HOPEX IT Business Management

User Guide

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HOPEX Aquila 6.1

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DEFINING THE STRATEGY

MANAGING IT ASSETS

PROJECT PORTFOLIO MANAGEMENT

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INTRODUCTION TO HOPEX IT BUSINESS MANAGEMENT

HOPEX IT Business Management is a tool in the AQUILA Enterprise Architecture solution that helps enterprise architects manage their application portfolios, design IT solutions aligned with business needs, and plan changes to their information systems.

HOPEX IT Business Management complements the application inventory and management functions of **HOPEX IT Portfolio Management**, which it integrates by default, with strategic planning functions.

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.

PRESENTATION OF HOPEX IT BUSINESS MANAGEMENT

Combined with the solutions of **HOPEX** suite, **HOPEX IT Business Management** provides the methodology and the tools you need to plan your business transformation.

Positioning of the HOPEX IT Business Management solution

HOPEX IT Business Management offers a formalism of reflection on the company's value streams and business capabilities. This solution makes it possible to define a business transformation strategy divided into phases with clearly identified objectives and means. At each of these phases, standard reports are proposed to simplify analysis of the subject and assist in decision-making.

HOPEX IT Portfolio Management

The **HOPEX IT Business Management** solution includes **HOPEX IT Portfolio Management** product that offers the following possibilities:

- 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 Customer Journey

The **HOPEX IT Business Management** solution includes the **HOPEX Customer Journey**product to represent the acquisition process of a product or a service by a specific customer. Mapping a customer journey provides an overview of customer expectations, painpoints encountered, and the resources used at each step of the journey. Last but not least, touchpoints, which are the points of interaction between the customer and the company, are used to measure and improve overall customer satisfaction.

> 🕮 *A customer journey is used to describe and organize all service interactions between the enterprise and a persona for a given result.*

Representing a customer journey will allow you to easily identify these critical points. **HOPEX Customer Journey** is used to describe solutions for improvement and to assess them at different dates.

> ☛ *For more details on product, see "The customer journey" chapter in the **HOPEX Business Process Analysis** guide.*

HOPEX Business Process Analysis

The **HOPEX Business Process Analysis** solution provides **HOPEX IT Business Management** with:

- The description of organizations that implement the business functions and/or the business capabilities identified in **HOPEX IT Business Management** ;
- The description of organizational processes that implements the value streams identified in **HOPEX IT Business Management** .

HOPEX IT Architecture

The **HOPEX IT Architecture** solution provides **HOPEX IT Business Management** with the possibilities to model the information system architecture according to a number of analysis perspectives:

- Description of application architecture offers a detailed view of information exchanges between applications, services, databases and organizational.
- Description of information system technical infrastructure enables monitoring of applications deployment on the different enterprise.
- Description of complex systems involving different types of IT and non IT resources.

The **HOPEX IT Business Management** solution provides **HOPEX IT Architecture** with the possibilities to support the description, analysis and transformation projects of the IT system.

HOPEX for the ArchiMate® Framework

The **HOPEX for the ArchiMate® Framework** module complements **HOPEX IT Business Management** by describing the environment of certain Enterprise Architecture building blocks in the ArchiMate® formalism.

CONNECTING TO HOPEX IT BUSINESS MANAGEMENT

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

Connecting to the solution

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

HOPEX IT Business Management Profiles

The rights of different users on objects 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.

In **HOPEX IT Business Management** , there are default user profiles with which specific rights and accesses are associated. These profiles are:

- Enterprise architect
- EA functional administrator
- EA Contributor
- EA Viewer

Profile	Tasks
Enterprise architect	The enterprise architect manages the structure of an organization to ensure that IT systems are aligned with current business strategies and capabilities. valider définition
EA functional administrator	The EA functional administrator has rights on all objects and workflows. He/she prepares the working environment and manages reference data used in the solution.
EA Contributor	The EA contributor is responsible for validating the design of the objects assigned to him/her.
EA Viewer	The EA viewer has read-only rights on objects in the repository.

THE HOPEX IT BUSINESS MANAGEMENT DESKTOP

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

For a detailed description of the HOPEX interface, see PLATFORM - Common Features > HOPEX Desktop > Interface Presentation.

ITBM Home Page

The ITBM solution home page consists of the following sections.

- The header presents some information of general interest.

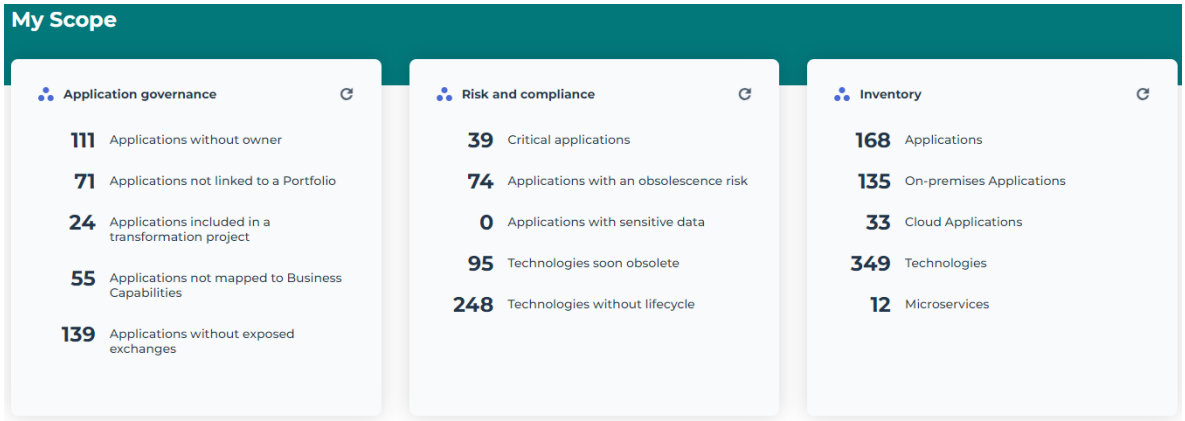
  ☛ *These can be defined in the Administrator' **Administration**> **Methodological Domain** menu.*

  - **My priorities**: indicates the main strategic themes of interest to solution users.
  - **Help**: points to user documentation and the user community.
- The **My Scope** provides useful indicators of the repository content. See Scope Indicators below.
- The **Quick Access** provides useful shortcuts:
  - **Recently viewed**: last objects and diagrams accessed by the user
  - **Favorites**: user favorites and shared favorites
  - **Actions**: quick access to the creation of architecture elements.
- **My favorite report**: displays the user-defined or administrator-predefined report, which can be used as an entry point into the repository.

Scope Indicators

The **My Scope** section provides useful indicators on application assets. Clicking the indicator takes you to all the corresponding objects. There are three groups of indicators:

- Application governance
- Risk and compliance
- Inventory



Application governance

This tile lists the following objects:

- Applications without owners
- Applications lot linked to a portfolio
- Applications without exposed exchanges: applications that neither receive nor send flows.

  ☛ *See Specifying Data Exchanged With Other Applications.*
- Applications included in a transformation project: these are the applications that are part of the deliverables of a transformation project.

  ☛ *See Defining the Business Case of a Project.*
- Applications not mapped to business capabilities.

  ☛ *See Defining Application Functional Scope.*

Risk and compliance

This tile lists the following objects:

- Critical applications: all applications that cover a strategic business capability, in other words, whose **Business Value** is "Significant".

  ☛ *This is the business value defined during the last business capability assessment. For more details on assessing a business*

capability, see Using assessment for Business Capabilities and their Implementation.

- Applications with an obsolescence risk: applications whose risk of obsolescence is between "Medium" and "Very high".

  ☛ *The risk of application obsolescence corresponds to the highest risk of the technologies linked to it. See the obsolescence risk in the Overview of a technology.*

- Applications with sensitive data: applications linked to data stores containing data (classes, MD entities, data views) or Concepts in the "Sensitive data" category.

  ☛ *See also: Defining the Data Used by an Application.*

- Technologies soon obsolete
- Technologies without lifecycle

Inventory

The **Inventory** tile displays the number of following objects:

- Applications
- On-premises Applications

  ☛ *This is the type of application installation. See Application identification> Cloud Computing.*

- Cloud Applications

  ☛ *This is the type of application installation. See Application identification> Cloud Computing.*

- Technologies
- Microservices

Enterprise Architect Desktop

The **HOPEX IT Business Management** navigation menus are:

Business function

The **Business** menu is dedicated to strategic transformation.

See Introduction to strategic transformation.

Applications

The **Applications** menu shows all the applications in the repository, as well as the application portfolios.

See Drawing up an Application Inventory.

Technologies

The **Technologies** menu lets you manage application-related technologies.

See Drawing up a Technology Inventory.

Data

The **Data** menu allows you to make an inventory of the conceptual and logical data exchanged within the application assets.

See Managing the Data Used in the Application Assets.

Tools

The **Tools** menu gives access to the following submenus:

- **SMART Analysis** to analyze the business value of portfolio applications and their migration to the Cloud.

  ☛ *See SMART Analyses.*

- **IT-Pedia** to import and standardize technologies in HOPEX.

  ☛ *See Importing Technologies from IT-Pedia.*

- **AI-Driven APM**, to distinguish technologies from business applications.

  ☛ *See Distinguishing Applications from Technologies.*

- **Assessment** and data call.

  ☛ *See Collecting Data for a Set of Applications.*

Reports

The **Reports** menu provides a search tool for all report templates and saved reports.

☛ *For more details on reports, see PLATFORM - Common Features > Documentation > Generating Documentation > Generating Reports.*

☛ *For more information on **HOPEX IT Business Management** reports, see Portfolio Analysis Reports and List of Analysis Reports Available on Applications and Application Systems.*

Projects

The **Projects** menu is dedicated to transformation project management.

See Introduction to Project Portfolio Management.

Inventories

The **Inventories** menu gives access to the following subjects, divided into several themes.

- **Business Architecture theme, giving access to the following elements:**
  - **business architecture environment**

    📖 *A business architecture environment represents the relationships of a business functional area with its partners.*

  - **Business Functions**

    📖 *A business function is a conceptual unit of the division of responsibilities in an enterprise. It is used to structure the management of information processing, energy, and equipment produced or used.*

Business functions define the skills and the functionalities necessary to the enterprise to fulfill its mission.

- **Business Partners**

  A business partner designates a third-party who is in relation with the enterprise within the framework of a given business architecture environment. Examples: private sector client, regulatory organization, supplier.

- **Capabilities** theme, giving access to the following elements:
  - **Functionalities**
  - **Technology Capabilities**
  - **Hardware capabilities**

    For more information on technology and hardware capabilities, see Describing a Technology Capability Map with HOPEX IT Architecture.

- **Software** theme, giving access to the following elements:
  - **IT Services**

    An IT service is a software component of an application, that can't be deployed alone and that realizes a sub-set of the functionalities of this application either for end users of this application or inside the application (or another application). This includes batch programs.

    For more details on applications services, see Describing an IT Service with HOPEX IT Architecture.

  - **Microservices**

    A microservice is a software component that can be deployed autonomously, but which does not directly provide an end user service. It can interact with other application services, applications or application systems. This is a deployable software component that uses software technologies. For example: an authentication service, a PDF file printing service.

    For more details on microservices, see Describing a microservice with HOPEX IT Architecture.

  - **System process**

    A system process is the executable representation of a process. the events of the workflow, the tasks to be carried out during the processing, the algorithmic elements used to specify the way in which

the tasks follow each other, the information flows exchanged with the participants.

☛ *For more details on system processes, see Describing System Processes.*

- **Application Hierarchy**, to view applications associated with the following object types: business line, process category, business capability, etc.
- **Logical software architecture**, to describe the elements contained in the information system logical architecture.

☛ *For more details on logical architecture, see Describing Logical Application Architecture.*

- **Technologies** theme, giving access to the following elements:
  - **Technologies Hierarchy**, to view technologies associated with the following object types: technology capability, technology type, vendor, etc.
  - **Technology Stacks**, which are groups of technologies.

☛ *See Defining a Technology Stack.*

- **Installations** theme, to describe application deployment elements.

📖 *A facility is a model of site of interest for the enterprise. Examples: Data Center, Factory or Outlet*

☛ *For more details on facilities, see Describing a Facility.*

- **Services Catalogs** theme, giving access to the following elements:
  - **Cloud services**

☛ *See Using Cloud Services.*

  - **Technical Services**, to list the technical services covered by applications.
  - **Business Services,** to list the business services covered by applications.
  - **Hardware Service Catalogs**

☛ *For more details on service catalogs, see the"Using Service Catalogs" chapter from the **HOPEX IT Architecture** guide.*

- **Infrastructure** theme, giving access to the following themes:
  - **IT Infrastructure**
  - **Resource Architecture**
  - **Resource Configuration**

Governance

In the **Governance** menu you can define the regulations to which application architecture objects are subject.

☛ *In the properties of an application, the **Governance** page defines the regulations to which application is subject. By default, this page is hidden, you can display it using the **Show/Hide** button of the application properties.*

Environment

The **Environment** menu gives access to the following submenus:

- **Containers**, to access the features of library and environment management.

  ☛ *For more details on **Containers** and **Organization**, see Preparing the Work Environment HOPEX IT Business Management.*

- **Organization**, to access the main objects processed with the **HOPEX IT Business Management** solution.
  - **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.

  - **Process categories**

    A process category defines a group of processes. It is linked to a Process Map or higher level Process Category. It regroups several processes and/or other categorized elements (e.g. Value Streams, Applications). It serves as an intermediate categorization level in the process hierarchy, so as to provide a guided and progressive access to finer grained processes.

  - **Processes**

    A process is a set of operations performed by org-units within a company or organization, to produce a result. It is depicted as a sequence of operations, controlled by events and conditions. In the BPMN notation, the process represents a sub-process from the organizational point of view.

  - **Sites**

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

  - **Org-Units**

    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.

☛ *For more details on the use of **Org-units**, see Defining Enterprise Org-Units.*

- **Report DataSets**

  📖 *A Report DataSet is a set of data extracted from the HOPEX repository and used as a data source in reports.*

  ☛ *For more information, see Platform - Common Features > Documentation > Generating Documentation > Managing Report DataSets.*

- **All Sketches**, to access all the skectches of your repository.

  📖 *A sketching diagram is a drawing that enables you to exchange with your coworkers without an issue of methodology or formalism.*

  ☛ *For more details on the use of sketches with **HOPEX IT Architecture**, see Creating a Sketching diagram with HOPEX IT Architecture.*

- **Tags**

  📖 *A tag is a classifying description used to characterize objects.*

  ☛ *For more details on the use of tags, see Platform - Common Features > Collaboration Tools > Communicating in HOPEX.*

PREPARING THE WORK ENVIRONMENT HOPEX IT BUSINESS MANAGEMENT

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 working environment. This step is executed by the Functional Administrator.

Defining Enterprise Org-Units

HOPEX IT Business 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. Click the **Environment** > **Organization** navigation menu.
2. In the edit area, click the **Org-Units** folder then **New** > **Org-Unit**.
3. Enter the name of the org-unit.
4. Click **OK**.

Specifying org-unit properties

To specify the properties of an org-unit:

1. Click the org-unit to open its **Properties** window.

2. 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.).*

Defining Categorization Schemas

Several categorization schemas can be proposed:

- Data categories,
- Measure Schemes Categorization.

Data categories

HOPEX IT Business Management Solution enables data classification using *data categories*.

☛ *For more information on Data Categories see the **HOPEX Data Governance** guide.*

To access the list of *data categories* from the **Administration** navigation menu:

❱ Select **Categorization Schemas** and unfold the **Data Categories**.
The list of the repository data categories appears.

To create a *data category* from the **Administration** navigation menu:

1. Select **Categorization Schemas**.
2. Select the **Data Categories** folder and click **New > Data Category**.
3. Enter the **Name** of your data category well as its **Owner** and click **OK**.
   The new data category appears in the list.

To connect a data to a **data category** :

1. Open the **Entities** property page.
2. Select the tab that corresponds to the data you want to classify.
3. Click the **Connect** button ans select the data that interests you.

Measure Schemes Categorization

The *Measurement Schemes* allow you to define measurement systems specific to the area you want to deal with.

For example: the "Retail bank" schema or the "investment bank" schema.

The *Measurement Schemes* are principally based on:

- *Flow Measures* provide a way to define parameters of the flows described in the flow scenario using les *Measurement Types*,
- The *Qualifying Values* and *Measurable Properties* are used to define performance constraints that must be complied with by the enterprise plan.

Flow Measure and Measurement Type

Flow Measures provide a way to define parameters of the that are used described in the scenario of flows.

> 🕮 *An application flow represents the circulation of information between applications or within an application. An application flow can carry a content.*
>
> ☛ *For more information message flow scenarios, see chapter "Using a Scenario of Application Flows diagram" chapter in the* ***HOPEX IT Architecture*** *guide.*

A *Flow Measure* is characterized by *Flow Measure Type*.

A *Measurement Type* is defined by several item types:

- *Measurement types*,
- *Flow Measure types*, which are defined by a set of *Flow measures*.
- *Technical flow measure types*, which are defined by a set of *Technical flow measures*.

Measurable Properties and Set of Constraining Properties

The nature of a *Qualifying Value* is defined by a *Measurable Property*.

> 🕮 *A measurable property expresses the nature of indicators (duration, mass, cost, etc.) and defines the unit used to measure them (minutes, kilograms, euros, etc.). Measurable properties are used to define indicators, they can be elementary or composite. Elementary measurable properties are described by measurement units: kg, Liter, Gallon, Hour, Minute.*

A *Set of Constraining Properties* is a set of *Measurement Types* used to define the performance constraints that must be complied with by the building blocks making up the enterprise, at the forefront of which are the business capabilities and the exhibited business capabilities in a transformation stage.

For example: "Security" or "Performances" measurement types

A *Set of Constraining Properties* is defined by different component types:

- *Sets of Constraining Properties*,
- *Measurable Properties*,
- *Flow Measure types*, which are defined by a set of *Flow measures*.
- *Technical flow measure types*, which are defined by a set of *Technical flow measures*.

> ☛ *For more details on Sets of Constraining Properties, see Using performance indicators.*

Defining the Process Categories

APQC proposes standard repositories of process categories specific to each major activity sector.

> 🕮 *A process category defines a group of processes. It is linked to a Process Map or higher level Process Category. It regroups several processes and/or other categorized elements (e.g. Value Streams, Applications). It serves as an intermediate categorization level in the process hierarchy, so as to provide a guided and progressive access to finer grained processes.*

A set of standard process categories repositories from APQC is supplied with **HOPEX IT Business Management** .

If you want to use APQC process categories for the different activity sectors, you can also import the corresponding libraries.

To import the APQC libraries, see the chapter "Prerequisites to using APQC libraries" of the **HOPEX Business Process Analysis** guide.

To access process categories of your enterprise:

1. Click the **Environment > Organization** navigation menu.
2. Expand the **Process Categories** folder.

USING ARCHIMATE DIAGRAMS IN AN ENTERPRISE ARCHITECTURE SOLUTION

HOPEX for the ArchiMate® Frameworkproduct provides facilities to use the set of concepts defined by the Open Group for ArchiMate® 3.1. ArchiMate® concepts are mapped with **HOPEX** Enterprise Architecture building blocks so as to manage compatibility and continuity with other models.

> ☛ *For more details on **HOPEX for the ArchiMate® Framework** implementation, see The HOPEX MetaModel for ArchiMate.*

Depending on the licenses you have access to ArchiMate® formalism to build sketches that represent the models of your enterprise architecture. These sketches can then be synchronized with **HOPEX** solution inventories, if needed, by associating their elements with objects in your repository.

Note that the ArchiMate® diagrams thus constructed are linked to ArchiMate models and views in accordance with ArchiMate® standards.

> ☛ *For more details on the relationship between the elements of ArchiMate diagrams and the elements of used in **HOPEX** solution, see Synchronizing an ArchiMate model Elements.*

Prerequisites to use of ArchiMate diagrams

ArchiMate Diagrams can be accessed from an Enterprise Architecture Building Block if you have a suitable configuration:

- Using the Enterprise Architecture desktop and products such as: **HOPEX IT Architecture**, or **HOPEX IT Portfolio Management** or **HOPEX IT Business Management** .
- Having the **HOPEX for the ArchiMate® Framework** module deployed and its license accessible for your user.

To use **HOPEX for the ArchiMate® Framework**, you must import the **ArchiMate** module in your environment and the **PPM** module in each **HOPEX** repository of the environment.

To import a module in **HOPEX**, see **Modules > Importing a Module into HOPEX** documentation.

> **You must import the ArchiMate module only once even if you have several repositories.**

Using ArchiMate Diagrams in an Enterprise Architecture solution

To simplify the use of ArchiMate® formalism in an **HOPEX** Enterprise Architecture solution, the following facilities are offered to you when creating an ArchiMate diagram from an EA Building Block:

- Modeling an object in the ArchiMate® formalism, see Creating an ArchiMate Diagram from an EA Building Block.
- Management of the ArchiMate® model associated with the described object, see Management of the ArchiMate model in an Enterprise Architecture solution.
- Management of the ArchiMate® view associated with the described object, see Managing of the ArchiMate views in an Enterprise Architecture solution.
- For more details on the relationship setting of ArchiMate diagram items with the repository **HOPEX** building blocks, see Synchronizing an ArchiMate Diagram Elements.

The Architecture Building Blocks (EA building blocks) from which you can create an ArchiMate diagram are:

- Enterprise,
- Processes
- Application System
- Application
- Microservice,
- Software Installation,
- IT infrastructure,
- Facility,
- Project.

Creating an ArchiMate Diagram from an EA Building Block

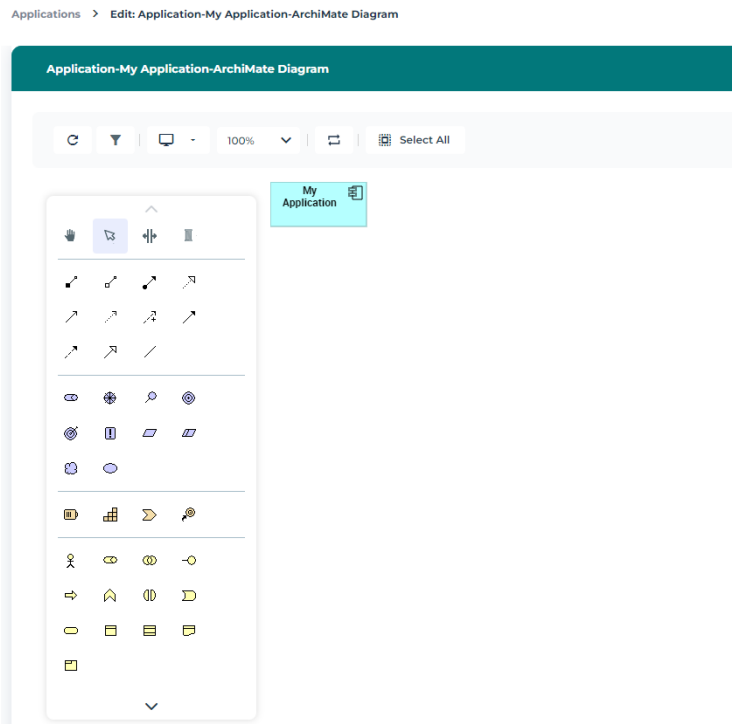
With the ArchiMate® framework, a diagram is created in the context of a Model and a View. When an ArchiMate diagram is created from an EA building block, the following actions are done:

- If no model has been defined for the user, an ArchiMate Model is automatically created. For more details, see Management of the ArchiMate model in an Enterprise Architecture solution,
- An ArchiMate® View is automatically created and connected to the described object. For more details, see Managing of the ArchiMate views in an Enterprise Architecture solution.
- If the type of the described object corresponds to an ArchiMate type, an ArchiMate® element is automatically created with the same type. The new ArchiMate® element is associated with the object described. For more details, see Synchronizing an ArchiMate Diagram Elements.

For example, to create an *ArchiMate Diagram* from an application:

1. From the **Applications** navigation menu, select the application of interest to you and click **Create a diagram**.

2. In the selection window, click **ArchiMate Diagram**.
The diagram opens in the edit area. The ArchiMate component associated with the application is created and inserted in the diagram.



☛ *The created ArchiMate component is connected to the ArchiMate Model, see Management of the ArchiMate model in an Enterprise Architecture solution.*

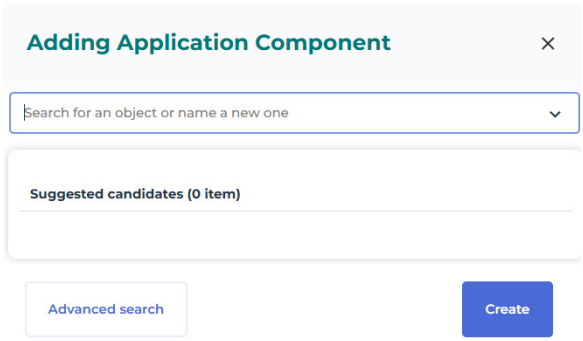
☛ *The created ArchiMate diagram is connected to the ArchiMate View, see Managing of the ArchiMate views in an Enterprise Architecture solution.*

Creating an Object in the ArchiMate diagram of an EA Building Block

To create an **Application component**, for example:

1. In the diagram insert toolbar, click the **Application component** button.
2. Click in the diagram.
The adding window opens.

3. Enter the name of the new element.
   A message confirms that no objects match this name within the current ArchiMate model.



4. Click **Create**.
   The Application component appears in the diagram with the specified name.

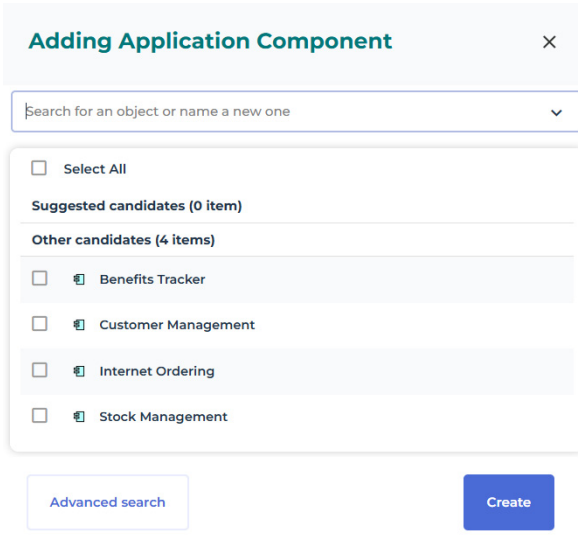
Adding an existing object in the ArchiMate diagram of an EA Building Block

To add an existing object to an ArchiMate diagram, you can drag and drop the object from a hierarchical view or from the insert toolbar of the diagram.

To add an **Application component**, for example, using the insert toolbar of an ArchiMate diagram:

1. In the diagram insert toolbar, click the **Application component** button.
2. Click in the diagram.
   The adding window opens.

3. In the object name box, click the down arrow.
The list of the model **Application components** is displayed.



4. Enter the name of the element you wish to create.
The application component appears in the diagram with the specified name.

☛ *You can select several components. Each one will be added to the diagram.*

Creating a relationship in an ArchiMate Diagram

In an ArchiMate diagram a link corresponds to an ArchiMate® Relationship.

A Relationship can be created with the **Link** button of the diagram insert toolbar. When you select the link button, a dialog box opens to display the available relationship types.

☛ *For more information on ArchiMate® Relationship types, see ArchiMate Relationships.*

ArchiMate element properties in an EA solution

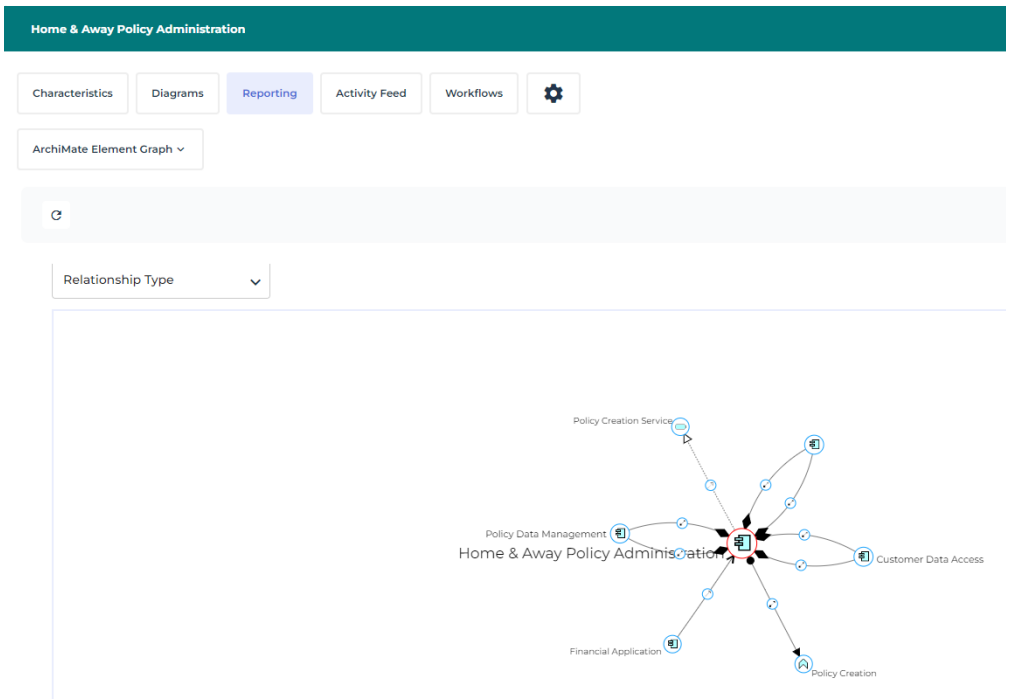
The **Characteristics** properties of an ArchiMate element provide access to several sections.

- The **Identification** section provides access to the following information:
  - its **Name**
  - its **Owner**, by default, the Model associated to the current diagram.
  - The **EA building block** is the repository building block connected to the ArchiMate element (optional, if synchronized).

    ☛ *For more details on links between the repository building blocks and the ArchiMate elements, see Synchronizing an ArchiMate model Elements.*
  - the text of its **Description**.
- The **ArchiMate Views** section provides the list of views describing the object (optional).

The **Diagram** properties of an ArchiMate element provides access to the diagrams containing the element and can be used to create a new one.

The **Reporting** properties of an ArchiMate element provides access to the ArchiMate Element Graph representing the relationships between the current element and the other model elements.



Management of the ArchiMate model in an Enterprise Architecture solution

The ArchiMate model is the ArchiMate elements root; a model provides access to the folder describing views and elements.

☛ *For more details, see Using HOPEX for the ArchiMate Framework Folders.*

Accessing ArchiMate Models list in an Enterprise Architecture solution

To access the list of ArchiMate models:

- From the **Environment** navigation menu, select **ArchiMate Models**. The list of models is displayed as an object tree.

The functionalities proposed from the navigation menu **Environment** > **ArchiMate Models** are the functionalities proposed in the **HOPEX** product.

☛ *For more details on how to use **HOPEX for the ArchiMate® Framework** solution, see Starting with HOPEX for the ArchiMate Framework.*

ArchiMate Models properties

The **Characteristics** properties of an ArchiMate model provides access to several sections.

- The **Identification** section provides access to the following information:
  - its **Name**
  - the **Owner**. by default the current library (optional).
  - the text of its **Description**.
- the **Persons** sections provides the list of persons (System) using this model as their default one. See Defining the default ArchiMate Model for a user.
- The **EA Elements** section providing the list of EA Elements owned by the model. See Mapping an ArchiMate® Element to an EA Object.
- The **Standalone Elements** section providing the list of standalone Element owned by the model. See Mapping an ArchiMate® Element to an EA Object.
- The **Views** section providing the list of Views owned by the model. See Managing of the ArchiMate views in an Enterprise Architecture solution.
- The **Sub-Folders** section providing the list of Sub-Folders owned by the model. See Managing of the ArchiMate views in an Enterprise Architecture solution.

Defining the default ArchiMate Model for a user

When an ArchiMate diagram is created from an EA building block, an ArchiMate model is automatically created if no default ArchiMate model is defined for the user.

To assign a default ArchiMate model to a user:

1. From the **Environment** navigation menu, select **ArchiMate Models**. The list of models appears.

2. Open the **Characteristics** properties of the model that interests you and expand the **Persons** section.
3. Connect the user to the model.

> ☛ *If a default model is already connected to a user, the current model will replace the previous one.*

Managing of the ArchiMate views in an Enterprise Architecture solution

In accordance with ArchiMate® standards:

- A ***Viewpoint*** specifies the list of concepts (elements and relationships) mandatory in a specific ***View*** type.
- A new ***View*** is created depending on a specific ***Viewpoint*** in an ArchiMate® model context.

> ☛ *For more details on the types of the elements associated to a Viewpoint, see The properties of a viewpoint.*

When an ArchiMate diagram is created from an EA building block, the corresponding view is automatically created from "Layered" viewpoint.

> ☛ *To access the list of views associated the an EA Building block: open the **ArchiMate Views** properties of the object.*

Accessing ArchiMate Views list

To access the list of ***Views*** associated to an ArchiMate model:

1. From the **Environment** navigation menu, select **ArchiMate Models**.
2. Expand the folder of the model that interests you.
3. Expand the **Views** folder.
   The list of ***Views*** appears.

ArchiMate Views properties

In the **Characteristics** properties of an ArchiMate ***View***, the **Identification** section provides access to the following information:

- its **Name**
- its **Owner**, by default the ArchiMate model associated to the View.
- the text of its **Description**.
- the **Viewpoint**,
- its **Status**.

Synchronizing an ArchiMate Diagram Elements

ArchiMate® concepts are mapped with **HOPEX** EA building blocks enabling compatibility and continuity with other models. Thus, an ArchiMate Business Process can reference a Process which can be described in a BPMN diagram, so that the user

can navigate from an overview ArchiMate diagram putting a process into its EA context, to a more detailed BPMN description.

> ☛ *For more details on **HOPEX for the ArchiMate® Framework** implementation, see The HOPEX MetaModel for ArchiMate.*

The synchronization consists in mapping an ArchiMate element created in the context of an ArchiMate diagram with an EA building block.

Two possibilities are provided to synchronize an ArchiMate element:

- In a unitary manner by opening the **Characteristics** properties of an ArchiMate Element, see Synchronizing an ArchiMate model Elements.
- Generally using the **Synchronize** button of an ArchiMate diagram, see Synchronizing Elements from an ArchiMate diagram using the synchronization wizard.

Synchronizing an ArchiMate model Elements

> ☛ *For more details on ArchiMate® elements mapping with **HOPEX** MetaClasses, see Concepts mapping.*

The **HOPEX for the ArchiMate® Framework** solution provides two types of element:

- The ***ArchiMate® EA Elements*** which can be associated to a repository object.

  > ☛ *For more details, see Mapping an ArchiMate® Element to an EA Object.*

- The ***Flow*** type ***Relationships*** whose sender and receiver are synchronized with the ITPM "flows" between applications.

  > ☛ *For more details, see ArchiMate Relationships.*

Mapping an ArchiMate® EA Element to an HOPEX object in properties

> ☛ *For more details on **HOPEX for the ArchiMate® Framework** EA Elements, see Mapping an ArchiMate® Element to an EA Object.*

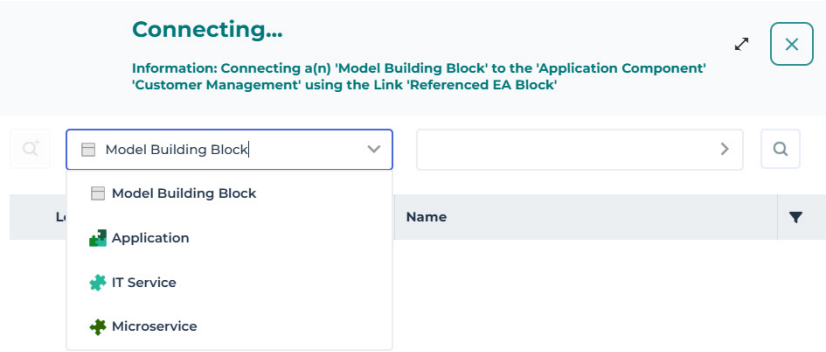
To synchronize an **Application component**, for example:

1. Open the **Characteristic** property page the Application Component you are interested in.

2. In the **Identification** section, from the **EA building block** field, click the right arrow and click the **Connect** button.

   ☛ *The name of the field depends on the type of the selected ArchiMate Element.*

   A connection window opens.



3. Select the type of EA building bock you want to connect to the Application component.
4. Select the repository instance you want to connect to the Application component.

Synchronizing Elements from an ArchiMate diagram using the synchronization wizard

From an ArchiMate diagram, you can synchronize all the elements of the diagram which have a possible mapping to **HOPEX** objects, or create new corresponding HOPEX objects of the relevant type.

This enables to reference existing Building Blocks in HOPEX inventories used by other solutions (e.g., Processes from HOPEX Business Process Analysis or Applications form HOPEX IT Business Management).

To synchronize a **Device**, for example:

1. Open the diagram in edit mode.
2. Click the **Synchronize** button.
   A window opens and shows a table of all the elements of the diagram which can be synchronized. The **Building Block** column allows the

synchronization of the diagram elements of the ArchiMate EA elements type.

3. Click the **Building Block** box of the element that interests you.

   ☛ *In a case of a "multiple" mapping, you may choose the type of the associated repository object. For more details, see Mapping an ArchiMate® EA Element to an HOPEX object in properties.*

   - If the item is already mapped or synchronized, "Mapping already exists" or "Element synchronized" message appears in the **Synchronization status** cell.
   - If no item of the default type with the element name is found, then "No match" is displayed in the **Synchronization status** cell.
   - If one item of the default type with the element name is found, then then "one match" is displayed in the **Synchronization status** cell.
   - If many items are found, click on the **Building Block** cell to select the appropriate one (the context is given by the owner / long name).
   - When you want to create a new building block of a different type than the default one, check the **Create new building block** box and select the desired type in the **Type** cell.
4. Click **Next**.
5. The list of ***Flow*** type ***Relationships*** with synchronized sender and receiver is displayed.
6. An EA flow is created between the repository EA objects if the box in the **ArchiMate Relationships Synchronization** column is checked.
7. Click **OK**.

Once ***ArchiMate® EA Elements*** are mapped to **HOPEX** Building Blocks, the navigation to these objects is possible via the ***ArchiMate® EA Elements*** properties.

Reaching these objects describing diagrams can be achieved:

- through the **Diagrams** properties of the referenced objects,
- Using **Diagrams containing objects** feature from:
  - the ***ArchiMate® EA Element* Diagrams** properties
  - using the object pie menu in a diagram preview.

About This Guide

This guide explains how to make best use of **HOPEX IT Business Management** to ensure efficient management of your Business Architecture projects.

Guide Structure

The guide **HOPEX IT Business Management** is divided into two parts consisting of the following chapters:

- concerning the strategy part
  - Business Capability Maps and Value Streams; explains how **HOPEX IT Business Management** helps you in analyzing the business capabilities of your enterprise to check their suitability with your business functions and your skills.
  - Identifying Strategic Transformation Elements; describes how the list of drivers specified to assess them in order to refine the list of transformation strategic goals of the enterprise.
  - Drawing the Transformation Roadmap; explains how to identify and plan the transformation stages necessary to acquire the business capabilities used to reach the enterprise goals.
- Concerning the portfolio management
  - Drawing up an Application Inventory: presents functionalities proposed by **HOPEX IT Portfolio Management** to identify and characterize application assets.
  - Evaluating Application Assets: introduces the portfolio concept available in **HOPEX IT Portfolio Management** and explains how to evaluate applications during the inventory phase. This chapter also describes the project concept on which the transformation phase of the application assets relies.

Additional Resources

This guide is supplemented by:

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

  ☛ *It can be useful to consult this guide for a general presentation of the interface.*
- The **HOPEX Business Process Analysis** guide, which describes the functionalities proposed to manage processes;
- The **HOPEX IT Architecture** guide, which describes the functionalities proposed IT systems;
- The **HOPEX Project Portfolio Management** guide describes the functionalities proposed to manage your portfolio projects;
- The **HOPEX Digital Transformation Desktop** guide, which describes how to use the Enterprise Architecture **HOPEX** solutions in a dedicated working environment;
- The **HOPEX Assessment** guide, which describes functions proposed by **HOPEX** to use and customize assessment;
- the **HOPEX Power Supervisor** administration guide.

Conventions used in the guide

☛ *Remark on the preceding points.*

📖 *Definition of terms used.*

☺ *A tip that may simplify things.*

Compatibility with previous versions.

Things you must not do.

Very important remark to avoid errors during an operation.

Commands are presented as seen here: **File > Open**.

Names of products and technical modules are presented in bold as seen here: **HOPEX**.

Defining the Strategy

INTRODUCTION TO STRATEGIC TRANSFORMATION

HOPEX IT Business Management provides the tools to transform IT architecture, based on the analysis of business capabilities.

Business Architecture helps managers define the operating architecture to remain in compliance with their Business Model and adapt to changes in their economic and regulatory environment. **HOPEX IT Business Management** is thus a key tool for enterprise transformation.

The method offered by **HOPEX IT Business Management** is used to take into account the enterprise strategy: from driver analysis to the definition of objectives and action resources. **HOPEX IT Business Management** also constitutes an analysis solution for enterprise business capabilities to ensure the services it plans to provide.

Last but not least, **HOPEX IT Business Management** is combined with other **HOPEX** solutions dedicated to the enterprise architecture used to define organizational, application or infrastructure building blocks.

The following points are covered here:

- ✓ The HOPEX IT Business Management Method
- ✓ Before starting with the strategic transformation

THE HOPEX IT BUSINESS MANAGEMENT METHOD

The method described in this guide is represented in the steps below.

Identifying Strategic Transformation Elements: this step consists in defining the enterprise transformation goals and identifying the associated means (Strategies and tactics) to be implemented. The means are specified in the enterprise transformation stages.

> ☛ *For more details about exhibited business capabilities, see Identifying Exhibited Business Capabilities.*

Value Streams and Business Capabilities description: this step consists in drawing up the elements that provide value to the enterprise (using value streams) and how the enterprise can deliver those elements (using business capabilities). For a business capability, you can identify the associated functionalities and the components that implement them.

> ☛ *For more details on this step, see Describing the Enterprise Capability for Creating Value.*

Each transformation stage highlights *Exhibited Business Capabilities*.

> 🕮 *An exhibited business capability is exhibited by an Enterprise Stage with quantified measure (KPI) and potential geopolitical scope (Site) for a defined market segment (Business Partner).*

For an exhibited business capability, you can identify the measurable properties of interest for the capability which are used to assess business value and performance (e.g.: for a delivery capability, we are interested in the "delivery time" expressed in minutes). The components that implement the exhibited capability are thus identified and are concerned by the transformation.

> ☛ *For more details about exhibited business capabilities, see Identifying Exhibited Business Capabilities.*

Defining the enterprise architectures: this work, performed during the transformation stages, can be done using **HOPEX IT Business Management** with other Enterprise Architecture solutions. This consists of identifying and describing the solution building blocks that contribute to the exhibited business capabilities implementation. The additional solutions of the **HOPEX** platform are used to describe in more detail your models (organizational, application and technological solution building blocks).

> ☛ *For more details on solution architectures, see Describing the Enterprise Architecture.*

Consulting the transformation roadmap: reports are provided to help you to analyze and reviewing the transformation stages of your enterprise.

> ☛ *For more details on the road map, see Consulting the Transformation Roadmap.*

Defining the Transformation Strategy

After having described the current state and analyzing the suitability between the business capabilities of the enterprise and value architecture elements, this step consists in drawing up the list of needs for change (or driver) identified at the various levels by the stakeholders (or interested parties), and assessing them in order to establish the list of *enterprise goals*.

> 🕮 *A goal tends to be longer term, and defined qualitatively rather than quantitatively. It should be narrow-focused enough that goals can be defined for it.*

Defining the enterprise and its evolution in time

An *enterprise* is described by the following elements:

- a business capability map,
- value streams,
- goals and strategies of the transformation,
- *Transformation stages* which define the concrete implementation of the transformation.

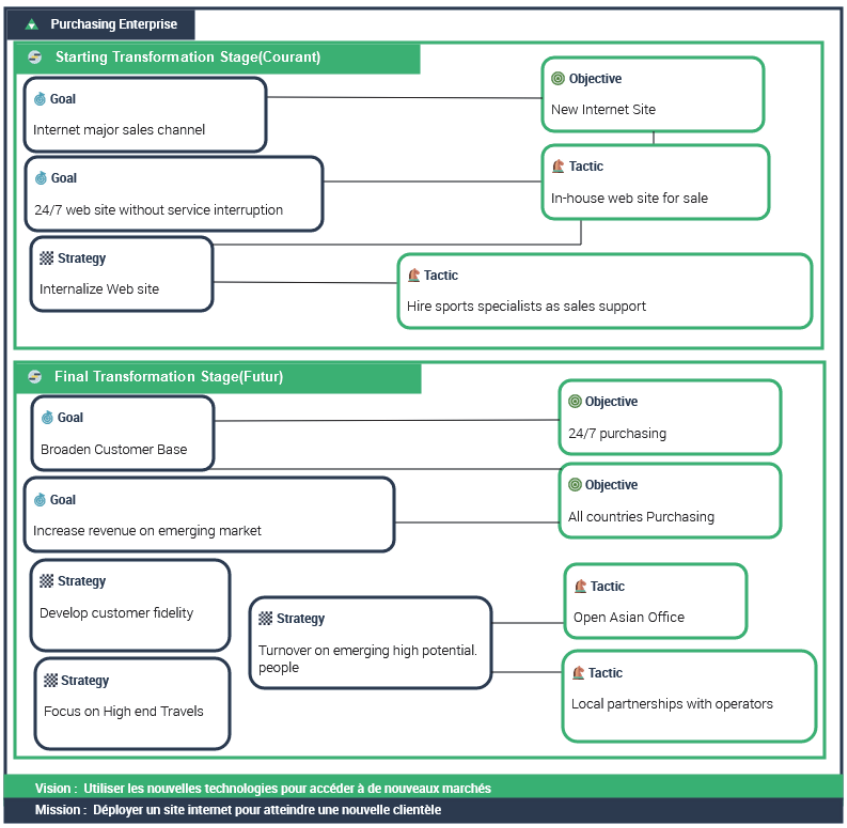
> 🕮 *A Business Transformation Stage is a kind of Enterprise Transformation Stage aiming at the alignment of the enterprise business operating model to its business strategy and corresponding exhibited business capabilities (business model).*
>
> ☛ *For more details, see Creating an Enterprise.*

Identifying transformation strategic elements

This step consists of identifying the strategic elements that meets the transformation drivers.

> ☛ *For more details, see Defining Enterprise Strategic Elements.*

An enterprise diagram is used to describe the links between the strategic elements (goals, strategies, tactics and transformation stages).



☛ *For more information on this diagram, see Building an Enterprise Diagram.*

Describing the Enterprise Capability for Creating Value

Describing the Architecture of Business Capabilities

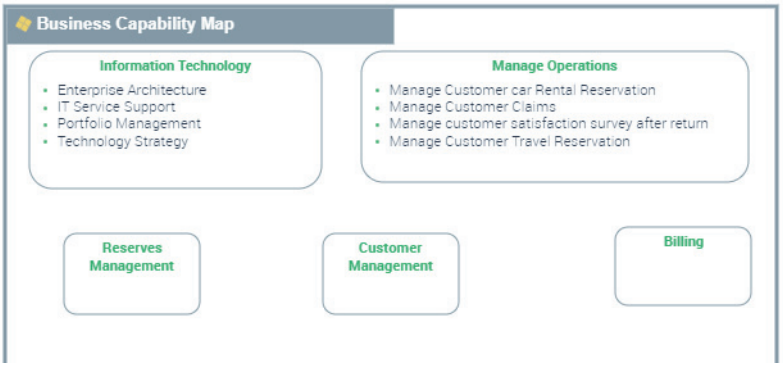
Building the business capability map

A business capability map describes what the enterprise is capable of producing for its internal needs or for meeting the needs of its clients.

📖 *A business capability map is a set of business capabilities with their dependencies that, together, define a framework for an enterprise stage.*

📖 *.A business capability is a set of features that can be made available by a system (an enterprise or an automated system).*

The business capability map thus presents the business capabilities of the highest level for one of the transformation stages.



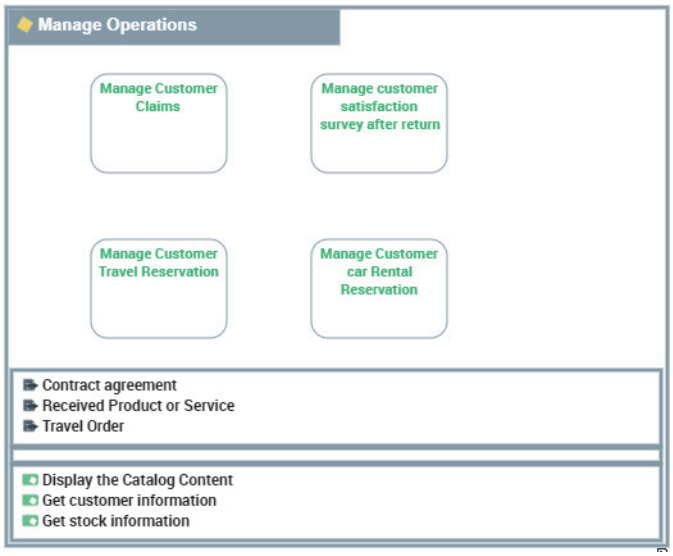
☛ *For more details on business capability map diagrams, see Creating a business capability map diagram.*

Describing the business capability breakdown

Business capabilities are then described more precisely to identify:

- a more detailed granularity capability breakdown;
- the expected effects of the capability;
- the business skills or functionalities required for each of them;
- the dependencies between capabilities (expected effect of one dependent from the result of the other).

For example, the business capability that consists of managing operations is broken down into a number of business capabilities: "Handle customer complaints", "Manage reservations".



Defining the business skills and functionalities associated with business capabilities

To be able to then check that each business capability is correctly implemented by suitable solution building block, you must define the required business skills and functionalities.

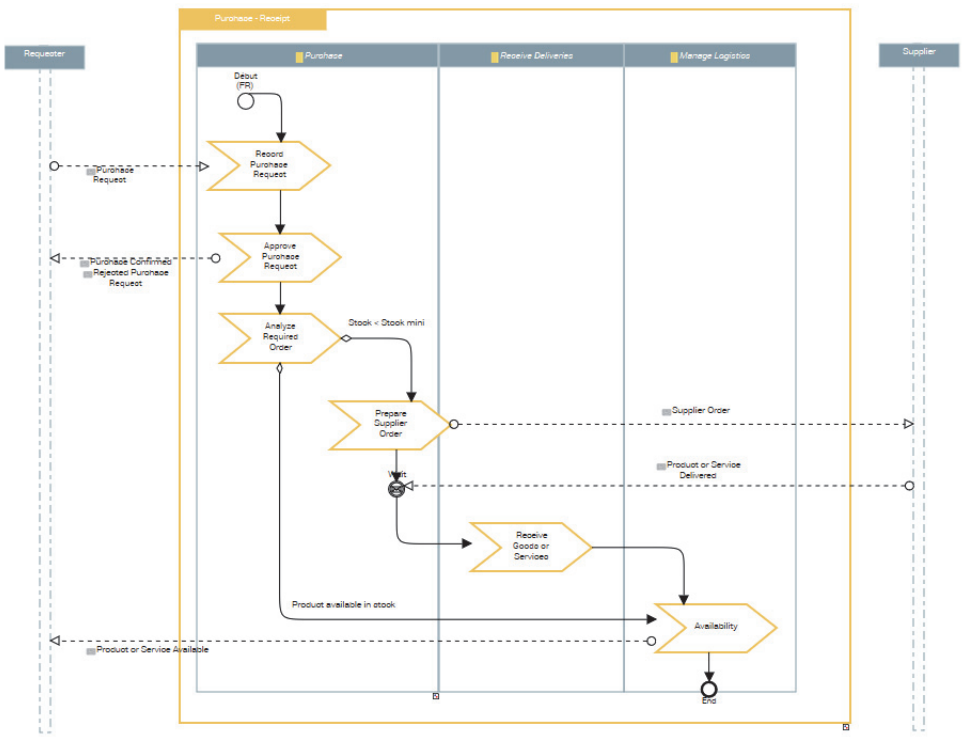
> 🕮 *A technology capability is the ability to deliver a technology service which is required by a technology artifact or an application.*
>
> ☛ *For more details on skills and the business capability functionalities, see Defining the business skills and functionalities associated with business capabilities.*

Describing value streams

A *value stream* is represented by a sequencing of *value creation steps* managed by the business functions of the architecture.

> 🕮 *A value stream is an end-to-end collection of Value Stages that creates an outcome for a customer, who may be the ultimate customer or an internal end-user of the value stream.*
>
> 🕮 *A value stage is a distinct, identifiable phase or step within a value stream that has a unique entrance criteria, exit criteria, and identifiable participating business function or business functional area.*

The following diagram presents an example of a value stream:



> ☛ *For more details on value streams, see Describing value streams.*

Describing business capability implementation by the business functions

This involves connecting the *business capability*, which corresponds to what we know how to do or what we want to do and which represents the *goal* to be achieved, to a way of achieving what is represented by a *business function* or a *business functional area* at a conceptual level, that is, upstream of organizational and technical choices.

> 🕮 *A Business functional area is a set of business functions and their associated value streams on the conjunction of two main criteria: their need in accomplishing one or more business capabilities and the common skills and functionalities required to accomplish these business capabilities.*

This business functional area will itself carry the value processes whose steps will require its business function components.

Construction of the *business capability map* on the one hand and the *business architecture environment* on the other hand is used to check that the business capabilities are implemented by the business functions.

> ☛ *For more details on the businesses associated with business capabilities, see Creating Fulfillment of a Business Capability.*

HOPEX IT Business Management provides a report that presents the result of the implementation of business capabilities by business functions.

> ☛ *For more details on the breakdown of business capabilities, see Creating Fulfillment of a Business Capability.*

Identifying Exhibited Business Capabilities

> 🕮 *An exhibited business capability is exhibited by an Enterprise Stage with quantified measure (KPI) and potential geopolitical scope (Site) for a defined market segment (Business Partner).*

From a transformation stage, it is possible to create exhibited business capabilities that can connect the transformation strategic elements to the technical or organizational elements that assure their implementation.

> ☛ *For more details on exhibited business capabilities creation, see Managing Exhibited Business Capabilities.*

The exhibited business capabilities are assessed with respect to different criteria or measurable properties.

> For example, the competitiveness of a delivery capability is measured according to the 'delivery time at target cost' measurable property.

These measurable properties give rise, for a given transformation stage, to key performance indicators.

> For example, a delivery capability can have a target of 'delivery time in less than 48 hours for a cost price less than 10% of the sales price' within the framework of a given transformation stage.

> 🕮 *A set of constraint values defines the grouping of elementary Qualifying values that should be examined together in order to appreciate the actual performance of a KPIed item. E.g.: a delivery must take place in less than 20 minutes and cost less than 5 euros.*

> ☛ *For more details, see Using performance indicators.*

Describing the Enterprise Architecture

Business capabilities are implemented by components of the enterprise architecture. Technical and functional architectures may be described using different formalisms:

- by a business function architecture environment, which contains the elements that define the enterprise model (operating model) for the current stage.
  - the definition of the ecosystem of the enterprise (interactions with partners),
  - the business function architectures,
  - the business functions.
- By the solution building block environments that depend on product licenses used, for example, with **HOPEX IT Architecture**: the environment for Logical Application Systems, the environment for Application Systems, the environment for Resource Architectures, etc.

☛ *For more details, see Describing an Enterprise Architecture.*

Describing the business architecture environment

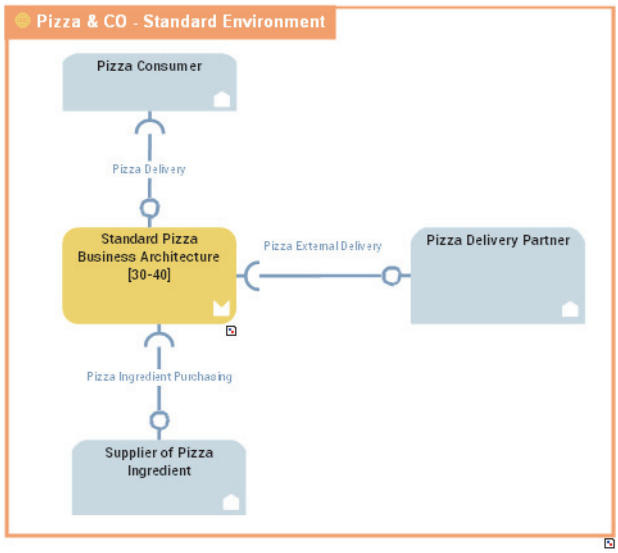
📖 *A business architecture environment represents the relationships of a business functional area with its partners.*

In this example, the business function architecture environment of company is made up of the historical business function architecture and its interactions with external partners: clients and suppliers. You can see in the diagram that delivery is outsourced to a third party deliver partner.

📖 *An application deployment architecture describes one possible deployment configuration of an application. It contains the deployment architectures to be hosted, recommends hosting architectures and identifies required communication techniques (communication protocols and port numbers) they use to communicate with each other. . An application may have several deployment architectures (E.g.: autonomous installation, horizontal or vertical deployment, etc.)*

📖 *A business partner designates a third-party who is in relation with the enterprise within the framework of a given business architecture*

environment. Examples: private sector client, regulatory organization, supplier.



Communications between the objects are represented by interactions service.

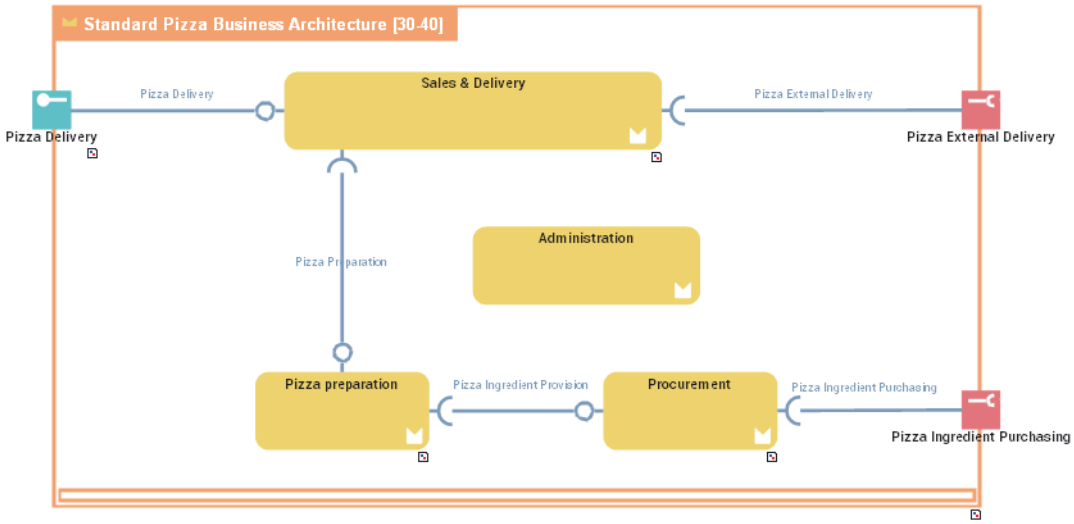
A Service Interaction represents an interaction for service purpose between entities in a specific context inside or outside a company. These entities can be enterprise org-units, applications, activities or processes, as well as external org-units. The content of this interaction is described in a service interface.

Describing a business functional area

An application deployment architecture describes one possible deployment configuration of an application. It contains the deployment architectures to be hosted, recommends hosting architectures and identifies required communication techniques (communication protocols and port numbers) they use to communicate with each other. . An

application may have several deployment architectures (E.g.: autonomous installation, horizontal or vertical deployment, etc.)

In this example, the history functional area is based on the business functional areas for selling, delivering and command.



Defining the business skills and functionalities associated with business functions

To be able to subsequently check that each business capability is implemented by a suitable business function, you must define the required business skills and functionalities, for each business function.

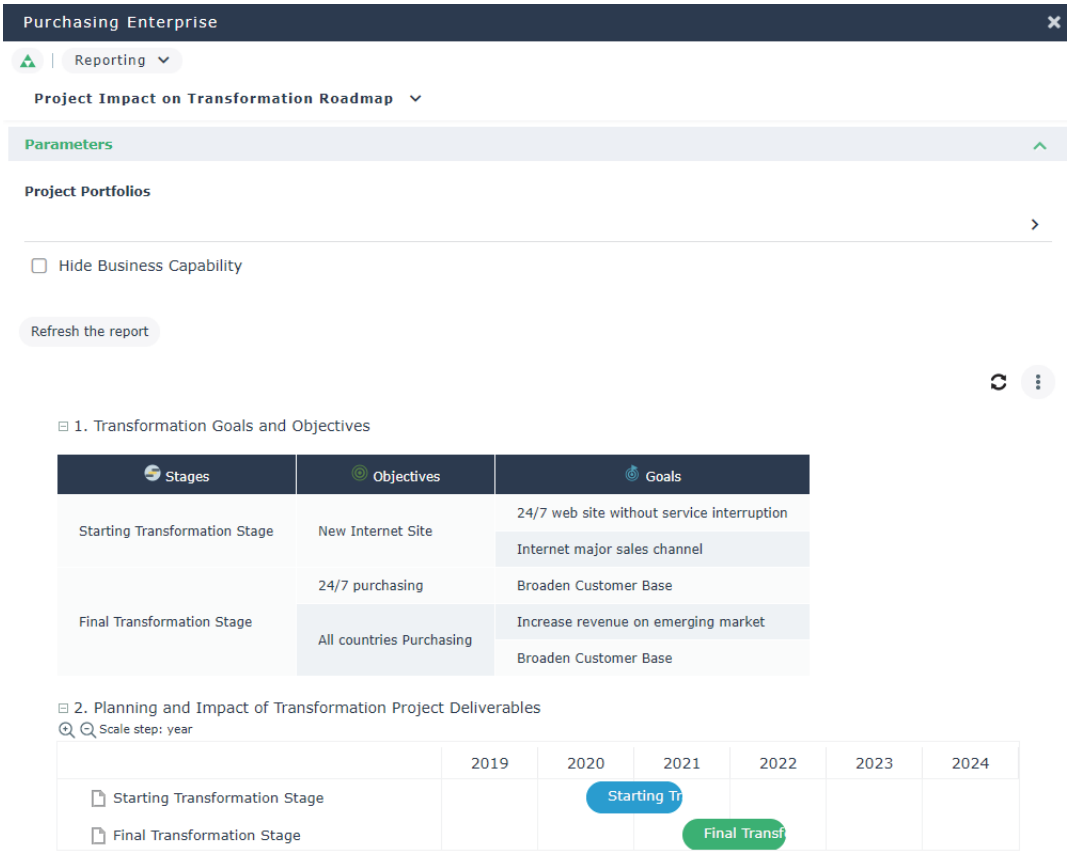
📖 *A technology capability is the ability to deliver a technology service which is required by a technology artifact or an application.*

☛ *For more details on skills and the business capability functionalities, see Defining the business skills and functionalities associated with business capabilities.*

Consulting the Transformation Roadmap

The transformation roadmap is presented in the form of a report that can be accessed from the Enterprise property page.

☛ *For more details on transformation plans, see Drawing the Transformation Roadmap.*



BEFORE STARTING WITH THE STRATEGIC TRANSFORMATION

Defining a work context

☛ *For more details on managing your work context, see the "Enterprises and Libraries" chapter in the **HOPEX Common Features** guide.*

A *library* and an *enterprise* are used to represent a unique work context.

In the context of the **HOPEX IT Business Management** solution, a library can hold all the elements of your project: processes and org-units, for example.

🕮 *Libraries are collections of objects used to split repository content into several independent parts. They allow creation of virtual partitions of the repository. In particular, two objects owned by different libraries can have the same name.*

An *Enterprise* is used to represent the work context of a transformation project.

🕮 *An Enterprise is a purposeful undertaking, conducted by one or more organizations, aiming at delivering goods and services, in accordance with the enterprise mission in its changing environment. During its development over time, an enterprise has to adapt to its environment and sets up transformation goals and objectives along with course of action to achieve these objectives. The design and realization of the resulting transformation stages may transcend organizational boundaries and consequently require an integrated team working under the direction of a governing body to involve stakeholders in transformation initiatives. This requires the implementation of an integrated team, under the responsibility of a governing body, to involve the stakeholders in the transformation.*

Accessing the list of libraries with HOPEX IT Business Management

To access the list of libraries from the **Environment** navigation menu:

- Select **Containers > Libraries**.
  The library tree appears.

☛

☛ *For more details on libraries, see "Using libraries" chapter in the **HOPEX Common Features** guide .*

Using Properties Pages

HOPEX IT Business Management provides properties pages available for several solutions.

☛ *Using the facilities described in the **HOPEX Power Studio** guide, you can customizing the properties pages of your solution.*

The pages below are common to main **HOPEX IT Business Management** objects.

- the **Measurable Property** is used to access to:
  - the **Measurable Property** section which provides the list of measurable properties associated to the described object.
  - the **Set of Constraining Properties** section which provides the list of Sets of constraining properties associated to the described object.

    ☛ *For more details, see Using performance indicators.*
- The **Implementation** page provides access to the list of Enterprise Architecture solution building blocks that implement the described object.

  ☛ *For more details on implementation of business capabilities, see Describing Component Fulfillment.*
- The **Reporting** page provides access to the reports available for the described object.

Importing an Existing Breakdown of Business Capabilities

HOPEX IT Business Management uses Excel data exchange wizards to export and import a breakdown of business capabilities. The Excel template used is **Business Capabilities Template.xlsx**.

☛ *For more details on Excel data exchange wizards, see the "Exchanging Data with Excel" chapter in the **HOPEX Common Features** guide.*

☛ *For more information on managing you work context, see Data Exchange with Excel.*

Structure of the import/export Excel template of HOPEX IT Business Management

The **Business Capabilities Template.xlsx** Excel template of **HOPEX IT Business Management** allows you to import a breakdown of business capacities and a breakdown of functionalities.

- At the level of business capabilities, the elements are as follows:
  - *Business Capabilities*

    📖 *.A business capability is a set of features that can be made available by a system (an enterprise or an automated system).*
  - *Business capability maps*

    📖 *A business capability map is a set of business capabilities with their dependencies that, together, define a framework for an enterprise stage.*
  - *Business capability components*, which define the link between a business capability and the business capability map (or business capability) in which it is referenced.
  - *Business Capability fulfillments*, which define the link between a business capability and the application that implements it.
- At the level of functionalities, the elements are as follows:
  - *Functionalities*

    📖 *A technology capability is the ability to deliver a technology service which is required by a technology artifact or an application.*
  - *Functionality maps*

    📖 *A technology capability map is a set of technology capabilities and their dependencies that, together, defines the scope of a hardware or software architecture.*
  - *Sub-functionalities*, which define the link between a functionality and the functionality map (or the functionality) in which it is referenced.
  - *Functionality fulfillments*, which define the link between a functionality and the application that implements it.
- *Applications*, which here represent the supports for implementing business capabilities or functionalities.

  📖 *An application is a software component that can be deployed and provides users with a set of functionalities.*

The information contained in the Excel template delivered with **HOPEX IT Business Management** is presented as follows:

- One page per element type: *Business capability*, *Business capability map*, *Functionality*, *Functionality map*, *Application*, ...
- For each element of *Business capability*, *Business capability map*, *Functionality*, *Functionality map* or *Application* type:
  - **Short Name** : name of the object concerned.
- For each element of *Business capability component* (or *Sub-functionality*) type:
  - **Business Capability Building Block** (or **Owner Functionality Building Block**): name of the composite object (business capability map, for example).
  - **Business Capability Used** (or **Sub-functionality**): component object name.
- For each element of *Business Capability fulfillment* (or *Functionality fulfillment*) type:
  - **Fulfilled Business Capability** (or **Fulfilled Functionality**): name of the implemented business capability (or functionality).
  - **Realizer Agent** (or **Fulfilling Enterprise Artifact**): name of the application that implements the capability or the functionality.
  - **Short Name** : name of the object associated with the implementation.

Importing the breakdown of business capabilities into an enterprise

Several steps must be followed in order for the Excel import of a business capability breakdown to be performed correctly:

1. Advanced Options and Settings of Excel Wizards,
2. Specifying the current library,
3. Exporting data from your repository with HOPEX IT Business Management,
4. Completing the import file for HOPEX IT Business Management,
5. Import your new file into your repository.

> ☛ *For more details on Excel data exchange wizards, see the "Exchanging Data with Excel" chapter in the **HOPEX Common Features** guide.*
>
> ☛

Specifying the current library

A *library* and an *enterprise* are used to represent a unique work context.

> 🕮 *Libraries are collections of objects used to split repository content into several independent parts. They allow creation of virtual partitions of the repository. In particular, two objects owned by different libraries can have the same name.*

In order for the data you import with Excel to be linked to a specific *library*, you must specify the current library.

To set the current library:

1. Click the **Environment** navigation menu then **Containers > Libraries**.
2. Expand the **Libraries** tree.

3. Right-click the library that interests you to open its pop-up menu and select **Set As Default**.
   The selected library becomes the current library.

Exporting data from your repository with HOPEX IT Business Management

If you want to export business capability maps or functionality maps that exist in another repository than your current one, for example, you can use the Excel template of **HOPEX IT Business Management** .

> ☛ *For more details on Excel data exchange wizards, see the "Exchanging Data with Excel" chapter in the **HOPEX Common Features** guide.*
>
> ☛

When the Excel file is filled with the names of the objects you want to import, you must complete the necessary information for import into **HOPEX IT Business Management** .

> ☛ *For more details on additional information, see Completing the import file for HOPEX IT Business Management.*

Completing the import file for HOPEX IT Business Management

For your import file to be correct, you must have specified the following elements:

- For each element of *Business capability*, *Business capability map*, *Functionality*, *Functionality map* or *Application* type, you must enter the name of each object:
- For each breakdown (**Business Capability Composition** or **Functionality Composition** Excel sheet), you must indicate:
  - the name of the composite object in the **Business Capability Building Block** (or **Owner Functionality Building Block**) column.

    `Name of a business capability map for example.`
  - the name of the composing object in the **Business Capability Used** (or **Sub-functionality**) column.

    `Name of a business capability for example.`
- To specify that an application implements a business capability, for example, you must indicate in the **Business Capability Fulfillment** sheet:
  - the name of the business capability implemented in the **Fulfilled Business Capability** column.
  - the name of the application concerned in the **Realizer Agent** column.
  - the name you want to give to the object that represents the implementation in the **Short Name** column.
- To specify that a functionality is associated with a business capability, you must indicate in the **Expected Functionality** Excel sheet:
  - the name of the business capability in the **Business Capability** column,
  - the name of the functionality concerned in the **Functionality** column.

The first two lines of each Excel worksheet are reserved for file configuration; ensure that the first two lines of the imported file remain identical to those obtained after an export.

☛ *For more information on the structure of the Excel template, see Structure of the import/export Excel template of HOPEX IT Business Management.*

IDENTIFYING STRATEGIC TRANSFORMATION ELEMENTS

This stage consists of drawing up a list of strategic elements for the enterprise's transformation.

You can access all the strategic elements of your enterprise and its transformation stages from the **Business > Strategic Planning** navigation menu. The enterprise and its transformation stages appear in the form of a tree.

The following points are covered here:

- ✓ Enterprise Strategic Elements,
- ✓ The strategic Elements of a Transformation Phase,
- ✓ Using performance indicators.

ENTERPRISE STRATEGIC ELEMENTS

📖 *An Enterprise is a purposeful undertaking, conducted by one or more organizations, aiming at delivering goods and services, in accordance with the enterprise mission in its changing environment. During its development over time, an enterprise has to adapt to its environment and sets up transformation goals and objectives along with course of action to achieve these objectives. The design and realization of the resulting transformation stages may transcend organizational boundaries and consequently require an integrated team working under the direction of a governing body to involve stakeholders in transformation initiatives. This requires the implementation of an integrated team, under the responsibility of a governing body, to involve the stakeholders in the transformation.*

The strategic elements of an enterprise can be accessed from:

- Its properties pages, see Defining Enterprise Strategic Elements,
- Its enterprise diagram, see Creating an Enterprise Diagram,
- Click the **Business > Strategic Planning** navigation menu.

Creating an Enterprise

☛

☛ *For more details Enterprises, see "Enterprises and Libraries" chapter in the **HOPEX Common Features** guide .*

Accessing the list of enterprises with HOPEX IT Business Management

To access the list of Enterprises:

❱ Click the **Business** navigation menu then **Strategic Planning**.
The enterprise tree appears.

Creating an enterprise with HOPEX IT Business Management

To create an enterprise from the **Business** navigation menu:

1. Click **Strategic Planning**.
   The enterprise tree appears.
2. Click the **New** button.
   The new enterprise is added to the list of Enterprises.

Enterprise Characteristics

The **Characteristics** properties page of an enterprise provides access to:

- its **Name**,
- its **Owner**, by default the current library.
- The **Strategic Theme** table enables to define the enterprise strategic themes.

> 🕮 *A strategic theme is used to classify the enterprise goals.*

Connecting the capability map to an enterprise

The *business capabilities* valid for the given enterprise are contained in a *business capability map*.

> 🕮 *A business capability map is a set of business capabilities with their dependencies that, together, define a framework for an enterprise stage.*

The business capability map is used to identify the exhibited business capabilities that meet the enterprise goals for the transformation.

> ☛ *For more details on the business capability maps management, see Building the Business Capability Map.*

To connect a business capability map to an enterprise:

1. Select **Characteristics** property page of the enterprise that interests you.
2. In the **Capability Architecture** section, click the right arrow of the **Business Capability Map** field and select **Connect...**.
   A selection window opens.
3. Select the business capability that interests you and click **Connect**.
   The business capability map is associated to the enterprise and its transformation stages.

Connecting the value stream to an enterprise

> 🕮 *A value stream is an end-to-end collection of Value Stages that creates an outcome for a customer, who may be the ultimate customer or an internal end-user of the value stream.*
>
> ☛ *For more details on the list of business capabilities, see Describing value streams.*

The *value creation steps* are connected to *Business Capabilities* valid for the enterprise.

> 🕮 *A value stage is a distinct, identifiable phase or step within a value stream that has a unique entrance criteria, exit criteria, and identifiable participating business function or business functional area.*

To connect a value stream to an enterprise:

1. Select **Characteristics** property page of the enterprise that interests you.
2. In the **Value Stream** section, click **Connect**.
   A selection window opens.

3. Select the Value streams that interests you and click **Connect**.
   The value streams are connected to all the enterprise transformation stages.

Defining Enterprise Strategic Elements

Strategic elements of an enterprise are classified in the following categories:

- Ends, see: Identifying enterprise ends,
- Means, see: Defining Means.
- The transformation stages, see Defining Transformation Stages.

Identifying enterprise ends

Describing the Enterprise Vision

> 🕮 *A vision is the ultimate, possibly unattainable, state the enterprise would like to achieve. A vision is often compound, rather than focused toward one particular aspect of the business problem. A vision is supported or made operative by missions. It is amplified by goals.*

To describe an *enterprise vision*:

1. Open the **Strategy** properties page of an enterprise.
2. In the **End** section, select the **Vision** field.

Identifying enterprise goals

The *enterprise goals* are determining elements in your enterprise model since they interconnect the ends of the enterprise transformation with the objectives of the transformation stages.

> 🕮 *A goal tends to be longer term, and defined qualitatively rather than quantitatively. It should be narrow-focused enough that goals can be defined for it.*

To create an *enterprise goal*:

1. In the **Strategy** property page of an enterprise, open **End** section.
2. In the **Goals** section, click **New**.
   The **Creation of an Enterprise Goal** dialog box opens.
3. Specify the goal name and click **OK**.
   The goal appears in the list.

The **Characteristics** page of the property pages of an enterprise goal is used to access:

- its **Name**,
- its **Owner**, by default the current enterprise.
- the **Comment** text.
- the **Strategic Theme Category** section, which specifies the **Strategic Themes** connected to the enterprise goal.

Defining Means

To ensure that the strategies and tactics implemented in the enterprise correspond to the enterprise goals, you can use **HOPEX IT Business Management** to align the objects representing the ends of the strategy with the means to be implemented.

> 🕮 *A strategy is a component of a mission. It represents a means of action essential to achievement of ends of the enterprise, and more practically its goals. A strategy channels enterprise efforts towards these goals. A strategy is the approach considered by the enterprise as being the best suited to achieving its goals, taking account of constraints imposed by the environment and by risks.*

To check the consistency of the transformation plan, chaque *strategy* is connected to an *enterprise goal*.

Describing a Mission

> 🕮 *The mission describes what the business is or will be doing on a day-to-day basis. A mission makes a vision operative; that is, it indicates the ongoing activity that makes the vision a reality. A mission is planned using strategies.*

To describe an *enterprise Mission* :

1. Open the **Strategy** property page of the enterprise.
2. In the **Means** section, select the **Mission** field.

Defining Strategies

> 🕮 *A strategy is a component of a mission. It represents a means of action essential to achievement of ends of the enterprise, and more practically its goals. A strategy channels enterprise efforts towards these goals. A strategy is the approach considered by the enterprise as being the best suited to achieving its goals, taking account of constraints imposed by the environment and by risks.*

To create a *strategy*:

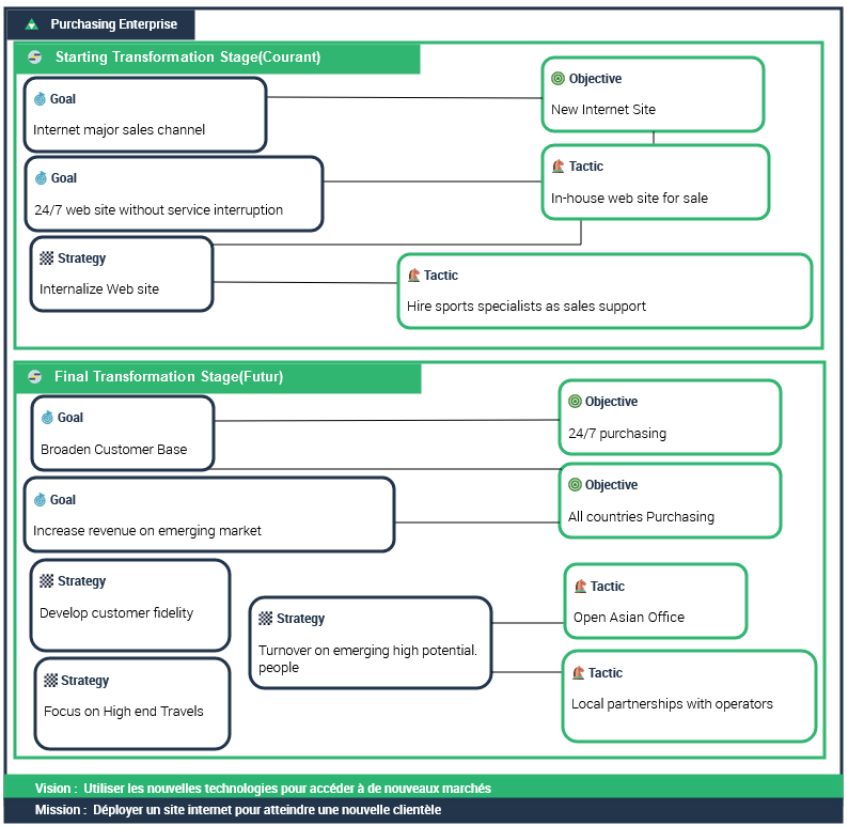
1. Open the **Strategy** properties page of an enterprise.
2. In the **Mean** section and the **Strategy** Sub-section.
3. Click **New**.
   The **Creation of a strategy** dialog box opens.
4. Specify the strategy and click the **OK** button.
   The new strategy appears in the list.

The **Characteristics** properties page of the strategy provides access to:

- its **Name**,
- Its **Enterprise**,
- the **Comment** text.
- the list of **Supported Goals**.

Building an Enterprise Diagram

An enterprise diagram is used to describe the links between goals, strategies, tactics and transformation stages.



Creating an Enterprise Diagram

To create an Enterprise Diagram:

1. Select the enterprise concerned and click **New > Diagram**.
2. Select **Enterprise Diagram**.
   The diagram opens in the edit area. The frame of the described enterprise appears in the diagram.

Describing the strategic elements

The components represented in an enterprise diagram are the strategic elements connected to the enterprise and to its *Transformation stages*.

> *A Business Transformation Stage is a kind of Enterprise Transformation Stage aiming at the alignment of the enterprise*

business operating model to its business strategy and corresponding exhibited business capabilities (business model).

☛ *For more details, see The strategic Elements of a Transformation Phase.*

The components represented in an enterprise diagram are :

- The enterprise ends, described by the *enterprise goals* and the *enterprise objectives* (that are described at the *transformation stages*)).

  📖 *A goal tends to be longer term, and defined qualitatively rather than quantitatively. It should be narrow-focused enough that goals can be defined for it.*

  📖 *An Enterprise Objective is a quantifiable end that a company/ organization wants to achieve for a given Enterprise Stage. An Enterprise Objective may support an Enterprise Goal; it may be refined into sub-objectives. An Enterprise Objective may concern a defined Exhibited Capability and be addressed by a defined Tactic.*

- The enterprise means that are described by *strategies* at the enterprise level and by *tactics* at the transformation stage level.

  📖 *A strategy is a component of a mission. It represents a means of action essential to achievement of ends of the enterprise, and more practically its goals. A strategy channels enterprise efforts towards these goals. A strategy is the approach considered by the enterprise as being the best suited to achieving its goals, taking account of constraints imposed by the environment and by risks.*

  📖 *A tactic is a course of action that implements part of a strategy. Tactics generally channel efforts towards objectives.*

THE STRATEGIC ELEMENTS OF A TRANSFORMATION PHASE

The implementation of an *enterprise* is described by the *enterprise stages* that correspond to its state at a given time.

> 🕮 *An Enterprise is a purposeful undertaking, conducted by one or more organizations, aiming at delivering goods and services, in accordance with the enterprise mission in its changing environment. During its development over time, an enterprise has to adapt to its environment and sets up transformation goals and objectives along with course of action to achieve these objectives. The design and realization of the resulting transformation stages may transcend organizational boundaries and consequently require an integrated team working under the direction of a governing body to involve stakeholders in transformation initiatives. This requires the implementation of an integrated team, under the responsibility of a governing body, to involve the stakeholders in the transformation.*
>
> 🕮 *A Business Transformation Stage is a kind of Enterprise Transformation Stage aiming at the alignment of the enterprise business operating model to its business strategy and corresponding exhibited business capabilities (business model).*

Thus, when an enterprise is created, the following two *enterprise stages* can also been created:

- The current ('As-Is') stage that concerns existing elements;
- The target 'To-Be' phase that contains the target elements determined by the review of the transformation strategic goals.

The *business capability map* is associated to the enterprise and its transformation stages.

> 🕮 *A business capability map is a set of business capabilities with their dependencies that, together, define a framework for an enterprise stage.*

The strategic elements of a transformation phase Users that follow:

- The enterprise objectives and the corresponding tactics, see Transformation stage characteristics,
- the business Capability assessments, see Using performance indicators,
- the exhibited business capabilities, see: Managing Exhibited Business Capabilities.

Defining Transformation Stages

From an enterprise, you can create transformation stages.

Each transformation stage is scheduled in the enterprise project depending on real or estimated dates. The scheduling is used to build the enterprise transformation roadmap.

Creating a Transformation Stage

To create a *transformation stage* from an enterprise:

1. Click the **Business > Strategic Planning** navigation menu.
   The list of current Enterprises appears.
2. Open the **Strategy** properties page of the enterprise that interests you.
3. In the **Stages** section, click **New**.
   An IT transformation stage creation dialog box opens.
4. Specify the **Name** of the transformation stage.
5. Specify the **Period** of the transformation stage: As Is, Future or Passed.
6. Specify the **Begin Date** and the **End Date**.
7. Click **OK**.

Transformation stage properties

With **HOPEX IT Business Management** , a transformation stage is described by:

- the **Characteristics** page,

  ☛ *For more details on transformation stages, see Transformation stage characteristics.*

- the **Assessment** property page that provides access to the assessment business capabilities of an enterprise stage.

  ☛ *For more details on assessing capability maps, see Using performance indicators.*

- the **exhibited capabilities** page that is used to access to the business capabilities involved in the transformation stage.

  ☛ *For more details on strategic elements, see Managing Exhibited Business Capabilities.*

- The **Architecture Description** page that is used to access to the architecture elements involved in the transformation stage.

  ☛ *For more details on architecture elements, see Describing an Enterprise Architecture.*

Transformation stage characteristics

The **Characteristics** property page of an enterprise stage provides access to the following information:

- **Name**,
- **Owner** the current enterprise,
- **Period**, As Is, Future or Passed. This attribute can be used if the dates are not specified.
- **Begin Date** of the phase,
- **End Date** of the phase,
- the **Description** text.
- the **objectives** section, to define the transformation stage objectives as well as associated tactics.

  ☛ *For more details on objectives and tactics, see Defining the Strategic Characteristics of a Transformation Stage.*

Defining the Strategic Characteristics of a Transformation Stage

The enterprise strategic elements are aligned with strategic element of the transformation stage: enterprise goals and objectives, strategies and tactics.

☛ *For more details on enterprise strategic elements, see Defining Enterprise Strategic Elements.*

Defining an enterprise objective

🕮 *An Enterprise Objective is a quantifiable end that a company/ organization wants to achieve for a given Enterprise Stage. An Enterprise Objective may support an Enterprise Goal; it may be refined into sub-objectives. An Enterprise Objective may concern a defined Exhibited Capability and be addressed by a defined Tactic.*

Creating an Enterprise Objective

To create an *Enterprise Objective*:

1. Open the **Characteristics** properties page of a transformation stage.
2. In the **Objectives** section, click **New**.
   The **Creation of an enterprise objective** dialog box opens.
3. Specify the objective name and click **OK**.
   The new enterprise objective appears in the list.
4. In the **Enterprise goals** column of the table of enterprise objectives, select the *enterprise goals* covered by the objective.

   🕮 *A goal tends to be longer term, and defined qualitatively rather than quantitatively. It should be narrow-focused enough that goals can be defined for it.*

   ☛ *For more details on enterprise goals, see Identifying enterprise ends*

Enterprise Objective properties

The **Characteristics** property page of an enterprise objective is used to access:

- its **Name**,
- its **Owner**, by default the current transformation stage.
- the **Comment** text.
- the list of **Enterprise goals** the objective aims to satisfy.

Defining Tactics

🕮 *A tactic is a course of action that implements part of a strategy. Tactics generally channel efforts towards objectives.*

Creating tactics

A *tactic* is a way to achieve an *enterprise objective*. So a *tactic* is created from an *enterprise objective*.

To create a *tactic*:

1. Open the **Characteristics** properties page of a transformation stage.
2. In the **Objectives** section, select the objective that interests you.

3. In the **Contributing Tactic** section, click **New**.
   The new tactic appears in the list.
4. Specify the name of the tactic.
5. In the **Strategy** column of the tactic table of the transformation stage, select the *strategy* corresponding to the tactic.

Tactic properties

The **Characteristics** property page of the tactic provides access to:

- its **Owner**, by default the current enterprise.
- its **Name**,
- the **Comment** text.
- the list of **Supported enterprise objectives**.

  ☛ *For more details, see Creating an Enterprise Objective.*
- the list of **Strategies** that it implements.

  ☛ *For more details, see Defining Strategies.*

USING PERFORMANCE INDICATORS

Qualifying Values and *Measurable Properties* are used to define the performance constraints that must be complied with by the building blocks making up the enterprise, at the forefront of which are the business capabilities and the exhibited business capabilities in a transformation stage.

The nature of a *Qualifying Value* is defined by a *Measurable Property*.

> 🕮 *A measurable property expresses the nature of indicators (duration, mass, cost, etc.) and defines the unit used to measure them (minutes, kilograms, euros, etc.). Measurable properties are used to define indicators, they can be elementary or composite. Elementary measurable properties are described by measurement units: kg, Liter, Gallon, Hour, Minute.*
>
> 🕮 *A Qualifying value (key indicator) defines how much of something can be quantified, either as a singular value or as range of values, according to a Measurable Property. Key indicators are valued. Example: Response Time < 20 seconds.*

The *Measurable Properties* can be connected to different types of objects such as:

- business capabilities,
- value streams,
- Business Skill,
- application environment.

> A Measurable Property for the "Command management" business capability is "Delivery time".

Qualifying Values can be connected to exhibited business capabilities; that is, a capability highlighted within the context of a transformation stage. A *Qualifying Value* is attached to a *Measurable Property*.

> For example, the Qualifying Values of the "Command management" exhibition of the exhibited business capability) in a given transformation stage (existing or future) can be "Deliver a pizza in less than 20mn" or "Take the order in less than 3mn".

Finally, *Qualifying Values* or *Measurable Properties* can be grouped to define *Sets of Constraint Values* and *Sets of Constraining Properties*.

> 🕮 *A set of constraint values defines the grouping of elementary Qualifying values that should be examined together in order to appreciate the actual performance of a KPIed item. E.g.: a delivery must take place in less than 20 minutes and cost less than 5 euros.*

The components of a *Set of Constraint Values* can be:

- A *set of constraint values*,
- A *Qualifying Value*,
- A *Flow Measure* or a *Technical Flow Measure*.

> ☛ *For more details on Flow Measure Types, see Defining Categorization Schemas.*

A *Set of Constraining Properties* is defined by different component types:

> 🕮 *A set of constraining properties defines the grouping of elementary Measurable properties that should be examined together in order to appreciate the actual performance of a KPIed item. E.g: a delivery must take place within a target timeframe AND at target cost*

- *Sets of Constraining Properties*,
- *Measurable properties*,
- *Flow Measure types*, which are defined by a set of *Flow measures*.
- *Technical flow measure types*, which are defined by a set of *Technical flow measures*.

> ☛ *For more details on Flow Measure Types, see Defining Categorization Schemas.*

Describing a Measurable Property

> 🕮 *A measurable property expresses the nature of indicators (duration, mass, cost, etc.) and defines the unit used to measure them (minutes, kilograms, euros, etc.). Measurable properties are used to define indicators, they can be elementary or composite. Elementary measurable properties are described by measurement units: kg, Liter, Gallon, Hour, Minute.*

Accessing the list of Measurable Properties of a Library

To access the list of *Measurable Properties*:

1. Expand the **Environment > Containers** navigation menu.
2. Select the library that interests you and expand its folder.
   The list of measurable properties appears in the **Measures & Categories > Measurable Properties** folder.

Creating a measurable property from a business capability

To create a *Measurable Property* from a business capability, for example:

1. Open the **Measurable Property** page of the business capability that interests you.
2. In the **Measurable Property** section, click **New**.
   A Measurable Property creation dialog box opens.
3. Specify:
   - its **Name**,
   - the text that describes its **Unit**,
   - the text of its **Description**.
4. Click **OK**.
   The new Measurable Property appears in the section. It's connected to the current library.

The properties of a Measurable Property

The **Characteristics** property page of a Measurable Property provides access to:

- its **Name**,
- the text that describes its **Unit**,
- the text of its **Description**.

The **Usage** property page of a Measurable Property provides access to:

- the **Qualifying Value** section provides the list of Qualifying Values that are based on this Measurable Property.

  ☛ *For more details, see Connecting a Measurable Property to a Qualifying Value.*

- the **Set of Constraining Properties** section which provides the list of *sets of constraining properties* associated to the Measurable Property.

  ☛ *For more details, see Creating a Set of Constraining Properties from an object of an enterprise.*

Describing a Qualifying Value

📖 *A Qualifying value (key indicator) defines how much of something can be quantified, either as a singular value or as range of values, according to a Measurable Property. Key indicators are valued. Example: Response Time < 20 seconds.*

Accessing the list of Qualifying Values

To access the list of Qualifying Values of a library:

1. Expand the **Environment > Containers** navigation menu.
2. Select the library that interests you and expand its folder.
   The list of Qualifying Values appears in the **Measures & Categories > Qualifying Value** folder.

Creating a Qualifying Value from an exhibited business capability

A Qualifying Value can be used by an exhibited business capability. It appears in the **Qualifying Value** property page of the exhibited business capability.

📖 *An exhibited business capability is exhibited by an Enterprise Stage with quantified measure (KPI) and potential geopolitical scope (Site) for a defined market segment (Business Partner).*

☛ *For more details on exhibited business capabilities, see Managing Exhibited Business Capabilities.*

☛ *You create a Qualifying Value from the Qualifying Value property page of all the objects that can be connected to simple or composite performance indicators*

To create a *Qualifying Value* from an exhibited business capability:

1. Open the **Qualifying Value** page of the exhibited business capability that interests you.
2. In the **Qualifying Value** section, click **New**.
   The Qualifying Value creation dialog box opens.

3. Select the **Measurable Property** that you would like to use.

   For example, "Delivery time"

4. Select the **operator** that you want to use (less than, greater than or equal to).

   For example, "Less than"

5. Specify the **Value**.

   For example "48 hours"

6. Click **OK**.
   The Qualifying Value is created with a **Name** calculated from its characteristics.

   In the example, the name is "Delivery time < 48 hours"

The properties of a Qualifying Value

The **Characteristics** property page of a Measurable Property provides access to:

- its **Name**, which is calculated automatically on creation,
- Its **Measurable Property** which defines its nature,
- its **Unit**, which is that of the Measurable Property and which cannot be modified,
- its **Operator** which positions it with respect to its value,
- its **Value**,
- the text of its **Description**.

The **Usage** property page of a Qualifying Value provides access to:

- the **Set of Constraint Values** section: provides the list of Qualifying Values that use the Qualifying Value described.

  ☛ *For more details, see Creating a Set of Constraint Values from an exhibited business capability.*

- the **Exhibited Capabilities** section: provides the list of exhibited capabilities connected to the Qualifying Value.

  ☛ *For more details, see Creating a Qualifying Value from an exhibited business capability.*

Connecting a Measurable Property to a Qualifying Value

The Measurable Property is mandatory for the creation of a Qualifying Value; it is used in calculating the name of value: ***Measurable Property name*** + ***logical operator*** + ***Measurable Property unit***.

The Measurable Property is given in the Qualifying Value property page.

To connect a Measurable Property to a Qualifying Value:

1. Open the **Characteristics** property page of the Qualifying Value that interests you.
2. In the **Measurable Property** field, select the Measurable Property you are interested in.

Using sets of indicators

Creating a Set of Constraining Properties from an object of an enterprise

> 🕮 *A set of constraining properties defines the grouping of elementary Measurable properties that should be examined together in order to appreciate the actual performance of a KPIed item. E.g: a delivery must take place within a target timeframe AND at target cost*

A *Set of Constraining Properties* uses either a Measurable Property, or a Set of Constraining Properties.

A Measurable Property or a Set of Constraining Properties can be used by several Sets of Constraining Properties. During creation of a Set of Constraining Properties, you can thus reuse a Measurable Property or a Set of Constraining Properties that already exists.

To create, for example, a *Set of Constraining Properties* from a business capability:

1. Open the **Measurable Property** page of the business capability that interests you.
2. In the **Set of Constraining Properties** section, click **New**.
   A *Set of Constraining Properties* creation window opens.
3. Enter the **Name**.
4. In the **Owned property Component** section, click **New**.
   An Add window appears:
5. Select the **Object Type**: **Set of Constraining Properties** or **Measurable Property**.
6. Select the object that interests you and click **Next**.
   The new component appears in the list.
7. Click **Add** and proceed the same way to connect other Measurable Properties or Set of Constraining Properties.

Creating a Set of Constraint Values from an exhibited business capability

> 🕮 *A set of constraint values defines the grouping of elementary Qualifying values that should be examined together in order to appreciate the actual performance of a KPIed item. E.g.: a delivery must take place in less than 20 minutes and cost less than 5 euros.*

A *Set of Constraint Values* uses either a Qualifying Value, or a Set of Constraint Values.

A Qualifying Value or a Set of Constraint Values can be used by several Qualifying Values. During creation of a Set of Constraint Values, you can thus reuse a Qualifying Value, or a Set of Constraint Values that already exists.

A Set of Constraint Values can be used by an exhibited business capability. It appears in the **Qualifying Value** property page of the exhibited business capability.

> 🕮 *An exhibited business capability is exhibited by an Enterprise Stage with quantified measure (KPI) and potential geopolitical scope (Site) for a defined market segment (Business Partner).*
>
> ☛ *For more details on exhibited business capabilities, see Managing Exhibited Business Capabilities.*

To create a *Set of Constraint Values* from an exhibited business capability:

1. Open the **Qualifying Value** page of the exhibited business capability that interests you.
2. In the **Set of Constraint Values** section, click **New**.
   A *Set of Constraint Values* creation window opens.
3. Select a **Set of Constraining Properties**.
4. In the **Set of Values Component** section, click **New**.
   An adding sub-indicator window opens.
5. Select the **Object Type**: **Set of Constraint Values** or **Qualifying Value**.
6. Select the object that interests you and click **Next**.
   The new component appears in the list.
7. Click **New** and proceed the same way to connect other key indicators

BUSINESS CAPABILITY MAPS AND VALUE STREAMS

To manage your business transformation initiatives, **HOPEX IT Business Management** offers a methodological framework established from international standards (BIZBOK and other architectural frameworks of NAF/DoDAF and TOGAF type), as well as our experience in this area.

The first step of this method consists in analyzing the value streams,of your enterprise and connecting them to business capabilities you have identified. Then you can check the suitability of your business capabilities with your business functions and your skills. This work leads to a better understanding of the current state of your organization ('As-Is').

The following points are covered in this chapter:

- ✓ Describing a Business Capability Map
- ✓ Describing value streams
- ✓ Describing Functional Coverage
- ✓ Describing the Outcomes
- ✓ Describing Component Fulfillment
- ✓ Describing the Data of a Business Capability

DESCRIBING A BUSINESS CAPABILITY MAP

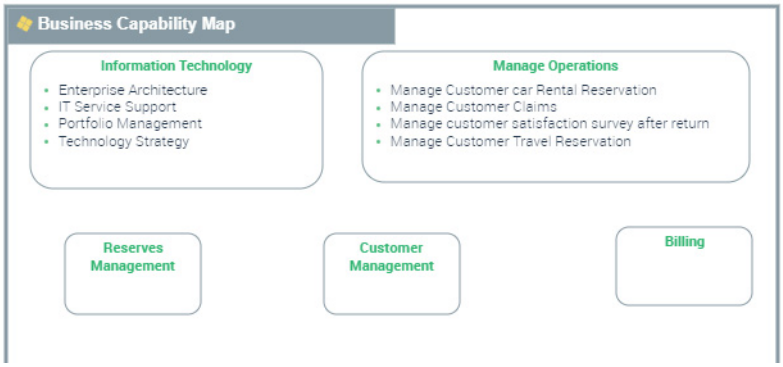
A business capability defines an expected skill.

> 🕮 *.A business capability is a set of features that can be made available by a system (an enterprise or an automated system).*

```
For example, to respond to a customer satisfaction
objective, the organization must be able to provide
services conforming to contractual commitments.
```

A capability map describes what the enterprise is capable of producing for its internal needs or for meeting the needs of its clients. It is thus based on the main business capabilities of its activity at a given moment.

> 🕮 *A business capability map is a set of business capabilities with their dependencies that, together, define a framework for an enterprise stage.*



Building the Business Capability Map

A business capability map is used to represent the main business capabilities that interact with an enterprise.

Creating a business capability map

To create a *business capability map*:

1. From the **Business** navigation menu, select **Capabilities**.
   The business capability map tree appears.
2. Click **New**.
   A creation dialog box opens.
3. Specify the **Name** and click **OK**.
   The new business capability map appears in the list.

Creating a business capability decomposition tree

A Business Capability Decomposition Tree is a diagram that describes the tree structure of a business capability or a business capability map. Focusing on a particular business capability, this type of diagram enables summary representation of business capability breakdown into sub-business capabilities.

To create a business capability map diagram:

1. Click the map to open its properties.
2. Click the **Diagram** > **Create a diagram** page.
3. Select **Business Capability Decomposition Tree**.
   The diagram opens in the edit area. The frame of the business capability map described appears in the diagram.

   You can build a hierarchical view of the business capabilities that interest you.

Creating a business capability map diagram

A business capability map represents the main business capabilities that interact within a company, and their dependencies.

To create a business capability map diagram:

1. Click the map to open its properties.
2. Click the **Diagram** > **Create a diagram** page.
3. Select **Capability Structure**.
   The diagram opens in the edit area. The frame of the business capability map described appears in the diagram.

   You can construct this diagram in tabular input mode.

   ☛

   ☛ *For more information on using tabular entry, see the "Diagrams in Tabular Entry Mode" in the **HOPEX Common Features** guide.*

Defining business capability components

A **Business capability component** is the involvement of a business capability in the context of a business capability map (one and only one) linked to an enterprise.

To add a business capability composition to a business capability map diagram:

1. In the diagram insert toolbar, click **Capability Composition**.
2. Click in the frame of the business capability map.
   The creation window for a capability composition opens.

3. Click on the arrow associated with the **Name** field and select the business capability that interests you.

4. Click **OK**.
   The capability composition appears in the diagram.

   ☛ *If the business capability is associated with functionalities, they also appear. For more details on the capabilities and functionalities associated with business capabilities, see Defining the business skills and functionalities associated with business capabilities.*

Defining business capability dependencies

A dependency link between one capability composition and another is used to specify the elements on which this dependency is based.

```
For example, "Billing" uses "Order Management". Note that
the expected result (business effect) of "Billing" is an
"Invoice" and the expected result (business effect) of
"Order Management" is a "Order to be delivered".
```

Dependent Business Effect and **Desired Business Effect** are the business capability results.

☛ *For more details on the results of business capabilities, see Describing the Outcomes.*

☛ *A single capability composition can have more than one dependency within a single diagram.*

To create dependency links between two capability compositions:

1. In the insert toolbar, click **Business Capability Dependency**.
2. Click the user component, and keeping the left mouse button pressed, move the cursor to the assembly used.
3. Release the mouse button.
   The capability composition appears in the diagram.

To enter the results concerned by a dependency between two business capability components:

1. Open the **Characteristics** properties dialog box.
2. Enter the user component result in the **Dependent Business Effect** field.

```
For example, "Invoice".
```

3. Fill the **Desired Business Effect** field with the result of the component used.

   For example, "Order to be delivered".

Describing a Business Capability

Creating a business capability

You can create a business capability from a business capability map diagram:

1. Click the **Business function** > **Capabilities** menu
   The business capability map list appears.
2. Move the mouse over the relevant business capability map and click the **New > Business Capability** button.
   A wizard prompts you to create or reuse a business capability.
3. Check the **Create object** option.
4. Click **Create**.
   The new business capability appears under the map.

Defining the properties of a business capability

To display properties of a business capability:

- In the navigation tree, select the business capability in question.

The **Characteristics** property page of the business capability map provides access to:

- its **Owner**. By default, when a business capability is created, it is the current enterprise.
- the text of its **Description**
- its **Sub-capabilities**
- its **Supporting Assets**
- the **Desired Capability Effect** which constitutes an **Outcome**.

  For example, the desired capability effect of "Manage operations" is a "Contract acceptance"

  ☛ *For more details on results, see Describing the Outcomes.*

  ☛ *For more details on the use of results, see Defining business capability dependencies.*

Other pages can be used to complete the description of a business capability:

☛ *Note that they can be hidden by default.*

- the **Dependencies** page: lists dependent business capabilities and required business capabilities.

  ☛ *For more details on the structures of a business capability, see Defining business capability dependencies.*

- the **Expected Capabilities** page: it is used to specify a list of functionalities and skills that are expected from the business capability.

  ☛ *For more details on the skills and functionalities associated with a business capability, see Defining the business skills and functionalities associated with business capabilities.*

- the **Transformation** page: provides access to the transformation stages for which the described capability becomes an exposed capability.

  📖 *An exhibited business capability is exhibited by an Enterprise Stage with quantified measure (KPI) and potential geopolitical scope (Site) for a defined market segment (Business Partner).*

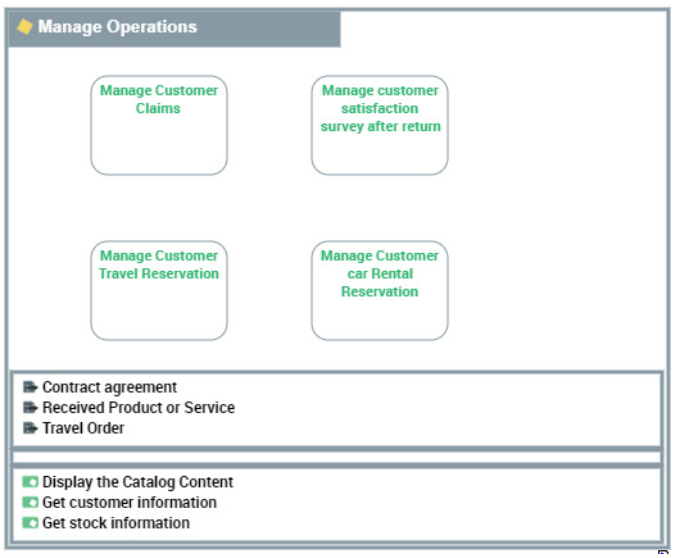
  ☛ *For more details on transformation stages, see Defining Transformation Stages.*

Creating a business capability structure diagram

A business capability can be based on business sub-capabilities.

For example, the business capability that consists of managing operations is broken down into a number of business capabilities such as: "Handle customer complaints", "Manage travel reservations".

With **HOPEX IT Business Management** , the capability structure diagram describes the composition of a business capability.



To create a capability structure diagram:

1. Click the map to open its properties.

2. Click the **Diagram** > **Create a diagram** page.
3. Select **Business Capability Map Diagram**.
   You can construct this diagram in tabular input mode.

   ☛

   ☛ *For more information on using tabular entry, see the "Diagrams in Tabular Entry Mode" in the **HOPEX Common Features** guide.*

   The frame of the business capability described appears in the diagram.
4. Define the components of the capability described.

   *A **Business capability component** is the involvement of a business capability in the context of a business capability map (one and only one) linked to an enterprise.*

   ☛ *For more details on how to use business components in a diagram, see Defining business capability components.*

A dependency link between one capability component and another is used to specify the elements on which this dependency is based, that is, the effect of one required by the effect of the other.

☛ *For more details on creating dependency links between two capability compositions, see Defining business capability dependencies.*

Defining the business skills and functionalities associated with business capabilities

Each business capacity is associated with business skills and functionalities.

To associate a *skill* with a business capability:

1. Open the **Expected Capabilities** properties window of the business capability.
2. In the **Expected Business Skill** section, click **New**.
   An **Expected Business Skill** creation dialog box opens.
3. Click, for the **Connect a Business Skill** check box.
4. Specify the name of the skill.
5. Click **OK**.
   The business skill appears in the list of skills associated with the business capability.

   ☛ *For more information on enterprise skills, see Describing Business Functions.*

To associate a *functionality* with a business capability:

1. Open the property pages of the business capability concerned and select the **Expected Capabilities** page.
2. In the **Expected Functionality** section, click **New**.
   An **Add functionality** window appears:
3. Click the down arrow.
4. Select a functionality.
5. Click **OK**.
   The functionality appears in the list of functionalities associated with the business capability.

   ☛ *For more information on enterprise functionalities, see Describing functionalities.*

The business skills, functionalities and the expected effects appear in the diagrams, at the bottom of the frame of the capability described.

A report is available to check the suitability between the business capability map and the operational environment, for more details, see Describing Component Fulfillment.

Business Capabilities reports

Dynamic reports enable you to analyze the business capabilities of your repository according to different perspectives.

☛ *For detailed information on reports, see Generating Reports.*

Business Capability Map Breakdown Report

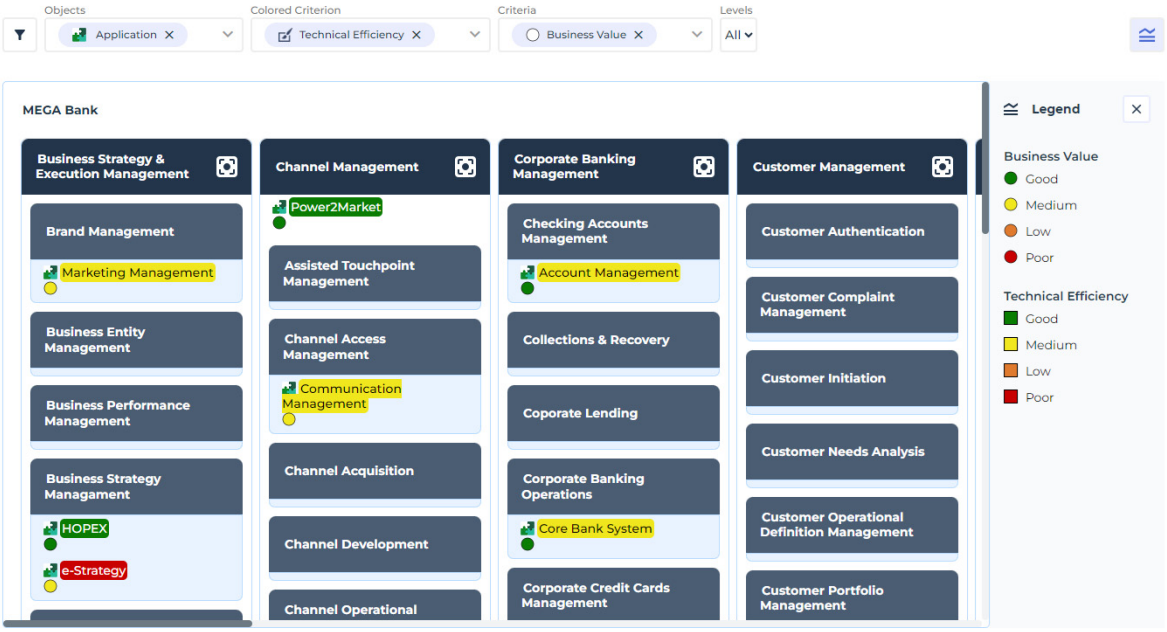
You can use a breakdown report to visualize the objects that make up a business capability map and the realization of components by EA equipment.

This report is available in the Business Capabilities Properties **Reports** page.

Example

The example below shows the coverage of the business capability map by applications, with the "Technical

efficiency" and "Business value" criteria available on the applications.



☛ *For more details on use of a breakdown report, see the, chapter "Handling a Breakdown Report" in the* ***HOPEX Common Features*** *guide.*

Business Capability Coverage over Time

This report provides a temporal representation of the elements that make up a business capability map and the applications or application systems that cover them.

Applications are analyzed according to various possible criteria. A timeline shows their evolution over several years.

The criteria selected applies to both views of the report:

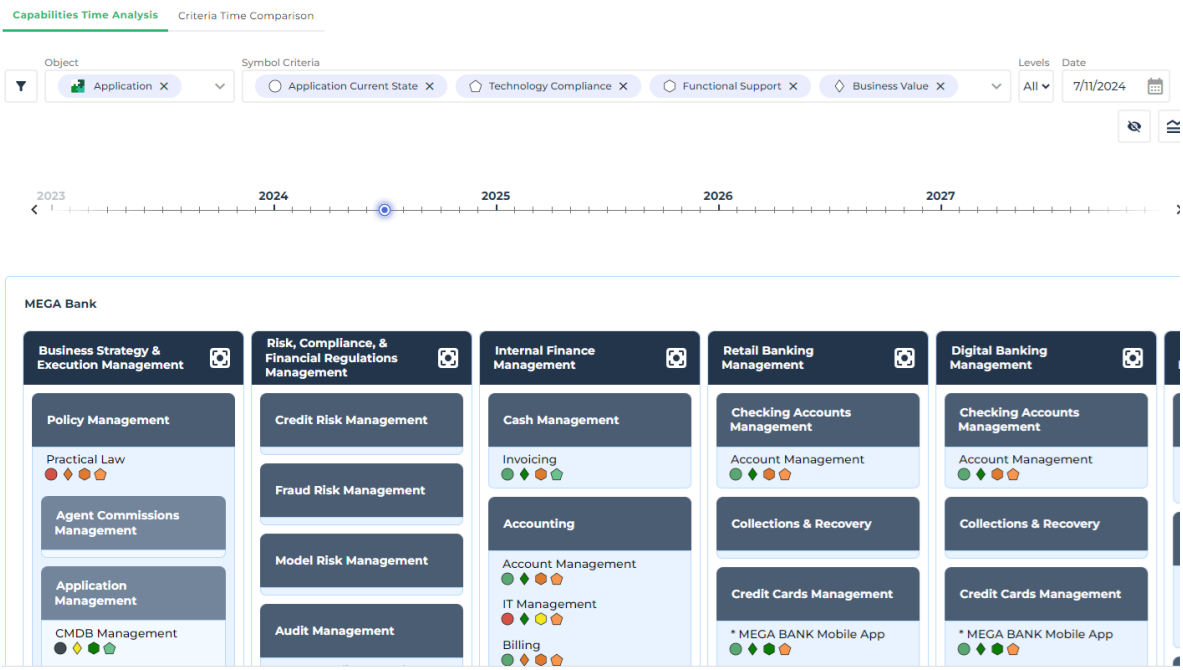
- **Capabilities Time analysis**: a proportional map displays the various business capabilities and the applications that cover them.
- **Criteria Time Analysis**: a table displays the values of the selected indicators according to the dates indicated.

Example

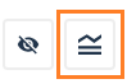
Below is the coverage report for the "MEGA Bank" capability map.

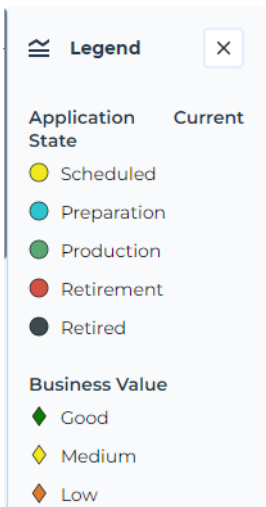
The report displays the list of associated applications and the criteria selected (Current state, Technology compliance, Functional support, Business value).

A point on the timeline indicates the date of the values displayed in the report. You can move this point to view the evolution of indicator values over time.



A **Legend** button shows the meaning of the indicators and their colors.

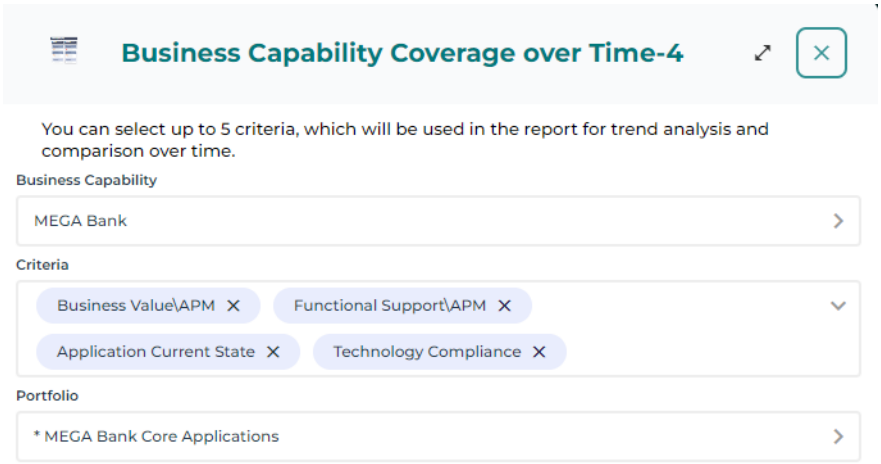




Launch the report

To generate a Business Capability Coverage over Time report:

1. Click the **Reports** menu.
2. To the right of the edit area, click the **Create a report** button.
3. Find the "Business Capability Coverage over Time" report type.
   The report appears in the edit area.
4. Select the report type and click **Create a report**.
   The report creation wizard opens.
5. Select:
   - the business capability map
   - the analysis criteria
   - if required, the portfolio of applications to be evaluated.



6. Click **Preview** then **Continue**.
7. Give the report a name and a description.
8. Click **Save and open**.

> ☺ *You can also run the analysis on a set of applications: in the list of applications, select those to be analyzed and click **Reports** > **Rationalization** > **Business Capability Coverage over Time**.*

Business Capabilities Tree Map

This report breaks down a capacity tree in the form of a proportional map according to one of three possible criteria:

- Number of components: the surface area is proportional to the number of sub-capabilities in the tree.
- Number of applications: the surface area is proportional to the number of applications realizing current and descendant capabilities in the tree.
- Cost of applications: the surface area is proportional to the cost of applications realizing current and descendant capabilities in the tree.

Take note that:

- Since an application can realize several capabilities, the "Cost Contribution Key" ratio is applied for the criteria "Number of applications" and "Cost of Application".
- As a result of the application of this distribution coefficient, the number of applications may not be an integer (it represents an application coverage ratio).
- An application realizing an "intermediate" capability (i.e. not a leaf of the tree) is considered to realize all its sub-capabilities in a uniform way (strict pro rata between all sub-capabilities).

To generate the business capability map breakdown from an application portfolio:

1. Open the properties of the portfolio in question.
2. Click **Reporting > Business Capability Tree Map**.
3. Select a capability map.
4. Refresh the report.

☛

☛ *For more details on use of a Treemap, see the chapter "Handling a Treemap" in the **HOPEX Common Features** guide.*

DESCRIBING VALUE STREAMS

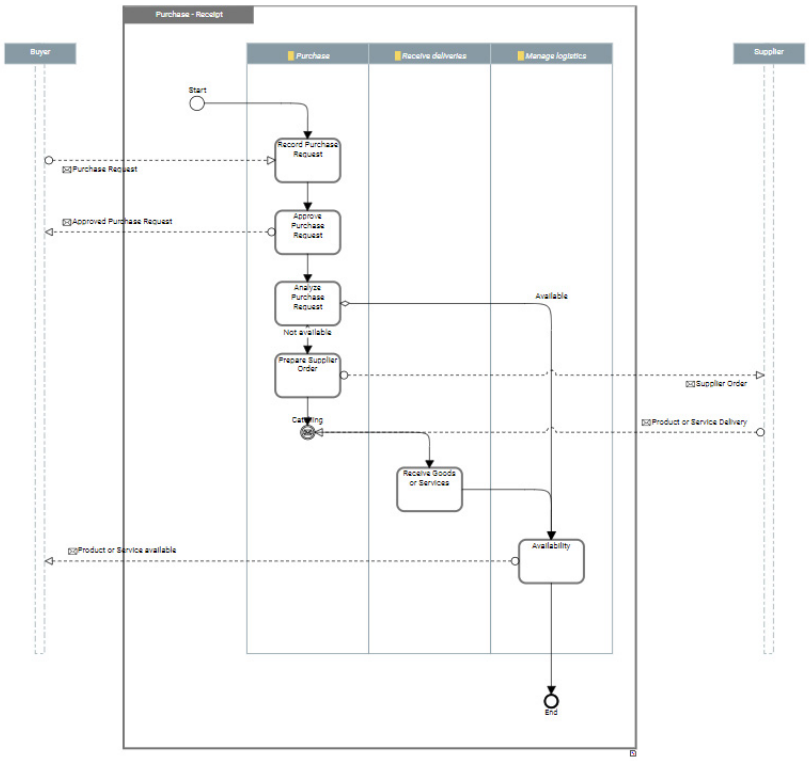
A value stream is an end-to-end collection of Value Stages that creates an outcome for a customer, who may be the ultimate customer or an internal end-user of the value stream.

*To display the **Value streams**, open the **Options** window and check that **Business Process and Architecture Modeling > Value Stream Modeling** is activated.*

Value Stream Example

In this value stream diagram, the *Business Function* or the *Business Functional Area* that create the value streams are linked to the participants represented in columns.

The following diagram presents an example of a value stream:



"Purchase reception" value stream

The purchase request is recorded and must then be approved. The requester is informed of the approval or rejection of

the request. If the request is validated, an analysis of the required order is carried out.

If stock is lower than a given threshold, an order is prepared and sent to the supplier for resupply.

If the product is available, or as soon as it is received from the supplier, it is made available to the requester.

In this example, the *business functions* concerned are represented in columns.

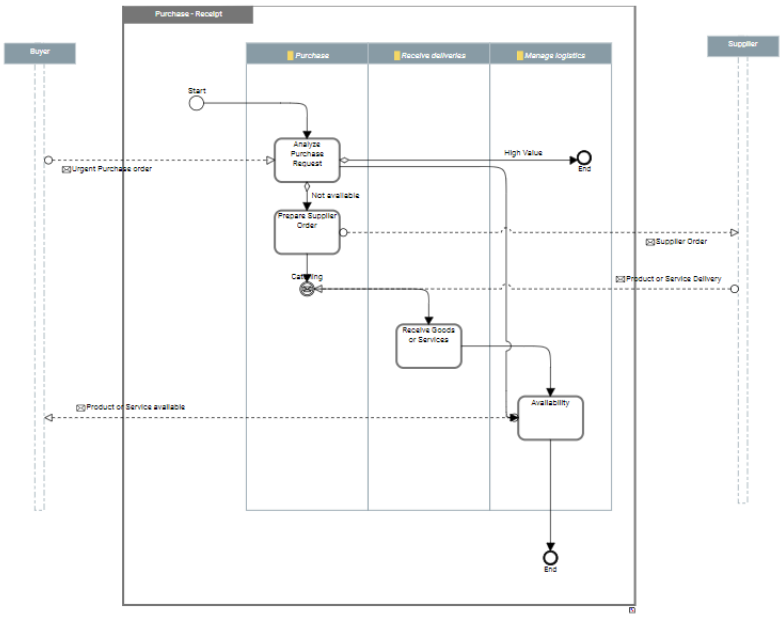
> 🕮 *A business function is a conceptual unit of the division of responsibilities in an enterprise. It is used to structure the management of information processing, energy, and equipment produced or used. Business functions define the skills and the functionalities necessary to the enterprise to fulfill its mission.*

In the organization previously presented, three org-units: purchasing assistant, purchasing manager and buyer, systematically participate to execute the first four steps: record and approve the request, analyze and send the order.

Optimization of the organized process "Process Purchase Requests" has saved one step: when amount of the order is not significant, the purchasing assistant can himself approve or refuse the purchase request.

In the case of urgent orders, you can again save steps by authorizing the purchasing assistant to send the order when the amount is not significant.

We obtain the following value stream for processing of urgent orders:



"Purchase reception" value stream

The first step consists of analyzing the purchase request. If the total amount is large, normal processing is carried out.

Otherwise, the availability request and a restock request are sent, if necessary. Continuation of this value stream is identical to the previous one: when the order has been received, it is made available to the requester.

Value Stream representation principles

Highlighting organizational choices

Each enterprise has activities related to its business that must be performed whatever the organization in place. These activities can be purchasing, sales, sales administration, manufacturing, etc.

Defining their organization consists of assigning these activities to the org-units that will perform them.

We can distinguish between:

- Processes relating to the business of the enterprise: these are difficult to change unless the enterprise decides to totally review its business.
- Processing depending on organizational choices.

Number of steps

Certain steps in an organizational process are exclusively linked to the chosen organization. In such cases, it is useful to check whether these steps provide any real added value to clients or only concern the way things are done.

Delivery times can also be reduced by restructuring the order of these steps.

To highlight possible improvements, you can represent a value streams by flows exchanged between enterprise *value stage*.

> 🕮 *A value stage is a distinct, identifiable phase or step within a value stream that has a unique entrance criteria, exit criteria, and identifiable participating business function or business functional area.*

Using Value Streams

> 🕮 *A value stream is an end-to-end collection of Value Stages that creates an outcome for a customer, who may be the ultimate customer or an internal end-user of the value stream.*

Accessing Value Streams

To access the list of *Value Streams* from the **Business** navigation menu:

❱ Click the **Value Streams** menu.
The list of value streams appears.

Creating a value stream

To create a *Value stream* from the **Business** navigation menu:

1. Click the **Value Streams** menu.
2. Click **New**.
   The value chain is created and added to the list of value chains.
3. Specify the name of the new *Value Stream*,

Creating a value stream diagram

To create a value stream diagram

1. Select the value stream that interests you and click **Create Diagram**.
   A window opens and prompts you to choose the Diagram Type that you wish to use:
2. Select the diagram type you want to create.

- a value stream diagram, see The value stream diagram;
- a value stream to capability diagram, see The value stream to capability diagram;

The value stream diagram

> 🕮 *The value stream diagram shows the sequence of the value creation steps performed, the events that occur and the conditions under which they are sequenced. It also makes it possible to assign the*

participants who carry out these value-creation steps to the business skills needed to implement them. This representation of a Value Stream helps to answer the following question: "What are the skills needed to implement the Value Stream?".

This type of diagram makes it possible to describe precisely a value stream.

If the value stream is already connected to components, it is possible to initialize a new diagram by inserting the existing components.

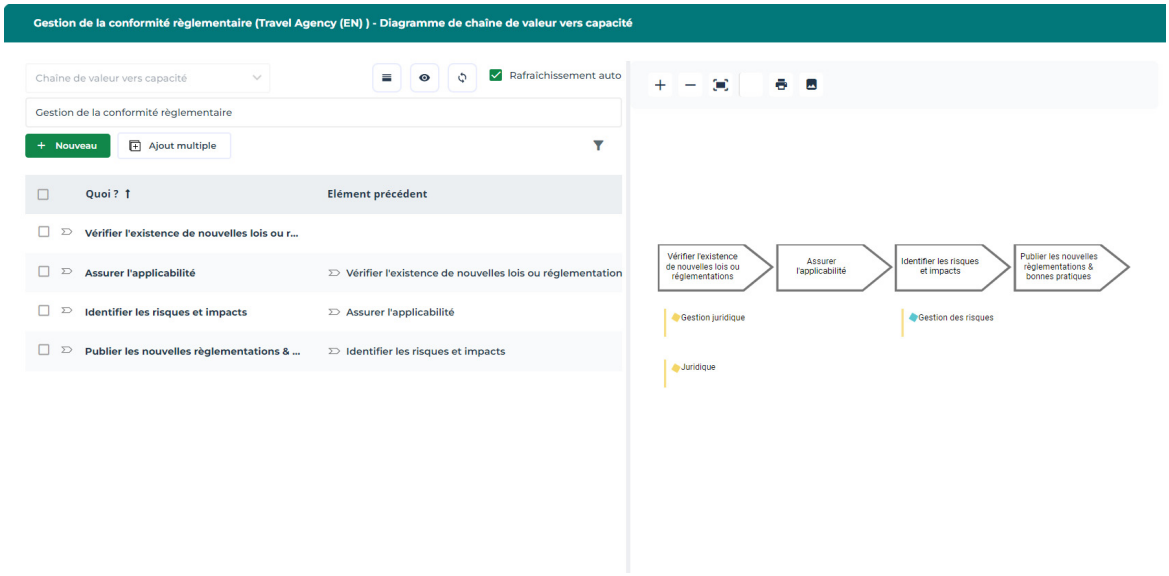
The value stream to capability diagram

The value stream to capability diagram can only be used in tabular entry mode.

☛

☛ *Tabular entry mode is available with this diagram. For more information about it, see the "Diagrams inTabular Entry Mode" in the **HOPEX Common Features** guide.*

This diagram makes it easy to initiate a value stream diagram by creating the value stream steps and the links they have with the different business capabilities.



Representing the Value Stream Implementation

You can represent the fulfillment of a value stream by a process.

To access the list of *Processes* from the **Environment** navigation menu:

1. Click the **Organization > Processes** menu.
2. Open the **Characteristics** property page of the process that interests you.
3. In the **Fulfillments** section, click the **New** button.

4. In the Add dialog box, select **Value Stream Fulfillments** and select the concerned value stream.

DESCRIBING FUNCTIONAL COVERAGE

Describing the Functionality Map

A technology capability map is a set of technology capabilities and their dependencies that, together, defines the scope of a hardware or software architecture.

Accessing the list of functionality maps

To access the list of functionality maps from the **Inventories** navigation menu:

1. Select **Capabilities > Functionalities** in the navigation menu.
   The tree of functionality maps appears.

The properties of a functionality map

The **Characteristics** properties page of a functionality map provides access to:

- its **Owner**, by default on creation of the business function, the current enterprise.
- its **Name**,
- the text of its **Description**
- the **Owned Functionalities** section,

For more information on the functionality components, see Creating a functionality component in a functionality map diagram and Defining Functionality dependencies.

With **HOPEX IT Business Management** , a functionality map is described in the **Reporting** property page.

Creating a functionality map

To create a functionality map diagram:

1. Right-click the functionality map that interests you and select **New > Diagram**.
2. Select **Functionality Map**.
   The diagram opens in the edit area. The frame of the functionality map described appears in the diagram.

Creating a functionality component in a functionality map diagram

The components represented in a functionality map are **Functionality components**.

A technology capability is the ability to deliver a technology service which is required by a technology artifact or an application.

To add a functionality component in the functionality map diagram:

1. In the diagram insert toolbar, click **Functionality Component**.

2. Click the functionality map frame.
   The functionality component creation window opens.
3. Click, for example, **Reusing an Existing Functionality**.
4. Click **Display Scope** to access the list of functionalities linked to the enterprise.
5. Select the functionality that interests you.
6. Click **OK**.
   The functionality component appears in the diagram.

Defining Functionality dependencies

A dependency link between one functionality and another is used to specify the elements on which this dependency is based.

To create dependency links between two functionalities in a functionality map diagram:

1. In the insert toolbar, click **Functionality Dependency**.
2. Click the functionality component, and keeping the left mouse button pressed, move the cursor to the functionality component used.
3. Release the mouse button.
   The creation window for the functionality dependency opens.
4. Enter the user component result of the user functionality in the **Dependent Application Effect** field.
5. Enter the content result of the functionality used in the **Necessary Application Effect** field.
6. Click **OK**.
   The link appears in the diagram.

> ☛ *A single sub-functionality can have more than one dependency within a single diagram.*

Describing functionalities

> 🕮 *A technology capability is the ability to deliver a technology service which is required by a technology artifact or an application.*

To access the list of functionalities from the **Inventories** navigation menu:

- Select **Capabilities > Functionalities** in the navigation menu.
  The list of functionalities appears in the edit area.

To create a functionality:

1. In the **Inventories** navigation menu, click **Capabilities > Business Functionalities.**.
2. Select the desired functionality map and click **New > Functionality**.
   A **Functionalities** creation dialog box opens.
3. Enter the name.
4. Click **OK**.
   The functionality created appears in the list of functionalities.

The **Characteristics** property page of the functionality provides access to:

- its **Owner**, by default during creation of the functionality, the current enterprise.
- its **Name**,
- the text of its **Description**
- the **Desired Application Effects**:

> ☛ *For more information on the effects of expected functionalities, see Defining Functionality dependencies.*

With **HOPEX IT Business Management** , a functionality is described in the following pages:

- the **Structure** page is used to specify a list of functionalities owned and the dependencies between them.

> ☛ *For more information on the structure of functionalities, see Creating a Functionality Diagram.*

- the **Implementation** page provides access to the list of architecture elements that implement the functionality.
- In the **Usage** page, the **Capability Component** section provides access to the functionality maps that use the described functionality.

> ☛ *For more details on relationships between functionalities, see Creating a functionality component in a functionality map diagram.*

- In the **Usage** page, the **Business Capability** section provides access to the business capabilities that require the described functionality.

> ☛ *For more details on the functionalities associated with business capabilities, see Defining the business skills and functionalities associated with business capabilities.*

- In the **Usage** page, the **Business Function** section provides access to the business functions that require the described functionality.

> ☛ *For more details on businesses, see Business properties.*

- In the **Usage** page, the **Capability Exhibition** section provides access to the exposed business capabilities that require the described functionality.

> 🕮 *An exhibited business capability is exhibited by an Enterprise Stage with quantified measure (KPI) and potential geopolitical scope (Site) for a defined market segment (Business Partner).*

Creating a Functionality Diagram

To create a functionality diagram:

1. Right-click the functionality that interests you and select **Create Diagram**.
2. Select **Functionality diagram**.
   The diagram opens in the edit area. The frame of the functionality described appears in the diagram.

To create a functionality from a functionality diagram, see Creating a functionality component in a functionality map diagram..

To define the dependencies of sub-functionalities, see Defining Functionality dependencies.

Describing the Technology Capability Map

A technology capability map is a set of technology capabilities and their dependencies that, together, defines the scope of a hardware or software architecture.

Accessing the list of technology capability maps

To access the list of technology capability maps from **Inventories** navigation menu:

1. Select **Technology Capabilities** in the navigation menu.
   The technology capability map tree appears.

Using the technology capabilities

The use of technology capabilities is identical to the use of functionalities.

For more details, see Describing the Functionality Map.

DESCRIBING THE OUTCOMES

The outcomes of a business capability, a functionality, or a skill are represented by a content.

> 🕮 *The content designates the content of a message or an event, independent of its structure. This structure is represented by an XML schema linked to the content. A content may be used by several messages, since it is not associated with a sender and a destination. There can be only one content per message or event, but the same content can be used by several messages or events.*

The contents associated with the outcomes are used to describe the content of flows exchanged in the value streams.

The outcomes are used to define the dependencies between:

- The business capabilities in the business capability maps, see Defining business capability dependencies.
- The sub-functionalities in the functionality maps, see Defining Functionality dependencies.

Connecting an outcome to a business capability

An outcome can be used by a business capability or by an exhibited business capability. It appears in the **Desired Capability Effect** section of the **Characteristics** page of the capability property pages.

```
For example, the desired capability effect of "Billing" is
an "Invoice"
```

To connect an existing outcome to a business capability, for example:

1. Open the property pages of the business capability that interests you.
2. Select the **Characteristics** page.
3. In the **Desired Capability Effect** section, click **New**.
   The **Creating a Desired Business Effect** window opens.
4. Select **Reusing an existing content**.
5. Select the content that interests you and click **OK**.
   The content appears in the list of **Desired Capability Effects**.

DESCRIBING COMPONENT FULFILLMENT

To represent the implementation of a component such as a business capability or functionality you must create a **Fulfillment** of the component.

Creating Fulfillment of a Business Capability

A business capability can be implemented by different types of object such as a Business Function, Business Functional Area, a Process or an Application.

To associate a process to a business capability, you must create a business capability fulfillment.

> 🕮 *The creation of a business capability map represents the organization of physical agents (Application Systems) or logical (Business Function) agents that implements the business capacities of the map.*

To specify that a business capability is fulfilled by a process:

1. Open the **Fulfillments** property page of the business capability that interests you.
2. Click **New**.
   The Implementation creation dialog box opens.
3. Select **Reusing an existing Process, Application...**
4. Select **Process**.
5. Select the desired process and click **OK**.
   The business capability realization appears in the list with the name and the type of the selected object.

Reports can be used to visualize the coverage of business capability elements by operational elements such as business functions, and according to different perspectives: Organizational, Business/Data, Logical/Physical Application, etc.

> ☛ *For more details on fulfillment reports for enterprise capabilities, see Business Capabilities reports.*

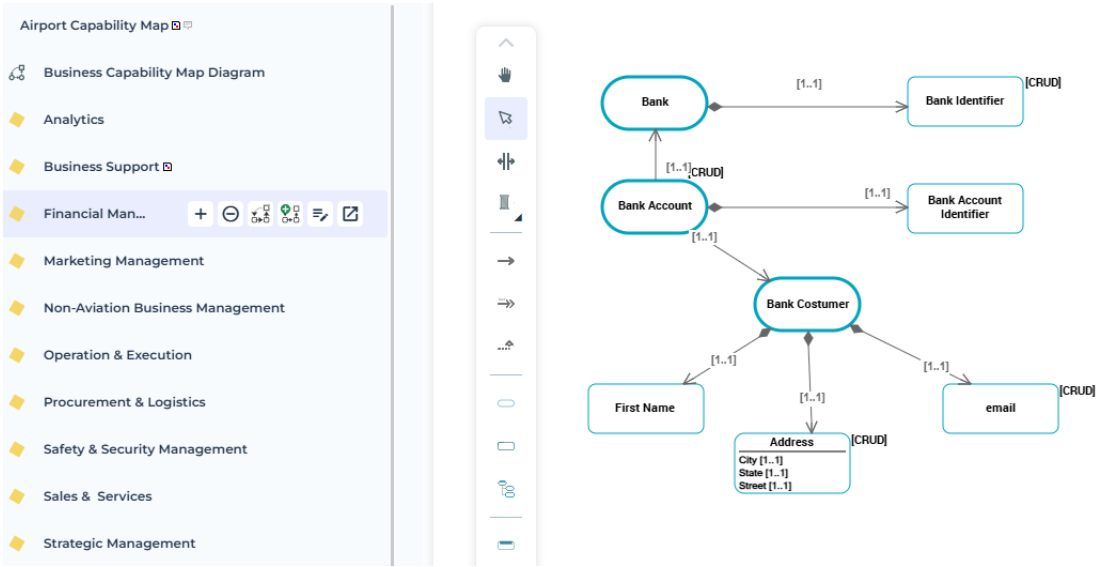
DESCRIBING THE DATA OF A BUSINESS CAPABILITY

Combined with **HOPEX Data Architecture** or **HOPEX Data Governance**, the **HOPEX IT Business Management** solution can be used to define the data used at the level of a business capability.

Create a Concept Domain Diagram on a Business Capability

Describing the data used in a business capability involves creating a concept domain diagram. You can create this diagram from the business capability concerned.

The concept domain diagram presents business data, their properties and their relationships.



To create the concept domain diagram for a business capability:

1. Open the property windows of the business capability.
2. Click the **Diagrams** page.
3. Click **Create a diagram**.
4. Select the "Concept Domain" diagram type.
   The diagram is displayed in edit mode.

Diagram Content

A concept domain includes or references a set of business data.

The data described in the diagram and defined as "components" of the concept domain is visible in the business capability properties, in the **Characteristics** page, in the **Business data** section.

> ☛ *The Business Data section can be hidden by default. To display it, click the **Manage sections** button and select **Business data**.*

To connect a diagram element to the list of concept domain components :

1. Right-click the element to open its pop-up menu.
2. Select **Add to "(Name of current concept domain)"**.

For more information on creating diagram elements, see:

"Define Business Information > Concept Domain > Building a Concept Diagram" in the **HOPEX Data Governance** documentation.

DRAWING THE TRANSFORMATION ROADMAP

Drawing up the roadmap consists of identifying the enterprise *transformation stages* that define the timeframe of the transformation goals.

> 🕮 *A Business Transformation Stage is a kind of Enterprise Transformation Stage aiming at the alignment of the enterprise business operating model to its business strategy and corresponding exhibited business capabilities (business model).*

The roadmap is used to plan the business capabilities that the enterprise must acquire to reach its strategic objectives. The changes in these business capabilities over time takes place through *exhibited business capabilities*.

> 🕮 *An exhibited business capability is exhibited by an Enterprise Stage with quantified measure (KPI) and potential geopolitical scope (Site) for a defined market segment (Business Partner).*

The *exhibited business capabilities* are connected, through the implementations, to the technical or business components of the enterprise. The enterprise transformation takes place through the architecture components transformation.

This chapter describes the procedures to be followed to:

- ✓ Identifying Exhibited Business Capabilities,
- ✓ Describing a Business Architecture Environment,
- ✓ Describing an Enterprise Architecture,
- ✓ Drawing up the Roadmap.

IDENTIFYING EXHIBITED BUSINESS CAPABILITIES

Managing Exhibited Business Capabilities

📖 *An exhibited business capability is exhibited by an Enterprise Stage with quantified measure (KPI) and potential geopolitical scope (Site) for a defined market segment (Business Partner).*

Accessing the list of exhibited business capabilities

To access the list of exhibited capabilities of a transformation phase:

1. Click the **Business > Strategic Planning** navigation menu.
2. Select the enterprise that interests you and unfold the tree of strategic components.
3. Expand the **Transformation stages** folder.
4. Expand the tree of the strategic component that interests you.
5. Expand the **Exhibited Business Capabilities** folder.
   The exhibited business capabilities list is displayed.

Creating an exhibited business capability

To create an *exhibited business capability* from an transformation stage:

1. Open the **Exhibited Capabilities** properties page of the transformation stage.
   A page presents the tree of the business capabilities of the enterprise business capability map.
2. Select the business capabilities that interests you and click **Add**.
   The exhibited business capability is created and appears in the **Exhibited business capability** column.
3. Select the exhibited business capability.
   The **Exhibited business capability** properties page opens on the right.
4. In the **Enterprise objectives** column, click the arrow to display the transformation stage objectives.
5. Select the objectives concerning the exhibited capability.
6. In the **Business Capability Realization** column, click the arrow to display the realizations of the current business capability in transformation stage context.

   ☛ *For more details on implementation of business capabilities, see Creating Fulfillment of a Business Capability.*
7. Select the realizations concerning the exhibited capability.

   ☛ *The details of elements connected to an exhibited business capability are displayed in a transformation stage report, see Stages Capabilities Synthesis report.*

The properties of an exhibited business capability

The **Characteristics** property page of the exhibited business capability provides access to:

- its **Name**,
- its **Owner**, by default the current transformation stage,
- **Desired Capability Effect**, provides access to the exhibited business capability outcomes.

An exhibited business capability is described by the following pages:

- the **Structure** page specifies a part of the list of business capability components that constitute the exhibited business capability, as well as the dependencies between these components,

  ☛ *For more details on business capabilities components, see Defining business capability components and Defining business capability dependencies.*

- the **Fulfillments** page provides access to the list of Components implement the business capability.

  ☛ *For more details on implementation of business capabilities, see Creating Fulfillment of a Business Capability.*

- The **Qualifying value** and **Measurable property** pages provide access to the list of indicators associated with the exhibited business capability.

  ☛ *For more details, see Using performance indicators.*

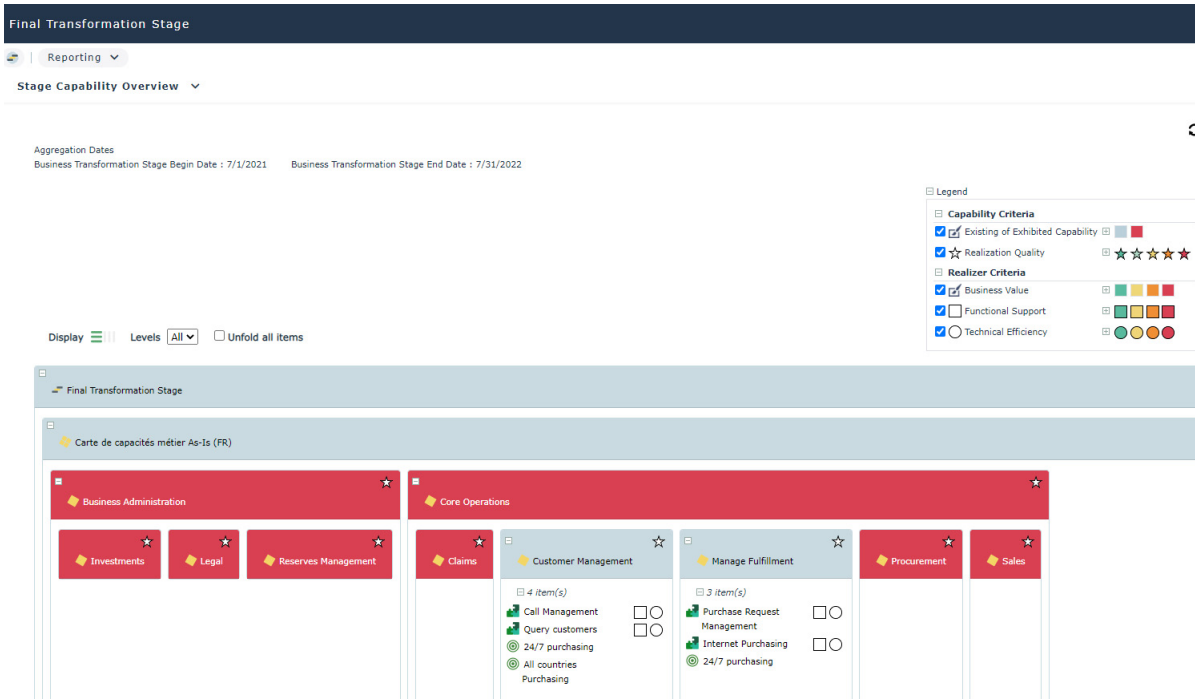
- the **Assessment** page provides access to the assessment results of the business capabilities realization.

  ☛ *For more details on the assessments of business capabilities, see Creating a business capability assessment.*

- the **Transformation** page provides access to transformation stages connected to the exhibited business capability.

Stages Capabilities Synthesis report

This report is available on a dedicated **Report** properties page of the transformation stage. It presents a view of the enterprise business capabilities highlighting the exhibited business capabilities.



Using assessment for Business Capabilities and their Implementation

The assessment are based on a business capability map and are accessible using the enterprise stages to which the map is connected. These assessments are therefore valid in the context of a transformation stage and at a given date.

Creating a business capability assessment

The assessment of business capabilities deals with the following characteristics:

- the **Business Value**: characterizes the value that the business capability brings to the company. It can be used to position a business capability on a strategic scale (very strategic or very non-strategic).
- the **Capability Effectiveness**: characterizes the quality of what the business capability produces, regardless of the resources used. Allows you to assess the conformity of the result with expectations.
- the **Capability Efficiency**: characterizes the resources used to produce the expected result of the business capability. Shared resources can be more efficient than dedicated ones.
- the **Financial Impact**: characterizes the impact of the result generated by the business capacity on the company's finances. Allows you to assess the impact of a non-compliant result on the company's finances.

From a transformation stage, you can create a new assessment with a view to assessing some business capabilities connected to the enterprise business capability map.

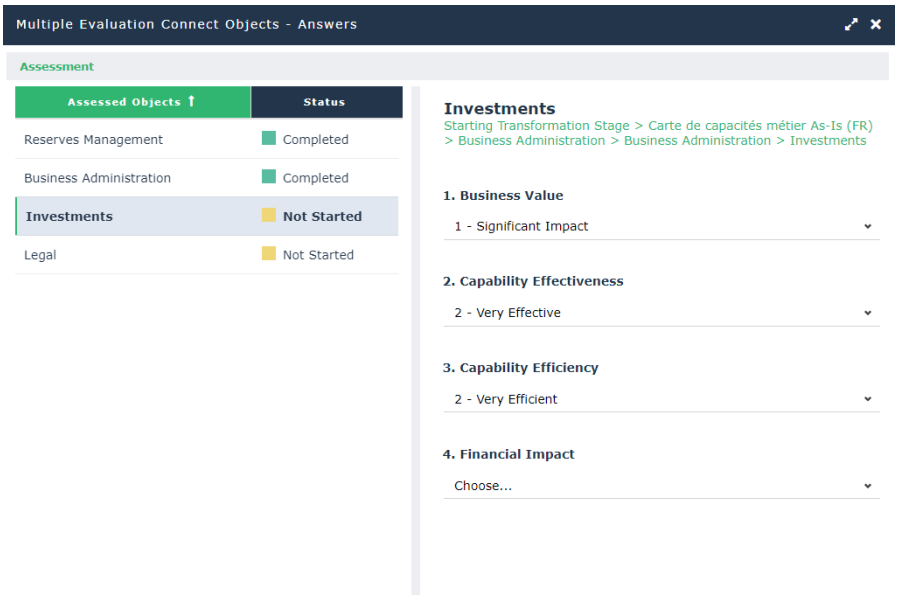
To create a business capability assessment for a transformation phase:

1. Open the **Assessment> Capability Assessment** properties page for the transformation stage that interests you.

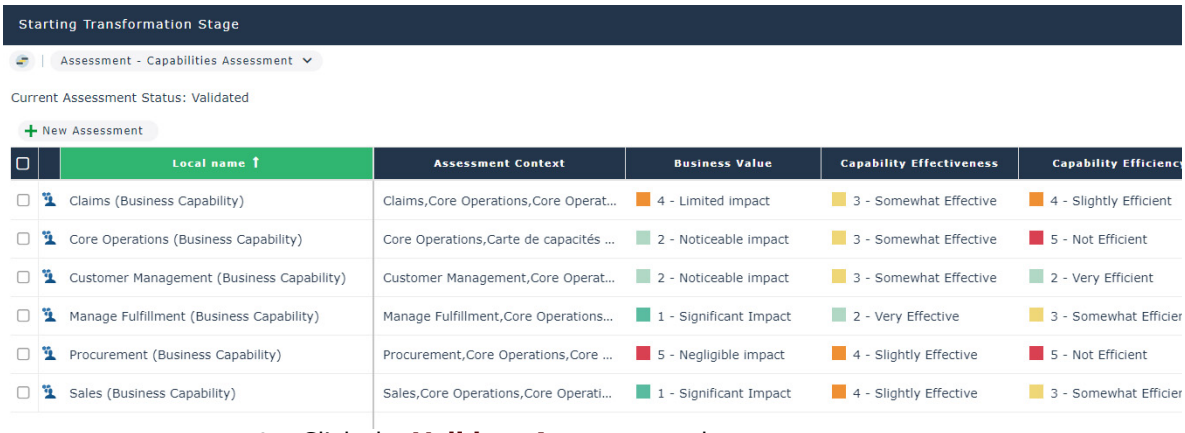
   ☛ *The transformation stage is connected to the business capability map associated to the enterprise, see* *Connecting the capability map to an enterprise**.*

2. Click the **New Assessment** button.
   A selection window presents the tree of the business capabilities of the enterprise business capability map.
3. Select the business capability that you want to assess and click **OK**.
   The selected capabilities appear in the edition area.

4. Click the capabilities to enter the evaluation criteria.
   - the business value,
   - capability effectiveness,
   - capability efficiency,
   - financial impact.



5. Click **OK** to finish assessment.
   The assessment results are displayed in the property page.



6. Click the **Validate Assessment** button.
   A validation window opens.
7. Define the Evaluation date and click **OK**.

Creating an assessment of business capability implementation

The assessment of business capabilities realization deals with the quality of the capability realization. The possible values are between very low and very high.

From a transformation stage, you can create a new assessment of business capability realizations.

To create an assessment of business capability implementation in a transformation stage:

1. Open the **Assessment > Capability Realization Assessment** properties page for the transformation stage that interests you.

   ☛ *The transformation stage is connected to the business capability map associated to the enterprise, see Connecting the capability map to an enterprise.*

2. Click the **New Assessment** button.
   A selection window presents the tree of the business capabilities of the enterprise business capability map as well as those capabilities realizations.
3. Select the business capability realization that you want to assess and click **OK**.
   The selected capability realizations appear in the property page.
4. For each realization, complete the **Capability Realization Quality** criteria.
5. Repeat the same procedure for Business Capabilities: **Validating Assessment** by entering the assessment date.

DESCRIBING A BUSINESS ARCHITECTURE ENVIRONMENT

One of the most important phases in describing a business architecture environment is defining and understanding of the enterprise functional architecture.

The functional architecture enables the organization to understand, independently of its physical structure, which capabilities and skills it includes, those it needs, and how these contribute to its processes.

The description of the functional architecture also enables identification of areas of the organization where skills and processes are duplicated and where synergies exist. These areas are not necessarily visible from the organizational structure.

The following points are covered here:

- Managing a Business Architecture Environment.
- Describing a Business Functional Area.
- Describing Business Functions.
- Describing Business Partners.
- Drawing up the Roadmap.

Managing a Business Architecture Environment

> 🕮 *A business architecture environment represents the relationships of a business functional area with its partners.*

A business architecture environment diagram describes the service interactions between the main internal components of the environment described and the external components. It thus describes:

- the internal and external business functional areas,

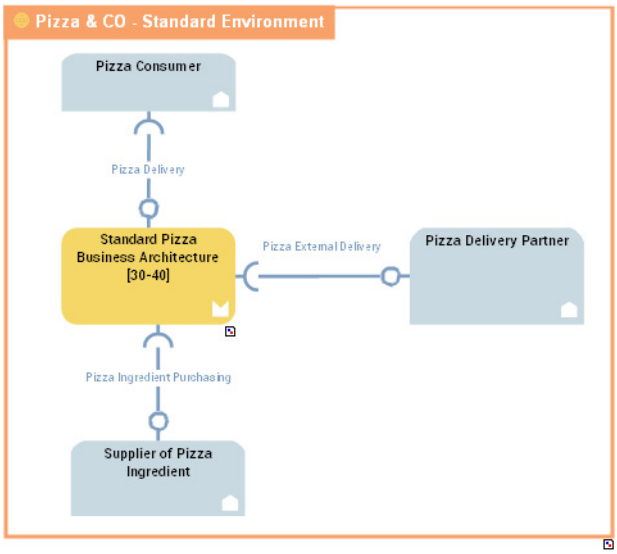
  > 🕮 *A Business functional area is a set of business functions and their associated value streams on the conjunction of two main criteria: their need in accomplishing one or more business capabilities and the common skills and functionalities required to accomplish these business capabilities.*

- the business partners,

  > 🕮 *A business partner designates a third-party who is in relation with the enterprise within the framework of a given business architecture environment. Examples: private sector client, regulatory organization, supplier.*

In this example, the business function architecture environment of company is made up of the historical business function architecture and its interactions with external partners: clients and suppliers. You can see in the diagram

```
that delivery is outsourced  to a third party deliver
partner.
```



Communications between the objects are represented by service interactions that represent requests and service provision.

> *A Service Interaction represents an interaction for service purpose between entities in a specific context inside or outside a company. These entities can be enterprise org-units, applications, activities or processes, as well as external org-units. The content of this interaction is described in a service interface.*
>
> *For more details on service interactions between components, see Managing Service Interactions.*

Accessing the list of Business Architecture Environments

To access the list of *Business Architecture environments*:

1. In the **Inventories** navigation menu, click **Business Architecture > Environments**.
   The list of Enterprises appears.
2. Expand the business enterprise folder that interests you, as well as its **Architecture Environment** folder.
3. Expand the **Reference Operating Model** folder.
   A list of the different environments linked to the Enterprise appears.

Creating a business architecture environment

To create a *business architecture environment*:

1. In the **Inventories** navigation menu, click **Business Architecture > Environments**.
   The list of Enterprises appears.
2. Expand the business enterprise folder that interests you, as well as its **Architecture Environment** folder.

3. From the **Reference Operating Model** folder, click **New > Business Architecture Environment**.
4. Enter its **Name**.
   The new business architecture environment appears in the list.

The properties of a business architecture environment

The **Characteristics** properties page of the business architecture environment provides access to:

- its **Name**,
- its **Owner**,
- the text of its **Description**
- its **Owned Realizations**

> ☛ *For more details on the realization of business capabilities, see Creating Fulfillment of a Business Capability.*

With **HOPEX IT Business Management** , a business architecture environment is described by the following property pages:

- the **Structure** page which provides access to the list of components of the business architecture environment.

  > ☛ *For more details on the components of the business architecture environment, see Creating a business architecture environment diagram.*

- the **Implementation** page, which provides access to the list of resource architecture environments, applications, application system or logical application system that implement the business architecture environment.

Creating a business architecture environment diagram

To create a business architecture environment diagram:

1. From the list of business architecture environments, select the one you are interested in and click **Create diagram**.
2. Select **Business Architecture Environment Diagram**.
   The diagram opens in the edit area.
   You can construct this diagram in tabular input mode.

   > ☛
   >
   > ☛ *For more information on using tabular entry, see the "Diagrams in Tabular Entry Mode" in the **HOPEX Common Features** guide.*

Creating an internal or external business functional architecture area

To define that a functional area is used in the context of a business architecture environment, you can:

1. Create a *Business functional Area Use* component that is part of the architecture environment described or a *Partner Business functional Area Use* type component if it is a business functional area that belongs to another environment.

2. Associating the Business functional Area fulfilled to the *Business functional Area Use* created.

   In our example, the history business function is an internal environment element.

   ☛ *For more details on business partners, see Describing a Business Functional Area.*

To create a **Business Functional Area Use**:

1. In the insert toolbar for the business architecture environment diagram, click **Business Functional Area Use**.
2. Click in the business architecture environment frame described.
   A creation dialog box prompts you to **Connect Business Functional Area**.
3. Select the business functional area that interests you and/or create a new one.

   Create, for example, the "Manufacturing" business functional area.
4. Click **OK**.
   The business functional area appears in the diagram.

   ☛ *Proceed in the same way to create an **External Partner Business Functional Area Use**:*

Creating a business partner component

To describe a business architecture environment that uses participants internal or external to the environment described, you must:

1. Create a *Business Partner Component*.
2. Associate the person (or the person group) to the *Business Partner Component* created.

   In the example of the business architecture environment of the manufacturing company, the business partners used are the clients and the service provider who ensures the delivery.

   ☛ *For more details on business partners, see Describing Business Partners.*

To create a **Business Partner Component**:

1. In the insert toolbar for the business architecture environment diagram, click **Business Partner Component** and click in the frame of the diagram.
   A creation window prompts you to choose the existing **Business Partner** or create a new one.

   Create for example the "Clients" business partner.
2. Click **OK**.
   The business partner use appears in the diagram.

Describing a Business Functional Area

📖 *A Business functional area is a set of business functions and their associated value streams on the conjunction of two main criteria: their*

need in accomplishing one or more business capabilities and the common skills and functionalities required to accomplish these business capabilities.

Accessing the business functional area list

To access the business functional area list:

1. In the **Inventories** navigation menu, click **Business Architecture > Business Functions**.
   The tree of business functional areas appears.

The properties of a business functional area

The **Characteristics** properties page of a functional area provides access to:

- its **Name**,
- its **Owner**, by default on creation of the business functional area, the current enterprise.
- the text of its **Description**
- its **Owned Realizations**

> ☛ *For more details on creating a business capability, see Creating Fulfillment of a Business Capability.*

With **HOPEX IT Business Management** , a business functional area is described in the following pages:

- the **Structure** page, which provides access to the list of components of the business functional area.

  > ☛ *For more information on the components of a business functional area, see Describing a business functional area diagram.*

- the **Performed Process** page, which provides access to the value streams executed in the context of the business functional area.

  > ☛ *For more details on value streams, see Describing the Outcomes.*

Describing a business functional area diagram

A business functional area diagram describes the service interactions between the main internal components of the architecture described. It thus describes:

- the *uses of the business functional area*,

  > 🕮 *A Business functional area is a set of business functions and their associated value streams on the conjunction of two main criteria: their need in accomplishing one or more business capabilities and the common skills and functionalities required to accomplish these business capabilities.*

  `In this example, the history functional area is based on the business functional areas for selling, delivering and command.`

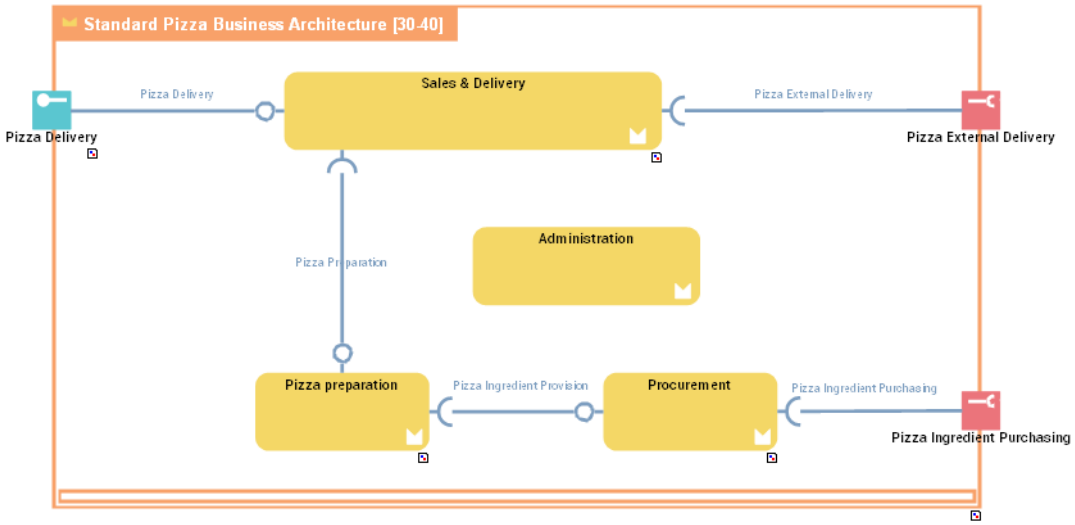
  > ☛ *For more information on the use of a business functional area, see Creating an internal or external business functional architecture area.*

- the *business components*.

  > 🕮 *A business function is a conceptual unit of the division of responsibilities in an enterprise. It is used to structure the management of information processing, energy, and equipment produced or used.*

Business functions define the skills and the functionalities necessary to the enterprise to fulfill its mission.

☛ *For more details on business functions, see Describing Business Functions.*



With **HOPEX IT Business Management** , communications are based on:

- access points: *service points* and *request points*.

  A service point is a point of exchange by which an agent offers a service to potential customers.

  A request point is a point of exchange by which an agent requests a service from potential suppliers.

  ☛ *For more details on service interactions between components, see Managing service points and request points.*

- *service interactions*

  A Service Interaction represents an interaction for service purpose between entities in a specific context inside or outside a company. These entities can be enterprise org-units, applications, activities or processes, as well as external org-units. The content of this interaction is described in a service interface.

  ☛ *For more details on service interactions between components, see Managing Service Interactions.*

Managing service points and request points

A business business functional area is created to ensure one or more services. These services are represented by *service points*. The service is requested according to precise terms defined by an *service interface* assigned to the service point.

A service point is a point of exchange by which an agent offers a service to potential customers.

A Service Interface is a template of a contract between entities (organizational, IT …). The contract is described by available operations which can be triggered trough messages exchanged by roles (vendor, buyer..).

A *request point* is used to represent the use of an external service.

> 🕮 *A request point is a point of exchange by which an agent requests a service from potential suppliers.*

The service is requested according to specific terms that are defined by a *service interface* assigned to the request point.

Components that issue a request are linked to the request point by a service interaction.

> In the example, the request point that represents the "External delivery" is linked to the "Sales and deliveries" business functional area by a service interaction.

Creating a service point or a request point

The process for creating a *service point* or *request point* is identical.

To create a service point:

1. In the diagram insert toolbar, click **Service Point**.
2. Position the object at the edge of the architecture frame.
   A creation dialog box opens.
3. Click the arrow to the right of the **Service Interface** field to define the service interface enabling activation of this service point, and select, for example, **Connect Service interface**.
   A query window opens.
4. Select the service interface associated with this service point.
5. Click **Next**.
   A dialog box opens proposing a list of the service interface roles that can be associated with the service point.

   > ☛ *This second dialog box is not proposed if there is only one candidate role that can be associated with the service point.*
6. Select the role that interests you and click **OK**.
   The service point appears in the diagram.

To change the service point name:

1. Click the name of the service point and press key F2.
2. Enter the new name used when specifying service interaction points.

Managing Service Interactions

A *Service Interaction* represents the exchange of information between architecture components.

> 🕮 *A Service Interaction represents an interaction for service purpose between entities in a specific context inside or outside a company. These entities can be enterprise org-units, applications, activities or processes, as well as external org-units. The content of this interaction is described in a service interface.*

The content of a service interaction is described by an *service interface*.

> 🕮 *A Service Interface is a template of a contract between entities (organizational, IT …). The contract is described by available operations which can be triggered trough messages exchanged by roles (vendor, buyer..).*

Creating a Service interaction

To create a service interaction:

1. In the objects toolbar of the diagram, click **Service interaction.**
2. Draw a link between the two communication entities.
3. In the Add service interaction window, specify the service interface you wish to use.

   ☛ *You can also create a new service interface, see Creating a service interface from a service interaction.*
4. Click **OK**.

Creating a service interface from a service interaction

You can create a service interface:

- from a library,
- from a service interaction in a diagram.

To create a service interface, in a diagram, from a service interaction:

1. In the objects toolbar of the diagram, click **Service interaction.**
2. Draw a link between the two communication entities.
3. In the Add service interaction window, click the arrow at the right of the field **Service interface** and select **New**.
   The creation window appears.
4. Enter the service interface name in the **Name** field.
5. Click **OK**.
   The service interaction and the service interface are created.

Describing Business Functions

🕮 *A business function is a conceptual unit of the division of responsibilities in an enterprise. It is used to structure the management of information processing, energy, and equipment produced or used. Business functions define the skills and the functionalities necessary to the enterprise to fulfill its mission.*

Accessing the list of business functions

To access the list of Business Functions from the **Inventories** navigation menu:

1. Select **Business Architecture > Business Functions**.
   The tree of business functional areas appears.
2. Expand the folder of the business functional area that interests you.
   The list of business functions connected to the concerned business functional area appears.

Business properties

The **Characteristics** properties page of a business function provides access to:

- its **Owner**, by default on creation of the business function, the current enterprise.
- its **Name**,
- the text of its **Description**
- its **Owned Realizations**

> ☛ *For more details on creating a business capability, see Creating Fulfillment of a Business Capability.*

With **HOPEX IT Business Management** , a business function is described by the following pages:

- the **Required Abilities** page is used to specify a list of skills and functionalities required by the business.

  > ☛ *For more details, see Describing functionalities.*

- the **Performed Process** page, which provides access to the value streams executed.

Describing Business Partners

> 🕮 *A business partner designates a third-party who is in relation with the enterprise within the framework of a given business architecture environment. Examples: private sector client, regulatory organization, supplier.*

Accessing the business partners list

To access the list of Business Partners from the **Inventories** navigation menu:

❱ Select **Business Architecture > Business Partners**.
The list of business partners appears in the edit area.

The properties of a business partner

The **Characteristics** properties page of the business partner provides access to:

- its **Owner**, by default on creation of the business partner, the current enterprise.
- its **Name**,
- Its **business partner group**, see Drawing up the Roadmap,
- the text of its **Description**.

With **HOPEX IT Business Management** , a business partner is described by:

- the **Service and Request Points** page, which specifies the services expected or delivered by a business partner.

  > ☛ *For more information on these service points and request points, see Managing service points and request points.*

- The **Usage** page provides access to the business function architecture environments that use the described object, see Describing a Business Architecture Environment.

DESCRIBING AN ENTERPRISE ARCHITECTURE

The enterprise architecture is described through the architecture description of each transformation stage that represent the architecture evolution over the time.

A transformation stage is defined by a number of components that represent its architecture. This consists of:

- The lists of exhibited business capabilities;

  An exhibited business capability is exhibited by an Enterprise Stage with quantified measure (KPI) and potential geopolitical scope (Site) for a defined market segment (Business Partner).

  ☛ *For more details on how to associate an exhibited business capability with a transformation stage, see Creating an exhibited business capability.*

- the business architecture environment;

  A business architecture environment represents the relationships of a business functional area with its partners.

  ☛ *For more details, see Describing a Business Architecture Environment.*

- the solution building block environments.

  ☛ *For more details on how to access this information from an enterprise or a transformation stage, see Describing physical solutions.*

Describing the operating architecture

The business architecture environment contains the elements that define the enterprise model (operational model) for the current stage.

☛ *For more details on the managing the business architecture environment, see Managing a Business Architecture Environment.*

The elements constituting the enterprise operational model are:

- the enterprise ecosystem defined by the service interactions with the partners,
- the business function architectures,
- the business functions.

To describe the business architecture environment for a transformation stage:

1. Open the **Architecture Description** property page of the transformation stage.
2. In the **Functional Architecture** section, click the right arrow of the **Operational Model** field.
3. Click **Connect a business architecture environment**.
   A selection window opens.
4. Select the business environment architecture that interests you and click **Connect**.
   The business architecture environment is connected to the transformation stage.

Describing physical solutions

The possibilities to describe physical solution depend on the product licenses that you have, for example:

For example, with **HOPEX IT Architecture**, you have access to **Logical Application System Environments**, to **Application System Environments** and also to **Resource Architecture Environments**.

To connect technical or application architecture building blocks to an transformation stage:

1. Open the **Architecture Description** property page of the transformation stage.
2. In the **Functional Architecture** section, click **Connect**.
   A selection window opens.
3. Select the environment type concerned and click **Find**.

   📖 *A business architecture environment represents the relationships of a business functional area with its partners.*

   📖 *A resource architecture is the combination of physical and organizational assets configured to supply a capability.*

   📖 *An application system environment allows presenting the other application systems, applications or microservices with which this application system can interact.*

   📖 *A logical application system environment presents a logical application system use context. It describes the service interactions between the logical application system and its external partners, which allows it to fulfill its mission and ensure the expected functionalities.*
4. Select the environment that interests you and click **Connect**.
   The environment is connected to the transformation stage as well as to all the building blocks that it comprises.

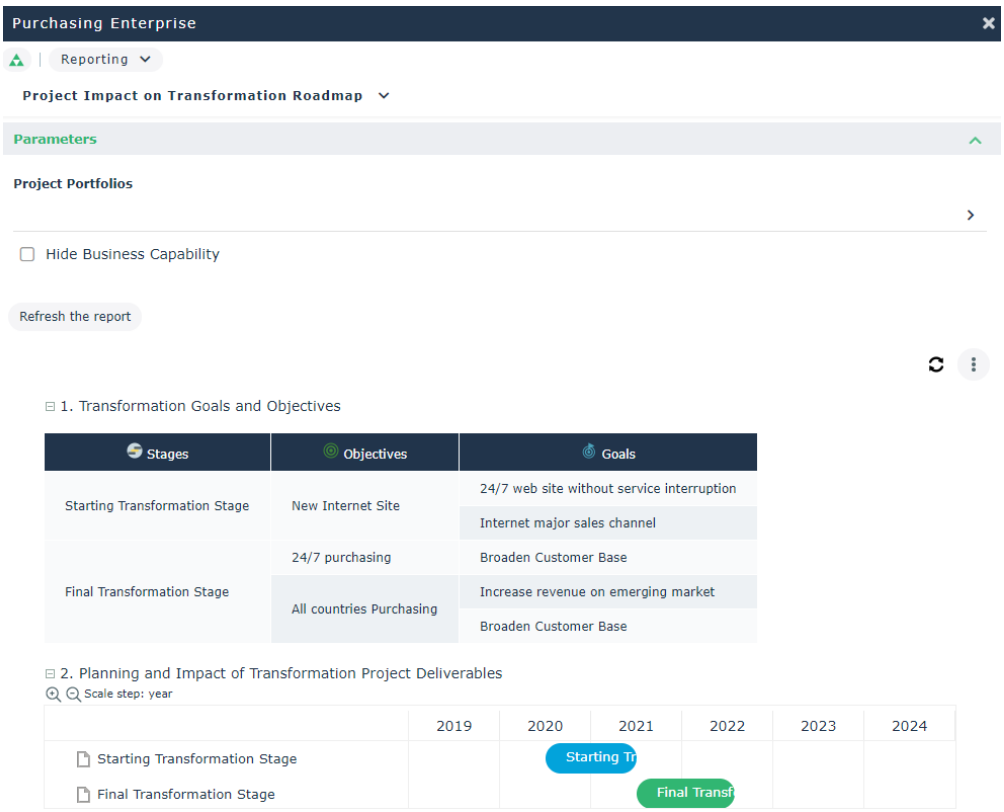
DRAWING UP THE ROADMAP

A number of functionalities are available to display and analyze an enterprise's transformation strategy and the stages of its deployment.

Each transformation stage is positioned in the enterprise according to their period, in order to define the transformation roadmap for the enterprise underway.

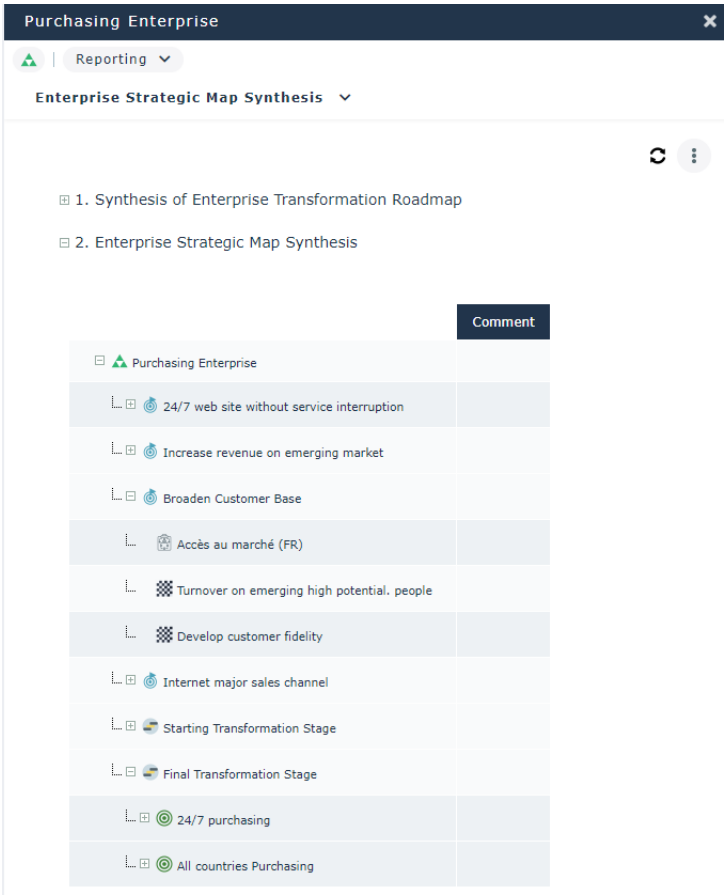
> ☛ *For more details on transformation stages, see Defining Transformation Stages.*

The transformation stages dates are presented in the colons of the dedicated report of the enterprise.



The strategic components of the enterprise and its transformation stages are displayed in another enterprise report.

☛ *For more details on strategic elements, see Identifying Strategic Transformation Elements.*



Managing IT Assets

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:

- ✓ Creating Application in HOPEX IT Portfolio Management
- ✓ Defining the Properties and the Environment of an Application
- ✓ Defining the Properties and the Environment of an Application System
- ✓ Defining Application Life
- ✓ Managing application installations
- ✓ Managing Application Versions
- ✓ Managing Application and Application System Costs
- ✓ Evaluating Application Criticality
- ✓ Recording Architecture Decisions
- ✓ List of Analysis Reports Available on Applications and Application Systems

CREATING APPLICATION IN HOPEX IT PORTFOLIO MANAGEMENT

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 Enterprise Architect or the EA functional administrator.

Application portfolio managers can create applications and specify the owners of those applications. They can then initiate update workflows (functional and technical) so that the application owners can complete the data for their applications.

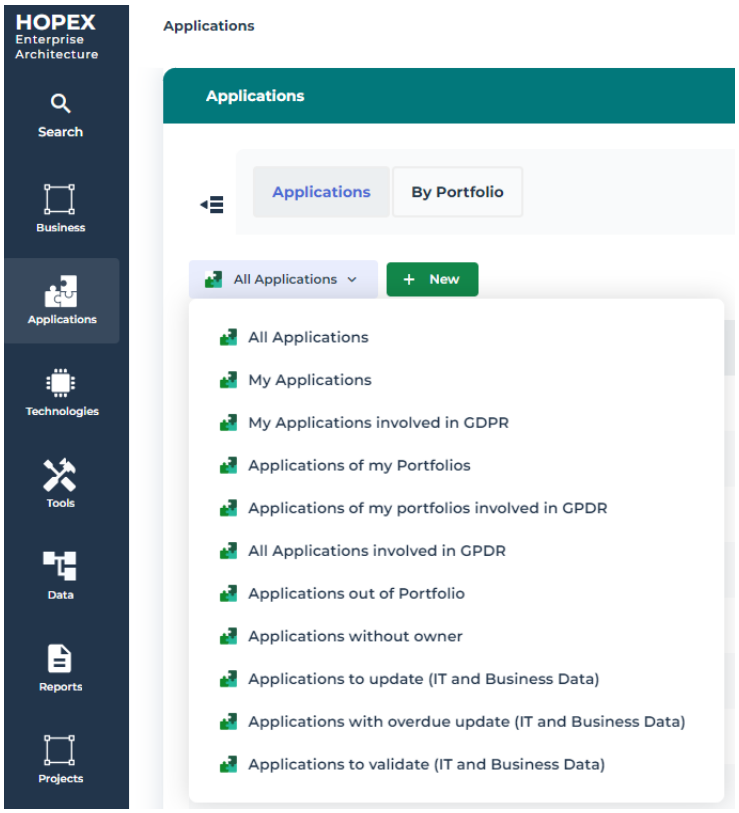
See Application Update Workflow.

Creating an Application

As an Enterprise Architect you can access applications from the **Applications** navigation pane of the HOPEX Architecture desktop.

Under **Applications**, a drop-down list classifies the applications according to the following criteria:

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



To create an application:

1. In the navigation bar, click **Applications**.
2. In the edit area, click **Inventory**.
   The list of applications appears in the edit area.
3. Click the **+ New** button.
4. In the an application creation window, you can specify:
   - the name
   - the life cycle
   - life cycle begin and end dates
   - the functional scope
   - the associated technologies

   ☛ *For further details, see Application Characteristics.*

5. Click **OK**.

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

Importing Applications from an Excel file

You can bulk import applications and other application assets via a dedicated Excel file. For more details, see Importing Objects in HOPEX IT Portfolio Management.

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 **HOPEX Solutions** > **Common Features** 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**.

☛ *Application systems may appear in certain analysis reports, such as the business capability breakdown report, but if the option is not checked, you cannot access their properties.*

Creating an Application System

To create an application system as an Enterprise Architect:

1. In the navigation bar, click **Inventories** > **Software** > **Application Systems**.
2. Click the drop-down list then **All Application Systems**.
   The list of repository application systems appears.
3. Click the **+ New** button.
4. In the dialog box for creating an application system, indicate:
   - its name
   - its life cycle
   - life cycle begin and end dates

     ☛ *For more details on life cycles, see Defining Life Cycles.*
   - version number
   - Cloud Computing: defines how the application system should be installed.
5. Click **Next** if you also want to define the functional scope of the application system (see Defining Application Functional Scope). 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 **Characteristics** page.
3. In the **Component** section, click **Application**.
4. Click **+ New**.
   The application component creation dialog box opens.
5. From the drop-down list, find and select the desired application.
6. 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.

Defining the Properties and the Environment of an Application

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

Accessing Application Properties

To access the properties pages of an application:

1. In the navigation bar, click **Applications**.
2. In the edit area, click the application to display its properties.
   Certain property pages are hidden by default. To display them, click the **Show/Hide** button, then select the desired page.

Application Overview

Colored indicators highlight for the application:

- its **Business Value**: nesting level of the application in enterprise production.
- its **Functional Support**: support level of the application in enterprise process.
- its **Technology Efficiency**: assessment of evolution possibilities of the application from the techniques that support it.

  ☛ *For more details on these indicators see Evaluating Application Criticality.*

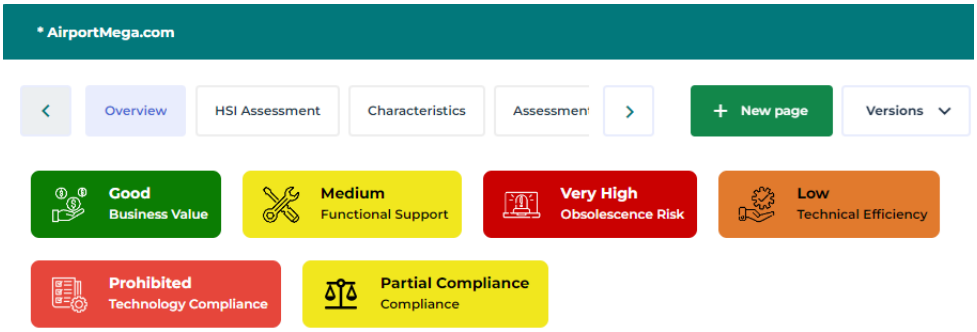
- Its **Technology Compliance**: attribute calculated on the basis of the "Company Standard" defined on all the technologies used by the application.

  ☛ *See Company standard (calculated).*

- its **Obsolescence Risk** corresponds to the highest risk of the technologies linked to it. If an application is linked to three technologies

with "low", "high" and "very high" risks, the application risk takes on the maximum value, i.e. "very high".

☛ *See the obsolescence risk in the Overview of an application.*



Application Characteristics

To access characteristics that enable identification of an application:

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

The page displays the following information.

Application identification

The identification includes:

- the **Name**
- the internal **Code**
- the **Application Type**
  - **In House Application**: a specific application, also known as an in-house or proprietary application, is a software application developed specifically for use within a single organization. Unlike commercially available software, in-house applications are tailor-made to meet the specific needs and requirements of the organization developing them. These applications are generally used to manage single process categories, automate tasks and improve operational efficiency within the organization.
  - **Middleware**: middleware is a type of software that acts as an intermediary layer between different applications, systems, or components. It facilitates communication, data exchange, and integration among various software systems, enabling them to work together cohesively.
  - **Office System**: an office system application typically refers to software or a suite of tools designed to facilitate various office-related tasks and streamline workflows. These applications are meant to improve productivity, communication, and collaboration within an office environment. Depending on the specific needs of the

organization, an office system application can encompass a wide range of functionalities.
Some examples of well-known office system applications include Microsoft Office 365, Google Workspace (formerly G Suite), and Zoho Office Suite. These applications typically offer a combination of the features mentioned above and cater to the needs of businesses and organizations of different sizes and industries.

- **Software Package**: a software package application is a specific type of software package that provides a set of related programs or applications to address a particular domain or solve specific problems. It is a collection of software tools bundled together as a unified solution, often with a common theme or purpose. These applications are designed to be installed and used collectively to provide a comprehensive solution to users' needs.
- **System**: a system application, also known as a system software or system-level software, refers to a category of software that is essential for the operation and management of a computer system. Unlike application software, which is designed for end-users to perform specific tasks, system applications work behind the scenes to facilitate the functioning and interaction of hardware, software, and users. System applications are critical for the overall operation, performance, and security of a computer or device.

- the **Cloud Computing**, which indicates how the application should be installed:
  - **On premises**: the application is installed and runs on computers on the premises (in the building) of the company.
  - **Infrastructure as a Service (IAAS)**: the application is installed and runs on an external provider infrastructure (physical or virtual machines and other additional resources such as images in a virtual-machine image-library, raw (block) and file-based storage, firewalls, load balancers, IP addresses, virtual local area networks (VLANs), and software bundles).
  - **Platform as a Service (PAAS)**: the application is installed and runs on an external provider computing platform including operating system, programming language execution environment, database, and web server. Internal/external developers can develop and run their software solutions on a cloud platform.
  - **Software as a Service (SAAS)**: the application is designed, installed and runs by an external delivery partner. Some customization can be implemented during the design phase.
- a **Comment**.

Other characteristics

Some sections of the **Characteristics** page are hidden by default.

To display these:

1. At the top of the **Characteristics** page, click the **Manage sections** > **Service Level Agreement** button.

Application characteristics include:

- the **Service Level Agreement**: displays the indicators that define the application quality level.
- **Functional Scope** of the application. See Defining Application Functional Scope.
- **Responsibility**: it relates to the person or persons responsible for the application. See Designate People Responsible for Applications.
- **Technology** used. See Specifying the Technologies of an Application.
- **Exchanges** with other objects. See Specifying Data Exchanged With Other Applications.
- the **Data** (Classes, Entities or Data views) handled by the application. See Defining the Data Used by an Application.
- the **Concepts** used.
- the **Risks** associated with the application. See Specifying the Risks Associated with an Application.
- **Gantt Chart** of the application presenting the application lifeline. See Defining Application Life.
- associated **Attachments**. See Attaching Documents to an Application.

Defining Application Functional Scope

To indicate the objects that define application functional coverage:

1. Open the application properties.

   ☛ *See also Accessing Application Properties.*

2. Click the **Characteristics** page.
3. Expand the **Functional Scope** section.

   ☛ *A report covers functional characteristics of a list of applications. See Portfolio Analysis Reports.*

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.*

  ☛ *See also: Defining Business Lines.*

- Process Categories using the application

  📖 *A process category defines a group of processes. It is linked to a Process Map or higher level Process Category. It regroups several processes and/or other categorized elements (e.g. Value Streams, Applications). It serves as an intermediate categorization level in the*

process hierarchy, so as to provide a guided and progressive access to finer grained processes.

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

- The business capabilities covered by the application

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

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

- 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.

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**.

Designate People Responsible for Applications

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 HOPEX IT Portfolio Management Profiles.*

Defining a manager for an application

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

1. Display the properties of the application.

   ☛ *See also Accessing Application Properties.*

2. Click **Characteristics**.
3. Expand the **Responsibilities** 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**.

Designated managers may be asked to complete the information on the applications for which they are responsible. For more details, see Collecting Data for a Set of Applications.

Assign an owner to a set of applications

On the Enterprise Architecture desktop home page, an indicator shows the list of applications without an owner. You can display this list and designate an owner for some or all of these applications.

To designate the owner of a set of applications:

1. Click the Home page.
2. Click the **Applications without owner** indicator.
   The list of applications concerned appears.
3. Select the relevant applications.
4. Click the **Assign Application Owner** button.

See also Scope Indicators.

Specifying the Technologies of an Application

To specify technical characteristics of an application:

1. Open the application properties.

   ☛ *See also Accessing Application Properties.*

2. Click **Characteristics**.
3. Expand the **Technologies** section.

You may:

- 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 Portfolio Analysis Reports.*

For more details on technologies, see Drawing up an Application Inventory.

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.*

2. Click **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.

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.*

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

See also Defining the Data Used by an Application.

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.*

2. Click **Characteristics**.
3. Expand the **Risk** section.

   ☛ *The section can be hidden by default. To display it: at the top of the **Characteristics** page, click the **Manage sections** > **Risk** button.*

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

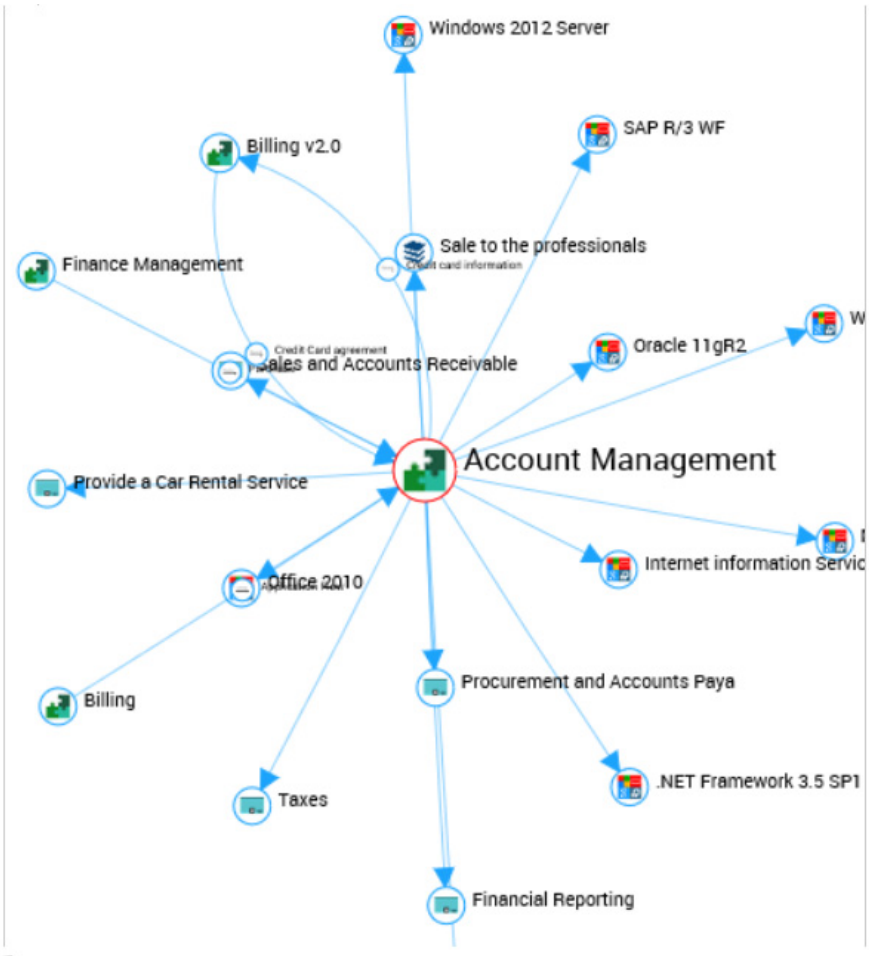
Application Environment Graph of an application

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 process categories linked to the application.

To open the environment graph of an application:

1. Select the application to display its properties.
2. In its properties window click the **Reporting** page.
3. In the report list, select **Architecture** > **Application Environment Graph**.
   The report consists of four report chapters:
   - **Exchange and Content**: displays data flows between the application and other applications. See also Application Exchange Graph for a set of applications.
   - **Installation and Use** :displays the sites that host the application. See also Managing application installations.
   - **Functional scope**: displays the objects that define application functional coverage. See also Defining Application Functional Scope.
   - **All the Environment**: provides a complete view of the application environment. The **Layers** option associated with the graph allows you

to filter the display according to the desired viewpoint (functional scope, installations or data flows).



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 **Applications** navigation menu.
2. In the list displayed, select the applications and click **Instant Report**.
3. Select the **Exchange Between Applications** instant report type.
4. Click **OK**.
   The instant report opens in the edit area.

This report displays:

- in the form of nodes: the selected applications
- In the form of an arc: the flows that connect the applications. When there are several flows between applications, they are grouped within the same arc.

You can filter display:

- by content: it is the exchanged data, defined in the application properties. See Specifying Data Exchanged With Other Applications.
- by context: this concerns application flow scenarios, which you can create if you have the **HOPEX IT Architecture** application.

For more visibility an option available under the report allows you to hide applications without link.

See also: List of Analysis Reports Available on Applications and Application Systems.

Defining the Properties and the Environment of an Application System

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

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 **HOPEX Solutions** > **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**.

Accessing Application System Properties

To access application system properties:

- In the list of repository application systems, click the required application system.
  Its property pages appear:
  - Characteristics. See Application System Characteristics.
  - Installation. See Creating an Application System Installation.
  - Projects. See Transforming the Application Portfolio.
  - Evaluation. See Evaluating Application Systems.
  - Cost. See Managing Application and Application System Costs.
  - Reports. See List of Analysis Reports Available on Applications and Application Systems.

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.
- the**Functional Scope**. See Defining Application Functional Scope.
- the **Responsibility**: see Responsibilities.
- the application system **Gantt** chart. See Application system Gantt chart.
- associated **Attachments**. See Attaching Documents to an Application.

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.

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 information, see Evaluating Application Criticality.

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.

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.*
2. Click **Characteristics**.
3. Expand the **Gantt** section.

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

Initializing the life of the application

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.*
   - 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 an application 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**.

See also: Defining Life Cycles.

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.

Application decommissioning plan report

As an enterprise architect, you can analyze application end-of-life planning to ensure that functional coverage is not compromised, and identify potential action plans.

The **Decommissioning Plan** report covers a map of business capabilities and associated applications. For each capability, it shows the number of applications scheduled for retirement over the next few years, quarter by quarter.

You can filter applications by portfolio.

To create an application decommissioning plan report:

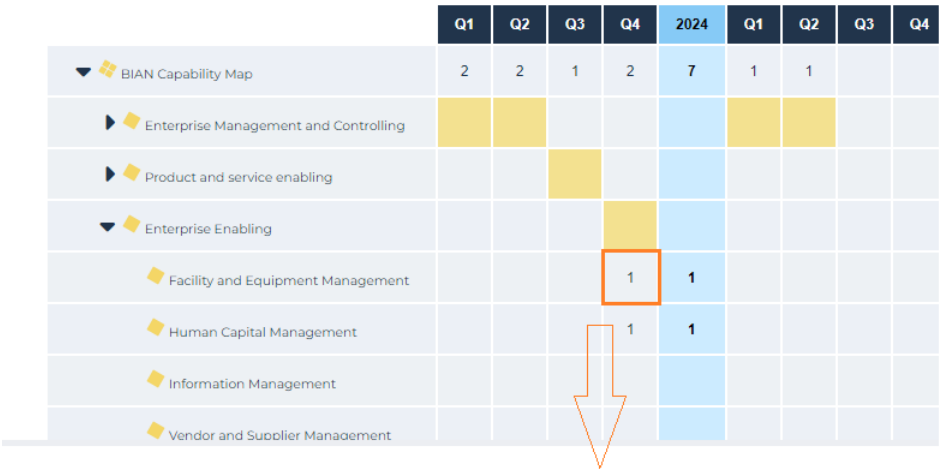
1. Click the **Reports** menu.
2. At top right of the edit window, click **Create a report** .

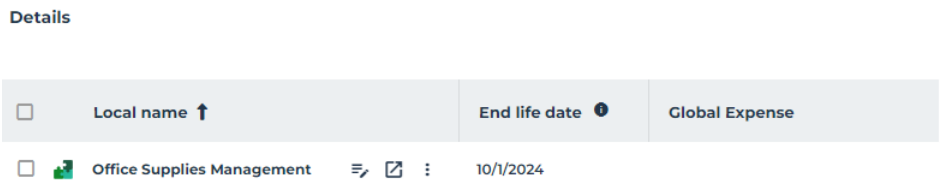
3. Search for and select the report.
4. Click **Create a report**.
5. In the report creation wizard, select:
   - a business capability map
   - (optional) an application portfolio
6. Click **Preview**.
7. Click **Continue**.
8. You can specify the following elements:
   - report name
   - public concerned
   - tags
   - description
9. Click **Save and open**.
   The report opens in the edit area.

For the defined capability map, the report shows the number of applications that will be removed.

To display application details:

- Click the corresponding number.
  Application details appear at the bottom of the report.





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 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 each installation you can define:

- The **Hosting Location**: the application is hosted by a data center. An application can be installed in several data centers, depending on the context.
- The **Deployment Support**: this is the server on which the application is deployed.
- The **Usage Context**: an installation is associated with one or more *usage contexts* that allow to specify the Consumer (the user of the application) and the Functionalities offered. See 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.*

Consulting Application Installations

To access the installations of an application:

1. Open the application properties.
2. Select the **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:

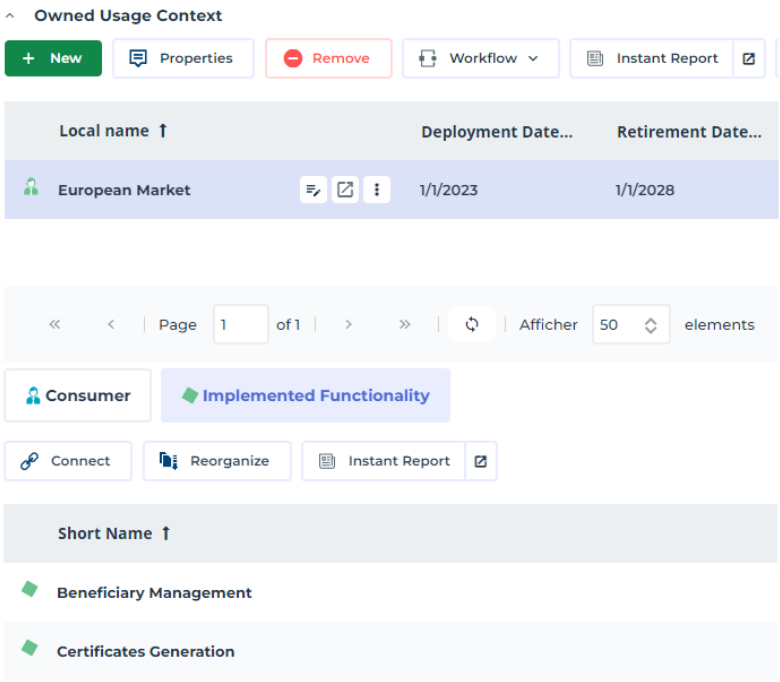
❱ Select an installation.
The hosting, deployment support and usage contexts associated with the installation appear in the following sections.

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

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

By selecting 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 data center 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 **Installation** page.

   ☛ *The page can be hidden by default. To display it: to the right of the properties pages, click the **Show/Hide** > **Installation** button.*
3. In the **Software Installation** section, click the **New** button.
   The **Creation of Software Installation** dialog box opens.
4. Enter the name of the deployment.
5. Select the **Deployment Life Cycle** from the drop-down list of this field.

6. Specify:
   - **Start Date**, corresponding to the effective deployment date
   - **End Date**, which can correspond to the application production end date.
7. 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.*
8. Click **Next**.
9. In the **Hosting Location** section, select the data center that hosts the installation.
10. In the **Usage Context**, specify the usage context of the application, including consumers and functionalities..
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 **Installation** page.
   The list of installations associated with the application is displayed.
3. Select the installation that interests you.
4. In the **Usage 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**.
7. Click the **Connect** button to select users specific to the usage context.
   The consumer of a deployment can be an Org-Unit (such as an organization, department or individual) or a Software Installation
8. Click **Next**.
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.

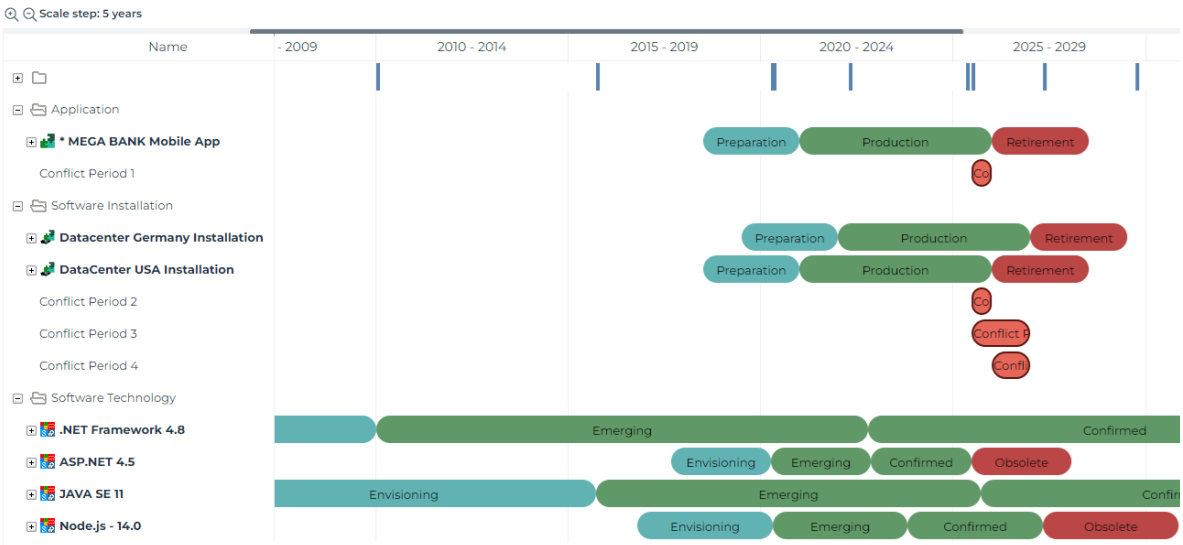
Analyzing Application Life Cycle and Installations

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 **Reporting** page.
3. In the reports list, select:
   - **Gantt Chart** to view life cycles of the objects
   - **Gantt chart with conflicts** to view any conflicts.



Detection of conflicts report on an application

See also: Creating an Application System Installation.

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).

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 allows you to manage different versions of the application assets.

The version management applies to following objects:

- Application
- Microservice
- IT Service
- Software technology
- Software technology stack

Managing Application Versions

Creating a new version of an application involves duplicating an existing application and defining the elements that will make up the new version.

Each version constitutes a new application which inherits elements of the application from which it is derived. When duplicating, the user can specify which elements to keep or delete in the new application.

The versioning system makes it possible to track updates made to an application over time.

To create a new version of an application:

1. Open the application properties.
2. Click the **Versions** page.

   ☛ *The page can be hidden by default. To display it: to the right of the properties pages, click the **Show/Hide** > **Version** button.*
3. Click the **+ New** button.
4. In the window that opens, select the items to be retained or deleted and click **Create version**.

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

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 and Modifying a periodic expense.*

The cost of an application 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	7/30/2012	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 Application Costs

In **HOPEX IT Portfolio Management** costs on an application can be specified by: a user with "Financial Controller" role, who has been declared responsible for the application in question;

- the portfolio manager.

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

One or several *cost lines* can be associated with an application.

> 🕮 *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;
- a **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, 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. Open the application **Properties**.
2. Click **Costs**.

> ☛ *The page can be hidden by default. To display it: to the right of the properties pages, click the **Show/Hide** > **Cost** button.*

3. In the **Cost line**section, click **New**.
   The **Creation of a cost line** box opens.
4. Specify the **Name** of the cost line.

5. Select the **Cost Type**.
6. Select the **Cost Nature**.
7. 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.*
8. 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.*
9. Define the periodic cost and click **Next**.

   ☛ *For more details on fixed expense creation, see Modifying a periodic expense.*
10. 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. Open the application **Properties**.
2. 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.

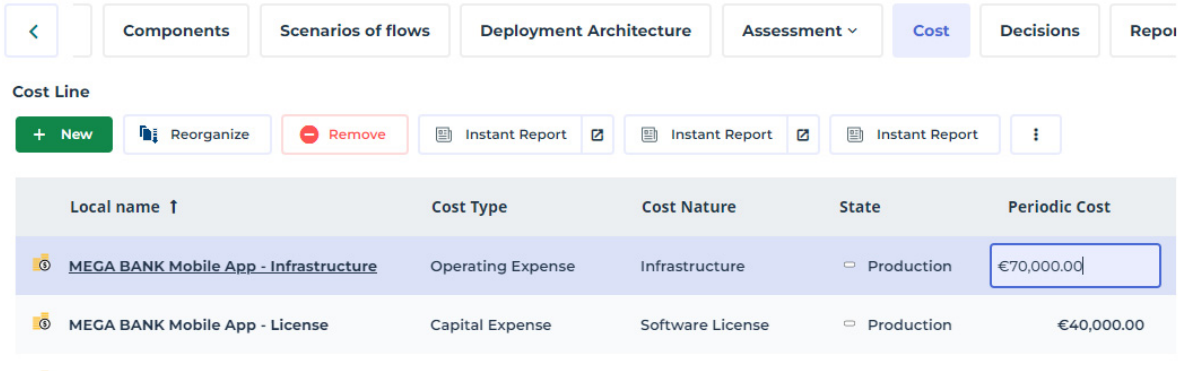
Modifying a periodic expense

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

1. Open the application **Properties**.
2. 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 **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 the costs of an application and its deployments. The results are derived from values that you specified in the cost page of the application and its deployments.

☛ *The report is also available on an application system.*

To view the report on costs of an application:

1. Open the properties of the application concerned.
2. Click the **Reporting** page.
3. In the Reports lits, select **IT Portfolio Management** > **Application Standard Cost**.

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.

Assessment can be done:

- in the properties of the applications in question. See Direct Assessment.
- through an evaluation questionnaire sent to the appropriate recipients: see Assessment By Campaign.

The evaluation is supplemented by result analysis tools.

Application 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: applications are those which have a limited impact on the company's business objectives. Their absence or malfunction generally does not significantly affect essential business processes. This may include administrative support applications or individual productivity tools.
  - Level 2: applications are those which have a moderate impact on the company's business objectives. Their absence or malfunction may lead to disruptions or slowdowns in certain important business processes. This may include applications such as human resources management systems, customer relationship management (CRM) systems or project management applications.
  - Level 3: applications are those which have a significant impact on the company's business objectives. Their absence or malfunction can lead to significant financial loss or impact on customer satisfaction. This may include applications such as order management systems, enterprise resource planning (ERP) systems or operations management systems.
  - Level 4: applications are those which have an extremely high impact on the company's business objectives. Their absence or malfunction can have major consequences, such as massive revenue losses, serious security problems or regulatory non-compliance risks. This can include central, strategic applications that support essential business operations.
- its **Business Value** enabling evaluation of the support level of the application in enterprise process.
  - Level 1: the application provides basic support features and resources to help users use the application and perform basic business process

tasks. This may include user guides, integrated tutorials, basic documentation and self-service support.
- Level 2: the application offers specific support for functionalities and processes linked to the application itself. This may include context-sensitive help features, task-specific guides, demonstration videos, user discussion forums or e-mail support to answer application-related questions.
- Level 3: the application provides more in-depth assistance by integrating support functionalities directly into business processes. This may include integrated virtual assistants, chatbots or virtual agents that offer real-time assistance while users perform specific tasks.
- Level 4: the application offers individualized assistance to meet the specific needs of users and business processes. This can include consulting services, customized training, tailor-made integrations with other systems, or direct assistance from a dedicated support team.

> ☛ *For more details on businesses addressed and functionalities covered, see Defining Application Functional Scope.*

- its **Technological efficiency** enabling assessment of evolution possibilities of the application from the techniques that support it.
  - Level 1: the application uses technologies that are still under development or are relatively new to the market. These technologies may have promising potential, but they may also involve risks and uncertainties. At this stage, the application can be considered a "proof of concept" or an experimental prototype.
  - Level 2: the application incorporates technologies that have been widely accepted and adopted by the industry. These technologies are proven and considered more stable and mature. The application can leverage these technologies to improve functionality and deliver a better user experience.
  - Level 3: the application is based on well-established technologies widely used in the industry. These technologies are stable, mature and have widespread adoption. They provide a solid, reliable foundation for the application, enabling optimal performance and easy integration with other systems.
  - Level 4: the application explores and adopts the latest technological advances to stay at the forefront of innovation. This may include the use of emerging technologies, advanced concepts such as artificial intelligence, blockchain, machine learning or virtual reality, as well as modern approaches to development and deployment.

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

Direct Assessment

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

To create an assessment measure:

1. Open the **properties** of the application to be evaluated.

2. Select the **Evaluation** page.
3. Click the **Evaluate** button.
   The assessment 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 Application Positioning.

Assessment By Campaign

You can create evaluation campaigns or sessions for applications contained in a portfolio.

On creation of a campaign, questionnaires are sent to designated respondents to obtain qualitative estimations on the applications for which they are responsible.

For more details on campaigns and sessions, see Assessment Campaigns in the IRM solution guide.

Prerequisites for data assessment

Before starting an assessment campaign, you must first prepare the work environment. Ensure that you have defined respondents for the applications.

Creating an assessment campaign on an application portfolio

To create an assessment campaign:

1. Click the **Tools > Assessment Campaigns** navigation menu.
2. In the edit area, click **+ New**.
   A creation wizard appears.
3. If necessary modify the name of the campaign.
4. Select the "Application Assessment - Per Portfolio" **Assessment template**.
5. Specify the **Begin Date** and the **End Date**.
6. Select the portfolio of applications to be evaluated.
7. Click **Next**.
8. Indicate when to send the questionnaires.
9. Click **OK**.
   A questionnaire is sent to respondents.

Next step: Creating an Assessment Session Manually.

See the chapter "Managing Assessment Campaigns > Creating an Assessment Session" in the HOPEX Common Features guide.

RECORDING ARCHITECTURE DECISIONS

As part of an architecture arbitration, you can record the decisions made about applications. HOPEX provides a set of predefined decisions: migration, deployment and investment decisions, as well as a "general" decision type for decisions dealing with other issues.

You can create a decision directly from the decision types provided, or from a SMART analysis.

Decisions resulting from SMART analyses are automatically recorded and archived in the relevant application properties. The **Governance** page of an application's properties shows the history of decisions validated manually or through analysis.

Decision Types

HOPEX Provides four decision types:

- **Cloud Migration Priority** (high or low migration priority)
- **Cloud Migration Type** (replatform, repurchase, etc.)
- **Deployment** (accepted or postponed)
- **General Decision** (accepted or not)
- **TIME Decision** (eliminate, invest, migrate or tolerate).

Cloud Migration Type and **TIME Decision** values can be determined through the corresponding SMART analyses.

Recording a Decision from a SMART analysis

SMART analyses are a tool for evaluating application portfolios, to support architecture arbitration decisions.

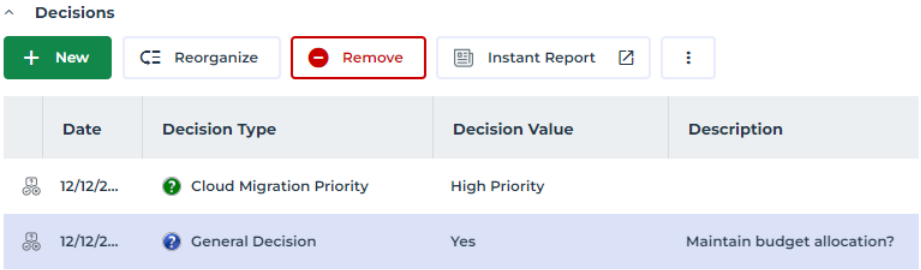
After evaluating the applications, the analysis provides recommendations that the user can accept or reject. If accepted, the decision is automatically recorded on the application.

For more information on SMART Analyses see SMART Analyses.

Entering a Decision on an Application

For migration or deployment decisions, the decision title is clearly defined by its type, e.g. "Cloud Migration Priority", with its value ("High" or "Low").

For "general" decisions, a description should be entered in the form of a question, e.g. "Maintain budget allocation?", to which the chosen value ("Yes" or "No") will be applied.



To enter a decision on an application:

1. Open the application properties.
2. Click the **Governance** page.

   ☛ *If the page is hidden by default, click the **Show/Hide** button and select **Governance.***
3. Click the **New** button.
   The decision creation window opens.
4. In the **Comment** field, enter a description.
5. Select the type of resolution and its value, e.g. "Cloud Migration Priority: High Priority".
6. Click **OK**.
   The decision appears with its date, type and value.

LIST OF ANALYSIS REPORTS AVAILABLE ON APPLICATIONS AND APPLICATION SYSTEMS

HOPEX IT Portfolio Management provides predefined report templates that are used to analyze the applications of your repository from different angles.

☛ *For detailed information on reports, see Generating Reports.*

Application and Application System Embedded Reports

The "IT Portfolio Management" reports available for an application or an application system are:

- **Application / Application System Standard Cost**: presents the detailed costs of an application or an application system. See Analyzing Application Costs.
- **Gantt Chart** and **Gantt Chart with Conflicts**: displays the lifeline of the application / the application system and any conflicts in its deployments. See Analyzing Application Life Cycle and Installations.
- **Environment Graph**: provides a graphical view of the environment of the application / application system in terms of data flow, deployments, functional scope. See Application Environment Graph of an application.
- **Application Overview**: presents a summary of the information specified for the application or application system.
- **Software Data Lineage Impact Report**: allows you to visualize the data used by an application and measure the impact between the application and the data. See Analyzing Impact between an Application and the Data it Uses.

Reports Applicable to a Set of Applications

Reports

You can generate reports on a selection of applications:

Inventory

- **Application Overall State**: shows the current state of applications in their lifecycle (in preparation, in production, etc.)
- **Applications by Age**: shows a graphical breakdown of applications by age.
  Business Capability Map Breakdown: allows you to visualize the applications that cover the components of a business capability map.
  See Generating the Business Capability Map of a Portfolio.
- **Functionality Map Breakdown**: shows the applications associated with a functionality map.

Obsolescence

- **Application Obsolescence** : displays applications entering the retirement phase and applications using technology entering the obsolescence phase.
- **Technology Obsolescence Remediation**. See Obsolescence Risk and Remediation.

Rationalization

- **Decommissioning Plan**. See Application decommissioning plan report.
- **Business Capability Coverage over Time**. See Business Capability Coverage over Time.
- **Business Capabilities Tree Map**: displays a hierarchy of business capabilities according to three possible criteria: number of applications, ratio of applications, cost of applications.
  See Business Capabilities Tree Map.
- **Functionalities Tree Map**

Cost

- **Top 10 most expensive applications**
- **Application Total Cost**

Instant reports

Instant reports provide statistical graphic analysis of the data. You can generate instant reports on a selection of applications in order to view certain data graphically (for example, their exchanges) or to compare the applications for specific characteristics (for example, costs).

To launch an instant report on a set of applications:

1. Click the **Applications** navigation menu.
2. In the edit area, select the applications in question.
3. Click the **Instant Report** button.
4. Select the type of report to create and then, if necessary, the application data to be analyzed.

   ```
   For example, to display a histogram of application costs,
   select a "Quantitative" type report then select the "Cost"
   attribute.
   ```

See also:

Managing Instant Reports.

Application Exchange Graph for a set of applications.

Application portfolio reports

It is possible to analyze a set of applications within a portfolio. See Portfolio Analysis Reports.

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
- ✓ Importing Technologies from BDNA
- ✓ Inventorying Technologies with ITMC Discovery
- ✓ Importing Technologies from IT-Pedia
- ✓ Distinguishing Applications from Technologies
- ✓ Defining Technology Life
- ✓ Managing Deployments of Technologies
- ✓ Managing Costs of Technologies

DEFINING AND VALIDATING TECHNOLOGIES

Technologies associated with applications can be created and validated by the enterprise architect or EA functional administrator.

Validation of technologies is assured by workflows. See Technology Validation Workflow.

Creating a Technology

Technologies are visible under the **Technologies** navigation menu in the HOPEX Enterprise Architecture desktop. You can filter their display:

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

To create a technology:

1. Click the **Technologies** navigation menu.
2. In the edit area, 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. Validation determines the **Company Standard** attribute. See Validating a Technology.

See also:

Importing Technologies from BDNA.

Importing Technologies from IT-Pedia.

Defining Technology Properties

To access technology properties:

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

   The Properties window displays the following pages.

   ☛ *Some pages may be hidden by default. Click the button to display them.*

Overview

The **Overview** page presents indicators on the technology:

- The **Company Standard** : indicates the organization policy regarding the use of technology. See Validating a Technology.
- **Obsolescence Risk**: its value is a function of the interval time between the current date and the technology's end-of-support date (or extended end-of-support date). The shorter the interval, the higher the risk. See below for how to calculate its value.

Obsolescence risk Calculation

The following are taken into account in the calculation, in order of priority:

1. End-of-life Date.

   If the end-of-life date is "Indefinite", then the obsolescence risk is "Very low".

2. End-of-support dates

   If there is no end-of-support date, extended end-of-support or end-of-life:

   - If one of these dates is "Expired", the obsolescence risk is "Very high".
   - If one of these dates is "Not Applicable", the risk of obsolescence is "Very low".
   - Otherwise, the indicator value is "Unknown".

3. The interval between the current date and the support end date:

Interval current date / end of support	Obsolescence risk level	Indicator Color
Less than 12 months	Very high	
Between 12 and 24 months	High	
Between 24 and 30 months	Medium	

Interval current date / end of support	Obsolescence risk level	Indicator Color
Between 30 and 36 months	Low	
More than 36 months	Very Low	
Unknown	Unknown	Gray

See also: Defining Technology Life.

Characteristics

In the **Characteristics** page you can specifying:

- **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.

    ☛ *See also Validating a Technology.*
  - 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 IT-Pedia, or specified manually See Defining Technology Life.*
  See also: Support Alert Report.
- the Classification:
  - **Fulfilled Technology Capability**

    📖 *A technology capability is the ability to deliver a technology service which is required by a technology artifact or an application.*
- **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).
  For more information on the technology official life cycle, see BDNA properties in HOPEX.
- associated **Attachments**.

Installation

See Managing Deployments of Technologies.

Version

See Managing Deployments of Technologies.

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.

The "Costs Report" summarizes the costs of the technology.

Reports

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

☛ *For detailed information on reports, see Generating Reports.*

- **Technology Standard Cost**: summarizes technology costs, by cost nature and by year.
- **Technology Overview**: summarize the main characteristics of the technology.
- **Gantt Chart**: displays technology life cycle steps. See Defining Technology Life.
- **Gantt Chart with Conflicts**: this report presents possible conflicts between the technology life cycle and the life cycle of the applications that use it.
- **Realization Graph Report**: shows which elements of the dictionary the technology implements.

BDNA

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

See also Importing Technologies from BDNA.

IT-Pedia

This page displays properties imported from IT-Pedia. See Importing Technologies from IT-Pedia.

Validating a Technology

Directly on a technology

To validate a technology:

1. Click the **Technologies** navigation menu.
2. Display the **Technologies** list.
3. Click the icon of the technology to be validated and select **Assessment of the Technology** > **Define 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, is modified depending on the validation workflow.

It can take the following values:

- Approved
- 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 ask the local correspondent to validate a technology. To do so, a local correspondent must have been specified in the technology's properties.

Outside the workflow 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. In the desktop, click the navigation menu then **Inventories** > **Technologies** > **Technology Stacks**.

2. In the edit area, click **New**.
   The technology stack creation dialog box appears.
3. Enter the name of the technology stack and an owner if necessary.
4. Click **OK**.

Specifying its properties

To specify the properties of the technology stack created:

- Click the technology stack to display its properties.
  Among information you can specify:
  - its characteristics: identification, support alert, company standard.
  - its components (technologies)
  - its life cycle
  - its owner
  - related applications

See also Defining Technology Properties.

Support alert

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

On a technology stack, 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 stack is "Not Supported".
- Otherwise, if one of the technologies that the pile contains is “Delayed Use”, the support alert for the stack is "Delayed Use".
- Otherwise, if one of the technologies that the pile contains is “Early Use”, the support alert for the stack is "Early Use".
- Otherwise, the support alert for the stack is "Supported".

Company standard (computed)

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

☛ *See Validating a Technology.*

This attribute can take values:

- Approved
- 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 "Approved".

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.

To display this report:

1. Open the properties of the technology stack.
2. Select the page **Reporting** > **IT Portfolio Management** > **Gantt Chart with Conflicts**.

IMPORTING TECHNOLOGIES FROM BDNA

BDNA™ 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™, 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/she can initialize a new repository by importing software technologies from BDNA and use the 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 BDNA, 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. In the right pane of the options window, enter information to access BDNA APIs (provided by BDNA). These are the options visible under **Activate BDNA**:
   - **URL address of the BDNA API**: this is the URL of BDNA 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 the **Authentication for the proxy** option if required.
   - 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

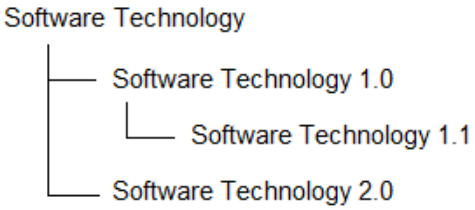
BDNA	HOPEX
Manufacturer (vendor)	Org Unit
Taxonomy (technology type)	_Type
Software Product	Technology
Software Edition	Variation of Software Technology
Software Standard Major/Minor Release	Variation of Software Technology

In BDNA, 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

Objects you can import from BDNA 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. In the desktop, click the navigation menu then **Tools** > **BDNA**.
3. The edit window displays the following tiles:
   - 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 **Tools** > **BDNA Technology Types** navigation menu.
2. 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 **Tools** > **BDNA Vendors** navigation menu.
2. 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 technologies found.*
3. Click **Next**.
   The wizard displays the search results.
4. Select from the list the vendors you want to import.
5. (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 is maintained 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.*
6. Click **Next**.
7. 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
8. 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

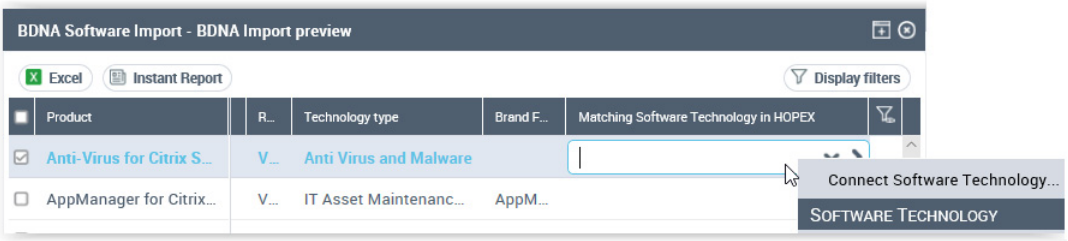
To find a technology using its name:

1. Click the **Tools** > **BDNA Software Technologies** navigation menu.
2. Click **Import**.
3. Select the **Import Software technologies by name** query mode and click **Next**.
4. 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.*
5. Click **Next**.
   The wizard displays the search results.
6. Select from the list the technologies you want to import.
7. (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.*



8. Click **Next**.
9. 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
10. Click **Import**.

Searching by the type of technology and the vendor

To find a technology using its type and vendor:

1. Click the **Tools** > **BDNA Software Technologies** navigation menu.
2. Click **Import**.
3. Select the **Import Software technologies by selecting technology types and vendors** query mode and click **Next**.
4. Select the technology type.
5. Click **Next**.

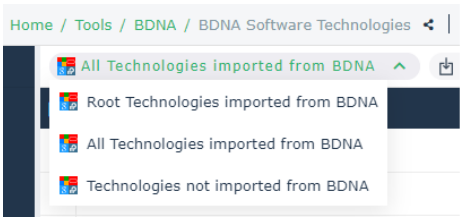
6. Select the vendor.
7. Click **Next**.
8. If necessary, filter the technologies by name.

   ☛ ***Direct Creation*** *: check this option if you want to ignore the results display and directly create the found technologies.*
9. Click **Next**.
   The wizard displays the search results.
10. Select from the list the technologies you want to import.
11. (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.
12. Click **Next**.
13. 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
14. Click **Import**.

Filtering the display of technologies

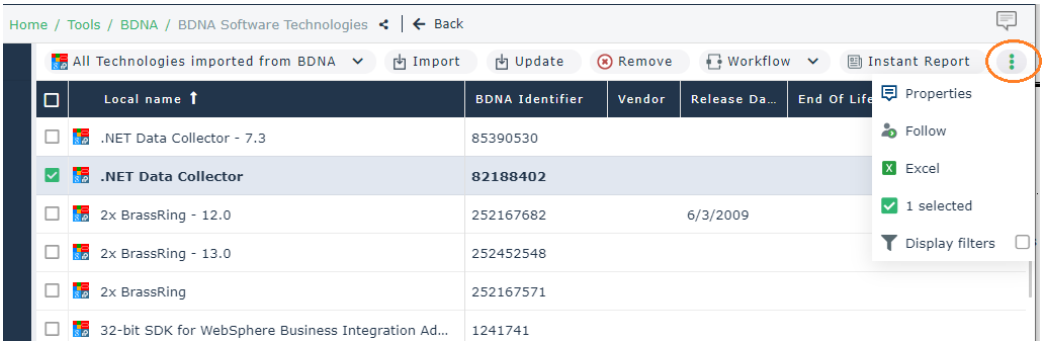
You have the possibility to filter the display of technologies according to:

- Root technologies imported from BDNA: these are the technologies in their first functional version, for which new versions may exist.
- All technologies imported from BDNA
- Technologies not imported from BDNA



Note that additional commands appear when selecting technologies.

☛ *Click* ⋮ *to access hidden commands.*



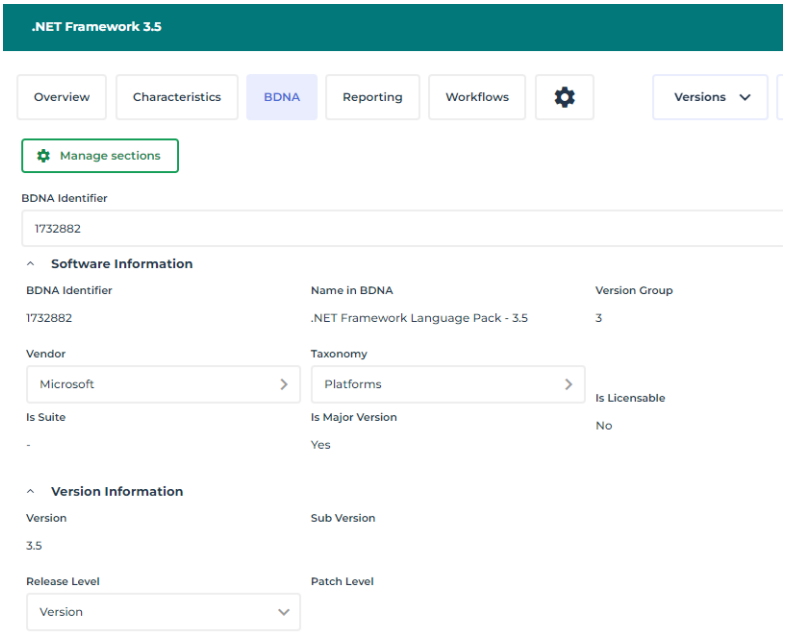
See also:

Updating BDNA Objects Imported into HOPEX.

Merging BDNA technologies with existing technologies of your repository

Displaying BDNA properties in HOPEX

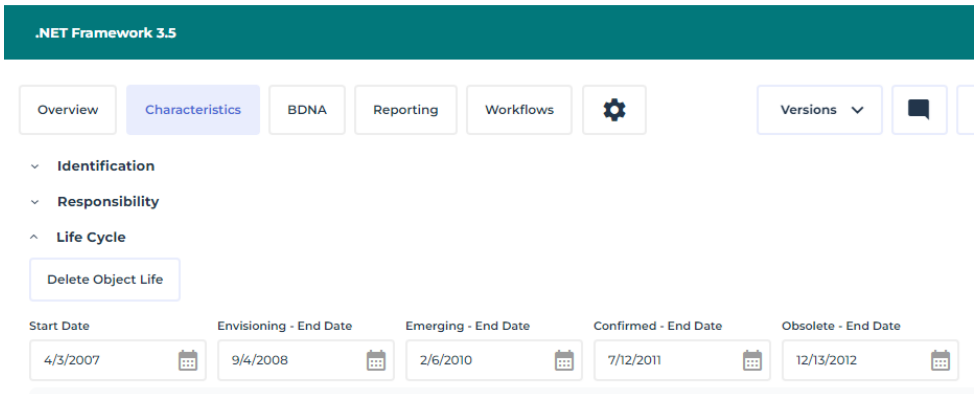
Most of BDNA properties imported into **HOPEX** appear in the **BDNA** property page of the object concerned (software technology, technology type or vendor).



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.

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. To keep the data for these technologies while benefiting from BDNA information, you can merge them with the BDNA technologies that you import in **HOPEX IT Portfolio Management**.

You can merge technologies in three different ways:

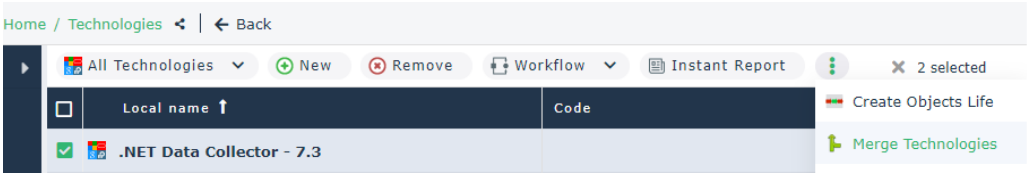
- By merging the technologies (BDNA and non-BDNA) already contained in your repository case by case
- By specifying, during the import of BDNA technologies, those that correspond to technologies existing in your repository
- By specifying the BDNA identifier in the technology's properties

Merging two technologies in HOPEX

To merge two technologies:

1. Click the **Technologies** navigation menu.

2. In the edit area, select the technologies to merge.
3. In the list menu bar, click **More** **> Technologies** .



4. 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.
5. Click **Next**.
6. Select the properties you want to keep from the source and target technologies. By default, properties of the target technology are selected.
7. In the same way, select the links you want to keep.
8. Click **OK**.

Merging technologies at BDNA import

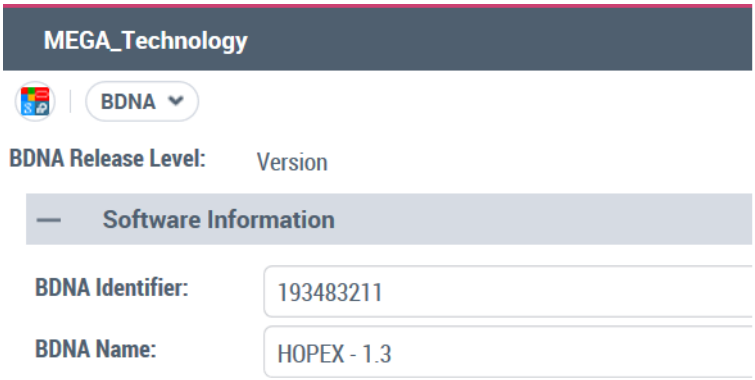
When you import technologies in your HOPEX repository, you can merge them with technologies already present in your repository. The technologies merged in this way are identified as BDNA technologies and can subsequently be updated as such.

In the same way, you can merge vendors.

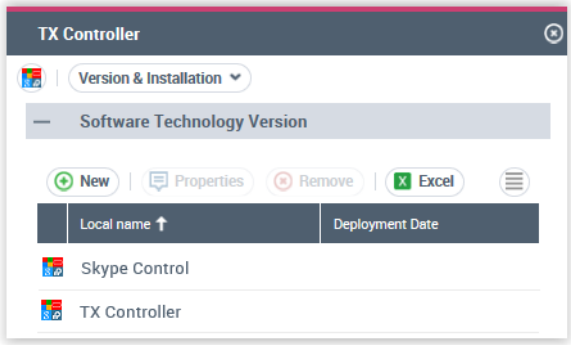
Example of merged technologies

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", is kept 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** 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.

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 associated **Properties** button.
   The properties of the technology appear.
3. Select the **BDNA** page.
4. In the **Identifier** field, enter the BDNA identifier number.

See also: Updating BDNA Objects Imported into HOPEX.

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. Select the object and 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, whether properties of software technologies imported into **HOPEX** have changed in the BDNA repository, and if so, carries these updates over to the corresponding technologies in **HOPEX**.

Defining Update Frequency

To activate an automatic update, you must create a trigger in the administration tool which implements the BDNA Automatic Update macro.

Once the trigger is created, you can plan the update in ITPM.

To create a trigger:

1. Open the Administration module.
2. Open the environment.
3. Expand the repository folder concerned.
4. Right-click **Scheduler** and select **Manage Triggers**.
5. Click the **Triggers Definitions** tab.
6. Click the **New** button to create a trigger definition.
7. In the wizard, create a job definition that implements the macro "BDNA Automatic Update Job Implementation".
8. Complete the planning.
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 window, click BDNA Automatic Update.
   You can set the alert:
   - Daily
   - Weekly
   - Monthly

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 or defined manually) with its life cycle in the organization.

☛ *For more information on technology life, see Defining Technology Life.*

The **Software Technology Support Alert** report, available in the technology portfolio properties, uses the **Support Alert** attribute to analyze the technologies in the **HOPEX** repository and detect any conflicts between their use in the organization and their official lifecycle.

INVENTORYING TECHNOLOGIES WITH ITMC DISCOVERY

Eracent's ITMC Discovery™ tool provides automated discovery of an organization's on-premises technologies and applications.

The data collected is stored in a local Eracent database. You can import this data into your HOPEX repository through a Java job.

Once the technologies are created in HOPEX, you can import their life cycle from IT-Pedia. This is the normalization phase.

> ☛ *The HOPEX IT-Pedia connector allows you to directly import technologies with their life cycle, without going through the ITMC Discovery tool. The normalization of technologies is done automatically. See Importing Technologies from IT-Pedia. See Importing Technologies from IT-Pedia.*

Installation of the Module

Before you can use the Eracent Discovery tool, you must complete the following steps:

1. Install JAVA Standard Edition 8 or higher.
2. In case HOPEX is hosted on a server with a self-signed or internally signed SSL certificate, you need to add this certificate manually to your JAVA trust store:
   - First you must obtain the public certificate from the server where HOPEX is installed. You can request it from the server administrator or view it in any browser by visiting the HOPEX security information Web page and saving a copy of the certificate.
   - Save the certificate in a file (.cer).
   - Add it to your Java Virtual Machine (JVM) truststore.

     > ☛ *In the $JAVA_HOME/jre/lib/security/ folder (for JREs) or the $JAVA_HOME/lib/security folder (for JDKs), a file named "cacerts" provided with Java contains the public certificates.*

   - To import the new certification, run the keytool as a user with permission to write to the cacerts file:

     ```
     keytool -import -file <the cert file> -alias <any name> -
     keystore <path to cacerts file>
     ```

   - You may be asked for a password. The default password supplied with Java is “changeit”.

3. In case Eracent is hosted on a server with a self-signed or internally signed SSL certificate, you must add this certificate manually to your JAVA trust store:
   - You need to obtain the public certificate from the server where Eracent is installed. You can request it from the server administrator or get it

from any browser by displaying an Eracent security information web page, and saving a copy of the certificate.

- Once you have saved the certificate to a file (.cer), you need to add it to the trust list of your JVM.

  ☛ *In $JAVA_HOME/jre/lib/security/ for JREs or $JAVA_HOME/lib/security for JDKs, a file named "cacerts" which comes with Java contains the public certificates.*

- To import the new certification, run keytool as a user with write permission to the "cacerts" file:

  ```
  keytool -import -file <the cert file> -alias <any name> -keystore <path to cacerts file>
  ```

- You may be asked for a password. The default password, as provided with Java, is "changeit"

4. Go to the HOPEX HAS console and generate an API Key used to authenticate to HOPEX:
   - Go to **Modules** -> **Authentication** - > **Api Keys** -> **Create**.
   - In the form, choose an "Open Session" and fill out the other input fields with your user HOPEX parameters.

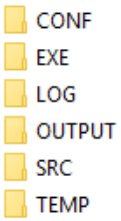
5. Go to the module installation folder in CONF/mega.properties and copy/paste the generated key in the api_key property.

6. Launch the batch file \EXE\EracentToHopex_Sequence**EracentToHopex_Sequence_run.bat** to run the discovery tool:

```
##Connection to HOPEX website##
Hopex_host==
Hopex_URL_query==HOPEXGraphQL/api/ITPM
api_key==


##Connexion to Eracent server##
Eracent_host==
Eracent_endpoint_installed_software==/Discovery/v1/InstalledSoftware/
Eracent_user==
Eracent_mdp==
Eracent_top==100


##Run parameters##

##Possibilities : version, main_version, product
import_type==version
```

Structure of the module

The structure presents the following folders:



CONF

This folder contains:

- The context file (variables to be filled by the user to run the process on his machine)
- The file Types.csv, which contains the technology types from Eracent to load into HOPEX
- The file Functions.csv, which contains the functions from Eracent to load into HOPEX.

Set the configuration before running the .bat file. In the Types.csv and Functions.csv files, in the "Import" column, enter 1 to load the type or function into HOPEX, 0 otherwise.

See Configuration.

EXE

This folder contains the zip file that contains the .bat files you must run to get data from Eracent and load them into Hopex.

See Retrieving Data Collected by ITMC Discovery.

LOG

This folder contains the logs files which are created every time you launch the .bat.

List of log files you can find in this folder:

- log_dateOfTheDay.csv: the files with steps of the execution, errors included
- Hopex_requests.csv: all the requests sent to HOPEX
- errors_WS_Hopex.csv: all the errors from HOPEX POST requests
- errors_response_Hopex.csv: the responses from HOPEX with code 200 which contains errors.

OUTPUT

This folder contains the files used as history of each object already loaded into HOPEX (Publisher_history.csv, Product_history.csv, Version_history.csv). When an object (Technology, Vendor, etc.) has been loaded into HOPEX, it appears with its idabs in the corresponding file. This history ensures that objects already transferred to HOPEX are not altered (renamed, deleted).

If you try to re-import a scanned object after deleting it from HOPEX, it will not be imported as long as it is present in the history file. The object must therefore be manually removed from the history file before it can be re-imported into HOPEX.

SRC

This folder contains the .zip file which is the Talend project that can be imported into Talend to be modified.

TEMP

This folder contains all the temporary files used during the execution.

Configuration

The folder CONF contains three files with a set of properties to configure the Discovery tool:

- Technical Configuration (mega.properties): a text file that contains a set of connection properties to be defined to launch the tool.

```
##Connection to HOPEX website##
Hopex_host=={paste here the URL where Hopex is hosted }
Hopex_URL_query==HOPEXGraphQL/api/ITPM
api_key=={paste here the api key generated in the section I.2}

##Connexion to Eracent server##
Eracent_host=={paste here the URL where Eracent server is hosted }
Eracent_endpoint_installed_software==/Discovery/v1/InstalledSoftware/
Eracent_user=={paste here the username of the user who has access to the Eracent server }
Eracent_mdp=={paste here the password of the user who has access to the Eracent server }
Eracent_top=={Eracent network response package size (in number of technologies)  -  default value = 100 - does not
```

```
affect the number of item retrieved, only the size of the
network query response packages}

##Run parameters##

##Possibilities : version, main_version, product
import_type=={Select one of the possibilities above to
choose the type of technology you want to import }
```

- Type file (Types.csv): a table of all technology types that can be imported from Eracent to the HOPEX repository.

Type	Import
User Defined	1
Licensable Not Detect	1
Licensable	1
Unassigned	1
Not Licensable	0
Unauthorized	1
Unknown	1
Child	0
Driver	0
Patch	0
Licensable Fonts	0
Obsolete	0

For each type, enter 1 to load all technology of this type into Hopex, and 0 if you want to ignore the technologies of this type.

- Function file (Function.csv): in this file you can filter technologies so that they are not imported into HOPEX, based on their source Function, and

you can define an HOPEX Technological Functionality for the imported technologies.
The column "Function" lists the technical functionalities that exist in Eracent.

The column "Technical_Functionality" indicates the corresponding technical functionalities in HOPEX.

Function	Technical_Functionality	Import
Unassigned		0
Operating System	Platform	1
Office Suite	Desktop tools	1
Word Processing	Desktop tools	1
Spreadsheet	Desktop tools	1
Database		0

You can filter the technologies you want to import from Eracent into HOPEX based on these Functions: enter "1" in the "Import" cell to import the Eracent technologies with the given Function, "0" otherwise.

Upon import, the HOPEX Technical Functionality input in the "Technical_Functionality" column will be linked to all imported technologies with the matching Eracent Function specified in the Function Column. If no Technical Functionality is specified, no Technical Functionality will be linked to the imported technology.

Retrieving Data Collected by ITMC Discovery

In the EXE folder of the module installation are the .bat files to be executed to get the data from Eracent and load them into HOPEX:

- GetDataFromEracent_run.bat: to retrieve the data stored in the Eracent database.
- GetDataFromHopex_run.bat: to import the data into HOPEX.

IMPORTING TECHNOLOGIES FROM IT-PEDIA

IT-Pedia™, from Eracent, is an extensive catalog of existing technologies that includes up-to-date information on computer software and hardware.

HOPEX provides an integration module with Eracent IT-Pedia to monitor technology obsolescence. It allows Enterprise Architects and Technology Portfolio Managers to make informed decisions about the evolution of their IT portfolio.

With the IT-Pedia connector you can:

- import new technologies
- align IT-Pedia technologies with existing technologies of your repository
- update information on technologies imported into HOPEX.

Prerequisite Conditions

The IT-Pedia connector is available as a module. You can install it in **HOPEX IT Portfolio Management** and **HOPEX IT Business Management**.

☛ *For more details on importing a module, see Importing a Module into HOPEX.*

Communication and protocols

HOPEX connects to IT-Pedia using the java command: HttpURLConnection.

The server hosting HOPEX must have an active Internet connection.

HOPEX must have the right to establish outgoing connections.

The protocol used is HTTPS (standard port = 443).

Any firewalls must allow this connection to pass through.

Connection options to IT-Pedia

After installing the module, before you can import content from IT-Pedia, you must authorize exchanges with IT-Pedia in HOPEX.

To set the required import options :

1. Open the **Administration** desktop.
2. In the edit area, click **Environment Options**.
   The environment options window opens.
3. In the navigation tree, click **Tools** > **Data Exchange**> **Import > IT-Pedia**.
4. In the right pane of the options window, enter information to access IT-Pedia (provided by Eracent):
   - **IT-Pedia URL address**: this is the URL of IT-Pedia public catalog.
   - **IT-Pedia API user**
   - **IT-Pedia API password**

Eracent APIs are available at the following address: https://itpedia.eracent.com/API/.

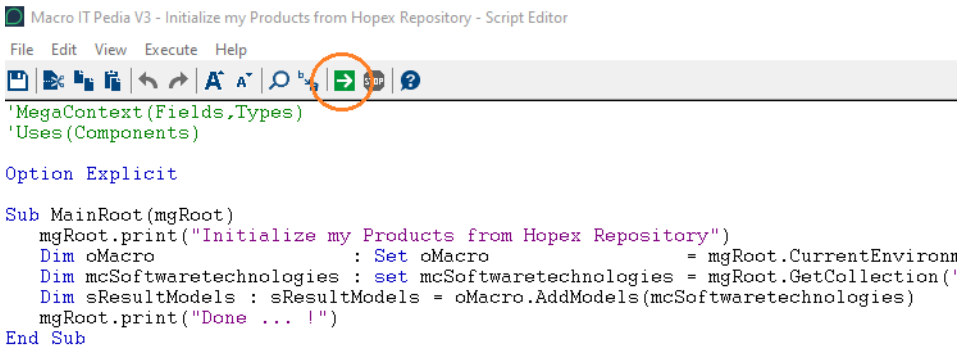
Initializing the list of your technologies in IT-Pedia

Before using the IT-Pedia connector, you must initialize the list of technologies in your repository in IT-Pedia for standardization. This initialization is done through a macro.

> ☛ *Therafter you can standardize the technologies in your repository with the **Refresh** command in the IT-Pedia connector. See Normalizing Technologies.*

To launch the macro:

1. Log into HOPEX (Windows Front-End) as Hopex Customizer.
2. Launch the initialization macro ~kKAycUFMZzWC[IT Pedia V3 - Initialize my Products from Hopex Repository].



After the macro is launched, the My Products Procurement list in IT-Pedia is populated by HOPEX technologies to go through the normalization process.

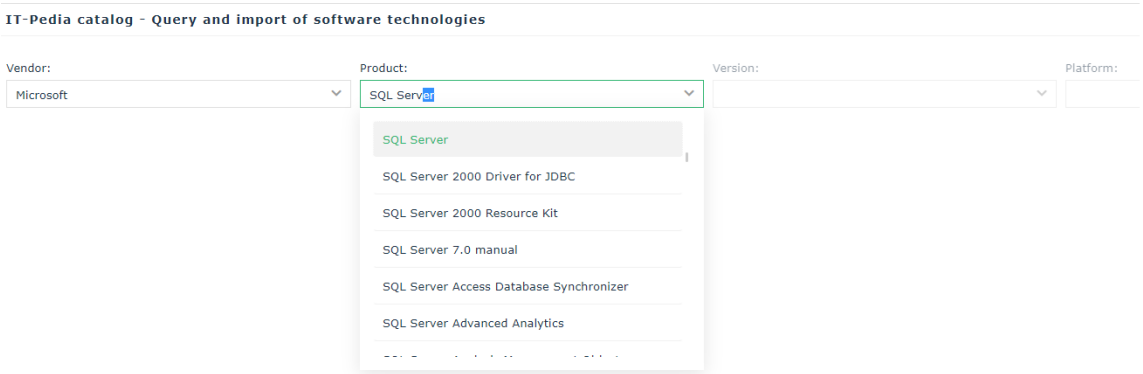
Importing New Technologies from IT-Pedia

Data import is carried out by the enterprise architect or the functional administrator.

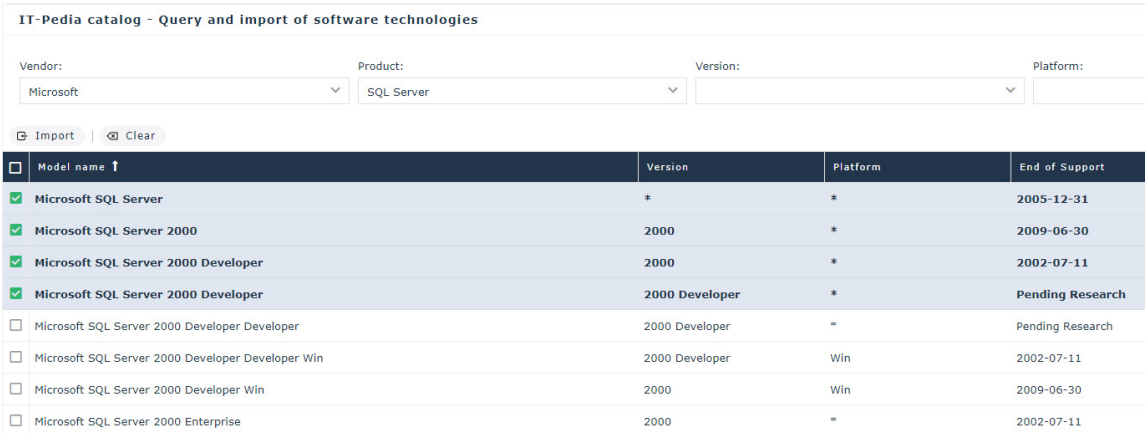
To import data with the IT-Pedia connector:

1. Click the **Technologies** > **IT-Pedia** navigation menu.
2. In the edit area, click the **Import** button.
   The import wizard opens.

3. Select:
   - a vendor
   - a product
   - the version
   - the platform (Mac or Windows)



4. Check the product of the selection that appears.

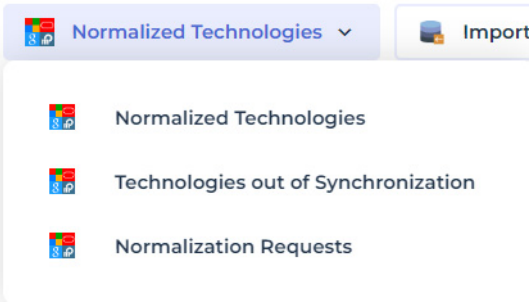


5. Click **Import**.
6. Select the import option:
   - Now
   - As soon as possible: execute the import after saving updates
   - Scheduled: execute the import at the date and time specified
7. Click **OK**.
   A message indicates import progress and completion.

Filtering the display of technologies

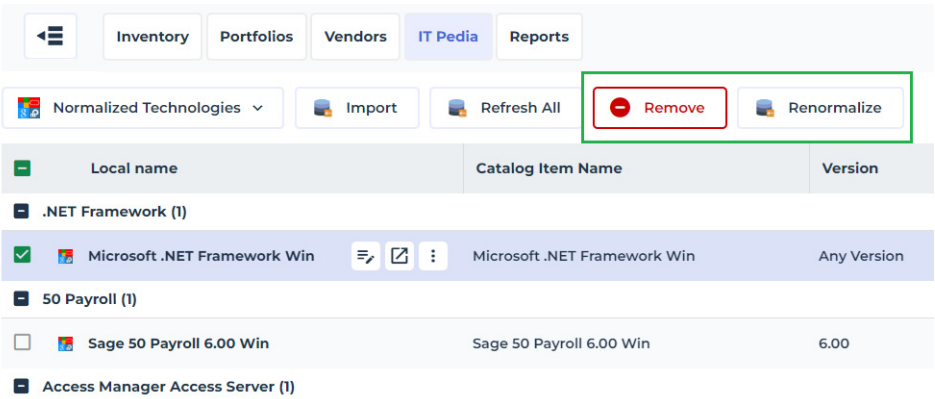
You have the possibility to filter the display of technologies according to:

- Normalized Technologies: all versions imported from IT-Pedia (versions present in the IT-Pedia My Products list)
- Technologies out of synchronization: versions not present in IT-Pedia My Products
- Normalization requests. See Normalizing Technologies.



When you import technologies from IT-Pedia, these technologies are automatically added to the "My Products" list of the IT-Pedia catalog. When updating a technology in HOPEX, if the technology no longer exists in IT-Pedia, it is displayed in the list "Technologies out of Synchronization".

Note that additional commands appear when selecting technologies.



Updating IT-Pedia Technologies Imported into HOPEX

You can update information from IT-Pedia at any time. Updates are made to all normalized objects in your repository that have an IT-Pedia identifier.

To update information available on software technologies:

1. Click **Technologies** > **IT-Pedia**.

2. Click the **Refresh All** button.
   At the end of processing, a message indicates the number of technologies updated.

Synchronization of deletions in HOPEX and IT-Pedia

In the latest versions of the IT-Pedia connector HOPEX v5 and HOPEX Aquila published in the HOPEX Store, when you delete a technology imported from IT-Pedia from the HOPEX repository, the technology is also deleted from your product list in IT-Pedia.

Normalizing Technologies

Normalizing the technologies of your repository means adding them to the list of My Products Procurement list in IT-Pedia for standardization.

Normalization is applied to all technologies that have a defined vendor but no IT-Pedia identifier.

Once normalization has been carried out in IT-Pedia, you need to run a manual update to retrieve the IT-Pedia information in HOPEX.

To normalize the technologies:

1. Click the **Technologies** > **IT-Pedia** navigation menu.
2. In the drop-down list select **Technologies out of Synchronization**.
3. Select the technologies to normalize.
4. Click the **Normalize** button.

Requests for normalization are displayed in the **Normalization requests** list. Once normalization has been done, the corresponding technologies are visible in the global list of technologies in your repository.

See also: Initializing the list of your technologies in IT-Pedia.

Reporting Missing Technologies in IT-Pedia

From the IT-Pedia connector you can declare missing technologies and request that they be added to the IT-Pedia catalog. This request for addition in IT-Pedia implies automatic creation of the technology in HOPEX.

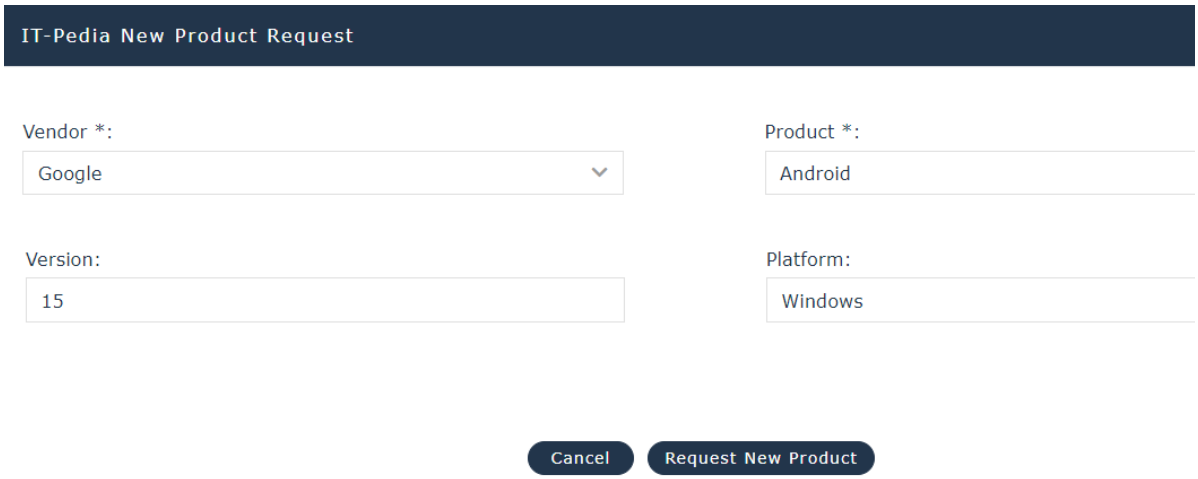
You can also request the addition of a technology in IT-Pedia via an Excel file.

Requesting new product from the connector

To request the addition of a technology:

1. Click the **Technologies** > **IT-Pedia** navigation menu.
2. Display the **Normalized Technologies** list.
3. In the edit area, click **Import**.
   The IT-Pedia query and import tool appears.

4. Click the **Request New product** button.
   The product request wizard appears.
5. Specify:
   - the vendor
   - the product
   - the version
   - the platform



6. Click the **Request New product** button.
   The request is sent and a message confirms the creation of the product in **HOPEX IT Portfolio Management**. A standardization process is running in IT-Pedia. You can check the status of the request. See Following the request below.

Following the request

To track the status of a new product request:

1. Click the **Tools** > **IT-Pedia** navigation menu.
2. In the edit area, click **Import**.
3. Click the **Follow my Request** button.
   The list of requests appears, with their status.

Requesting new product via an Excel file

For versions of the IT-Pedia Connector prior to V3.0 that do not have the **Request New product** command, you can import technologies into the IT-Pedia portal using an Excel file:

1. With your customer login, connect to the following address: https://itpedia.eracent.com.
2. Click **My Products** > **Procurement**.
3. Click the **Import** button.

4. Download the Excel file template and fill in the following fields:
   - Manufacturer: indicate the name of the manufacturer
   - Product Name: indicate the name of the technology
   - Version: technology version
   - Manufacturer Part Number : enter "N/A"
5. From the same display, import the file.
   Technologies are added to the **MyProducts** list and a standardization process is carried out in IT-Pedia:
   - Known products are matched
   - Unknown products are added
   - Life cycle data is updated.

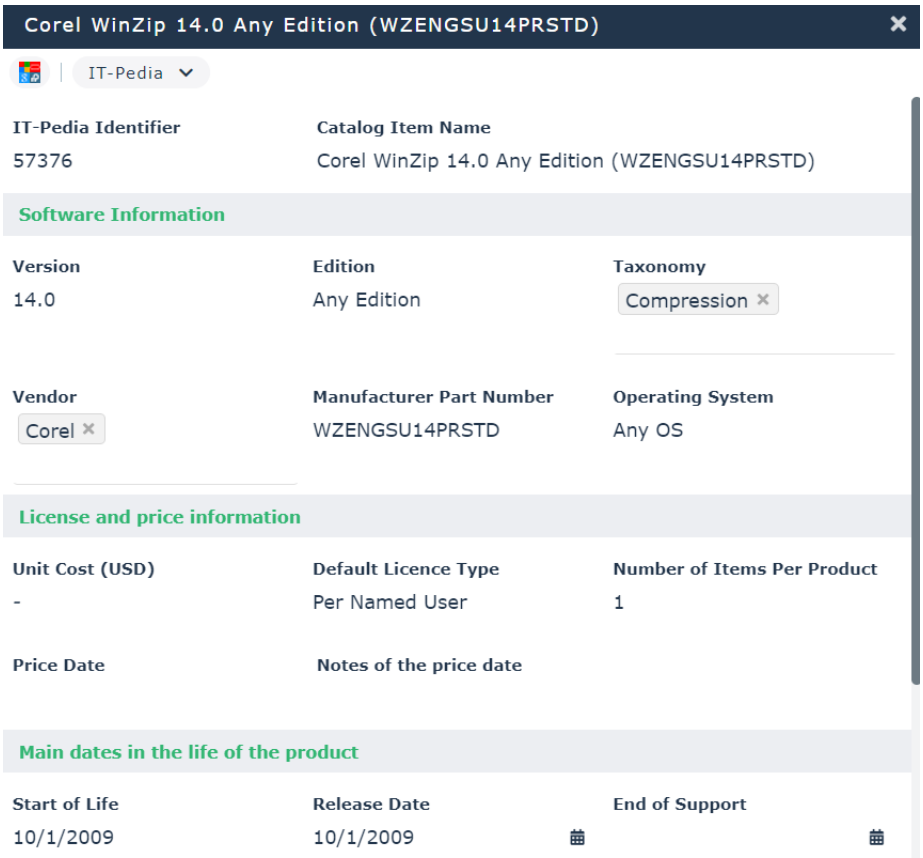
To benefit from the additions and updates, use the **Update** function in HOPEX. See Updating IT-Pedia Technologies Imported into HOPEX.

See also:

Merging IT-Pedia Technologies With Existing Technologies of Your Repository.

Displaying IT-Pedia Properties in HOPEX

The IT-Pedia properties imported into **HOPEX** appear under the **IT-Pedia** properties page of the relevant technology.



Technology properties related to the official technology life cycle are automatically defined in the **Characteristics** page of the technology properties, under the **Official Lifecycle** section.

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

> ☛ *These properties can be set manually when you are not using the IT-Pedia 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.

See also: Technology Automatic Updating and Alerts.

Modifying dates from IT-Pedia

The technology lifecycle dates from the IT-Pedia import may be in read-only mode. Through an Excel file you can modify or complete the technology dates and update them in your repository.

You can use the file in two ways:

- Download it and manually define the technologies and attributes to be modified.
- Select the technologies and their attributes in HOPEX and export them to the file via the Excel export tool.

Once the file is completed, you can import it into HOPEX to update the technologies in your repository

To import the model:

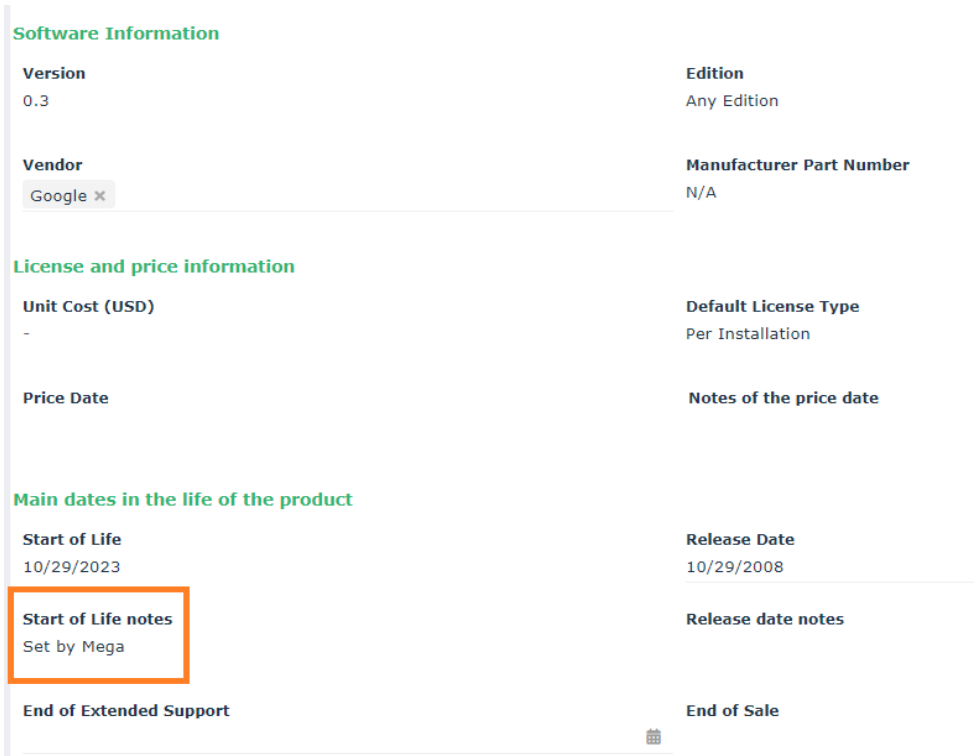
1. Click the **Main Menu** then **Import** > **Excel Template Download**.
2. Select "Technology Lifecycle Date Import Template".

To export directly from HOPEX the technologies and their attributes in the Excel file:

1. Click the **Main Menu** then **Export** > **Excel (*.xls; *.xlsx)**.
2. Select **Using a Excel template**.
3. Select "Technology Life Cycle Dates Import Template" and check **Load Mega objects**.
4. Click **Next**.
5. Under **Excel Worksheets**, select "Software Technology".
6. Under **Columns**, select the attributes you want to set on the technology.
7. Click **Next**.
8. Select the Excel sheet and under **Objects to be exported**, add the desired technologies.
9. Click **Next**.
10. Open the file that contains the technologies to be modified or completed.
11. For each technology, enter the desired dates in the corresponding columns, for example "Start of Life".

Once the file is completed, you can import it into HOPEX.

The modified attributes appear in the IT-Pedia properties of the concerned technologies, with the note "Set by Mega".



See also: Defining Technology Life.

Merging IT-Pedia Technologies With Existing Technologies of Your Repository

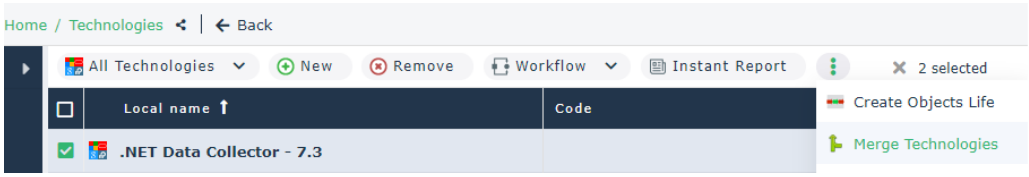
Your repository may contain technologies created outside of the IT-Pedia import. These technologies do not benefit from the provider data and updates supplied by the IT-Pedia connector, such as official life cycle dates, for example. To keep the data for these technologies while benefiting from IT-Pedia information, you can merge it with the IT-Pedia technologies that you import **HOPEX IT Portfolio Management**.

Merging two technologies

To merge two technologies:

1. Click the **Technologies** navigation menu.
2. In the edit area, select the technologies to merge.

3. In the list menu bar, click **More** **> Merge Technologies** .



4. 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.
5. Click **Next**.
6. Select the properties you want to keep from the source and target technologies. By default, properties of the target technology are selected.
7. In the same way, select the links you want to keep.
8. Click **OK**.

Technology Automatic Updating and Alerts

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

Defining Update Frequency

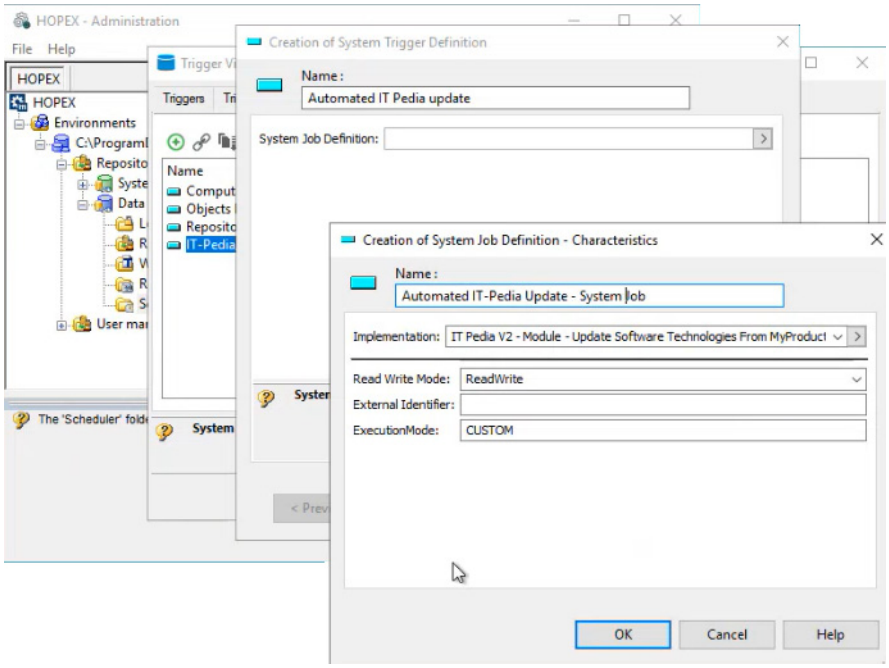
To activate an automatic update, you must create a trigger in the administration tool which implements the IT-Pedia Automatic Update macro.

A Trigger is based on a Trigger Definition. This definition consists of a job which includes the macro that the Trigger will execute.

To create a trigger definition:

1. Open the Administration module.
2. Open the environment.
3. Expand the repository folder concerned.
4. Right-click **Scheduler** and select **Manage Triggers**.
5. Click the **Triggers Definitions** tab.
6. Click the **New** button.
   The trigger definition wizard opens.
7. Enter a name, for example: "Automated IT-Pedia Update".
8. In the **System Job Definition** field, select **> Create System Job Definition**.
   The Job definition wizard opens.
9. Enter a name for the Job, for example "Automated IT-Pedia Update - System Job".
10. In the **Implementation** field, select **> Connect Macro**.

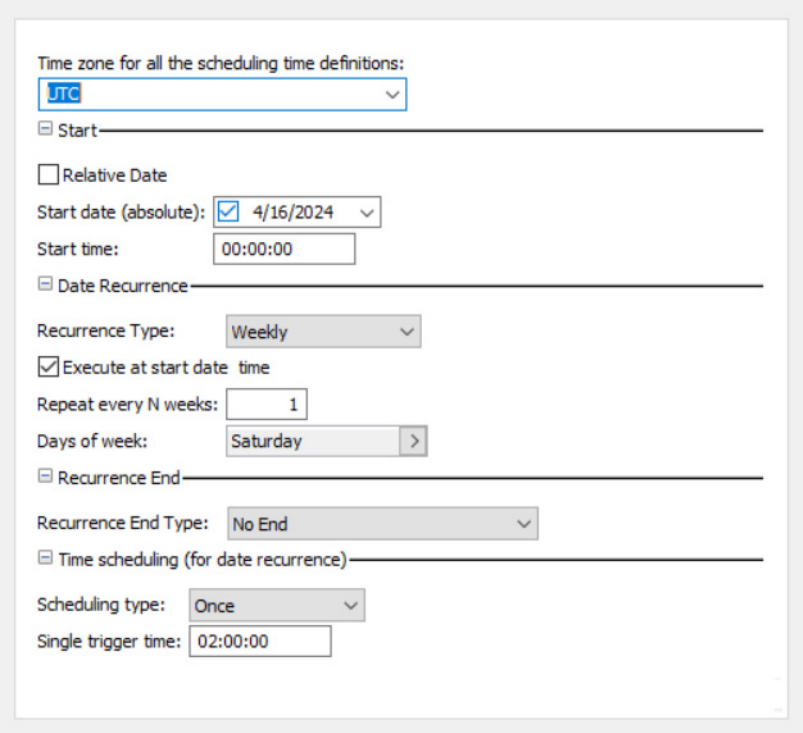
11. Look for the macro entitled “IT Pedia V2 - Module - Update Software Technologies From MyProducts - Scheduler Job”.



12. Click **OK**.
13. Back in the trigger fefinition wizard, click **Next**.

14. Define a schedule, e.g. each saturday at 2:00:00.

    ☛ *For more details on trigger scheduling, see Configuring the Trigger Scheduling.*



15. Click **Finish**.

To create a trigger:

1. In the **Trigger Viewer** window, click the **Triggers** tab.
2. Click the **New** button.
3. Select a trigger definition, e.g. “Automated IT-Pedia Update”.
4. Give the trigger a name, e.g. "Automated IT-Pedia Update - Trigger".
5. Exit the Administration module.

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".*

    ☛ *For more details on alerts, see Managing Your Alerts on Object Modification.*

Support Alert Report

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

> ☛ *For more information on technology life, see Defining Technology Life.*

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.

See Support Alert Report.

DISTINGUISHING APPLICATIONS FROM TECHNOLOGIES

Thanks to an AI-based analysis engine, **AI-Driven APM** automatically detects business applications from the list of technologies, helping enterprise architects to build their application repository.

Application detection is based on a repository of technologies standardized with IT-Pedia. Following standardization of technologies in the HOPEX repository, you can use the tool to identify technologies that turn out to be applications, and thus distinguish technical bricks from business applications.

☛ *For more information on the normalization, see Normalizing Technologies.*

HOPEX creates its own classification of IT-Pedia technology products to help the enterprise architect make the technical/business distinction, but also to indicate to which business capability in HOPEX an application contributes. The tool makes recommendations - it's up to the architect to arbitrate and validate them. HOPEX records the decision and updates the repository.

Prerequisite Conditions

The application detection function is available with the **AI-Driven APM** module. The module requires installation of the Aquila version of HOPEX and the IT-Pedia module.

☛ *For more details on module installation, see Importing a Module into HOPEX.*

The recommendations provided by the AI-driven APM tool are based on a calculation performed by the Remote-Taxonomy service hosted by MEGA.

To use the tool, you need to specify the URL of this service in the administration options:

1. Access the HAS Console and stop **HOPEX Core Back-End** module. Make sure to perform this action when users are not connected.
2. Open the HOPEX Administration window.
3. Right-click on HOPEX and select **Options** > **Modify**.
4. Unfold the **Tools** > **Data Exchange** > **Remote Taxonomy** folder.
5. In the **Root URL of remote taxonomy** field, enter the following URL: https://ea-ai.saas.mega.com.
6. Click **OK**.
7. In the Administration application, connect to the environment and perform an **Automatic Environment Update**.
8. Restart the **HOPEX Core Back-End** module.

Application Detection

HOPEX can identify which technologies correspond to which applications. For each technology, it provides a recommendation; it's up to you to validate it or not.

Presentation of the wizard

The application detection wizard presents a list of technologies awaiting arbitration.

It consists of two steps:

- Qualification of software assets
- Preview and update of the repository

Qualify software assets

The software products displayed are the "Product" technologies standardized from IT-Pedia, all versions included.

> ☛ *If a new version of a technology is imported, it is attached to the existing technology. You can view the versions of a technology in its properties, on the* ***Version*** *page.*

Each software product has a recommendation associated with:

- a confidence level

  > ☛ *Using this confidence rate, you can sort technologies.*

- a justification.

Preview and update the repository

This second step presents the applications and their properties that will be created in the HOPEX repository.

When you validate, all the lines you have modified are processed (name and objects associated with the application).

The applications created are connected to the source technologies.

Starting application detection

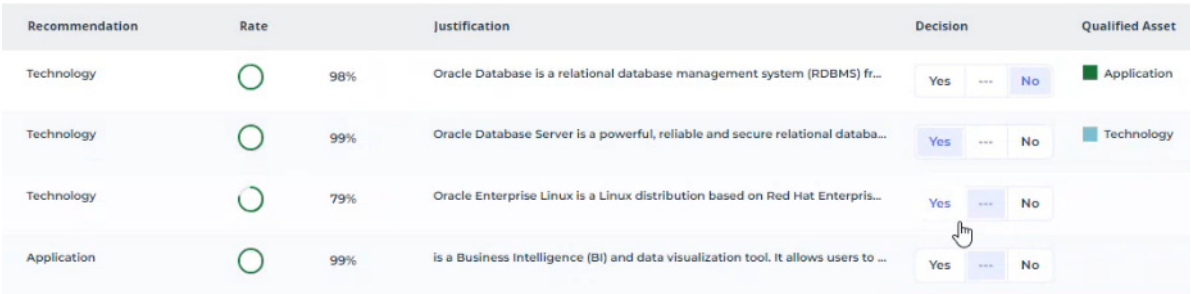
You can launch application detection with the Enterprise Architect and EA Functional Administrator profiles.

To launch application identification:

1. In the navigation bar, click **Applications** > **Application Detection**.
   A table lists the technologies awaiting qualification.

2. For each one, validate or invalidate the recommendation by selecting **Yes** or **No** in the **Decision** column.
   Depending on the decision, the asset is qualified as **Technologie** or **Application**.

   ☛ *At this stage, objects are not yet created.*



3. Click on step 2: **Preview and update repository**.
   A table lists the technologies that have been qualified as **Applications**.
4. If necessary, complete the information before creating them:
   - when a technology corresponds to an application, the application takes the name of the technology by default, but you can override the name.
   - you can associate the application with a portfolio and a manager.
5. You may:
   - create all the applications in the list at once: click the **Create Applications** button. You will be prompted to validate. Click **Yes** to create all the applications displayed.
   - create applications one by one: tick the application in question and click **Create Applications**.
6. Once the applications have been created, the wizard suggests to match them to business capabilities.

   ☛ *You can also carry out this step at a later date. See Matching Applications to Business Capabilities below.*

Matching Applications to Business Capabilities

Once the technologies have been requalified as applications, the **AI-Driven APM** tool defines the functional coverage of these applications by associating them with business capabilities.

☛ *Applications must be linked to an application portfolio.*

The recommended business capabilities come from business capability maps, which are of two types:

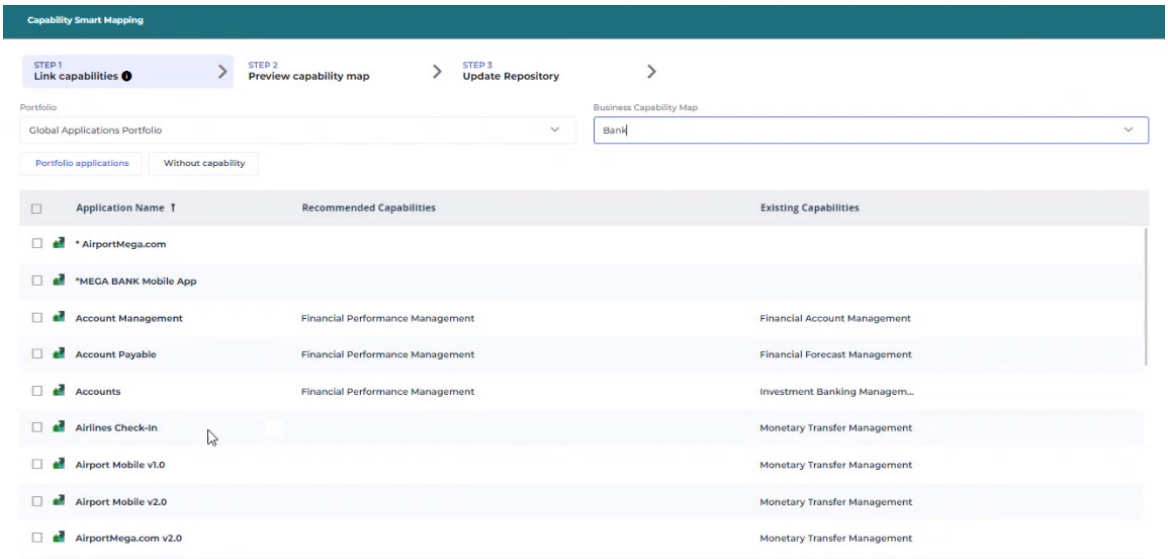
- standard business capability maps supplied by MEGA, delivered in the "Standard Industry Capability Maps" module:https://store.mega.com/modules/details/sample.itbm.stdcapamaps?prerelease=False.
- customized capability maps, specific to your company

For each application, the tool displays a list of capabilities to which it is likely to respond. You can modify this list.

Launching Capability Smart Mapping

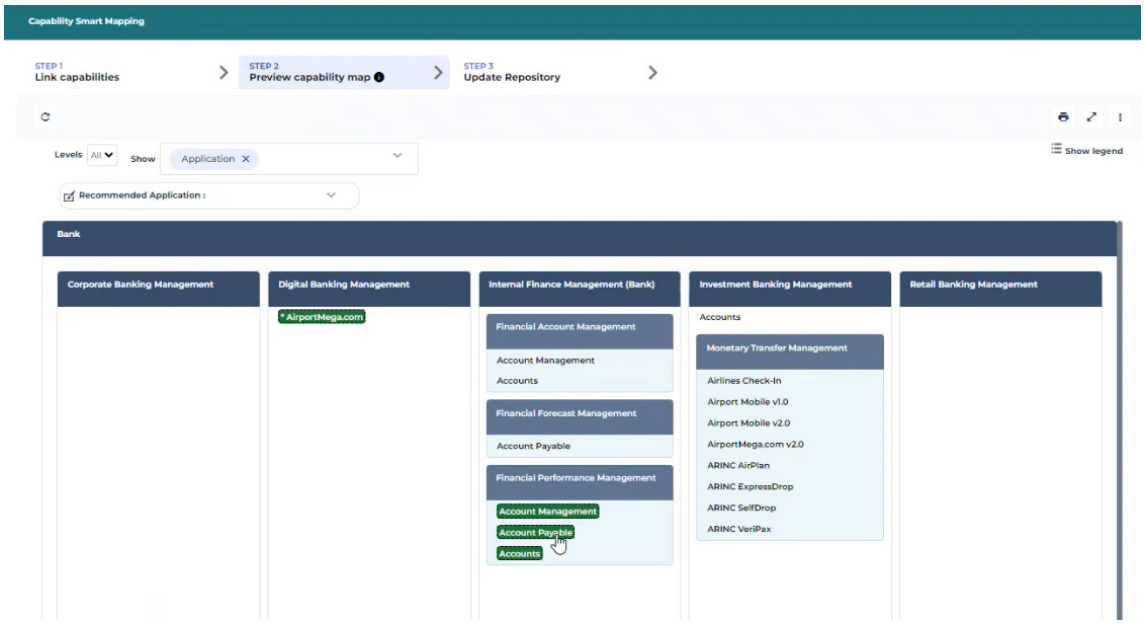
You can launch Capability Smart Mapping with the Enterprise Architect and EA Functional Administrator profiles:

1. In the navigation bar click **Tools**> **Capability Smart Mapping**.
2. Select the portfolio containing the relevant applications and the business capability map.
3. The wizard presents:
   - the application list
   - the recommended business capabilities
   - business capabilities already linked to applications.



You can define or modify recommended capabilities manually. Recommended applications are displayed in the capability map in step 2. If required, you can go back to step 1 and modify the recommendation.

4. Click on step 2 to preview the business capability map.
   Applications associated with business capabilities appear in green.



5. Go to step 3.
6. You may:
   - connect all applications on the list to the recommended capabilities at once: click **Link Applications to Capabilities** and confirm.
   - connect applications one by one: check the application in question and click **Link Applications to Capabilities**.

Reliability of recommendations

The model characterizes a business application on the basis of the following elements:

- Product analysis:
  - A product that brings added value to the company's end-users.
  - A product that supports a business function
  - A product containing specific words such as *Designer*, *Networker*, *Backup*, etc.
- Training on a massive database: the machine learning model has been trained on over 74,000 different technologies, assimilating the patterns that distinguish one application from another.

Model accuracy and performance measures:

Displayed confidence rate	Reliability for an application	Reliability for a technology
>80%	99%	89%
60%-80%	65%	67%
<60%	66%	66%

The model's recommendations may be interpreted differently depending on the expertise of the sector and the user.

Expertise of the user

A software may be considered an application by one user, but a technology by another, depending on their expertise and needs.

> Example
>
> Take software like Docker: it can be considered as an application by a developer who uses it to build and run applications, but it can be considered as a technology or platform by a system administrator who uses it to manage system resources, ensure container security, and so on.

The final categorization may also depend on the user's level of expertise.

A less technical user may rely more on high-confidence recommendations, while a more technical user may feel comfortable interpreting low-confidence recommendations on the basis of their own knowledge and experience.

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.

Based on this data, indicators and report types enable you to analyze the risks of technology obsolescence and the applications concerned.

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 or IT-Pedia. To modify IT-Pedia properties, see Modifying dates from IT-Pedia.

> ☛ *For more details on importing technologies, see Importing Technologies from BDNA and Importing Technologies from IT-Pedia.*

you can also set them manually.

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.
2. In the technology properties window, click the **Characteristics** page.
3. Expand the **Gantt** section.

As with an application, you can initialize the lifecycle of a technology, see Viewing Application Life (Gantt Chart).

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.

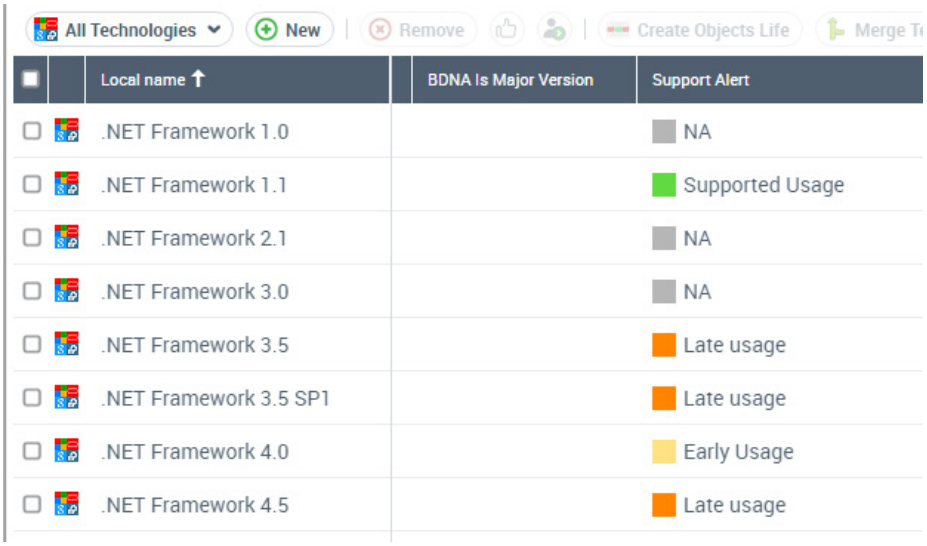
Technology Support Alert

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

Viewing the support alert of a technology

To view the Support Alert attribute on a technology:

1. Click the **Technologies** navigation menu.
2. Display "All Technologies".
   The **Support Alert** column defines the use of each technology within the organization.



The attribute can take 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.

Attribute calculation

The value of the **Support Alert** attribute is defined by the following parameters:

Technology life cycle	Support Alert value
Life cycle not defined	NA (Non applicable)
Support end date and extended support end date not defined	NA (Non applicable)
The release date of the technology is later than the current date and the begin date of use.	Early life cycle
The support end date is not defined or later than the usage end date, and the extended support end date is later than the usage end date.	Supported usage
The support end date is earlier than the usage end date, and the extended support end date is later than the usage end date.	Delayed use
The usage end date is later than the support end date and the extended support end date.	Non-supported use

Support Alert report

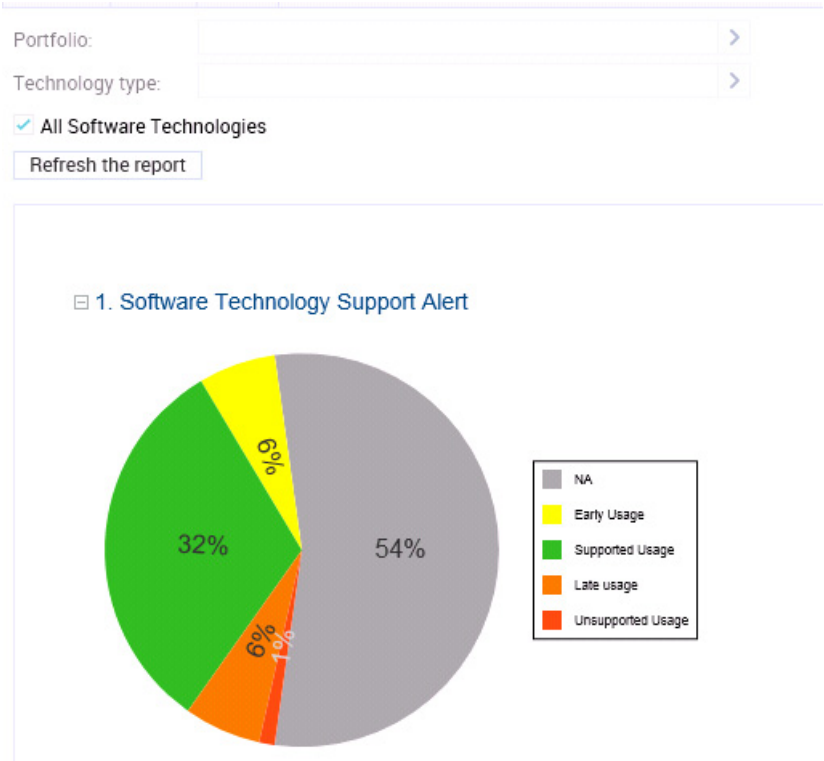
The **Software Technology Support Alert** report uses the **Support Alert** MetaAttribute to analyze technologies in the **HOPEX** repository and displays all possible conflicts between the use of these technologies in the organization and their official life cycles.

This report is available on an application portfolio or a technology portfolio.

To generate a **Support Alert** report:

1. Open the properties of the portfolio.

2. Click the **Reporting** > **Software Technology Support Alert** page. The report results appear.



Obsolescence Risk and Remediation

You can visualize the risk of technological obsolescence for each technology, as well as for technologies associated with a portfolio or a selection of applications.

For each technology, the **Obsolescence Risk** indicator is available in the technology properties, and is calculated on the basis of the technology's lifecycle dates.

☛ *See Defining Technology Properties.*

For a portfolio of applications or a selection of applications, you can analyze the obsolescence risks of the technologies associated with the applications. The **Technology Obsolescence Remediation** report shows, for the applications in the portfolio, the list of software technologies, their support state for the coming years and the potential new versions available to remedy their obsolescence.

☛ *Remediation proposals are based on technologies developed by IT-Pedia. See Importing Technologies from IT-Pedia.*

To open this report:

1. Click the **Reports** menu.
2. To the right of the edit area, click the **Create a report** button.

3. Search for the "Technology Obsolescence Remediation" report.
   The report appears in the edit area.
4. Select the report type and click **Create a report**.
   The report creation wizard opens.
5. Select the relevant application portfolio.
6. Click **Preview** then **Continue**.
7. Name the report.
8. Click **Save and open**.

The report displays:

- portfolio applications
- the technologies associated with the applications, with:
  - The current version
  - its life cycle for the current year and the next two years
  - in the event of obsolescence, the proposed technology and version
- other applications concerned by the technologies analyzed

Application Name	Lifecycle	Production End Date	Portfolio	Technology Product Used	Version Used	Other Applications	Technology Capability	Today	End of 2024	End of 2025	End of 2026	Technology Product Suggested	Version Suggested	Support
Law eBooks	Retirement	01/01/2023	• * Airport IT Rationalization Evaluation											
Zeus Purchasing	Retired	23/03/2021	• * Airport IT Rationalization Evaluation • Global Applications Portfolio	Windows	7	5		⊗	⊗	⊗	⊗			
				Internet Information Services	8	10		⊗	⊗	⊗	⊗	Internet Information Services	*	11/01/2027
												Internet Information Services	10	11/01/2027
												Internet Information Services	10.0	11/01/2027
				Database	10g	2		✓	✓	✓	✓			
				Internet Information Services	6	5		⊗	⊗	⊗	⊗	Internet Information Services	*	11/01/2027
												Internet Information Services	10	11/01/2027
												Internet Information Services	10.0	11/01/2027
				Windows Server	2012 6.3	14		⊗	⊗	⊗	⊗			
				SQL Server	15	15	• Storage	✓	✓	✓	✓			
				Windows Server	2012	13		⊗	⊗	⊗	⊗			

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 **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 **Installation** page.

3. In the **Deployed Technology** section, click the **New** button.
   The Deployment creation window opens.
4. Specify the deployment name.
5. Select the **Deployment Life Cycle** from the drop-down list of this field.
6. Specify:
   - **Start Date**, corresponding to the effective deployment date
   - **End Date**, which can correspond to the technology production end date.
7. 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.*
8. Click **Next**.
9. In the **Deployment Support** section, select the site or server that hosts the deployment.
10. 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 **Installation** page.
3. Under **Deployed Technology**, select the deployment.
4. In the **Usage 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 wizard offers you to add **consumers**. It relates to the application installations that will use the deployed technology in this context.
7. Click the **Connect** button to connect the consumers to the usage context.
8. Click **Next**.
   You can add functionalities to the context:
9. Click the **Connect** button to select the functionalities that will be proposed to consumers in the usage context.
10. 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.

IMPORTING OBJECTS IN HOPEX IT BUSINESS MANAGEMENT

HOPEX IT Business Management provides an Excel file template for bulk importing objects into the repository.

Downloading the Excel Import Template

The Excel import template is available in the HOPEX Store.

To download the file:

1. Connect to the HOPEX Store.
2. Click **Modules**.
3. Search for the **ITBM Excel Import Template**.
4. Select the template and click **Download**.

Template Description

The file enables bulk import of the following object types:

- Strategy objects: enterprises, goals, strategies.
- Transformation objects: stages, objectives, tactics, exhibited business capabilities.
- Business architecture objects: value streams, value stages, business function areas, business functions, business partners.

The different types of objects concerned are presented in dedicated sheets.

The _README sheet details the object import:

This HOPEX template provides means to bulk import ITBM data		
Strategy	Enterprises	allows import of Enterprises : creating Enterprises with their properties (including link with **existing** reference Business Capability Map)
	Goals	allows import of Enterprise Goals : creating Enterprise Goals and their Strategic Themes
	Strategies	allows import of Enterprise Strategies : creating Enterprise Strategies and links to Enterprise Goals (created in "Enterprise Goals" tab)
Transformation Stages	Stages	allows import of Stages : creating Stages with their properties
	Objectives	allows import of Stage Objectives : creating Stage Objectives and links to Enterprise Goals (created in "Enterprise Goals" tab)
	Tactics	allows import of Stage Tactics : creating Stage Tactics and links to Enterprise Strategies (created in "Enterprise Strategies" tab) and Enterprise Objectives (created in "Enterprise Objectives" tab)
Exhibited Business Capabilities by Stage	Exhibited Business Capabilities	allows import of Exhibited Business Capabilities : creating Exhibited Business Capabilities with links to **existing** Business Capabilities and Stages, Stage Objectives (created in "Stage Objectives" tab) and creating fulfillments by **existing** Applications or Application Systems. Note : this means Business Capabilities, Application and/or Application Systems have been previously captured in repository or imported with the ITPM import tool.
Business Architecture	Value Streams	allows import of Value Streams : creating Value Streams and their sub-Value Streams
	Value Stages	allows import of Value Stages : creating Value Stages and links to their owning **existing** Value Stream and required **existing** Business Capabilities
	Business Function Areas	allows import of Business Function Areas : creating Business Function Areas and their sub-Business Function Areas
	Business Functions	allows import of Business Functions : creating Business Functions and links to their owning **existing** Business Function Area, required **existing** Functionalities and required Business Skills
	Business Partners	allows import of Business Partners : creating Business Partners
Date Format	Date Format should be:YYYY/MM/DD	
Empty cells by mistake	Cells with missing data (for consistency) will be highlighted like this	

EVALUATING APPLICATION ASSETS

Each application manager can evaluate applications for which he/she is responsible based on three criteria: business, functional and technological. See "Evaluating Application Criticality", page 164.

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, etc.) needed to assess applications of the portfolio.

> 🕮 *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 objects (for example applications for a an inventory portfolio) to be compared based on comparison criteria associated with the portfolio.*

You can also create inventory portfolios for technologies. 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. Click the **Applications** navigation menu.
2. In the edit area, select **By portfolio**.
   The list of application portfolios appears.
3. 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:

- In the application portfolios list, click the one you wish to study.
  Portfolio properties pages appear.

Portfolio characteristics

Portfolio characteristics are divided into several sections:

- **Identification**: name, portfolio type, study dates, comment.
- **Portfolio Criteria**: see "Defining Portfolio Assessment Criteria", page 235
- **Responsibility**: displays person responsible for the portfolio
- **Sub-Portfolios**
- **Report: enables creation of analysis reports on the portfolio.** See "Reports Embedded in a Portfolio", page 247.

Inventory

This page enables listing of portfolio applications - or technologies - and evaluation of their criticality. See "Evaluating Application Criticality", page 164.

In this page, the portfolio manager can launch information gathering for a set of applications. See "Collecting Data for a Set of Applications", page 231.

It is also possible to run instant reports on selected applications or technologies. See "Instant reports", page 170.

Rating scale

This page enables definition of values of *criteria* associated with applications. See "Evaluating Applications on Portfolio Criteria", page 238.

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

Reports

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.
2. In its properties window, click the **Inventory** page.
   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 hidden commands button ⋮ then **Fill Data**.
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. In the navigation bar select **Tools > Data Calls**.
2. Click the form to open it.
   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

HOPEX IT Portfolio Management enables you to generate a business capability map in the form of a report that reflects the functional coverage of an application portfolio.

To generate a Business Capability Map from an application portfolio:

1. Display the portfolio properties.
2. Click the page **Reporting** > **Business Capability Map Breakdown**.

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

☛ *For more details on capability maps, see "Defining Business Capabilities", page 20.*

Report parameters

This consists of defining report input data.

Settings	Parameter object	Comment
Business capability	Business capability / Business capability Map	One object mandatory.
In-depth research of the application in portfolios and sub-portfolios.		This option displays the applications defined in the sub-portfolios of the portfolio to which the report relates.
Characteristics	Evaluation criteria See "Defining Portfolio Assessment Criteria", page 235.	Displays in the report the application evaluation results for the selected characteristics: - Technology compliance - Cost - Technical efficiency - Etc. Select the form in which you want to display a characteristic: graphic element or highlighting of the application concerned by the characteristic.

Example of a business capability map example

You also have the **Business Capability Breakdown Time Report** that shows the evolution of the functional coverage of an application landscape over time.

See also "Portfolio Analysis Reports", page 247.

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 objects in a portfolio. Criterion values can be predefined.*

To define portfolio criteria, you can:

- use existing criteria in the repository,
- Create new criteria and associated values.

> ☛ *Criteria are defined from the MetaClass (object type) **TaggedValue**. Some windows use this term rather than **Criteria**.*

Using Existing Criteria

To connect existing criteria to an application portfolio:

1. Click the **Applications** navigation menu.
2. In the edit area, select **By portfolio**.
   The list of application portfolios appears.
3. Display the portfolio properties.
4. Click the **Characteristics** page.
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 applications.

> ☛ *For more details on modeling of costs, see "Managing Application and Application System Costs", page 159.*

Standard criteria for analyzing the costs declared on applications according to 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 applications carry the extension "Reference", for example "Reference Costs".

Given that these criteria are automatically calculated, they cannot be modified from the **Inventory** and **Evaluation** pages.

☛ *For more details, see "Evaluating Applications on Portfolio Criteria", page 238.*

Creating a New Criterion

To create new criteria for portfolio application comparison:

1. Open the **Criteria** properties page of the current portfolio.
2. Click the **New** button.
   The creation window opens.
3. Indicate the name of the site and click **OK**.
   The new criteria appears in the list of portfolio criteria.

Defining criteria format

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

To define characteristics of a criteria:

1. Open the **Characteristics** properties page of the current criteria.
2. In the **MetaAttribute Type** field, indicate the type that will take the criteria 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

3. In the **MetaAttribute Format** field, indicate the Format that will take the criteria 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.***
4. Click **OK**.

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

1. Open the **External Value** properties page of the current criteria.
2. 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 **Characteristics** page.

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 assessed against the various portfolio criteria.

☛ *Standard criteria relating to costs are automatically calculated, they cannot therefore be modified in this property page. For more details on these criteria, see "Using Existing Criteria", page 235.*

Accessing evaluated applications

To access evaluations of all portfolio applications:

1. Open the properties of the portfolio.
2. Select the **Evaluation** page.
   The list of evaluations of all portfolio applications according to different criteria is displayed.

PGenerating 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

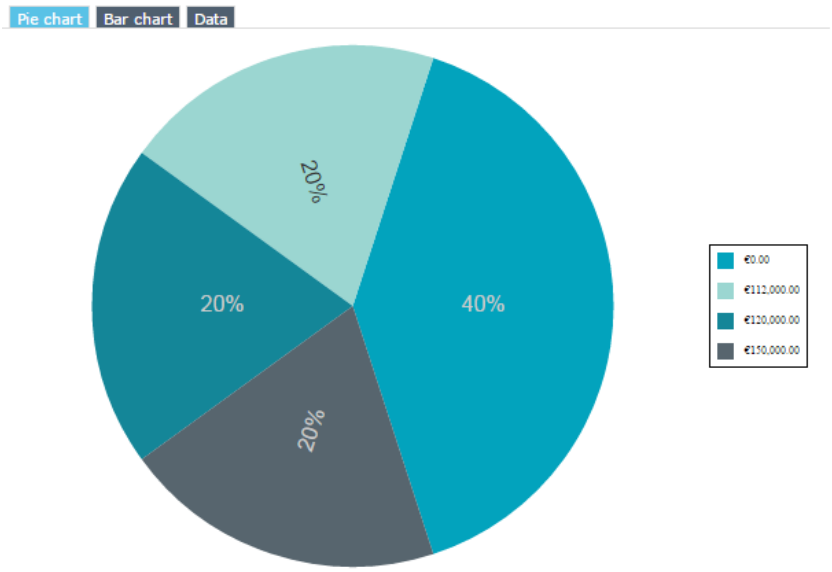
Instant reports allow you to carry out drill-down analysis on evaluated objects. They provide greater detail depending on specific analysis perspectives (quantitative, time, etc.).

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

1. Open the properties of the portfolio.
2. Click the **Inventory** page.
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".

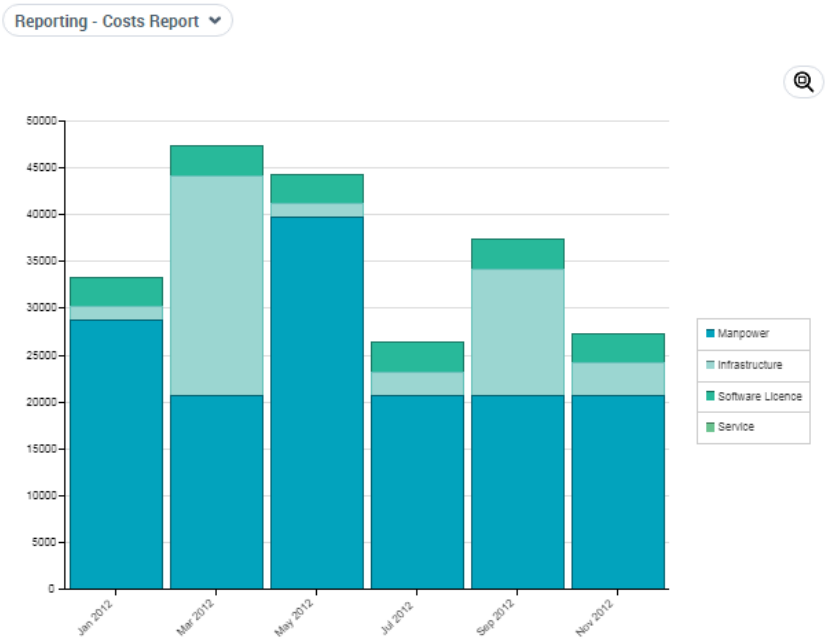
Portfolio costs report

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.

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 EA functional administrator must register with the CAST Highlight portal.

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

To enter your CAST Highlight user number in HOPEX:

1. In the HOPEX desktop, click **Administration** > **CAST Highlight** > **Manage Cast Highlight User**.

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

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

Declaring other users in CAST Highlight

Once the functional administrator is registered in CAST Highlight and has established a connection between HOPEX and CAST Highlight, he/she can declare other CAST Highlight users in HOPEX. 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. In the HOPEX desktop, click **Administration** > **CAST Highlight** > **Manage Cast Highlight User**.
   The list of users appears.
2. 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. In the HOPEX desktop, click **Administration** > **CAST Highlight** > **Manage Cast Highlight User**.
2. Click the drop-down list, then **Me** to display your information relating to CAST Highlight.
3. Select your name and click the **More** > **Generate Token** button.
   The window for creating a token appears.
4. Specify:
   - your CAST Highlight user email
   - your password entered in CAST Highlight
5. 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. Display the portfolio properties.
2. Click the **CAST Highlight Campaigns** page.
3. **Portfolios containing specially developed 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**.

EVALUATING THE CLOUD MIGRATION

The Cloud Migration assessment questionnaire is addressed to the IT managers and owners of the evaluated applications. It presents a series of questions for each application, the answers to which will enrich the analysis of application migration to the Cloud.

> ☛ *For details of the migration analysis, see "Cloud Migration Analysis".*

Presentation of the Cloud Migration Questionnaire

To launch a Cloud Migration Assessment Questionnaire:

1. In the navigation menu, click **Tools** > **Assessments**.
2. In the edit area, click **Session Follow Up**.
3. Display "All sessions".
4. Click **New**.
5. Select the "Cloud Migration Assessment" template.
6. Select the portfolio of applications to be evaluated.
7. Click **Next**.
   A view of the assessment shows the number of objects assessed and the list of respondents. The respondents are the people appointed "IT Manager" or "Local Application Owner" on the applications in the portfolio.
   > ☛ *The people involved in a portfolio are visible in the properties of the portfolio. See also "Designate People Responsible for Applications".*
8. Click **Next**.
9. Indicate when to send the questionnaire to respondents:
   - Now
   - At a specific date and time.
10. Click **OK**.
    The questionnaire is sent to respondents.

Questionnaire Content

The questions in the questionnaire concern an application and are intended to determine the value of migrating the application to the cloud.

The questions addressed to the application respondents are as follows.

Motivations for moving the application to the Cloud

What are the reasons for moving the application to the cloud? The more options you check, the more interest there is in moving to the cloud.

Business and IT Agility

Check the possible motivations:

- Speed to market (quick availability of required resources)
- Data and software accessibility from (quite) anywhere
- Scalability (adaptation to workload)
- Innovation (use capability existing only in cloud)
- Obsolescence avoidance (to be always aligned with technical "state of the art")

Cost improvement

Check the possible motivations:

- Cost reduction (infrastructure assets, staff costs, sub-contractor diversity)
- From Capex to Hopex: we go from innovation costs to operating costs
- Cost reduction (infrastructure assets, staff costs, sub-contractor diversity)

Corporate identity

Green orientation.

Technical interest

Auto scale: automatic load distribution on the servers.

COTS Application

In the case of a COTS ("off-the-shelf") application, the level of customization must be determined.

An application that requires a lot of customization is more difficult to migrate.

Saas Version of the COTS application

The existence of a SaaS version facilitates migration to the Cloud.

Data breach

Likelihood

Determine the risk of a data breach during and/or after Cloud migration.

Impact

What would be the impact of a data breach during and/or after Cloud migration.

Service disruption risk

Likelihood

Determine the risk of a service disruption during and/or after Cloud migration.

Impact

What would be the impact of such an interruption?

Risk of out-of-control budget

Likelihood

What is the probability of an out-of-control budget risk during cloud migration?

Impact

What would be the impact?

Technical skills of the migration team

Determine the skill level of the migration team:

- Required skills are mastered
- It won't be a problem with a little training/coaching
- Required skills are totally new for the team

Migration effort

What would be the level of effort to migrate to the cloud?

PORTFOLIO ANALYSIS REPORTS

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

Reports Embedded in a Portfolio

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

These reports are based on information provided by the application owners. They do not require any configuration and are available to application portfolio managers.

To access existing reports on an application portfolio:

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

☛ *For detailed information on reports, see "Generating Reports", page 375.*

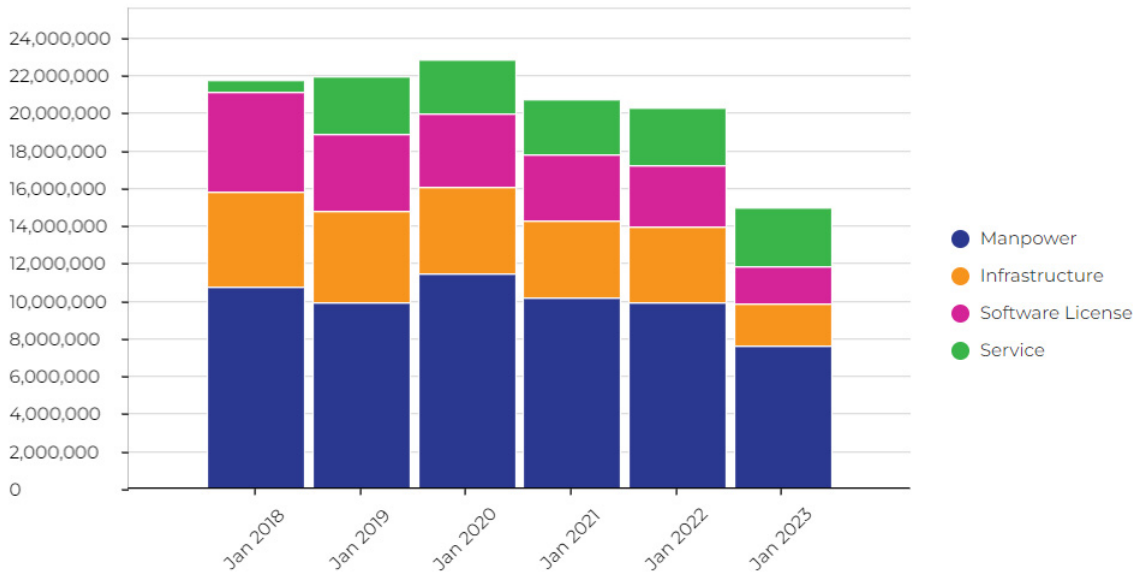
Costs Report

The report presents the cost analysis of the portfolio applications, by type (manpower, infrastructure, etc.) and by year. It offers different views:

- A graphical view of the cost breakdown
- A table of costs by nature
- A table of costs by application

☛ *For further information on application costs, see "Managing Application and Application System Costs".*

Example of costs (graphical view)



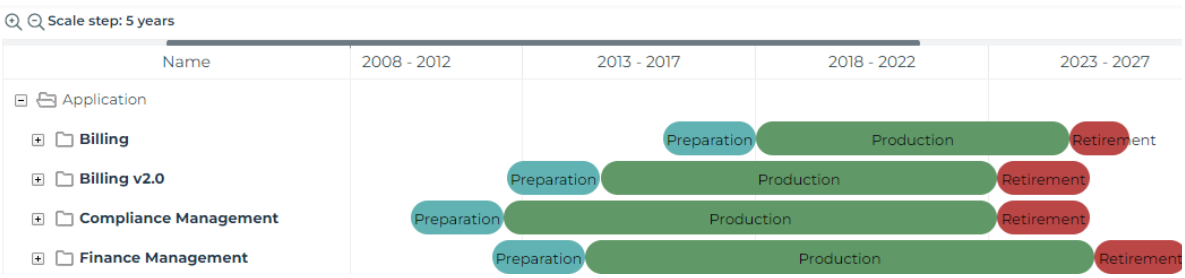
Gantt Chart

The Gantt chart represents the lifelines of applications making up the portfolio.

The preparation, production and retirement phases are described for each application.

☛ *For more information on application life cycle, see "Defining Application Life".*

Example



You can customize the report scale to 1, 2 or 5 years.

Application Inventory and Dependencies

This report presents the functional characteristics of the portfolio's applications in matrix form (lifecycle, associated technologies, business capabilities covered, etc.).

Example

Application	Application Owner	Life Cycle	Software Technologies	Business Capabilities	Process Categories	Deployment Consumers	Sensitive Data
Billing	Thomas Anne	Production	Windows Server 2016 - Essentials - 10.0 Office 2010 Internet information Services (IIS) 8 SAP R/3 WF .NET Framework 4.7.2	Financial Instrument Management Billing Management Billing Core Operations Payments Management Customer Requests Accounting Customers Support Sales	Publish Financial Information Manage Sales and Accounts Receivable Pay Taxes and Taxes Sell Products on the Internet Sell Products	Sales (Canada) Sales (US) Sales (Germany) Sales (UK) Sales (Italy) Sales (France) Accountability department Sales (Brazil) Sales (Japan) Sales (Belgium)	No
Billing v2.0	Thomas Anne	Retirement	SAP R/3 WF Internet information Services (IIS) 8 Internet Explorer 10 Office 2013 Internet Information Services (IIS) - 10.0 * Apache log4j v2.17 Windows Server 2016 - Essentials - 10.0	Accounting V2 Finance Management Accounting Purchasing Sales	Procurement Publish Financial Information Manage Acquisitions and Acquittable Accounts Manage Sales and Accounts Receivable Pay Taxes and Taxes Sell Products on		No

Application Positioning

This report shows distribution of applications related to the business addressed, functionalities covered and technologies used. This presentation enables rapid identification of applications to be developed.

The report is based on the **Business Value**, **Functional Support** and **Technical efficiency** from the latest application evaluation.

☛ *See "Evaluating Application Criticality".*

Example

Eliminate

Costs: €956,118.00 (1%)

3 applications (17%)

Application	Business Value	Technical Efficiency	Functional Support	Reference Costs
Payroll Management System	Low	Low	Medium	€0.00
Practical Law	Low	Poor	Low	€956,118.00
Office Supplies Management	Poor	Poor	Poor	€0.00

Renovate

Costs: €133,267.00 (0%)

3 applications (17%)

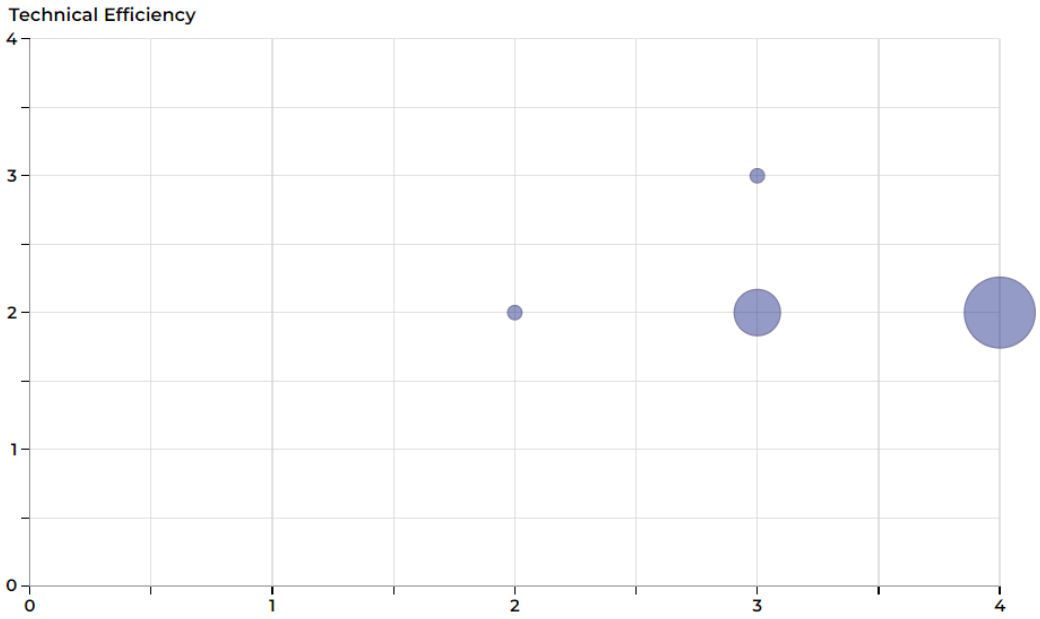
Application	Business Value	Technical Efficiency	Functional Support	Reference Costs
Investors management	Good	Low	Medium	€38,200.00
Risk Management	Good	Low	Medium	€82,067.00
CMDB Management	Medium	Poor	Good	€13,000.00

Applications TIME Report

This report uses Gartner's TIME (Tolerate, Invest, Migrate and Eliminate) model to analyze the business value of applications.

In the **Assessed characteristics**, you can select functional support or technical efficiency.

Example



☛ *See also "TIME Analysis".*

Business Capability Maps

This report covers distribution of applications in business capabilities .

☛ *See "Generating the Business Capability Map of a Portfolio".*

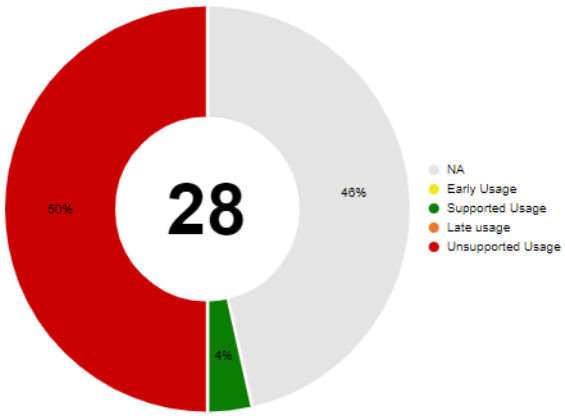
Software technology support alert

This report tracks the obsolescence of technologies associated with the application portfolio.

It uses the technology **Support Alert** attribute to detect any conflicts between their use in the organization and their official lifecycle.

☛ *See "Defining Technology Life".*

Example



Click on a percentage of the graph to access the list of technologies concerned.

Data handled by portfolio applications

This report presents the data used by the portfolio's applications in the form of a word cloud.

☛ *See also: "Defining the Data Used by an Application".*

Data Category of Portfolio Dendrogram

This report displays in dendrogram form the data used by the applications in the portfolio, according to their category.

☛ *See also: "Defining Data Categories".*

Other Reports

Other reports, available in the list of report templates supplied as standard, offer an analysis of portfolio content.

See:

- "Application decommissioning plan report"

SMART Analyses

SMART analyses are designed to:

- Present repository data to support decision-making
- Formulate recommendations for a decision in a given field
- Preparing for action after the decision

HOPEX IT Portfolio Management offers two SMART analyses to evaluate the applications in a portfolio:

- TIME Analysis
- Cloud Migration Analysis

How the SMART analyses work

TIME Analysis and Cloud Migration Analysis are performed on a portfolio of applications. They present, for each application in the portfolio, the values of aggregated indicators, as well as the decision recommendation, when available.

Aggregate indicators are calculated from basic indicators that have a default weight in the calculation.

The value of the aggregated indicators is accompanied by a data completeness percentage that evaluates the relevance of the analysis.

In the analysis report, commands allow you to:

- recalculate the values of the aggregated indicators
- graphically view the values of the aggregated indicators
- see the data completeness details: a matrix indicates which basic indicators have been filled in for each application
- finalize analysis

TIME Analysis

TIME analysis provides rationalization recommendations for the applications in a given portfolio.

Indicators and their weight in the analysis

The recommendations displayed in the analysis are calculated on the basis of aggregated technical and business indicators.

Aggregated indicators	Basic indicators	Default weight
Business indicator	Business value Functional support Service-level agreement (SLA)	60% 30% 10%
Technical indicator	Technical efficiency Technology obsolescence Application life cycle	40% 40% 20%

Sources of basic indicators

The analysis is based on the following basic indicators:

- **Business Value**, **Functional Support** and **Technical efficiency** from the latest application evaluation.

  ☛ *See "Evaluating Application Criticality".*

- The **Service Level Agreement (SLA)** defined in the **Service Level Agreement** section of the application properties.
- The **Obsolescence risk**: this corresponds to the highest risk of the technologies linked to the application.

  ☛ *See the obsolescence risk in the "Overview" of an application.*

- The **Life cycle**; the analysis looks for the application's production end date and calculates the difference with the current day.

  ☛ *See also "Defining Application Life".*

Decision options

The possible decisions are as follows:

- "Tolerate": applications that create sufficient business value and whose costs are manageable, maintained for various reasons.
- "Invest": applications that are most lucrative and interesting in terms of investment.
- "Migrate": applications that need to be modernized.
- "Eliminate": applications that have low business value or high risk. They must be eliminated.

Cloud Migration Analysis

Cloud migration analysis presents migration recommendations for applications in a given portfolio.

Indicators and their weight in the analysis

The recommendations displayed in the analysis are based on the following indicators.

Aggregated indicators	Basic indicators	Source	Default weight
Migration Appetite	Last "Time" decision	Repository	30%
	Latest application criticality assessment	Repository	15%
	Motivation: number of motivations	Questionnaire	25%
	Life cycle (the end of production is approaching)	Repository	15%
	Auto scale	Questionnaire	15%

Aggregated indicators	Basic indicators	Source	Default weight
Migration Easyness	Number of different application flows	Repository	25%
	Number of partner applications	Repository	25%
	Data regulations	Repository	25%
	Shared databases	Repository	25%
Migration Readiness	CAST Cloud Ready Score	Repository	20%
	Migration effort	Questionnaire	20%
	Application COTS (Customization weight)	Questionnaire	20%
	Saas Version of the COTS application	Questionnaire	20%
	Technical skills of the migration team	Questionnaire	20%
Migration Safeness	Response time requirement	Repository	20%
	Big data transfer required	Repository	20%
	Data Breach Risk	Questionnaire	20%
	Service disruption risk	Questionnaire	20%
	Risk of out-of-control budget	Questionnaire	20%

Sources of basic indicators

The analysis calculates a score between 0 and 4 for each basic criterion. The value of the indicator is then aggregated with a weight assigned to it. The aggregate score is normalized to 100.

☛ *The aggregate score is not an integer.*

The value of the basic indicators is based on:

- The TIME matrix values:
  - "Tolerate": means that the application has a good technical score but less at business level. It is kept pending a decision. Migration score: 2.
  - "Invest": high business and technical value. The application is already good as it is. Score: 3.
  - "Mitigate": applies to applications that we want to keep but restructure. The migration score is high: 4.
  - "Eliminate": applications to be excluded. Value: 0.
- The last criticality evaluation of the application (business, functional, technology).

  ☛ *See "Evaluating Application Criticality".*
- The migration motivations from the migration assessment questionnaire: the more options are checked, the higher the score. If 4 or more options are checked, the score is 4.

  ☛ *See "Evaluating the Cloud Migration".*
- Application lifecycle: the more distant the end date, the more interesting it is to migrate to the Cloud. The value of the indicator takes into account the number of months between the start date and the end date of production:
  - between 0 and 6 months = 0
  - between 7 and 12 months = 1
  - between 13 and 30 months = 2
  - more than 49 months = 4

  ☛ *See also "Defining Application Life".*
- The number of application flows sent or received by the application: as the number of flows increases, the migration score decreases (as a large number of flows increases security risks, bandwidth problems, etc.).
- The number of distinct partner applications for flows sent or received by the application: the more partner applications there are, the lower the score.
- The number of regulatory frameworks associated with the data categories managed by the application: the more regulations there are, the lower the score.
- The number of deployed databases used by application software installations that are also used by software installations of other applications. The more databases, the lower the score.
- CAST Cloud Ready Score: this is CAST Highlight's analysis of an application's source code. The higher the parameter value, the higher the migration score.
- Application flows with "Required latency " qualification: the higher the latency value, the higher the score.
- Application flows with the "Communication weight" qualification. As the weight of communication increases, the score decreases.

  ☛ *See IT Architecture Guide > Modeling application architectures > Describing an Application Data Flows > Using a Scenario of an Application Flows diagram > Application flow qualification.*

Recommandations and decisions

By default, the recommendations are calculated from the ranges of the **Business Value** and **Technical Efficiency**. indicators. The other indicators are not included in the recommendation.

Recommandations of the analysis are:

- Rehosting/Re-platforming
- Refactoring/Repurchasing
- Retire
- Retain

On these recommendations, possible decisions are:

- Replatform
- Repurchase
- Retain
- Refactor
- Rehost
- Retire

Once the decision to migrate is made, it can be recorded for each application in the portfolio.

Running a Smart analysis

To run the analysis:

1. In the navigation bar select **Tools** > **Smart Analyses**.
2. Select the analysis type.
3. Select the portfolio to be analyzed.
4. Run analysis.
   Recommendations are colored to highlight the decisions to be made.
5. Select the decision from the associated drop-down list.

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.

Transformation projects can concern business capabilities, applications, application systems, technologies, etc.

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 "Introduction to Project Portfolio Management".

MANAGING THE DATA USED IN THE APPLICATION ASSETS

The following points are covered here:

- ✓ Introduction to Data Management in HOPEX IT Portfolio Management
- ✓ Creating a Business Glossary in HOPEX IT Portfolio Management
- ✓ Drawing up a Data Inventory in HOPEX IT Portfolio Management
- ✓ Defining the Data Used by an Application
- ✓ Assessing the Data Quality in HOPEX IT Portfolio Management

Introduction to Data Management in HOPEX IT Portfolio Management

Scope

HOPEX IT Portfolio Management allows you to link application assets to the data they use. You can therefore:

- make the inventory of data
- build a business glossary
- connect the data to the relevant applications
- assess data quality
- generate reports on an application to visualize the scope of the data used and measure the impact of an application removal on this data.

Thanks to the integrated HOPEX platform you can exploit this data inventory in the solution dedicated to the data architecture description **HOPEX Information Architecture**.

For more details on data governance see the **HOPEX Information Architecture** guide.

Profile Associated with Data Management

The Data Asset Manager is responsible for the creation of information assets.

The other profiles of **HOPEX IT Portfolio Management** can read access these assets and use them, for example in data flows.

CREATING A BUSINESS GLOSSARY IN HOPEX IT PORTFOLIO MANAGEMENT

HOPEX IT Portfolio Management allows you to make an inventory of the concepts that define business terms and generate a business glossary from which you can view their definitions, synonyms and illustrations.

Consulting the list of Concepts and their Definitions

HOPEX IT Portfolio Management offers a tool for easy consultation and creation of concepts from which you can generate a business glossary.

To display concepts and their definitions:

1. Click the **Data** > **Business Dictionaries** navigation menu.
2. In the edit area, click **Concepts**.

For more information on concepts, see: Defining Business Information.

Creating Concepts

To create a concept:

1. In the list of concepts, click **+ Browse**.
2. In the dialog box that appears, specify:
   - the term name
   - the owner
   - the definition of the term

   A term is the designation of a concept in a given language. Example: the "Country" concept has the "Pays" in French and "Country" in English.
3. Click **OK**.
   The new concept appears in the edit area.
   By default, a term is automatically associated with it.

Generating a Business Glossary

HOPEX provides a ready-to-use glossary report to automatically build the business glossary with terms derived from a set of Business dictionaries. For each term, the glossary displays a list of associated definitions with their text, synonyms and components list.

To launch a glossary report:

1. Click the **Reports** navigation menu.

2. To the right of the edit area, click the **Create a report** button.
3. Search for the "Glossary Report" and create the report.
4. Select the source business dictionary(ies).

   ☛ *You can select more than one.*

5. Click **Preview**.
6. Click **Continue** to give it a name, a description and rights.
7. Click **Save and open**.

DRAWING UP A DATA INVENTORY IN HOPEX IT PORTFOLIO MANAGEMENT

In **HOPEX IT Portfolio Management** you can define business data (Concepts, Terms, etc.) and logical data (Classes, Attributes, etc.).

Business Dictionary

A business dictionary collects and structures a set of concepts that expresses the knowledge of a particular area.

The basic component of a business dictionary is the **Concept**.

> 🕮 *A concept expresses the essential nature of a being, an object, or a word through its properties and characteristics or its specific qualities.*

The word that is associated with a **Concept** and which depends on language is a **Term**.

> 🕮 *A term is a word or word group, that is used for a specific meaning in a specific context.*

To create a business dictionary with **HOPEX IT Portfolio Management**:

1. Click the **Data** > **Business Dictionaries** navigation menu.
2. In the edit area, select **Hierarchy**.
3. Click the icon of the **Business Dictionaries** folder and click **New** > **Business Dictionary**.
4. Specify:
   - The name of the business dictionary
   - the owner (optional)
   - a description (optional)
5. Click **OK**.

From the Hierarchy View of the business dictionaries you can create concepts and terms, as well as concepts domains.

For the definition of terms see also Creating a Business Glossary in HOPEX IT Portfolio Management.

Concept

To create a concept from a business dictionary:

1. In the **Hierarchy** view, click the icon of the business dictionary then **New** > **Business Information Building Block**.
2. Select the "Concept" object type.
3. Click **Next**.
4. Enter the **Name** of the concept.

5. The **Existing Terms** section lists terms with the same name as the new concept. You can choose to use an already existing term, or create a new term.

   📖 *A term is a word or word group, that is used for a specific meaning in a specific context.*

   ☛ *If a term has already been created with the same name as the new concept, this term is automatically connected and appears automatically in the **Term** section.*
6. In the **Definition Text** field, enter the text of the concept definition.
7. Click **Next** to associate an image with the concept or **OK** to finish.

Concept Domain

A concept domain is a sub-set of elements of a business dictionary that reduces the scope of a field.

To create a concept domain:

1. In the **Hierarchy** view, click the icon of the business dictionary then **New** > **Business Information Building Block**.
2. Select the "Concept Domain" object type.
3. Click **Next**.
   The concept domain appears in the **Concept Domain** folder of the business dictionary.

Concept Domain Map

A Concept Domain Map is a business information urbanization tool. It represents the concept domains of a business dictionary and their dependency links.

Creating a Concept Domain Map

To create a Concept Domain Map:

1. Click the business dictionary icon then **New** > **Concept Domain Map**.
   The map appears under the business dictionary.

Creating the map diagram

To create the diagram of the concept domain map:

❱ Move the mouse over the map and click the **Create a diagram** button.

Adding components to the map

See The Components of a Concept Domain Map.

Data Dictionary

A data dictionary collects and structures a set of logical data.

Logical data is a realization of business data (concepts). You can define logical data to describe the data used in applications (Data Store) and in flows exchanged between applications.

See also: Defining the Data Used by an Application.

Defining Data Categories

The data category is a mechanism for classifying data such as concepts or classes. You can define one or more categories on the data.

Examples of data classification:

- Sensitive data
- Reference data
- Confidential data
- etc.

Importing the module of Categories

To use the categories, your administrator must import the **Privacy Management Content** module in your environment.

For import a module in **HOPEX**, see "Importing a module in **HOPEX**" chapter in the **HOPEX Administration** guide.

Accessing the list of categories

To access the list of data categories:

1. Click the navigation menu then **Data** > **Data Architecture**.
2. In the edit area, click the **Hierarchy** tile.
3. Expand the **Data Categories** folder to see the list of data categories.

Indicating the Category of a Data Item

You can define the category of a data in the data properties.

You can also specify the category when you connect data to an application. See Connecting Data to an Application.

Visualizing the data of a data category

The **Data Categories Dendrogram** report allows you to visualize where the data of a category is used, for example in the application inventory.

To launch this report:

1. Click the category to display its properties.
2. Click the **Reporting** page.
3. Select the **Data Categories Dendrogram** report.

You can also run a report from a portfolio of applications to view data from specific categories used by the applications in that portfolio.

To launch the report on a portfolio of applications:

1. Open the properties of the portfolio in question.
2. Click **Reports** > **Data Category of Portfolio Dendrogram**.

Importing Data in HOPEX IT Portfolio Management

Two Excel templates are available for importing and exporting data:

- The "Concept Template" to import a list of terms with their definitions, synonyms, etc. See Importing Business Data from an Excel File.
- The "Data Excel Template" template to import classes, attributes, parts, etc. See Importing Logical Data from an Excel File.

Importing classes can result in the creation of concepts or the linking to concepts that exist under the same names. In this way, business and logical data are automatically linked. This mechanism is used to initialize a business dictionary. It can be configured using the **Business dictionary initialization** option. For further details, see Initializing a Business Dictionary Using Logical or Physical Data.

DEFINING THE DATA USED BY AN APPLICATION

Within the framework of personal data protection, the application owner and data manager have the possibility to document the data used by the applications and the way in which this data is accessed.

The information you can enter on an application is:

- the personal data processed by the application, with access rights (CRUD).
- the rights of the persons concerned.
- the management of information to the persons concerned and their consent.

Connecting Data to an Application

To connect data to an application:

1. Open the properties pages of the application.

   ☛ *See also Accessing Application Properties.*
2. Click the **Characteristics** page.
3. Expand the **Data** section.
4. Click **New**.
5. In the wizard that appears, select the object type that represents the data item (Class, Entity, Data view) and the object in question.
6. Click **Next**.

Once the data has been defined, you can specify:

- the access to the data: in create mode (**C**reate), read mode (**R**ead), update mode (**U**pdate), or delete mode (**D**elete).

  ☛ *The content of the **Data access** column is calculated automatically according to the selected actions ("CRUD" is the default value).*
- the category of data: biometric, financial, medical, etc. See Defining Data Categories.
- if the application is “Golden Source” or “Golden Copy” of this data.

Analyzing Impact between an Application and the Data it Uses

The **Data Impact** property page allows you to visualize the scope of data used by an application and to measure the impact of application on the data, and vice versa.

For further information, see Data - Data Gouvernance > Data Architecture and Tools > Use of Data by the Information System.

See in which Applications a Data is Used

Reports allow you to see where data is used in your application assets.

To access these reports in ITBM:

1. Click the navigation menu then **Reports** > **Data Reports**.
   Data usage report templates appear in the edit area.

For further information, see Data - Data Gouvernance > Data Analysis Reports > Data Usage Reports.

ASSESSING THE DATA QUALITY IN HOPEX IT PORTFOLIO MANAGEMENT

An assessment is designed to give values, in a specific context, to data characteristics.

In **HOPEX IT Portfolio Management** it is possible to carry out a direct assessment on the data, as an expert.

> ☛ *For an assessment campaign on the data, you need the **HOPEX Information Architecture** solution.*

The evaluation is supplemented by result analysis tools.

Assessing a Data Item

The assessment can focus on business data such as concepts or logical data such as classes.

To directly assess a data item:

1. Open the properties of the data item in question.
2. Select the **Evaluation** page.
3. Click **New**.
4. On the page that appears, select a value for each question.

   > ☛ *For certain identified problems, an optional remediation plan can be created for data cleansing.*

5. Click **OK**.

Data Evaluation Criteria

HOPEX IT Portfolio Management provides by default a data evaluation template that focuses on the following criteria:

Completeness

Identifies percentage completeness of data and missing properties.

Example

Below some columns have no value (in red) and others are truncated (Dupont@Samp.gm)

First Name	Last Name	Billing Address	Shipping Address	Email
Dupont		9 rue Rene Coty Paris 75002	NULL	Dupont@Sample.gm
Durand	Robin	344 rue de Rivoli 75001	NULL	Durand@Sample.com

Accuracy

Identifies the percentage of accurate, reliable data.

Example

Below, for Dupont, the position and the department are reversed.

For Durand, the item displays a typographical error

For Rene, the department displays an erroneous value.

First Name	Position	Department	Email
Dupont	Product Management	Business Analyst	Dupont@Sample.gmail
Durand	Sftware Engineer	Product Development	Durand@Sample.com
René	Test Analyst	xxùpoi*£	Rene@Sample.com

Consistency

Identifies the percentage of inconsistency in the data.

Example

Below is an inconsistency in the data format.

Order Number	Client Id	ShipDate	Total
1000	1	1/12/2018	100$
1001	2	1/12/2018	200£

Validity

Identifies the percentage of invalid data.

Example

The value of the "Available units" field on Prod1 should not be negative.

A withdrawal date is set to Prod2 but the field "Available units" does not display a null value.

Product Code	Name	Units Available	Retire Date
1000	Prod1	-10	12/4/2020
1001	Prod2	100	31/12/2017

Uniqueness

This criterion evaluates duplicate data.

Example

The "Client" table must not contain the same occurrence twice, each record must be unique.

Freshness

This criterion assesses whether the information is available at the required time.

Data Quality Evolution Report

A report template allows you to follow the evolution of the quality of classes and concepts.

To launch this report:

1. Click the pop-up menu then **Reports** > **Data Reports**.
2. In the edit area, click the **Data Quality Evolution** tile.
   The report appears.
3. Select the information concerned (class or concept).
4. Click **Refresh the report**.

Project Portfolio Management

INTRODUCTION TO PROJECT PORTFOLIO MANAGEMENT

Project Portfolio Management (PPM) is an approach used by an organization to analyze the potential return of a set of projects. Its primary aims are to:

- Control the suitability of projects with respect to the strategic objectives of the organization.
- Ensure consistency between the projects and the organization's capability.

This approach examines the risks, the available funds, the probable duration of a project and the expected results. A group of decision-makers assesses the benefits and the priority to be given to each project to determine the best way to invest the capital and the human resources of the organization.

In **HOPEX IT Business Management** and **HOPEX IT Portfolio Management** solutions, the **HOPEX Project Portfolio Management** option offers a set of features to:

- Submit and assess the project demands and candidate projects.
- Validate the candidate projects: the project demand goes through a validation process that results in a project creation.
- Select and define the project priority: a limited list of projects is drawn up according to selection criteria (strategic, financial, etc.)
- Analyze and arbitrate the projects.
- Follow project progress.

> ☛ *For more details on **HOPEX** features, see the **HOPEX Common Features** guide which presents features common to all **HOPEX** products.*

THE SCOPE COVERED BY PPM

The **HOPEX Project Portfolio Management** option covers the following concepts:

- The management of project demands and candidate projects
- Project portfolio management

Prerequisites for Creating Projects

Importing the PPM module

To be able to use functionalities of **HOPEX Project Portfolio Management**, you must first import the **PPM** module in your environment.

For import a module in **HOPEX**, see "Importing a module in **HOPEX**" chapter in the **HOPEX Administration** guide.

It contains:

- The following portfolio types:
  - project demand portfolios
  - candidate project portfolios and projects in progress
- The states of the project:
  - Project demand
  - Candidate project
  - Ongoing project
- The two criteria weighting models:
  - PPM value & risk weighting model
  - PPM flat weighting model

Defining project domains

Each project belongs to a project domain.

Before creating a project, you must create the corresponding domain.

See Defining Project Domains.

Managing Project Demands and Candidate Projects

Identifying and documenting demands

The demand manager can create a project demand or research a project demand created from an idea.

☛ *For idea creation, see Submitting and evaluating ideas.*

The demand manager can document the project charter and its business case. He/she can in particular:

- Define the scope of the project in terms of deliverables or impact on the capabilities of the enterprise,
- Define a forecast budget,
- Identify the project risks,
- etc.

Assessing demands

The demand manager can assess a project demand:

- According to qualitative and quantitative criteria defined in the project demand portfolio.
- Through the qualitative assessment (business value level, strategic alignment, cost, global risk level), which is used to calculate a global score for the project and compare the projects between each other.

Validating demands

The demand manager can submit a project demand to the demand approver.

The approver can validate or reject the project demand.

A validated demand leads to the creation of a candidate project, submitted for assessment to project portfolio managers.

Assessing candidate projects

In the same way as demands are assessed, candidate projects can be assessed:

- According to qualitative and quantitative criteria defined in the project demand portfolio.
- Through the qualitative assessment (business value level, strategic alignment, cost, global risk level), which is used to calculate a global score for the project and compare the projects between each other.

Validating candidate projects

The approver can validate or reject the candidate project.

When a candidate project is validated, it takes on the status of a project in progress.

Follow-up of ongoing projects

The project portfolio manager assigns a manager to the project, responsible for follow-up of the progress of the project. You can view the calendar and the progress of a project in a report.

Project Portfolio Management

Selecting the projects and defining priorities

Portfolio managers and administrators define the project domains that determine the strategic perspectives of the organization in which the projects are classified (for example: "Business projects", "IT projects").

Arbitration portfolios are automatically associated with the domains of the projects created. They group the projects in the domain, classifying them according to their type (project demands, candidate projects and ongoing projects).

In an arbitration portfolio, the project portfolio manager and approver can create analysis portfolios; they represent a sub-set of projects in the arbitration portfolio and can be assigned to a specific project portfolio manager.

In an arbitration portfolio or an analysis portfolio, the project portfolio manager can:

- Browse, in read-only, the criteria assessed at the project level (for example, the strategic alignment level, the risk level, the cost level and other attributes specific to the project).
- Assess the criteria specific to the portfolio (other than the project criteria).
- Generate project comparison reports (for example, bubble charts) based on these criteria.

Using an arbitration portfolio or an analysis portfolio, the project portfolio manager can create scenarios.

In a scenario, the project portfolio manager can choose to select or not a given portfolio line (which is different from the project validation), and note the impact of this choice in dedicated reports.

Analyze and arbitrate portfolio projects

Using a portfolio, the project portfolio manager can generate analysis and comparison reports to compare, for example, the accumulated risks or costs of a given scenario.

The project portfolio manager can keep one scenario or a set of scenarios.

ROLES IN HOPEX PROJECT PORTFOLIO MANAGEMENT

HOPEX Project Portfolio Management includes by default profiles and business roles with specific rights and tasks.

They are part of the workflow associated with objects.

Requester

The requester is the person who creates the demand (role created automatically on demand creation).

Demand Approver

The demand approver is responsible for validating the demand. The approvers can be defined globally for a project domain or a portfolio, or on a project-by-project basis.

Project Portfolio Approver

The project portfolio approver is responsible for validating the demand. The approvers can be defined globally for a project domain or a portfolio, or on a project-by-project basis.

Project Manager

The project manager is responsible for project completion and follow-up.

Project Portfolio Manager

The Project Portfolio Manager is responsible for the overall review and approval or rejection of candidate projects. He/she is responsible for assessing the risk level, the strategic alignment and the costs/benefits of the project in the project portfolio, and to thus define the relative benefits of the candidate projects and projects in progress.

Project Stakeholder

Project stakeholder is the role of an individual, team, or organization that represents their interests in the project outcomes.

DEFINING ENTERPRISE PROJECTS

According to the PMI® standard PMBOK, "a project is a temporary enterprise chosen with the aim of creating a product, a service or a unique result".

A project has a purpose in terms of an acquired, improved/extended or abandoned capability. A project generates project deliverables.

With **HOPEX Project Portfolio Management** option, you can:

- Submit project demands
- Define project content
- Assess project demands and candidate projects.
- Follow project progress

The points covered here are:

Defining Project Domains

A project can be defined in a given project domain.

The project domain defines the sector and the application scope of the project (for example: business function, IT, search and development). It is the container of a set of projects on which an arbitration can be conducted.

Two arbitration portfolios are automatically associated with a project domain:

- demand portfolios
- candidate project portfolios and projects in progress

For more details on arbitration portfolios, see Grouping Projects by Portfolio.

Creating a Project Domain

To create a project domain:

1. Click the **Projects** > **Project Domains** navigation menu.
2. In the edit area click **New**.
   The create a project domain window appears.
3. Enter the name of the domain.
4. Click **OK**.

When you create a domain, the two types of portfolios that correspond to the different project statuses (project demands, candidate projects and projects in progress), are also created. They are visible in the **Project Portfolios**.

Assigning a Domain to Persons

It is possible to define particular roles for users on a domain; these roles are then valid for all the projects in the domain.

To assign a person to a domain:

1. Display the domain properties.
2. Click the **Assignment** page.
3. Click **New**.
4. In the window that opens, select the person or person group.
5. Select their role. You can define the following roles:
   - Demand Approver
   - Project Portfolio Approver
   - Project Portfolio Manager
6. Click **OK**.

MANAGING PROJECT DEMANDS

The demand creators and the demand managers can create new project demands and view the project demands that were generated using ideas.

Demand managers can document the project charter as well as the business case. They can in particular define the scope of the project in terms of deliverables and the risks associated with the project.

Demand Management Process

The project demand process is broken down into three parts:

- Creating the demand
- Evaluating the demand
- Approving or rejecting the demand

Creating a Project Demand

To be able to create projects, you must import the PPM module. See Prerequisites for Creating Projects.

You must also have created a project domain. See Defining Project Domains.

To create a project demand:

1. Click the **Projects** > **Projects** navigation menu.
2. In the edit area, click the **Projects** tab.
3. Display "All projects".
4. Click **New.**
   The window for creating a project appears.
5. Select the "Demand" project type and click **Next**.
6. Specify:
   - The project name
   - the owner project domain
   - the project code (optional)
   - the planned start date
   - the planned end date
7. Click **OK**.

Defining the Project Charter

To define the charter for a project:

1. Click the **Projects** > **Projects** navigation menu.
2. In the edit area, click the **Projects** tab.

3. Display "All projects".
4. Click the project concerned to display its properties.
5. In the project properties window, click the **Project Charter** page.

The definition of the project charter includes:

- The **identification**:
  - project name
  - project owner domain
  - project code (optional)
  - project manager
  - state (life cycle status) Defined automatically.
  - status (workflow step). Defined automatically.
  - description (comment)
- The project **category or categories**. See Idea category.
- The **initiating ideas**: ideas that have inspired the project.

Defining the Business Case of a Project

To define the business case for a project:

1. Click the **Projects** > **Projects** navigation menu.
2. In the edit area, click the **Projects** tab.
3. Display "All projects".
4. Click the project concerned to display its properties.
5. In the project properties window, click the **Business case** page.

Transformation objective

A project has an objective with respect to the capabilities of the enterprise (as defined in a capability map); it can:

- deliver the means to acquire a new capability (innovation)
- extend the coverage of a capability already held (improvement)
- restrict or abandon the coverage of an existing capability (rationalization).

To add a transformation objective to the project:

1. In the **Transformation Objective** section, click **New**.
   The creation dialog box for a transformation objective opens.
2. Specify:
   - its name
   - the transformation type (Innovation, Improvement, Rationalization)
   - the capability transformed
3. Click **OK**.

Project deliverables

A project deliverable defines the result of a project and its impact on or its contribution to the architectural solution landscape of the enterprise.

It is defined by a solution block (example: an organization, an application, an infrastructure element) delivered by the project in the target architectural landscape. Within the framework of a project deliverable, a block can be:

- New: the project delivers a new block to the target architectural landscape.
- Updated: the project modifies an existing block in the current landscape, for example by extending its lifecycle, and delivers the updated version to the target architectural landscape.
- Deleted: the project deletes an existing target architectural block, which will therefore not be part of the target landscape.

To add a deliverable to the project:

1. In the **Project Deliverables** section, click **New**.
   The window for creating a deliverable appears.
2. Specify if you want to:
   - create a new block
   - update an existing block
   - decommission an existing block
3. Click **Next**.
4. Specify:
   - the deliverable name
   - the deliverable type
   - the deliverable production dates
5. Click **OK**.

Deliverable production dates

To model component change scenarios for elements in your portfolio without impacting the life of components in place, you will associate an *object life* with the deliverables.

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

When the project is terminated (via the corresponding workflow command), the life cycle of deliverables is automatically transferred to the objects concerned.

To define the life of a project deliverable:

1. In the **Deliverables** section, select the deliverable in question.
2. Click **Properties**.
   The properties window of the deliverable appears.
3. Click the drop-down list then **Object Life**.
4. Click **New**.
   The creation of object life dialog box appears.
5. Specify the following characteristics:
   - the **life cycle** that defines the list of possible object states.

     ☛ *For more information on proposed life cycles, see Defining Life Cycles.*
   - a **Begin Date** and an **End Date** which enable positioning of the object life in time.
6. Click **OK**.
   A Gantt char is used to view the steps of the life cycle of a deliverable.

On the project, the **Gantt char for the lifecycle of the project deliverables** details the lifecycle of the project deliverable.

Project dependencies

A project can depend on other projects:

- In a "positive" sense: a project can have another project as a prerequisite, of which one of the deliverables is necessary to build a deliverable of the dependent project (this is the equivalent of an AND logic: both projects must be conducted jointly to reach the final result).
- In a "negative" sense: two projects can be concurrent and mutually exclusive (this is the equivalent of the OR logic: only one of the projects must be managed, not both).

To associate a dependency with the project:

1. In the **Project Dependencies** section, click **New**.
2. Specify:
   - The name of the dependency
   - The project required
   - The type of dependency: "Exclusive" or "Prerequisite".
3. Click **OK**.

Project costs

The specification of the costs of a project take place through the cost lines.

One or more cost lines can be associated with a project.

 *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;
- state of the cost line .

Associated with a cost line can be:

- a periodic expense
- one or several fixed expenses

Creating a cost line

To create a cost line for a project:

1. Expand the **Costs** section.
2. Under **Cost Line**, click **New**.
   The **Creation of a cost line** box opens.
3. To create a single cost line, select option **Create only one cost line**.
4. Click **Next**.
5. Specify the **Name** of the cost line.
6. Select the **Cost Type**.
7. Select the **Cost Nature**.

8. Select the **state** of the cost line.

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

9. Click **Next**.
10. Define the periodic expense.

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

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

Adding a fixed expense

To associate a fixed expense with a cost line:

1. In the **Cost Line** section, select the cost line that interests you.
2. In the **Cost Line Expenses**section, click **New**.
   The **Creation of Expense** dialog box opens.
3. Specify:
   - the **Name** of the expense
   - the **Date** of the expense,
   - the **Amount** of the expense.
4. Click **OK**.
   The new expense appears in the **Fixed Expenses** section.

Project benefits

You can specify:

- the **Qualitative Benefits**: to be entered as a comment.
- the **Financial Value** of the project: in currency = project NPV (net present value), calculated outside the tool according to the standards of the enterprise.
- the **Return on Investment**: calculated attribute, as a %
  (Financial value - Budget) / budget
- the **Forecast Return on Investment**: calculated attribute, as a %
  (Financial value - Estimated total cost) / Estimated total cost
- the **Actual Return on Investment**: calculated attribute, as a %
  (Financial value - Real total cost) / Real total cost

Project risks

With **HOPEX IT Portfolio Management**, you can identify the risks linked to a project. Each risk is associated with a single project.

To create a project risk:

1. Expand the **Risk** section.
2. Click **New**.
   The risk creation dialog box appears.
3. Enter the name of the risk and the type of risk (cost, deadline, quality).
4. Click **OK**.

For risk assessment, see Assessing the Risks of a Project.

Assigning a Project to Persons

The persons who can be assigned to a project are those who perform one of the following business roles:

- Demand Approver
- Requester
- Project Manager
- Project Holder
- Project Portfolio Approver
- Project Portfolio Manager
- Project Stakeholder

The author of the idea and the innovation manager can assign persons to a project.

To assign a person or a person group to a project.

1. Click the **Projects** > **Projects** navigation menu.
2. In the edit area, click the **Projects** tab.
3. Display "All projects".
4. Click the project concerned to display its properties.
5. In the project properties window, click the **Assignment** page.
6. Click **New**.
7. In the dialog box that appears, select a **Person** or a **Person Group**, as well as their **Business Role**.
8. Click **OK**.

Repeat this procedure to assign other persons to the project.

Validating or Rejecting a Project Demand

After assessment, the demand manager can submit the project demand to a demand approver.

☛ *For more details on assessment, see Assessing a Project.*

The approver approves or rejects the demand.

Validating a project demand

A validated project demand becomes a candidate project; the state of its life cycle is automatically modified and it is transferred to the portfolios of the candidate projects in the domain to which it belongs.

Rejecting a project demand

A rejected project demand remains in the list of projects, with the "Demand rejected" status. It can be archived.

MANAGING CANDIDATE PROJECTS

Candidate Project Management Process

The management process of a candidate project is broken down into three parts:

- Creating the Project
- Assessing the project
- Defining the scenarios
- Approving or rejecting the project

Creating a Candidate Project

A project demand validation leads to a candidate project.

The project portfolio manager can create a candidate project directly without going through the demand management phase, or an ongoing project (in other words validated) if needed.

To be able to create projects, you must import the PPM module. See Prerequisites for Creating Projects.

You must also have created a project domain. See Defining Project Domains.

To create a project candidate:

1. Click the **Projects** > **Projects** navigation menu.
2. In the edit area, click the **Projects** tab.
   Use the drop-down list to display:
   - all projects
   - projects by status (candidate projects, ongoing projects)
   - the projects assigned to you
3. Display all projects.
4. In the demands for the edit area, click **New**.
   The window for creating a project appears.
5. Select the "Candidate" project type.
6. Click **Next**.
7. Enter the name of the project.
8. Click **Next**.
9. Specify:
   - the owner project domain
   - the project code (optional)
   - the planned start date
   - the planned end date
   - the project leader
10. Click **OK**.

See also: Creating a Project Demand.

Completing the Candidate Project Definition

Once the project is created, you can complete its properties in the same way as for a project demand.

See:

- Defining the Project Charter
- Defining the Business Case of a Project
- Assigning a Project to Persons

See also:

- Assessing a Project

Validating or Rejecting a Candidate Project

After assessment, the demand manager can submit the candidate project to the project portfolio approver.

This presupposes that an approver has been previously linked to the project, portfolio or project domain in question.

☛ *To assign a project to a person, see Assigning a Project to Persons.*

☛ *For more details on assessment, see Assessing a Project.*

The project portfolio approver approves or rejects the project.

Validating a candidate project

A validated candidate project becomes an ongoing project; its lifecycle status is automatically changed.

Rejecting a candidate project

A rejected candidate project remains in the list of projects, with the "Project rejected" status. It can be archived.

ASSESSING A PROJECT

A first assessment of a project takes place with the definition of the business case of the project; you can specify the deliverables, the dependencies with other ideas or risks, the costs, the benefits, the risks.

The business case elements can be defined on project demand, and subsequently completed. For more details, see Defining the Business Case of a Project.

Once the project characteristics are defined, an evaluation tool facilitates the selection of projects and helps define priorities.

The demand managers can assess the projects:

- At the level of the project, via:
  - the qualitative review of the project (business value, level of strategic alignment, etc.)
  - the assessment of the project risks
- according to qualitative and quantitative criteria defined in the project portfolio. See Assessing Portfolio Projects.

Assessing a Project

An assessment can concern a project demand or a candidate project.

To assess a project:

1. Click the **Projects** > **Projects** navigation menu.
2. In the edit window, click the **Projects** tab and display all the projects.
3. Click the project to display its properties.
4. In the project properties window, click the **Project Assessment** page.
5. In the **Assessment** section, click **New Assessment**.
   An assessment line appears.
6. In each corresponding column, specify:
   - the business value level
   - the strategic alignment level
   - the cost level
   - the global risk level

To validate the assessment, select the assessment line and click **Validate Assessment**.

☛ *The **Project Note** attribute visible on a portfolio is calculated automatically based on these values.*

Assessing the Risks of a Project

Assessing the risks of a project can start on project demand. This can take place globally on the project (in the **Project Assessment**) or for each risk associated with the project (in **Risk Assessment)**.

To assess the risks of a project:

1. Click the **Projects** > **Projects** navigation menu.
2. In the edit area, click the **Projects** tab.
3. Display "All projects".
4. Click the project concerned to display its properties.
5. In the project properties window, click the **Risk Assessment** page.
6. Click **New Assessment**.
7. In the window that appears, select the risks to be assessed.
   - Some
   - All
8. Click **OK**.
   The assessment appears in the properties window.
   You can define:
   - The**Impact**: characterizes the impact of the risk when it occurs.
   - The **Likelihood**: characterizes the probability that the risk will occur.
   - The **Inherent Risk Level**: The inherent (or gross) risk indicates the risk to which the organization is exposed in the absence of measures taken to modify the likelihood of occurrence or impact of this risk. This is the result of multiplying the impact value and the likelihood value before taking account of risk prevention or reduction measures.
     In summary, an inherent risk = impact x likelihood
     It is calculated automatically.
   - The **Control Level**: The Control level characterizes the efficiency level of control elements deployed (controls) to assess the risk.
   - The **Net Risk Level**: the residual (or net) risk indicates the risk to which the organization remains exposed after management has processed the risk. This is the difference between the Inherent Risk and the Control Level. It is calculated automatically.

See also Analyzing the Project Risks of a Portfolio.

FOLLOW-UP OF ONGOING PROJECTS

Process for Follow-up of Ongoing Projects

Ongoing projects result from the validated candidate projects.

☛ *A project portfolio manager can also directly create an ongoing project.*

The project portfolio manager assigns a manager to the project, responsible for follow-up of the progress of the project.

Project follow-up consists of the following steps:

- Starting the project
- Specifying the project milestones
- Updating the project progress
- Terminating the project

Starting a Project

The project portfolio manager and project managers can start a project.

To start a project:

1. Click the **Projects** > **Projects** navigation menu.
2. In the edit area, click the **Projects** tab.
3. In the drop down list, select the list of ongoing projects.
4. Click the icon of the project concerned and select **Project Workflow (Project to Start) > Start the Project.**
   A dialog box appears:
5. Enter a comment if required and click **OK**.
6. Specify the effective start date of the project and click **OK**.
   The project workflow status switches from "To be started" to "Ongoing Project".

Specifying the Project Milestones

Between the scheduled start and end dates, intermediate milestones can be defined and associated with deliverables.

🕮 *A project milestone defines an intermediate delivery step in the life cycle of the project life. A project deliverable can be associated with a project milestone if it is delivered during the project and on the project date.*

☛ *Associating a project deliverable with a milestone does not affect automatic initialization of its life cycle; it can be subject to a manual modification if appropriate.*

Within the framework of project progress follow-up, you can define the level of progress for each milestone.

To add a milestone to a project:

1. Click the **Projects** > **Projects** navigation menu.
2. In the edit area, click the **Projects** tab.
3. Display all projects.
4. Click the project concerned to display its properties.
5. In the project properties window, click the **Project Milestones** page.
6. In the **Milestones** section, click **New**.
   The window for creating a milestone appears.
7. Specify:
   - The local name
   - The scheduled date of the milestone
   - A comment if required
8. Click **OK**.

Assessing the Progress State of a Project

You can indicate the progression of a project in progress and the different milestones defined on a project.

```
Example

My project is 25% complete at this time.

I have reached the first milestone, so I can put it at 100%
this same day.
```

Updating the project progress

To update the progression of a project in progress:

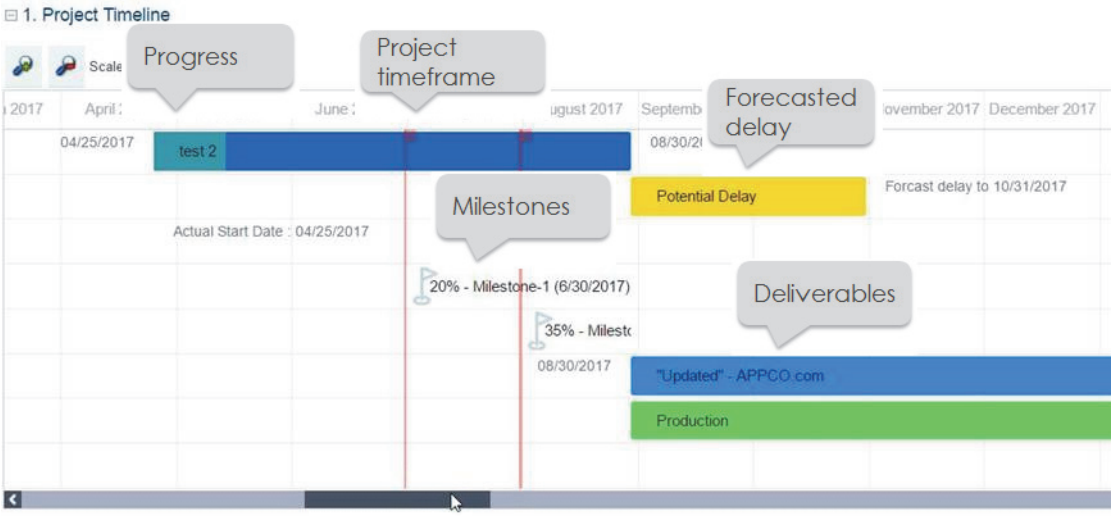
1. Click the **Projects** > **Projects** navigation menu.
2. In the edit area, click the **Projects** tab.
3. Display all projects.
4. Click the project concerned to display its properties.
5. In the project properties window, click the **Execution Monitoring** page.
6. In the **History of Project Progression Updates** section, click **New**.
   The progress rate creation window appears.
7. In the **Progress Rate** section, specify:
   - progress rate
   - the progress rate date
   - the assessment of the progress rate (On time or Late)
   - the forecast end date
   - the amount spent
   - the remaining forecast amount
8. Click **OK**.

Viewing the timeline of a project

A report enables you to view the timeline of the project.

To access them:

1. In the project properties, select the **Reports** page.
2. Select the "Lifecycle Gantt Chart for Project Deliverables" report.
   The project calendar appears.



Putting a Project on Stand-by/Canceling a Project

For a project in progress, you can:

- Cancel the project: the project remains visible but cannot be recovered
  Update the project on stand-by: the status changes from "Project in progress" to "Project on stand-by". Subsequently, you can:
  - Recover the project on stand-by
  - Cancel the project on stand-by

Terminating a Project

Terminating a project updates the lifecycle of the objects attached to the project.

To terminate a project in progress:

1. Click the icon of the project then **Project Workflow (Ongoing Project)** > **Terminate the Project**.
   A message prompts you to confirm the changes to the lifecycle of the architecture building blocks concerned.
2. Click **OK** to confirm.

PROJECT ANALYSIS REPORTS

Dynamic reports are provided by default for projects; they are used to analyze project content from different angles as well as their impact on the business capabilities and architecture building blocks.

Reports on the Project Content

Embedded reports on a project are visible in the **Reports** page of the project properties window.

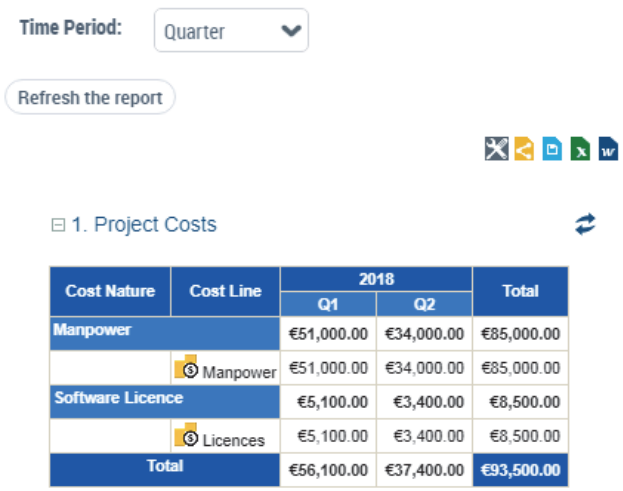
Project Costs

This report details the project costs for a given period and by cost type (labor, infrastructure, etc).

Its input data concerns the costs defined in the project properties (on the **Business case** page).

☛ *To define the costs of a project, see Project costs.*

It is possible to configure the cost consolidation period via the **Time Period** parameter; for example a sub-total of project costs is possible per quarter.



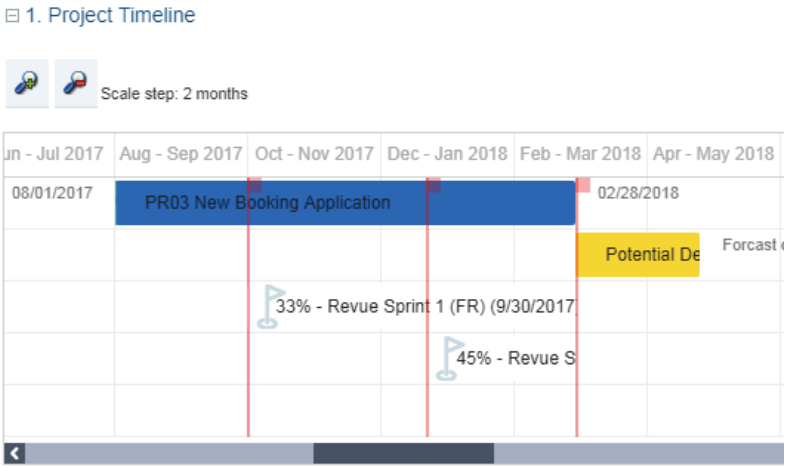
Cost Nature	Cost Line	2018		Total
		Q1	Q2	
Manpower		€51,000.00	€34,000.00	€85,000.00
	Manpower	€51,000.00	€34,000.00	€85,000.00
Software Licence		€5,100.00	€3,400.00	€8,500.00
	Licences	€5,100.00	€3,400.00	€8,500.00
Total		€56,100.00	€37,400.00	€93,500.00

Project and Deliverable Timeline Gantt Chart

This report presents the lifecycle of deliverables in the project schedule.

Its input data concerns the production dates of the deliverables as well as the milestones defined for the project.

The progress of the project and the projected deadlines declared during the follow-up of the execution of the project are also reported on the graph.



See also:

- Project deliverables
- Specifying the Project Milestones
- Assessing the Progress State of a Project
- Analyzing the Road Map for Portfolio Projects.

Project KPIs

This report analyses the key indicators of the project. It collects the following data:

- The progress and any delays in the project (defined on the **Execution Follow-up** page for projects in progress)
- The budget and the costs defined on the project properties (on the **Business case** page).
- The Return on Investment (calculated)
- Cost variance (calculated)
- The project risks

Progression and delays

Project progression and delays are defined using the last update performed on the project.

☛ *For further details, see Assessing the Progress State of a Project.*

Budget and costs

A bar chart presents the following data:

- The planned budget, input manually.
- The total forecast cost, calculated according to the last update of the project (amount spent + remaining to be spent)
- The effective cost, input manually at the end of the project.

> ☛ *The "Total cost" displayed in the Costs section is calculated based on cost lines; it is for information purposes and is not used in the report calculations.*

For information on project cost input, see Project costs.

Return on investment

A bar chart presents the following data:

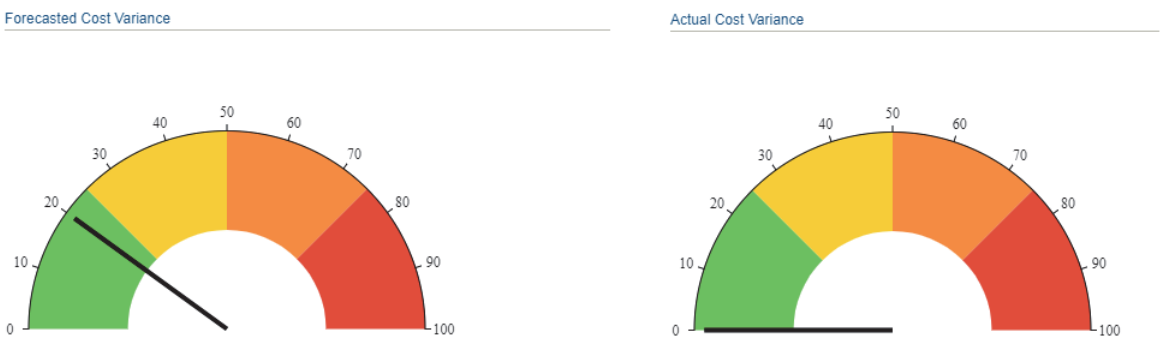
- Forecast ROI (as a percentage)
- Effective ROI (as a percentage)

Calculation of the ROI = (profit - budget) / budget.

Forecast variance and effective variance

A gauge displays the following data:

- Forecast variance = (total forecast cost - budget) / budget, as a percentage.
- Effective variance = (effective cost - budget) / budget, as a percentage.



Risks

A bar chart displays the risks per risk level (low, high, etc.)

Project summary

This report offers a summary of the characteristics of the project, that is:

- The project charter
- The persons responsible
- The Business case
- The execution follow-up
- The key project indicators.

Impact Reports for Projects

The Project Portfolio Manager can use reports to analyze the impact of transformation projects on business capabilities.

This report aims to identify, for the business capability map of a given Enterprise phase, the relevant transformation projects and their impact on capabilities, according to the objective of the transformation projects.

To generate the impact report of transformation projects:

1. Click the **Reports** navigation menu.
2. In the edit area, click **Create a report.**
3. Search for report type "Projects Impact on Capability Map".
4. Create a report of this type.

Report parameters

The report takes as input:

- A capability map. The list of capability maps included in an enterprise phase is proposed by default.
- A project portfolio.

Filters allow you to customize the display of objects in the report:

- **Enable Purpose Type Criterion**: you can display or hide the purpose type of the projects. This option is enabled by default, with the form "Fill color": a color highlights the capabilities and projects in the report according to the type of purpose of the projects.
- **Capability Filter**: you can only display capabilities that are covered by solution building blocks. Criteria also allow you to represent the functionalities associated with capabilities in a specific shape (circle, triangle, etc.).
- **Project Filter**: you can display only on-going projects. Criteria also allow you to display the assessment levels defined on the projects (business value, cost, etc.).

> ☛ *Other filters can be added in customization (by specific queries connected to the type).*

Report Results

The report presents two chapters:

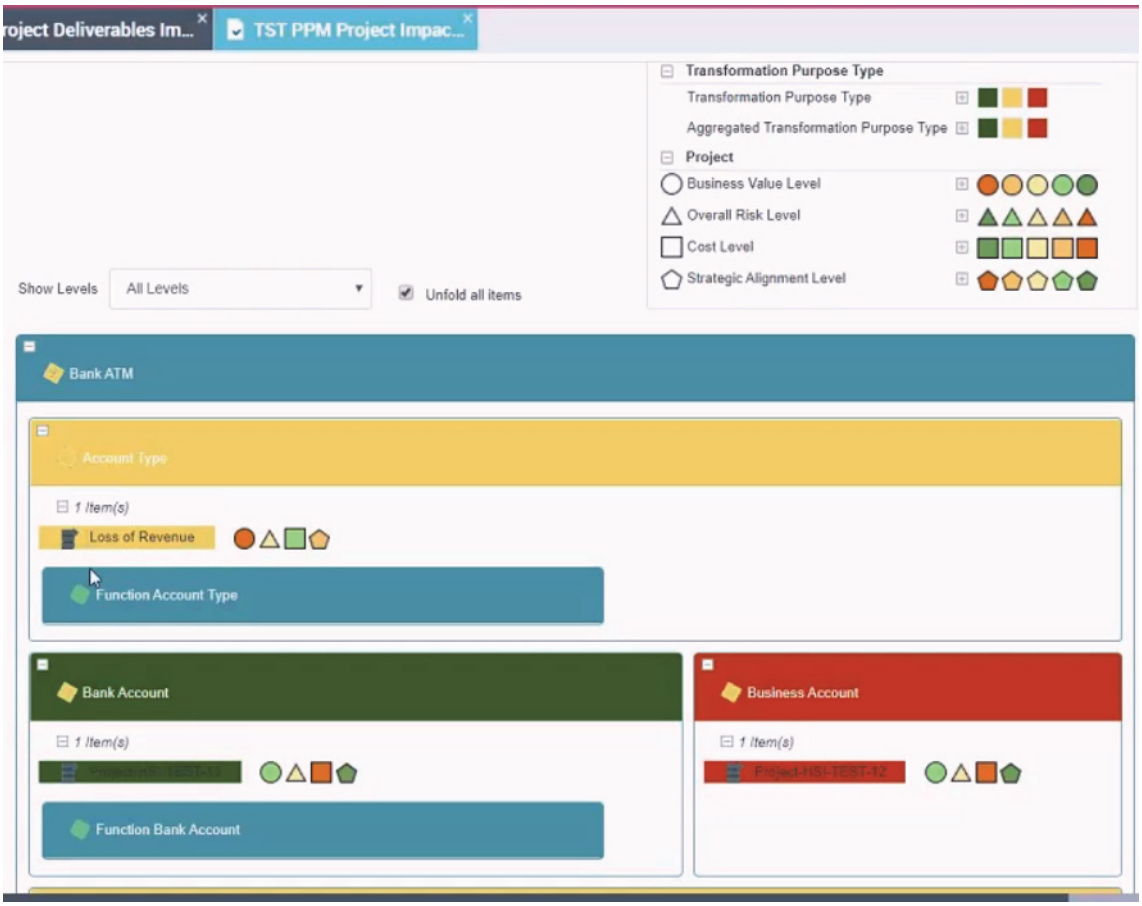
Transformation Projects Impact on Capability Map

By default, projects are displayed in the relevant capability boxes and highlighted in a color that depends on the type of transformation purpose.

- Innovate -> green
- Improve -> yellow
- Rationalize -> red

Capabilities are highlighted in a color depending on the associated transformation purposes.

- Majority of innovation -> green
- Majority of improvement -> yellow
- Majority of rationalization -> red



Enterprise Stage and Transformation Projects

This chapter displays in a table the projects that are not mapped in the capability map selected at report entry.

They correspond to the following elements:

- projects that produce new capabilities in the "target" capability map
- projects that do not achieve any capability
- projects that achieve capability but are not declared in the enterprise phase.

Within each capability, projects and delivered building blocks (e.g. applications) are identified as "new", "updated" or "deleted". Project deliverables are listed and highlighted by color coding based on the type of impact of the deliverable.

- New: in green
- Updated: in yellow
- Deleted: in red

Each solution block is highlighted in a color based on the average impact type of the project deliverables.

- If the majority of the deliverables are 'new' - > green
- If the majority of the deliverables are 'updated' (or not defined) - > yellow
- If the majority of the deliverables are 'deleted' - > red

Following this map a table lists the new building blocks that are not listed in the capability map of the report.

PROJECT PORTFOLIO MANAGEMENT

Whereas project management aims to focus on scheduling and executing an individual project, project portfolio management analyzes all projects in progress or potential projects and their viability in reaching the objectives of the enterprise.

The portfolio management process can be represented in three sub-steps:

- Project selection: a restricted list of projects is drawn up according to selection criteria (strategic, financial etc.). The projects are classified according to the strategic perspectives (the domains) used in the organization.
- Analysis and arbitration: the best project combination is defined to maximize the objectives and the restrictions of the portfolio.
- Follow-up: the portfolio's performance indicators ensure the alignment of the portfolio with the strategy of the organization.

The points covered here are:

GROUPING PROJECTS BY PORTFOLIO

Grouping projects by portfolio summarizes the information relating to different projects to facilitate decision-making.

Portfolio Types

There are two types of project portfolios:

- Arbitration portfolios, created automatically, which are divided into two groups:
  - project demand portfolios
  - candidate project and ongoing project portfolios, used to compare candidate projects with ongoing projects
- Analysis portfolios you can create later and which make up sub-sets within the arbitration portfolios.

Arbitration portfolio

Project arbitration portfolios group all the projects created according to their domain.

When you create a project domain, two types of arbitration portfolios are created by default and associated with this domain:

- Domain name - demand arbitration portfolio
- Domain name - arbitration portfolio of candidate projects and ongoing projects

Each new project appears in the dedicated portfolio.

In an arbitration portfolio, the projects can be assessed and compared according to a number of criteria:

- project criteria: these come from information on the projects (for example, the costs) or the qualitative evaluation of the project (for example, the level of strategic alignment).
- portfolio criteria: criteria that can be defined at the portfolio level, above the project criteria.

See also: Defining Project Domains.

Analysis portfolio

You can create an analysis portfolio in an arbitration portfolio; it groups a sub-set of parent arbitration portfolio projects. It can be defined to assign certain projects to a specific portfolio manager.

Portfolio Lines

For each project added to a portfolio, a portfolio line is created.

A project portfolio line is used to assess the project in the context of a portfolio. It is linked to assessment criteria and provides the global note of the project in the context of the portfolio.

See also Assessing Portfolio Projects.

Assigning a Portfolio to Persons

The persons who can be assigned to a project portfolio are:

- the demand approver
- the portfolio manager
- the portfolio approver

For more information on profiles, see Roles in HOPEX Project Portfolio Management.

ASSESSING PORTFOLIO PROJECTS

You can compare projects defined in a portfolio based on common criteria.

You can also add specific assessment criteria to the portfolio.

Defining Portfolio Assessment Criteria

You can compare the projects defined in a portfolio based on common *criteria* associated with the portfolio. This is used in particular to define the priorities for each project within the portfolio.

Some criteria are provided by default. You can create new criteria.

To create a criterion on a project portfolio:

1. Display the portfolio properties.
2. Click the **Projects** page.
   The criteria appear in the **Portfolio Criteria**section.
3. Click **New**.
   The dialog box for creating a criterion opens.
4. Specify:
   - its name
   - its type
   - its length
   - its format
5. Click **OK**.

Criteria weighting model

A criteria weighting model defines, for a set of criteria, the weight relative to each of the criterion in the calculation of a weighted scoring criterion, used to automatically calculate the rank of a project in the context of this portfolio with respect to its score on these criteria.

Creating a Project Assessment

To create an assessment for the projects of a portfolio:

1. Display the portfolio properties.
2. Click the **Projects Assessment** page.
3. Click **New Assessment**.
4. In the window that appears, select the projects to be assessed.
   - Some
   - All

5. Click **OK**.
   An assessment line is created for each portfolio project with the different criteria in a column.
6. To define the value of a criterion for a project, select the line of the project concerned and click in the criterion column.

Assessing common criteria

The criteria common to all projects are calculated automatically on the basis of assessments performed specifically on the projects.

> ☛ *For the qualitative evaluation of a project to appear in the portfolio properties, the assessment must have been validated at the project level.*

Assessing criteria specific to the portfolio

For criteria created specifically for the portfolio, and are therefore not displayed in the project properties, you can define them directly on the project assessment line (drop-down list for a list or direct entry for a number/a text).

Analyzing and Arbitrating Portfolio Projects

In a portfolio, a number of projects can concern a single object to represent different hypotheses, exclusive of each other, for the change in this object.

Scenarios can then be created by selecting a set of projects to be produced. The different scenarios can be compared by means of specific reports:

Using a project portfolio, the project portfolio manager can generate scenario analysis and comparison reports to decide which scenarios to keep or reject.

In an arbitration portfolio, if several scenarios have been selected for different analysis portfolios, the project portfolio approver has access to an analysis tool which provides an overview. This is used, for example, to determine whether contradictory choices exist for a single project in the different scenarios selected.

Creating a Scenario

Using an arbitration portfolio or an analysis portfolio, the project portfolio manager can create a number of scenarios.

A scenario defines, in a portfolio, a set of projects that can be implemented. It is used to generate analysis reports to assess the impact of this set of projects.

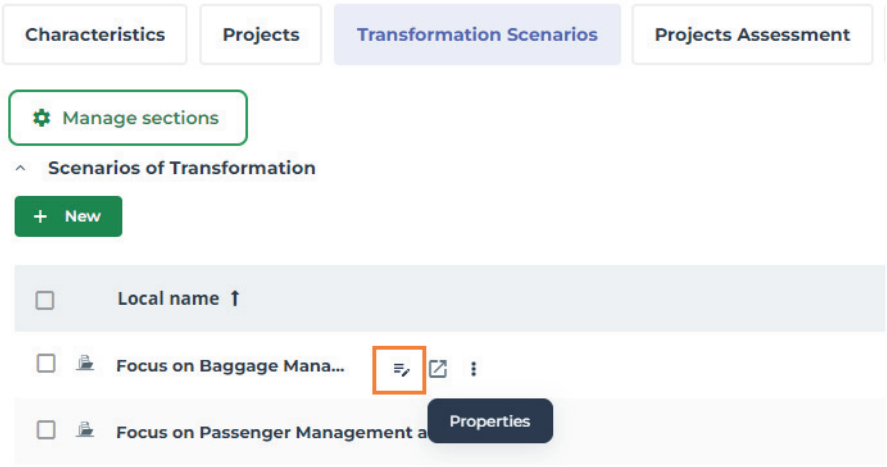
To create a scenario:

1. Open the portfolio properties.
2. Click the **Transformation Scenarios** page.
3. In the **Transformation Scenarios** section, click **New**.
   The dialog box for creating a scenario opens.
4. Enter the name of the scenario and click **OK**.

Defining the properties of the scenario

To define the properties of the scenario:

1. In the portfolio properties, in the **Transformation Scenario** page, move the mouse over the scenario in question and click the associated **Properties** button.



2. In the scenario properties, select the **Characteristics** page.
   Note that for each project held in the portfolio, a scenario line is created.

Scenario lines

For each project held in the portfolio, a scenario line is created.

A scenario line corresponds to a project line in the source portfolio. It uses the values of the criteria and lifecycle defined on the project line of the portfolio. It is used to record the potential decision with respect to the project (validated, rejected) within the framework of the scenario analysis.

In a scenario, the project portfolio manager can decide to select or not select a given portfolio line in a simulated scenario (which is different from validation of the project).

Accepting or Rejecting the Project Lines of a Scenario

A project line must be accepted in order to be taken into account in a given scenario. Conversely, a project line must be rejected if you want the scenario to ignore it.

To accept or reject a project lines in a scenario:

1. Open the properties pages of the scenario.
2. Select the **Characteristics** page.
3. In the **Scenario Lines** section, select the project line you want.

4. In the **Decision** column, select one of the following values:
   - **Accepted**: the project line is integrated in the scenario.
   - **In progress**: the project line is under review; it is integrated in the scenario
   - **Rejected**: the project line is not taken into account in the scenario.

Analyzing and Comparing Scenarios

With embedded reports, you can analyze and compare the scenarios created in a project portfolio.

To view these reports:

1. Display the properties concerned.
2. Click the **Reporting** page.
3. Select the report concerned.

Comparing scenario costs

This report compares the costs of the selected scenarios.

It relates to the project costs, it does not take into account the impact of the scenario on the operating cost of the applications.

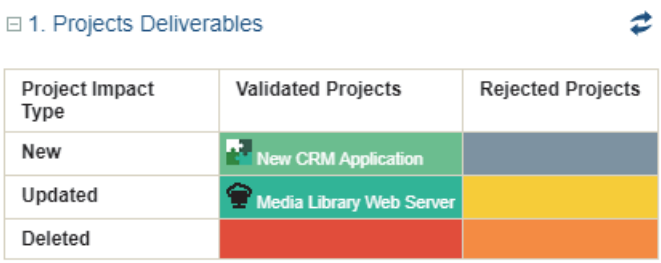
Project deliverables by scenario

This report details the deliverables included in a scenario; they are classified by status and whether the projects within the scenario are validated or rejected.

☛ *See Accepting or Rejecting the Project Lines of a Scenario.*

In the example below, two deliverables are part of the projects that were accepted in the scenario; a new CRM application and a server update.

The solution building blocks will thus be created/updated in the scenario.



Analyzing the Road Map for Portfolio Projects

The "Project RoadMap" report displays the Gantt chart for projects and the road maps for project deliverables.

To see this report:

1. Display the properties concerned.
2. Click the **Reporting** page.
3. Select the "Project RoadMap" report.

Project Gantt chart

The Gantt chart presents one row per project. The following information is provided for each project:

- Start and end dates
- Progress
- Dependencies
- Declared delays

> ☛ *See also*
> *- Follow-up of Ongoing Projects*
> *- Project dependencies.*

Roadmap of portfolio project deliverables

The following information is displayed for each portfolio:

- The projects included
- The dependencies
- The status of projects
- The project progress
- The dates defined for the project

> ☛ *See also Follow-up of Ongoing Projects.*

Analyzing the Project Risks of a Portfolio

An embedded report for the project portfolio is used to display, in the form of a heatmap, the risks inherent to the portfolio projects.

To view this report:

1. Display the properties concerned.
2. Click the **Reporting** page.
3. Select the "Project Portfolio Risk Roadmap".

The heatmap displays the number of risks per risk level (low, high, etc.)

See also: Assessing the Risks of a Project.

Dashboard for Portfolio Projects

This report analyzes the projects included in a portfolio using different graphics.

To launch this report:

1. Display the properties concerned.

2. Click the **Reporting** page.
3. Select the "Project Dashboard" report.

Project bubble chart

The bubble chart is used to connect the different key indicators of the portfolio projects.

To define the project indicators to be displayed in the graph:

1. In the **X-axis** field, select the first indicator, for example, the profit.

   ☛ *The profit indicator refers to the financial value. See Project benefits.*

2. In the **Y-axis** field, select the second indicator, for example, the total cost.
3. In the **Bubble size** field, select the third indicator, for example, the ROI.
4. Click **Refresh the Report** to take the selected data into account.

Project matrix by criteria

For this graph, the parameters selected for report input must be of "enumeration" type (e.g. Risk level, Business Value Level).

It allows to consult evaluations of a larger number of projects than the bubble graph (several hundred projects vs. a few dozen).

When you modify the input parameters, you must click on **Refresh the Report** to take into account the input data, then click the refresh button of the chapter to update it.

Summary table for project assessments

This table presents the latest assessment of the key indicators of the portfolio project.

3. Projects Assessment Summary Table

	Strategic Alignment Level	Business Value Level	Risk Level	Cost Level	Budget	Benefits	Return on Investment	Project Score	Project Rank
PR01 Billing Automation	6 - Medium	4 - Low	1 - Very Low	10 - Very High	€500,000.00	€1,000,000.00	100%	3.94	5
PR02 Definition of the Billing Business Capacity	5 - Medium	4 - Low	6 - Medium	6 - Medium	€40,000.00	€40,000.00	0%	4.73	3
PR03 New Booking Application	9 - Very High	1 - Very Low	10 - Very High	5 - Medium	€1,000,000.00	€1,500,000.00	50%	2.71	7
PR04 New Online sales administration capacity	2 - Very Low	6 - Medium	6 - Medium	6 - Medium	€600,000.00	€700,000.00	17%	4.16	4
PR06 Web interface design	3 - Low	6 - Medium	6 - Medium	9 - Very High	€50,000.00	€60,000.00	20%	3.66	6

See also Assessing a Project.

Analyzing the Impact of Portfolio Projects on the Architecture

See Impact Reports for Projects.

10

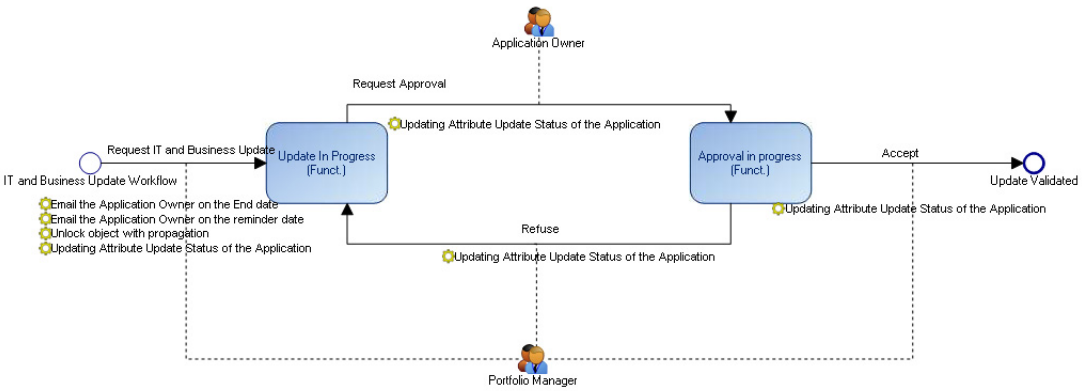
HOPEX IT PORTFOLIO MANAGEMENT WORKFLOWS

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

APPLICATION UPDATE WORKFLOW

Using workflows, portfolio managers can launch campaigns to update technical and business information for one or more applications in their portfolios. These workflows can also be run for all portfolios.

Note that the Application Owners must be correctly specified in the applications for the workflow to run correctly.



When the campaign is launched, an e-mail is sent to the owners of the application. It includes the following information:

- List of applications to be updated
- End date of the update campaign (which is set at the end of the month following the date of the request. For example: if the request is made on September 21, 2023, the end date of the campaign will be October 31, 2023).

The applications to be updated appear in the list Applications to update. A reminder is automatically sent by email fifteen days before the campaign end date.

Once the application information is updated, the Application Owner submits the changes to the Portfolio Manager for approval.

TECHNOLOGY VALIDATION WORKFLOW

Functional Administrator and Enterprise Architect profiles can launch the validation workflow on a technology.

When a vendor is prohibited, all the vendor's technologies automatically change to "Prohibited" status.

A user holding the role of "Local Correspondent" on a technology can evaluate it and define it as "Validated", "Accepted" or "Approved". This correspondent must first be defined in the technology's properties.