HOPEX IT Portfolio Management

User Guide

HOPEX V2R1

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INTRODUCTION TO HOPEX IT PORTFOLIO MANAGEMENT

HOPEX IT Portfolio Management is a tool published by **MEGA International** to assist IT management in:

- ✓ Aligning the application assets with business requirements;
- ✓ Reducing IS operating costs by removing applications no longer used;
- ✓ Managing technologies relating to applications;
- ✓ Identifying the business services covered by applications or application versions.
- ✓ Deciding on investments for maximum profits.

HOPEX IT Portfolio Management has been designed to enable:

- ✓ Definition of an application assets management workflow, identification of the different profiles involved and association of persons with each of these profiles.
- ✓ Inventory of applications, specification of their characteristics, the technologies used and definition of costs.
- ✓ Evaluation of all applications on relevant criteria.
- ✓ Generation of comparison and analysis reports leading to effective transformation of application assets.

The purpose of this guide is therefore to present how to make best use of these functionalities for the successful evolution of your information system.

- ✓ "Governance with HOPEX IT Portfolio Management", page 8
- ✓ "HOPEX IT Portfolio Management Profiles", page 10
- ✓ "About This Guide", page 12

GOVERNANCE WITH HOPEX IT PORTFOLIO MANAGEMENT

Associated with other **HOPEX** Suite products, **HOPEX IT Portfolio Management** enables description of all components involved in management of the enterprise application assets.

Application and technology inventory

HOPEX IT Portfolio Management allows you to collect information relating to your application and technology assets.

To manage a consistent repository of your application assets, **HOPEX IT Portfolio Management** relies on the following data:

- **Applications** and **Application Systems**
- **Life Cycles** describing the different states that Technology, Application or Deployment object types can take over a given period.
- **Business Processes**: a standard business process tree nomenclature is supplied with **HOPEX IT Portfolio Management**.
- **Business Lines** that correspond to major product segments, distribution channels or business activities, according to enterprises.
- **Business Capabilities** of the enterprise.
- **Org-Units** of the enterprise.
- **Sites** hosting applications.
- Software or hardware **Technologies** required for operation of applications.
- **Editors**, suppliers of technologies.
- **Costs** described based on nomenclature simplifying analysis.
- **Functionalities** offered by the applications.
- **Business Data** exchanged between applications.

Tools are proposed to check global consistency of information collected.

Application and technology evaluation

HOPEX IT Portfolio Management enables comparison of applications inventoried on criteria such as cost, use rate or criticality for the enterprise, and proposes different reports for this purpose.

Transforming application and technology assets

With the **HOPEX Project Portfolio Management** functionalities, you can plan and follow up on the transformation of your application and technological assets. You can build transformation scenarios for your applications and technologies within different projects that can be compared.

When a project is validated, the life cycle that it contains is automatically transferred to the applications that appear in the inventory portfolios.

CONNECTING TO HOPEX IT PORTFOLIO MANAGEMENT

The menus and commands available in **HOPEX IT Portfolio Management** depend on the profile with which you are connected.

Prerequisite: Importing the APQC Libraries

If you want to use APQC business processes for the different activity sectors, you must import the corresponding libraries.

Preparing the import

Libraries to be imported are delivered in a compressed file that you must decompress before importing them into a repository.

To decompress the APQC file:

1. In the folder in which **HOPEX** is installed, open the **Utilities** folder, then the **Solutions Pack** folder.
2. Double-click the **APQC.exe** file .
3. Extract the Contents of the file.

Importing the libraries

To import the libraries:

1. Launch "Administration.exe" and connect as a user with data administration rights.
2. Select the environment then the repository on which you want to work.
3. Right-click the repository and select **Object Management > Import a Solution Pack**.
   A dialog box with a list of solution packs appears.
4. Select the components that interest you, for example **APQC - Banking** and **APQC - Utilities** and click **OK**.
5. Exit the Administration application.

Connecting to the solution

To connect to **HOPEX IT Portfolio Management**, see HOPEX Common Features, "HOPEX Desktop", "Accessing HOPEX (Web Front-End)".

HOPEX IT Portfolio Management Profiles

In **HOPEX IT Portfolio Management**, there are default connection profiles with which specific rights and accesses are associated. The profiles available are:

- ITPM Functional Administrator
- Application Portfolio Manager
- Application Owner
- Chief Technology Officer
- Technology Portfolio Manager
- Financial Controller
- Business Owner
- IT Owner

The rights of different users on objects of imported libraries depend on their assigned profiles. For more information on creation of users and assignment of profiles, see the chapter "Managing Users" in the **HOPEX Power Supervisor** guide.

Functional Administrator

The functional administrator has rights on all objects and workflows.

He/she prepares the work environment and manages reference data used in the solution.

Application Portfolio Manager

The Application Portfolio Manager:

- is responsible for the global process and its control.
- assures correct operation of tasks assigned to the "Application Owner".
- classifies and evaluates applications.

To allow the application portfolio manager to control the inventory of the application assets, application data entry and validation workflows are delivered with **HOPEX IT Portfolio Management.**

For more details on workflows, see the **HOPEX Common Features** guide.

Application Owner

The role of the Application Owner is to specify characteristics of applications for which he/she is responsible, and to regularly update these.

Chief Technology Officer

The chief technology officer is an application portfolio manager who is also in charge of assessing technologies. The assessment is driven by a workflow. See "Validating a Technology", page 55.

Technology Portfolio Manager

The Technology Portfolio Manager is in charge of one or several technology portfolios. He choses technologies and editors, and asks for the technology director validation.

Financial Controller

The role of the Financial Controller is to specify financial characteristics of applications and technologies for which he/she is responsible.

Business User

Business user of the application. Evaluates business aspects of applications for which he/she is responsible.

IT Owner

Responsible for application IT. Evaluates technical and technological aspects of applications.

For more details on assessment, see "Evaluating Application Criticality", page 48.

About This Guide

This guide presents how to make best use of **HOPEX IT Portfolio Management** to assure governance of your enterprise application assets.

Guide Structure

The **HOPEX IT Portfolio Management** guide comprises the following chapters:

- "Functional Administration", page 13: describes initializations of reference data to be set up before starting an application assets inventory campaign.
- "Drawing up an Application Inventory", page 21: presents functionalities proposed by **HOPEX IT Portfolio Management** to identify and characterize application assets.
- "Evaluating Application Assets", page 77: introduces the portfolio concept available in **HOPEX IT Portfolio Management** and explains how to evaluate applications during the inventory phase. Also describes the project concept on which the transformation phase of the application assets relies.
- "Glossary", page 99: summarizes definitions of the main concepts used in **HOPEX IT Portfolio Management**.
- "Importing Technology information from BDNA Technopedia™", page 79: describes use of BDNA connector.

Additional Resources

This guide is supplemented by:

- The **HOPEX Common Features**guide describes the Web interface and tools specific to HOPEXsolutions.

  ☛ *It can be useful to consult this guide for a general presentation of the interface.*

- the **HOPEX Power Supervisor** administration guide.

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FUNCTIONAL ADMINISTRATION

So that the different participants can play their business role, the functional administrator must first prepare the work environment.

This involves:

PREPARING THE WORK ENVIRONMENT

Inventory and evaluation of the application assets are based on description of business elements - in order to map business requirements with the application architectures that serve as their support - as well as organizational elements such as org-units and deployment sites.

The following points indicate how to create elements that constitute your work environment. This step is executed by the Functional Administrator.

Defining Enterprise Org-Units

HOPEX IT Portfolio Management is used to describe the *org-units* of your enterprise.

> 🕮 *An org-unit represents a person or a group of persons that intervenes in the enterprise business processes or information system. An org-unit can be internal or external to the enterprise. An internal org-unit is an organizational element of enterprise structure such as a management, department, or job function. It is defined at a level depending on the degree of detail to be provided on the organization (see org-unit type). Example: financial management, sales management, marketing department, account manager. An external org-unit is an external entity that exchanges flows with the enterprise. Example: customer, supplier, government office.*

Creating an org-unit

To create an org-unit:

1. Connect to **HOPEX IT Portfolio Management**as functional administrator.
2. Click the navigation menu, then **Environment**.
3. In the navigation pane, select **Standard Navigation**.
4. In the edit window, click **Standard Navigation**.
   The list of libraries and associated objects appears in the edit area.
5. Right-click the library that will hold the org-unit and select **New** > **Building Block**.
   A selection dialog box appears.
6. Select the "Org-Unit" MetaClass and click **OK**.
   The org-unit creation wizard opens.
7. Indicate the name of the org-unit and click **OK**.
   The org-unit appears in the edit area, in the specified library.

Specifying org-unit properties

To specify the properties of an org-unit:

1. Connect to **HOPEX IT Portfolio Management**as functional administrator.
2. Click the navigation menu, then **Environment**.

3. In the navigation pane, select **Standard Navigation**.
4. In the edit window, click **Standard Navigation**.
   The list of libraries and associated objects appears in the edit area.
5. Select the org-unit concerned and click **Properties** in the edit window.
6. In the **Characteristics** page, in the **Org-Unit Type** field, select the org-unit.
   There are several types of org-units:
   - An "Accountable" org-unit (for example, Sales Manager).
   - A "Generic" org-unit corresponds to a role to be played during a project (for example, Writer, Requester).
   - A "Structure" org-unit (for example, Sales Management).
   - A "Function" org-unit (for example, Sales Engineer).

   ☛ *You can also specify its details (company name, e-mail address, telephone number, etc.).*

Describing Enterprise Sites

HOPEX IT Portfolio Management allows you to describe *sites* of your enterprise. These sites are used to define the deployment context of an application.

🕮 *A site is a geographical location of an enterprise. Examples: Boston subsidiary, Seattle plant, and more generally the headquarters, subsidiaries, plants, warehouses, etc.*

To create a site:

1. Connect to **HOPEX IT Portfolio Management**as functional administrator.
2. Click the navigation menu, then **Environment**.
3. In the navigation pane, select **Standard Navigation**.
4. In the edit window, click **Standard Navigation**.
   The list of libraries and associated objects appears in the edit area.
5. Right-click the library that will hold the site and select **New** > **Building Block**.
   A selection dialog box appears.
6. Select the "Site" MetaClass and click **OK**.
   The site creation wizard opens.
7. Indicate the name of the site and click **OK**.
   The site appears in the edit area, in the specified library.

Defining Business Lines

🕮 *A business line is a high level classification of main enterprise activities. It corresponds for example to major product segments or to distribution channels. It enables classification of enterprise processes, organizational units or applications that serve a specific product and/or specific market. Regulation frameworks of certain industries impose their own business lines.*

To create a business line:

1. Connect to **HOPEX IT Portfolio Management**as functional administrator.
2. Click the navigation menu, then **Environment**.
3. In the navigation pane, select **Standard Navigation**.
4. In the edit window, click **Standard Navigation**.
   The list of libraries and associated objects appears in the edit area.
5. Right-click the library that will hold the business line and select **New** > **Building Block**.
   A selection dialog box appears.
6. Select the "Business Line" MetaClass and click **OK**.
   The business line creation wizard appears.
7. Specify the name of the business line and click **OK**.
   The business line appears in the edit area, in the specified library.

Defining Business Processes

APQC proposes standard repositories of business processes specific to each major activity sector.

> 🕮 *A business process represents a system that offers products or services to an internal or external client of the company or organization. At the higher levels, a business process represents a structure and a categorization of the business. It can be broken down into other processes. The link with organizational processes will describe the real implementation of the business process in the organization. A business process can also be detailed by a functional view.*

A set of standard business process repositories from APQC is supplied with **HOPEX IT Portfolio Management**, in the APQC solution pack.

> ☛ *For more details on importing a solution pack, see "Importing the libraries", page 9.*

To access business processes of your enterprise:

1. Connect to **HOPEX IT Portfolio Management**as functional administrator.
2. Click the navigation menu, then **Environment**.
3. In the navigation pane, select **Standard Navigation**.
4. In the edit window, click **Standard Navigation**.
   The list of libraries and associated objects appears in the edit area. The **Process** folders attached to the libraries contain the repository business processes.

Defining Business Capabilities

A business capability map is business capability mapping, each business capability grouping applications according to functional similarity.

Several grouping strategies can be defined. It is therefore possible to define several *business capabilities* describing the information system from different points of view.

> 🕮 *A business capability is a component of information system processing. Processing can for example correspond to an activity or an enterprise business.*

You can create a business capability map for a user or portfolio.

The business capability map of a user reflects the functional coverage of applications used for a given org-unit.

The business capability map of a portfolio reflects functional coverage of applications of a given portfolio. It is particularly useful to view the functional coverage change of application assets over time. See "Generating the Business Capability Map of a Portfolio", page 80.

Capabilities can be previously defined in a global capability map. The existence of a business capability map of the company enables automatic creation of business capability maps subsequently generated at the user or portfolio level. You can also create capabilities directly from applications.

To associate a capability with an application, see "Defining Application Functional Scope", page 26.

Creating a global business capability map

The administrator can create the global capability map in the **Environment** navigation pane.

To create a global business capability map:

1. Connect to **HOPEX IT Portfolio Management**as functional administrator.
2. Click the navigation menu, then **Environment**.
3. In the navigation pane, select **Standard Navigation**.
4. In the edit window, click **Standard Navigation**.
   The list of libraries appears in the edit window.
5. Click the icon of the library to the capability map will be attached and select **New** > **Building Block**.vérifier appli.
6. In the dialog box that appears, select the "Business Capability Map" object type.
7. Click **Next**.
8. Enter the name of the business capability.
9. Click **OK**.

Creating the business capability map of a portfolio

To create the capability map of a portfolio:

1. Click the navigation menu then **IT Portfolio Management**.
2. In the edit window, click **Portfolios**.
3. In the drop-down list, select **All Application Portfolios**.
   The list of repository application portfolios appears in the edit area.
4. Click the icon of the portfolio concerned.
5. Select **New** > **Business Capability Map / Portfolio**.

See also "Generating the Business Capability Map of a Portfolio", page 80.

Creating a business capability

You can create business capabilities in a business capability diagram or from applications.

To associate a capability with an application, see "Defining Application Functional Scope", page 26.

Business capability properties

To view characteristics of a business capability:

- Open the properties pages of the business capability.

The **City planning** level is indicated in the corresponding box (area, district or block).

The **Color** attribute brings a further dimension to your business capability diagrams. The value given to this attribute changes the shape color representing the area, district or block displayed in the diagram.

The **City Planning** tab is used to specify the applications, databases, services, or use cases concerned.

Defining Life Cycles

The life cycle of an object defines the list of possible object states. Associated with begin and end dates, the life cycle of an application is used when planning the different states of an application during a given period. See "Defining Application Life", page 34.

Life cycles supplied by default

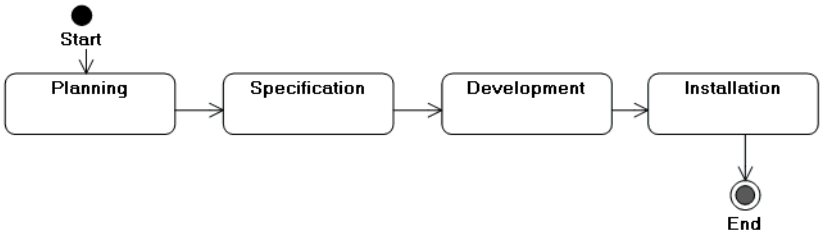
HOPEX supplies standard life cycles for applications and deployment contexts.

Life cycle of an application

This life cycle describes:

- standard development of an application, whatever it might be.
- states that mark steps in evolution of an application.

This standard life cycle can apply to all applications.



Creating new life cycles

Modifying a standard life cycle impacts data already modeled in the repository. It is therefore a modification that should be restricted to appropriate authorization levels.

To formalize states other than those supplied as standard by **HOPEX**, it is preferable to create a new life cycle.

A life cycle corresponds to the "State Machine" object. To define a new life cycle, you must create a state machine and associate with it the states and transitions constituting the life cycle.

To create a life cycle with **HOPEX IT Portfolio Management**:

1. Connect to **HOPEX IT Portfolio Management** as administrator.
2. Select the **Environment** desktop, then **Libraries**.
3. Click the **Libraries** folder to display repository libraries and associated objects.
4. Click the icon of the library that will contain the state machine, and select **New** > **Others.**
5. In the dialog box that appears, select the **State Machine** MetaClass and click **OK**.
   The Creation of **State Machine** dialog box appears.
6. Enter the **Name** and click **Next**.
   The new dialog box allows you to specify the list of object types (MetaClasses) that can be associated with the life cycle created.
7. In the **Valid Type** section, click **Connect**.
8. In the dialog box that appears, select the expected object type and click **OK**.
   The list of selected object types appears.
9. Click **OK**.
   The new state machine appears under the **State Machine** folder of the library.

To create the state diagram associated with the new state machine:

- Click the icon of the state machine and select **New > State Diagram**.

  ☛ *For more details on the use of state diagrams, see the guide **HOPEX for UML**.*

DRAWING UP AN APPLICATION INVENTORY

The application inventory phase consists of collecting information from different viewpoints: descriptive, functional, financial, technical, etc.

This chapter presents functionalities proposed by **HOPEX IT Portfolio Management** to help you inventory the application assets of your enterprise.

The following points are covered here:

BUILDING APPLICATION ASSETS

HOPEX IT Portfolio Management offers the possibility of describing simple applications or more complex applications via the use of application systems.

Applications and application systems of the organization can be created by the Administrator, Application Portfolio Manager or Application Owner.

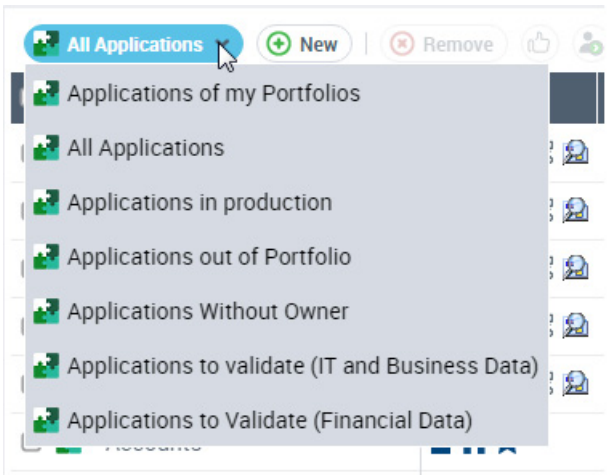
Creating an application

To inventory applications, **HOPEX IT Portfolio Management** provides a navigation tree.

Depending on whether you are an application owner or an application portfolio manager, you can access applications from the **Home** page or the **IT Portfolio Management** navigation pane of the ITPM desktop.

A drop-down list classifies the applications according to the following criteria:

- All applications of the repository
- Applications without owner
- Applications outside portfolio (those not belonging to any inventory portfolio)
- Applications of the connected user portfolio
- etc.



ITPM desktop of application portfolio manager

To create an application:

1. In the **Home** page, click **Applications**.
2. In the edit area, click on the drop-down list then **All Applications**. The list of applications appears in the edit area.

3. Click the **New** button.
4. In the application creation dialog box, indicate:
   - its name
   - its life cycle
   - begin and end dates
5. Click **Next** if you also want to define the different characteristics of the application. If not, click **OK**.

   ☛ *The user that created an application becomes its manager.*

Creating an Application System

An application system comprises applications and/or sub-application systems.

Prerequisite

Application systems are not visible by default To use them in **HOPEX IT Portfolio Management**:

1. On the desktop, click **Main Menu** > **Settings** > **Options**.
   The options window appears.
2. In the tree on the left, click the **IT Portfolio Management** folder.
3. In the right pane of the window, select the option **Use of Application Systems**.
4. Click **OK**.
5. Save the modification and restart **HOPEX IT Portfolio Management**.

Creating an application system (as portfolio manager)

The administrator, application owner and application portfolio manager can all create application systems.

To create an application system as portfolio manager:

1. Click the navigation menu then **IT Portfolio Management**.
2. In the **IT Portfolio Management** pane, click **Application Systems**.
   In the edit area, a drop-down list classifies the application systems according to different criteria.
3. Click the drop-down list then **All Application Systems**.
   The list of repository application systems appears in the edit area.
4. Click the **New** button.
5. In the dialog box for creating an application system, indicate:
   - its name
   - life cycle
   - begin and end dates

     ☛ *For more details on life cycles, see "Defining Life Cycles", page 18.*
   - its runtime paradigm: defines how the application system should be installed.
6. Click **Next** if you also want to define the functional scope of the application system (see "Defining Application Functional Scope", page 26). If not, click **OK**.

Adding an application to the application system

To connect an existing application to the application system:

1. Display the properties of the application system.
2. Click the drop-down list then **Characteristics**.
3. In the **Component** section, click **Application**.
4. Click **New**.
   The application component creation dialog box opens.
5. Click the **Reuse an application** field.
6. From the list of applications, find and select the desired application.
7. Click **OK**.

Aggregation Type

Applications in the application system can be considered as components or as independent applications. This distinction modifies evaluation data of application system costs. See "Application System Costs", page 46.

FILLING IN THE PROPERTIES OF AN APPLICATION

All elements of an application are accessible from its properties pages.

Accessing Application Properties

Depending on whether you are an application owner or an application portfolio manager, you can access applications from the **Home** or **IT Portfolio Management** navigation pane.

To access the properties pages of an application:

1. In the **Home** page, click **Applications**.
2. In the edit area, click on the drop-down list then **All Applications**. The list of applications appears in the edit area.
3. In the edit area, select the required application and click the **Properties**  in the edit area.
4. Click the drop-down list to access the following properties pages:
   - Characteristics
   - Version and Installation
   - Projects
   - Evaluation
   - Cost
   - Reporting

Application Characteristics

To access characteristics that enable identification of an application:

- In the properties window of an application, select the **Characteristics** page.

You can specify:

- the **application identification**:
  - the **Name**
  - the internal **Code**
  - the **Type of application**
  - if it is an **Application template**: to be selected if the application is used to create other applications
  - a **Comment**.
- the **Service Legal Agreement**: displays the indicators that define the application quality level.
- **Functional Scope** of the application. See "Defining Application Functional Scope", page 26.
- **Responsibility**: it relates to the person or persons responsible for the application. See "Assigning an Application to Persons", page 27.
- **Technology** used. See "Specifying the Technologies of an Application", page 28.
- **Exchanges** with other objects. See "Specifying Data Exchanged With Other Applications", page 28.
- the **Risks** associated with the application.
- **Gantt Chart** of the application presenting the application lifeline. See "Defining Application Life", page 34.
- associated **Attachments**. See "Attaching Documents to an Application", page 28.

Defining Application Functional Scope

To indicate the objects that define application functional coverage:

1. Open the application properties.

   ☛ *See also "Accessing Application Properties", page 25.*

2. Click the drop-down list then **Characteristics**.
3. Expand the **Functional Scope** section.

   ☛ *A report covers functional characteristics of a list of applications. See "Analyzing an inventory portfolio", page 93.*

The types of data that define functional coverage of the application are:

- The business lines that use the application

  🕮 *A business line is a high level classification of main enterprise activities. It corresponds for example to major product segments or to distribution channels. It enables classification of enterprise processes, organizational units or applications that serve a specific product and/or specific market. Regulation frameworks of certain industries impose their own business lines.*

- The business processes that use the application

  🕮 *A business process represents a system that offers products or services to an internal or external client of the company or organization. At the higher levels, a business process represents a structure and a categorization of the business. It can be broken down into other processes. The link with organizational processes will describe the real*

implementation of the business process in the organization. A business process can also be detailed by a functional view.

☛ *For more details on the list of available business processes, see "Defining Business Processes", page 16.*

- The business capabilities covered by the application

  ☛ *For more details on the list of available business capabilities, see "Defining Business Capabilities", page 16.*

  ☛ *A report covers distribution of applications in business capabilities, see "Generating the Business Capability Map of a Portfolio", page 80 .*

- functionalities implemented by the application

  📖 *A functionality is a service required by an org-unit in order to perform its work. This functionality is generally necessary within an activity in order to execute a specific operation. If it is a software functionality, it can be provided by an application.*

This data is used in the "Application Overview" and "Application Environment Graph" reports of the application.

See "Application Environment Graph of an application", page 30.

Connecting a functionality to the application

To create a functionality and connect it to the application:

1. In the **Functional Scope** section, select **Implemented Functions**.
2. Click the **New** button.
   The new functionality appears in the list of functionalities of the application.

To connect an existing functionality to the application:

1. In the **Functional Scope** section, select **Implemented Functions**.
2. Click the **Connect** button.
   The connect wizard appears.
3. Click the **Find** button.
   The list of repository functionalities appears.
4. Select the required functionality.
5. Click **Connect**.

Assigning an Application to Persons

You can assign applications to persons who perform the following business roles:

- Application Owner
- Financial Controller
- IT Owner
- Business User

☛ *For more information on these roles, see the associated profiles in "Profiles and Roles of HOPEX Project Portfolio Management", page 587.*

To assign an application manager, for example a business manager:

1. Display the properties of the application.

   ☛ *See also "Accessing Application Properties", page 25.*

2. Click the drop-down list then **Characteristics**.

3. Expand the **Responsibility** section.
4. Click the **Business Manager** tab.
5. Click **Connect**.
   The query dialog box appears.
6. Find and select the person concerned.
7. Click **Connect**.

Specifying the Technologies of an Application

To specify technical characteristics of an application:

1. Open the application properties.

   ☛ *See also "Accessing Application Properties", page 25.*
2. Click the drop-down list then **Characteristics**.
3. Expand the **Technology** section.

You can:

- connect existing technologies to the application
- create new technologies.

  📖 *A technology is a definition or format that has been approved by a standards organization, or is accepted as a standard by the industry.*

  ☛ *A report covers the list of applications by technology. See "Analyzing an inventory portfolio", page 93.*

For more details on technologies, see "Drawing up a Technology Inventory", page 51.

Attaching Documents to an Application

You can attach external references to an application.

External references are of URL type: They enable association with an object of a document from a source outside HOPEX.

To attach an external reference to an application:

1. Open the application properties.

   ☛ *See also "Accessing Application Properties", page 25.*
2. Click the drop-down list then **Characteristics**.
3. Expand the **Attachments** section.
4. Click the **New** button.
5. Indicate the name and URL of the reference.
6. Click **OK**.

Specifying Data Exchanged With Other Applications

You can describe the message flows exchanged between applications, with their direction and content. This information enables creation of exchange mapping.

For more details on obtaining this report, see "Generating an Application Environment Report", page 30.

Creating a message flow with business data

A message flow is information flowing within an enterprise or exchanged between the enterprise and its business environment. A message flow can carry a content.

A Business data indicates content of a message flow. A Business data can be used by several message flows, since it is not associated with a sender and a destination. The same business data can be used by several message flows.

To create a message flow of a source application to a target application:

1. Open the properties pages of the source application.

   ☛ *See also "Accessing Application Properties", page 25.*

2. Click the drop-down list then **Characteristics**.
3. Expand the **Exchanges** section.
4. Click **Sent Message Flow** and click the **New** button.
   The Creation of Message Flow - Content dialog box appears.
5. From the **Content** field, select the business data you want to associate with the message flow.
6. Select the **Target Application**.
7. Click **OK**.

   ☛ *You can associate several business data to a message flow, see "Defining a business data", page 29.*

Defining a business data

To access business data associated with a message flow:

1. Open the properties pages of the application.
2. Click the drop-down list then **Characteristics**.
3. Expand the **Exchanges** section.
4. In the **Sent Message Flow** or **Received Message Flow** section, select the flow in question.
   Data associated with the selected flow appears in the **Business Data** section.

To associate an existing business data with a message flow:

1. In the **Business Data** section, click the **Connect** button.
2. In the connect wizard, select the search criterion "Proposed Business Data" and click the **Find** button.
   The business data list appears.
3. Select the name of the business data and click **OK**.

Specifying the Risks associated with an Application

HOPEX IT Portfolio Management is used to identify the risks associated with an application, and to retrieve the evaluations defined in the **HOPEX Enterprise Risk Management** solution. You can define a new risk using the application or connect a previously defined risk.

To connect a risk to an application:

1. Open the properties pages of the application.

   ☛ *See also "Accessing Application Properties", page 25.*

2. Click the drop-down list then **Characteristics**.
3. Expand the **Risk** section.
4. Click **Connect**.
   The query dialog box appears.
5. Find and select the risk required and click **OK**.

For more details on risks and their evaluation, see **HOPEX Enterprise Risk Management**.

Generating an Application Environment Report

Application Environment Graph of an application

The "Application environment graph" report presents links between an application and its environment. Components appearing in the graph can be applications, installations, technologies, functionalities, consumer org-units or business processes linked to the application.

To open the environment graph of an application:

1. Select the application concerned and display its properties.

2. In the properties window, select the **Reporting** page.
   The first chapter of the report provides a complete view of the application environment. The following chapters provide details in terms of data flows, installations and functional environment.

Example from installation point of view

Application Exchange Graph for a set of applications

You can generate an Application Exchange Graph from a selection of applications to see their connecting links.

To generate an Application Exchange Graph on a set of applications:

1. Display the application list, for example from the **IT Portfolio Management** > **Applications** navigation pane.
2. In the list displayed, select the applications and click **Instant Report**.
3. Select "Application Exchange Graph".
4. Click **OK**.
   The instant report opens in the edit area.

DEFINING APPLICATION SYSTEM PROPERTIES

Similarly to applications, the inventory phase consists of collecting information on application systems from different viewpoints: descriptive, functional, financial, technical.

Accessing Application System Properties

Depending on whether you are an application owner or an application portfolio manager, you can access application systems from the **Home** or **IT Portfolio Management** navigation pane.

To access application system properties:

- In the list of repository application systems, select the required application system and click the **Properties** button of the edit window. Application system properties pages appear:
  - Characteristics
  - Installation
  - Projects
  - Evaluation
  - Cost
  - Reports

Application System Characteristics

To access characteristics that enable identification of an application system:

- In the application system properties, select the **Characteristics** page.

You can specify:

- the **Identification** (name, internal code, etc.)
- the **Service Legal Agreement**: displays the indicators that define the application quality level.
- the **Components**. See "Adding an application to the application system", page 24.
- the**Functional Scope**. See "Defining Application Functional Scope", page 26.
- the **Responsibility**: see "Responsibilities", page 33.
- the application system **Gantt** chart. See "Application system Gantt chart", page 33.
- associated **Attachments**. See "Attaching Documents to an Application", page 28.

Responsibilities

Owner

An owner should be defined on the application system. He/she is responsible for application system technical and functional information He/she can be application owner or portfolio manager.

Financial Controller

A financial controller should be connected to an application system. He/she is responsible for defining application system financial information, in particular at time of evaluation.

Business User

A business manager can be specified if necessary, but this is not mandatory.

Application system Gantt chart

The application system has its own life cycle. It is confronted with the life cycle of its components so that possible conflicts in reports can be detected. The application system Gantt chart therefore displays life cycle of the application system with that of its components.

See "Defining Application Life", page 34.

Evaluating Application Systems

Similarly to applications, the application manager can evaluate application systems for which he/she is responsible on three criteria: business, functional and technological. For more detailed information, see "Evaluating Application Criticality", page 48.

The Portfolio Manager can evaluate the application assets he/she supervises by creating an application portfolio and associating with it additional evaluation criteria. See "Evaluating Application Assets", page 77.

DEFINING APPLICATION LIFE

To enable detailed analysis of repository object evolution scenarios and the associated costs, **HOPEX IT Portfolio Management** enables description, from an *object life*, of the planning of steps in the object life cycle.

📖 *The object life is a set of time periods representing the updated calendar of object life cycle states.*

Viewing Application Life (Gantt Chart)

An object evolving over time can take different states (preparation, production, retirement, etc.).

The *Object life* enables viewing of the planning of these different states in the form of a Gantt chart.

To view the Gantt chart representing the different states of an application for example:

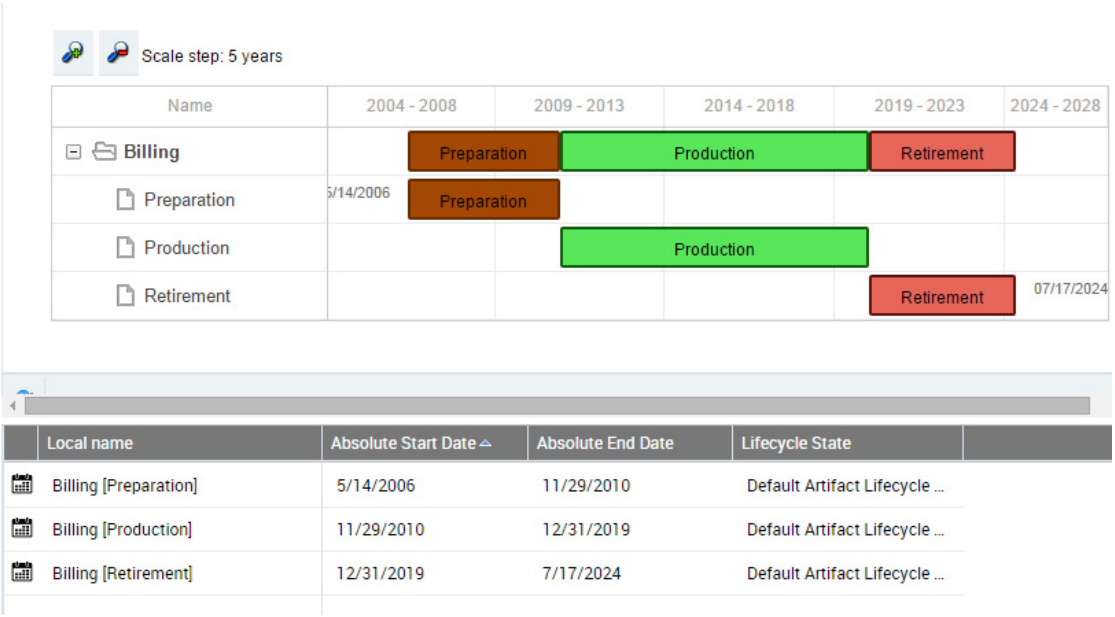
1. Open the application properties.

   ☛ *See also "Accessing Application Properties", page 25.*

2. In the properties of the application, click the drop-down list and select **Characteristics**.
3. Expand the **Gantt** section.

Gantt chart example

The first line shows the synthesis of the life cycle of the application (here "Billing"), with the sequence of different states. Under this line you access the details of the time periods associated with each state (preparation, production, etc.).



Gantt Chart Report

On an application, a report in the form of a Gantt chart enables viewing of steps in the application life cycle, its deployment and the technologies used. See "Analyzing Application Life Cycle and Installations", page 39.

Initializing the life of the object

The object life is a set of time periods representing the updated calendar of object life cycle states.

To create the life of an application:

1. In the **Gantt** section, click **Initialize the Life of the Object**.

   ☛ *If the life of the object already exists, the **Delete the Life of the Object** button appears.*

   The creation of object life dialog box appears.
2. Specify the following characteristics:
   - a **Life Cycle** which enables definition of the list of possible states of the object.

     ☛ *For more information on proposed life cycles, see "Defining Life Cycles", page 18.*
   - a **Begin Date** and an **End Date** which enable positioning of the object life in time.

3. Click **OK**.

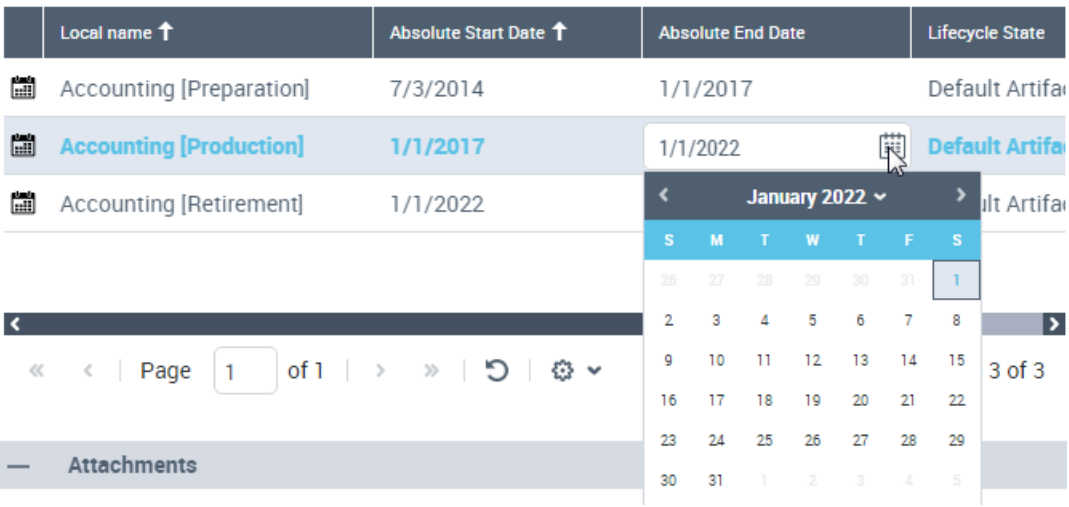
The object life appears in the Gantt chart of the application.

From information on *object life*, the Gantt chart represents planning of the different steps in time.

Updating the dates of the object life

By default, the different steps in the object life cycle are distributed in equal *time periods* between object life begin and end dates.

These dates are accessible and can be modified in the application Gantt chart.



Accessing properties of a time period

In the Gantt chart, the pop-up menu of a time period presents commands specific to the described application ("Billing" in our example), followed by the commands relating to the time period itself.

To access properties of a time period of the application life:

1. In the Gantt chart, right-click the time period.
2. In the time period pop-up menu, select **Properties**.

MANAGING APPLICATION INSTALLATIONS

HOPEX IT Portfolio Management enables management of application deployments.

Applications and Installations

HOPEX enables association of an application with one or several installations. A software installation is supported by a site or server.

> ☛ *A software installation represents use by a given population of an application over time. The installation is therefore associated with a life cycle which is specified at the time of its creation.*

On the same site, an application is installed to offer different services to different users. Each installation is therefore associated with several *usage contexts* which enable specification of lists of functionalities available to different users.

> 🕮 *The usage context of an application or an application system enables specification of the list of functionalities offered to each population of users for a given installation over a period of time. Several contexts can be created for a given installation.*

The application installation mechanism supplements the version management functionality offered by **HOPEX**.

Consulting Application Installations

To access the installations of an application:

1. Open the application properties.
2. Select the **Version and Installation** page.
   The list of installations associated with the application is displayed with:
   - deployment date
   - planned retirement date

To access characteristics of installations of an application:

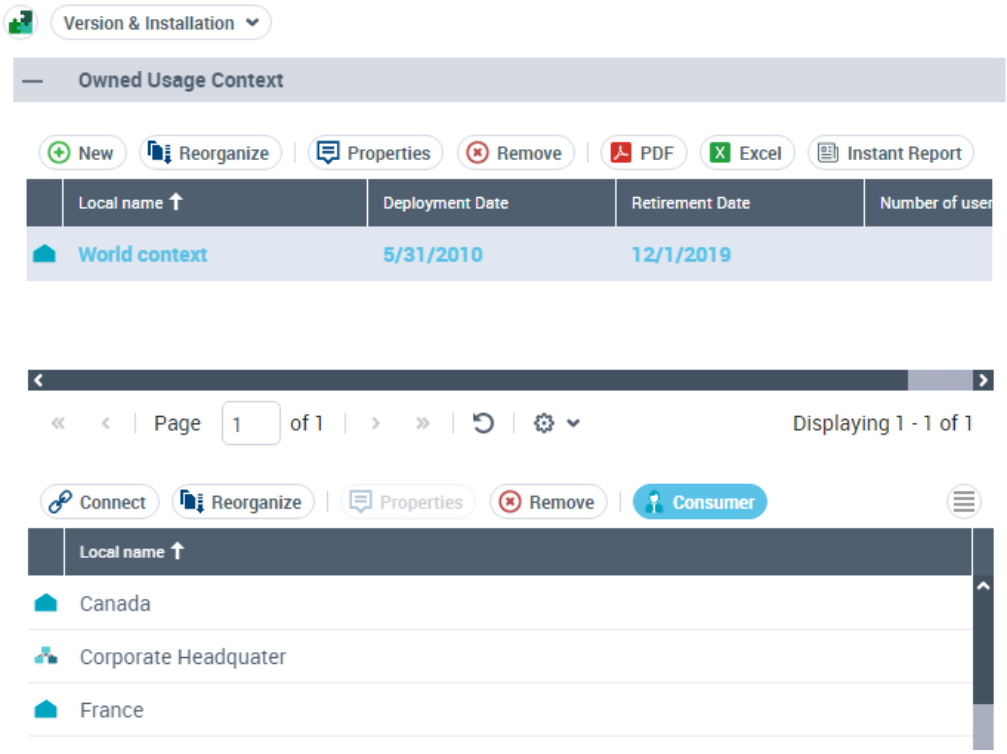
1. Select an installation.
   The hostings and usage contexts associated with the installation appear in the following sections.

In **Context of Use** you can define :

- context begin date:
- proposed functionalities retirement date
- planned number of users

By clicking a context, you display in the following section:

- The list of functionalities associated with the context (**Implemented Functionality**)
- The list of users of these functionalities (**Consumer**)



Creating an Application Installation

Application installation on a site offers functionalities adapted to different populations of users over a time period.

You can create a first installation at creation of the application, or create it later via its properties pages.

To create an application installation:

1. Open the application properties.
2. Select the **Version and Installation** page.
3. In the **Version & Installation** section, select the application version that interests you.

   ☛ *For more details on versions, see "Managing Application Versions", page 42.*
4. In the **Software Installation** section, click the **New** button.
   The **Creation of Software Installation** dialog box opens.
5. Enter the name of the deployment.

6. Select the **Deployment Life Cycle** from the drop-down list of this field.
7. Specify:
   - **Start Date**, corresponding to the effective deployment date
   - **End Date**, which can correspond to the application production end date.
8. Select the **Freeze the Source Object of the Software Installation** to avoid modification of the deployed application.

   ☛ *You cannot modify a locked application. If the application is to be modified, a new version must be created.*

   ☛ *For more details on variations, see the **HOPEX Common Features** guide, "Handling Repository Objects", "Object Versions" chapters.*
9. Click **Next**.
   The **add usage context** dialog box opens.
10. In the **Deployment Support** drop-down list, select the site or server that hosts the deployment.
11. Click **OK**.
    The new installation appears in the application properties.

Creating an Installation Usage Context

The usage context of an application or an application system enables specification of the list of functionalities offered to each population of users for a given installation over a period of time. Several contexts can be created for a given installation.

To create a *usage context* of an application installation:

1. Open the application properties.
2. Select the **Version and Installation** page.
   The list of installations associated with the application is displayed.
3. Select the installation that interests you.
4. In the **Use Context**section, click the **New** button.
   The **Creation of Use Context** dialog box opens.
5. Specify the **Life Cycle**, **Start Date** and **End Date** of the context.
6. Click **Next**.
   The Add Consumer dialog box appears.
7. Click the **Connect** button to select users specific to the usage context.
8. Click **Next**.
   The add functionality dialog box appears:
9. Click the **Connect** button to select the functionalities that will be proposed to users in the usage context.
10. Click **OK**.
    The new usage context appears in the properties of the deployed application.

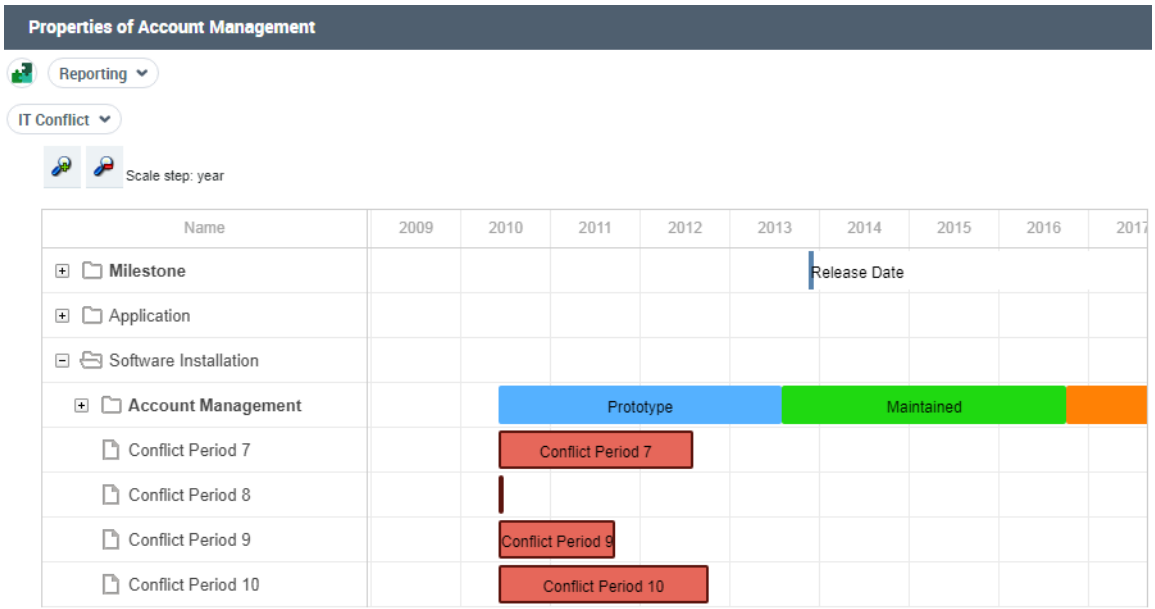
Analyzing Application Life Cycle and Installations

A report enables display in the same Gantt diagram of life cycle steps of the application and its installations.

A second report indicates any conflicts between life cycles of these objects.

To access these reports:

1. Open the properties of the application concerned.
2. Click the **Reports** page then:
   - **Gantt Chart** to view life cycles of the objects
   - **Gantt chart with conflicts** to view any conflicts.



Detection of conflicts report on an application

Creating an Application System Installation

When we refer to application system installation, this means installation of all or only certain of its components.

You can create several installations for the same application system.

When you create an application system installation, the wizard allows you to automatically create software installations for all application system components. You can also manually define software installations to be associated with the application system (see "Defining Application System Software Installations", page 41).

To run application system installation:

1. Open the properties of the application system.
2. Select the **Installation** page.
3. In the **Application System Installation** section, select **New**.

4. In the window that appears, enter:
   - installation name
   - installation start and end dates
5. Indicate if you want to install all components. In this case, the tool creates these automatically.
6. Click **Next**.
   You can specify:
   - the **Consumers**, in other words the users of the deployed application system.
   - the **Implemented Functions**.
7. Click **OK**.

Application System Installation Contexts

A usage context is automatically associated with an application system installation To this context you can connect consumers and implemented functions.

> *The usage context of an application or an application system enables specification of the list of functionalities offered to each population of users for a given installation over a period of time. Several contexts can be created for a given installation.*

You can create several contexts for the same application system installation.

To add a context to an application system installation:

1. Open the properties of the application system.
2. In the **Installation** page, **Application System Installation** section, select the application system installation concerned.
3. In the **Application System Installation Context** section, select **New**. The context appears in the section.
4. Select the context created and in the next section, indicate the **Consumers** of the context and the **Implemented Functions**.

Defining Application System Software Installations

To indicate manually which components are deployed in an application system installation:

1. Open the properties of the application system.
2. In the **Installation** page, **Application System Installation** section, select the application system installation concerned.
3. In the **Software Installation** section, select **New**.
4. From the listed components, select the application to be installed.
   - If the selected application has no existing installation, create an installation. A context is automatically created for this installation in which the consumer is the installation of the application system.
   - If the application presents existing installations, select the required installation. A context is automatically created for this installation in which the consumer is the installation of the application system.

MANAGING APPLICATION VERSIONS

HOPEX IT Portfolio Management enables management of different versions of applications.

Managing Versions

Application versions enable creation of application variants. Each version constitutes a new application which inherits elements of the application from which it is derived. The user can then indicate the differences to be added to the new application, by modifying or replacing obsolete elements.

The system of versions therefore enables follow-up of updates of an application over time.

> ☛ *For more details on versions, see the **HOPEX Common Features** guide, "Handling Repository Objects", "Object Versions".*
>
> ☺ *To use variations, select the **Business Process and Architecture Modeling** option, **Activate Variations**.*

If you create a version of an application, the parent application is automatically locked. To modify the application, you must create a new version or unlock the application.

> ☛ *The version of an application is created without an object life, even if the parent had one.*

Unlocking an application

To unlock the parent object that has been versioned:

- Click the icon of the initiative and select **Manage > Unlock Object**.

This command appears if you are authorized to unlock protected objects.

For more information on locks, see lock management in chapter "Managing Transactions" of the **HOPEX Power Supervisor** guide.

MANAGING APPLICATION AND APPLICATION SYSTEM COSTS

The aim of modeling costs with **HOPEX IT Portfolio Management** is to be able to compare the cost of different components and to compare the different evolution scenarios on identical financial criteria.

To be able to take account of the time (past and future), the cost of a component is represented by a fixed part and a periodic part.

For example, a purchase price is specified in a fixed part, and annual maintenance in a periodic part.

Finally, costs are characterized by different criteria that enable more detailed comparison. Criteria are:

- the type to distinguish investment costs.
- the nature to isolate costs of infrastructure, license, service or manpower.
- life cycle of the component concerned.

Cost Calculation Principles

Each fixed expense is associated with an amount and a date.

Each periodic expense is associated with an initial amount, a start date, and the amount and periodicity of timespots.

☛ *For more details on modeling of costs, see "Creating a fixed expense", page 45 and "Modifying a periodic expense", page 45.*

The cost of the object can be calculated in the absolute, or in the context of a portfolio. In the case of a portfolio, sums are calculated between begin date and end date of the portfolio.

We assume for example that retirement of an application starts in July with a decreasing periodic cost. The periodic cost is 500€ and the decreasing cost -100€.

Begin Date	End date	Period cost	Total cost obtained
7/1/2012	30/07/2012	500	500
7/1/2012	8/1/2012	400	900
7/1/2012	9/1/2012	300	1200

Begin Date	End date	Period cost	Total cost obtained
7/1/2012	10/1/2012	200	1400
7/1/2012	11/1/2012	100	1500
7/1/2012	12/1/2012	0	1500

The cost calculation formula proposed as standard in **HOPEX** is based on fixed and variable cost characteristics.

Specifying Costs Components

In **HOPEX IT Portfolio Management** costs on a component can be specified by:

- a user with "Financial Controller" role, who has been declared responsible for the component in question;
- the portfolio manager.

> ☛ *To define those responsible for an application, see "Application Characteristics", page 25.*

One or several *cost lines* can be associated with a component.

> 🕮 *A cost line enables identification of cost kind and type.*

A cost line is characterized by:

- a **type** : operating or capital.
- a **nature**: infrastructure (for a deployment), license (for an application), service, manpower.
- l'**state** of the life cycle of the component concerned, such as specification or development phases.

Associated with a cost line can be:

- a periodic expense
- one or several fixed expenses

Creating a cost line

To associate costs with an application for example, you must begin by creating a *cost line*.

You can create cost lines singly, or automatically create three cost lines corresponding to the three cost natures possible for an application: license, service, manpower.

To create a *cost line* for an application:

1. Click the icon of the application and select **Properties**.
2. In the properties page, click **Costs**.
3. In the **Cost line**section, click **New**.
   The **Creation of a cost line** box opens.
4. To create a single cost line, select option **Create only one cost line**.
5. Click **Next**.

6. Specify the **Name**of the cost line.
7. Select the **Cost Type**.
8. Select the **Cost Nature**.
9. Select the **State** of the application life cycle.

   ☛ *The states proposed in the drop-down list are the states of the life cycle associated with the object life.*

10. Click **Next**.
    The periodic expenses creation dialog box opens.

    ☛ *Fixed expenses, which can be multiple, are defined separately. For more details on fixed expense creation, see "Creating a fixed expense", page 45.*

11. Define the periodic cost and click **Next**.

    ☛ *For more details on fixed expense creation, see "Modifying a periodic expense", page 45.*

12. Click **OK**.
    The new cost line appears in the **Cost Line**.

Creating a fixed expense

Fixed expenses associated with a component are accessible from the component properties pages, in the **Costs** tab.

To create a new fixed expense on an application from a cost line:

1. Click the icon of the application and select **Properties**.
2. In the properties page, click **Costs**.
3. In the **Cost Line** section, select the cost line that interests you.
4. In the **Fixed Expenses** section, the list of fixed expenses associated with the cost line appears. In this section, click the **New** button.
   The **Creation of Expense** dialog box opens.
5. Specify:
   - the **Name** of the expense
   - the **Date** of the expense,
   - the **Amount** of the expense.
6. Click **OK**.
   The new expense appears in the **Fixed Expenses** section.

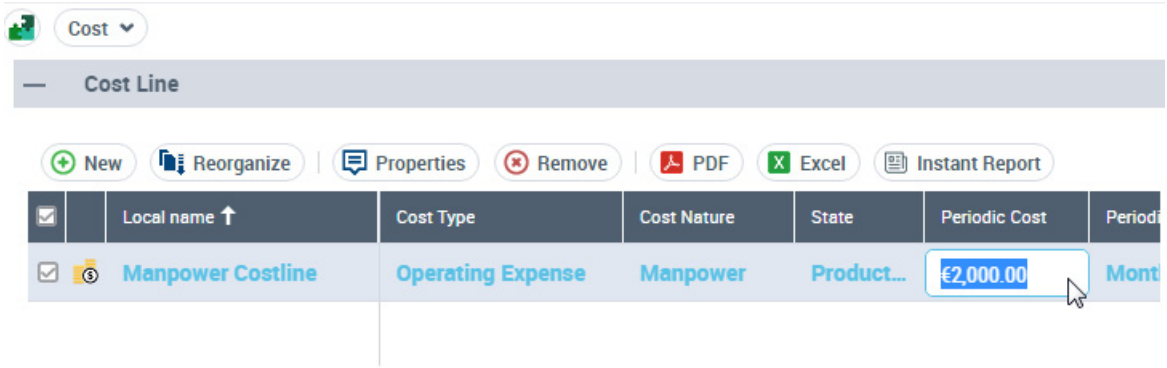
Modifying a periodic expense

To modify characteristics of a periodic expense associated with an application:

1. Click the icon of the application and select **Properties**.
2. In the properties page, click **Costs**.
3. In the **Cost Line** section, select the cost line that interests you.
4. Columns specific to the periodic expense are associated with the cost line:
   - **Periodic cost**
   - **Periodicity**
   - **Up/Down Amount**

5. Click the column to be modified and enter the new value.

☛ *If you indicate a negative amount, at each time period the amount will be deducted from the periodic cost until this reaches zero.*



Application System Costs

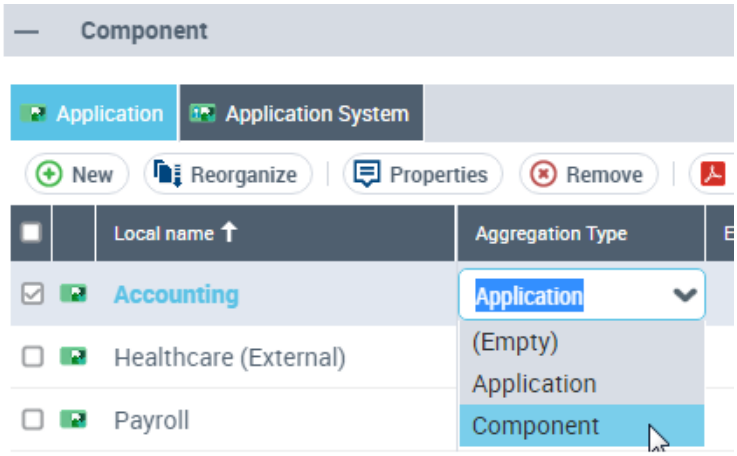
The cost of an application system can be calculated from its different components or or globally:

- When an application used by the application system is specified "Application", the cost of this application is not charged to the application system, in other words the cost relates only to the application.
- When an application used is specified "Component", the cost of this application is charged to the application system and is no longer listed on the application.

To indicate that an application is used by the system as a component:

1. Open the properties of the application system.
2. Click the drop-down list then **Characteristics**.
3. In the **Component** section, select **Application Component** to display applications making up the application system

4. Select the required application , and in the **Aggregation Type** column, select "Component".



Specifying a Currency

At the level of each HOPEX environment the currency used can be specified. The monetary numeric format adapts as a result.

To modify currency:

1. In the HOPEX installation folder, double-click the "Administration.exe" file.
2. Access your work environment.
3. Right-click the desired environment and select **Options** > **Modify**. The options window appears.
4. In the navigator on the left, expand the **Installation** folder and select **Currency**.
5. On the right indicate the currency.
6. Click **OK**.

The format of costs is modified depending on the specified currency. Note also that the format of figures depends on the interface language.

Analyzing Application Costs

In **HOPEX IT Portfolio Management** a report summarizes costs of applications, their versions and deployments.

To view the report on costs of an application or an application system:

1. Open the properties of the application concerned.
2. Click the drop-down list then **Reporting** then **Cost report**.

EVALUATING APPLICATION CRITICALITY

Criticality of an application is assessed related to criteria linked with the business, to functionalities covered and to technologies used. The evaluation of an application therefore involves different user types. For more details on users, see "HOPEX IT Portfolio Management Profiles", page 10.

It is also possible to evaluate a set of applications at the portfolio level. This evaluation is performed by the application portfolio manager. See "Evaluating Application Assets", page 77.

Evaluation Criteria

Evaluation of an application relates to:

- its **Business Value** enabling evaluation of the nesting level of the application in enterprise production.
  - Level 1: operational business processes will be stopped if the application no longer functions and a workaround solution exists.
  - Level 4: major production processes will be stopped in the case of application malfunction with no workaround solution.
- its **Business Value** enabling evaluation of the support level of the application in enterprise process.
  - Level 1: low level
  - Level 4 the application is critical from a functional viewpoint, since it supports key processes on its own.

    ☛ *For more details on businesses addressed and functionalities covered, see "Defining Application Functional Scope", page 26.*
- its **Technology** enabling assessment of evolution possibilities of the application from the techniques that support it.
  - Level 1: technology is frozen
  - Level 4: corresponds to a flexible and upgradable technological platform.

    ☛ *For more details on technologies, see "Specifying the Technologies of an Application", page 28.*

Creating an Assessment Measure

You can evaluate an application at precise moments, by creating a new evaluation measure each time.

To create an evaluation measure:

1. Click the icon of the application to evaluate and select **Properties**.
2. In the properties drop-down list, click the **Assessment** page.
3. Click the **New Measure** button.
   The creation window opens.

4. Indicate the value of each criterion as well as the evaluation end date.

From evaluation data, a report allows you to classify applications of the installation in a matrix and to rapidly identify the applications to be upgraded. See "Accessing Embedded Reports in a Portfolio", page 93.

Study Start Date	01/05/2012
Study End Date	01/05/2015

		Business Value			
		Low		High	
Functional Support	Good	Eliminate/Freeze	Eliminate, Freeze, or Increase Value	Renovate	Maintain
		1 applications (6%)	-	1 applications (6%)	4 applications (22%)
		Costs: 0.0 (0%)	-	Costs: 0.0 (0%)	Costs: 78154.0 (85%)
	Poor	Eliminate	Eliminate or Increase Value	Replace	Enhance
		1 applications (6%)	2 applications (11%)	1 applications (6%) Application: Purchasing Management — Reference Costs: 0.0	3 applications (17%) Application: Secured Payment — Reference Costs: 0.0 Application: Billing — Reference Costs: 0.0 Application: Customer Management — Reference Costs: 0.0
		Costs: 0.0 (0%)	Costs: 0.0 (0%)	Costs: 0.0 (0%)	Costs: 0.0 (0%)
		Poor	Good	Poor	Good
		Technology			

"Application positioning" report on an application portfolio

DRAWING UP A TECHNOLOGY INVENTORY

Similarly to applications, **HOPEX IT Portfolio Management** enables to draw up an inventory of available technologies and to collect information according to different criteria.

The following points are covered here:

DEFINING AND VALIDATING TECHNOLOGIES

Application asset technologies can be created and managed by the Technology Portfolio Manager or the Application Owner. They are then validated or rejected by the Chief Technology Officer. Their cost is determined by the Financial Controller.

Validation and updating of technologies is assured by workflows.

Creating a Technology

HOPEX IT Portfolio Management produces a navigation tree for technologies, accessible in the **IT Portfolio Management** navigation pane of the ITPM desktop. The navigation tree displays the list of technologies and classes according to different criteria:

- All technologies of the repository
- Technologies outside portfolio (those not belonging to any inventory portfolio)
- Technologies of the connected user portfolio

To create a technology:

1. On the desktop, click the navigation menu then **IT Portfolio Management**.
2. In the edit area, click **Technologies**.
   In the drop-down list select **All Technologies**.
3. Click the **New** button.
4. In the dialog box that appears, indicate:
   - its name
   - the vendor
5. Click **OK**.

When a technology is created in **HOPEX IT Portfolio Management**, a workflow is automatically started and a validation request sent to the Chief Technology Officer, who defines the Company Standard. See "Validating a Technology", page 55.

See also:

"Importing Technologies from BDNA Technopedia™", page 58.

Accessing Technology Properties

To access technology properties:

1. In the list of repository technologies, select the required technology and click the **Properties** button  of the edit area.

2. In the properties window, click the drop-down list to access the following pages:
   - Characteristics
   - Version and installation
   - Application
   - Cost
   - Reports
   - BDNA

Characteristics

In this page you can specify:

- **Identification** of the technology:
  - the **Name** of the technology
  - the internal **Code**
  - the **Vendor**
  - The **Company standard**: this attribute indicates the organization policy regarding the usage of a technology or technologies of a vendor. It is specified by the Chief Technology Officer.

    ☛ *See also "Validating a Technology", page 55.*
  - a **Comment**.
- the **Official Life Cycle** of the technology, with its publication and support end dates.

  ☛ *The end of support date can be imported from BDNA or specified manually.*
  See also: "Support Alert Reportvérifier", page 88.
- **Technology Type**: IT service, operating system, platform, DBMS. A technology can be connected to one or to several technology types.

  ☛ *New technology types can be created by the functional administrator only.*
- **Responsibility**: this is the person or persons responsible for the technology:
  - the management controller responsible for financial aspects of the technology
  - the local correspondent who is the main referrer for the technology

  ☛ *This business role is not associated with a specific desktop.*
- **Gantt Chart** presenting the technology life cycle. This is the life cycle within the organization; it can differ from the official life cycle specified by the supplier.
  For more information on the object life cycle and its Gantt chart, see "Viewing Application Life (Gantt Chart)", page 34.

  For more information on the technology official life cycle, see "BDNA properties in HOPEX", page 82.
- associated **Attachments**.

Version and installation

See "Managing Deployments of Technologies", page 73.

Application

This page allows you to connect the technology to existing applications. For each application you can indicate:

- Total expenses for the year
- Capital expenditure (CAPEX)
- Operating expenses (OPEX)

Cost

In this page you can define costs linked to the technology. The definition of costs of a technology is the same as for an application. See "Managing Application and Application System Costs", page 43.

An analysis report summarizes costs of the technology. See "Costs Report", page 54.

Reports

The **Reporting** page accesses available analysis reports on the technology.

Costs Report

Summarizes technology costs, by cost nature and by year.

Gantt Chart

Displays technology life cycle steps. See "Defining Technology Life", page 70.

Gantt Chart with Conflicts

This report presents possible conflicts between the technology life cycle and the life cycle of the applications that use it.

Rules Application

Displays modeling rules in cases where a rule is active.

Overview

Displays a summary of technology characteristics.

BDNA

This page displays properties imported from BDNA. See "Displaying BDNA properties in HOPEX", page 63.

See also "Importing Technologies from BDNA Technopedia™", page 58.

Validating a Technology

A validation workflow can be started:

- automatically
- on request from the Portfolio Manager

At technology creation

On creation of a technology, a task is automatically assigned to the technology manager, who must validate or refuse the technology. The task appears in his/her desktop, in which are displayed the objects for which he/she is responsible.

To validate a Technology:

1. Click the navigation menu then **To-Do List**.
2. In the edit window, click **Technologies**.
   The list of technologies to be validated appears in the edit area.
3. Click the icon of the technology to be validated and select **Assessment of the Technology** > **Set the technology as Accepted**.

The **Expected** command also validates the technology, but in a more pronounced way, since it specifies that it is an expectation.

Company standard (calculated)

The **Company standard** attribute indicates the organization policy regarding the usage of a technology or technologies of a vendor. This attribute, visible in the technology characteristics, s is modified depending on the workflow.

It can take values:

- Expected
- Accept
- Forbidden
- Unknown

If a technology belongs to a "prohibited" or "unknown"supplier, it automatically takes the same value.

On demand

The Portfolio Manager can subsequently request a new validation of the technology.

He/she can also request financial validation from the Financial Controller responsible for this technology.

Defining a Technology Stack

A technology stack makes up a technology grouping.

It is obsolete when one of the technologies that it contains is obsolete.

It can be associated with applications.

Creating a technology stack

To define a technology stack:

1. On the desktop, click the navigation menu then **IT Portfolio Management**.
2. In the edit area, click **Technology Stacks**.
3. Click **New**.
   The technology stack creation dialog box appears.
4. Enter the name of the technology stack and an owner if necessary.
5. Click **OK**.

Specifying its properties

To specify the properties of the technology pile created:

- Select the technology concerned and click **Properties** in the edit window.
  You can specify:
  - its components (technologies)
  - its life cycle
  - its owner
  - the applications used

See also "Accessing Technology Properties", page 52.

Support alert

The **Support Alert** Attribute available on each technology compares the official life cycle of a technology (imported from BDNA Technopedia or defined manually) with its life cycle in the organization.

On a technology pile, the value of this attribute is calculated using the values defined for the technologies that it contains.

- If one of the technologies that it contains is "Not Supported", the support alert for the pile is "Not Supported".
- Otherwise, if one of the technologies that the pile contains is "Delayed Use", the support alert for the pile is "Delayed Use".
- Otherwise, if one of the technologies that the pile contains is "Early Use", the support alert for the pile is "Early Use".
- Otherwise, the support alert for the pile is "Supported".

Company standard (computed)

The **Company Standard** attribute indicates the organization policy regarding the usage of a technology.

☛ *See "Validating a Technology", page 55.*

This attribute can take values:

- Expected
- Accept
- Forbidden
- Unknown

On a technology stack, the value of the **Computed Company Standard** attribute is calculated using the values defined for the technologies that the technology stack contains.

- If one of the technologies the stack contains is "Forbidden", the Computed Company Standard is "Forbidden".
- Otherwise, if one of the technologies the stack contains is "Unknown", the Computed Company Standard is "Unknown".
- Otherwise, if one of the technologies the stack contains is "Accepted", the Computed Company Standard is "Accepted".
- Otherwise, the Computed Company Standard is "Expected".

This computed value is providing a reference only. The director of the technology can define a different value for the **Company Standard** attribute for the technology stack.

Conflicts between a technology stack and its components

The Gantt chart with conflicts report is used to view any conflicts between the life cycle of a technology stack and those of the technologies that it contains.

IMPORTING TECHNOLOGIES FROM BDNA TECHNOPEDIA™

BDNA Technopedia™ is a large repository of technology market information. It provides an up-to-date IT reference catalog of software and hardware information. **HOPEX IT Portfolio Management** provides an integration tool with BDNA Technopedia™, allowing Enterprise Architects and Technology Portfolio Managers to take full benefit of this information and make more accurate decisions on their IT asset.

With the BDNA Connector you can:

- Import new technologies (as well as technology types and vendors)
- Align BDNA technologies with existing technologies of your repository
- Update technologies imported in your repository

Presentation of the BDNA Connector

Use Case in HOPEX ITPM

In ITPM solution, the BDNA Connector is available to the Functional Administrator. He is in charge of importing data from BDNA. He can initialize a new repository by importing software technologies from BDNA Technopedia™ and use the Functional Administration Desktop to manage automatic update workflows and alert tools.

The Technology Portfolio Manager (TPM) is responsible for software technologies and their life cycle. He can include his software technologies in the scope of the automatic update in order to be notified automatically of any changes. He can also send the Functional Administrator a request to prepare the import of new software technologies from BDNA.

The Application Portfolio Manager should subscribe to the standard notification on sensitive software technologies that are used by his applications. Thus, when these software technologies are updated by automatic or manual import from BDNA properties, he will receive a notification of the change. He will analyze the impact and decide how to proceed (keep the software technology, use a new version or change it).

Prerequisite Conditions

The BDNA Connector is available with **HOPEX IT Portfolio Management** and requires the BDNA license that you will specify in the authentication settings.

To be able to connect to BDNA Technopedia™, you must set the **Data Exchange** options related to exchanges between **HOPEX** and third party tools.

To define the required options:

1. Start **HOPEX Administration**.
2. In the navigation tree, right-click the **HOPEX** site name and select **Options** > **Modify**. The site options window opens.
3. Expand the **Data Exchange** > **Import** folder.
4. Click the **BDNA** folder.

5. Enter information to access **BDNA API** (provided by BDNA):
   - URL address of the BDNA API: this is the URL of the Technopedia public catalog The HTTP protocol is used by default but to secure the exchanges you can use the HTTPS protocol by entering it directly in the option.
   - Authentication user for the BDNA API; BDNA user
   - Authentication key for the BDNA API: password
6. Activate **SMTP proxy** if necessary (provided by your IT service):
   - Check **Activate SMTP Proxy.**
   - Enter the address of the proxy.
   - Enter the port.
7. Check the **Authentication for the proxy** option if required.

Scope of BDNA Connector

Within the context of the technology management in ITPM, the BDNA Connector enables import of the following concepts:

- Technology types: categorizes software products by the function they perform.
- vendors. Example: Microsoft
- Software technologies. Example: MS Office

Mappings with **HOPEX** concepts are detailed below.

Object correspondence

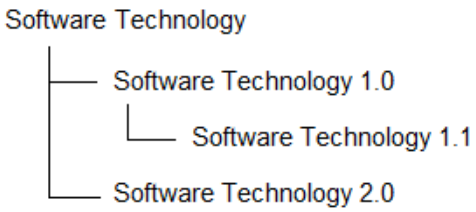
BDNA	HOPEX
Manufacturer (vendor)	Org Unit
Taxonomy (technology type)	_Type
Software Product	Technology
Software Edition	Variation of Software Technology
Software Standard Major/Minor Release	Variation of Software Technology

In BDNA Technopedia™, software technologies are divided into:

- Products (for example: Microsoft Office)
- Editions (for example: Family, Professional)
- Versions (for example: 2013, 2016)
- Releases (major, minor)

Only versions and releases have information on the life cycle (publication date, end support, end of extended support).

Software Products imported from BDNA Technopedia™ into **HOPEX** are saved as Software Technologies. Editions and versions of a software are represented by variations of the Software Technology in MEGA.



Importing new Objects from BDNA Technopedia™

Objects you can import from BDNA Technopedia are:

- Technology types
- Vendors
- Technologies

Data import is carried out by the functional administrator.

To import data with the BDNA Connector:

1. Connect to ITPM as a Functional Administrator.
2. Click the navigation menu then **IT Portfolio Management**.
3. Click the **BDNA** navigation pane.
4. The edit window displays the following folders:
   - BDNA technology types
   - BDNA vendors
   - BDNA technologies

Technology types

Importing technology types implies import of all technology types of the BDNA repository.

To import technology types:

1. Click the **BDNA** navigation pane.
2. In the edit window, click **BDNA Technology Types**.
3. Click **Import**.
   The list of technology types appears in the **Technology Types** folder.

Vendors

You can search vendors to be imported by name, specifying where applicable the Industry and Owner.

The import wizard displays the search results and prompts you to select the vendors to be imported from among the list displayed.

The **Direct Creation** option speeds up the import by eliminating this intermediate stage that lists and displays the vendors found; it creates the vendors found by the wizard directly, without prior validation.

To import a vendor:

1. Click the **BDNA** navigation pane.
2. In the edit window, click **BDNA Vendors**.
3. In the edit area, click the **Import** button.
   You can search a vendor by specifying:
   - the name (or a part of the name) of the **Vendor**.

   Under the Advanced options, you can specify:
   - The **Industry** within which a vendor belongs, based on the majority of their products.
   - The **Owner** of the vendor. For example, Microsoft is now the owner of Skype.
   - The **Tier**: categorization of vendors based on priority/importance. For example level 1: well-known vendors.

     ☛ ***Direct Creation*** *: check this option if you want to ignore the results display and directly create the found technologies.*
4. Click **Next**.
   The wizard displays the search results.
5. Select from the list the vendors you want to import.
6. (Optional) At this stage you can merge a vendor to be imported with a vendor of your repository. To do that, click the **Matching Vendor in HOPEX** column and select the vendor of your repository that corresponds to the vendor to be imported.

   ☛ *The existing vendor remains in the repository. In its properties you can see the ID as well as the BDNA Name of the vendor to which it corresponds. See also* *"Merging technologies at BDNA import", page 65.*
7. Click **Next**.
8. Select the import option:
   - Now
   - As soon as possible: execute the import after saving updates
   - Scheduled: execute the import at the date and time specified
9. Click **Import**.
   The imported vendors are shown in the edit area.

Technologies

You can search software technologies to be imported by:

- their name
- the type of technology and the vendor.

The import wizard displays the search results and prompts you to select the technologies to be imported from among the list displayed.

The **Direct Creation** option speeds up the import by eliminating this intermediate stage that lists and displays the technologies found; it creates the technologies found by the wizard directly, without prior validation.

Note that when importing minor technologies, the tool also imports the major versions from which they are derived.

Searching by name

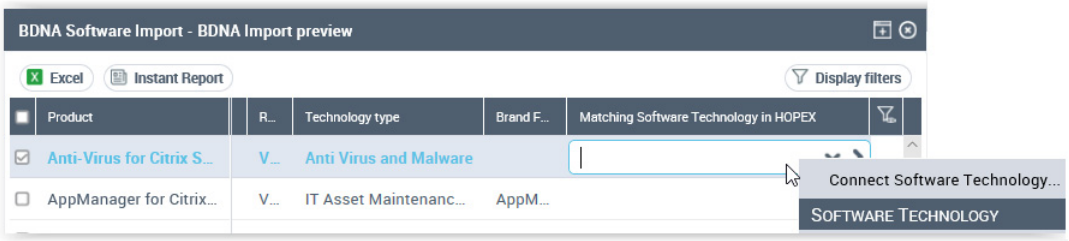
To find a technology using its name:

1. Click the **BDNA** navigation pane.
2. In the edit window, click **BDNA Technologies**.
3. Click **Import**.
4. Select the **Import Software technologies by name** query mode and click **Next**.
5. Complete the following fields:
   - Software Technology Name (enter the name or a part of the name)
   - Technology Version
   - Software Version Group (year)

   Under the Advanced options, you can specify if it is:
   - A minor or major version
   - A technology suite
   - A licensable technology

   ☛ ***Direct Creation**: check this option if you want to ignore the results display and directly create the found technologies.*
6. Click **Next**.
   The wizard displays the search results.
7. Select from the list the technologies you want to import.
8. (Optional) At this stage you can merge a technology to be imported with a technology of your repository. To do that, click the **Matching Software Technology in HOPEX** column and select the technology of your repository that corresponds to the technology to be imported.

   ☛ *For more details, see "Merging technologies at BDNA import", page 65.*



9. Click **Next**.
10. Select the import option:
    - Now
    - As soon as possible: execute the import after saving updates
    - Scheduled: execute the import at the date and time specified
11. Click **Import**.

Searching by the type of technology and the vendor

To find a technology using its type and vendor:

1. Click the **BDNA** navigation pane.
2. In the edit window, click **BDNA Technologies**.
3. Click **Import**.
4. Select the **Import Software technologies by selecting technology types and vendors** query mode and click **Next**.

5. Select the technology type.
6. Click **Next**.
7. Select the vendor.
8. Click **Next**.
9. If necessary, filter the technologies by name.

   ☛ ***Direct Creation**: check this option if you want to ignore the results display and directly create the found technologies.*
10. Click **Next**.
    The wizard displays the search results.
11. Select from the list the technologies you want to import.
12. (Optional) At this stage you can merge a technology to be imported with a technology of your repository. To do that, click the **Matching Software Technology in HOPEX** column and select the technology of your repository that corresponds to the technology to be imported.
13. Click **Next**.
14. Select the import option:
    - Now
    - As soon as possible: execute the import after saving updates
    - Scheduled: execute the import at the date and time specified
15. Click **Import**.

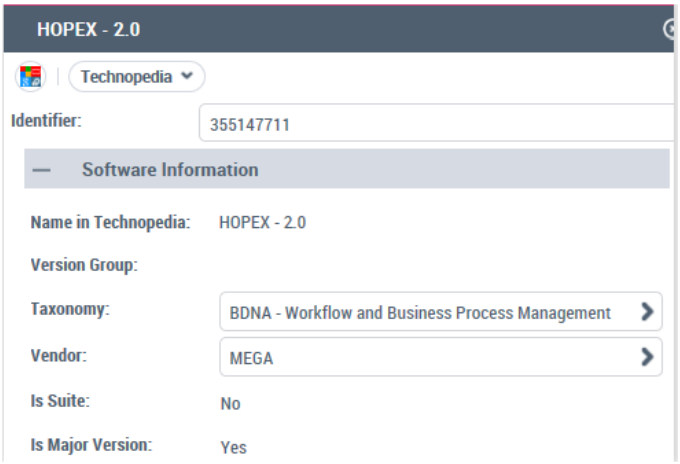
See also:

"Updating BDNA Objects Imported into HOPEX", page 66.

"Merging BDNA technologies with existing technologies of your repository", page 64

Displaying BDNA properties in HOPEX

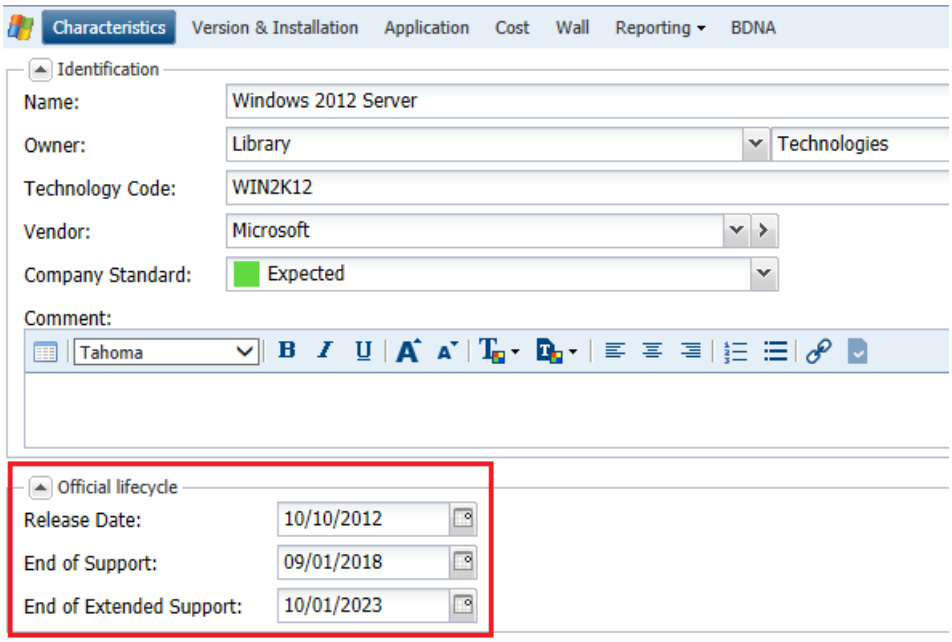
Most of BDNA properties imported into **HOPEX** appear in the **BDNA** property page of the object concerned (software technology, technology type or vendor).



Technology properties related to the official technology life cycle are automatically defined in the **Characteristics** page of the technology properties.

- Release date
- End of Support
- End of Extended Support

☛ *These properties can be specified manually if you do not use the BDNA Connector*



A **Support Alert** report uses this data to track technology obsolescence. For example, the solution automatically detects current and future conflicts when an underlying technology component becomes obsolete while the business application is still in production.

See "Support Alert Report", page 71.

Merging BDNA technologies with existing technologies of your repository

Your repository may contain technologies created outside of the BDNA import. These technologies do not benefit from the provider data and updates supplied by the BDNA connector, such as official life cycle dates, for example.

You can merge technologies in three different ways:

- By merging the technologies already contained in your repository case by case
- By specifying, during the import of BDNA technologies, those that correspond to technologies existing in your repository
- By specifying the BDNA identifier in the technology's properties

Merging two technologies in HOPEX

To merge two technologies:

1. Click the navigation menu then **IT Portfolio Management**.
2. In the navigation pane, click **Technologies**.
3. In the edit area, select the technologies to merge.
4. Click the **Merge Technologies** button.
5. In the wizard that appears, enter:
   - The source technology, which will be merged in the target technology
   - The target technology, which will include information of the source technology.
6. Click **Next**.
7. Select the properties you want to keep from the source and target technologies. By default, properties of the target technology are selected.
8. In the same way, select the links you want to keep.
9. Click **OK**.

Merging technologies at BDNA import

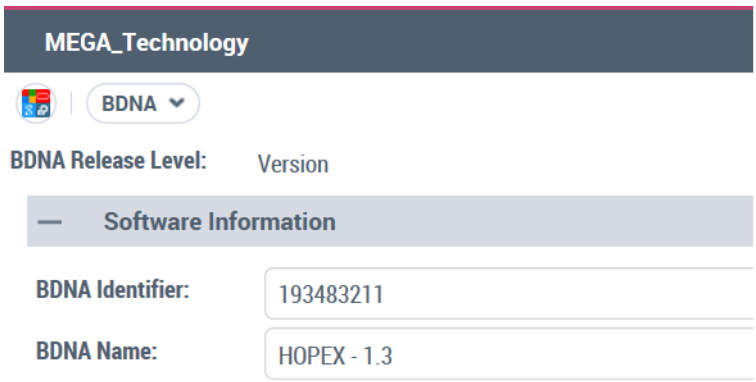
When you import technologies in your HOPEX repository, you can merge them with technologies already present in your repository. The technologies merged in this way are identified as BDNA technologies and can subsequently be updated as such.

In the same way, you can merge vendors.

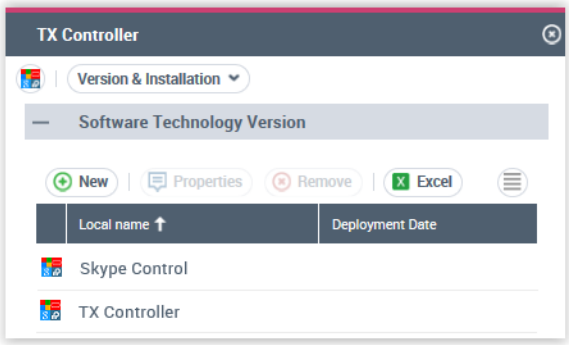
Example of merged technologies

You want to import the "TX Controller V1.15" technology that corresponds to the "Skype control" technology in your repository.

Once the technologies are merged, the existing technology, "Skype control", remains in your repository. In its properties you can see the ID as well as the BDNA Name of the technology to which it corresponds: "TX Controller V1.15".



The "TX Controller" version has also been imported. This is the major version of "TX Controller", from which the imported version is derived. In its properties, in the **Version & Installation** page, you can see the different versions of this technology that exist in your repository.



For more details on how to merge technologies and vendors at import, see "Importing new Objects from BDNA Technopedia™", page 60.

Modifying the BDNA Identifier of a technology in HOPEX

To define a technology as a BDNA technology, you can manually specify its BDNA identifier.

To specify a BDNA identifier:

1. Select the technology in question.
2. Click the **Properties** button in the edit area.
   The properties of the technology appear.
3. Select the **BDNA** page.
4. In the **BDNA Identifier** field, enter the BDNA identifier number.

See also: "Updating BDNA Objects Imported into HOPEX", page 66.

Updating BDNA Objects Imported into HOPEX

At any time you can update information available on software technologies and vendors imported into **HOPEX**.

To do so:

1. In the **BDNA**navigation pane, click **BDNA Vendors or BDNA Technologies**, depending on the objects you want to update.
2. In the edit area, click the **Update** button.

☛ *If necessary, click*  *to display the hidden commands.*

You can also define an automatic update.

Technology Automatic Updating and Alerts

Automatic update checks, at a given frequency, if properties of software technologies imported into **HOPEX** have changed in BDNA repository and updates the corresponding technologies in **HOPEX**.

Defining Update Frequency

To define an automatic update, you must create a trigger in the Administration Tool that implements the BDNA automatic update macro.

Once the trigger has been created, you can schedule the update in ITPM.

To create the trigger:

1. Open the Administration tool.
2. Open the environment.
3. Unfold the folder of the concerned repository.
4. Right-click **Scheduler** then select **Manage Triggers**.
5. Click the **Triggers Definitions** tab.
6. Click **New** to create a System Trigger Definition.
7. In the wizard create a System Job Definition that implements the Macro "BDNA Automatic Update Job Implementation".
8. Complete the scheduling.
9. Click **Finish**.

To define automatic update on technologies:

1. Connect to ITPM as a Functional Administrator.
2. Click the navigation menu, then **Administration**.
3. Select the **Scheduling Management** navigation pane.
4. In the edit area, under **System Trigger**, right-click **BDNA Automatic Update** and select **Update Scheduling**.
5. You can set the alert:
   - Daily
   - Weekly
   - Monthly
6. Click **OK**.

Subscribing to Alerts

A user can be notified of updates made on the technologies he is in charge of.

To subscribe to an alert:

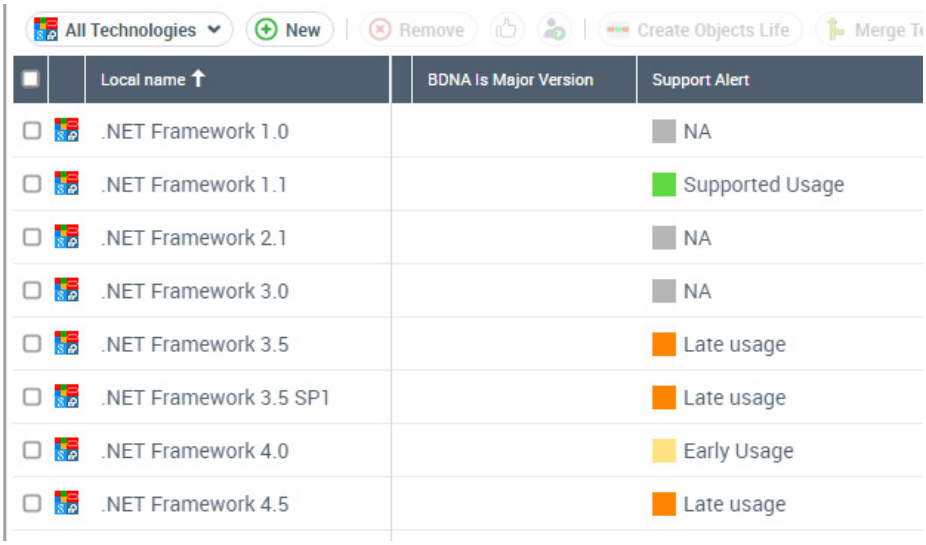
1. In the edit window, display the list of technologies.
2. Select the technology concerned and click the **Follow** button.

☛ *For more details on alerts, see the HOPEX Common Features guide, chapter "Communicating in HOPEX", section "Threads of Posts and Alerts on Objects".*

Support Alert Report

A **Support Alert** MetaAtribute available on each technology compares the technology life cycle (imported from BDNA Technopedia or defined manually) with its life cycle in the organization.

> ☛ *For more information on the Gantt diagram and object life, see "Viewing Application Life (Gantt Chart)", page 34.*
>
> ☛ *For more information on the technology official life cycle, see "Displaying BDNA properties in HOPEX", page 63.*



It can have the following values:

- **Early life cycle**: the technology has a life cycle in the organization which started before the official release date of the software technology.
- **Supported usage**: the life cycle of the technology begins after the release date of the technology and ends before the end of the support date.
- **Delayed use**: the life cycle of the technology begins after the release date of the technology and ends before the end of the extended support date.
- **Non-supported use**: the life cycle of the technology begins after the release date of the technology and ends before the end of the extended support date.

A report uses the **Support Alert** MetaAttribute to analyze technologies in the **HOPEX** repository and displays all possible conflicts between the use of these technologies in the organization and their official life cycles.

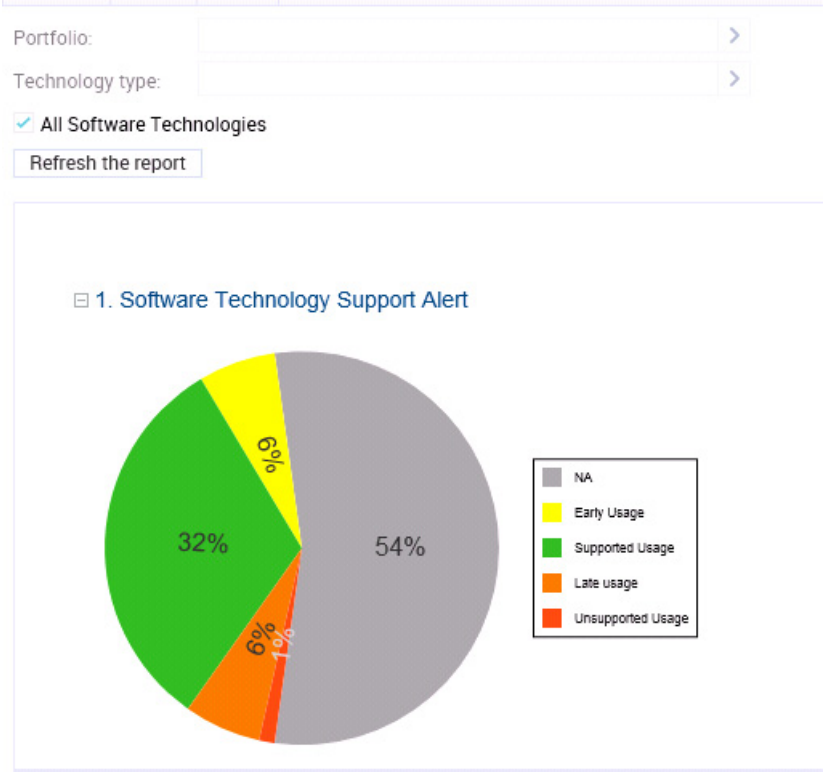
To generate a **Support Alert** report:

1. On the IT Portfolio Management desktop, click the navigation menu, then **Reports**.

   > ☛ *This report is also available in the properties of a portfolio.*

2. Click the **Technology** navigation pane.
3. In the edit window, click **Technology Support Alert**.
   The report appears in the edit area.

4. Select the technologies you want to analyze:
   - Technologies of a Portfolio. You can select an Application or a Technology portfolio. In case of an application portfolio, it analyses the technologies linked to the applications.
   - Technologies of a certain Type (Taxonomy).
   - All Technologies
5. Click the **Refresh the report** button.
   The report results appear in the edit area.



DEFINING TECHNOLOGY LIFE

The technology life is characterized by:

- Its official life cycle, specified by the vendor
- Its life cycle within the organization; it can differ from the official life cycle.

Official Life Cycle

Dates of the official technology life cycle are automatically defined in the **Characteristics** tab of the technology properties.

- Release date
- End of Support
- End of Extended Support

These properties are defined automatically when you import a technology from BDNA Technopedia.

They can be specified manually if you do not use the BDNA Connector.

See also:

"Importing Technologies from BDNA Technopedia™", page 58.

Technology Life Cycle within the Organization (Gantt Diagram)

An object evolving over time can take different states (preparation, production, retirement, etc.).

The *Object life* enables viewing of the planning of these different states in the form of a Gantt chart.

To view the Gantt chart representing the different states of a technology:

1. Open properties of the technology.

   ☛ *See also "Accessing Technology Properties", page 52.*

2. In the properties of the technology, click the drop-down list and select **Characteristics**.
3. Expand the **Gantt** section.

For more details on object life, see "Viewing Application Life (Gantt Chart)", page 34.

Analyzing the life cycle of a technology and the applications that use it

A report enables display in the same Gantt diagram of life cycle steps of the technology and those of the applications that use it.

A second report indicates any conflicts between life cycles of these objects.

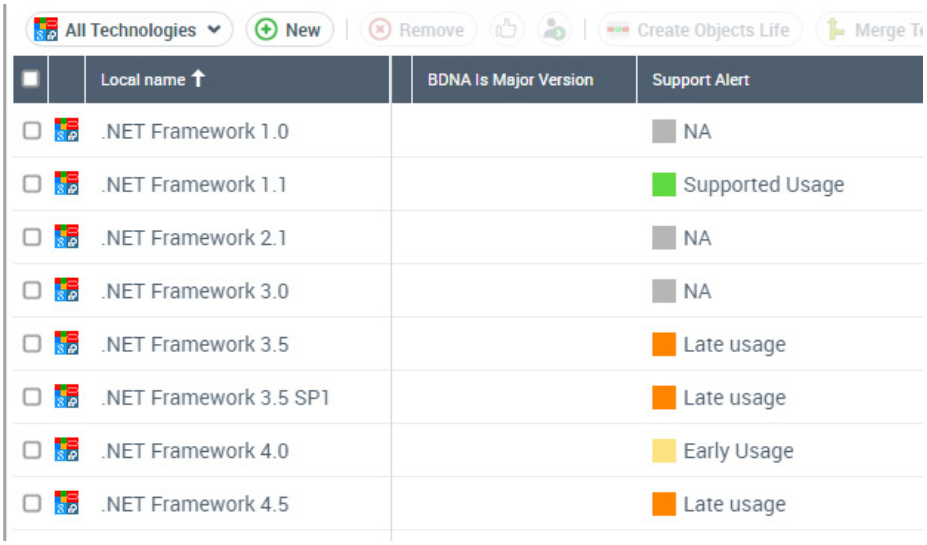
To access these reports:

1. Open the properties of the technology concerned.

2. Click the **Reports** page then:
   - **Gantt Chart** to view life cycles of the objects
   - **Gantt chart with conflicts** to view any conflicts.

Support Alert Report

A **Support Alert** MetaAtribute available on each technology compares the technology life cycle (imported from Technopedia or defined manually) with its life cycle in the organization.



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- **Early life cycle**: the technology has a life cycle in the organization which started before the official release date of the software technology.
- **Supported usage**: the life cycle of the technology begins after the release date of the technology and ends before the end of the support date.
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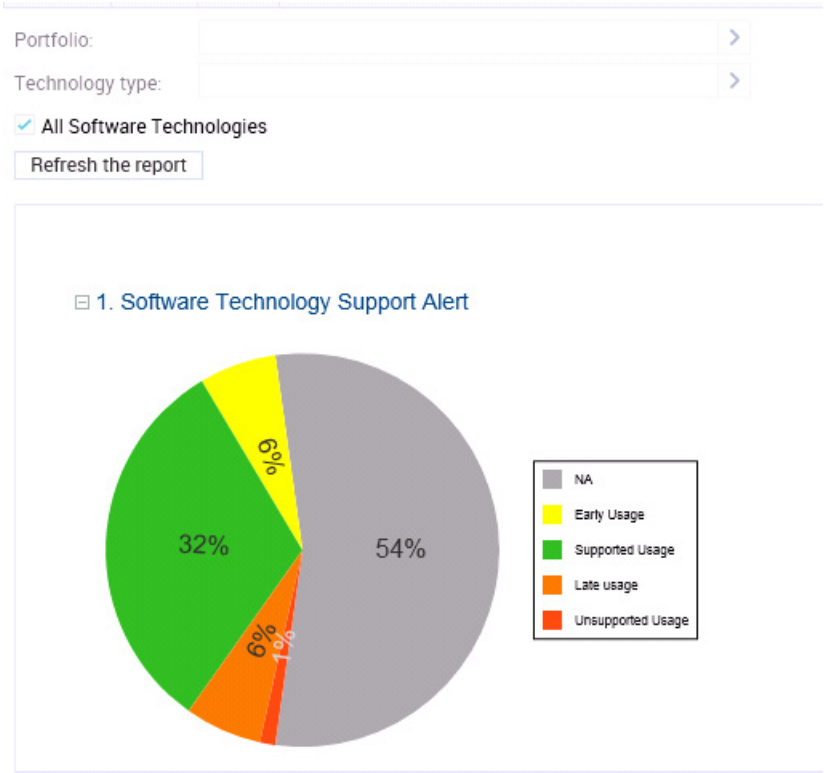
To generate a **Support Alert** report:

1. On the IT Portfolio Management desktop, click the navigation menu, then **Reports**.
   ☛ *This report is also available in the properties of a portfolio.*
2. Click the **Technology** navigation pane.
3. In the edit window, click **Technology Support Alert**.
   The report appears in the edit area.

4. Select the technologies you want to analyze:
   - Technologies of a Portfolio. You can select an Application or a Technology portfolio. In case of an application portfolio, it analyses the technologies linked to the applications.
   - Technologies of a certain Type (Taxonomy).
   - All Technologies
5. Click the **Refresh the report** button.
   The report results appear in the edit area.



MANAGING DEPLOYMENTS OF TECHNOLOGIES

HOPEX IT Portfolio Management enables management of deployments of technologies.

Versions and Deployments

HOPEX enables association of a technology with one or several deployments. A deployment is supported by a site or server and associated with a life cycle.

On the same site, a technology is deployed to offer different services to different users. Each deployment is therefore associated with several *usage contexts* which enable specification of lists of functionalities available to different users.

Consulting Technology Deployments

To access deployments of a technology:

1. Open properties of the technology.
2. Select the **Version and Installation** page.
   The list of associated deployments is displayed.
   - deployment date
   - planned retirement date

To access characteristics of a technology deployment:

1. In the **Deployed Technology** section, select a deployment.
   The hostings and usage contexts associated with the deployment appear in the following sections.

In **Context of Use** you can define :

- context begin date:
- proposed functionalities retirement date
- planned number of users (consumers)

Creating a Technology Deployment

Technology deployment on a site offers functionalities adapted to different populations of users over a time period.

You can create a first deployment at creation of the technology, or create it later via its properties pages.

To create a technology deployment:

1. Open properties of the technology.
2. Select the **Version and Installation** page.

3. Select the technology version.

   ☛ *As is the case for applications, you can create variations on technologies. See "Managing Application Versions", page 42.*

4. In the **Deployed Technology** section, click the **New** button.
   The Deployment creation window opens.
5. Specify the deployment name.
6. Select the **Deployment Life Cycle** from the drop-down list of this field.
7. Specify:
   - **Start Date**, corresponding to the effective deployment date
   - **End Date**, which can correspond to the technology production end date.
8. Select the **Freeze the Source Object of the Software Installation** to avoid modification of the deployed technology.

   ☛ *You cannot modify a locked technology. If the technology is to be modified, a new version must be created.*

   ☛ *For more details on variations, see the **HOPEX Common Features** guide, "Handling Repository Objects", "Object Versions" chapters.*

9. Click **Next**.
   The **add usage context** dialog box opens.
10. In the **Deployment Support** drop-down list, select the site or server that hosts the deployment.
11. Click **OK**.
    The new installation appears in the technology properties.

Creating an Deployment Usage Context

The deployment context of a technology enables specification of the list of functionalities offered to each population of users for a given deployment over a period of time. Several contexts can be created for a given deployment.

To create a *usage context* of an application installation:

1. Open properties of the technology.
2. Select the **Version and Installation** page.
3. Select the technology version you are interested in.

   ☛ *As is the case for applications, you can create variations on technologies. See "Managing Application Versions", page 42.*

4. Under **Deployed Technology**, select the deployment.
5. In the **Usage Context**section, click the **New** button.
   The **Creation of Use Context** dialog box opens.
6. Specify the **Life Cycle**, **Start Date** and **End Date** of the context.
7. Click **Next**.
   The wizard offers you to add **consumers**. It relates to the application installations that will use the deployed technology in this context.
8. Click the **Connect** button to connect the consumers to the usage context.
9. Click **Next**.
   You can add functionalities to the context:
10. Click the **Connect** button to select the functionalities that will be proposed to consumers in the usage context.
11. Click **OK**.
    The new usage context appears in the properties of the deployed technology.

MANAGING COSTS OF TECHNOLOGIES

Similarly to application, **HOPEX IT Portfolio Management** allows you to specify and analyze the costs of your organization's technologies.

The definition of costs of a technology is the same as for an application.

See "Managing Application and Application System Costs", page 43.

EVALUATING APPLICATION ASSETS

Each application manager can evaluate applications for which he/she is responsible on three criteria: business, functional and technological. See "Evaluating Application Criticality", page 48.

The Portfolio Manager can evaluate the application assets he/she supervises by creating an application portfolio and associating with it additional evaluation criteria.

He/she can also evaluate the quality of the application code of a portfolio by launching a scan campaign with CAST Highlight for the application managers.

The numerous reports proposed by **HOPEX IT Portfolio Management** to analyze applications before starting the transformation phase.

The following points are covered here:

DESCRIBING INVENTORY PORTFOLIOS

An inventory portfolio groups a set of applications.

Creating an inventory *portfolio* consists of defining all the information (comparison criteria, timelines, etc.) that will allow you to assess applications to be implemented.

> 🕮 *A portfolio enables representation of all investments of an enterprise (or department) necessary to carry out changes required to achieve strategic objectives. It comprises a set of initiatives to be compared based on comparison criteria associated with the portfolio.*

You can also create inventory portfolios for technologies, as Technology Portfolio Manager. The technology portfolio definition uses the same methods than applications portfolios.

Creating an Inventory Portfolio

HOPEX IT Portfolio Management proposes two types of *portfolios*:

- The inventory portfolio: comprising different applications (or technologies), it enables follow-up of a given set of applications.
- The transformation portfolio: this intervenes after the inventory and assessment and comprises project lines (including deliverables that can be applications or technologies) and can include several project lines for the same application to measure the option costs of different scenarios. See "Transforming an application portfolio", page 73.

To create an application inventory portfolio:

1. Connect to **HOPEX IT Portfolio Management** as Application Portfolio Manager.
2. Click the navigation menu then **IT Portfolio Management**.
3. In the navigation pane, click **Portfolios**.
4. In the edit area, select **All Application Portfolios**.
   The list of application portfolios appears in the edit area.
5. Click **New**.
   The new portfolio appears in the list. You can open its properties to define its characteristics.

Defining Inventory Portfolio Content

All elements of a portfolio are accessible from its properties pages.

To access application portfolio properties pages:

1. In the **All Application Portfolios** list, select the portfolio that you wish to study.
2. In the command bar associated with the edit area, click **Properties**.
   Portfolio properties pages appear.

Portfolio characteristics

Portfolio characteristics are broken down into five groups:

- **Identification**: name, portfolio type, study dates, comment.
- **Portfolio Criteria**: see "Defining Portfolio Assessment Criteria", page 82
- **Responsibility**: displays person responsible for the portfolio
- **Sub-Portfolios**
- **Timeline**: see "Using Timelines", page 88.
- **Report:** enables creation of analysis reports on the portfolio. See "Accessing Embedded Reports in a Portfolio", page 93.

Inventory

This page enables listing of portfolio applications and evaluation of their criticality. See "Evaluating Application Criticality", page 48.

In this page, the portfolio can also launch information gathering for a set of applications. See "Collecting Data for a Set of Applications", page 79.

Evaluation

This page enables definition of values of *criteria* associated with applications. See "Evaluating Applications on Portfolio Criteria", page 85.

> 🕮 *A criterion is a reference element used to compare initiatives in a portfolio. Criterion values can be predefined.*

Reporting

This page displays the different dynamic analysis reports of the portfolio.

Collecting Data for a Set of Applications

Principle and prior conditions

The goal is to enable a portfolio manager to ask application owners to enter the properties of a set of objects.

The local owner of the application receives a link to the questionnaire by email enabling him/her to enter the properties in which the portfolio manager is interested.

You must first ensure that each application has an owner. For this, in the application properties window, expand the **Responsibilities** section, and link an application owner if this has not already been done.

Request completion of data via an assessment questionnaire

To ask the owner of an application to complete the data:

1. Select an application portfolio and open its properties window.

2. In its properties window, click the drop down-list and select **Inventory**. The portfolio components (applications) appear.
3. Select the applications for which you wish to collect data.

   ☛ *Check that the objects selected are linked to an application local owner.*
4. Click the **Fill Data** button.
5. Scroll the creation wizard and select the elements that you wish to make available to the application owner:
   - one or more properties pages (for example the properties page that concerns risks if you want the application owner to specify the application risks)
   - advanced characteristics (special MetaAttributes, for example, the validation date of the application)
6. Start the session immediately.
   The application owner receives the questionnaire.

Entering data for an application via a questionnaire

To view and fill in the assessment form that was sent to you by your manager:

1. Click the navigation menu then **List of Tasks> My Questionnaires**.
2. Select a questionnaire and click **Display Questionnaires**.
   The applications for which you must complete the data appear.
3. Once the fields are filled in, right-click on the questionnaire and select **Assessment Questionnaire (To be Filled In) > Complete**.

Generating the Business Capability Map of a Portfolio

A business capability map reflects the functional coverage of existing application assets. For more details, see "Defining Business Capabilities", page 16.

To generate a business capability map from a portfolio:

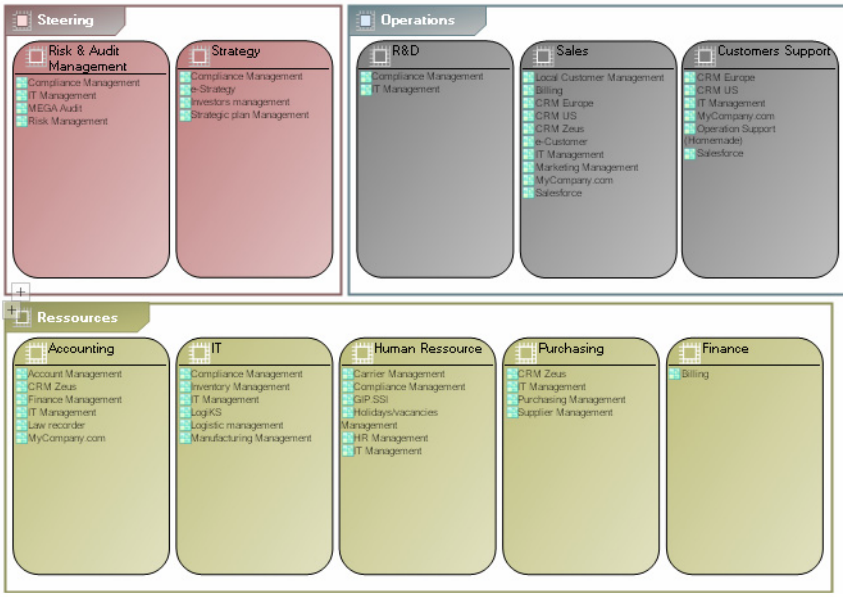
1. Select the portfolio concerned and, in the command bar associated with the edit area, click **Properties**.
2. The portfolio properties appear.
3. Click the drop-down list then **Reporting** > **Business Capability Map**.

The diagram positions the portfolio applications in the areas that represent business capabilities. It therefore reflects the functional coverage of portfolio applications.

☛ *For more information on Business Capability Maps, see "Defining Business Capabilities", page 16.*

From this diagram a report is generated presenting the functional coverage changes of an application portfolio over time. See also "Analyzing an inventory portfolio", page 93.

Example of a business capability map example



DEFINING PORTFOLIO ASSESSMENT CRITERIA

You can compare applications defined in a portfolio based on common criteria associated with the portfolio.

> 🕮 *A criterion is a reference element used to compare initiatives in a portfolio. Criterion values can be predefined.*

To define portfolio criteria, you can:

- Use criteria already existing in the repository.
- Create new criteria and associated values.

> ☛ *Criteria are defined from the MetaClass (object type) **TaggedValue**. Certain dialog boxes use this term rather than **Criterion**.*

Using Existing Criteria

To connect existing criteria to a portfolio:

1. Click the **IT Portfolio Management** navigation pane.
2. In the edit window, click **Portfolios**.
3. Select the portfolio concerned and, in the command bar associated with the edit area, click **Properties**.
   The properties dialog box of the portfolio appears.
4. Click the drop-down list then **Characteristics**.
5. In the characteristics, expand the **Portfolio Criteria** section.
6. In the section, click the **New** button.
   The search pane is displayed with a list of criteria already defined.
7. Select the criteria that interest you.
8. Click **Connect**.
   Each selected criterion is displayed in portfolio characteristics.

Using Existing Criteria

Standard criteria are proposed to process costs modeled on objects and initiatives.

> ☛ *For more details on modeling of costs, see "Managing Application and Application System Costs", page 43.*

Standard criteria enabling analysis of costs declared on initiatives as a function of their **type** and **nature** are the following:

- For **type**:
  - Capital expenses
  - Operating expenses
- For **nature**:
  - Infrastructure costs
  - Software licenses costs
  - Manpower costs
  - Service costs

The names of standard criteria enabling analysis of costs declared on objects carry the extension "Reference", for example "Reference Costs".

Given that certain criteria are automatically calculated, they cannot be modified from the **Inventory** or **Assessment** tabs of the portfolio.

☛ *For more details, see "Evaluating Applications on Portfolio Criteria", page 85.*

Creating a New Criterion

To create new criteria for portfolio application comparison:

1. Open the properties pages of the portfolio and select **Characteristics**.
2. In the characteristics, expand the **Portfolio Criteria** section.
3. In the section, click the **New** button.
   The TaggedValue (criterion) creation dialog box opens.
4. Indicate the name of the site and click **OK**.
   The new criterion appears in the list of portfolio criteria.

Defining criterion format

Specification of type and format of a criterion (or **TaggedValue**) is identical to that of a **MetaAttribute**. For more details on declaration of criterion format, see chapter "MetaAttributes" of the **Studio** guide.

To define characteristics of a criterion:

1. Select the criterion and click **Property**.
2. Click **Characteristics**.
3. In the **MetaAttribute Type** field, indicate the type that will take the criterion values.

MetaAttribute Type	Meaning
String	Alphanumeric, the value of the MetaAttribute Length attribute should then be specified
DateTime	Date
VarChar	ASCII text
VarBinary	Binary text (reserved)
Boolean	Boolean (0 or 1)
Short	Integer (0-65535)
Long	Integer (0- 4294967295)
Binary	Binary (reserved)
Double	Integer (0- 18446744073709551616)
Float	Floating number

4. In the **MetaAttribute Format** field, indicate the Format that will take the criterion values. Possible values are:
   - **Standard**: for character strings
   - **Currency**: for currencies
   - **Enumeration**: for a list of character strings with predefined values
   - **Enumeration (Opened)**: for a list of character strings open to the user
   - **Duration**: for dates
   - **Percent** : to enter a percentage
   - **Double** : to enter a number
   - **Object** : to enter an object
   - **Signed Number** : to enter a number possibly negative. In this case, **MetaAttribute Type** must be **Short**, **Long**, **Double** or **Float**.

     ☺ *The following formats are recognized in analysis reports: **Standard**, **Enumeration** and **Signed Number.***
5. Click **OK**.

To define values associated with a criterion of **Enumeration** format:

1. Open the properties pages of the criterion.
2. Select **External Values**.
3. Click the **New** to create new values.

Defining Criterion Aggregation Rules

Aggregation of a criterion enables definition of calculation rules that will be applied to application values to obtain the criterion value on a portfolio. In this way you can compare portfolios.

To define criterion aggregation rules:

❱ Open the properties pages of the criterion.
❱ Click the drop-down list then **Characteristics**.

Aggregation policies proposed as standard are:

- **Minimum**
- **Maximum**
- **Average**
- **Sum**

```
For example, the Cost criterion associated with a portfolio
can be obtained by calculating the average cost of
initiatives making up the portfolio, or the sum of costs of
each of the elements.
```

To fix more specific aggregation rules, the aggregation policy can be defined by a **Macro**. The name of the macro is defined in the **Aggregation Macro** column.

☛ *For more information on **Macros** in **HOPEX**, see the guide **All about starting with APIs**.*

The result of aggregation of different criteria is accessible in the **Aggregation Value** column.

Evaluating Applications on Portfolio Criteria

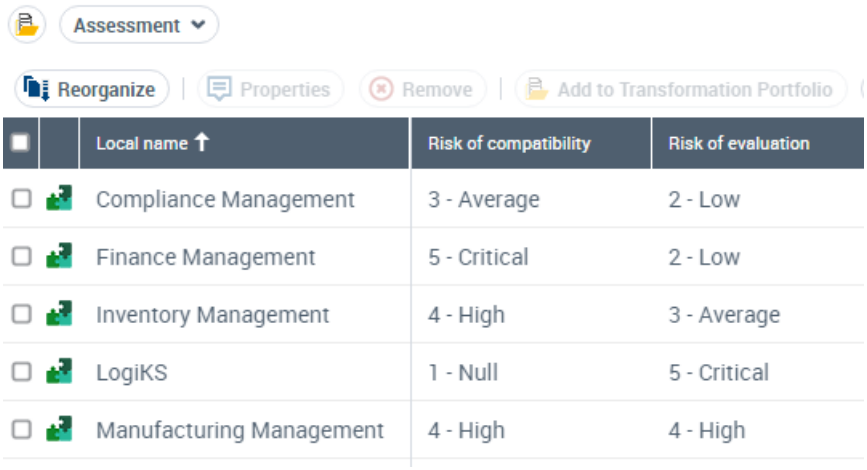
Portfolio applications are evaluated related to different portfolio criteria.

> ☛ *Standard criteria relating to costs are automatically calculated, they cannot therefore be modified in this tab. For more details on these criteria, see "Using Existing Criteria", page 82.*

Accessing applications to be evaluated

To access evaluations of all portfolio applications:

1. Open the properties pages of the portfolio.
2. Click the drop-down list then **Evaluation**.
   The list of evaluations of all portfolio applications according to different criteria is displayed.
3. To define a criterion value on an application, select the application concerned and click in the criterion column.



Local name	Risk of compatibility	Risk of evaluation
Compliance Management	3 - Average	2 - Low
Finance Management	5 - Critical	2 - Low
Inventory Management	4 - High	3 - Average
LogiKS	1 - Null	5 - Critical
Manufacturing Management	4 - High	4 - High

Generating a PDF or Excel evaluation data file

The **PDF** and **Excel** allow you to generate PDF and Excel files of evaluation results.

> ☛ *For reasons of readability, the PDF file contains a maximum 12 columns.*

Generating an instant report on evaluation data

Instant reports allow you to carry out drill-down analysis on evaluated objects. They provide greater detail depending on specific analysis perspectives (quantitative, time, etc.).

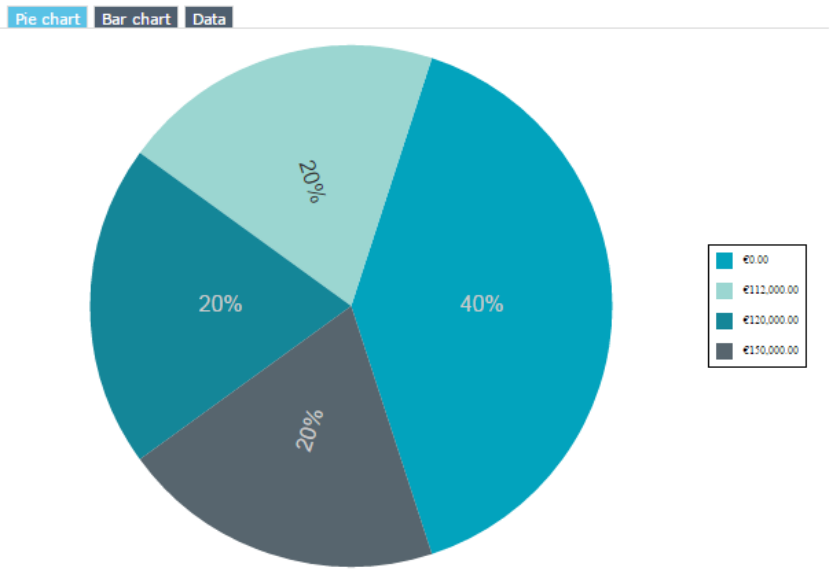
To generate an instant report on a list of evaluated applications:

1. Open the properties pages of the portfolio.
2. Click the drop-down list then **Inventory**.

3. In the list of applications, select those to be analyzed.
   If you do not select an application, by default the report covers all applications.
4. Click **Instant Report.**

   ☛ *If necessary, click*  *to display the hidden commands.*

5. Select the required analysis type, for example "Breakdown".
6. Click **OK**.
7. In the list of possible grouping criteria, select "Costs".
   For all selected technologies, you receive the cost breakdown according to their levels.



For further information on instant reports, see the **HOPEX Common Features** guide, "Generating documentation", "Launching instant reports on lists".

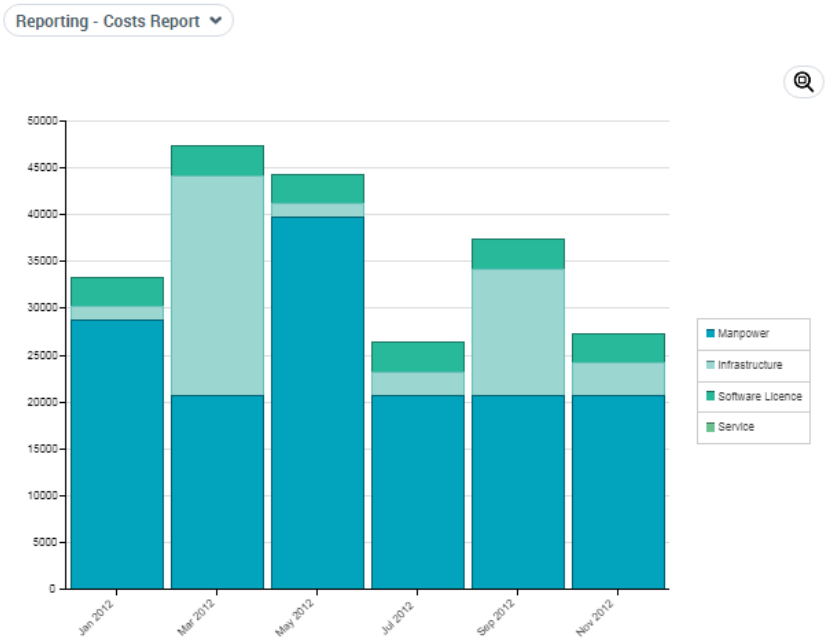
Portfolio costs report

A report automatically displays the global costs of applications contained in a portfolio.

To access the portfolio cost report:

1. Open the properties of the portfolio.

2. Select **Reporting** > **Costs Report**.



2. Detailed Cost per Nature

	Manpower	Infrastructure	Software Licence	Service	Total
Jan 2012	€28,667.00	€1,500.00	€3,167.00	€0.00	€33,334.00
Mar 2012	€20,667.00	€23,500.00	€3,167.00	€0.00	€47,334.00
May 2012	€39,667.00	€1,500.00	€3,167.00	€0.00	€44,334.00
Jul 2012	€20,667.00	€2,500.00	€3,167.00	€0.00	€26,334.00
Sep 2012	€20,667.00	€13,500.00	€3,167.00	€0.00	€37,334.00

An analysis report also summarizes costs of applications and of their versions and deployments between the portfolio start date and end date.

USING TIMELINES

The analysis phase of portfolio applications is based on *timelines*.

> 🕮 *A timeline presents key timespots of the organization from fixed dates or defined periods.*

A timeline is an object specific to the enterprise and can be referenced by portfolios or master plans.

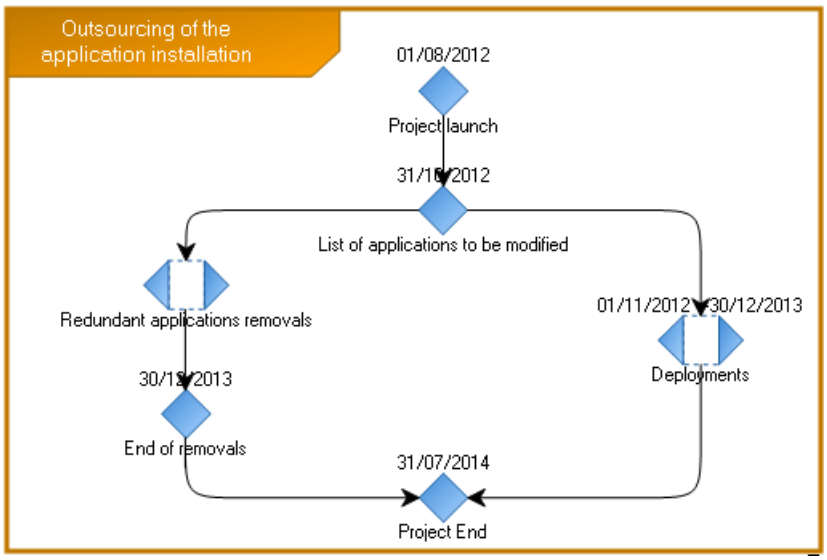
The timeline associated with an application portfolio is used in time distribution of the application portfolio business capability map. See "Generating the Business Capability Map of a Portfolio", page 80.

To view timelines associated with a portfolio:

1. Open the properties pages of the portfolio.
2. Click the **Reference timeline** tab.

This section is in two parts:

- Reference timeline: indicates a global calendar showing a certain number of timespots over a given time period. You can define a new timeline or connect an existing timeline.
- Owned timeline: corresponds to timeline milestones; milestones appear when you select a timeline in the upper part.



The above example presents a timeline for the upgrade of application assets. Phases of deletion of obsolete applications are synchronized with phases of deployment of new applications.

Creating a timeline

To create a timeline:

1. In the first frame of the **Reference timeline** section, select **New**.
   The **Timeline creation** dialog box appears.
2. Enter the name of the timeline.
3. Click **OK**.
   The timeline is created and added to the list of portfolio timelines.

Defining timespots

The **Timeline diagram** allows you to define the different key events that make up the timeline, as well as their dependency links.

To create a new timeline diagram:

1. Click the icon of the timeline and select **New > Timeline Diagram**.
   An empty diagram appears.

To create an **TimeSpot**:

1. In the insert toolbar, click the **Timespot**  button, then click in the diagram.
   The Add TimeSpot dialog box appears.
2. Indicate the name of the timespot and click **Create**.
   The timespot appears in the diagram.

To specify time links between timespots, you will create a sequence flow:

1. Click the **Sequence Flow** button ⟶
2. Click the timespot representing the start step, and holding the mouse button down, draw a line to the timespot representing the next step.
3. Release the mouse button.
   A directional link from one timespot to the next appears in the diagram. Previous and next timespots also appear in timespot **Properties**, in the **Characteristics** page.

Dating a timespot

A timespot can be associated with a precise date or a time interval. The time interval is defined by a date at earliest and a date at latest.

To define timeline timespot dates:

1. Open the properties pages of the timeline.
2. Select the **Characteristics** page.
3. In the **Owned TimeSpot** section, you can date timespots.

☛ *You can also specify sequence flows.*

ANALYZING THE APPLICATION CODE OF A PORTFOLIO WITH CAST HIGHLIGHT

On a portfolio containing in-house applications, the portfolio manager can launch a code analysis campaign to analyze the quality of the application code and issue alerts on any risks that might affect the portfolio.

Prerequisite Conditions

The CAST Highlight code analysis functionality requires:

- Entering the client number in HOPEX ITPM
- Identifying the functional administrator as the first CAST Highlight user
- Declaring other users in CAST Highlight
- Establishing the connection between HOPEX and CAST Highlight

Entering the CAST Highlight customer ID

The administrator must specify the CAST Highlight Customer ID in HOPEX. This number is provided by the sales administration.

To specify the CAST Highlight Customer number in HOPEX ITPM:

1. Connect to HOPEX ITPM as HOPEX Administrator.
2. Click **Environment options**.
   The options window appears.
3. In the left pane of the window, expand the **Data Exchange** folder then **Import/Export Synchronization**.
4. Click **CAST Highlight**.
5. In the right pane of the dialog box enter the number of the **CAST Highlight Customer ID**.
6. Click **Apply**.
7. Click **OK** to close the window.

Identifying yourself as the first user (Functional Administrator)

As the first CAST Highlight user, the ITPM functional administrator must register with the CAST Highlight portal.

Once registered, the functional administrator must enter his/her CAST Highlight user number in HOPEX ITPM, which was allocated by CAST Highlight during his/her registration.

To enter your CAST Highlight user number in HOPEX ITPM:

1. On the HOPEX ITPM desktop, click the navigation menu then **IT Portfolio Management**.
2. In the navigation pane, select **CAST Highlight**.

3. In the edit window, click **Manage CAST Highlight Users**.
4. Click the drop-down list, then **Me** to display your information relating to CAST Highlight.
5. In the **Action** column relating to your name, click **Properties**.
   The properties window of the user appears.
6. In the **CAST Highlight ID** field, enter your user number.

The functional administrator can then define other CAST Highlight users in HOPEX ITPM.

Declaring other users in CAST Highlight

Once the functional administrator is registered in CAST Highlight and has established a connection between HOPEX ITPM and CAST Highlight, he/she can declare other CAST Highlight users in HOPEX ITPM. The persons concerned receive an email from CAST Highlight asking them to register in the account created in the CAST Highlight portal.

To add a CAST Highlight user:

1. On the HOPEX ITPM desktop, click the navigation menu then **IT Portfolio Management**.
2. In the navigation pane, select **CAST Highlight**.
3. In the edit window, click **Manage CAST Highlight Users**.
   The list of users appears.
4. Select the user in question and click **Create user in CAST**.
   The user receives an email from CAST Highlight to confirm the registration, and the user connexion status switches to "Missing token".

Establishing the connection between HOPEX and CAST Highlight

Before the first use of the code analysis functionality, each user, previously declared as a CAST Highlight user, must establish a connection between HOPEX and CAST Highlight.

To establish the connection between HOPEX and CAST Highlight:

1. Click the navigation menu then **IT Portfolio Management**.
2. In the navigation pane, select **CAST Highlight**.
3. In the edit window, click **Manage CAST Highlight Users**.
4. Click the drop-down list, then **Me** to display your information relating to CAST Highlight.
5. Click **Generate token**.
   The window for creating a token appears.
6. Specify:
   - your CAST Highlight user email
   - your password entered in CAST Highlight
7. Click **OK**.

Launching a Code Analysis Campaign

The code analysis campaign is on the initiative of the application portfolio manager. It relates to the portfolios whose applications are of the "Specific Development" type.

> ☛ *The "Specific Development" application type is defined in the application page, in the **Identification** section of the **Characteristics** page.*

To launch a code analysis campaign on an application portfolio:

1. Click the navigation menu then **IT Portfolio Management**.
2. In the navigation pane, select **CAST Highlight**.
3. In the edit window, click **Portfolios Containing in-house Applications**.
4. Display "All Application Portfolios Developed Specifically".
5. Select the application portfolio concerned and click **Scan Application Source Code**.
   The campaign creation window appears.
6. Specify:
   - The campaign name
   - The closing date, which determines the date on which the scan results are automatically transferred in HOPEX
   - A message to the application managers
7. Click **OK**.

Following this creation, CAST Highlight sends a notification to the managers concerned inviting them to launch an analysis of their application codes.

Launching the Code Analysis

Following the notification received, each application manager connects to CAST Highlight to:

- download the local agent if this has not already been done

  > ☛ *The local agent is used to run code analyses and to create the results file to be uploaded to the CAST Highlight portal.*

- launch a code analysis on the applications concerned.

The analysis results are saved in a file. The application manager can transfer them to the CAST Highlight portal.

To report the results of the analysis in HOPEX ITPM and update the analysis values on an application:

1. Display the properties of the application in question.
2. Click the drop-down list then **Assessment** > **CAST Highlight Metrics**.
3. Click **Update Metrics from CAST Highlight**.

ANALYZING AN INVENTORY PORTFOLIO

HOPEX IT Portfolio Management provides predefined report templates for application portfolio analysis.

Accessing Embedded Reports in a Portfolio

The different report templates proposed as standard by **HOPEX IT Portfolio Management** are designed to compare initiatives of a portfolio based on specific criteria. Different report types offer different analysis possibilities.

To access existing reports on an application portfolio:

1. Open the properties of the portfolio.
2. Click the drop-down list then **Reporting**.
   You have access to the following reports:
   - Cost report: cost analysis of portfolio applications.
   - Business capability map: shows the distribution of applications in the business capabilities.
   - Gantt Chart: presents the lifelines of three objects
   - Timed business capacity map: shows the functional coverage changes of an application portfolio over time. See "Generating the Business Capability Map of a Portfolio", page 80.
   - List of applications: presents functional characteristics of portfolio applications as a matrix.
   - Application positioning: shows the distribution of applications with respect to the business function addressed, functionalities covered and the technologies used. This presentation enables rapid identification of applications to be developed.
   - Application TIME report: uses the Gartner TIME model to analyze the business value of applications.
   - Software technology support alert: used to track the obsolescence of technologies. See also "BDNA properties in HOPEX", page 82.

TRANSFORMING THE APPLICATION PORTFOLIO

To upgrade the application and technological assets according to the objectives set, ITPM provides the tools to plan and follow up on the transformation projects to be achieved.

In ITPM, transformation projects can concern business capabilities, applications, application systems or technologies.

With these objects, depending on your connection profile, you can:

- submit an idea that could become a project demand
- submit a project demand
- directly launch a candidate project

The objects concerned are attached to the project demand or the candidate project as deliverables.

Once submitted, the ideas and projects are completed then assessed before being validated or rejected.

For more information on project portfolio management, see the "Managing Project Portfolios" section in the HOPEX Common Features guide.

Creating a Project in ITPM

Before creating a project, you must have defined the project domain to which the project belongs. See "Defining Project Domains", page 590.

To create a project in ITPM:

1. Click the navigation menu, then **Transformation**.
2. In the navigation pane, click **Projects**.
3. In the edit area, click **Projects**.
   The list of projects appears.
4. Click **New**.
   The window for creating a project appears.
5. Select the project type:
   - demand
   - candidate project
   - Ongoing project
6. Click **Next**.
7. Specify:
   - the owner project domain.
   - the project code (optional)
   - the planned start date
   - the planned end date
8. Click **OK**.

☛ *For more details on projects, see "Defining Enterprise Projects", page 589.*

Defining project applications

The applications that you associate with a project are integrated as deliverables in the project.

When you add an object to a project, you must specify the action to be performed on the object. An event can be:

- a creation
- an update
- a removal

To add an application to a project:

1. Open the project properties
2. Select the **Business Case** page.
3. Expand the **Deliverables** section.
4. Click **New**.
5. Select the type of action to be performed on the deliverable.
6. Click **Next**.
7. Select the type of deliverable (here an application).
   The list of repository applications appears.
8. In the list, select the application concerned.
9. Click **Next**.
10. Specify the production dates.
11. Click **OK**.

☛ *See also "Defining the Business Case of a Project", page 593.*

☛ *You can also add an application to a project using application properties.*

Life of the application in the transformation project

The life of the transformation project development deliverables is separate from the life of the applications in place. This is to be able to modelize change scenarios on these applications without impacting their effective life.

When the project is terminated (with the corresponding workflow command), the life cycle of the deliverables that it contains is automatically transferred to the repository applications.

☛ *See also: "Terminating a Project", page 606.*

Describing a Transformation Portfolio

Building a *portfolio* with **HOPEX IT Portfolio Management** consists of defining all the information, in particular comparison criteria, that will allow you to choose the projects to implement.

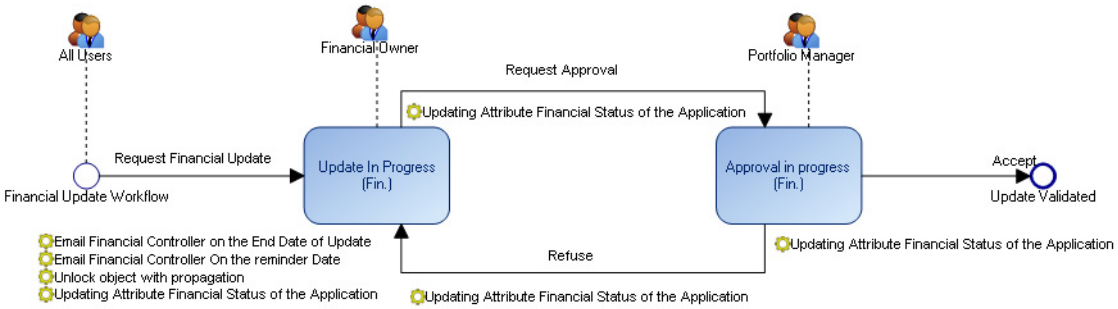
For more information on project portfolio management, see "Project portfolio management", page 611.

APPENDIX - HOPEX IT PORTFOLIO MANAGEMENT WORKFLOWS

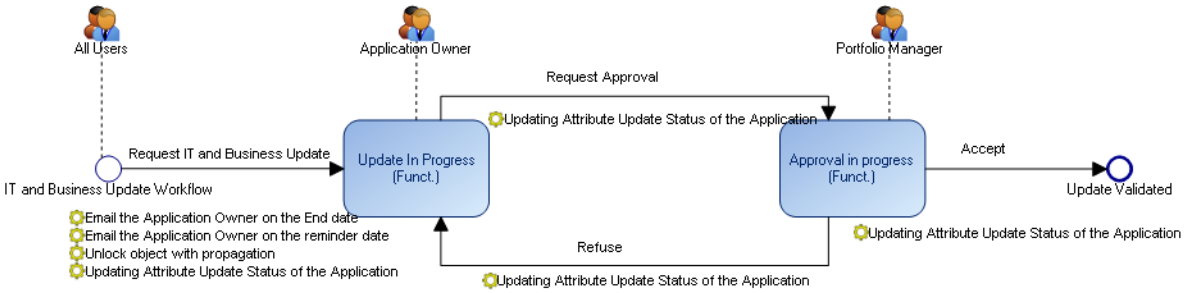
This chapter presents **HOPEX IT Portfolio Management** workflow diagrams.

☛ *For more information, see the **HOPEX Assessment** guide.*

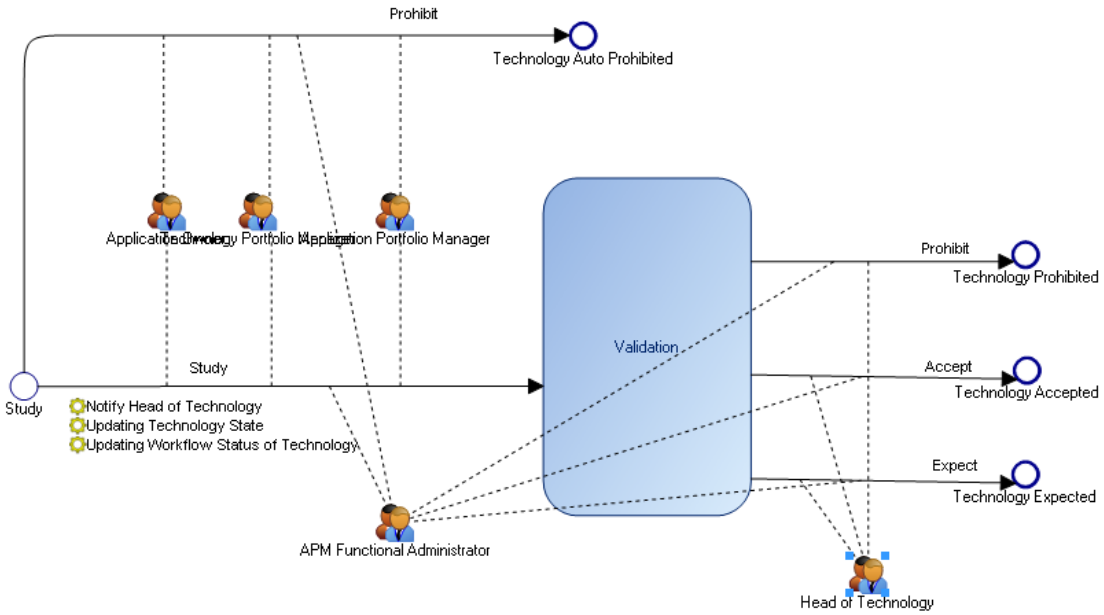
FINANCIAL UPDATE WORKFLOW



IT AND BUSINESS UPDATE WORKFLOW



TECHNOLOGY VALIDATION WORKFLOW



TECHNOLOGY FINANCIAL UPDATE WORKFLOW