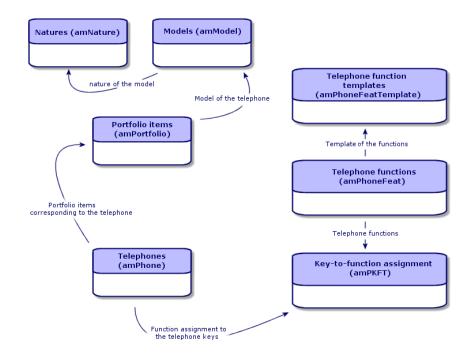
  In this table, you associate functions with telephone keys.
- The Telephone function templates table

  This table enables you to create telephone function templates.
- The Telephone functions table

This table enables you to see the telephone functions used by your company's telephone population.

Telephone management

Managing telephones in Asset Manager consists of:
- Recording them in the Telephones table.
- Associating certain functions with their keys.

To consult the detail of a record in the Telephones table, perform the following steps:
- Display the telephones (**Portfolio management/ Asset configurations/ Telephony/ Telephones** link on the navigation bar).
- Select a record that corresponds to a telephone in the Assets table, then select the **Telephone** tab.

> **Warning:**
>
> If the **Telephone** tab does not appear in the detail of an asset, it means that the nature of its model does not indicate **Telephone** in its **Also create** field.

Creating telephones

To create a telephone:

1 Create a nature whose **Create** and **Also create** fields are set to **Portfolio item** and **Telephone**, respectively.

 ▶ Creating the nature for a portfolio item [page 28]

2 Create a telephone model.

3 Create a record in the Assets table that corresponds to your telephone.

 This record automatically creates a record in the Telephones table.

4 Select the **Telephone** tab.

5 Enter the phone number and the extension of this telephone.

6 You can select the **Voice mail** and **Speakerphone** options depending on the specific functions of the telephone.

7 Populate the **Call forward to** link by indicating the telephone to which the call is forwarded to. This link points toward another record in the Telephones table.

8 In the **Call line ID** field, indicate the telephone's CLI (Command-line interface) number.

9 Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.

Associating a function with a telephone key

Before you can associate a function with a telephone key, you must first create a telephone function template then create the function.

Note:

You need to Create function templates [page 99] and Create functions [page 99] in the Windows client.

Create function templates

To create a function:

1 Display the list of telephone function templates via the **Administration/ List of screens** menu.

2 Create the function template by populating the **Description** field.

Create functions

To create a function:

1 Display the list of telephone functions via the **Administration/ List of screens** menu.

2 Click **New**.

3 Enter a value in the **Description** field.

4 Populate the **Model** link with the template of the telephone function that you previously created.

5 Select the **Toggle feature** if this function can be activated or deactivated from the codes that you indicate in the fields appearing in the selection of this option.

6 Select the **Identification required** option if the use of this function necessitates an identification code.

Associate a function with a telephone key

To associate a function with a telephone key:

1 Display the portfolio items (**Asset lifecycle/ Infrastructure management/ Portfolio items** link on the navigation bar).

2 Select a record corresponding to a telephone.

3 Select the **Telephone** tab.

4 Select the **Functions** sub-tab.

5 Click ⊞ (Windows client) or **Add** (Web client).

6 In the **Starting key** field, indicate the number of the first key having a function on the telephone. In most cases, the first key is either 1 or 0. If the first key is a 0, the number of keys having functions on the telephone is equal to n + the key 0.

If **0** is the first key on the telephone, the key **5** is in the 6th position on the telephone.

7 In the **Number of keys** field, indicate the number of keys with which you can associate functions. Don't forget to add 1 to this number of keys if 0 is indicated in the **Starting key** field.

8 Populate the **Function** link with the function that you want to associate with the telephone key.

9 Click **Add**.

5   Helpdesk

General overview

The Asset Manager helpdesk is designed for technical support teams that are sufficiently well-structured to be able to benefit from a program that formally organizes the problem-solving cycle.

Among the most habitual users of the Helpdesk function are the:
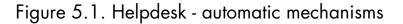
- Technicians in charge of helpdesk calls.
- Engineers and technicians in charge of helpdesk tickets.
- Helpdesk group supervisors.
- Helpdesk department supervisors.
- IT managers.
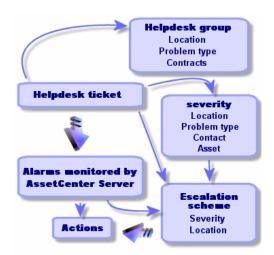
To make the most efficient use of your helpdesk, Asset Manager organizes the work of the technical support team, from answering help requests to the final resolution of problems, following the process in detail.

If your helpdesk team has few members or is loosely structured, you may be able to use the "Work order records". Refer to Work orders [page 221] and Projects [page 227].

How Helpdesk works

The following diagram shows a few of the automated procedures that form the structure of the Asset Manager helpdesk:

Figure 5.1. Helpdesk - automatic mechanisms

When a helpdesk ticket is opened:

1 It is assigned to a helpdesk group and to a particular member of that group. Asset Manager automatically proposes a member of the helpdesk group according to the location of the asset with a problem and the type of problem. When the DBMSs support double outer-joins, the automatic group-selection procedure goes a step further: Any contracts relating to the helpdesk groups are taking into consideration before assigning a ticket to a particular group.

> ⚠ Warning:
>
> To obtain the list of DBMSs supporting double outer-joins, refer to section DBMSs supporting double outer-joins [page 182].

2 To automatically assign an escalation scheme to the helpdesk ticket, Asset Manager uses an intermediate concept called "severity". Asset Manager automatically assigns a severity level to the ticket, according to the type of problem, the person and the asset concerned by the ticket, and the asset location.

3 After establishing the severity, Asset Manager can finally determine the escalation scheme for the ticket, which depends not only on the severity, but on the asset location as well.

4 The escalation scheme defines the actions to trigger, depending on the progression of the helpdesk ticket's processing:

- Certain actions are defined in the alarms monitored by Asset Manager Automated Process Manager. These alarms measure the progress on the helpdesk ticket over time.
- Other actions are triggered when someone changes the assignment or the status of the ticket (ticket open, waiting for assignment, closed, etc.).

This is a very general overview of helpdesk management using Asset Manager. Look through the rest of this manual for further information.

Typical players and tasks of the Helpdesk function

This section uses real-life examples to help you understand how to divide the support tasks among different members of the helpdesk team. The way in which you divide up tasks depends on the size of your team and how it is structured.

The division you choose will be formalized using the user profile that an Asset Manager administrator assigns to the players in the helpdesk team.

Players in the helpdesk team

Self-service user (Helpdesk user without catalog access): users who are not members of the helpdesk group, while can create and view their own tickets.

Operator: employee whose major task is to record help requests. The level of technical competence of this person depends on how your organization is structured.

Person responsible for ticket (Ticket supervisor or assignee): technically competent individual. This person may answer the initial call, or may be involved in a deferred reply. They mainly work on helpdesk tickets.

Helpdesk group: group of technicians with similar areas of competence for a given group of locations and possibly involved in a given contract.

Helpdesk group supervisor: person who manages a group of helpdesk technicians. This person may be involved in the initial call or only in a deferred reply. The supervisor's main function is to oversee the activities of the helpdesk employees.

Helpdesk administrator: person who supervises all activity relating to the helpdesk.

Tasks to be performed

- Recording the problems encountered.
- Assigning the tickets.
- Solving the problems and managing the helpdesk tickets.
- Supervising the activities.
- Consulting messages and news items.

The structure of your team and the capabilities of the individuals will determine how your players divide up the work.

Self-service user

They can create new tickets for reporting the problems they have encountered.
- They can view their open and closed tickets.
- They can update their submitted tickets (modifying the associated asset, the problem type, descriptions and reassigning the escalation scheme.)
- They can close their submitted tickets when needed.

Operators

- In all cases: They record requests.
- If they are technically competent: They provide first-level technical support. They create tickets that are closed immediately if the problem has been solved and open tickets if the problem must be solved later.
- If they are not technically competent they systematically create helpdesk tickets.
- If they are also ticket supervisors, they can access the helpdesk ticket details for their group.

Ticket supervisors

- If the team is not highly structured: They record help requests from the beginning, like operators.
- If the team is more structured: They never create tickets during calls. Instead they start the work on tickets that have been assigned to them by the group supervisor, the helpdesk administrator, or by themselves by working on tickets assigned to their group.
- In all cases: Helpdesk ticket supervisors mainly work on helpdesk tickets that have been assigned to them.

Helpdesk administrator

Their role is to define helpdesk groups, severities, schedules, escalation schemes, ticket features, problem types and the structure of the decision tree.

In some cases, the helpdesk administrator assigns tickets created by the operators to the competent helpdesk ticket supervisors.

Key concepts used in the Helpdesk function

This section covers the key terms applied to helpdesk management. This information is grouped into four categories:

Items that help you manage the problem solving cycle. These elements enable you to record problems and track their resolution:

- Helpdesk tickets
- Work orders
- News items
- The knowledge base
- The decision tree

Items that help you structure the management of the helpdesk. These items are defined when you set up your Asset Manager helpdesk, and they follow the evolution of the helpdesk group.

- Helpdesk groups
- Problem types
- Severities
- Business-day calendars
- Escalation schemes

Tools to help record problems:

- The answer-call wizard
- The self-service wizard

Main roles in the helpdesk team:

- Helpdesk administrator
- Helpdesk group supervisor
- Ticket supervisor

Other roles:

- Self-service user

All these concepts are described in the chapter Helpdesk [page 250].

We recommend that you read about these concepts before advancing further in this guide.

Steps in implementing the Helpdesk function

In order to implement the helpdesk under optimal conditions, we recommend following the steps detailed below:

1 Analyze your organization first.

In order to implement the helpdesk using Asset Manager, you must make a preliminary study of your organization: analyze the support teams and their competence, how helpdesk questions are processed, etc.

2 Configure the messaging system.

3 If necessary, modify the parameters displayed by the **Edit/ Options** menu, in the **Helpdesk** group.

4 Configure and execute Asset Manager Automated Process Manager.

5 After completing this analysis, you can define various items that form the basic structure of your helpdesk: helpdesk groups, escalation schemes, etc. By defining these items, you set up automatic procedures (automatically assigning escalation schemes to open helpdesk tickets, triggering actions when helpdesk tickets are opened, assigning maximum resolution dates, etc.).

Practical cases

Scenario 1: Problem solved during the initial call.

Step 1: You receive a call from a user.

Display the answer-call wizard using the **Asset lifecycle/ Helpdesk/ User actions/ Answer call** navigation link.

Windows client only

Or you can display the wizard by pressing **F2** if you are using the Windows client.

Step 2: You take the details of the user.

1 Enter the **Caller** name and click **Next**.

2 Modify the **Contact** if necessary (the **Contact** is the caller by default) and click **Next**.

3 Select the asset in question and click **Next**.

4 Skip the "Helpdesk ticket" selection page.

5 Specify the **Problem type** and click **Next**.

6 Assign the **Severity** and **Escalation scheme**.

7 Select the **Complete a ticket** action item and click **Finish**.

Windows client only

If the wizard is displayed by pressing **F2**, fill in the answer call screen as shown below:

To do this, click 🔧 Solve to the right of the ticket detail screen (Windows client)
or select **Solve** from the **Action** drop-down list (Web client).

1 Ask the user the question in the **Questions** frame.
2 Select a response and click **Next**.
3 Predefined solutions to the problem appear in the **Solutions** frame. Examine
   these solutions by selecting the **Details** box.

Windows client only

If the wizard is displayed by pressing **F2**, click the **Description** field, enter
some information, then use the right portion of the screen, labeled **Resolution**.

Step 4: You end the call.

■ If a standard solution exists

   Select this solution and then click the **Select** button.

   A **Closed** ticket is automatically created with the information you enter.
   To view it, display the table of helpdesk tickets via the **Asset lifecycle/
   Helpdesk/ Helpdesk tickets** navigation link, and select the ticket.

Use the ticket number appearing in the title bar of the answer call window to find the ticket in its table.

- If no standard solution exists

Describe the problem and its solution in the **Description** frame and click **Close**.

A **Closed** ticket is automatically created with the information you enter.

If the wizard is displayed by pressing **F2**, describe the problem and its solution in the **Description** frame in the left-hand window and click [🔵 Close the ticket] when there is no standard solution.

Scenario 2: Problem already saved as a helpdesk ticket.

Step 1: You receive a call from a user.

Display the answer-call wizard using the **Asset lifecycle/ Helpdesk/ User actions/ Answer call** navigation link.

Or you can display the wizard by pressing **F2** if you are using the Windows client.

Step 2: You fill in the information on the selected ticket.

1. Enter the **Caller** name and click **Next**.
2. Modify the **Contact** if necessary (the **Contact** is the caller by default) and click **Next**.
3. Skip the "Asset" selection page.
4. Select the ticket and click **Next**.
5. Specify the **Problem type** and click **Next**.
6. Assign the **Severity** and **Escalation scheme**.

If the wizard is displayed by pressing **F2**, fill in the answer call screen as shown below:

Step 3: You end the call.

- If the problem still is not solved

  Select the **Save a call** option and click **Next**.

  The ticket is modified according to what you entered in Step 2.

- If the problem is solved

  Select the **Close a ticket** option and click **Next**.

The ticket is modified according to what you entered in Step 2. The ticket status is set to **Closed**.

- If you need to access a ticket detail

  Select the **Proceed with a ticket** or **Complete a ticket** option and click **Next**.

  The ticket is modified according to what you entered in Step 2 and you may continue to modify it.

  Using the **Complete a ticket** action, in contrast to the **Proceed with a ticket** action, Asset Manager does not modify the **Status** or **Assigned** fields in the ticket detail.

Windows client only

If the wizard is displayed by pressing **F2**:

- If the problem still is not solved

  Click the **Save call** button.

  The ticket is modified according to what you entered in the left-hand box.

- If the problem is solved

  Click the **Close the ticket** button.

  The ticket is modified according to what you entered in the left-hand box. The ticket status is set to **Closed**.

- If you need to access a ticket detail

  Click **Proceed...** or **Fill out...**

  The ticket is modified according to what you entered in the left-hand box and you may continue to modify it.

  Using the **Fill out...** button, in contrast to the **Proceed...** button, Asset Manager does not modify the **Status** or **Assigned** fields in the ticket detail.

Scenario 3: Problem that must be resolved later.

Step 1: You receive a call from a user.

Display the answer-call wizard using the **Asset lifecycle/ Helpdesk/ User actions/ Answer call** navigation link.

Windows client only

Or you can display the wizard by pressing **F2** if you are using the Windows client.

1 Enter the **Caller** name and click **Next**.

2 Modify the **Contact** if necessary (the **Contact** is the caller by default) and click **Next**.

3 Select the asset and click **Next**.

4 Skip the "Helpdesk ticket" selection page.

5 Specify the **Problem type** and click **Next**.

6 Assign the **Severity** and **Escalation scheme**.

7 Select the **Complete a ticket** action item and click **Finish**.

Windows client only

If the wizard is displayed by pressing **F2**, fill in the answer call screen as shown below:

Step 3: You look for a solution to the problem.

Click 🔧 Solve to the right of the ticket detail screen and read the **Questions** section of the **Resolution** window to examine the problem with the user. The list of questions has been created in advance in the decision tree (**Asset lifecycle/ Helpdesk/ Decision tree** menu).

Read the **Description** section to see if a standard solution already exists.

In this example, let's imagine that the problem cannot be solved during the call.

Windows client only

If the wizard is displayed by pressing **F2**, read the **Questions** section to examine the problem with the user.

Step 4: You create a helpdesk ticket to store the problem.

This step only applies to the wizard displayed by pressing **F2** in the Windows client, if you are using the wizard through **Asset lifecycle/ Helpdesk/ User actions/ Answer call** navigation link, you can ignore this step because the ticket is already created in Step 2.

Click the button.

Step 5: You manage the existing helpdesk ticket.

There are several ways to display the list of helpdesk tickets currently being processed:

- **Asset lifecycle/ Helpdesk/ Helpdesk tickets** navigation link.

  This menu displays the list of all helpdesk tickets.

  The filters in the **Helpdesk tickets** specific menu let you select the tickets according to the criteria you define.

- **Asset lifecycle/ Helpdesk/ Dashboard** menu

  This menu displays the list of helpdesk tickets whose status is neither **Closed** nor **Closed and verified**.

  The Dashboard changes depending on the person who displays it: the Helpdesk administrator, Group supervisor or simply a Member of a helpdesk group.

  The button displays the list of helpdesk tickets assigned to a technician or a group selected in the Dashboard.

To create a work order record within a helpdesk ticket:

To create a work order record within a helpdesk ticket, first display the ticket detail, then

- click to the right of the ticket detail (Windows client) or select **Work Order** from the **Action** drop-down list (Web client).

- or select the **Work Order** tab and use the button (Windows client) or **Add** (Web client) to add work orders attached to the helpdesk ticket.

To close a ticket:

When the ticket has been definitively processed, display the ticket detail and click . Asset Manager creates a history of the ticket in the **Activity** tab, modifies the **Description** field (SQL name: Description) in the **General** tab, adjusts the date of closure in the **Closure** tab and modifies the **Status** (SQL name: seStatus) of the ticket. You may also make another step by assigning

the value **Closed and verified** to the **Status** field when you have verified the ticket with the user.

Self service

The self-service wizard extends the helpdesk functionality by enabling employees to create, update and close tickets by themselves. This chapter explains how to use Asset Manager's self-service wizard, which is available via the **Asset lifecycle/ Helpdesk/ User actions/ Self service** navigation link.

This wizard facilitates users to create new tickets, view their open and closed tickets, update the details of the open tickets they have submitted before and close the tickets by themselves when necessary.

Using the self-service wizard

The self-service wizard page is composed of two parts. The left part contains six action buttons; and the right part displays the query results.

After you have launched the self-service wizard, you can perform the following operations.

View open and closed tickets

The open ticket list titled "xxx's open tickets" is automatically displayed on the right upon running the wizard; where 'xxx' stands for the current user name. To view each of the ticket detail,

1 Select the ticket you want to query from the open ticket list.
2 Click **View ticket**.
3 Click **Return to tickets** to go back to the list view, and repeat step 1-3 to view other ticket details.

To view the closed tickets, make sure you are in the initial state of the wizard page (with the open ticket list displayed on the right).

1 Click **View closed tickets**.
2 Select the ticket you want to query from the closed ticket list.
3 Click **View ticket**.
4 Click **Return to tickets** to go back to the list view, and repeat step 1-4 to view other ticket details.

Create a new ticket

1 Click **Open a new ticket**.
2 Populate the ticket attributes.

3 Click **OK**.

A new ticket with status "Awaiting assignment" is automatically saved in the Helpdesk tickets table. The helpdesk group will receive the ticket and respond to it.

Add additional information after ticket creation

You can add comments to the open ticket you have submitted previously.

1 Select the ticket you want to update from the open ticket list.
2 Click **Update ticket**.
3 Enter the information in the **Comments** field and click the tick to verify.
4 Click **OK**.

Close the ticket

You can close the ticket when needed. For example, you have already found out the solution; thus, no longer need the helpdesk engineer's help.

1 Select the ticket you want to close from the your open ticket list.
2 Click **Close ticket**.
3 Enter the **Resolution** notes and click the tick to verify the information.
4 Click **OK**.

Answering calls

This chapter explains how to use Asset Manager's answer-call wizard, which is available via the **Asset lifecycle/ Helpdesk/ User actions/ Answer call** navigation link, the 🦋 icon (Windows client), or the F2 keyboard key (Windows client).

The answer-call wizard is a function that guides the person taking calls. (We use "call" in the broadest possible sense of the word: Telephone call, a visit by a user, a fax, etc.)

It gives you a simplified and guided view of an existing ticket or ticket being created.

It is designed to facilitate as much as possible the recording of helpdesk tickets.

Taking a call consists of:

1 Identifying the caller.
2 If the call concerns a ticket that has already been created: Adding the new information to the ticket, or closing the ticket.
3 If the call concerns a new problem that has not yet been logged:
    1 Entering the relevant information.
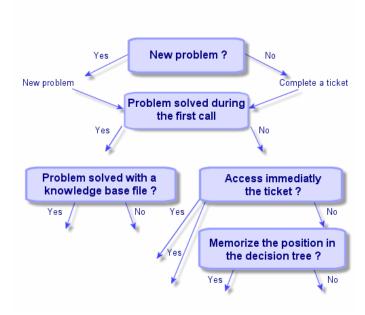
2   Creating a ticket (open or closed).

Steps in answering a call

The answer-call wizard helps you enter information about the calls received by the helpdesk team. You are not obliged to use this tool since you can create tickets without having to go through the answer-call wizard.

The following diagram gives an overview of how a call is taken:

Figure 5.2. Answer call - steps

Activating the answer-call wizard

Activate the answer-call wizard using the **Asset lifecycle/ Helpdesk/ User actions/ Answer call** navigation link, the F2 key (Windows client), or by clicking (Windows client).

For Windows client users, if answer-call is already in process when you open the wizard, Asset Manager displays another answer call window and starts the answer call procedure.

Populating the answer-call screen

This section describes how to populate the answer-call screen. It covers:

- The design of the answer-call screen displayed by pressing **F2**.
- How to enter information.
- Automatically populated fields

Design of the answer-call screen

The answer-call screen displayed by pressing F2 in the Windows client is made up of several parts:

- The status bar at the top of the screen displays general information.
- The left zone of the window must be populated. This is called the "data entry zone".
- The right zone of the window provides information on the field selected on the left. This is called the "help zone".

Status bar

| Ticket FILE16 | 00:19:47 | Person responsible for ticket: Drainer, John |

Ticket number

The number, which appears on the top of the screen at the start of the call, is the number that will be given to the ticket if you decide to create it at the end of the call. In this way, it is easy to give the ticket reference to your caller. Later on, the number displayed is either that of a new ticket being created, or that of a ticket to be modified.

Time-elapsed indicator

The colored indicator displays the time elapsed since the start of the call.

You can modify the parameters of the indicator using the **Edit/ Options** menu item, in the **Helpdesk** category.

There is no intelligence behind the indicator: It is for information only.

Person responsible for ticket (Ticket supervisor)

The person responsible for the ticket is that belonging to the ticket selected in the **Ticket** field in left zone of the screen, if the call concerns an existing ticket.

If a new ticket is opened, Asset Manager automatically selects the supervisor from the helpdesk group to which the ticket is assigned.

Data entry zone

Use the mouse or the keyboard's tabulation button to move through the different fields.

- If the **Ticket** field is not populated, the bottom zone shows **New problem**.
- If the **Ticket** field is populated (automatically or by hand), the bottom zone shows **Complete a ticket**.

To force the creation of a new ticket when the **Ticket** field is populated, click the ⚘ button. Click it a second time to be able to complete the selected ticket.

Help zone

The information in the help zone is not updated immediately. An update delay has been implemented so you can move between the different fields without being slowed down by the updating process. You can modify this parameter using the **Edit/ Options** menu, in the **Helpdesk** group.

To update the information without having to wait, press **F5** or click ⚘. This button only appears if there is information to be updated.

Caller

This is the person who has called you to report a problem.

Window client only

The caller information in the answer-call screen displayed by pressing F2 in the Windows client.

Person to contact for this ticket. This item of information can be found in the **Contact** field of the **General** tab of the ticket detail.

Window client only

The contact information in the answer-call screen displayed by pressing F2 in the Windows client.

Asset

This page enables you to indicate which asset is concerned by the problem.

You will find several buttons:

- **View assets of the caller**: asset for which the caller is responsible.
- **View the user's assets**: asset belonging to the user.
- **View the supervisor's assets**: asset belonging to the user's supervisor.
- **View the location's assets**: assets located in the same place as the caller.

Windows client only

The asset information in the answer-call screen displayed by pressing F2 in the Windows client.

If the icon appears in the help zone, click it to launch the search for information.

You will find several sub-tabs:

- **User** and **Superv.**: assets for which the caller is responsible or just uses.
- **Location** tab: assets located in the same place as the caller.
- **Connections** tab: all assets connected to the selected asset (by default, this is the asset selected in the data-entry zone).
- **Software** tab: **Per named user** type software licenses used by the caller.

If you check the **Main assets only** check box in the **User**, **Superv.** and **Location** sub-tabs, only those assets at the root of the tree structure are displayed.

Ticket

This page enables you to indicate which ticket is concerned by the problem.

- **Tickets of the caller (open)**: Tickets whose **Contact** field (**General** tab) has the same value as the **Caller** field in the answer-call screen. The **Status** and **Contact** fields (SQL names: seStatus and Contact) are used as filter criteria.
- **Tickets of the caller (all)**: all the open and closed tickets of a caller, for an asset or all hot tickets open or closed.

Windows client only

The ticket information in the answer-call screen displayed by pressing F2 in the Windows client.

Only populate the ticket field in two cases:

- To add to or modify an existing ticket. (The problem reported by the caller has already given rise to the creation of a ticket.)
- To create a new ticket and to attach it to the ticket selected in the **Ticket** field. In this case, proceed as follows:
  1 Populate the **Caller** and the **Ticket** fields.
  2 Click ⮚.
  3 Populate the fields in the **New ticket** frame.

Do not populate the fields in the **New ticket** frame before the **Ticket** field. This will have the effect of deleting the information you have entered in the New ticket frame.

If you select a ticket but later realize that a new ticket needs to be created for the call, click the ⮚ button.

⚠ Warning:

In **New ticket** mode, if the **Ticket** field is populated, the new ticket will be attached to the existing ticket as a child ticket.

Click the **Ticket** field once more to go back to the status that enables you to complete the selected ticket (right side of the screen).

In the help zone, a filter enables you to display a selection of open tickets (**Status** of the ticket other than **Closed** or **Closed and verified**) or a selection of tickets regardless of their **Status**:

- **Tickets of the caller (open)**: Tickets whose **Contact** field (**General** tab) has the same value as the **Caller** field in the answer-call screen. The **Status**

and **Contact** fields (SQL names: seStatus and Contact) are used as filter criteria.

- **Tickets of the asset (open)**: Tickets whose **Asset** field has the same value as the **Asset** field in the answer-call screen. The **Status** and **Asset** fields (SQL names: seStatus and Asset) are used as filter criteria.

- **Hot tickets (open)**: Tickets whose **Hot ticket** check box (**General** tab) is checked. The **Status** and **Hot ticket** fields (SQL names: seStatus and bHot) are used as filter criteria.

- The options followed by "**(All)**" enable you to view all the open and closed tickets of a caller, for an asset or all hot tickets open or closed.
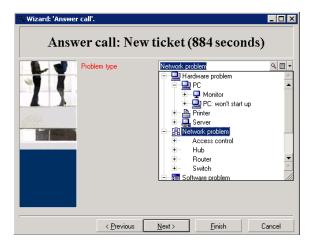
You can only consult the information that appears in the screen's help zone. The **Description** zone only presents the start of the **Description** field of the ticket.

To modify the ticket, you need to drill down to the ticket detail by clicking the magnifier button ⌕.

Click once in the help zone of the ticket to populate the **Ticket** field in the data entry zone. Wait a few moments for the data to be updated, otherwise press F5.

Problem type

This field enables you to indicate the type of problem encountered.
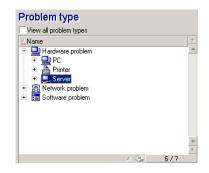
By default, only the problem types associated with the model of the asset selected and its sub-models are displayed in the help zone.

If no asset is selected, no type is displayed.

If the asset is not associated with a model, all the problem types will be displayed.

Windows client only
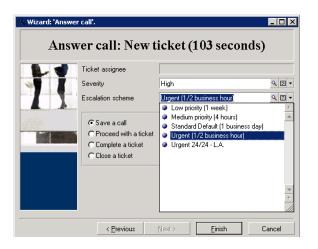
The problem type information in the answer-call screen displayed by pressing F2 in the Windows client.

If you want to force all the problem types to be displayed, check the **View all problem types** check box.

Severity and Escalation scheme

This page enables you to select the severity and escalation scheme most adapted to the problem concerned.

Creating escalation schemes falls within the scope of the administrator rather than a call operator. It is not possible to create an escalation scheme directly from the **Escalation** field in the answer-call screen.

Description (or Additional description)

This section only applies to the answer-call screen displayed by pressing **F2** in the Windows client.

This field enables you to describe the problem freely. What you enter here is added to the **Description** field of the ticket.

- If you are completing a ticket, Asset Manager displays a window of the previous type in the help zone. This cannot be modified.

- If you are creating a new ticket, the help zone will guide you through the problem solving process:
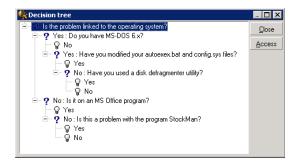
Questions

The node in the decision tree associated with the selected problem type is displayed in the zone. (The problem type must be associated with the node beforehand.) If a question is associated with this node, the answer-call wizard proposes several answers to choose from. Double-click the adequate answer to continue going through the decision tree. You can also activate the zone where the answers are (by selecting one of answers and typing the line number of the answer to select). The **Next** button has the same effect. The **Previous** button enables you to back-step through the tree. It is not possible to go further back than the starting node associated with the problem type.

Tree button

The button displays the decision tree and places the cursor on the node associated with the problem type.

Select a node in the tree and click the **Access** button to change the starting node of the branch on which you want to work. You will need to use this technique to avoid having to navigate through the entire branch at a given moment.

Help check box

Check this box if you want to display, after the question and between brackets, the contents of the Description tab in the question detail to the right of the question (if a description has been already entered in the decision tree).

History check box

Check this box if you want to display the list of successive questions you have already responded to in going through the decision tree.

Solutions

The Solutions area of the help zone displays the knowledge base files associated with the nodes in the branch of the decision tree, which originate from the node formed by the previous question.

Details check box

Check this box in order to display the details of the selected solution (Description and Resolution fields (SQL names: Description and Solution) at the bottom of the Resolution window.

Rejected check box

Check this box in order to continue displaying all the solutions from the starting node onwards, even if they have been eliminated due to the path taken through the tree.

Automatically populated fields

Person responsible for ticket (Ticket supervisor)

If a new ticket is opened, Asset Manager automatically selects the supervisor from the helpdesk group to which the ticket is assigned.

In order to determine to which group the ticket will be assigned, Asset Manager takes into account the problem type, the location of the asset, and potentially the contracts that involve the helpdesk groups:

1 Asset Manager searches the helpdesk groups associated with the problem type of the ticket.
2 From among these groups, Asset Manager then locates the helpdesk group associated with the location that is "nearest" to the asset: direct location, otherwise parent location, and so forth until the root location.
3 If the Asset Manager database engine supports double outer-joins, Asset Manager searches, from among these eligible groups, the helpdesk

groups according to contracts that concern them and maintenance contracts covering the asset.

> ⚠ Warning:
>
> To obtain the list of DBMSs supporting double outer-joins, refer to section DBMSs supporting double outer-joins [page 182].

4 If no groups are found, Asset Manager repeats the first three steps starting from the problem type at the next highest level in the problem type hierarchy, until it reaches the root of the problem-type tree.
5 The ticket supervisor can be selected from among the helpdesk group technicians who have the least number of tickets in progress.

> 📝 Note:
>
> If there is more than one eligible ticket supervisor, Asset Manager selects one at random.

Caller field

If the **Caller** field is empty, and you populate or modify the **Asset** field, then the **Caller** field automatically displays that asset's user.

This automatic mechanism takes precedence over automatic mechanisms linked to default values. As soon as the value of the **Caller** field has been validated, this automatic mechanism is deactivated.

Contact field

Asset Manager automatically proposes a person to contact:
- If the **Contact** field is empty when you populate or modify the **Caller** field, the value of the **Caller** field will be propagated to the **Contact** field.
- If the **Contact** field is empty when you populate or modify the value of the **Asset** field, the **Contact** field will display the user of the asset.

These automatic mechanisms take precedence over automatic mechanisms linked to default values.

As soon as the value of the **Contact** field has been validated, these automatic mechanisms are disabled.

Escalation field

Determining the severity of a ticket

In order to determine how a ticket will be processed, Asset Manager uses the notion of "severity". A ticket's severity does not appear in the answer-call screen, it appears instead in the **Tracking** tab of the ticket detail.

When you create a ticket using the answer-call wizard, Asset Manager assigns it the highest severity from among those relating to the:

- Problem type
- Contact
- Asset
- Location of the asset

Determining the escalation scheme

Once the severity of the ticket is defined, Asset Manager will automatically propose an escalation scheme according to the following rules:

1   Asset Manager searches the escalation schemes associated with the severity of the ticket (Severities sub-tab of Selection tab in an escalation scheme detail).

2   Among the escalation schemes selected in this way, Asset Manager searches the escalation scheme associated with the "nearest" location to that of the asset: direct location, otherwise the parent location, and so on toward the root location (in the detail of an escalation scheme, **Selection** tab, **Locations** sub-tab).

3   If no escalation scheme is found, Asset Manager starts the first two steps again, incrementing the severity by 1 until reaching the highest severity.

4   If no escalation scheme is found, Asset Manager starts the first two steps again, decreasing the severity by 1 until severity 0.

Finish taking the call

You can finish taking the call in different ways:

- By using **Select** or **Save** button in the **Resolution** window displayed via clicking ⚙ Solve to the right of the ticket detail screen (Windows client) or selecting **Solve** from the **Action** drop-down list (Web client).
- By selecting the **Save a call**, **Close a ticket**, **Proceed with a ticket**, and **Complete a ticket** options in the **Answer call** wizard displayed through **Asset lifecycle/ Helpdesk/ User actions/ Answer call** navigation link.
- By using the ⚙ Save call , ⚙ Close the ticket , ⚙ Proceed... , and ⚙ Fill out... buttons in the **Answer call** wizard displayed by pressing **F2** in the Windows client.

In each case, the answer call window closes, and the ticket is created or updated with the information that was entered during the call.

The table below summarizes what information is copied at the level of the ticket detail when one of the five buttons is used:

Table 5.1. Answer call - value of the ticket fields according to the button used

Ticket detail						
Screen	**BUTTONS**	**STATUS** FIELD (SQL name: seStatus)	**GENERAL** TAB DESCRIPTION FIELD (SQL name: Description)	**CLOSURE** TAB RESOLUTION FIELD (SQL name: Solution)	DIAGNOSTICS FIELD (SQL name: StandardSol)	CLOSED ON FIELD (SQL name: dtEnd)
Resolution	**Select**	Closed	**Description** from the data-entry zone of the answer-call screen	Questions and answers from the help zone	Identifier and short description of the solution	Date closed
	Save	**Assigned** or **In progress** or **Awaiting assignment**	**Description** from the data-entry zone of the answer-call screen, followed by questions and answers from the help zone			
Answer call	Close the ticket **Close the ticket**	Closed	**Description** from the data-entry zone of the answer-call screen			Date closed
	Save call or Fill out... **Save a call** or **Complete a ticket**	**Assigned** or **In progress** or **Awaiting assignment**	**Description** from the data-entry zone of the answer-call screen			
	Proceed... **Proceed with a ticket**	**In progress** (the person in the **Assigned** field (SQL name: Assignee) is the person taking the call)	**Description** from the data-entry zone of the answer-call screen			

Problem solved during call with "Possible solution" in right-hand screen

Click **Select** to close the ticket and link it to the selected solution.

The ticket detail is not displayed. Its number is shown in the title bar of the answer-call screen. You can find the ticket using the **Asset lifecycle/ Helpdesk/ Helpdesk Tickets** menu item.

Problem solved during call without "Possible solution" in right-hand screen

Click ⏣ Close the ticket to close the ticket without associating it with a knowledge base file.

The ticket detail is not displayed. Its number appears in the title bar of the answer-call screen. You can find the ticket using the **Asset lifecycle/ Helpdesk/ Helpdesk Tickets** menu item.

Problem not solved, save questions and responses, without immediate access to the ticket

If the problem is not solved during the call, and you want to save all the questions and responses you have exchanged with the caller, but you do not want to access the ticket for the moment:

1 Click **Save** to save the call and the route you have taken through the decision tree, without closing the ticket. The ticket detail is not displayed. Its number appears in the title bar of the answer-call screen. You can find the ticket using the **Asset lifecycle/ Helpdesk/ Helpdesk Tickets** menu item.

2 If you click ⏣ Solve in the ticket detail, you directly access the node last reached in the decision tree during the call.

Problem not solved, discard questions and responses, without immediate access to the ticket

If the problem is not solved during the call, and you do not want to save the questions and responses you have exchanged with the caller, nor do you not want to access the ticket for the moment:

1 Click ⏣ Save call to save the call without saving the route you have taken in the decision tree.

2 The ticket detail is not displayed. Its number appears in the title bar of the answer-call screen. You can find the ticket using the **Asset lifecycle/ Helpdesk/ Helpdesk Tickets** menu item.

Problem not solved, go to the ticket immediately

If the problem is not solved during the call, and you want to access the ticket immediately, there are two possibilities:

- Click ![Proceed...] .
- Or click ![Fill out...] .

In both cases:

- The information from the call is written in the ticket detail.
- The ticket detail is displayed.

Difference between ![Proceed...] and ![Fill out...] :

- Let's say that the person taking the call selects a ticket for which they are not the supervisor, but which falls within their area of competence. They then click ![Proceed...] . Asset Manager automatically sets the **Status** field to **In progress** and modifies the **Assigned** field in order to show the person taking the call as the assignee. This is the case, even if the ticket is already assigned to a supervisor, regardless of the status of the ticket.

  ✎ Note:

  The person taking the call only has the right to click the ![Proceed...] button if their profile allows it, and if their helpdesk group is capable of resolving the problem type concerned. (The call operator's profile is in their record's **Profile** tab, located in the Employees and departments table.) If either of these two conditions is not fulfilled, the ![Proceed...] button appears in gray. In this case, the call must be saved using the **Save call** or **Save** button in order to keep a trace of it.

- If the person taking the call clicks ![Fill out...] , the ticket detail appears. This differs from clicking ![Proceed...] in that Asset Manager does not modify either the **Status** field or the **Assignee** field of the ticket's detail.

  ✎ Note:

  The person taking the call can only use the ![Fill out...] button if their profile allows it. (The call operator's profile is in their record's **Profile** tab, located in the Employees and departments table). Otherwise, the ![Fill out...] button is remains unavailable.

Note concerning the rights of helpdesk operators

You can define the Asset Manager database access rights of call operators:

◆ Via the usual user profiles specified in the **Profile** tab's **Profile** field (SQL name: Profile), located in the record details of the Employees and departments table).

Shortcut keys that can be used when taking a call

Keyboard function keys and buttons have been implemented in order to facilitate navigation between fields and between the help zone and data-entry zone:

Table 5.2. Answer call - shortcut keys

ALT + UP ARROW	If the cursor is placed in the data entry zone, it is moved over to the help zone.
ALT + LEFT ARROW	If the cursor is placed in the help zone, it is moved over to the data entry zone.
ALT + x (if the shift-lock is activated), or SHIFT + ALT + x (if the CAPS LOCK is deactivated) where "x" is a number from 1 to 8	If the cursor is placed in the data entry zone, it is moved to the xth field of the screen. The fields are numbered from 1 to 8 starting from the top. Important: You cannot use the numeric keypad.
CTRL + x, where "x" is a shortcut key (hotkey) assigned to a problem type.	Enables you to populate the **Type** field automatically. Can be used regardless of the position of the cursor.
F5	If the cursor is placed in the data entry zone, the help zone is refreshed immediately. If the cursor is placed in the help zone, the data entry zone is refreshed immediately using the selected information.
F6	Hides the data entry zone.
F7	Hides the help zone.
F8	Cycles between showing: the data entry zone alone, the help zone alone and both zones.
⬢	If the cursor is placed in the data entry zone, the help zone is refreshed immediately. The icon is only displayed if there is information to be refreshed.

🖊 Note:

When refreshing the answer-call screen: In order not to slow down the data-entry process, the answer-call wizard does not refresh immediately when you move from one field to another, or when you select information in the help zone. By default, the reaction time is 1 second. You can modify this parameter using the **Edit/ Options** menu item, in the **Helpdesk** group.

Helpdesk groups

This section explains how to describe and manage the helpdesk groups with Asset Manager.

Helpdesk groups are made up of helpdesk technicians who are capable of solving similar problems for a given group of locations and who are involved with given contracts.

These groups reflect your internal organization: How you define a group depends on who solves what type of problems and at which locations, and according to which contracts.

Helpdesk groups are managed from a list available via the **Organization management/ Operations/ Employee groups** menu item.

✎ Note:

Within the context of the helpdesk, employee groups are referred to as "helpdesk groups".

Structure of a helpdesk group

Helpdesk groups are organized in a hierarchy. Therefore any helpdesk group can have a parent group, defined in the Sub-group of field (SQL name: Parent), and a child group. When creating a sub-group, the competencies, locations and contracts linked to the parent group are automatically propagated to the sub-group.

⚠ Warning:

Once the sub-groups are created, if you add a location (or competence or contract) to the parent group, this location (or competence or contract) is not automatically propagated to the sub-groups.

The Assignable (SQL name: bAssignable) option (SQL name: bAssignable) determines whether or not you can assign a helpdesk ticket to this group. This makes it possible to distinguish between operational groups that process tickets and those that simply classify them.

Example

The "Los Angeles" group can contain two sub-groups corresponding to two call centers. In this case the "Los Angeles" group would just be used to structure these groups; the tickets being processed by the sub-groups.

Overview of helpdesk groups

How they work

Helpdesk groups enable you to assign a ticket to a group of technicians before assigning it to one technician in particular. You can do this manually in the detail of a ticket by populating the **Group** field (SQL name: EmplGroup) in the **Tracking** tab.

Asset Manager automatically suggests a helpdesk group when a ticket is created (when a call is being taken or when a ticket is created directly). Automatic selection is carried out by the **AmDefGroup()** API if it is used in the default value of the **Group** link (EmplGroup):

1 Asset Manager searches the helpdesk groups associated with the problem type of the ticket.
2 From among these groups, Asset Manager then locates the helpdesk group associated with the location that is "nearest" to the asset: direct location, otherwise parent location, and so forth until the root location.
3 If no groups are found using the previous method, and if the DBMS supports double outer-joins, Asset Manager searches the groups not associated with a location.

   To obtain the list of DBMSs supporting double outer-joins, refer to section DBMSs supporting double outer-joins [page 182].
4 If the database engine supports double outer-joins, Asset Manager selects, from among the eligible groups, the helpdesk group according to contracts that concern them and maintenance contracts covering the asset.

   To obtain the list of DBMSs supporting double outer-joins, refer to section DBMSs supporting double outer-joins [page 182].
5 If no groups are found, Asset Manager repeats the first three steps starting from the problem type at the next highest level in the problem type hierarchy, until it reaches the root of the problem-type tree.

Creating adequate helpdesk groups

Setting up helpdesk groups requires that you have a good working knowledge of each helpdesk technician's area of expertise. It also requires a preparatory analysis of your organization's structure and operations. To do this, you should:

1 Determine the locations that correspond to the coverage zones of your helpdesk teams. Example: a site, a building, a city. An office is perhaps too specific.
2 Determine which are the significant problem types in the hierarchy of problems. Example: "Office software". On the other hand, the sub-type Word of the "Office software" problem type is perhaps too precise if your technicians are competent on several applications.

3 Match the locations and the problem types to create a helpdesk group for each pair. In practice, for each problem encountered, we recommend proceeding as follows:

   1 Draw up a matrix, putting significant problem types on one axis and locations on the other.

   2 Enter the appropriate helpdesk groups, according to their areas of expertise and their zones of coverage.

It is possible that areas of expertise are not distributed in the same way from one location to another. A large site may have specialized technicians, whereas a smaller site might just have one general technician.

Example

With a DBMS supporting double outer-joins: if the problem type and location are equivalent, the contract is the determining factor for automatically assigning a helpdesk group.

Warning:

To obtain the list of DBMSs supporting double outer-joins, refer to section DBMSs supporting double outer-joins [page 182].

Let's take the following example:

- A helpdesk group called "Group1" is competent for "Problem type1" at "Location1" and linked to "Contract1".
- A helpdesk group called "Group2" is competent for "Problem type1" at "Location1" and linked to "Contract2".

Thus:

- If you want to create a helpdesk ticket for an asset covered by "Contract1", it is assigned to "Group1".
- If you want to create a helpdesk ticket for an asset covered by "Contract2", it is assigned to "Group2".

Note:

If no problem type is specified for a group, the group is considered to be competent for all problem types.

If no location is specified for a group, the group is considered to be competent for all locations.

If no contract is specified for a group, the group is considered to be competence regardless of the maintenance contract covering the asset.

Defining a helpdesk group supervisor

The group supervisor has a special role in the "Asset Manager administrator/ Helpdesk administrator/ Group supervisor/ technician" hierarchy. For example, the group supervisor can view all open helpdesk tickets for the technicians in their group using the "Dashboard".

You select the group supervisor from the list of departments and employees.

To declare an employee as a helpdesk group supervisor, populate the **Supervisor** field (SQL name: Supervisor) at the top of the group detail. However, this is not sufficient to assign the supervisor access to helpdesk management functions: The Asset Manager administrator must also assign the necessary access rights using the **Profile** tab in the **Organization management/ Organization/ Employees and departments** link on the navigation bar.

Warning:

The group supervisor is not normally considered part of the group. If you want to reverse that situation, you must add the supervisor to the list of group members. If you do not do this, news items sent to the group will not be displayed on the supervisor's screen, nor can he supervise a ticket.

Populating the composition of helpdesk groups

The **Composition** tab in the helpdesk group detail lets you select the employees that are part of the helpdesk group. These are called "Helpdesk technicians".

Use the ±, - and ≪ buttons to add, delete, display or modify the helpdesk technicians.

You can select any employee in the database as a technician.

The helpdesk technician has a special role in the "Asset Manager Administrator/ Helpdesk administrator/ Group supervisor / helpdesk technician" hierarchy. For example, the technician can view all helpdesk tickets for which they are a supervisor, or for which their group is responsible, using the "Dashboard".

Adding an employee to a "Helpdesk group" is not sufficient to give that person access to all the functions of the helpdesk. The Asset Manager administrator must also assign the necessary access rights using the **Profile** tab in the **Organization management/ Organization/ Employees and departments** link on the navigation bar.

An employee may belong to several different helpdesk groups.

Defining areas of expertise of helpdesk groups

The **Areas of expertise** tab in the detail of a helpdesk group enables you to select the problem types that fall within their areas of expertise.

Use the ±, − and ◅ buttons to add, delete, display or modify problem types.

Choose the problem types from the Problem types table. A problem type may be attributed to several helpdesk groups.

This tab enables Asset Manager to assign a ticket to a group automatically (during the call or when creating a ticket directly) according to the **Location** (SQL name: Location) of the asset, the **Problem type** and the maintenance contracts covering the asset.

> ⚠ Warning:
>
> Contracts are involved in the automatic selection procedure of a helpdesk group only if the DBMS supports double outer-joins. to obtain a list of DBMSs supporting double outer-joins, refer to section DBMSs supporting double outer-joins [page 182].

Defining locations concerned by the helpdesk group

The **Locations** tab in the detail of helpdesk group enables you to select the locations concerned by the group.

Use the ±, − and ◅ buttons to add, delete, display or modify locations.

Choose the locations from the Locations table. A location may be attributed to several helpdesk groups.

This tab enables Asset Manager to assign a ticket to a group automatically (during the call or when creating a ticket directly) according to the **Location** of the asset, the **Problem type** and the maintenance contracts covering the asset.

> ⚠ Warning:
>
> Locations are involved in the automatic selection procedure of a helpdesk group only if the DBMS supports double outer-joins. to obtain a list of DBMSs supporting double outer-joins, refer to section DBMSs supporting double outer-joins [page 182].

Defining contracts concerned by the helpdesk group

The **Contracts** tab (SQL name: Contracts) in the helpdesk group detail enables you to select contracts for which the group intervenes.

Use the ±, − and ◅ buttons to add, delete, view or modify contracts.

Contracts are selected in the Contracts table. A contract may be assigned to several helpdesk groups.

If the DBMS supports double outer-joins, the **Contracts** tab enables Asset Manager to automatically assign a helpdesk ticket to a helpdesk group (during the call answering phase or when directly creating a ticket) according to the **Location** of the asset associated with the ticket, the **Problem type** of the ticket, and the maintenance contracts covering the asset.

To obtain the list of DBMSs supporting double outer-joins, refer to section DBMSs supporting double outer-joins [page 182].

Problem types

This section explains how to describe and manage different problem types with Asset Manager.

A problem type is part of the description of a helpdesk ticket.

The problem types encountered by the helpdesk team are described in a hierarchical table, which can be displayed from the **Asset lifecycle/ Helpdesk/ Problem types** menu item.

Example of hierarchy of problem types:

- ◆ Printer problem
    - ▪ Laser printer
    - ▪ Ink jet printer

Problem types are attributed to helpdesk groups that are competent to solve this type of problem. Thus, once the caller's problem type is selected, Asset Manager can automatically propose the helpdesk group that is the best suited.

Problem types are also useful for organizing tickets and drawing up statistics.

🖉 Note:

As is the case for assets, problem types each have a unique bar-code label. By default, this label is defined by a script that uses an Asset Manager counter. You can customize this script to adapt the bar-code label to your needs.

Problem type codes and shortcuts

Code (Code) and **Hotkey** (HotKey) are both fields in the **Problem types** table (amProblemClass) that make it easier to select a problem type during a call or in the helpdesk ticket.

Code

Not only can this field can be used as a reconciliation key with an external database, but it can be used in place of the **Name** field to enter and identify problem types in a helpdesk ticket or while taking a call.

This is useful if you want to select problem types using smaller IDs than what is found in the **Name** field, but larger than what is found in the **Hotkey** field.

To use the **Code** field instead of the **Name** field, you must modify certain Asset Manager parameters (explained later on).

Configuring Asset Manager to use codes in ticket details

1 Start Asset Manager Application Designer.
2 Select the **Problem types** table (amProblemClass).
3 Modify the table's description string (this is a string displayed to describe records in that table when they are selected by links):
    1 Select the **String** zone.
    2 Define a description string that begins with [Code].

Hotkey

The hotkey enables you to quickly select the problem type during the call (by holding down the CTRL key and the hotkey character). The hotkey is a single character and cannot be used directly in the detail of a ticket. It is made redundant by the code but has been retained in order to maintain functional compatibility with Asset Manager 2.0.

Associating a severity to a problem type

Asset Manager enables you to associate a severity level with each problem type. This severity enables you to decide the priority with which tickets should be processed.

You can associate a severity level with a problem type as follows:

- From the problem type detail: Simply populate the **Severity** field (SQL name: Severity) in the **General** tab of the problem type detail.
- From the severity detail: Click ⊞ in the **Problem types** sub-tab of the **Selection** tab in the severity detail to associate a problem type with the severity.

To determine the severity of a ticket, Asset Manager compares the severity of the problem type with that of the asset, the location of the asset and the user of the asset: The highest severity is the one which is used.

Link between the problem type and the decision tree

The **Question** field (SQL name: DecTreeNode) in the **General** tab of the problem type detail enables you to associate the problem type with a question in the decision tree.

Thus, when you use the decision tree during a call, Asset Manager directly displays the question associated with the problem type you have selected. This saves you from having to go through the decision tree from root level.

A decision tree question may be associated with several problem types.

A problem type may only be associated with one single question.

Link between a problem type and a model

The **Model** field (SQL name: Model) in the **General** tab of the problem type detail enables you to associate the problem type with an asset model.

The value of this field is used when taking the call: Once the asset is selected, the answer-call wizard first displays only the problem types associated to the model.

A model may be associated with several problem types.

A problem type may only be associated with one single model.

Groups with expertise on a problem type

The **Groups** tab in a problem type detail enables you to select the groups with expertise in solving a problem type.

This information is used when creating helpdesk tickets in order to determine which group will be attributed the ticket by default:

Asset Manager automatically suggests a helpdesk group when a ticket is created (when a call is being taken or when a ticket is created directly). Automatic selection is carried out as follows:

1 Asset Manager searches the helpdesk groups associated with the problem type of the ticket.
2 From among these groups, Asset Manager then locates the helpdesk group associated with the location that is "nearest" to the asset: direct location, otherwise parent location, and so forth until the root location.
3 If the Asset Manager database engine supports double outer-joins, Asset Manager selects, from among the eligible groups, the helpdesk groups according to contracts that concern them and maintenance contracts covering the asset.

To obtain the list of DBMSs supporting double outer-joins, refer to section DBMSs supporting double outer-joins [page 182].

4 Note: If no groups are found, Asset Manager repeats the first three steps starting from the problem type at the next highest level in the problem type hierarchy, until it reaches the root of the problem-type tree.

Use the ⊞, ⊟ and ⚲ buttons to add, delete, display or modify groups.

The groups are selected in the table of groups. A helpdesk group may be attributed to several problem types.

Helpdesk tickets

This section explains how to describe and manage helpdesk tickets with Asset Manager.

A helpdesk ticket enables you to describe a problem and track its resolution. You can create it directly via the **Asset lifecycle/ Helpdesk/ Helpdesk Tickets** menu item, or using the answer-call wizard, which enables you to create a ticket quickly and with assistance.

When you use the answer-call wizard to create a helpdesk ticket, the are two possibilities:

- The problem is solved during the call: A helpdesk ticket is created with the Closed status. It only serves to record the call.
- The problem requires a deferred solution: A helpdesk ticket is created to keep track of the problem and manage its resolution. The ticket is assigned to a helpdesk group and/or to a ticket supervisor, who will find the helpdesk ticket in the list of tickets assigned to them.

Status of a helpdesk ticket

The status of a helpdesk ticket is defined in the **Status** field (SQL name: seStatus) at the top of the ticket detail window. The value for this field is selected in an itemized list (you cannot modify the values in this list). In some cases, a value is assigned automatically to this field.

The **Status** field (SQL name: seStatus) is sequenced: The values listed below appear in their hierarchical order. You may therefore use comparison operators in query filters on the table of tickets.

For example: **Closed and verified** > **Closed**.

Awaiting assignment

This is the default value for a ticket.

Assigned

This value is attributed as soon as the **Assigned** field (SQL name: Assignee) field showing the name of the ticket supervisor is populated. It is not possible to manually attribute this value if the field is not populated.

In progress

This value needs to be attributed manually. It is independent of the values of the other fields in the ticket.

Closed

Indicates that the problem has been fully dealt with.

This value is assigned automatically when the ticket is closed in one of the following ways:

- Creating an ticket history whose **Nature** field (SQL name: Nature) is set to **Closure** via the Close button in the ticket detail.
- Selecting a solution in the resolution screen.
- Pressing the **Close a ticket** button in the answer-call screen.

You can also manually select this value.

When this value is assigned, the **Closed on** field (SQL name: dtEnd) in the ticket's **Closure** tab is populated automatically.

Closed and verified

This value needs to be attributed manually. It is independent of the values of the other fields in the ticket. This value indicates that the problem has not only been fully processed, but also verified by a member of the helpdesk team or the user.

Assigning a helpdesk ticket

Helpdesk tickets are generally assigned to a helpdesk group and to a ticket supervisor who is part of the group.

The names of the group and ticket supervisor handling the ticket are displayed in the **Assignment** frame of the **Tracking** tab of the helpdesk ticket detail.

Group (SQL name: EmplGroup)

If you have populated the **Type** field (**General** tab) and the **Asset** field (SQL name: Asset), Asset Manager automatically suggests a helpdesk group when a ticket is created (when a call is being taken or when a ticket is created directly). Automatic selection is carried out as follows:

1 Asset Manager searches the helpdesk groups associated with the problem type of the ticket.
2 From among these groups, Asset Manager then locates the helpdesk group associated with the location that is "nearest" to the asset: direct location, otherwise parent location, and so forth until the root location.
3 If the Asset Manager database engine supports double outer-joins, Asset Manager searches, from among the eligible groups, the helpdesk groups according to contracts that concern them and maintenance contracts covering the asset.

   To obtain the list of DBMSs supporting double outer-joins, refer to section DBMSs supporting double outer-joins [page 182].
4 If no groups are found, Asset Manager repeats the first three steps starting from the problem type at the next highest level in the problem type hierarchy, until it reaches the root of the problem-type tree.

Assigned (SQL name: Assignee)

The ticket supervisor is responsible for the ticket.

When you choose a group, the people who can be ticket supervisors are the technicians in the group and its sub-groups.

If the helpdesk group is not specified, Asset Manager proposes helpdesk technicians from all groups.

By default, if the **Group** field is populated, Asset Manager automatically designates the ticket supervisor from among the members of the helpdesk group who have the least number of tickets in progress.

Escalating a helpdesk ticket

Asset Manager enables you to associate an escalation scheme with each helpdesk ticket.

To automatically determine the appropriate escalation scheme, Asset Manager uses an intermediate concept called "severity".

The severity and the escalation scheme associated with a helpdesk ticket are indicated in the **Tracking** tab of the ticket detail.

Severity (SQL name: Severity)

By default, when a ticket is created, and for as long as you do not modify manually the value of this field, Asset Manager automatically gives you the choice of the highest severity from those of:

- The problem type of the ticket (**General** tab)
- The assets selected in the ticket (basic information)

- The location of the asset selected in the ticket (basic information)
- The contract of the ticket **General** tab)

You can "force" the value of this field manually. In this case, Asset Manager will no longer give you a value automatically.

Escalation (SQL name: EscalScheme)

By default, when a ticket is created, and for as long as you do not modify manually the value of this field, Asset Manager automatically gives you the choice of the best suited escalation scheme according to the following criteria:

1 Asset Manager searches the escalation schemes associated with the severity of the ticket (**Severities** sub-tab of **Selection** tab in an escalation scheme detail).

2 Among the escalation schemes selected in this way, Asset Manager searches the escalation scheme associated with the "nearest" location to that of the asset: direct location, otherwise the parent location, and so on toward the root location (**Locations** sub-tab of **Selection** tab in an escalation scheme detail).

3 If no escalation scheme is found, Asset Manager starts the first two steps again incrementing the severity by 1 until reaching the highest severity.

4 If no escalation scheme is found, Asset Manager starts the first two steps again decreasing the severity by 1 until severity 0.

Expected resolution date

This is the deadline by which you want the ticked to be closed. It is defined in the **Expected resol.** field (SQL name: dtResolLimit) in the **Tracking** tab of the ticket detail.

This expected resolution date is used by Asset Manager Automated Process Manager to automatically control deadlines. These controls may trigger actions.

By default, this date is automatically calculated according to the following rules:

- When you select the escalation scheme, the resolution time defined at the level of the escalation scheme is added to the date and time of the ticket's creation.
- Asset Manager takes into account the calendar of business days in the escalation scheme.
- If there are any suspensions whose **Freeze all the escalation scheme** check box (SQL name: seSuspMode) in the **Suspend** tab is selected, the expected resolution date is postponed according to the total amount of suspension time.

To force (override) this value:

1 Click the 🔒 button.

2   Then click **Modify**.

3   Enter a required date.

4   Click **Modify** again.

To return to the automatic calculation mode:

1   Click again on the 🔒 button.

2   Then click **Modify**.

🖊 Note:

The closed padlock button, 🔒, makes it impossible to modify the expected date of resolution by hand. Creating, modifying, deleting the suspension with the **Freeze all the escalation scheme** option cleared recalculates the expected resolution date.

The open padlock 🔓 button authorizes modification of the expected resolution date by hand but no automatic mechanism recalculates the field.

Work orders made for a helpdesk ticket

The work orders you create from the **Work orders** tab are identical to those created using the **Asset lifecycle/ Work orders/ Work orders** menu item. You can also view them from the list of work orders displayed by this menu item.

Use the ➕ and 🔍 buttons to add, view or modify the work orders attached to the helpdesk ticket.

Use the ➖ button to delete the link between the work order record and the helpdesk ticket.

❗ Warning:

When you use the ➖ button, only the link to the work order record is deleted. The work order record itself remains in the work orders table. If you want to delete it, you must do so from the **Asset lifecycle/ Work orders/ Work orders** menu item.

Linked tickets

The **Linked tickets** tab displays the list of tickets that have a link to the current ticket. Linked tickets can be found in one of three tabs, depending on the nature of the link:

- Asset tickets: Tickets concerning the asset in the current ticket appear here. You can create a sub-ticket, either using the ⊞ button in the linked tickets list, or using the Sub-tick. button in a ticket detail.
- Sub-tickets: Tickets directly linked to the current ticket (one level lower than the current ticket in the hierarchy of tickets) appear here. This enables you to see if an asset has reoccurring problems and how these problems have been solved.
- Similar problems: Tickets having the same problem **Type** appear here. This enables you to find which solutions have been found to similar problems.

Taking notes on a helpdesk ticket

You can enter notes to complement the description of a helpdesk ticket:
- In the ticket detail.
- In the detail of the histories associated with the ticket.

In the ticket detail

You can take notes in the following fields:
- **Description** (SQL name: Description) in the **General** tab of the ticket detail.
- **Resolution** (SQL name: Solution) in the **Closure** tab of the ticket detail.

The **Description** field in the **General** tab is populated automatically by:
- The contents of the **Description** field for the ticket histories whose nature is set to "Incoming call", "Outgoing call" or "Suspension" when they are created. These slips appear in the **Activity** tab of the ticket detail.

> ✎ Note:
>
> Changes or deletions to ticket histories are not reflected in this field.

- The contents of the **Description** field entered in the call answering phase.
- The **Description** field may also include history of questions, answers and solutions selected when browsing the decision tree in the call answering phase, or from the helpdesk ticket detail. To do this, simply click the **Save** button to the right of the **Solutions** section, during the call answering phase or from the ticket detail.
- Finally, this field also shows the closing of the ticket.

The **Resolution** field in the **Closure** tab is populated automatically with the contents of the **Description** field of ticket histories whose nature field was set to "Closure" when they were created.

In the ticket history detail

You can enter additional information in the **Description** fields of the details of the ticket histories associated with the file. These fields are located in the:

- **General** tab of the detail of an incoming or outgoing call.
- **Close** tab of a closure slip.
- **Suspend** tab of a suspension slip.

Buttons used in processing helpdesk tickets

On the right side of the ticket detail appear a number of icons that help in processing tickets:

Table 5.3. Helpdesk tickets - buttons in the records detail

In. call	Click this icon to add a ticket history whose nature is **Incoming call** in the **Activity** tab. This enables you to keep a trace of the calls received by the helpdesk team.
	The **Description** field (SQL name: Description) in **General** tab of the helpdesk ticket is completed by information from the incoming call slip.
Out. call	Click this icon to add a ticket history whose nature is **Outgoing call** in the **Activity** tab. This enables you to keep a trace of the calls made by the helpdesk team.
	The **Description** field in **General** tab of the helpdesk ticket is completed by information from the outgoing call slip.
WorkOrd.	Click this icon to add a work order to the ticket. This appears in the **Work orders** tab of the ticket details and in the list of work orders (**Asset life-cycle/ Work orders/ Work orders** menu item).
Sub-tick.	Click this button to create a sub-tab ticket attached to the ticket.
Close	Click this button to close the ticket. This creates a **Closure**-type ticket history in the **Activity** tab of the ticket. The **Closed on** field in the **Closure** tab and the **Status** field (SQL name: seStatus) are also updated.
	The **Resolution** field (SQL name: Solution) in the **Closure** tab of helpdesk ticket is completed by the **Description** in the closure slip.
	The **Description** field in the **General** tab of the detail of the ticket also mentions the closure of the ticket.
Suspend	Click this button to add a **Suspension** ticket history to the **Activity** tab. This enables you to declare that you are waiting for a piece of information before being able to continue processing the ticket.
	The **Description** field in the **General** tab and **Tracking** tab of the helpdesk ticket is completed by information from the suspension slip.

Resume	Click this button to end the suspension.
	This button only appears if the ticket is suspended.
Solve	Click this button to access the knowledge base. Asset Manager places you on the node in the decision tree associated with the ticket's problem type or on the current node the last time you clicked the **Save** button in the resolution screen.
	Refer to the section describing the process of taking calls for further information on how the resolution screen works.
Verify	Click this button to check a previously closed helpdesk ticket.
	Two cases may arise depending on the ticket status:
	■ If the ticket is closed, Asset Manager sets the ticket status to **Closed and verified**.
	■ If the ticket is not closed, Asset Manager first displays a ticket closing screen. Once the ticket is closed, its status is set to **Closed and verified**.

Activities linked to processing the ticket

The **Activity** tab in the detail of a ticket contains ticket histories linked to the ticket.

The ticket histories are created automatically if you use one of the buttons to the right of the ticket screen: ⟲ In. call, ⟲ Out. call, ⟳ Resume, ⟳ Suspend.

You can also use the ±, ◁ and − buttons to add, delete, view or modify the ticket histories.

Nature of ticket histories

There may be several types of ticket histories:

■ "Incoming call": Describes a call from a user. When a support technician modifies or creates a helpdesk ticket via the answer-call wizard, a ticket history whose nature is "Incoming call" is created.

■ "Outgoing call": These are calls initiated by the helpdesk group handling the ticket.

■ "Closure": A helpdesk ticket is closed when its processing is complete (problem solved, obsolete problems, etc.).

■ "Suspension": You suspend a helpdesk ticket when you must stop working on it, e.g. while waiting for information from the user.

■ Any other nature that you define yourself: In this case, there are no automated procedures linked to the existence of ticket histories of this nature.

Timing a ticket history

Starting a ticket history

The **Start** field (SQL name: dtStart) at the top of the ticket history detail indicates the time when the slip was created.

If the incoming call slip was created in the call answering phase, this field displays the time when the call answering phase began.

Duration (SQL name: tsProcessTime)

The duration is calculated automatically between the time when the ticket history appears on the screen (after clicking the 🏃 In. call, 🏃 Out. call, 🔷 Close, ⏱ Suspend or ⊞ button) and the time when the it is validated by clicking the **Add** button.

You can change the value of this duration.

To pause or resume the timing for the duration, click the ⏱ button.

Suspending a helpdesk ticket

You suspend a helpdesk ticket when you must stop working on it. This happens, for example, when you are waiting for more information from the user.

This section provides the following information:

- Suspending a helpdesk ticket.
- The impact of suspending a ticket.
- How to modify a suspension item.
- How to end the suspension.
- Multiple suspensions.

How to suspend a helpdesk ticket

To suspend a ticket, display its detail and click the ⏱ Suspend button. A suspension slip is proposed. Once this is validated, it is created in the **Activity** tab.

Specify in the **Type** field (SQL name: seSuspLimitType) how the planned end of suspension date is set:

- **Date** defines an end of suspension date. You must populate the **Deadline** field (SQL name: dtSuspLimit).
- **Duration** defines the duration (in days) before the end of suspension. You must populate the field that appears to the right of the **Type** field.

- **Manual** indicates that the end of the suspension must be defined manually using the ![Resume] button.
- **Next business day**, **Next business week** and **Next business month** indicate that the suspension will terminate the next working day, working week, or working month following the suspension date, respectively.

> ✎ Note:
>
> You cannot select one of the last three values if no business day calendar is associated with the ticket's escalation scheme.

You can also populate the **Suspension type** field (SuspType): For example, you could do this to differentiate a suspension due to a customer from a suspension due to your company's working hours. This field is populated using the **amSuspType** custom itemized list.

> ✎ Note:
>
> The **Deadline** and **Reason** fields (SQL names: dtSuspLimit and SuspReason) in the **Tracking** tab of the ticket detail are automatically populated using the information from the suspension slip. These fields cannot be populated by hand. The **Deadline** date sets a limit on the waiting period for an item that is holding up progress. The time and date in the **Reason** fields correspond to the creation of the suspension slip.

Impact of suspending a ticket

Freezing the escalation scheme alarms

When you freeze a helpdesk ticket, you suspend the ticket as long as the **Freeze all the escalation scheme** option (SQL name: seSuspMode) in the suspension slip is checked.

When a ticket is suspended and the **Freeze all the escalation scheme** option in the detail of the suspension is checked:

- Alarms defined in the **Alarms** tab of the escalation scheme are not triggered for as long as the date specified in the **Deadline** field (SQL name: dtSuspLimit) of the suspended ticket is not exceeded. If the suspension **Type** (SQL name: seSuspLimitType) is set to **Manual**, no alarms are triggered until a user clicks ![Resume].
- Alarms defined in the **Alarms** tab of the escalation scheme are postponed according to the duration of the suspension period. Asset Manager Automated Process Manager will trigger them the next time they come up, if justified to do so by the status of the ticket.

When a ticket is suspended and the **Freeze all the escalation scheme** option in suspension detail is not checked:

- Alarms defined in the **Alarms** tab of the escalation scheme are not triggered for as long as the **Deadline** defined in the suspension slip is not exceeded. If the suspension **Type** (SQL name: seSuspLimitType) is set to **Manual**, no alarms are triggered until a user clicks ⏾ Resume.

- When checks are made after the date defined in the **Deadline** field, or after clicking ⏾ Resume, Asset Manager Server triggers those alarms that would have been triggered during the suspension period if this is still justified by the status of the ticket.

Triggering an action at the end of a suspension period

If the ticket is still suspended and the **Deadline** field in the suspension slip is overrun, Asset Manager Automated Process Manager triggers the action defined in the suspension slip.

Postponing the Expected resol. date (SQL name: dtResolLimit) for the ticket (Tracking tab in the ticket)

The **Expected resol.** date of the ticket is postponed according to the duration of the suspension period if:

- The suspension **Type** is not set to **Manual**.
- The ☑ Freeze all the escalation scheme check box of the suspension slip is checked.
- The padlock button to the right of **Expected resol.** field of the ticket appears as unlocked 🔓.

The length of the suspension is calculated from the time when the suspension slip is created or modified. It is obtained by calculating the difference between the date specified in the **Deadline** field of the suspension slip and value of the creation or modification date of the suspension slip. The calculation of the suspension duration takes into account the working periods as defined in the calendar attached to the escalation scheme.

📝 Note:

If the suspension **Type** is set to **Manual**, the **Expected resol.** date is only postponed to the end of the suspension. But this is only true if the ☑ Freeze all the escalation scheme check box in the suspension slip is checked, and if the button to the right of the **Expected resol.** field in the ticket is shown as 🔓.

Modifying a suspension item

Modifying a suspension slip

You may modify a suspension slip after its creation in two ways:

- By clicking the magnifier ⌕ button to the right of the **Reason** field (SQL name: SuspReason) in the **Tracking** tab of the ticket detail.
- By selecting the suspension slip in the **Activity** tab of the ticket by clicking the magnifier ⌕ button.

If you modify a suspension slip, Asset Manager modifies, if necessary:

- The total duration of the suspension period of the ticket.
- The **Expected resol.** date of the ticket, if the padlock button to the right of this field appears as locked 🔒. (For example, this recalculation can be performed if you modify the deadline of the suspension slip.)

If you modify the calendar attached to the escalation scheme

Modifications made to the specified working periods do not affect those suspension times already calculated in the tickets. The new version of the calendar is taken into account for all calculations made after its modification. You cannot therefore backdate calculations, but only update a calendar for future periods.

If you modify the escalation scheme

If the padlock button to the right of the **Expected resol.** field appears as locked, 🔒, Asset Manager recalculates, if necessary, the **Expected resol.** of the ticket. It will also then recalculate the total time that the ticket is frozen, taking into account the new calendar and the new alarms in the escalation scheme.

If you freeze or unfreeze the escalation scheme in the suspension slip

- If you uncheck the **Freeze all the escalation scheme** option (SQL name: seSuspMode), and if the padlock button to the right of the **Expected resol.** field appears as locked 🔒, Asset Manager recalculates, if necessary, the **Expected resol.** date of the ticket. It also recalculates the trigger dates of alarms, taking into account the time during which the ticket has been frozen.
- If you check the **Freeze all the escalation scheme** option, and if the padlock button to the right of the **Expected resol.** field appears as locked 🔒, Asset Manager recalculates, if necessary, the **Expected resol.** date of the ticket. It also recalculates the trigger dates of alarms, taking into account the time during which the ticket will be frozen.

Ending the suspension

To end the suspension, click the 🔓 Resume button.

Impact on the helpdesk ticket

The **Deadline** and **Reason** (SQL names: dtSuspLimit and SuspReason) fields in the **Tracking** tab are reset, but the suspension slip remains in the **Activity** tab.

The **Expected resol.** field of the ticket is recalculated according to the real duration of the suspension if:

- The ☑ Freeze all the escalation scheme check box of the suspension slip is checked.
- The padlock button to the right of **Expected resol.** field of the ticket appears as locked 🔒.

Example:

1 On Monday, you suspend the ticket with the following parameters: ☑ Freeze all the escalation scheme 🔒 until Thursday: The **Expected resol.** date of the ticket is postponed 3 days.

2 On Tuesday, you end the suspension. Thus, the real duration of the suspension is only one day. Also, the **Expected resol.** of the ticket is reduced by 2 days.

Impact on verification of escalation scheme alarms

Asset Manager Automated Process Manager takes into consideration the alarms as they appear in the escalation scheme at the time the check is performed. Only those alarms not yet triggered are checked.

If the **Freeze all the escalation scheme** check box (SQL name: seSuspMode) in the suspension detail was checked:

- The periods during which the ticket was actually frozen are taken into account.
- The alarms defined in the **Alarms** tab in the escalation scheme are shifted by the actual duration of the suspension. Asset Manager Automated Process Manager will trigger them at their new deadline, if still warranted by the ticket's status.

If the **Freeze all the escalation scheme** check box (SQL name: seSuspMode) in the suspension detail was not checked:

- ◆ For controls performed after the date in the field **Deadline** (SQL name: dtSuspLimit), Asset Manager Automated Process Manager triggers the alarms that may have been triggered during the suspension period, if still warranted by the ticket's status.

Multiple suspensions

If several suspension slips are created, Asset Manager calculates the total duration of the freeze. It takes into account the suspension slips for which the ☑ Freeze all the escalation scheme check box is checked.

This total duration of the freeze is taken into account:

- When calculating the **Expected resol.** date (SQL name: dtResolLimit) for the ticket when it is calculated automatically.
- When checking the alarms to trigger.

Closing a helpdesk ticket

This section explains how to close a helpdesk ticket. It highlights several methods you can use to close a ticket, as well as describes the closure slips.

Using the 🔷 Close button in the ticket detail

Method

In the ticket detail:
1   Click 🔷 Close.
2   Populate the closure slip.
3   Click **Add**, then **Modify** to validate.

Impact on the fields in the ticket detail

A "Close" type ticket history is created in the **Activity** tab of the ticket detail.

In the **General** tab of the ticket detail, the **Description** zone (SQL name: Description) makes mention of the ticket being closed.

The **Status** field (SQL name: seStatus) in the ticket detail is updated.

In the **Closure** tab of the ticket detail:
- The **Closed on** field is updated with the date of closure.
- The contents of the **Resol. code** and **Satisfaction** fields (SQL names: ResolCode and SatisLvl) are updated using information from the closure slip.
- The **Description** (SQL name: Description) from the closure slip is added to the **Resolution** zone (SQL name: Solution).

By selecting a solution from the resolution screen

In the resolution screen, you can close the ticket by clicking **Select**. This confirms the designated solution defined in the resolution screen.

How to display the resolution screen

There are two ways to display the resolution screen:
1   By clicking 🔷 Solve in the detail of a ticket.
2   By clicking the **Description** field in the data-entry zone of the answer-call screen (when creating a ticket only): The resolution screen appears in the help zone.

Impact on the fields in the ticket detail

The **Status** field in the ticket detail is set to **Closed**.

If you are taking a call, the **Description** zone (SQL name: Description) in the **General** tab of the ticket detail is updated using the **Description** field of the data-entry zone of the answer-call screen.

In the **Closure** tab of the ticket detail:

- The **Closed on** field is updated with the date of closure.
- The **Diagnosis** field (SQL name: StandardSol) is updated with the identifier and short description of the solution used.
- The corresponding questions and answers from the decision tree are added to the **Resolution** zone.

Using the 🔘 Close the ticket button in the answer-call screen

In the answer-call screen displayed by pressing F2, click the 🔘 Close the ticket button to close a ticket without using the possible solution proposed by the resolution screen.

Impact on the fields in the ticket detail

The **Status** field in the ticket detail is set to **Closed**.

The **Description** zone in the **General** tab of the ticket detail is completed using the **Description** zone in the data-entry zone of the answer-call screen.

The **Closed on** field in the **Closure** tab of the ticket detail is updated with the date of closure.

Manually in the ticket detail

Method

Set the **Status** of the ticket to **Closed** or **Closed and verified**.

You can also populate the **Closure** tab of the ticket detail with the date of closure, the selected predefined solution (**Diagnostic**), and its description (**Resolution**).

Impact on the fields in the ticket detail

Closing a ticket in this way does not have any effect on the fields in the ticket detail. You must fill in any other information by hand (such as the **Description** in the **General** tab, etc.).

> **Note:**
>
> We recommend using one of the other methods, which automatically update the ticket using the appropriate information.

Closure slip

When you create a closure slip by clicking the ⚙ Close button in the helpdesk ticket detail, certain fields in the **Closure** tab of the ticket details are populated automatically:

- The **Satisfaction**, **Resol. code** and **To be integrated in the knowledge base** fields. (SQL names: SatisLvl, ResolCode and bToInteg).

> **Note:**
>
> The **To be integrated in the knowledge base** field is used as a reminder only. It is not linked to any automated function.

- The contents of the **Description** field (SQL name: Description) in the **Closure** tab of the closure slip are copied to the **Resolution** field (SQL name: Solution) in the **Closure** tab.

If this information is modified (in the **Closure** tab in the ticket or in the ticket history) after having validated the closure slip using the **Add** button, the information is not propagated to the other tab.

However, if you create another closing slip, its information will be copied to the **Closure** tab in the ticket.

Severities

This section explains how to describe and manage severities with Asset Manager. You can access the list of severities via the **Asset lifecycle/ Helpdesk/ Severities** menu item.

Each helpdesk ticket is assigned a severity. This enables you to decide the priority with which tickets should be processed.

Automatic mechanisms are available for assigning severities to tickets according to the:

- Problem type
- Caller
- Asset concerned
- Location of the asset

Using severities

Severities are associated with levels. You can use as many severity levels as you want. Level 0 is the weakest. There is no maximum limit.

Severities are stored in their own table and are associated to different types of elements:

- Problem types
- Assets
- Departments and employees
- Locations
- Models

⚠ Warning:

Severities can only be attributed to assets, employees, departments, models and locations from the detail of the severity. It is not possible to attribute a severity from the details of these elements. However, you can attribute a severity to a problem type from its detail.

Examples of elements to which it is useful to associate a severity:

- A mission critical server.
- The secretary to the CEO.
- The location "Machine-room".
- The problem type "PC-won't start up".

Automatic assignment of a severity to a helpdesk ticket

A severity is attributed to a ticket when it is created, whether it is created directly from the list of tickets or using the answer-call wizard.

Asset Manager assigns the highest severity to the ticket from among those relating to the:

- Problem type
- Contract
- Asset
- Location of the asset

This only holds true when creating a ticket. If you modify or populate the value of these fields after creating the ticket, the severity of the ticket is not modified.

⚠ Warning:

The categories attached to the severities are not used to calculate the severity of a helpdesk ticket. The assets-model association automatically associates the assets to the severity of their model when they are created.

Automatic assignment of an escalation scheme to a helpdesk ticket

Asset Manager tries to associate an escalation scheme automatically to a ticket according to the severity of the ticket and the location of the asset.

Creating severities

This section describes the suggested method for creating severities:

1   To implement severities, you must first analyze the structure and operation of your organization.

2   After completing this analysis, you need to create the severities before starting to create helpdesk tickets.

In general, three or four types of severity are sufficient.

Example: low, medium, high, very high.

Indicate the level of each severity (**Level** field (SQL name: lSeverityLvl) in the **General** tab of the severities detail).

> Note:
>
> We recommend creating severities in steps of 10 (10, 20, 30, etc.). In this way, if the necessity arises, you can insert new severities between the existing ones.

3   Associate problem types, assets, locations, employees and departments with these severities as required.

These associations are made from the sub-tabs in the **Selection** tab of the severities detail. In these sub-tabs, use the +, - and ✎ buttons to add, remove, view or modify items associated with a severity.

> Warning:
>
> You cannot assign a severity to these items from their detail, except for problem types. You can only do so from the severity detail.

4   Associate the severities to certain models of assets, so that those assets are associated with these severities when they are created.

> Note:
>
> The assets created before you associated the model with the severity do not benefit from this automated function. Therefore, you will have to manually assign the severity.

5   Associate the severities with escalation schemes.

Escalation schemes

This section explains how to describe and manage escalation schemes with Asset Manager. You can access the list of escalation schemes via the **Asset lifecycle/ Helpdesk/ Escalation schemes** menu item.

An escalation scheme enables you define the way in which a ticket is to be processed:

- Calendar of business days to take into account in calculating deadlines.
- Actions to be triggered, at certain time limits, if the ticket still has the a given status. For example, you can send an automatic message to a group supervisor if a ticket remains unassigned 1 day after being created.
- Actions to be triggered when the status of ticket changes.
- Actions to be triggered when the asset changes assignment.

Escalation schemes thus reflect the internal procedures of your organization. To determine which escalation scheme to automatically associate with a ticket, Asset Manager takes into account the severity of the ticket and the location of the problem.

Overview of using escalation schemes

Overview

Escalation schemes standardize the conditions under which tickets are processed.

You define:

- A calendar of workable periods (business days).
- The alarms to be triggered automatically if the status of the ticket does not evolve within the planned time limits (assignment, start of resolution, closure).
- The actions to be triggered automatically when the status of the ticket is modified.
- The actions to be triggered automatically when the assignment of the ticket is modified.

An escalation scheme is associated with tickets when they are created.

> ### Note:
>
> As is the case for assets, problem types each have a unique bar-code label. By default, this label is defined by a script that uses an Asset Manager counter. You can customize this script to adapt the bar-code label to your needs.

The surveillance program, Asset Manager Automated Process Manager, monitors the alarms and triggers them if necessary.

Actions concerning the assignment or status change of the ticket are automatically triggered when their value changes. It is not Asset Manager Automated Process Manager that triggers these actions but an agent of Asset Manager.

Examples how escalation schemes are useful

- Automatic issuing of a message when a ticket is assigned.
- Automatic issuing a message to the helpdesk supervisor when the ticket remains unassigned after a certain length of time.
- Automatic issuing of a message to the user when the ticket is closed, which asks their opinion on the quality of service received.

Automatic assignment of an escalation scheme to a helpdesk ticket

When you create a helpdesk ticket, Asset Manager tries to automatically associate it with an escalation scheme. This process is based on two types of information:
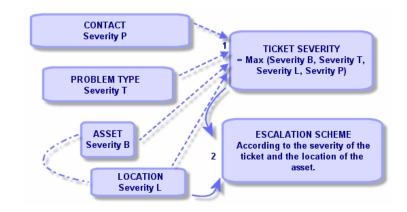
- The severity of the ticket (ticket details, **Tracking** tab).
- The location of the asset attached to the ticket.

Asset Manager proposes the most appropriate escalation scheme as follows:

1 Asset Manager searches the escalation schemes associated with the severity of the ticket (Severities sub-tab of Selection tab in an escalation scheme detail).

2 Among the escalation schemes selected in this way, Asset Manager searches the escalation scheme associated with the "nearest" location to that of the asset: direct location, otherwise the parent location, and so on toward the root location (Locations sub-tab of Selection tab in an escalation scheme detail).

3 If no escalation scheme is found, Asset Manager starts the first two steps again incrementing the severity by 1 until reaching the highest severity.

4 If no escalation scheme is found, Asset Manager starts the first two steps again decreasing the severity by 1 until severity 0.

5 When Asset Manager finds more than one escalation scheme at one of the above levels, it selects one randomly.

The following diagrams illustrate how Asset Manager selects the escalation scheme:
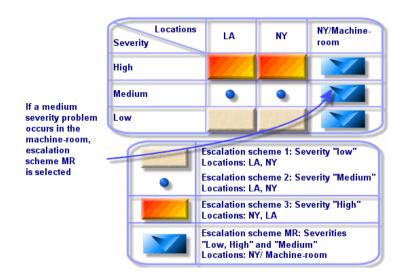
Figure 5.3. Escalation schemes - automatic assignment of a ticket

Four escalation schemes are defined in the following example. In the case of a medium severity ticket opened for an asset in the machine-room:

1 Asset Manager searches the escalation schemes associated with a medium severity, (escalation scheme detail, **Selection** tab, **Severities** sub-tab). It finds two: Escalation scheme 2 and escalation scheme MR.

2 Among these two escalation schemes, Asset Manager searches if one of them is associated with the location of the asset, i.e. the machine-room (escalation scheme detail, **Selection** tab, **Locations** sub-tab). Thus, escalation scheme MR is selected.

Figure 5.4. Escalation schemes - the role of locations and severities

Creating escalation schemes appropriately

To create escalation schemes in an appropriate fashion, you need to identify the pairs (location, severity) that best describe the cases you may encounter in your organization.

You are not obliged to create an escalation scheme for each location, since the selection algorithm for the escalation scheme widens the search to parent locations when it does not find the exact location level of the ticket.

Resolution time

Each escalation scheme defines a deadline for the closure of helpdesk tickets associated with the scheme (**Resolution time frame** in the **General** tab of the escalation scheme detail).

Important:

When calculating deadlines linked to the resolution time, the business days calendar associated with the escalation scheme is taken into account, and the "Resolution time" is converted to hours.

The resolution time can be used in defining alarms to be triggered when certain deadlines have been reached.

Alarms to be triggered on certain deadlines

The **Alarms** tab of the escalation scheme detail shows the list of alarms to be triggered. Each alarm is described in a sub-tab. To add, duplicate, or remove an alarm, right-click in the tab to display the shortcut menu and select the **Add linked record**, **Duplicate linked record** or **Delete link**.

You can create as may alarms as you want.

The alarms are monitored by the surveillance program Asset Manager Automated Process Manager.

Example of functioning

Figure 5.5. Alarm functions - record example

If, when Asset Manager Automated Process Manager checks the alarms, more than five minutes have elapsed since the opening of the ticket, and the ticket is **Awaiting assignment**, Asset Manager Automated Process Manager triggers the action "HDAlarm not assigned".

Type and Delay

Table 5.4. Alarms - examples of types and delays

Type	Delay	Deadline condition
Time elapsed since opening ticket.	5 minutes	If more than 5 minutes have passed since the opening of the ticket (**Opened on** (SQL name: dtOpened) field of the ticket's detail).
% of the resolution time	10 %	If more than 10 % of the resolution time has passed (the difference between the **Opened on** and **Resolution Limit** fields of the ticket's detail).
Time before resolution deadline	20 minutes	If more than 20 minutes is left before the resolution limit (**Resolution limit** field of the ticket's detail).

Calculation of deadlines

When you define the alarms to be triggered on overrunning certain deadlines, and when you set the **Resolution time** in the **General** tab of the escalation scheme detail, it is important to be aware of the way deadlines are calculated:

Application of the calendar

The time elapsed takes into account workable periods (business days) if the escalation scheme is associated with a calendar (**General** tab in escalation scheme). This calendar defines the working periods to be considered when triggering alarms in the **Alarms** tab.

Example:

You create a ticket on Thursday September 23, 2011 at 5 P.M.

The ticket is associated with an escalation scheme that contains a "Ticket not assigned" alarm with the following values:

- Status: **Awaiting assignment**
- Type: "time elapsed since opening ticket"
- Delay: "15 min"
- Action: "Action 1"

The escalation scheme is associated with a calendar that specifies that the Thursday September 23 and Friday September 24, 2011 are worked from 9 A.M. to 5:05 P.M.

The "Ticket not assigned" alarm will trigger the "Action1" action on Friday September 24, 2011 at 9:10 A.M. if the ticket is **Awaiting assignment**.

Conversion of delays (time limits) to hours

When calculating deadlines, delays (time limits) are converted to hours.

Example:

A helpdesk ticket is created on Monday May 10, 2011 at 12:00 P.M.

The ticket is associated with an escalation scheme that contains an "Ticket not closed" alarm with the following values:

- Status: **In progress**
- Type: "% of resolution time "
- Delay: "100 %"
- Action: "Action2"

The "Resolution time" of the escalation scheme is set to 2 days and the escalation scheme is associated with a calendar specifying that all Mondays, Tuesdays, Wednesdays, Thursdays and Fridays in 2011 are workable from 9 A.M. to 6 P.M. and that all Saturdays and Sundays in 2011 are not workable.

When calculating deadlines, 2 days is equivalent to 48 hours, or 5 full workable days and 3 hours. As a consequence, the "Ticket not closed" alarm will trigger

the "Action2" action on Monday May 17, 2011 at 3 P.M. if the ticket is **In progress**.

Actions to be triggered when the status of a ticket changes

The list of actions to be triggered when the status of a ticket changes appears in the **Transitions** tab of the escalation scheme detail.

The test and the possible triggering of the action are carried out when the change of status of the ticket is validated, for example by clicking **Create** or **Modify** in the ticket detail. The value of the **Status** field (SQL name: Status) needs to be different from the value stored in the database in order for an action to be triggered.

Actions must be created in the table of actions.

Note:

It is not Asset Manager Automated Process Manager that triggers these actions but an agent of Asset Manager.

Actions to be triggered when the assignment of a ticket changes

The list of actions to be triggered when the assignment of a ticket changes appears in the **Assignment** tab of the escalation scheme detail.

There are two zones concerning:
- The supervisor to whom the ticket is assigned: Ticket detail, **Tracking** tab, **Assigned** field (SQL name: Assignee).
- The group to which the ticket is assigned: Ticket detail, **Tracking** tab, **Group** field (SQL name: EmplGroup).

In both cases there is a distinction between:
- Assignment: Assigning a new supervisor or group to the ticket
- Unassignment: Removing the assignment from a supervisor or group

Warning:

When the **Assigned** or **Group** field in the ticket detail already has a value and you replace it by a new one, it is considered as an unassignment followed by an assignment.

Reassigning a ticket is equivalent to unassigning then reassigning.

The test and the possible triggering of the action are carried out when the change of assignment is validated, for example by clicking **Select** or **Modify** in the ticket detail. The value of the **Assigned** or **Group** fields needs to be

different from the value stored in the database in order for an action to be triggered, which is true for a first assignment, an unassignment and a reassignment.

Actions need to be created in the table of actions.

> **Note:**
>
> It is not Asset Manager Automated Process Manager that triggers these actions linked to the (re)assignment of tickets but an agent of Asset Manager.

Elements taken into account in automatically assigning an escalation scheme to a ticket

The list of elements taken into account by Asset Manager when automatically assigning an escalation scheme to a ticket appear in the **Selection** tab of the escalation scheme detail screen.

The sub-tabs of this tab associate severities and locations with given escalation schemes.

Go to the appropriate sub-tab and use the ⊞, ⊟ and ◲ buttons to add, remove, view or modify locations or severities associated with the escalation scheme.

Knowledge base

This chapter explains how to use and manage the knowledge base, which you can access via the **Asset lifecycle/ Helpdesk/ Knowledge base** menu item.

The knowledge base is a group of files describing problems and their solutions.

These files enable you to solve more easily the problems you encounter. You enrich the knowledge base when you discover new problems and solutions.

Each knowledge file can be attached to an entry point in the decision tree. Thus, when you take a call, by navigating in the decision tree, the answer-call wizard suggests related knowledge files in the selected node and sub-nodes of the decision tree.

Example of knowledge file:

- Description: Monitor blank but under tension.
- Resolution: Plug the cable between the monitor and the CPU.

Viewing knowledge base entries

Files in the knowledge base are not made in such a way that they can be consulted from their full list.

However, if you select a node in the decision tree for the call answering phase or when the helpdesk ticket is resolved, Asset Manager displays the list of knowledge base entries linked to that node. The knowledge base entry thus selected to solve a call appears in the detail of the helpdesk ticket, in the **Closure** tab.

Classifying knowledge base entries by problem type

The **Problem type** field (SQL name: ProblemClass) enables you to classify knowledge base entries by associating them with problem types.

This facilitates the problem-solving process.

In effect, when taking a call, or from a ticket detail by clicking ⚙ Solve , only those knowledge files corresponding to the problem type of the ticket (ticket detail, **General** tab, **Type** field (SQL name: ProblemClass)) are displayed.

Managing knowledge base entries

The **Identifier** (SQL name: Code) enables you to assign a unique knowledge base entry in order to perform matching operations with external knowledge bases. The identifier is thus used as a reconciliation key between the two databases.

Decision trees

This section explains how to use the decision tree in Asset Manager. You can access the decision tree via the **Asset lifecycle/ Helpdesk/ Decision tree** menu item.

The decision tree enables you to analyze a situation step by step in order to find the most appropriate solution to the problem you encounter.

Browsing through a decision tree consists of validating each logical steps in a predefined sequence that describes a problem and its possible solutions. At each step, you must specify your problem from among a choice of questions. If you validate the proposed response, you will validate your problem and a new choice of questions will be presented. This continues until the problem is clearly identified, and at this point, the system proposes a solution.

The problem types may point to an entry point in the decision tree. Thus, when the call is being taken, it is possible to be actively assisted in the resolution of the problem step by step once the problem type has been determined.

Overview of the decision tree

Presentation

The decision tree can be used in two cases:

- When taking a call: Once the problem type is selected and the cursor is placed in the **Description** field, the answer-call wizard automatically displays the decision tree node associated with the problem type.
- From a ticket detail: Once the problem type is selected, you can click the ![Solve button] button. This invokes a window enabling you to go through the decision tree.
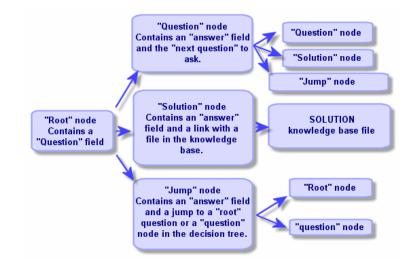
The list of nodes displayed using the **Asset lifecycle/ Helpdesk/ Decision tree** menu item, enables you to organize the nodes, but it is not used to solve a problem.

There are different types of nodes:

- **Root**: Root question
- **Question**: Answer followed by a question
- **Solution**: Reply with solution
- **Jump**: Reply followed by jump

The nodes are logically organized. It is important to respect their underlying logic:

Figure 5.6. Decision trees - logical links between node types

Each node plays a specific role:

Root node

These nodes are used as a possible departure point in the decision tree, in the form of a question. They lead to one of the following nodes:

- **Question**
- **Solution**
- **Jump**

Question nodes

These nodes correspond to one of the possible answers to a **Root** node or another **Question** node and contain a new question.

They lead to nodes of the following type:

- **Question**
- **Solution**
- **Jump**

Solution nodes

These nodes correspond to one of the possible answers to a **Root** node or a **Question** node.

They lead to a solution taken from the knowledge base.

Jump nodes

These nodes correspond to one of the possible answers to a **Root** node or a **Question** node.

They point to another node in the decision tree of type:

- **Root**
- **Question**

They are used when you encounter a situation when has already been developed in another branch of the decision tree. This avoids the unnecessary duplication of information.

Example of a decision tree:

Figure 5.7. Decision trees - example

Link between the problem types and the decision tree

Problem types can be associated with a **Root** or **Question** node in the decision tree.

Thus, when you invoke the decision tree (when taking a call or from a ticket detail), Asset Manager directly displays the question associated with the problem type you have selected. This saves you from having to go through the decision tree from its root.

A decision tree question may be associated with several problem types.

A problem type may only be associated with one single node.

Creating a decision tree

To create a decision tree, first define the **Root** type nodes: they are used as possible departure points in the decision tree, in the form of a question.

In the **Answers** tabs of these **Root** nodes, enter all the possible responses to the root question. These may by the following types of nodes:

- **Question**: These nodes are possible answers to a question in the **Root** node or a **Question** node; they contain another question.
- **Solution**: these nodes are one of the possible answers to a **Root** node or to another **Question** node. They point to another solution taken from the knowledge base.
- **Jump**: These nodes are one of the possible answers to a **Root** node or a **Question** node. They point to another node in the decision tree (**Root** or **Question** type). They are used when you encounter a situation that was already developed in another branch of the decision tree. This avoids the unnecessary duplication of information.

Use the ⊞, ⊟ and ◁ buttons to add, remove, view or modify nodes.

You can also use the following buttons:

- ☒ Question : adds a **Question** node
- ☒ Solution : adds a **Solution** node
- ☒ Jump : adds a **Jump** node

After creating the **Root** nodes in detail, populate the description of the **Question** type nodes. Specify all the possible answers to the **Question** nodes that you have created. This is performed in the **Answers** sub-tab in the **Next question** tab.

Solving a problem using the decision tree

The decision tree is not used directly from the list of its nodes, but via a resolution screen that you invoke in two cases:

- When taking a call: Once the problem type is selected and the cursor is placed in the **Description** field, the answer-call wizard automatically displays the decision tree node associated with the problem type.

■ From the ticket detail: Once the problem type is selected, you can click the ⚙ Solve button. This invokes a window enabling you to go through the decision tree.

Questions

The node in the decision tree associated with the selected problem type is displayed in the zone. (The problem type must be associated with the node beforehand). If a question is associated with this node, the answer-call wizard proposes several answers to choose from. Double-click the adequate answer to continue to go through the decision tree. You can also activate the zone where the answers are by selecting one of the answers and type the number of the line of the answer to select. The **Next** button has the same effect. The **Previous** button enables you to back step through the tree. It is not possible to go further back than the starting node associated with the problem type

Tree button

The ⊞ Tree button displays the decision tree and places the cursor on the node associated with the problem type.

Select a node in the tree and click the **Access** button to change the starting node in the branch on which you want to work. You will need to use this possibility if you do not want to have to go through all of the branch at a given moment.

Help check box

Check this box if you want to display, after the question and between brackets, the contents of the **Description** tab in the question detail to the right of the question (if a description has already been entered in the decision tree).

History check box

Check this box if you want to display the list of successive questions you have already responded to in going through the decision tree.

Solutions

The list of knowledge base files associated with the nodes in the branch of the decision tree is displayed in the **Solutions** frame of the help zone.

Details check box

Check this box in order to display the details of the selected solution (**Description** (SQL name: Description) and **Resolution** (SQL name: Solution) fields).

Rejected check box

Check this box in order to continue displaying all the solutions from the starting node onwards, even if they have been eliminated due to the path taken through the tree.

Save button

Closes the resolution screen saving the current position in the decision tree.

1 All the questions and answers are saved in the **Description** (SQL name: Description) of the ticket. The current question is saved; thus, if you click the button in the ticket details, you can use the decision tree directly from this question.

2 If you create a new helpdesk ticket while taking a call, the call will terminate with the creation of a ticket whose status is **Awaiting assignment**, **Assigned** or **In progress**. The ticket number appears in the title bar of the answer-call screen. You can locate the ticket using the **Asset lifecycle/ Helpdesk/ Helpdesk Tickets** menu item.

Choose button

Closes the resolution screen and links the ticket to the selected solution file.

1 All the questions and answers are saved in the ticket detail (**Closure** tab, **Resolution** field (SQL name: Solution)).

2 The identifier and short description of the solution are copied over to the **Diagnosis** field (SQL name: StandardSol) in the **Closure** tab of the ticket detail.

3 The status of the ticket is set to **Closed** and the date of closure is shown in the **Closure** tab of the ticket detail.

4 If you create a new helpdesk ticket while taking a call, the call will terminate with the creation of a ticket. The ticket number appears in the title bar of the answer-call screen. You can locate the ticket using the **Asset lifecycle/ Helpdesk/ Helpdesk Tickets** menu item.

Tracking tools

This chapter explains the different tools that enable you to track helpdesk tickets.

Dashboard

This chapter explains how to use the Asset Manager Helpdesk Dashboard. You can access the Dashboard via the **Asset lifecycle/ Helpdesk/ Dashboard** menu item.

Overview of the Dashboard

The Dashboard's main function is to display a summary report on the helpdesk tickets in progress (those whose **Status** fields (SQL name: seStatus) are neither **Closed** nor **Closed and verified**).

Not all employees see the same summary report, however. This is because the Dashboard takes different helpdesk tickets into account depending on the employee logged on to the database:

- Asset Manager administrator or the helpdesk administrator: The Dashboard takes into account all tickets assigned to all groups, helpdesk technicians and unassigned tickets.
- Group Supervisor: The Dashboard takes into account tickets assigned to the supervisor's groups (the **Group** field in the ticket detail) and the tickets assigned to technicians that are members of the supervisor's groups (the **Assigned** field (SQL name: Assignee) in the ticket detail).
- Support technician: The Dashboard takes into account all tickets assigned to the technician as ticket supervisor (the **Assigned** field in the ticket detail) and those in their group that are not currently assigned.

To display the results, Asset Manager compares the date and time when the Dashboard was launched or updated with the **Expected resol.** field (SQL name: dtResolLimit) in the ticket detail. For example, the "<2 h" column displays the number of tickets whose expected resolution date is less than two hours away, but more than one hour away.

Use the **Window/ Update** menu item or F5 to update the Dashboard.

To access the tickets whose number appears in the Dashboard, you have several possibilities:

- To display the list and details of the tickets corresponding to a whole line:
  1 Select a line and click the ⟨ Q Ticket(s)... ⟩ button.
  2 Or double-click the title of the line (to the left of the line).
- To display the list and details of the tickets corresponding to a cell:
  1 Double-click the cell itself.

Tracking tickets by group

The **Groups** tab in the Dashboard only appears if the employee logged on to the database is the Asset Manager administrator, the helpdesk administrator or the helpdesk group supervisor.

It enables you to track tickets group by group.

"Group" column:

- The **Group** column displays a hierarchical view of the tree of helpdesk groups.
- The number of helpdesk tickets associated with a parent group also includes the tickets associated with its sub-groups. To avoid confusion, the name of the parent group is followed by the word "(Total)", and a pseudo sub-group with the same name enables you to view the number of tickets associated with the parent group only.
- This pseudo sub-group only appears in the following two cases:
    - The **Assignable** box (SQL name: bAssignable) is checked for this group.
    - Helpdesk tickets were assigned to this group before the check was removed from the **Assignable** box (SQL name: bAssignable).

"Tickets not processed by group with status:" filter

This filter enables you to select the tickets according to their status:
- Unassigned: tickets that are not assigned to a ticket supervisor.
- Assigned: tickets that are assigned to a ticket supervisor.
- All tickets: All tickets assigned or otherwise.
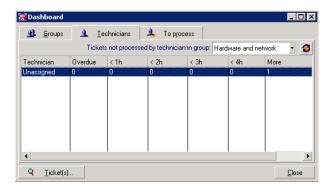
"< x" Columns

The "< x" columns display the number of open tickets that must be solved within the specified time.

Tracking helpdesk tickets technician by technician

The **Technicians** tab in the Dashboard only appears if the employee logged on to the database is the Asset Manager administrator, the helpdesk administrator or the helpdesk group supervisor.

It enables you to track tickets technician by technician.

"Tickets not processed by technician in group:" filter

This filter enables you to select the technician according to the group to which they belong.

"< x" columns

The "< x" columns display the number of open tickets that must be solved within the specified time.

Tickets to be processed

The **To process** tab in the Dashboard only appears if the employee logged on to the database is a member of a helpdesk group.

It helps them keep track of any tickets assigned to them.

Tickets assigned to you

Lists all the tickets assigned to the helpdesk technician logged on to the database.

Tickets in your groups, not assigned to a technician

Lists all the tickets assigned to a group to which the technician belongs, but that are not currently assigned to a ticket supervisor.

"< x" columns

The "< x" columns display the number of open tickets that must be solved within the specified time.

Statistics table

Use the **Asset lifecycle/ Helpdesk/ Statistics** menu item to access the Statistics table.

The Statistics table provides you with a summary report of the helpdesk team's activities for a given period. This table is accessible to the helpdesk group supervisors, the helpdesk administrators and the Asset Manager administrator.

The Statistics table calculates statistics relating to the progress of helpdesk tickets. The tabs provide you with three different views: by group, by problem type and by technician.

Group column

- The **Group** column displays a hierarchical view of the tree of helpdesk groups.
- The number of helpdesk tickets associated with a parent group also includes the tickets associated with its sub-groups. To avoid confusion, the name of the parent group is followed by the word "(Total)", and a pseudo sub-group with the same name enables you to view the number of tickets associated with the parent group only.
- This pseudo sub-group only appears in the following two cases:
    - The **Assignable** box (SQL name: bAssignable) is checked for this group.
    - Helpdesk tickets were assigned to this group before the check was removed from the **Assignable** box (SQL name: bAssignable).

Statistics table filter

The filter at the top of the Statistics table enables you to select tickets according to their opening date. It is thus possible to view all tickets opened within the last month, for example.

From ... To

Select the start and end dates for the period you want to analyze. These dates are included in that time period.

In progress column

Asset Manager lists the tickets whose **Status** field (SQL name: seStatus) is neither **Closed** nor **Closed and verified**.

> **Warning:**
>
> The **In progress** column only counts tickets opened within the period specified by the filter. Tickets opened before this period are not taken into account.

Completed column

Asset Manager lists the tickets whose **Status** field is neither **Closed** nor **Closed and verified**.

Unassigned line in the By group tab

These are the helpdesk tickets that have not been assigned to a group.

Unassigned line in the By technician tab

These are the tickets that have not been assigned to a ticket supervisor.

Modifying graph colors

You can modify the graph colors using the **Helpdesk** group in the **Edit/ Options** menu item.

Updating the Statistics table

Use the **Window/ Update** menu item, F5, or the 🔄 button to update the table immediately.

To automate the process of refreshing the screen, right-click the 🔄 button, and select **Configure**. Check the **Every** check box and indicate the at what frequency the table should be refreshed.

Ticket-tracking console

The **Asset lifecycle/ Helpdesk/ Ticket tracking** menu provides a graphical overview of the helpdesk-ticket statistics.

The following diagrams are available:

- Helpdesk tickets by status.
- Helpdesk tickets by group.

- Helpdesk tickets open by severity.
- Helpdesk tickets open by location.

These diagrams are updated every minute.

References

Toolbar icons (Helpdesk)

Certain of the toolbar icons are specific to the Helpdesk function.

To obtain this list and add these icons to the toolbar:

1 Select the **Tools/ Customize toolbar** menu.
2 Select the **Tools** tab.
3 Select **Helpdesk** from the **Categories** list.

For more information on customizing the toolbar, consult the **Tailoring** guide, part 1 **Customizing client computers**, chapter **Customizing a client workstation**, section **Customizing the toolbar**.

Interface options (Helpdesk)

Certain of the interface options are specific to the Helpdesk function.

To learn more about this list and how to configure it:

1 Select the **Edit/ Options** menu.
2 Unfold the **Helpdesk** node.

DBMSs supporting double outer-joins

During the automatic selection of a helpdesk group, contracts are only accounted for if the DBMS supports double outer-joins.

This is the case of:

- DB2 UDB.
- Oracle Database Server.

6 Business services

In Asset Manager, a business service defines all key relationships that link clients and resources within the framework of a global service deployment destined for users (for example, IT application, network system). Resources and clients are portfolio items, associated by different relationship types, in which the resources supply clients with a specific service that contributes to the deployment of the business service.

Managing a service as a business service lets users highlight the complex relationships that exist between clients and resources, and evaluate deployment costs and the impact of a business service failure.

Asset Manager enables you to:

- Create the client-resource relationships involved in a business service.
- Manage downtimes of a business service's resources and analyze their impact.
- Determine the costs linked to the deployment of a business service.

Client-resource relationships

Client-resource relationships are the main components of a business service. They provide a view on the different portfolio items involved in the deployment of the business service and on the different relationship types that link them. The client-resource relationships provide important information to analyze and forecast costs linked to the deployment of the business service.

A client and its resource are associated by a relationship type (the relationship type is the manner in which the client uses the service provided by the resource).

Examples:

- **Connects to**: Can be used to associate an application (client) and its database (resource).
- **Uses IT equipment**: Can be used to associate an application (client) and its host computer (resource).
- **Hosts shared application**: can be used to associate a Web server (client) hosting a shared Web application (resource).

Clients and resources can be associated in different ways:

- 1 client for 1 resource
- 1 client for n resources
- n clients for 1 resource
- n clients for n resources

All client-resource relationships of a business service make up what could be called the "functional representation of the business service". This representation is used to create a diagram of the client-resource relationships that make up the business service and to distinguish the internal elements (involved in the deployment of the service) from the external ones.

Note:

Asset Manager does not allow clients involved in the deployment of the business service to be distinguished precisely from end-user clients (clients that use the business service). The client of client-resource relationship associated with a business service is automatically considered as internal to the business service.

How is a business service represented in Asset Manager?

In Asset Manager, a business service is managed as an asset. This asset is the common element around which the business service's client-resource relationships are centralized. This asset can have expense lines and be associated with contracts and users. The clients and resources involved in a business service are hardware or software type portfolio items (or assets).

To represent a business service in Asset Manager:

1 Create the asset that represents the business service.
2 Create the clients and resources involved in the business service.
3 Create the client-resource relationships of the business service.

Prerequisites: Nature and model of a business service

- The nature associated with the business service must allow an asset whose behavior is "Business service" to be created. If this nature does not already exist in Asset Manager:

  1 Display the natures (**Portfolio management/ Asset configurations/ Natures** link on the navigation bar).

  2 Click **New**.

  3 Populate the fields and links of the nature's detail with the following values:

Field or link	Value
General tab	
Create (seBasis)	Portfolio item
Also create (OverflowTbl)	(No table)
	or
	Software installations or utilizations (amSoft-Install)
Management constraint (seMgtConstraint)	Unique asset tag
Business service (bSystem)	Check this box

  4 Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.

- The model associated with the business service does not have any special features. Make sure that it is only associated with the appropriate nature. If this model does not yet exist in Asset Manager:

  1 Display the models (**Portfolio management/ Asset configurations/ Models** link on the navigation bar).

  2 Click **New**.

  3 Populate the fields and links of the model's detail.

  4 Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.

Creating the asset that represents the business service

1 Display the assets (**Asset lifecycle/ Infrastructure management/ Assets** link on the navigation bar).

2 Click **New**.

3 Populate the fields and links of the asset's detail.

4   Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.

Creating clients and resources involved in a business service

The clients and resources of a business service are portfolio items (or assets). This can be elements that are already saved in Asset Manager. If this is not the case, create them: ▶ Portfolio items [page 27]

Creating client-resource relationships for a business service

You can create as many client-resource relationships as you like as long as they enable you to appropriately describe the exchanges that make up the deployment of the business service:
- Define client-resource relationships in a clear manner adapted to the context.
- Use simple and explicit names for relationship types.

Some best practices

- A portfolio item, client of a resource, can also be a resource for other clients.
- An application involved in a business service must always be associated with the host hardware (server, PC) on which it is installed. In this client-resource relationship, the application is the client and its host is the resource. The host is considered as a full resource of the business service. This is important because:

- It is easier to manage server downtime than downtime for an application that is hosted on the server. An application can be down but not its host. If the host is down, then the application is also down.
- The financial impact is different depending on whether the hardware hosting the application is dedicated to a single business service or if it is used by several business services. For dedicated servers, all hardware, software license and maintenance costs can be directly transferred to the server. This simplifies the evaluation of the total cost of the business service. In all other cases, the costs must be distributed to the clients and resources attached to the server, depending on their involvement in the different business services.
- A resource and its clients can be hosted by the same host hardware.

Create a client-resource relationship type

1 Display the client-resource relationship types (**Asset lifecycle/ IT services and virtualization/ Business services/ Client-resource relationship types** link on the navigation bar).
2 Click **New**.
3 Populate the fields and links of the relationship type's detail, notably:
    - **Impact of downtime** (pClientImpact): Evaluation of the impact of resource's downtime on its clients.
    - **Financial impact calculation method** (seFinImpactCalc): Method used to redistribute TCO of the resource, at the level of the business service.

> **Important:**
>
> It is important to understand the logic behind the different fields and links of the client-resource relationship type detail (see also the **Substitute resources can be used** (seFailOver), **One resource can be defined by default** (bDefault), and **One single resource per client** (bResourceUnicity) fields). They create automatic mechanisms that influence, on a technical (performance) and/or financial (costs) level, the involvement of the associated client-resource relationship, within the business service. For more details, please consult the contextual help on fields and links available in Asset Manager (**Shift**+**F1** keys on the keyboard, on the field or link).

4 Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.

Create a client-resource relationship

Method 1: Creating from the **Create client-resource relationships...** wizard

1 Run and populate the **Create client-resource relationships...** (sysCreateClientsResource) wizard (**Asset lifecycle/ IT services and virtualization/ Business services/ Create client-resources relationships...** browser link).

2 This wizard lets you link a resource to one or more clients in a single operation and create the associated client-resource relationships.

It also allows you to define the parameters for each client resource relationship.

Method 2: Creating from the Client-resource relationships screen

1 Display the client-resource relationship (**Asset lifecycle/ IT services and virtualization/ Business services/ Client-resource relationships** link on the navigation bar).

2 Click **New**.

3 Populate the fields and links of the client-resource relationship's detail.

4 Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.

View client-resource relationships

The client-resource relationships associated with a business service can viewed:

- From the asset detail that represents the business service (**Asset lifecycle/ Infrastructure management/ Assets** link on the navigation bar): Select the **Business services** tab.
- From the list of client-resource relationships (**Asset lifecycle/ IT services and virtualization/ Business services/ Client-resource relationships** link on the navigation bar). This window displays all client-resource relationships (even those that have not been defined within the framework of a business service).
- From the list of business services (**Asset lifecycle/ IT services and virtualization/ Business services/ Business services** link on the navigation bar): On the **Business services** tab of the business service detail, the client-resource relationships are grouped depending on the type of client-resource relationship that is used.

Downtime of a business service's resources

Downtimes of a business service's resources can be planned (server maintenance) or unplanned (network failure). Depending on the extent of the downtime, the resource can become partially or totally unavailable for its clients. This can impact the overall performance of the business service.

Information to be considered before managing resource downtime

Some resources, independently from their involvement in a business service, can be linked to other portfolio items on which they are dependent and which do not appear in the functional representation of the business service. These portfolio items are not directly involved in the business service, but can play a major role indirectly since they act as resources for the resources involved in the business service.

For example: A network switch used to connect the servers hosting applications which act as resources for a business service. The relationships between the switch and the servers do not necessarily appear in the business service's client-resource relationships.

These relationships may need to be considered when managing downtime for a business service's resources. The process that analyzes the impact of resource downtime must also account for portfolio items that the resources use, even if these relationships are not specifically defined within the business service. To do this, client-resource relationships that are equivalent to these relationships must be created with the following characteristics:

- The resource of the business service acts as the client
- The portfolio item that is external to the business service and on which the resource is dependent, acts as the resource
- No business service is associated with the relationship

To create these client-resource relationships ▶ Create a client-resource relationship [page 188].

If the relationship type does not exist ▶ Create a client-resource relationship type [page 187].

Doing this allows you to create downtime for the portfolio item on which the business service's resource is dependent and lets you view the impact that this downtime can have on the entire business service even though the portfolio item is considered as being external to the business service.

To create a downtime ▶ Creating resource downtime [page 190].

To view the impact of downtime ▶ Impact analysis wizards [page 192]

Creating resource downtime

Method 1: creating from a deployment work order

To specify downtime for a work order:

1 Display the **Work orders** (**Asset lifecycle/ Work orders/ Work orders** link on the navigation bar).
2 Select the work order for which you want to specify downtime.
3 In the **Downtime tab** of the work order detail, click the ⊞ icon (Windows client) or **Add** (Web client).

   This will run the **Create downtime from a work order** (sysWOCreateDownTime) wizard.
4 Populate the **Create downtime using a work order** wizard by specifying in the **Asset** field the resource that you wish to make unavailable.

> 💡 Tip:
>
> You will find the downtime created in the table of **Downtimes** (**Asset lifecycle/ IT services and virtualization/ Business services/ Downtime** link on the navigation bar).

Method 2: creating from the Downtime screen

To create a downtime for a resource:

1 Display the **Downtimes** (**Asset lifecycle/ IT services and virtualization/ Business services/ Downtime** link on the navigation bar).
2 Click **New**.
3 Populate the fields and links of the downtime detail.

> 💡 Tip:
>
> You do not need to populate the business service impacted by the downtime of the resource as the resource may be involved in several business services. Its downtime will be automatically distributed to all appropriate business services.

4 Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.

Impact of a resource downtime

To evaluate the impact of a resource's downtime, Asset Manager uses the values from two fields:

- The value of the **Effective availability of the asset** (pAvail) field on the resource's downtime detail.

- The value of the **Impact of downtime** (pClientImpact) field of the relationship type detail that links the resource to its clients.

Below is the formula that is used to calculate the impact:

```
% impact of resource downtime
= % effective resource downtime * % downtime impact on the relationship ty
pe
= (100% - % effective resource availability) * % downtime impact on the re
lationship type
```

The following availability is calculated:

- For clients of the resource

```
% availability at client level = 100% - % impact of resource downtime
```

- For the business service

```
% business service availability = sum of availabilities at client level
/ number of impacted clients
```

Note:

- If a client is impacted by several resource downtimes, then the total availability at the client level corresponds to the smallest of all availabilities calculated for each of the resources that is down.
- Resource downtime is cascaded to clients. This means that if a resource is down, its clients are impacted as well as the clients of the impacted clients (where the impacted clients are resources for other clients). Availability of a business service is only calculated for impacted clients that are not resources for other clients.

Impact of downtime: Examples

1 A resource is only 60% available. The relationship type that links this resource to its clients evaluates the impact of the downtime at 40%.
- The impact of the resource downtime is equal to: (100% - 60%) * 40% = 16%
- The availability at the client level is equal to: 100% - 16% = 84%

2 An application connects to two different databases: **DB1** and **DB2**. Following network problems, the databases are only 40% available each. The relationship type that links DB1 to its clients evaluates the impact of the downtime at 100%. The relationship type that links DB2 to its clients evaluates the impact of the downtime at 80%.
- The impact of the **DB1** downtime is equal to: (100% - 40%) * 100% = 60%
- The availability of **DB1** at the application level is equal to: 100% - 60% = 40%
- The impact of the **DB2** downtime is equal to: (100% - 40%) * 80% = 48%

- The availability of **DB2** at the application level is equal to: 100% - 48% = 52%

The total availability at the application level is equal to 40%.

3 An application is managed as a business service. This business service has the following relationships:

Database (client) uses Server2 computer hardware (resource)

Application (client) uses Server1 computer hardware (resource)

Application (client) connects to database (resource)

The impact of downtime for the "connects to" relationship type is evaluated at 90%. The impact of downtime for the "uses computer hardware" relationship type is estimated at 95%.

At a given period, the database server is only 20% available. Thus:

- The availability of the database is only 24%.
- Clients of the database (the application) are also impacted. The availability at the client level is equal to 31.6%.

Impact analysis wizards

The **Impact of downtime on business service...** (BstImpactAnalysis_Simul) wizard (**Asset lifecycle/ IT services and virtualization/ Business services/ User actions/ Impact of downtime on business service...** link on the navigation bar) lets you simulate resource downtime for given times and dates and to visualize global availability of a business service and its resources.

These wizards display:

- In the top frame: Client level availability
- In the bottom frame:
  - The availability of resources.
  - Downtime of portfolio items on which the resources are dependent and for which a client-resource relationship equivalent to the dependent relationship has been created in Asset Manager.

⚠ Warning:

The **Impact of downtime on a business service...** (BstImpactAnalysis_Simul) wizard is part of the **Business services - business data** line-of-business data. Make sure that you have imported this data before using the wizard.

▶ An example of importing line-of-business data is provided in the **Procurement** guide, **General overview** chapter, **Preliminary steps** section, **Importing line-of-business data into an existing database** paragraph.

Costs linked to a business service

Costs linked to the deployment of a business service originate from the costs of resources and clients involved in the business service:

- Procurement of hardware assets
- Installation of applications and procurement of associated software licenses
- Maintenance contracts, etc

Evaluating these costs requires proper use of Asset Manager's **Procurement**, **Contracts** and **Finance** modules.

Licenses and contracts

Licenses and contracts are taken into account because they have a major financial impact on the business service.

For example, some licenses can be completely dedicated to a single business service but attached to a hardware resource that is only partially involved in the business service. Two types of cases can be distinguished:

- For an application dedicated 100% as a business service resource, you can directly define its associated software license as a sub-asset of the hardware resource hosting the application. In this way, the TCO calculation of an asset taking into account the asset and its associated sub-assets, if the financial impact of the hardware resource is estimated at 100%, the software license will be entirely taken into account.
- If a hardware resource that hosts the licensed application is shared by several business services, the license can be defined as a portfolio item (sub-component of no other portfolio item) involved as a resource in the business service. This license is directly associated with the business service, by a relationship that is exclusively financial: The financial impact is estimated at 100% (**Financial impact** (pFinImpact) field of the client-resource relationship's detail) and the technical impact is estimated at 0% (**Impact of downtime** (pClientImpact) of the relationship type's detail).

The cost of contracts are distributed directly to the assets that are associated with these contracts, depending on the selected distribution method (**Prorate to assets** (seProrateRule) field on the contract detail's **Rents** tab). These associated assets must be involved in the business service.

TCO of a business service

The TCO of ownership (TCO) of a business service displays:

- In the detail of the client-resource relationships (**Total cost of annual ownership (TCO)** (mAvgYearlyTco field of the amAsset table)).
- In the **ROI** tab of the business service detail (**Total cost of annual ownership (TCO)** field (mAvgYearlyTco)).

The calculation sums:

- The TCO of the asset that represents the business service (and its sub-assets).
- The TCO of the resources involved in the business service.

  Calculation of TCO for the resources of the business services depends on the **Financial impact calculation method** (seFinImpactCalc) for the client-resource relationship:

  - If the calculation method is set to **None**: it takes the TCO value of the business service resource.
  - If the calculation method is set to **Use the financial impact of the relationship** : the TCO value of the business service resource is multiplied by the financial impact (**Financial impact** (pFinImpact) field of the client-resource relationship).

  > ✏️ Note:
  >
  > The **Financial impact** (PFinImpact) field of a client-resource relationship only appears and is only used when the value of the **Financial impact calculation method** (seFinImpactCalc) field of the relationship type's detail is set to **Use the financial impact of the relationship**.

  - If the calculation method is set to **Breakdown evenly**: the TCO value of the business service resource is multiplied by:

  ```
  [1-I]/N
  ```

  where:

  - I represents the sum of financial impacts on the resources for which the calculation of the financial impact of the client resource relationship is set to **Use the financial impact of the relationship**.
  - N equals the number of resources whose financial impact calculation method for the client-resource relationship is **Breakdown evenly**.

  This is done for **each** client-resource relationship, even if the resource is used several times.

  The TCO of clients is not taken into account.

For more information on TCO (main concepts, calculations, TCO of a business service) ▶ **Financials** guide, **TCO (Total Cost of Ownership)** chapter.

Practical case

To illustrate management of a business service, we are going to look at Asset Manager Web Service as a business service. Asset Manager Web Service is a service that lets users access the web interface of the Asset Manager application. The main elements involved in the deployment of this business service are:

- Software elements:
  - Instance of an Oracle database
  - Apache Tomcat web server
  - Asset Manager Web Service web application
  - Asset Manager Web Tier web application

    The Asset Manager Application Designer process is added to insert the Asset Manager user license and the Asset Manager Automated Process Manager process to manage the monitoring system (alarms, workflows, etc.) and to automatically trigger actions from Asset Manager Web.
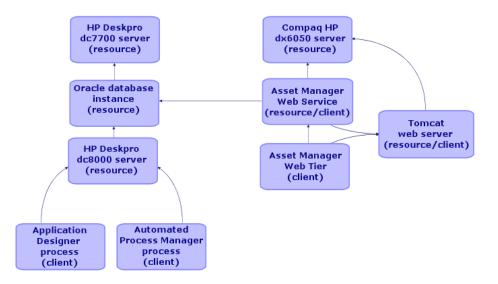
- Hardware elements:
  - Compaq HP dx6050 server on which the Oracle database is installed.
  - HP Deskpro dc7700 server on which the Asset Manager Web Service and Asset Manager Web Tier applications are deployed via the Tomcat web server.
  - HP Deskpro dc8000 server on which the Asset Manager Automated Process Manager and Asset Manager Application Designer applications are installed.

In order for the Asset Manager Web service to be deployed (and made available via a user's web browser for example):

- Asset Manager Web Service connects to the Oracle database instance.
- Asset Manager Web Tier connects to Asset Manager Web Service.
- Asset Manager Automated Process Manager and Asset Manager Application Designer connect to the Oracle database instance.

This business service can be represented as in the following diagram:

Figure 6.1. Practical case - Functional representation of the "Asset Manager Web" business service

The Compaq HP dx6050 server undergoes a monthly maintenance operation during which the server is only 20% available.

The goal of this practical case is to:

1. Define the business service by creating the client-resource relationships that compose it.
2. Simulate downtime of the Compaq HP dx6050 server and analyze the impact on the total availability of the business service.
3. Analyze the financial impact of the different components of the business service

Here are the steps of the scenario:

1. Create the asset that represents the business service.
2. Create clients and resources involved in the deployment of the business service.
3. Create client-resource relationship types.
4. Create the client-resource relationships of the business service.
5. Simulate the downtime of the Compaq HP dx6050 server.
6. Analyze the financial impact.

Step 1: Create the asset that represents the business service

Creating the nature

1 Display the natures (**Portfolio management/ Asset configurations/ Natures** link on the navigation bar).

2 Create a record by populating the fields and links as shown in the following table:

Field or link	Value
Name (Name)	PC_Business service
General tab	
Create (seBasis)	Portfolio item
Also create (OverflowTbl)	(No table)
Management constraint (seMgtConstraint)	Unique asset tag
Business service (bSystem)	Check this box

Creating the model

1 Display the models (**Portfolio management/ Asset configurations/ Models** link on the navigation bar).

2 Create a record by populating the fields and links as shown in the following table:

Field or link	Value
Name (Name)	PC_Asset Manager Web business service
General tab	
Nature (Nature)	PC_Business service

Creating the asset

1 Display the assets (**Asset lifecycle/ Infrastructure management/ Assets** link on the navigation bar).

2 Create a record by populating the fields and links as shown in the following table:

Field or link	Value
Model (Model)	PC_Asset Manager Web business service

Step 2: Create clients and resources involved in the deployment of the business service

Creating the natures

1 Display the natures (**Portfolio management/ Asset configurations/ Natures** link on the navigation bar).

2 Create the following records by populating the fields and links as shown in the following tables:

Field or link	Value
Name (Name)	PC_Host servers
General tab	
Create (seBasis)	Portfolio item
Also create (OverflowTbl)	IT equipment (amComputer)
Management constraint (seMgtConstraint)	Unique asset tag
Has software installed (bHasSoftInstall)	Check this box
Type of equipment	Computer

Field or link	Value
Name (Name)	PC_IT applications
General tab	
Create (seBasis)	Portfolio item
Also create (OverflowTbl)	Software installations or utilizations (amSoftInstall)
Management constraint (seMgtConstraint)	Unique asset tag

Creating the models

1 Display the models (**Portfolio management/ Asset configurations/ Models** link on the navigation bar).

2 Create the following records by populating the fields and links as shown in the following tables:

Field or link	Value
Name (Name)	PC_Compaq HP dx6050 server
General tab	

Field or link	Value
Nature (Nature)	PC_Host servers

Field or link	Value
Name (Name)	PC_HP Deskpro dc7700 Server
General tab	
Nature (Nature)	PC_Host servers

Field or link	Value
Name (Name)	PC_HP Deskpro dc8000 Server
General tab	
Nature (Nature)	PC_Host servers

Field or link	Value
Name (Name)	PC_Oracle instance
General tab	
Nature (Nature)	PC_IT applications

Field or link	Value
Name (Name)	PC_Asset Manager Web Service
General tab	
Nature (Nature)	PC_IT applications

Field or link	Value
Name (Name)	PC_Asset Manager Web Tier
General tab	
Nature (Nature)	PC_IT applications

Field or link	Value
Name (Name)	PC_Apache Tomcat server
General tab	
Nature (Nature)	PC_IT applications

Field or link	Value
Name (Name)	PC_Server process
General tab	
Nature (Nature)	PC_IT applications

Field or link	Value
Name (Name)	PC_Administrator process
General tab	

Field or link	Value
Nature (Nature)	PC_IT applications

Creating assets corresponding to resources

> **Tip:**
>
> Resources of the business service are managed as assets in order to create downtimes for them if necessary.

1 Display the assets (**Asset lifecycle/ Infrastructure management/ Assets** link on the navigation bar).
2 Create the following records by populating the fields and links as shown in the following tables:

Field or link	Value
Model (Model)	PC_Compaq HP dx6050 server

Field or link	Value
Model (Model)	PC_HP Deskpro dc7700 Server

Field or link	Value
Model (Model)	PC_HP Deskpro dc8000 Server

Field or link	Value
Model (Model)	PC_Oracle instance

1 Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.
2 Display the **Portfolio** tab.

> **Note:**
>
> If you are using the Windows client, ignore the following two steps.

3 Click the **PC_Oracle Instance** link.
4 Click **Modify**.

Portfolio tab	
Component of (Parent)	PC_Compaq HP dx6050 server

Field or link	Value
Note:	

If you are using the Windows client, ignore the following two steps.

1 Click **Save**.
2 Click the **Back to main document** link.

Field or link	Value
Model (Model)	PC_Apache Tomcat server

◈ Windows client:
   1 Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.
   2 Display the **Portfolio** tab.

> Note:
>
> If you are using the Windows client, ignore the following two steps.

   3 Click the **PC_Apache Tomcat server** link.
   4 Click **Modify**.

Portfolio tab

Component of (Parent)	PC_HP Deskpro dc7700 Server
Note:	

If you are using the Windows client, ignore the following two steps.

1 Click **Save**.
2 Click the **Back to main document** link.

Field or link	Value
Model (Model)	PC_Asset Manager Web Service

Creating portfolio items corresponding to clients

1 Display the portfolio items (**Asset lifecycle/ Infrastructure management/ Portfolio items** link on the navigation bar).
2 Create the following record by populating the fields and links as shown in the following tables:

Field or link	Value
Model (Model)	PC_Asset Manager Web Tier

Field or link	Value
Model (Model)	PC_Server process

Field or link	Value
General tab	
Component of (Parent)	PC_HP Deskpro dc8000 Server

Field or link	Value
Model (Model)	PC_Administrator process
General tab	
Component of (Parent)	PC_HP Deskpro dc8000 Server

Step 4: Create client-resource relationship types

1 Display the client-resource relationship types (**Asset lifecycle/ IT services and virtualization/ Business services/ Client-resource relationship types** link on the navigation bar).

2 Create the following records by populating the fields and links as shown in the following tables:

Field or link	Value
Name (Name)	PC_Uses the database
General tab	
Impact of downtime (pClientImpact)	90%
One single resource per client (bResourceUnicity)	Clear this option
Financial impact calculation method (seFinImpactCalc)	Use the financial impact of the relationship

Field or link	Value
Name (Name)	PC_Is deployed on
General tab	
Impact of downtime (pClientImpact)	100%
One single resource per client (bResourceUnicity)	Clear this option
Financial impact calculation method (seFinImpactCalc)	Use the financial impact of the relationship

Field or link	Value
Name (Name)	PC_Connects to
General tab	
Impact of downtime (pClientImpact)	95%
One single resource per client (bResourceUnicity)	Clear this option

Field or link	Value
Financial impact calculation method (seFinImpactCalc)	Use the financial impact of the relationship

Field or link	Value
Name (Name)	PC_Uses computer hardware
General tab	
Impact of downtime (pClientImpact)	100%
One single resource per client (bResourceUnicity)	Clear this option
Financial impact calculation method (seFinImpactCalc)	Use the financial impact of the relationship

Step 5: Create the client-resource relationships of the business service

1 Run the **Create client-resource relationships...** wizard (sysCreateClientsResource) (**Asset lifecycle/ IT services and virtualization/ Business services/ User actions/ Create client-resource relationships...** link on the navigation bar).

2 Populate the **Create client-resource relationships...** wizard as shown in the following tables:

Field or link	Value
Page **Select the resource of the selected business service**	
Business service	PC_Asset Manager Web business service
Resource	PC_Compaq HP dx6050 server
Click **Next**	
Page **Select the clients of the selected business service**	
Clients	PC_Oracle instance
Click **Next**	
Page **Define the parameters of the client-resource relationship**	
Select **PC_Oracle Instance**	
Relationship type	PC_Uses computer hardware
Financial impact	40
Click **Apply to all selected clients**	
Click **Next**	
Page **Summary**	
Re-run the Create client-resource relationships wizard after clicking **Finish**	Check this box
Click **Finish**	

Field or link	Value
Click **OK**	

Field or link	Value
Page **Select the resource of the selected business service**	
Business service	PC_Asset Manager Web business service
Resource	PC_Oracle instance
Click **Next**	
Page **Select the clients of the selected business service**	
Clients	▪ PC_Server process
	▪ PC_Administrator process
	▪ PC_Asset Manager Web Service
Click **Next**	
Page **Define the parameters of the client-resource relationship**	
Select **PC_Server Process**	
Relationship type	PC_Uses the database
Financial impact	20
Click **Apply to all selected clients**	
Select **PC_Administrator Process**	
Relationship type	PC_Uses the database
Financial impact	15
Click **Apply to all selected clients**	
Select **PC_Asset Manager Web Service**	
Relationship type	PC_Uses the database
Financial impact	8
Click **Apply to all selected clients**	
Click **Next**	
Page **Summary**	
Re-run the Create client-resource relationships wizard after clicking on 'Finish'.	Check this box
Click **Finish**	
Click **OK**	

Field or link	Value
Page **Select the resource of the selected business service**	
Business service	PC_Asset Manager Web business service
Resource	PC_HP Deskpro dc7700 Server
Click **Next**	
Page **Select the clients of the selected business service**	
Clients	PC_Apache Tomcat server
Click **Next**	
Page **Define the parameters of the client-resource relationship**	
Select **PC_Apache Tomcat Server**	
Relationship type	PC_Uses computer hardware

Field or link	Value
Financial impact	35
Click **Apply to all selected clients**	
Click **Next**	
Page **Summary**	
Re-run the Create client-resource relationships wizard after clicking on 'Finish'.	Check this box
Click **Finish**	
Click **OK**	

Field or link	Value
Page **Select the resource of the selected business service**	
Business service	PC_Asset Manager Web business service
Resource	PC_Apache Tomcat server
Click **Next**	
Page **Select the clients of the selected business service**	
Clients	■ PC_Asset Manager Web Service ■ PC_Asset Manager Web Tier
Click **Next**	
Page **Define the parameters of the client-resource relationships**	
Select **PC_Asset Manager Web Service** and **PC_Asset Manager Web Tier**	
Relationship type	PC_Is deployed on
Financial impact	10
Click **Apply to all selected clients**	
Click **Next**	
Page **Summary**	
Re-run the Create client-resource relationships wizard after clicking on 'Finish'.	Check this box
Click **Finish**	
Click the **OK** button	

Field or link	Value
Page **Select the resource of the selected business service**	
Business service	PC_Asset Manager Web business service
Resource	PC_Asset Manager Web Service
Click **Next**	
Page **Select the clients of the selected business service**	
Clients	PC_Asset Manager Web Tier
Click **Next**	
Page **Define the parameters of the client resource relationship**	
Select **PC_Asset Manager Web Tier**	
Relationship type	PC_Connects to
Financial impact	100
Click **Apply to all selected clients**	
Click **Next**	

Field or link	Value
Summary of changes page	
Click **Finish**	
Click the **OK** button	

To view all client-resource relationships of the business service:

1   Display the **Business services** (**Asset lifecycle/ IT services and virtualization/ Business services/ Business services** link on the navigation bar).

2   In the **Business services** tab of the business service detail **PC_Asset Manager Web business service**, you can see all the client-resource relationships of the business service, listed by client-resource relationship type.

Step 6: Simulate the downtime of the Compaq HP dx6050 server

1   Display the Impact analysis: Simulation wizard (**Asset lifecycle/ IT services and virtualization/ Business services/ User actions/ Impact of downtime on a business service...** link on the navigation bar).

2   On the first page of the wizard:

1   Select the **PC_Asset Manager Web business service** web business service.

2   Click **Next**.

Availabilities of all resources are set to **100%**.

3   In the **Availability** column, set the availability of PC_Compaq HP dx6050 server to **20**, then click **Finish**.

The wizard displays the results of the simulation:

- PC_Oracle instance is impacted because it is a client of PC_Compaq HP dx6050 server. Its availability is now **20%**.

- PC_Asset Manager Web Service, PC_Server process and PC_Administrator process are impacted because they are clients of PC_Oracle instance. The availability of each of these clients falls to **28%**.

- PC_Asset Manager Web Tier is impacted because it is a client of PC_Asset Manager Web Service. The availability for this client falls to **31.6%**.

- The total availability of the business service is calculated taking into account impacted clients that are not also used as a resource by other clients: These are PC_Asset Manager Web Tier, PC_Server process and PC_Administrator process. The availability of the business service is equal to:

% availability PC_Asset Manager Web Tier + % availability PC_Server process + % availability PC_Administrator process / 3 = 29.2%.

Step 7: Analyze the financial impact

Thanks to the features available in Asset Manager's **Procurement**, **Contracts** and **Finance** modules, users can evaluate the different expenses that contribute to the costs linked to the business service, including:

- Procurement of host servers: Expense lines are generated for each purchase.
- Cost of the Asset Manager license and the associated maintenance contract:

  The Asset Manager license (useful for deploying Asset Manager Web) is completely dedicated to the business service. Its cost will be entirely transferred to the business service. The license will be created as a resource associated directly to the business service by a client-resource relationship that is exclusively financial (Financial impact equals 100% and Impact of downtime equals 0%). It is important to associate a rent to the maintenance contract attached to this license. This will ensure that the expense lines generated by the contract are transferred to the license and, ultimately, to the TCO of the business service.

- Cost of the Oracle license associated with PC_Oracle instance: The cost of this license is partially transferred because the financial impact of the PC_Oracle instance resource is only 30%.
- Operational costs for servers and applications: Expense lines generated by installations, internal chargeback processes, etc.

The TCO of the business service will be the sum of the TCO of the PC_Asset Manager Web business service asset (asset that represents the business service) and the TCOs of the business service's resources, taking into account the financial impact that is evaluated for each client-resource relationship.
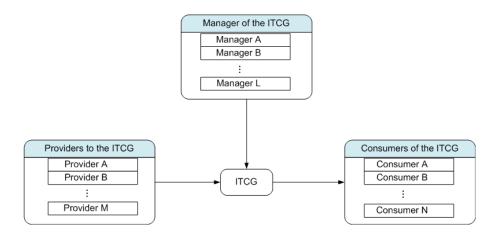
7 Cloud computing

Asset Manager enables you to manage the IT cloud infrastructure and prepares you to manage the relationship between the infrastructure and the services which are provided by the shared pool of configurable computing resources (for example, servers, storage and applications).

Overview

Asset Managers cloud computing management functionality is based on the assumption that an aggregation of IT portfolio items is managed as a single portfolio item (PI). Therefore, a new concept is introduced: the IT Component Group (ITCG), a virtual PI that represents a collection of PIs, thereby facilitating cloud infrastructure management.

The following figure shows the cloud management objects and their client-resource relationships.

- ITCG

  An ITCG is a special class of asset which represents an aggregation of IT portfolio items, for example, a physical or virtual server cluster. In the figure, the ITCG aggregates the computing resources from Provide A, B, ..., n.
- Provider to the ITCG

  An asset which provides its resource to an ITCG. As shown in the figure, the resource of multiple providers are combined as a resouce pool, that is, the ITCG.
- Consumer of the ITCG

  An asset which consumes the resource provisioned by the ITCG. The resource of an ITCG can be assigned to multiple consumers.
- Manager of the ITCG

  An asset which manages the service provided by the ITCG. An ITCG can either have a single or multiple managers.

The client-resource relationship types between the managed objects are:
- VI:Multiple Consumers Draw Resources from Multiple Aggregations
- VI:Multiple Consumers Draw Resources From A Single Aggregation
- VI:Multiple Aggregations Are Managed By Multiple Managers
- VI:Multiple Aggregations Are Managed By A Single Manager
- VI:A Single Aggregation Is Managed By Multiple Managers
- VI:A Single Aggregation Pools Resources From Multiple Providers

Prerequisites

Based on the cloud management architecture, the managed objects can have four virtualization roles: provider, aggregation, consumer and manager. Accordingly, a cloud infrastructure asset should be associated to specific models and natures.

The nature assoicated to the model of the cloud computing management objects should be one of the following, depending on the role of the asset.

- Computer Provider
- Computer Consumer
- Computer Aggregation
- Computer Manager
- Storage Provider
- Storage Consumer
- Storage Aggregation
- Storage Manager

Creating the model of a a cloud computing management object

1 Display the models by selecting **Portfolio management/ Asset configurations/ Models** from the navigation menu.
2 Click **New**.
3 Populate the fields and links of the model's detail.

Field or link	Value
General tab	
Nature	The valid nature values are listed in Prerequisites [page 211].
Virtualization role	This value is automatically populated upon selecting the **Nature**.

Creating the asset that represents the cloud computing management object

1 Display the assets by selecting **Asset lifecycle/ Infrastructure management/ Assets** from the navigation menu.
2 Click **New**.
3 Populate the fields and links of the asset's detail.

Field or link	Value
Model	Make sure the nature associated to the model should be either of the values listed in Prerequisites [page 211].
Portfolio tab	
Can be part of VI	Yes
Virtualization role	Select this value in accordance with the role of the object in the cloud, ■ ITCG: Aggregation ■ Provider to the ITCG: Provider ■ Consumer of the ITCG: Consumer ■ Manager of the ITCG: Manager

A record is automatically inserted into the IT component Groups (SQL name: amITCompGrpVI) screen as soon as you have created an asset whose **Virtualization role** is **Aggregation**.

Managing the client-resource relationships between the objects

You can create, remove and update the client-resource relationships between an ITCG and its providers/consumers/managers.

Design of the IT Component Groups screen

There are three list boxes in the **IT Component Groups** tab of the ITCG record detail.

The items in the list boxes are displayed via the link from the Client-resource relationships table to the IT Component Groups table.

Providers to the IT Component Group box lists the relationships (whose Client is the ITCG) with the following CR relationship type,

◆ VI:A Single Aggregation Pools Resources From Multiple Providers

Managers of the IT Component Group box lists the relationships (whose Client is the ITCG) with the following CR relationship types,

■ VI:Multiple Aggregations Are Managed By Multiple Managers
■ VI:Multiple Aggregations Are Managed By A Single Manager
■ VI:A Single Aggregation Is Managed By Multiple Managers

Consumers of the IT Component Group box lists the relationships (whose Resource is the ITCG) with the following CR relationship types,

■ VI:Multiple Consumers Draw Resources from Multiple Aggregations
■ VI:Multiple Consumers Draw Resources From A Single Aggregation

Creating the client-resource relationships

1 Display the IT Component Groups screen (**Asset lifecycle/ IT services and virtualization/ Cloud computing/ IT Component Groups** navigation menu).

2 Display the detail of the ITCG for which you want to create providers/consumers/managers.

3 Launch the **Create Client-Resource Relationships to Component Group** wizard by:
   - Clicking **Create CRR** (Windows client) or select **Add a relationship to an IT Component Group (Aggregation)** from the Action drop-down list (Web client).
   - Or, selecting **Create Component CR Relationships** from the **Asset lifecycle/ IT services and virtualization/ Cloud computing/ IT Component Groups/ User actions** navigation menu.

4 In the **Create Client-Resource Relationships for Component Group** wizard,

Field or link	Action
Select Component Role and Group page	
Component Virtualization role	The valid values are, ■ Provider ■ Consumer ■ Manager Select Provider, for example, to create a new provider for an ITCG.
Aggregation Model Filter	■ If you have launched the wizard from the navigation menu, this field works with the **Filter Groups by Model** button to help you find your wanted ITCG. ■ Otherwise, this field is automatically populated with the model of the ITCG you have selected in step 2.
Select the ITCG from the list box and click **Next**.	
Create Provider Client-Resource Relationships page	
CR Relationship type	Note: If you are creating a new provider, this field is read-only beacuse there is only one valid CR type between the ITCG and provider. ▶ Overview [page 209] Select the CR Relationship type.

Field or link	Action
Aggregation state	The valid values are,
	■ In preparation
	■ Awaiting approval
	■ Approved
	■ In service
	■ Out of service
	■ Retired
Active start date	Enter the active start date of the CR Relationship.

Windows client: the available selections automatically display in the list box.

Web client: click **Update list** to display the available selections.

Note:

The list box will show a prompt message if there are no available selections matching your entered properties.

Select the asset from the list box and click **Finish**.

As soon as you finish the creation, a new record is inserted into the Client-resource relationships table (accessed from **Asset lifecycle/ IT services and virtualization/ Business services** navigation menu). It is also displayed in the corresponding list box in the **IT Component Groups** tab of the ITCG record detail.

Updating the client-resource relationships

1 Display the IT Component Groups screen (**Asset lifecycle/ IT services and virtualization/ Cloud computing/ IT Component Groups** navigation menu).

2 Display the detail of the ITCG for which you want to modify the CR relationship.

3 Launch the **Update Client-Resource Relationships to Component Group** wizard by

   ■ clicking **Update CRR** (Windows client) or select **Update a relationship on an IT Component Group (Aggregation)** from the Action drop-down list (Web client).

   ■ or, selecting **Update Component CR Relationships** from the **Asset lifecycle/ IT services and virtualization/ Cloud computing/ IT Component Groups/ User actions** navigation menu.

4 In the **Update Client-Resource Relationships for Component Group** wizard,

Field or link	Action
Select Component Role and Group page	
Component Virtualization role	The valid values are,
	■ Provider
	■ Consumer
	■ Manager
	Select Provider, for example, to update the CR relationship properties between the ITCG and the provider.
Aggregation Model Filter	■ If you have launched the wizard from the navigation menu, this field works with the **Filter Groups by Model** button to help you find your wanted ITCG.
	■ Otherwise, this field is automatically populated with the model of the ITCG you have selected in step 2.
Select the ITCG from the list box and click **Next**.	
Update Provider Client-Resource Relationships page	
CR Relationship type	Note:
	If you are updating a provider-ITCG relationship, this field is read-only beacuse there is only one valid CR type between the ITCG and provider.
	▶ Overview [page 209]
	Select the CR Relationship type.
Current Aggregation state in	Enter the current aggregation state of the CR relationships that you want to modify.
Update Aggregation state to	Select what state you want to modify the relationships to.
Windows client: the available selections automatically display in the list box.	
Web client: click **Update list** to display the available selections.	
Update Active start date to	Enter the new Active start date.
Update Active end date to	Enter the new Active end date.
Note:	
The list box will show a prompt message if there are no available selections matching your entered properties.	
Select the asset from the list box and click **Finish**.	

Removing the client-resource relationships

1 Display the IT Component Groups screen (**Asset lifecycle/ IT services and virtualization/ Cloud computing/ IT Component Groups** navigation menu).

2   Display the detail of the ITCG from which you want to remove the CR relationships.

3   Launch the **Remove Client-Resource Relationships to Component Group** wizard by:

- Clicking **Remove CRR** (Windows client) or select **Remove a relationship from an IT Component Group (Aggregation)** from the Action drop-down list (Web client).

- Or, selecting **Remove Component CR Relationships** from the **Asset lifecycle/ IT services and virtualization/ Cloud computing/ IT Component Groups/ User actions** navigation menu.

4   In the **Remove Client-Resource Relationships for Component Group** wizard,

Field or link	Action
Select Component Role and Group page	
Component Virtualization role	The valid values are,
	■ Provider
	■ Consumer
	■ Manager
	Select Provider, for example, to remove the provider of the ITCG.
Aggregation Model Filter	■ If you have launched the wizard from the navigation menu, this field works with the **Filter Groups by Model** button to help you find your wanted ITCG.
	■ Otherwise, this field is automatically populated with the model of the ITCG you have selected in step 2.
Select the ITCG from the list box and click **Next**.	
Remove Provider Client-Resource Relationships page	
CR Relationship type	Note:
	If you are removing a provider, this field is read-only beacuse there is only one valid CR type between the ITCG and provider.
	▶ Overview [page 209]
	Select the CR Relationship type.
Update Aggregation state to	Select what state you want to modify the relationships to.
Windows client: the available selections automatically display in the list box.	
Web client: click **Update list** to display the available selections.	
Update Active end date to	Enter the new Active end date.

Field or link	Action

Note:

The list box will show a prompt message if there are no available selections matching your entered properties.

Select the asset from the list box and click **Finish**.

Managing the ITCG resource pool

Besides the CR relationships surrounding the ITCG, the cloud infrastructure management also involves calculating the size of the ITCG resource pool.

Because an ITCG resource pool is the aggregation of the resources from its providers, when calculating the pool size, the system sums the countable resource of each provider. Therefore, you need to define which dimensions of a provider are considered as the "countable resource" and can be aggregated as part of the resource pool. For example, the CPU count.

Creating an aggregation dimension

1   Display the Aggregation screen (**Asset lifecycle/ IT services and virtualization/ Cloud computing/ IT Component Groups/ Aggregation** navigation menu).
2   Click **New**.
3   Enter the full name of the field that to be aggregated when an asset serves as the provider virtualization role. For example, Computer.lDiskSizeMb.
4   Save the creation.

Associating/dissociating the aggregation fields to/from an aggregation nature

Asset Manager offers two aggregation natures: **Computer aggregation** and **Storage aggregation**. By default, an ITCG with Computer aggregation nature aggregates the Core **CPU count**, **Disk size**, **CPU count** of its providers. While an ITCG with Storage aggregation nature aggregates only the **Disk size**. You can add or remove the aggregation fields when needed.

1   Display the nature screen (**Portfolio management/ Asset configurations/ Natures** navigation menu).
2   Select the **Aggregation** tab of the **Computer aggregation** or **Storage aggregation** detail.

3 Click **+/-** (Windows client) or **Add/Delete** (Web client) to add or remove aggregation fields.

Viewing the aggregated resource amount (Windows client)

1 Configure the IT Component Groups record list to show the **Core CPU count**, **Disk size**, **CPU count** columns.

2 Check the number shown in the three columns.

If the nature associated to the ITCG defines **Disk size** as one of its aggregation fields, then the disk size of this ITCG equals to the sum of its providers' disk size.

8 Work orders

Portfolio items can be involved in work orders (maintenance) or can be included in projects that necessitate their use (need IT hardware for a long-term training session).

A work order is an operation carried out on a portfolio item to resolve a problem: Service, user support, repair, relocation, etc.

To display the list of work orders, click the **Asset lifecycle/ Work orders/ Work orders** link on the navigation bar.

Work orders are described as a tree structure of work orders (or sub-tasks). You can assign as many sub-tasks to a work order as you like. A work order can be based on a work-order template. A template describes a generic work order or a standard procedure. The information defined in the template is copied over to the work order detail.

Sub-tasks are also work orders. They enable a work order to be divided up into elementary work orders. All sub-tasks must be performed for the work order to be complete.

The sub-task of a work order can be performed sequentially or simultaneously. The **Sequencing** field (SQL name: lSequenceNumber) enables you to specify the order of sub-tasks. This field has the following conditions attached to it:

- Two work orders with the same sequencing level can be executed in parallel.
- A lower number indicates a higher priority in performing the work order/sub-task.

Types of work orders

The **Type** field (SQL name: seType) in the **General** tab of the work order detail indicates the type of work order. This field is associated with a system-itemized list.

The fields in the **Tracking** tab in the work order detail vary according to the type of selected work order.

Internal maintenance

You can specify the technician and group in the **Int. technician** and **Group** fields (SQL name: Technician and EmplGroup) in the **Technician** sub-tab of the **Tracking** tab.

On-contract maintenance

In general, all work orders performed under contract are not invoiced.

- The **Contract** field in the **Technician** sub-tab of the **Tracking** tab enables you to select the contract associated with the work order. Asset Manager only displays contracts associated with the portfolio item concerning this work order.
- You can specify the technician and company in the **Ext. Technician** (SQL name: Contact) and **Company** (SQL name: Supplier) fields in the **Technician** sub-tab of the **Tracking** tab. If you populated the **Company** field before populating the **Ext. Technician** field, Asset Manager displays contacts from the selected company only.

Off-contract maintenance

These work orders are just that: work orders not covered by the existing maintenance contract or work orders concerning companies with which no contract has been signed. In general, these calls are invoiced.

- If this is a work order not covered by an existing maintenance contract, you can specify the contract in the **Contract** field (SQL name: Contract) in the **Technician** sub-tab of the **Tracking** tab. Asset Manager displays the contracts associated with the asset only.
- You can specify the technician by indicating a person from the list of contacts for all third-party companies in the **Ext. Technician** field (SQL name: Contact) in the **Technician** sub-tab of the **Tracking** tab. If you populated

the **Company** field (SQL name: Supplier), Asset Manager displays contacts from the selected company only.

Evolution of work orders

Life-cycle of a work order

The life-cycle of a work order is as follows:

Figure 8.1. Work order - Full cycle

Each step of this cycle occurs on or is scheduled for a given date. The transition to a given stage is reflected in the **Status** field (SQL name: seStatus).

Table 8.1. Work order - The different statuses

Stage	Status
Notification of work order	**Notified**
Start of work order	**In progress**
End of work order	**Closed**

The detail screen of a work order and the **Scheduling** sub-tab of its **Tracking** tab specify the dates of the different stages: date of notification, planned start date, actual start date, etc.

Status of a work order and automatic mechanisms

The **Status** field (SQL name: seStatus) at the top of a work order specifies its status. This field is automatically calculated by Asset Manager according to the dates given in the **Scheduling** sub-tab of the **Tracking** tab of the work

order slip or following an action performed by a user clicking one of the action buttons:

- By default, the status of the work order is: **Notified**.
- The status changes to **Scheduled** when the **Planned start** field (SQL name: dtSchedFixStart) is populated.
- The status changes to **In progress** in of the following cases:
    - The **Actual start** field (SQL name: dtActualFixStart) is populated.
    - The user clicks ❖ Start (Windows client) or select **Start work order** from **Actions** (Web client).
    - The status of one of the work orders is **In progress**.
- The status of the work order changes to **Closed** in the following cases:
    - The user clicks **Close** (Windows client) or select **Close work order** from **Actions** (Web client).
    - All the sub-work orders of a work order are **Closed**.

Tracking work orders

The **Tracking** tab in a work order detail enables you to accurately control the scheduling and performance of a work order.

This tab is divided into a series of sub-tabs.

- The **Technician** tab details, according to the work order type, the information concerning the person responsible for the work order.
- The **Sub-tasks** tab enables you to structure a work order hierarchically by dividing it into a series of sub-work orders. These can be performed in parallel or sequentially according to the value of the **Sequencing** field (SQL name: lSequenceNumber) for each of the sub-work orders.
- The **Scheduling** tab shows a schedule of the work order: Planned date of resolution, Actual date of resolution, date-third party maintenance called (in the case of an **On-contract maintenance** or **Off-contract maintenance** type contract). You can also select a business period calendar that will be used by Asset Manager in calculating dates and time limits linked to the work order.
- The **Close** tab details the information linked to the end of the work order.

Managing work orders

Create a virtual hierarchy on the work order screen

> ✎ Note:
>
> This functionality is currently not supported in the Web client.

For ease of use, we recommend customizing the link associated with the **Asset** field in the Work Orders table and create a virtual hierarchy.

To customize the displaying of the link associated with the asset:

1 Right-click the **Asset** field.
2 Select **Properties of link editor/ Group by/ Select a grouping**.
3 In the window that is displayed, select the model associated with the asset (**Model** link).

   Now the list of assets is displayed hierarchically according to the models associated with the assets.

Create a work order

When a problem is reported, create a work order report using one of two methods:

- Display the list of work orders (**Asset lifecycle/ Work orders/ Work orders** link on the navigation bar) and click **New**.
- Or display the **Work orders for this asset** sub-tab of **Maint.** tab of the asset detail and then click ➕ (Windows client) or **Add** (Web client) to add a service report.

Use views or filters to manage the work orders

Technicians can find the work orders that concern them by displaying either a view or the work orders list with an appropriate filter (for example, a filter that combines criteria covering fields such as **Technician** (SQL name: Contact), **Company** (SQL name: Supplier), **Maint. provider #** (SQL name: MaintNumber), **Status** (SQL name: seStatus), **Priority** (SQL name: Priority)).

The administrator may regularly analyze the work in progress using views or filters:

- Work orders that have not yet been scheduled: Status = **Notified**.

- Late work orders: Status = **Scheduled** and the **Planned start** (SQL name: dtSchedFixStart) < today's date.
- Ongoing work orders: Status = **In progress**.
- List of work orders whose status is **In progress** by technician, third party company, or contract.

💡 Tip:

We recommend you to add these queries (in the **Administration/ Queries** navigation menu), so you can select them from **Query filter** (Windows client) or **Filters** (Web client).

The administrator may regularly analyze the work performed using views or filters:
- Difference between the scheduled duration and the actual duration.
- Analysis of the time required to resolve the call.
- Difference between the date of the call to the maintenance supplier and the first call date, compared to the first call delay specified in the contract.

9 Projects

A project lets you describe an operation concerning a group of assets and/or persons.

Creating projects

To create a project:

1 Use the **Organization management/ Organization/ Projects** menu to display the list of projects.

2 Create a new project by clicking **New**.

3 Fill in the fields in the **General** tab, especially the end of project date and if necessary an alarm ⏰ (Windows client) or 🕐 (Web client).

> 📝 Note:
>
> If you are using the Web client, you need to save the creation before adding the alarm.

4 Use the **Assets** tab to add the assets used for the project.

5 Specify the employees concerned by the project in the **Employees** tab.

6 If you need to add other assets to the project at a later date, start either from the **Projects** tab in the details of the assets to be added, or from the **Assets** tab in the project detail.

7   Check the status of current projects regularly. Filters and views offer possibilities that make this easy. You can combine criteria concerning the **Start**, **End** and **Status** fields (SQL names: dStart, dEnd, and Status) to view projects that are underway, late, etc.

> 💡 Tip:
>
> We recommend you to add these queries (in the **Administration/ Queries** navigation menu), so you can select them from **Query filter** (Windows client) or **Filters** (Web client).

Synchronizing project data from HP Project and Portfolio Management

Introduction

The Asset Manager and HP Project and Portfolio Management software solutions enable customers to both measure and communicate the value the IT organization is providing to the businesses it supports.

Integrating Asset Manager and HP Project and Portfolio Management provides a unified portal for all operational and strategic IT investments, to help managers select optimal investments and wring cost savings out of their operational IT spend. Labor and non-labor costs associated with a project are centralized in Asset Manager.

HP Project and Portfolio Management provides the best-practice templates and processes needed to get started on the road to optimized project and portfolio management. HP Project and Portfolio Management integrates and unifies all of the discrete elements that make up the IT workload - from IT demand management to financial management, time management and resource management, to project management and program management - to enable real-time visibility into all IT activities. In addition, HP Project and Portfolio Management is built on top of a powerful workflow process engine that can automate project management processes. These capabilities enable HP Project and Portfolio Management to provide the Project Management Office with the visibility, controls and flexibility needed to align IT services with business objectives.

Asset Manager's powerful ITIL-aligned financial management capabilities and robust computation engine help organizations manage the full life cycle of assets, from procurement to retirement and capture costs, report them against any kind of asset, chargeback for service usage, and make this information available to C-level executives for business decision-making.

Prerequisites

Installations of the following products are required before the integration:
- Asset Manager 9.30
- HP Project and Portfolio Management 7.5
- HP Connect-It (supported versions as defined in the Asset Manager support matrix)

Integration procedure

This section explains how to implement the first level integration between Asset Manager and HP Project and Portfolio Management. (Further enhancements are then possible, depending on your project management requirements.)

The dedicated HP Connect-It connector called **Project and Portfolio Management Center** allows Asset Manager to access two of the HP Project and Portfolio Management Web Services, (via two instances of the connector):
- **Project Service** (to retrieve information about the projects)
- **Finance Service** (to retrieve actual costs for the projects)

To configure the link to the HP Project and Portfolio Management application server:

1 Select the **Administration/ User actions/ Edit the URL address of the application servers...** navigation bar link.
2 On the **Add and/or modify properties of the application servers** screen, select the **PPM** application server (or add an entry if it is not already present in the list).
3 Click in the corresponding field in the **Server's URL address** column.
4 Enter the URL to the HP Project and Portfolio Management server, for instance **http://localhost:8082**.
5 Click **Next**, then **Finish**.

To configure the HP Connect-It scenario and connector:

1 Run HP Connect-It .
2 Open the `<HP Connect-It installation folder>\scenario\ppm\ppm75am52\ppmam.scn` scenario.
3 Configure each of the two connector instances (**PPM 7.5 Project Service** and **PPM 7.5 Finance Service**), by right-clicking them then following the wizard. The parameters whose labels highlighted in red are compulsory.

  On the **Define connection parameters** screen, populate and/or adapt the server and port details as necessary.

Use HP Connect-It to transfer data from HP Project and Portfolio Management to Asset Manager
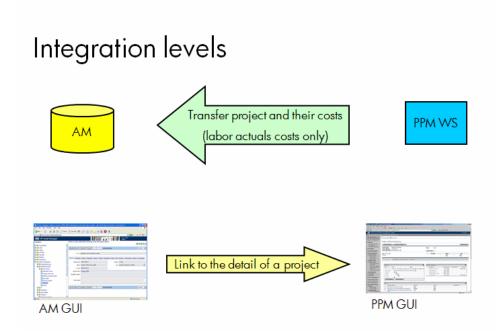
Data is transferred only if the scenario is executed (either manually or on a regular, programmed basis.)

HP Connect-It imports projects from HP Project and Portfolio Management to Asset Manager, including details of their expense lines, cost types, actual labor costs from the budget associated with the project, project status, purpose, and multi-currencies. The new project details are then available in both the Windows and Web client versions of Asset Manager.

Benefits of integration

Overview

The following schematic summarizes the benefits provided by the integration.

Listing Projects

All projects from the HP Project and Portfolio Management database are added to the Asset Manager database, with a **Reference** (Ref) prefixed with **PPM**. Thus to display all and only those projects originating in HP Project and

Portfolio Management, you can filter on the **Reference** (Ref) field using the contextual menu option **Filter on this field**, then selecting the **LIKE** operator and the value **PPM%**.

When you list projects in Asset Manager, a calculated field presents the project TCO:

Project TCO (Total Cost of Ownership), shown on the **Costs** and **ROI** tabs. This figure is the total for expense lines attached to the project and whose status is **Incurred** or **Incurred and Locked**.

📝 Note:

The result calculated in this field includes a conversion, if necessary, from the defined source currency, to the Reference currency 1. Any changes to the result will be reflected following a forced manual refresh.

The HP Connect-It integration scenario includes a mapping table between the PPM currencies names and Asset Manager currency codes. Costs imported from HP Project and Portfolio Management can thus be properly represented or converted.

Example:

British Pound	GBP

This is provided in the `<HP Connect-It installation folder>\scenario\ppm\mpt\ppmam.mpt` file.

(The mapping table file also retains the mapping between HP Project and Portfolio Management regions and currencies that was used by a previous version of the scenario, for backwards compatibility.)

Viewing detailed project costs from Asset Manager

Asset Manager federates all IT costs, including project costs. You can browse from Asset Manager all costs of each project. (In the example screen below, costs derived from PPM have Labor in their name). Hence, Asset Manager provides in the Project Total Cost of Ownership that includes IT material, contract as well as labor costs.

Having an operational view of projects from Asset Manager

You can launch HP Project and Portfolio Management from Asset Manager to focus on labor aspects by clicking on the **Display the detail in Project Portfolio Management** link on the **General** tab.

What type of costs are imported (planned, actual)

❖ Only actual costs are imported. For instance in the example project budget shown below, the **Plan** (planned) costs would not be imported.

Customizing the `ppmam.scn` scenario

If you use HP Connect-It Scenario Builder to make changes to the `ppmam.scn` scenario, you should check the `.xml` scenario file and make sure that the following **<ATTRIBUTE Name="mDebit" Type="Double"/>** attribute appears before the **<ATTRIBUTE Name="DebitCur" Type="String"/>** attribute in the following sections:

```
<PifFormat Version="3.0" FormatId="Project - used to add expense lines ">
<STRUCTURE Name="amProject">
<COLLECTION Name="ExpenseLines">
<STRUCTURE Name="CostCategory">
<ATTRIBUTE Name="Name" Type="String"/>
<ATTRIBUTE Name="seExpenseType" Type="Short"/>
</STRUCTURE>
<ATTRIBUTE Name="Title" Type="String"/>
<ATTRIBUTE Name="dBilling" Type="Date"/>
<ATTRIBUTE Name="mDebit" Type="Double"/>
<ATTRIBUTE Name="DebitCur" Type="String"/>
<ATTRIBUTE Name="seStatus" Type="Short"/>
```

```
<ATTRIBUTE Name="sePurpose" Type="Short"/>
<ATTRIBUTE Name="tsAccrualPeriod" Type="Long"/>
</COLLECTION>
<ATTRIBUTE Name="Title" Type="String"/>
</STRUCTURE>
</PifFormat>
```

If this is not the case, the cost is imported with the right amount but associated to the default currency (this is the one that is associated to the login used to transfer data from HP Project and Portfolio Management, if defined. Otherwise, it is the database default currency).

10 Adjusting items

Adjusting items are records in the database that enable you to adjust one or more fields with other records.

Introduction

Adjusting items and target items

An adjusting item adjusts a field of one or more target items. The adjusting items can be:

- Portfolio items
- Work orders
- Contracts
- Trainings
- Cables

Target items are items with a link to an adjusting item.

Example: The record of a monitor (**Adjusting item**) in the portfolio updates the number of monitors of the computer (**Target item**) to which it is attached.

The types of field adjustments are defined in the models of the adjusting items. There are three types of field adjustments:

- Addition

Example: Creating 256 MB memory module in the portfolio adds **256** to the **Memory** field of the computer to which it is installed.

- Subtraction

  Example: Creating a 10-hour work order on an asset subtracts **10** from the **Duration** field in the first work order for the same asset.

- Replacement

  Example: Creating a contract covering an asset replaces the previous contract that covered this asset.

Tables concerned in the adjustment process

The main tables concerned by the adjustment process are the:

- Natures table (amNature)

  This table enables you to define the model of the adjusting item.

- Models table (amModel)

  This table enables you to create the models of the adjusting items. Field adjustment types are defined for each one of these models.

- Field adjustment types table (amFieldAdjustTempl)

  Each type of field adjustment contains the following information:

  - The table of the adjusting item: Portfolio items, Work orders, Contracts, Trainings, Cables.
  - The link of the adjusting item to the target item that triggers the adjustment.

    Example: The action of linking the adjusting item to its parent item (a printer to a computer, for example).

  - The field of the target item that must be modified.

    The field can be one of the fields in the target item's record or it can be linked directly or indirectly to the record of the target item.

  - A script indicating the adjusting value of the field.

- The table of adjusted fields (amFieldAdjustment).

  The record of each adjusted field details:

  - Its date of adjustment.
  - Its value before the adjustment.
  - Its value after the adjustment.
  - The series of links that enable you to access it from the table of the target record.

- The table of adjustments (amAdjustment).
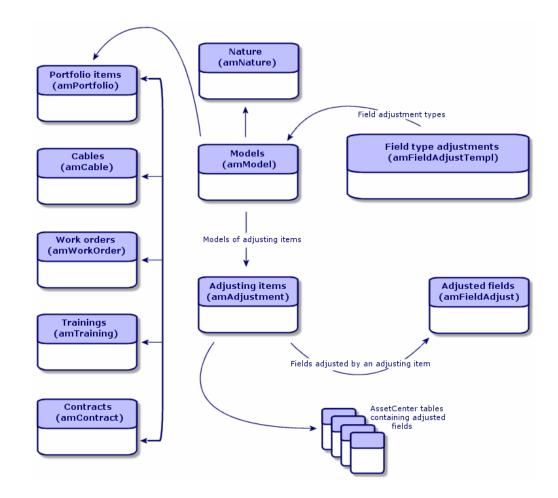
  This table regroups all the adjusting items created in the database.

- The Portfolio items, Cables, Work orders, Trainings and Contracts tables.

These tables contain the records of items that can become adjusting items.

- All the Asset Manager tables.

  These tables contain the target items of the adjustments. Via the use of direct or indirect links, the record of an adjustment item has the possibility of adjusting all the fields of all the tables in Asset Manager.

Using adjusting items

Adjusting a field using an adjusting item consists of:

1 Creating the model of the adjusting item [page 238]
2 Defining a field adjustment type [page 238]

Creating the model of the adjusting item

▶ Creating a portfolio item model [page 29]

> ✎ Note:
>
> All the models are adjusting item models except those models whose nature creates nothing. (Make sure that the **Creates** field of the model's nature is not set to **Nothing**.)

Defining a field adjustment type

In order that an adjusting item can adjust a field, you must define an adjustment type for this field in its model. To define a field adjustment type:

1 Display the models (**Portfolio management/Asset configurations/ Models** link on the navigation bar).

2 Select the model to adjust.

3 Click the **Adjust. types** tab.

4 Click ± (Windows client) or **Add** (Web client).

5 In the **Field to adjust** field, specify

   ▪ The link to the target item that will trigger the adjustment of the field.

   ▪ The complete path (link or series of links) that indicates the field to adjust.

   Example: For an adjusting item of the portfolio, you would enter for the **Target**:

```
Parent.Computer.LMemorySizeMb
```

   Parent indicates the link that will trigger the adjustment. In this case, the action of linking the adjusting item to a parent record in the Portfolio items table: the target item.

   Computer.LMemorySizeMb indicates the path leading to the **LMemorySizeMb** field: the field to adjust.

6 Choose a type of adjustment in the **Operation** field: Replacement, Addition, Subtraction.

7 Enter a script in the **Source** field, which returns the value of the adjustment.

Example: In the case of an addition, this script indicates that the value of the **fv_memory_module** field of the model of the adjusting item is added to the field to adjust.

```
RetVal = [Model.fv_memory_module]
```

8 Validate the creation of this field adjustment type by clicking **Add**.

Creating an adjusting item

▶ Creating an asset [page 33]

This section explains how to create a portfolio item corresponding to an asset.

To create adjusting items other than portfolio items, refer to the guides relating to those items. For example, see the **Contracts** guide if you want to create an adjusting contract.

Creating the link triggering the field adjustment

In order for a field to be adjusted, you must create the link specified in the field adjustment type.

If, for an adjusting portfolio item, the link triggering the adjustment is the **Component of** link (**Parent**):

1 Select the adjusting item in the Portfolio items table.
2 Select the **General** tab.
3 Enter or create the **Component of** link.
4 Make sure that the field of the target item has been correctly adjusted.

Adjusting a field (example)

The following sections detail the steps of an example that enables you to adjust the **Memory** field. This field is in the record of a computer using an adjusting item, which corresponds to a 256 MB memory module.

This 256 MB of supplementary memory is added to the value of the computer's **Memory** field (**lMemorySizeMb**) as soon as the link between this computer and the memory module is created in the Portfolio items table.

Details of the example	
Adjusting item	**RAM_256** record of the Portfolio items table.
Target item	**Adjusted_computer** record of the Portfolio items table.

Details of the example	
Field to adjust	The **Memory** field (**lMemorySizeMb**) of the **Adjusted_computer record**.
Type of adjustment	Addition of the RAM value to the computer's RAM.
Link triggering the adjustment.	The **Component of** link (**Parent**) between the RAM and the computer.

1 - Creating the target item

1. Display the natures (**Portfolio management/ Asset configurations/ Natures** link on the navigation bar).
2. Click **New**.
3. Enter **Computer** in the **Name** field (**Name**).
4. Select **IT equipment (amComputer)** in the **Also create** field (**seOverflowTbl**).

   Creating natures: ▶ Creating a nature for computers [page 59].
5. Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.
6. Display the models (**Portfolio management/ Asset configurations/ Models** link on the navigation bar).
7. Click **New**.
8. Enter **Adjusted_computer** in the **Name** field (**Name**).
9. Select **Computer** for the **Nature** link (**Nature**).

   Creating models: ▶ Creating a computer model [page 60].
10. Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.
11. Display the portfolio items (**Asset lifecycle/ Infrastructure management/ Portfolio items** link on the navigation bar).
12. Click **New**.
13. Select **Adjusted_computer** for the **Model** link (**Model**).
14. Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.

    Overflow tables: ▶ Overflow tables [page 18].

    Creating computers: ▶ Creating computers manually [page 61].

    Creating a portfolio item based on a computer model automatically creates a record in the Computers table.
15. Select the **Hardware** sub-tab of the **Computer** tab.
16. Populate the **Memory** field (**lMemorySizeMb**) with the value **256**.
17. Click **Modify** (Windows client) or **Save** (Web client).

2 - Adding the memory_module feature to the Models table

1. Display the features (**Administration / Features/ Features** link on the navigation bar).
2. Click **New**.
3. Enter the value **memory_module** in the **Title** field (**TextLabel**).
4. Select the **Input** tab.
5. Select **Numerical** in the **Input type** field (**seDataType**).
6. Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.
7. Select the **Parameters** tab.
8. Click ⊞ (Windows client) or **Add** (Web client).
9. Select **Models (amModel)** in the **Table** field (**TableName**).
10. Select the **Constraints** tab.
11. Select **Yes** for the **Available** field (**seAvailable**).
12. Click **Add**.

> ✎ Note:
>
> If you are using the Windows client, wait for the list of features to appear and click **Modify**.

3 - Creating the adjusting item

1. Display the natures (**Portfolio management/ Asset configurations/ Natures** link on the navigation bar).
2. Click **New**.
3. Enter **Adjustment** in the **Name** field (**Name**).
4. Verify that **Portfolio item** has been selected in the **Create** field (**seBasis**).

   Creating natures: Creating the nature for a portfolio item [page 28].
5. Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.
6. Display the models (**Portfolio management/ Asset configurations/ Models** link on the navigation bar).
7. Click **New**.
8. Enter **RAM_256** in the **Name** field (**Name**).
9. Select **Adjustment** for the **Nature** link (**Nature**).
10. Select the **Features** tab.

11 Assign **memory_module** the value **256**.
12 Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.
13 Display the portfolio items (**Asset lifecycle/ Infrastructure management/ Portfolio items** link on the navigation bar).
14 Click **New**.
15 Select **RAM_256** for the **Model** link (**Model**).
16 Click **Create** (Windows client) or **Save** (Web client) to confirm your creation.

4 - Creating an adjustment type for the model of the adjusting item

1 Display the models (**Portfolio management/ Asset configurations/ Models** link on the navigation bar).
2 Select the **RAM_256** model that you created in the previous step.
3 Click the **Adjust. types** tab.
4 Click ⊞ (Windows client) or **Add** (Web client).
5 Enter **Parent.Computer.lMemorySizeMb** in the **Field to adjust** field (**TargetField**).

6 Enter **RetVal=[Model.fv_memory_module]** in the **Source** editable field (**memScript**).
7 Select **Addition** in the **Operation** field (**seOperation**).
8 Click **Add**.

5 - Triggering the adjustment

1. Display the portfolio items (**Asset lifecycle/ Infrastructure management/ Portfolio items** link on the navigation bar).
2. Select the **RAM_256** record.
3. Select the **General** tab.
4. Select the **Adjusted_computer** record for the **Component of** link.
5. Click **Modify** (Windows client) or **Save** (Web client).

6 - Verifying the adjustment

1. Display the computers (**Portfolio management/ Asset configurations/ IT equipment/ IT equipment** link on the navigation bar).
2. Select the **Adjusted_computer** record.
3. Select the **Hardware** tab.
4. Make sure the **Memory** field (**lMemorySizeMb**) is set to **512** (256 + 256).

7 - Complete information about the adjusted field

1. Display the computers (**Portfolio management/ Asset configurations/ IT equipment/ IT equipment** link on the navigation bar).
2. Select the **Adjusted_computer** record.
3. Select the **Adjusted fields** tab.
4. Select the record corresponding to the **Memory** field (**lMemorySizeMb**).
5. Click � (Windows client) or click the record (Web client) to obtain all the information on the adjusted field.

11 Glossary

This section proposes a glossary of terms used in portfolio management.

📝 Note:

The terms do not appear in alphabetical order.

Portfolio items

Nature

A record in the Natures table determines the type of item a model can create. When you create a model, you must indicate its nature. The model is then based on this particular nature.

Natures are available for the following models:

- Portfolio items
- Work orders
- Contracts
- Trainings
- Cables

When you create a nature, you define certain parameters that will influence the models based on this nature. Example: Setting the nature's **Management**

constraint field (seMgtConstraint) to **Free** enables you to create models of portfolio items that do not have records in the Assets table.

Model

A record in the Models table enables you to create records in the following tables:

- Portfolio items

  The creation of a portfolio item is sometimes accompanied by the simultaneous creation of a record in one of the following overflow tables:
  - Assets table
  - Computers table
  - Telephones table
  - Software installations table
- Work orders
- Contracts
- Trainings
- Cables

When you create a portfolio item, you must specify the model on which it is based. The data entered for a model is automatically reproduced in the records of the portfolio items. Examples: the CPU type of a computer; the applicable tax rate; the length of a contract, etc.

The hierarchical structure of the Models table helps you organize your portfolio. We recommend that you create generic models that encompass more specific sub-models. Example: Printer/Laser printer/Laserjet printer 8000DN.

Portfolio item

Records in the Portfolio Items table are based on models from which they inherit the features. Depending on the importance of a portfolio item, a management constraint is chosen in the nature of the model on which the item is based. This constraint conditions whether a portfolio item is created as an asset, a batch or an untracked batch. Depending on the overflow table indicated in the nature of the model, a record created in the Portfolio Items table also creates a record in one of the following tables:

- Assets table
- Computers table
- Telephones table
- Software installations table

Asset

A record in the Assets table corresponds to a portfolio item whose monetary value is high enough to necessitate individual tracking. In Asset Manager, each asset corresponds to two linked records: one in the Portfolio items table; the other in the Assets table. In order for the creation of a record in the Portfolio items table to create the simultaneous creation of a record in the Assets table, you must select the correct management constraint: In the nature of this portfolio item's model, you must set the **Management constraint** field (seMgtConstraint) to **Unique asset tag**.

While it is true that all assets are portfolio items, it is not true that all portfolio items are assets.

Overflow table

An overflow table holds records that were created there simultaneously when they were originally created in another table.

In Asset Manager, an overflow table can be specified in the nature of a portfolio item's model. According to this nature, the creation of a portfolio item's record in the Portfolio items table can be accompanied by the simultaneous creation of a record in one of the following overflow tables:

- Assets table
- Computers table
- Telephones table
- Software installations table

Batch

A batch is composed of several identical items whose quantity is expressed either in number of items (a batch of 100 chairs) or in a unit of measurement (a batch of one ton of sand). The creation of a batch means that two linked records will be created: one in the Portfolio items table; one in the Assets and batches table. In the portfolio, a batch can be divided between several locations, for example. Each division creates a second record, and the quantity of the divided batch is reduced by the number of items taken out to make the new batch. Example: Ten chairs from a batch of 100 chairs is relocated to another department. The quantity of this batch drops to 90 chairs, and a second batch record is created having a quantity of 10 chairs.

Untracked batch

An untracked batch is a batch that doesn't correspond to any records in the Assets and batches table. To create an untracked batch, its nature must have

a free management constraint. Untracked batches are reserved for items of little value: supplies and consumables. As such, there is no tracking information associated with this kind of batch either. To turn an untracked batch into a tracked batch, you must create a corresponding link in the Assets and batches table (using the **Tag** button in the Portfolio items table).

Consumable

Consumables are portfolio items. When you select **Consumable** in the nature of a model, it indicates that the portfolio items based on this model are consumables.

Management constraint

The management constraint of a portfolio item is indicated in its nature. This constraint determines the use of an asset tag: A portfolio item that has an asset tag is automatically recorded in both the Portfolio items table and the Assets and batches table. A portfolio item without an asset tag is only recorded in the Portfolio items table.

Three management constraints are available:

- Unique asset tag

  This management constraint is reserved for individual assets in your portfolio that will have a unique asset tag.

- Asset tag

  This management constraint is reserved for tracked batches. An asset tag is assigned to this kind of batch when it's created. All sub-batches resulting from the division of this batch will also share the same asset tag. (They all correspond to the same record in the Assets and Batches table.)

- Free

  This management constraint is reserved for untracked batches. No asset tags are assigned to this kind of batch upon its creation, nor do any records correspond to this portfolio item in the Assets and Batches table. The management constraint is free because you can, at any moment, assign an asset tag to an untracked batch to turn it into a tracked batch.

Management type

Three types of management types are available in Asset Manager:

- Individualized management

  Used for assets. Each asset is tracked individually.

- Collective management

Used for batches. The items in the batch are not tracked individually in the Assets and Batches table, but instead they are tracked collectively. Example: The acquisition price of the batch does not correspond to each item in that batch, but to all the items in that batch.

- Undifferentiated management

  Used for untracked batches. The items in the batch are only recorded in the Portfolio items table. However, you can decide to assign an asset tag to an untracked batch at any time so that it benefits from the tracking methods in place for tracked batches. You can even turn an untracked batch into an individual asset, if there is only one item in the batch.

Tracking

Each record in the Assets and Batches table benefits from triple-tracking:

- Technical tracking

  Example: the hardware features of a computer.

- Financial tracking

  Example: the depreciation type of an asset.

- Contractual tracking

  Example: the maintenance contracts linked to a server.

Stock

A stock contains the items in your portfolio that have not yet been assigned. Asset Manager enables you to assign rules to a stock that trigger automatic purchase requests in order to replenish that stock.

Assignment

The assignment of a portfolio item defines its status in your portfolio. In Asset Manager, the different possible assignments are: **In use**, **In stock**, **Retired (or consumed)**, **Awaiting receipt**, **Return for maintenance**, **Return to supplier** or **Missing**.

Quantity

Quantities are reserved for describing portfolio items that are managed in batches. The quantity can be expressed in a unit of measurement (a batch of a ton of cement) or in a number of items (a batch of 100 chairs). From the model of a batch, you can create several batches, each differentiated by their quantities.

Projects

Project

A project concerns portfolio items and/or company employees. (Example: The division of one department into several departments). Asset Manager enables you to precisely track all your company's projects, and each one can use contracts or work orders.

Helpdesk

Helpdesk ticket

A helpdesk ticket enables you to describe a problem and track its resolution.

You can create a ticket from the **Asset lifecycle/ Helpdesk/ Helpdesk Tickets** menu item or by using the answer-call wizard (**Asset lifecycle/ Helpdesk/ User actions/ Answer call**), which guides you through creating a ticket rapidly.

When you use the answer-call wizard to create a helpdesk ticket, there are two possibilities:
- The problem is solved during the call: A helpdesk ticket is created with the **Closed** status. It only serves to record the call.
- The problem requires a deferred solution: A helpdesk ticket is created to keep track of the problem and manage its resolution. The ticket is assigned to a helpdesk group and/or to a ticket supervisor, who will find the helpdesk ticket in the list of tickets assigned to them.

Work order

A work order is an operation carried out on an asset to solve a problem: repair, user assistance, installation, move, etc.

Work orders are described hierarchically (as a tree of work orders or sub-tasks). You can assign as many sub-tasks to a work order as you like, and, if you wish, you can base them on a template defined in the Model field (SQL name: Model). This template describes a generic work order or a standard work order procedure. The information defined in a work order is used in the work order detail.

News item

A news item is an item of current information you want to broadcast to a group of individuals for a given period.

As a general rule, news items only concern short-lived information.

Example of a news item: "The XXX server will be down for maintenance between 11:00 and 12:00 on February 10, 2011".

Knowledge base

The knowledge base is a group of files describing problems and their solutions.

By matching your problem to one already described in the knowledge base, you can use existing information to solve your current problems quicker and easier. You enrich the knowledge base when you discover new problems and solutions. In this way, the base of information continually grows.

Each knowledge file can be attached to an entry point in the decision tree. Thus, when you take a call, by navigating through the decision tree, the answer-call wizard suggests related knowledge files in the selected node and sub-nodes of the decision tree.

Example of knowledge file:
- Description: Monitor turned on but there is nothing on screen.
- Resolution: Plug the cable between the monitor and the CPU.

Decision tree

The decision tree enables you to analyze a situation step by step in order to find the most appropriate solution for that problem.

The tree is made up of questions, possible answers and corresponding solutions.

Problem types, determined by you when taking a call, correspond to entry points in the decision tree. These entry points then lead to the wealth of stored information relating to a problem. Thus, when you take a call, this system might actually be able to actively assist you in the step-by-step resolution of that problem.

Note:

Decision trees each have a unique bar-code label. By default, this label is defined by a script that uses an Asset Manager counter. You can customize this script to adapt the bar-code label to your needs.

Helpdesk group

Helpdesk groups are managed from a list available via the **Organization management/ Operations/ Employee groups** menu item.

Note:

Within the context of the helpdesk, employee groups are referred to as "helpdesk groups".

Helpdesk groups are made up of helpdesk technicians who are capable of solving similar problems for a given group of locations and who are involved with given contracts.

Helpdesk groups reflect your internal organization: How you define a group depends on who solves what type of problems and at which locations, and according to which contracts.

Helpdesk groups are organized in a hierarchy. Therefore any helpdesk group can have a parent group, defined in the **Sub-group of** field (SQL name: Parent), and a child group. When creating a sub-group, the competencies, locations and contracts linked to the parent group are automatically propagated to the sub-group.

Warning:

Once the sub-groups are created, if you add a location (or competence or contract) to the parent group, this location (or competence or contract) is not automatically propagated to the sub-groups.

The **Assignable** option (SQL name: bAssignable) determines whether or not you can assign a helpdesk ticket to this group. This makes it possible to distinguish between operational groups that process tickets and those that simply classify them.

Example

The "Los Angeles" group contains two sub-groups corresponding to two call centers. In our scenario, the "Los Angeles" group would just be used to structure these groups; the tickets being processed by the sub-groups.

Problem type

A problem type is part of the description of a helpdesk ticket.

The problem types encountered by the helpdesk team are described in a hierarchical table, which can be displayed from the **Asset lifecycle/ Helpdesk/ Problem types** menu item.

Example of hierarchy of problem types:

- ❖ Printer problem
  - ▪ Laser printer
  - ▪ Ink jet printer

Problem types are attributed to helpdesk groups that are competent to solve this type of problem. Thus, once the caller's problem type is selected, Asset Manager can automatically propose the helpdesk group that is the best suited.

Problem types are also useful for organizing tickets and drawing up statistics.

Note:

As is the case for assets, problem types each have a unique bar-code label. By default, this label is defined by a script that uses an Asset Manager counter. You can customize this script to adapt the bar-code label to your needs.

Severity

Each helpdesk ticket is assigned a severity. This enables you to decide the priority with which tickets should be processed.

Automatic mechanisms are available for assigning severities to tickets according to the:

- ▪ Problem type
- ▪ Caller
- ▪ Asset concerned
- ▪ Location of the asset

Business-day calendar

A business day calendar describes the work and vacation periods for a given technical support team. Calendars are used to calculate deadlines to meet when processing helpdesk tickets by taking into account the work periods for the support team. You can create as many calendars as you want using the **Tools/ Calendars** menu item.

Escalation scheme

An escalation scheme enables you define the way in which a ticket is to be processed:

- ▪ Calendar of business days to take into account in calculating deadlines.
- ▪ Actions to be triggered, at certain time limits if the ticket still has a given **Status**. For example, it is useful to be able to send an automatic message

to a group supervisor if a ticket remains unassigned one day after being created.

- Actions to be triggered when the status of ticket changes.
- Actions to be triggered when the asset changes assignment.

Escalation schemes thus reflect the internal procedures of your organization. To determine which escalation scheme to automatically associate with a ticket, Asset Manager takes into account the severity of the ticket and the location of the problem.

Answer-call wizard

The answer-call wizard is an Asset Manager function that guides the person taking calls. (We use "call" in the broadest possible sense of the word: Telephone call, a visit by a user, a fax, etc.)

It gives you a simplified and guided view of an existing ticket or ticket being created.

It is designed to facilitate as much as possible the recording of helpdesk tickets.

Taking a call consists of:

1 Identifying the caller.
2 If the call concerns a ticket that has already been created: adding the new information to the ticket, or closing the ticket.
3 If the call concerns a new problem that has not yet been logged:
    1 Entering the relevant information.
    2 Creating a ticket (open or closed).

Helpdesk administrator

The helpdesk administrator is a user of Asset Manager to whom the administrator has assigned the right to administrate the helpdesk.

To assign a user profile to someone:

1 Open the detail of the employee (**Organization management/ Organization/Employees and departments** link on the navigation bar, **Profile** tab).
2 Select the **Administration rights** check box (bHDAdmin).
3 Populate the **Profile** link by selecting the appropriate profile.

The helpdesk administrator (along with the administrator of Asset Manager) is the only person able to view the tickets of all groups and of all ticket supervisors using the "Dashboard".

Helpdesk group supervisor

The helpdesk group supervisor is selected in the table of departments and employees.

The helpdesk group supervisor (along with the helpdesk administrator and the administrator of Asset Manager) is the only person able to view the tickets of all the ticket supervisors of the helpdesk groups under their responsibility using the "Dashboard". The helpdesk supervisor can also proceed with the resolution of all problem types.

Ticket supervisor

A ticket supervisor is a user of Asset Manager user who has been selected to be part of a helpdesk group (in the **Composition** tab of the helpdesk group detail).

The helpdesk "Dashboard" lets the technician view:

- Tickets that have been assigned to them. They are the "supervisor" of these tickets.
- Tickets that are assigned to their group but still not assigned to a ticket supervisor.

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