

HOPEX Business Process Analysis

User Guide

HOPEX V5



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INTRODUCTION



HOPEX Business Process Analysis is software edited by **MEGA International** to assist:

- ✓ Organizers in improving and redesigning enterprise business processes.
- ✓ Quality engineers describing the business processes of their organization.

This is used to

- ✓ Description of the detailed organization of operations during execution of organizational processes, and the participation of each of the enterprise org-units in these processes.
- ✓ Description of product or service offerings proposed by enterprise business processes.
- ✓ Description of enterprise value streams.
- ✓ Description of the business capabilities of the company and possibilities for their implementation.
- ✓ Description of the enterprise organizational chart.
- ✓ Identification of the risks linked to the enterprise processes.
- ✓ Detailing of information system requirements involved in these application business processes. It is then possible to draw a map of the enterprise organization and information system (in conjunction with **HOPEX IT Architecture**).

☛ *The description of processes with **HOPEX Business Process Analysis** is based on the Business Process and Notation (BPMN) maintained by the Object Management Group (OMG).*

The following points are covered in **HOPEX Business Process Analysis**:

- ✓ Organizational Processes
- ✓ Business processes
- ✓ Value streams
- ✓ Business Capability Maps
- ✓ System Processes
- ✓ Organizational Charts and Responsibilities
- ✓ The customer journey
- ✓ Conversations
- ✓ Assessments With HOPEX Business Process Analysis
- ✓ Action Plans with HOPEX Business Process Analysis
- ✓ HOPEX Business Process Analysis Reports.

PRESENTATION OF HOPEX BUSINESS PROCESS ANALYSIS

Combined with the products of **HOPEX** suite, **HOPEX Business Process Analysis** supports a methodology and the tools used to describe your business organization and manage change.

Because business modeling helps you:

- Explaining how your enterprise operates,
- Considering changes in the organization,
- Defining IT requirements,
- Identification of the risks linked to the enterprise processes,
- Specify collaborations with partners.

Modeling with HOPEX Business Process Analysis

HOPEX Business Process Analysis offers tools enabling enterprise organization description.

Describing processes

You can write comments for each process element directly from the diagram. This offers many advantages:

- Description of each element is simpler and faster than writing the complete process.
- Reports can be built automatically.
- Easy retrieval of process descriptions for insertion into other processes.
- The volume of text is significantly reduced.

Producing documents

Documents are automatically generated from the elements entered when describing the diagram.

- The general structure is independent of the writer.
- Document generation is automatic.
- Documents have a standard layout and consistent style.
- Descriptions are automatically reused in the different documents.
- Document consistency is assured.

☺ You can modify the layout and formatting of documents generated by **HOPEX Business Process Analysis** and create new ones. For more information, see **HOPEX Power Studio**.

HOPEX Business Process Analysis allows you to automatically generate an Intranet site describing the processes used in the enterprise.

Upgrading and maintaining your processes

As your organization evolves, so do your processes.

HOPEX Business Process Analysis allows you to make your changes in one location, and have them propagated to all processes involving those elements. This allows:

- Rapid access to the elements that you want to modify.
- You can analyze impacts of modification of a process in other processes in which this element appears.
- You can ask for the automatic regeneration of all documents concerned.

This User Guide is designed to help you quickly discover the power of **HOPEX Business Process Analysis**.

Positioning of the HOPEX Business Process Analysis solution

HOPEX Business Process Analysis can be used with other products in the **HOPEX** suite.

HOPEX IT Architecture

The **HOPEX IT Architecture** solution provides **HOPEX Business Process Analysis** 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 resources.

HOPEX IT Business Management

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

The **HOPEX IT Portfolio Management** Product provides **HOPEX Business Process Analysis** with:


- 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.

THE HOPEX BUSINESS PROCESS ANALYSIS METHOD

The method embedded in the **HOPEX Business Process Analysis** solution is used to perform the following tasks:

- [Preparing the Work Environment](#)
- [Describing the existing organization](#)
- [Describing the existing organization](#)
- [Managing Organizational Transformation](#)

Preparing the Work Environment

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


➤ *For more details on managing libraries, see the "Enterprises and Libraries" chapter in the **HOPEX Common Features** guide.*


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


- 1 Select **Standard Navigation** in the navigation menu.
The repository library tree appears.

Describing the existing organization

The purpose of this step is to describe the *org-units* in the enterprise, its different processes, the *risks* encountered as well as the associated *controls*.

 *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.*

 *A risk is a hazard of greater or lesser probability to which an organization is exposed.*

 *A control is a set of rules and means enabling the assurance that a legal, regulatory, internal or strategic requirement is respected.*

➤ *For further information on handling of Controls, see the **HOPEX Risk Mapper** guide.*

This consists of the following tasks:

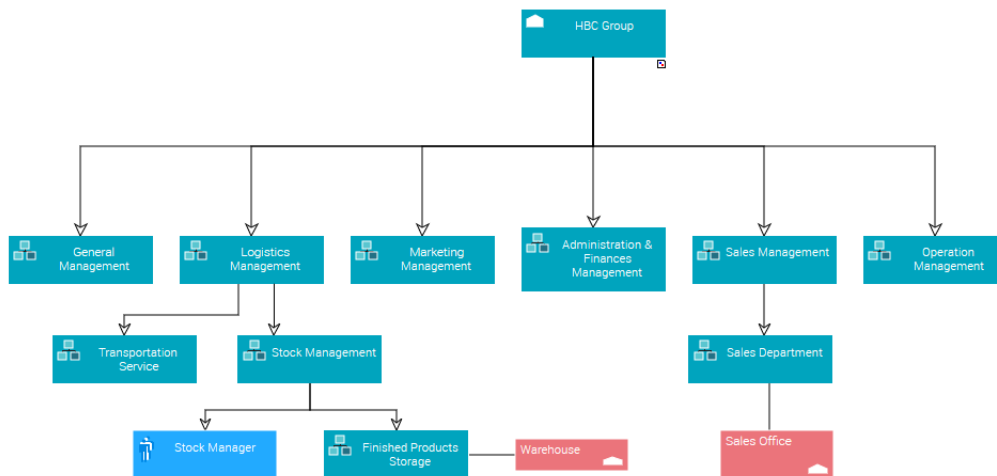
- [Describing the organization](#),
- [Describing processes](#),
- Describing controls and risks.

☛ For more details on controls and risks, see the [Managing Risks and Controls](#) chapter.

Describing the organization

With **HOPEX Business Process Analysis** the organizational chart shows the hierarchy of the org-units in the enterprise, their responsibilities with respect to the processes and specifies the persons associated with each org-unit and on which site.

Example of organizational chart:



☛ For more information on describing enterprise org-units, see [Organizational Charts and Responsibilities](#).

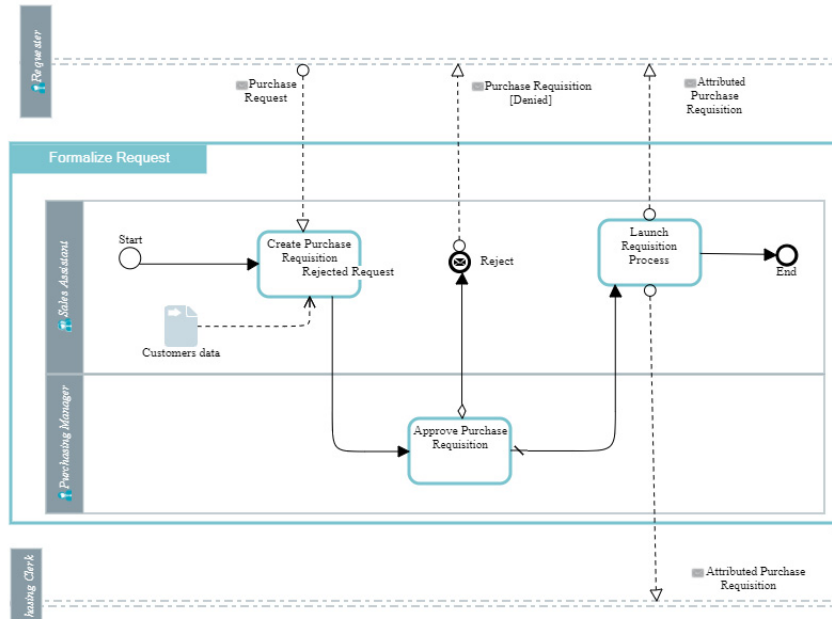
Describing processes

Describing organizational processes

📖 An organizational 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.

With **HOPEX Business Process Analysis**, organizational processes are described in the form of diagrams.

In the example of the purchase request process, the organization is represented by the following diagram.

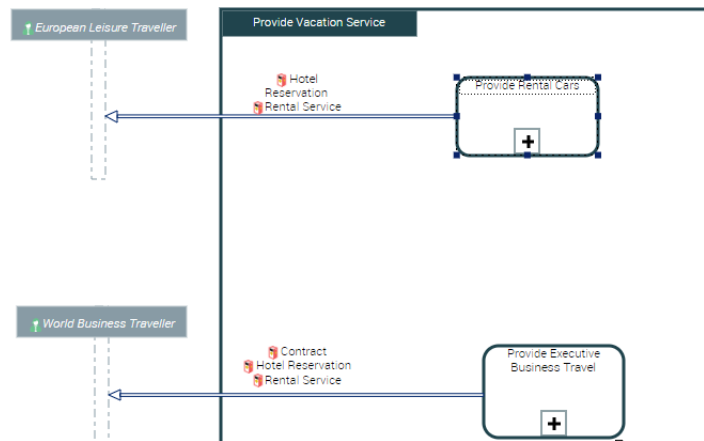


For more details describing an organizational process, see [Organizational Processes](#).

Business process modeling

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

The business process diagram enables representation of product or service offerings proposed by the enterprise to each of its markets, as well as the processes that produce these.



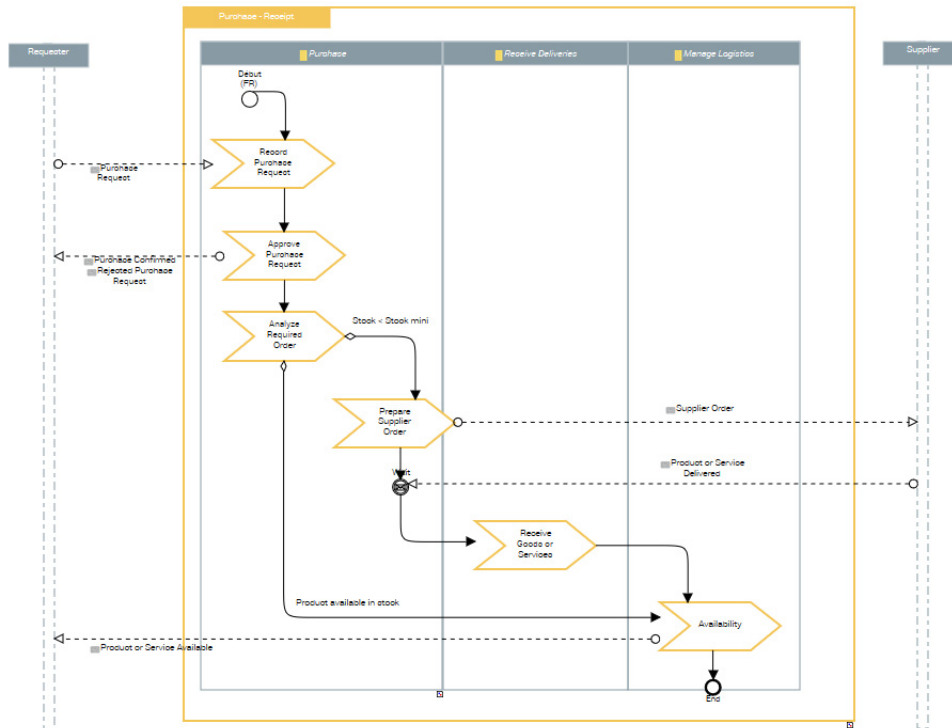
For more details describing an organizational process, see [Business processes](#).

Describing value streams (option)



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.

The following diagram presents an example of a value stream:



➤ For more details on value stream description, see [Value streams](#).

Describing business capabilities and associated skills

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

📖 A business skill is a capability acquired by a person or an organization through a specific training.

This step consists, on the one hand, in defining what the enterprise can deliver (business capabilities), and on the other hand, how to it delivers it. For each business capability, you must define the necessary skills and required functionalities.

➤ For more details on the use of business capabilities, see [Business Capability Maps](#).


Risk Management


The **HOPEX Risk Mapper** product provides **HOPEX Business Process Analysis** with the possibility to manage *risks and controls* with the processes described.

➤ For more details on controls and risks, see the [Managing Risks and Controls](#) chapter.

Building customer journeys

The **HOPEX Customer Journey** Product is used 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 interactions between the enterprise and a persona for a given result.

 A persona corresponds to a customer segment targeted by the experience of the client journey. The resources implemented to give customers the ability to interact with the enterprise and its environment, to acquire the expected results, are supported by the interaction channels.

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 the description of workspaces, see [The customer journey](#).

Simulating BPMN Processes

Complementing **HOPEX Business Process Analysis**, **HOPEX Process Simulation** product assists organizers and decision-makers in:

- Analyzing enterprise process performances.
- Improving existing processes or evolving processes.

HOPEX Process Simulation is used to:

- Describe the detailed organization of operations during execution of organizational or system processes, and the use of company resources by these processes.
- Associate quantitative information (processing time, costs) with operations executed and resources used.
- Creation of several optimization scenarios to build a comparative performance analysis of the different configurations.

➡ Simulation of processes described using BPMN formalism is only available with **HOPEX Process Simulation**.

➡ For more details on the use of simulation functionalities, see [Simulating a BPMN process](#).

Using the Process Mining

Process Mining is an approach that consists of analyzing files that trace the execution of a process: start and end dates of completed tasks, identification of resources used, identification of the activity in progress, routing of steps.

Depending on the quality of the trace files, this analysis can provide information such as:

- The list of executed tasks and the average duration of each execution,
- Routing information: probability of activation of a task from another task.

From a trace file, a **Process Mining** tool is thus able to provide the BPMN representation of the executed process as well as information about routing probabilities and execution times. This information can be imported and analyzed by **HOPEX Process Simulation**.

☛ For more details, see [Using the Process Mining with HOPEX Process Simulation](#).

Managing Organizational Transformation

The purpose of this step is to prepare for the transformation of your enterprise.

Given the products in the Suite **HOPEX** available to you, you can manage the transformation of your enterprise in a number of different ways:

- [Using process portfolios](#).
- [Managing Action Plans](#).
- [Describing the project portfolios](#)
- [Documenting projects implemented in SAP](#)

Using process portfolios

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

Through the management of process portfolios, the **HOPEX Portfolio & Planning** product makes it possible to plan the evolution of the company's organizations over time as described with **HOPEX Business Process Analysis**.

From **Projects > Process Portfolios**, you can access the features available with **HOPEX Business Process Analysis** to manage portfolios.

☛ For more details, see [Describing a Process Portfolio](#).

Managing Action Plans

📖 An action plan comprises a series of actions, its objective being to reduce risks and events that have a negative impact on company activities.

HOPEX Business Process Analysis allows you to specify, implement and follow up **action plans** defined for remediating, for example, a process or a customer journey.

From **Projects > Corrective Action Plans**, you can access the facilities to describe and manage action plans.

☛ For more information on use of action plans, see [Action Plans with HOPEX Business Process Analysis](#).

Describing the project portfolios

Project portfolio management 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.

From **Projects > Project Portfolios**, you can access the project list.

➤ For further information on handling projects, see the **HOPEX IT Business Management** guide.

Documenting projects implemented in SAP

From **Projects > Solution Manager 7.2**, you can access the features proposed with the **HOPEX for SAP Solution Manager 7.2** product.

➤ For more information, see **HOPEX for SAP Solution Manager 7.2**.

Using Workflows

With **HOPEX Business Process Analysis** you can use standard workflows to manage:

- Requests For Change;

➤ For more details on Requests For Change workflows, see "Using Requests For Change" in **HOPEX Common Features** guide.

- Review requests.

➤ For more details on the review process, see [Appendix - HOPEX Business Process Analysis Workflow](#).

CONNECTING TO HOPEX BUSINESS PROCESS ANALYSIS

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

Connecting to HOPEX Business Process Analysis

To connect to **HOPEX Business Process Analysis**, see "HOPEX Web Front-End Desktop" chapter in **HOPEX Common Features** guide.

HOPEX Business Process Analysis Profiles

In **HOPEX Business Process Analysis**, there are profiles associated to specific activities.

Presentation of the solution interface depends on the profile selected by the user on connection to the application; the tree of menus and functions varies from one business role to another.

➤ For more details on the Desktops connected to each of the profiles, see [HOPEX Business Process Analysis Desktop Presentation](#).

Profiles	Tasks
Process Functional Administrator	<p>In addition to the functional rights of the Process Manager, the Process Functional Administrator has rights to all objects, methods, projects and workflows. Prepares the work environment and creates elements required for management of process.</p> <p>He manages:</p> <ul style="list-style-type: none"> - Users, assignment of roles and access rights to the different project steps. - All environment objects (processes, customer journeys, reports, etc.), - Workflows. <p>For more details, see Presenting the Process Functional Administrator space.</p>
Process Manager	<p>The Process Manager has rights to all objects, methods, projects and assessments.</p> <p>She/he is responsible for identifying the risks associated with the organizational process models entrusted to him/her. She/he has the same rights as the risk designer.</p> <p>For more details, see Presenting the Process Manager space.</p>
Process Viewer Lite	<p>The Process Viewer Lite has read-only rights on objects in the repository. She/he limited to the use of collaborative tools.</p> <p>For more details, see Presenting the Process Observer Lite space.</p>
Process Contributor Lite	<p>The Process Contributor Lite has the same rights as the Process Viewer Lite. In addition to the Process Viewer, the Process Contributor is allowed to create objects and tabular entry diagrams.</p> <p>For more details, see Presenting the Process Contributor Lite space.</p>

➤ The **digital transformation architect** is the business user profile of the **HOPEX Digital Transformation Desktop**.

Business Roles of HOPEX Business Process Analysis

In **HOPEX Business Process Analysis**, there are, by default, business roles that can be assigned to certain users. These roles are:

- **Org-Unit Designer** to assign a user to org-units of the organization. The Org-Unit Designer is responsible for managing the processes assigned to him/her.
- **Organizational Process Designer** to assign a user to organizational processes. The Organization Process Designer is responsible for designing the processes assigned to him/her.
- **Business Process Designer** to assign a user to functional processes. The Business Process Designer is responsible for designing the processes assigned to him/her.
- **Value streams Designer** to assign a user to value streams. The Value streams Designer is responsible for designing the value streams assigned to him/her.
- **Process Portfolio Manager** to assign a user to process portfolios. The Portfolio Manager is responsible for managing the portfolios assigned to him/her.
- **Organizational Process Owner** to assign a user to organizational processes. The Organization Process Owner is responsible for the following tasks:
 - Identifies risks
 - Responding to Questionnaires
 - Defining and implementing action plans,
 - Validating the modifications made by the organizational process designer in the context review workflows.
- **Business Process Owner** to assign a user to functional processes. The Business Process Owner is responsible for the following tasks:
 - Identifies risks
 - Responding to Questionnaires
 - Defining and implementing action plans,
 - Validating modifications made by the Business Process Designer the context review workflows.

HOPEX Business Process Analysis Desktop Presentation

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

➤ For more details on using the Web platform for HOPEX solutions, see the **HOPEX Common Features** guide.




➤ **HOPEX Business Process Analysis** is mainly intended for web users. Desktops described in this guide are accessible to Web desktop users.

Presentation of space common to all profiles

All users have access to the **HOPEX Business Process Analysis** desktop and access to the following panes:

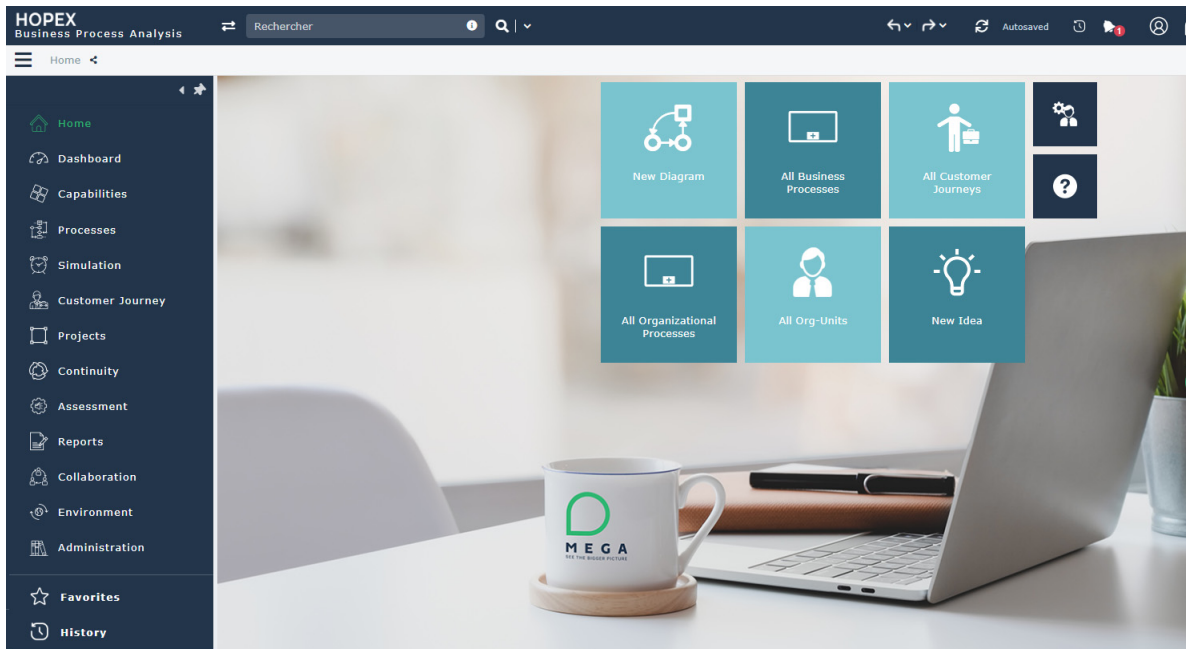
- **Home**: presents the main tiles useful for the user.
- **Dashboards**: displays the list of indicators required to steer objects such as processes, applications or org-units.
- **Bold BI Dashboards**: displays the list of dashboards build with the **Bold BI** application.
 - ☛ For more details, see [Customizing Bold BI dashboards](#).
- **Capabilities** access to all business capabilities and functionalities.
- **Processes**: gives access to all the process models described.
- **Simulation** : gives access to the facilities for simulation and process mining, iIf you have the **HOPEX Process Simulation** product.
 - ☛ For more details, see [Simulating a BPMN process](#).
- **Customer Journey**: gives access to the mapping of the customer journey if you have the **HOPEX Customer Journey** product.
 - ☛ For more details, see [The customer journey](#).
- **Reports**: accesses all reports, improving understanding of terms and their use.
 - ☛ For more details on the use of these reports, see "Generating Reports" chapter in **HOPEX Common Features** guide.
 - ☛ For more details, see [HOPEX Business Process Analysis Reports](#).
- **Collaboration**, which enables access to all collaborative tools provided by **HOPEX**.
 - ☛ For more details on the use of collaborative tools, see "Accessing collaboration in **HOPEX**" chapter in the **HOPEX Common Features** guide .

The tiles of the **Home** space of **HOPEX Business Process Analysis** are:

- **Help**  to access the **HOPEX** documentation.
- **Option**  to access to **HOPEX** options.
 - ☛ For more details, see [Summary of HOPEX Business Process Analysis options](#).
- A add tile button  .
 - ☛ See "Adding a tile to your home page" chapter in **HOPEX Common Features** guide.

Presenting the Process Functional Administrator space

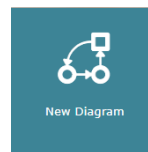
In addition to the panes offered in standard mode to all **HOPEX Business Process Analysis** desktop users, the users connected with the **Process Manager** profile have access to the following panes:



The Home pane

The **Home** pane enabling access to specific functions.

The **New Diagram** tile is used to create a new organizational Process and its diagram.



➡ For more details, see [Managing an Organizational Process Diagram](#).

New Idea tile helps to create a new idea.



☛ For more details on managing ideas and projects, see "Submitting and evaluating ideas" in **HOPEX Common Features** guide.

The Capabilities pane

The **Capabilities** pane provides access to the following menus.

- **Hierarchy View**, to access all the elements to describe and manage the Business Capabilities of the enterprise.
☛ For more details, see [Business Capability Maps](#).
- **Business Capability Maps**, to detail the company's business capabilities.
☛ For more details, see [Describing Business Capabilities with HOPEX Business Process Analysis](#).
- **Business Skill Maps**, to detail the company's business skills.
☛ For more details, see [Describing the business skill map](#).
- **Functionality Maps**, to detail the company's functionalities.
☛ For more details, see [Describing the Functionality Map](#).


The Processes pane

The **Processes** pane provides access to the following menus.

- **Hierarchy**, to access to the following elements:
 - the enterprise org_units, see [Organizational Charts and Responsibilities](#),
 - business and organizational processes, see [Organizational Processes and Business processes](#).
 - applications,
 - sites
- **Controls & Risks**, for accessing the risk management features offered with the **HOPEX Risk Mapper** product.
☛ For more details on controls and risks, see the [Managing Risks and Controls](#) chapter.
- **Data Management** to access the management functionalities for business data offered with the **HOPEX Information Architecture** product.


The Simulation pane

The **Simulation** pane gives access to the process simulation functionalities proposed with the **HOPEX Process Simulation** product . This pane proposes the following menus:

- **Simulation Scenarios**, to access the list of the results of the simulations performed in different configurations.
- **Schedules**, to access resource load and availability schedules.
 For an introduction to simulation functionalities, see [Simulating BPMN Processes](#).






The Customer Journey pane

If you have the **HOPEX Customer Journey** product, the **Customer Journey** pane gives access to the mapping of the customer journey.

 For more details, see [The customer journey](#).


The Projects pane

The **Project** pane provides access to transformation project management functionalities. Depending on the products that you possess, this pane provides access to the following menus.

- **Process Portfolios**, to access the portfolio management features offered with product **HOPEX Portfolio & Planning**.
 For more details on portfolio, see [Using process portfolios](#).
- **Corrective Action Plans**, to describe and manage the action plans linked to the transformation of processes.
 For more details, see [Action Plans with HOPEX Business Process Analysis](#).
- **Projects**, to access and manage transformation projects.
 For further information on handling transformation projects transformation, see the **HOPEX IT Business Management** guide.
- **Project Portfolios**, to access the project portfolio management functionalities offered with the **HOPEX IT Portfolio Management** product.
 For more information, see **HOPEX IT Business Management** .
- **Solution Manager** , to access the features offered with the **HOPEX for SAP Solution Manager 7.2** product.
 For more information, see **HOPEX for SAP Solution Manager 7.2**.

The Continuity pane

The **Continuity** pane, available with the **HOPEX BCM** product, provides access to the following Business Continuity Management facilities.

 For more information on Business Continuity Management, see the **HOPEX BCM** guide.

The Assessment pane

The **Assessment** pane provides access to the creation and management of assessment campaigns.

☛ For more details on managing assessment Campaigns, see "Evaluation By Campaign assessment sessions" chapter in guide **HOPEX Common Features**.

☛ For more details on process assessment, see [Assessments With HOPEX Business Process Analysis](#).

The Environment pane

The **Environment** pane provides access to the following menus.

- **Standard Navigation**, to access the main objects processed with the **HOPEX Business Process Analysis** solution.

☛ For more details, see [Preparing the Work Environment](#).

- **Indicators**, to access to the key indicators of your repository.

☛ For more information on key indicators, see **HOPEX IRM**.

The Administration pane

The **Administration** pane provides access to the user management features. The rights of different users on objects of imported libraries depend on their assigned profiles.

☛ For more details on the management users, see "Managing users" chapter in guide **HOPEX Common Features**.

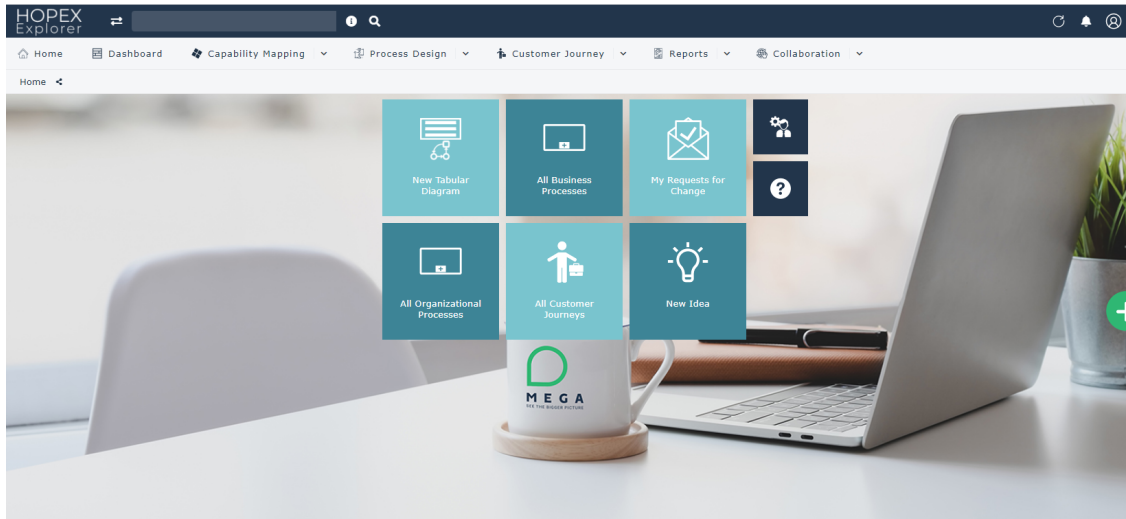
Presenting the Process Manager space

Excepted the **Administration** pane, users connected with the **Process Manager** profile have access to the same functionalities as users connected with the **Process Functional Administrator** profile.

☛ For more details, see [Presenting the Process Functional Administrator space](#).

Presenting the Process Contributor Lite space

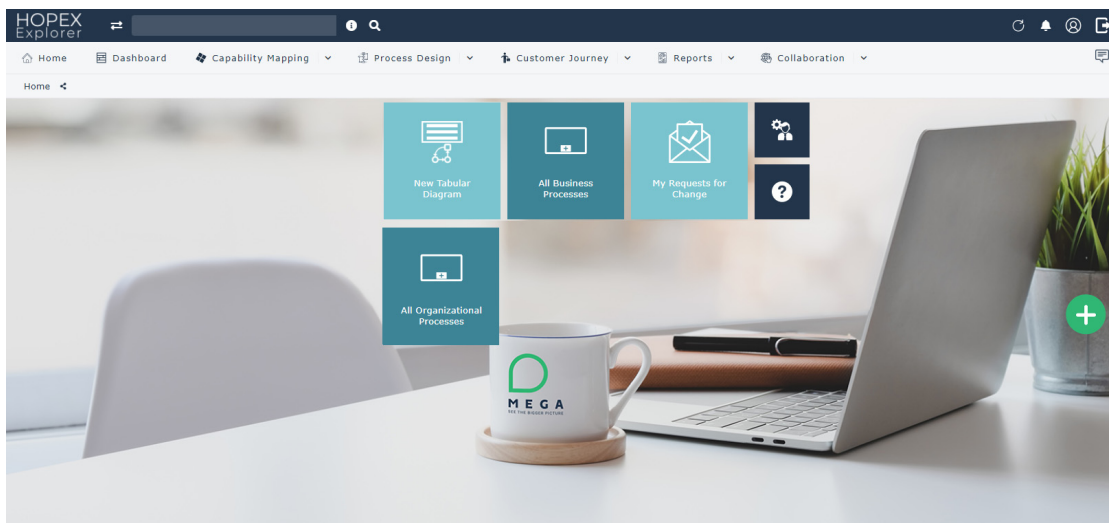
Users connected with the **Process Contributor Lite** profile have access to the panes offered in standard mode to all users of the **HOPEX Business Process Analysis** desktop.



The **Process contributor Lite** works in the simplified desktop of , she/he is responsible for validating the design of the processes entrusted to him/her.

Presenting the Process Observer Lite space

Users connected with the **Applications Viewer Lite** profile have access to the panes offered in standard mode to all users of the **HOPEX Business Process Analysis** desktop.



The **Process Viewer Lite** works in the simplified desktop of **HOPEX Explorer**, she/he has read-only rights on objects in the repository.

Prerequisites to using APQC libraries

If you want to use APQC business processes for the different activity sectors, you must import the dedicated modules in your environment.

🖱️ A report allows you to view APQC value chains. For more details, see [APQC Value Chain Analysis](#).

For import a module in **HOPEX**, see “Importing a module in **HOPEX**” chapter in the **HOPEX Administration** guide.

Customizing Bold BI dashboards

The **Bold BI Dashboard** navigation pane is used to display the dashboards of your environment that have been customized using the **Bold BI** web application.

🖱️ The **Bold BI** web application is available in a module provided on the **HOPEX Store**. This application allows you to customize your dashboards.

For example, the following dashboards are provided to illustrate this feature:

- Percentage of business processes described by a diagram;
- Historic of business processes diagrams creation;
- Number of business processes by risk level;
- Treemaps about:
 - Number of risks per business process,
 - Number of applications per business process,
 - Business process hierarchy.
- Assessment heatmap.



Standard Bold BI dashboards provided with **HOPEX Business Process Analysis**

Summary of HOPEX Business Process Analysis options

Some options enable you to manage the access to different types of process.

To activate these options:

1. In the workspace, open the **Options** navigation window.
2. In the tree on the left, select **HOPEX Solutions > Business Process Analysis**.
3. Depending on features you want to do, you may select one of the following check boxes.
 - **Display of "Realized steps" tab for a participant**, see [Creating an Operation on a Participant](#),
 - **Management of RACI in BPMN and Automatic synchronization of RACI by means of participants**, see [Process responsibilities](#),
 - **Risk Modeling MEGA 2009 /Risk Modeling HOPEX**, see HOPEX Risk Mapper guide.
 - **Quality Modeling**, see [Managing Quality](#),
 - **Business Function modeling** and Value streams modeling, see [Value streams](#),
 - **Business Process modeling**, see [Business processes](#),
 - **System Process modeling**, see [Using a system process in a Business process diagram](#),
 - **Capability Visibility**, see [Business Capability Maps](#),
 - **Activate former BPMN data stores (HOPEX V3 and lower) / Activate BPMN data stores for conceptual, logical and physical layers (from HOPEX V3.1)**, see [Using Data Stores](#).
 - **Use of contextualizations**, see [Representing Process Contextualization](#),
 - **Activate the menu "Implementation Projects" (Hopex V3.2 and lower)**, this menu can be accessed from the Projects navigation pane.

☛ For more details, see "Enterprise Architecture (EA) projects in HOPEX" in the **HOPEX Common Features** guide.

ABOUT THIS GUIDE

This guide presents how to make best use of **HOPEX Business Process Analysis** to assure efficient management of your modeling projects.

Guide Structure

The **HOPEX Business Process Analysis** guide comprises the following chapters:


- [Organizational Processes](#) presents how to define participants and the sequence flow of operations of an organizational process.
- [Business processes](#) chapter presents how to specify enterprise product and service offerings, and the breakdown of the processes producing these.
- [Value streams](#) describes the representation of enterprise value streams in terms of activities. It enables freeing from the existing organization to imagine new organization solutions for your processes.
- [Business Capability Maps](#) chapter, presents our method for analysis of the business capabilities of your enterprise, checking their suitability with your business functions and skills.
- [System Processes](#) describes the IT process required for implementation of an organizational process by sequencing tasks executed.
- [Organizational Charts and Responsibilities](#) chapter describes how to create an enterprise organizational chart and how to define responsibilities of persons and org-units.
- The [Assessments With HOPEX Business Process Analysis](#) chapter describes how to assess the execution and performance of business and organizational processes with **HOPEX Business Process Analysis**.
- The [The customer journey](#) chapter is used to represent the acquisition process of a product or a service by a specific customer.
- The [Action Plans with HOPEX Business Process Analysis](#) chapter describes how to use the action plans with **HOPEX Business Process Analysis**.
- The [Conversations](#) chapter explains how to model conversations between process architecture components.
- [Managing Quality](#) chapter, presents functions that simplify creation and maintenance of a quality system conforming to ISO 9000.
- [Describing a Process Portfolio](#) chapter, presents functionalities that enable planning over time the evolution of enterprise organizations.
- The chapter [Simulating a BPMN process](#) presents functionalities that simulate the execution of a process in order to evaluate the processing

time of the different tasks as well as the occupation rate of the resources that carry out these tasks.


- [HOPEX Business Process Analysis Reports](#), presents reports proposed by **HOPEX Business Process Analysis** to assist users at each step of architecture description and analysis projects.
- The [Appendix - HOPEX Business Process Analysis Workflow](#) chapter presents the workflow diagrams of **HOPEX Business Process Analysis**.


Additional Resources

This guide is supplemented by:

- The **HOPEX Common Features** guide describes the basic functions common to **HOPEX** products and solutions.
 *It can be useful to consult this guide for a general presentation of the interface.*
- The **HOPEX IT Portfolio Management**, guide, which describes functions proposed to manage all your applications;
- The **HOPEX Power Supervisor** administration guide.
- More advanced technical functions are described in the **HOPEX Power Studio** 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**.



ORGANIZATIONAL PROCESSES



The aim of this chapter is to familiarize you with **HOPEX Business Process Analysis**: it introduces a few features of the software dedicated to organizational process modeling activities.

➤ *For more details on management of your desktop, and of diagrams and objects, see the **HOPEX Common Features** guide.*

An organizational 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.

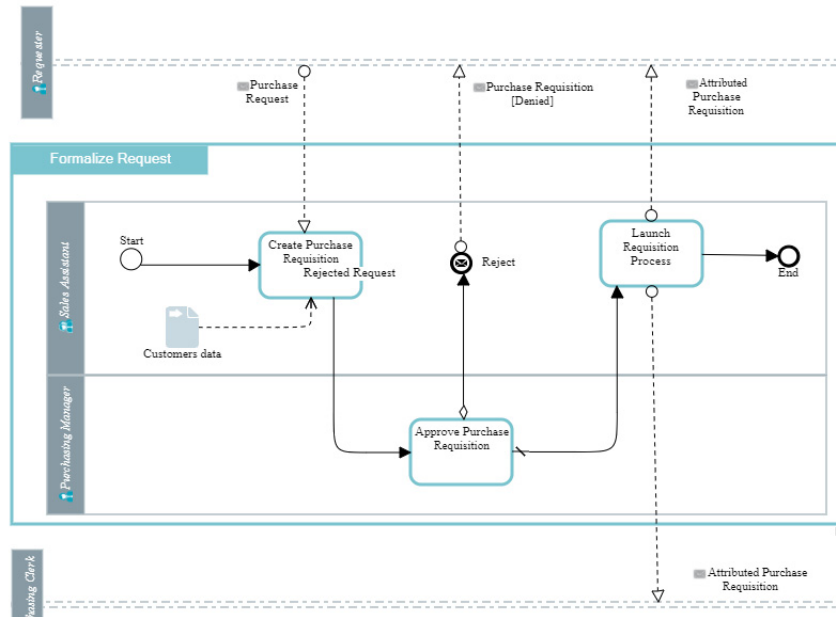
With **HOPEX Business Process Analysis**, an organizational process representation is based on the standard BPMN (Business Process Modeling Notation) offering notation easily used by all participants concerned.

The points covered here are:

- ✓ [Organizational Process Example](#)
- ✓ [Managing an Organizational Processes](#)
- ✓ [Defining Participants](#)
- ✓ [Creating Operations](#)
- ✓ [Describing Operations Sequence Flows](#)
- ✓ [Defining Message Flows](#)
- ✓ [Defining Process Events](#)
- ✓ [Using Shared Objects](#)
- ✓ [Using Gateways](#)
- ✓ [Import an Organizational Process from Excel](#)

ORGANIZATIONAL PROCESS EXAMPLE

In the example of the purchase request process, the organization is represented by the following diagram.



The purchase request is received by a purchasing assistant, who enters the request and submits this for the approval of the purchasing manager.

If the request is rejected, the purchasing manager informs the requester.

If the request is approved, the assistant sends a completed request to buyers responsible for issuing the order, and sends a confirmation message to the requester.

This chapter explains how to use the main objects presented in this diagram.

- The frame containing the different components represents the *organizational process* described by the diagram. Its name "Process Purchase Request" appears in the box at top left.

An organizational 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.

- The **participants** in execution of this process are **org-units**. They are represented in columns for reasons of diagram readability. For more details, see [Defining Participants](#).



A participant (org-unit) enables representation of org-units assigned to execute a group of process operations.



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.

- The different steps in this process are **operations**. Organization of these steps is described by sequence flows.



An operation is an elementary step in an organizational process executed by an org-unit. It cannot be broken down. An operation can be industrial (manufacturing a component), logistical (receiving a delivery), or can involve information processing (entering an order).

- **Message flows** enable representation of data or information circulating between a process and the exterior.



A message flow represents circulation of information within an exchange contract. A message flow transports its content.

MANAGING AN ORGANIZATIONAL PROCESSES

This section explains how to describe your work context and describe an organizational process.



*An organizational 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.*

Creating an Organizational Process

To create an organizational process from the **Processes** navigation pane:

1. Select **Hierarchy**.
2. Select the **Organizational process** folder, click **New > Organizational process**.
The creation dialog box of the organizational process opens.
3. Modify the name of the organizational process.
4. Specify the **Owner**.
5. Click **OK**.
The organizational process appears in the list.

Managing an Organizational Process Diagram

An organizational process diagram can be created and updated in tabular input mode.



*For more information on using tabular entry, see the "Entering a diagram in tabular mode" in the **HOPEX Common Features** guide.*

Creating an Organizational Process Diagram

To create an organizational process diagram:

1. Right-click the organizational process name and select **New > Diagram**.
The Diagram type selection dialog box opens.
2. Select **Organizational Process Diagram**.
3. (Optional) Uncheck the **Diagram Initialization** box.
4. In the **Edit Mode** section, select **Edit diagram with graphical entry**.
5. Click **OK**.
The diagram opens in the edit area. You are now in the **HOPEX** graphic editor. The frame of the described organizational process appears in the diagram.

Accessing an Organizational Process Diagram

To access an organizational process diagram:

1. Right-click the process to open its pop-up menu.
2. Select **Organizational Process Diagram**.
The diagram opens in the edit area.

☛ If the process does not have a diagram, you can create it by clicking **New > Diagram** in its pop-up menu, then by selecting **Organizational Process Diagram**.

Comparing an organizational process diagrams

You can compare several diagram versions of the same process.

☛ For more details on comparison of process diagrams, see [Comparaison de diagrammes BPMN](#).

You can also compare the diagrams of independant processes.

☛ For more details on the comparison of independent processes diagram, see [Conformité de diagrammes de processus](#).

Creating an organizational process from a sketch






You can create an organizational processes and its diagram from a *sketch*.

☛ For more details on the sketching use, see the **HOPEX Common Features** guide.

To create an organizational processes and its diagram from a sketch:

1. Open the **Characteristics** property page of the sketch that interests you.
2. Click the **Convert in process** button.
The process diagram created from the sketching diagram opens in the edit window.

The organizational process diagram building principles are:

- A rectangle  is converted into an operation, see [Creating Operations](#);
- A sketching link is converted into a sequence flow, see [Describing Operations Sequence Flows](#);
- A rhombus  is converted into a gateway, see [Using Gateways](#);
- A circle  is converted into start or end event depending on the link with the operation direction, see [Defining Process Events](#);
- A barrel  is not converted;
- A folded corner rectangle  is not converted.

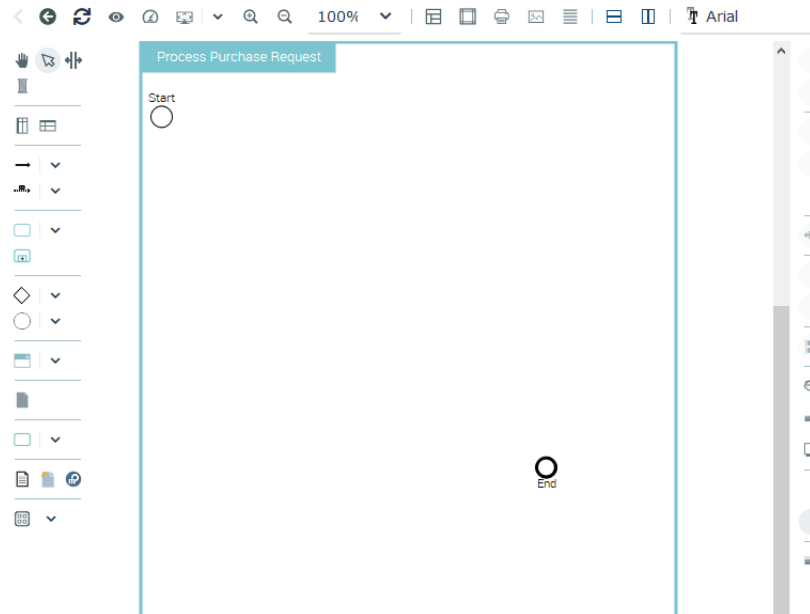
The name of the created organizational process is the sketch name.

The name of each organizational process component is the corresponding sketching item name.

Organizational Process Diagram initialization


By default, with **HOPEX Business Process Analysis**, the BPMN diagram is initialized with the current process, represented by a frame; Start and End events are added in the frame as well as input and output gates.

Example of an Organizational Process Diagram



Advanced option for Organizational Process Diagram initialization

If the organizational process is represented in a higher level diagram, the diagram can be initialized taking into account participants and flows that are represented in the higher level diagram. A note provides the name of the diagram from which the new diagram has been initialized.

 After reading this note, you can remove it.

At least, if the process owns components connected by sequence flows, internal and external participants connected by flows, systems used and data stores, each new diagram can be initialized with these components displayed at the top of the frame on the left of the diagram.

To activate this advanced initialization option:

1. In the workspace, open the **Options** navigation window.
2. In the tree on the left, **Compatibility > Diagrams**.
3. Confirm that **Initialization of the BPMN process diagrams as with MEGA 2009 SP5** box is checked.

Reorganizing an Organizational Process diagram

When editing an Organizational Process diagram, the following buttons help you reorganize the diagram.



- **BPMN Vertical Diagram** enables to arrange vertically the diagram elements (),
- **BPMN horizontal Diagram** enables to arrange horizontally the diagram elements ().

Diagram Reorganization thresholds

Diagram reorganization may take several minutes to proceed for complex diagrams.








- By default, a warning appears if there are more than 50 Sequence Flows in the diagram. The user has to confirm whether he/she wants to proceed with diagram reorganization.
 - ☛ If need be, you can modify this value with the user option **Number of links that requires confirmation for automatic reorganization** via the Main Menu > Settings > Options > Diagrams > Display.
- By default, it is not possible to use automatic reorganization if there are more than 100 Sequence Flows in the diagram.
 - ☛ If need be, you can modify this value with the user option **Maximum number of links for automatic reorganization** via the Main Menu > Settings > Options > Diagrams > Display.

Accessing organizational process properties

The properties of the different business processes available in **HOPEX Business Process Analysis** depend on the profile with which you are connected and the products that you possess.

Organizational Process characteristics

The **Characteristics** page of the properties of a process is divided into different sections:

- The **Identification** section of the properties page for a process provides access to:
 - its **Name**,
 - its **Owner**, by default on creation of the process, it is held by the default library.
 For more details on libraries, see [Preparing the Work Environment](#).
 - its **Code**,
 - its update **State**,
 For more details on process statuses, see [Organizational Process review workflow](#).
 - the text of its **Description**.
- The **Responsibilities** section enables to identify all persons concerned by the process description depending on their role.
- The **Components** section enables to access all organizational processes and operations that contribute to the organizational process execution.
- The **System Used** section enables to access the list of elements used by the process and to create new elements.
 For more details, see [Modeling the Systems Used](#).
- The **Details** section enables access to process type, for more details, see [Task type](#).
- The **Controls et Risks** section enables business and IT managers to guarantee traceability of compliance controls via application layers, data and infrastructures.
 -  A risk is a hazard of greater or lesser probability to which an organization is exposed.
 -  A control is a set of rules and means enabling the assurance that a legal, regulatory, internal or strategic requirement is respected.
 For more details on controls, see the **HOPEX Risk Mapper** guide.
- The **Attachments** section enables to access all documents dedicated the described process.
- The **Word Report** section enables creation of word reports of the described process.
 For more details, see [Creating the documentation of an organizational process](#).

The property pages of an organizational process

With **HOPEX Business Process Analysis** a process is described by the following properties:

- the **Assessment** page that is used to access the different possibilities for assessing the process.
 ➤ For more details, see [Assessments With HOPEX Business Process Analysis](#).
- **Simulation** page, used to access to simulation and Process Mining facilities offered by **HOPEX Process Simulation**.
 ➤ For more details, see [Simulating a BPMN process](#).
- **Action Plans** page, used to access the action on the process.
 ➤ For more details, see [Action Plans with HOPEX Business Process Analysis](#).
- **Quality** page, allows to enter quality characteristics specific to the process.
 ➤ For more details, see [Managing Quality](#).
- **Reports** page, used to access the different reports available on the process.
 ➤ For more details, see [HOPEX Business Process Analysis Reports](#).

Organizational Process variations

The system of variations enables the creation of an alternative view of an object or model. This alternative view enables follow-up of application updates over time.

➤ To create variations, in the **HOPEX** options window, you must click **HOPEX Solutions > Common Features**, and, in the right pane of the window, select the **Activate Variations** check box.

To create the Variation of an organizational process:

1. Right-click the object and select **Variation > New Variant**.
 A variation creation wizard appears.
 By default:
 - The Variation (or variant object) takes the name of the varied object, with extension v2.0.
 - Attributes and diagrams are copied.
 ➤ For diagrams, the described object is not copied (it is a variation of the described object).
 ➤ You can choose to not copy attributes and diagrams. To do this, clear the check boxes **Attributes Initialization** and/or **Diagrams Initialization**.
2. Click **OK**.
 The variant organizational process appears in the **General > Variations** property page of the organizational process.
 ➤ For more details on Variation, see chapter "Using Variations" in the **HOPEX Common Features** guide.


Creating the documentation of an organizational process

HOPEX allows you to create MS Word documentation of organizational processes.

☛ *For more details on the use Word Documents, see "Managing MS Word Reports" chapter in the **HOPEX Common Features** guide.*

The report (MS Word) is generated. The report appears in the **Word Reports** sub-tab of **Characteristics** property page of the organizational process.


DEFINING PARTICIPANTS


 A participant defines a partition of the actions of a process that will be assigned to a same agent.

A participant enables:


- Assignment of a group of operations to one or to several enterprise org-units.
- Representation of a unit external to the process with which the process communicates by means of message flows.

Organizational process participants may be associated to different object types, but **org-units** are privileged.

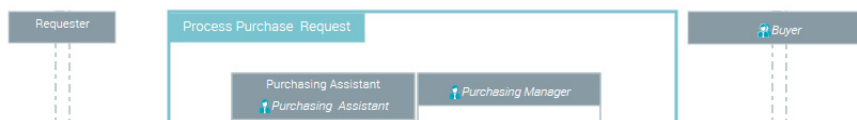
 An org-unit represents a person or a group of persons that intervenes in the enterprise business processes or information system. An org-unit can be internal or external to the enterprise. An internal org-unit is an organizational element of enterprise structure such as a management, department, or job 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.

 You can also use the **Assignment** section of the **Characteristic** property page of a participant to connect new or existing objects of different types to the participant.


Using Participants

 A participant defines a partition of the actions of a process that will be assigned to a same agent.


Example of participants



The drawing of participants in diagrams is based on pools.

 For more details on the use of pools, see chapter "Using the Pools: Improving Graphical Presentation" **HOPEX Common Features** guide.


Creating a Participant (Org-Unit)

 A participant (org-unit) enables representation of org-units assigned to execute a group of process operations.

Org-units, either new or already created, can be assigned to participants of a process.

Example: The "Analyze Purchase Request" operation in the "Process Purchase Request" process, handled by the Purchasing Manager, is assigned to the Purchasing Assistant when the manager is absent. To represent this, we assign org-units "Purchasing Manager" and "Purchasing Assistant" org-units to the same participant.

To create a *participant (Org-Unit)* in an organizational process diagram:

1. Click the arrow at the right of the **participant (org-unit)**  button in the insert toolbar.
2. Click within the organizational process frame.
The **Creation of Participant- Assignment** wizard opens.
3. In the **Org-Unit** field, select the org-units you wish to assign to the participant.
4. Click the **Next** button.
The **Creation of Participant - Assignment** wizard allows you to modify the list of selected actors.
5. Click **OK**.
The participant is positioned in the diagram. If you have not specified a name, it will carry the name of the assigned org-unit.

☺ To hide the name of the participant, open its pop-up menu and select **Shapes and Details**. In the tree on the left, click the "Short Name" folder, then in the **Content** tab, clear the **Short Name** check box.

Creating a Participant

To create an org-unit participating in execution of a process:

1. In the diagram insert toolbar, click the **Participant (Org-Unit) > Participant** button.
2. Click in the diagram within the organizational process frame.
The participant appears in the diagram.
3. Click the "Participant" name and press key <F2> to modify the name of the participant.

Assigning an object to a participant

You can assign an existing object to a participant, for example an org-unit.

To assign an org-unit to an existing participant:

1. Click in the participant frame.
An icon appears to **Add an assignment**.



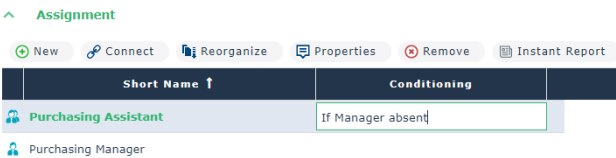
2. Click the **Add an assignment** icon.

3. Select the name of the objects you wish to assign to the participant.
 - ☛ You can also use the participant pop-up menu and select **Connect > Org-Unit**. The connect wizard appears.
 - ☛ You can also use the **Assignment** section of the **Characteristic** property page of to connect new or existing objects to the participant

Conditioning the assignment of an object to a participant

To condition participation of an org-unit:

1. Open the **Characteristics** property page of the Participant.
2. In the **Assignment** section, select the line of the org-unit of which you wish to condition assignment.
3. Click in the **Conditioning** column.
4. Enter the text of the condition.



The text of the condition appears between brackets alongside the name of the org-unit in the participant title bar.

CREATING OPERATIONS

An operation is an important step in an organizational process. For steps requiring greater detail, organizational processes can be used.


Creating an Operation on a Participant

To create an operation and connect it to the participant responsible for its execution:

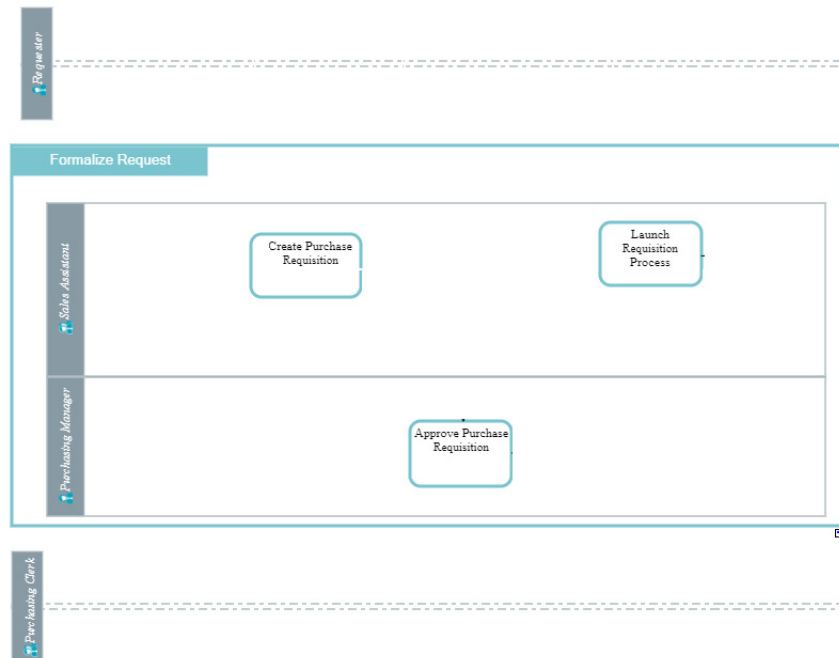
1. Click on the **Operation**  button of the Insert toolbar.
2. Click in the diagram within the shape of the participant concerned.
The operation is automatically created.

To assign an operation to another participant:

1. Select the operation and move it from one participant to the other.

 When positioned, the operation is disconnected from the initial participant and reconnected to the new participant executing the operation.

Operations example



Specifying operation behavior

Complying with BPMN standard, a process can have different behaviors. With **HOPEX Business Process Analysis**, these behaviors are available for organizational processes, operations, system processes and tasks.

Behaviors

Behaviors proposed are:

- **Transaction**: a transaction is a set of coordinated activities leading to a consistent, and verifiable outcome.
- **Loop**: a loop is a process step that is repeated as long as a condition is true.
 - "Do while": the condition is evaluated before the first execution.
 - "Do until": the condition is evaluated after the first execution. In this case, the process step is executed at least once.The predicate enables specification of the loop execution condition.
- **Ad hoc**: steps of an ad hoc process are not controlled or sequenced in a particular order. Their performance is determined by the performers of the process.
- **Multiple**: the process is repeated a predefined number of times, evaluated only once before it is carried out. Execution type can be specified:
 - "Parallel": all executions carried out simultaneously.
 - "Sequential": executions carried out one after the other.
- **Compensation**: a compensation defines the set of activities that are performed during the roll-back of a transaction to compensate for activities that were performed during the normal flow of the process.

To describe for example that a system process is executed by a loop:

1. Open the **Characteristics** property page of the process.
2. In the **Details** section, in the **Loop** field, select the loop type corresponding to the process behavior and add the condition text. Shape of the process is modified to display the symbol of the loop.




Task type

To specify the type of a task:

1. Open the **Characteristics** property page of the process.


2. In the **Details** section, click the arrow at the right of the **Task Type** box. A list of task types appears.
 - **Call Process**: task used to call a second process while executing the current process.
 - **Receive**: elementary task which waits for arrival of a message from a participant external to the process. When the message has been received, the task is completed.
 - **Send**: task that sends a message to a participant external to the process. When the message has been sent, the task is completed.
 - **Manual**: task executed without the help of a automatic execution engine of a process or IT application.
 - **Business Rule**: execution task of a business rule with a rules engine which processes input data and returns calculation results.
 - **Script**: task executed by a process execution engine. The designer defines a script in a language that the engine is able to interpret. When the task is ready to start, the engine executes the script. The task is completed when script execution is completed.

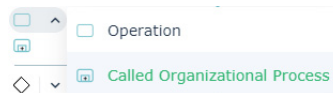
 Shape of the process is modified to display the symbol associated with the task type.

Calling an Organizational Process in an Operation

You can create an operation that calls an organizational process. This functionality enables, for example, replacement of the process called by another process without disturbing description of the main process.


To create an operation that calls an organizational process:

1. Click the arrow at the right of the **Operation**  button and select **Called Organizational Process**.




2. Click in the diagram within the shape of the participant responsible for its execution. A creation dialog box opens.
3. In the **Organizational Process** field, select the name of the called process.

In our example, "Process Purchase Request" could be replaced by "Process Urgent Purchase Request".

 By default, the operation carries the same name as the organization process called.


4. Click **OK**. The operation appears in the diagram with the name of the organizational process.

Modeling the Systems Used


 A system used during the execution of a step of a process represents what is necessary to realize this step. It can be an application or an IT service, or any other non IT resource, or more generally a functionality.

A System Used can be of several types:


- An **IT service**,

 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.

- An **application**,

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

- A **functionality**,

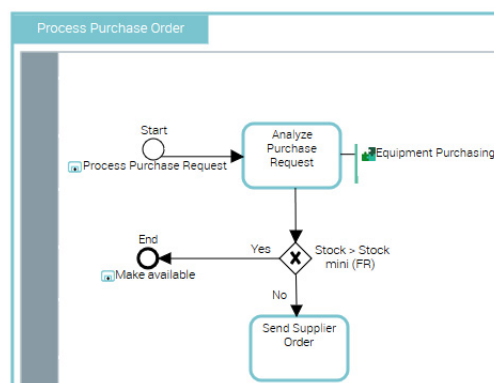
 A technical functionality is a capability expected from an equipment item (hardware or software) to ensure the operation of a technical element or an application.

- A **resource**.

 A resource is a means used to perform certain actions.

System used Example

We can define a new organizational process for processing of urgent purchase requests, in which responsibilities of the purchasing assistant are extended. However, the assistant is using an **application**.




"Process Purchase Request" Organizational Process

The purchasing department begins by analyzing the purchase request. Is product in stock? A request for availability is put forth.

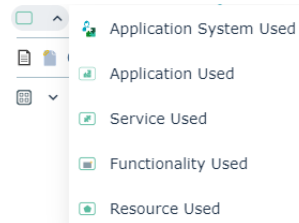
To analyze the purchase request and send the order, the purchasing assistant requires data on stock levels. He will have access to the "Equipment Purchasing" application.

Creating a System Used in an organizational process diagram

 You can see the **systems used** by the operations by selecting "System used" in the window opened from the "Views and Details" button.

To create a **system used** representing the use of the application by the organizational process:


1. Click the arrow at the right of the **System Used** button and select **Application Used**.



2. Click in the diagram.
A creation dialog box opens.
3. In the **Application** field, select the applications you want to use.
4. Click **OK**.
The system used is positioned in the diagram.
5. Use the link button to connect the system used you have created to an organizational process or an operation.

DESCRIBING OPERATIONS SEQUENCE FLOWS

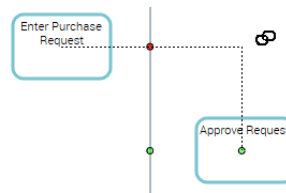
A **sequence flow** is a directional link that represents the chronological organization of the different processing steps.

 A sequence flow is used to show the order in which steps of an exchange contract will be performed. A sequence flow has only one source and only one target.

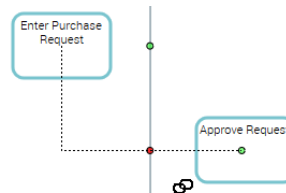
Creating Sequence Flows

To create a sequence flow between two operations::

1. Click the **Sequence Flow** ➔ button.
2. Click the sender operation and draw a link to the recipient operation.
A dotted line link indicates the path taken by the graphic link.



➔ Several paths are possible: you need only move the cursor in the recipient operation frame.



Moving Sequence Flows

You may need to change the predecessor or successor of a sequence flow.

To move a sequence flow:

1. Click the sequence flow.
The two link ends are marked by squares.
2. Click the square you want to move and, holding the mouse button down, drop it to its new predecessor or successor.
A dotted line link is displayed.

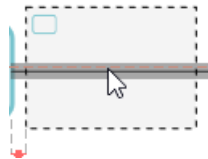
3. Release the mouse button.
The link appears in its new position in the diagram.

Inserting an element in a sequence flow

You may need to insert an operation or an organizational process between two elements linked by a sequence flow. Rather than move the links, you can insert the operation, or the organizational process, directly on the sequence flow.

To insert an operation in a sequence Flow:

1. Click the **Operation** button of the insert toolbar.
2. Position the mouse on the sequence flow that interests you.
The pointer shape changes to a double-headed arrow.




3. Click when the operation is correctly placed.
The operation is automatically created.
The sequence flow is broken down into two sequence flows linking the new operation at each end of the initial sequence flow.


Defining a Condition on a Sequence Flow

Specifying that a sequence flow is conditioned

To define that a sequence flow is conditioned:

1. Right-click the sequence flow and select **Sequence Type > Conditioned**.

2. Click the sequence flow and press key <F2> to add a comment if necessary.
The text associated with the condition appears on the link which then takes form .

 You can also access to the conditions of the sequence flow from the **Characteristics** property pages of the sequence flow. The comment appears in the **Predicate** field.

General

Characteristics

Identification

Name

Approve Purchase Requisition-->Reject

Owner

Organizational Process Formalize Request

#Tags

Sequence type*

Default

Standard

Conditioned

Predicate

Rejected Request

Predecessor

Approve Purchase Requisition

Defining a Sequence Flow

If several conditioned sequence flows are from the same operation, you can specify that one of these should be used as default. For example, having completed the "Enter Purchase Request" operation, the assistant always executes the "Finalize Request" operation, except if the request is not acceptable and is below a given amount.

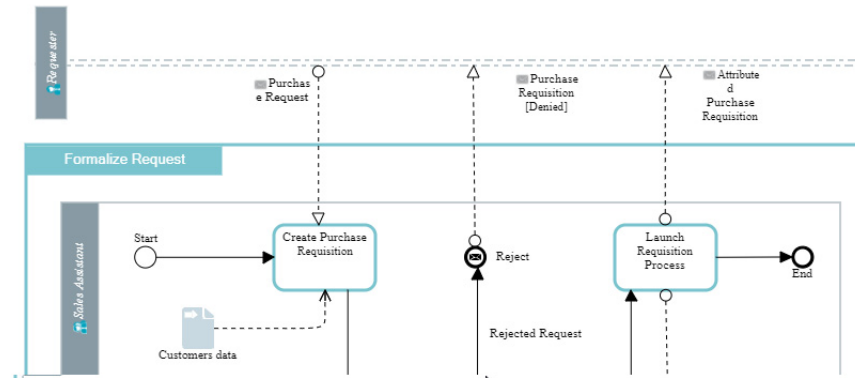
To define that a sequence flow is used by default:

1. Right-click the sequence flow and select **Sequence Type > Default**.

The link then takes form .

DEFINING MESSAGE FLOWS

The content of message flows exchanged with the exterior can be specified.



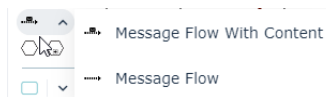
Creating a Message Flow With Content

You can specify the content of *message flows* exchanged between a process and its environment directly at flow creation.

A message flow represents circulation of information within an exchange contract. A message flow transports its content.

To create a message flow and its content:

1. In the diagram insert toolbar, click the **Message Flow** button arrow, option **Message Flow With Content**



2. Click the first object representing the start step, and, holding the mouse button down, draw a line to the object representing the next step. The **Creation of Message Flows With Content** dialog box opens.
3. In the **Content** drop-down list, select the content you wish to associate with the flow. The message flow is displayed with its content in the diagram.

You can associate several contents with the message flow. For more details, see [Creating a Message Flow With Content](#).


Defining Message Flow Content



A message flow represents circulation of information within an exchange contract. A message flow transports its content.

To define content of a message flow:

1. Open the **Characteristics** property page of the Message Flow.
2. Click the arrow at the right of the **Content** field and select **Connect Content**.
The selection dialog box appears, with a list of contents proposed for the message flow.
3. Select the content name and click **OK**.

 *A content can be used by several message flows since it is not associated with a sender or recipient.*

The name of the content appears in the diagram.

Managing the Consistency of the Flows of a Process

The flows, and associated content, exchanged by a process with the outside must be described in the process diagram.

To check the consistency of the flows of a process, you have two functionalities:

- Modeling regulations that allow a global validation of the consistency.
- A specific report that provides a detailed view of the inconsistencies on the exchanged flows. For more details, see [Inconsistency of Message Flows in a Process](#).

To activate the modeling regulation regarding flow consistency:

1. Open the options window.
2. In the options tree, select **Workspace > Modeling and Methods Regulations**.
3. In the right section, in the **Active modeling regulation** field, click the arrow and select **Select a regulation**.
4. Select **Message Flows Top-Down Consistency** and click **OK**.

To view the result of the modeling regulation:

- 1 Open the **General > Rules Application** property page of the process.

My Organizational Process		
General - Rules Application		
Message Flows Top-Down Consistency		
Result	Rule Definition	Diagnosis
😊	<i>Recommendation</i> A Called Process or a Sub Process should have consistent incoming message flows in their description	<i>This rule is verified.</i>
⚠️	<i>Recommendation</i> A Called Process or a Sub Process should have consistent outgoing message flows in their description	<i>There are inconsistencies regarding outbound message flows of the task or sub process. Check those message flows: - My Organizational Process o--> Start</i>

DEFINING PROCESS EVENTS

The *events* enabling representation of facts occurring during process execution.



An event represents a fact or an action occurring in the system, such as updating client information. It is managed by a broker. An application indicates that it can produce the event by declaring that it publishes it. If an application is interested in an event, it declares that it subscribes to the event.

Events can be used:

- Within a process to define facts internal to the process.
- Outside a process to describe causes and effects of events of the process depending on its use context.

The different event types are presented in this section.

- ✓ [Defining an event](#)
- ✓ [Connecting Events to Sequence Flows](#)
- ✓ [Accessing Preceding or Succeeding Processes](#)

Defining an event

Event natures

The nature of the event enables specification of its position in the processing.

- **Start:** start of the processing sequence
- **Catching:** awaiting an event (arrival of a message, signal, etc.) before continuation of processing
- **Throw:** triggering an event (message, signal, etc.) and continuation of processing
- **End:** end of processing

Event types

Event type enables specification of what will trigger the event and what will be triggered by the event.

- **None**: the trigger is not specified, generally at the start or end of a process
- **Message**: the event is receiving or sending messages
- **Timer**: the event is triggered by a timer
- **Error**: the event is triggered by errors or throws errors that cause interrupt of the process
- **Escalation**: the event is triggered by an error or throws a non-critical error
- **Cancel**: the event reacts to cancellation of a process step or triggers cancellation
- **Compensation**: the event handles or triggers compensation of a failed process
- **Conditional**: the event is triggered by a condition
- **Link**: the event is used to connect two sections of a process
- **Signal**: the event waits for a signal or throws a signal. One signal thrown can be caught multiple times
- **Finish**: the event indicates that all process steps should be immediately ended without compensation or event processing
- **Multiple**: the event has multiple triggers
- **Multiple**: the event has several simultaneous triggers

Event type and nature combinations

The following table presents valid combinations of event type and nature.

	START			INTERMEDIATE				END
	Top Level	Interrupting	Non Interrupting	Catching	Interrupting	Non Interrupting	Throwing	
None								
Message								
Timer								
Error								
Escalation								
Cancel								
Compensation								
Conditional								
Link								
Signal								
Terminate								
Multiple								
Parallel multiple								

Current process interruption

The current process may be interrupted when an event occurs. This characteristic of the event is specified in **Interruption** which can be one of the following values:

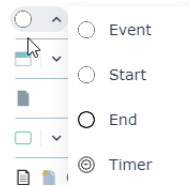
- **Interruption**
- **Non interruption**

➡ By default the event interrupts the current process.

Creating Events





You can directly create the most frequently used events:

1. Click the **Event** button in the toolbar and select from the predefined nature events the nature that interests you.



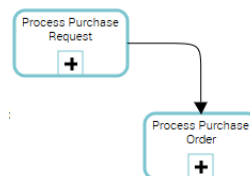
2. Click in the diagram.
The new event appears in the diagram.

To create an event with a specific nature or type:

1. Click the **Event** button  in the insert toolbar.
2. Click in the diagram.
The **Create Event** dialog box opens.
3. Enter the name you want to give the event.
4. Select the nature of new event.
 By default, the nature is **Catching**.
5. Click **Next** and select the type of event you wish to create.
 By default the type is **None**.
6. Click **OK**.
The new event appears in the diagram. The shape of the event respects conventions linked to its type and nature.
 By default the event is **interruption**.

Connecting Events to Sequence Flows

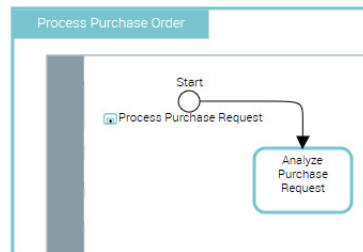
In a given context, a process can be connected to another process by a sequence flow.



In the example above, the "Process Purchase Request" process precedes the "Process Purchase Order" process.

Displaying external processes

In the diagram describing the process, the preceding process can be displayed.



In the diagram that describes the "Process Purchase Order" process, the "Process Purchase Request" process that precedes it is shown.

To do this, it is necessary to specify the event involved in the sequence flow:

1. Open the **Characteristics** property page of the sequence flow.
2. In the **Triggered Event** section, click the **Connect** button.
The query dialog box appears.
3. Find **Possible Triggered Events**.
The list displayed proposes start events or catching events of the successor process.
☛ The successor process is generally triggered at its start and normally has only a single start event. This start event is therefore generally the event that interests you.
4. Select the event corresponding to the sequence flow.
5. Click **Connect**.

If you open the organizational process diagram containing this event, you can view the process that precedes it. For more details, see [Accessing Preceding or Succeeding Processes](#).

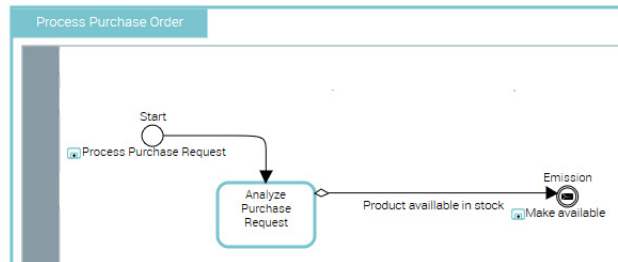
You can similarly select the triggering event of the previous process. In this case, end events or throw events from the preceding process will be proposed.

Accessing Preceding or Succeeding Processes

In the following example, the "Process Purchase Order" organizational process is activated after processing of the purchase request, and itself activates the "Make Available" process.

To show, at events level, the processes preceding and succeeding the described process, you must:

- Specify the sequence flows in which the events are involved. For more details, see [Connecting Events to Sequence Flows](#).
- Activate the views enabling access to context-sensitive information.



To activate the context-sensitive view:

1. Click the **Views and Details**  button in the diagram toolbar.
2. Select the **View External Processes** check box.
3. Click **OK**.

Attaching an Event to a Process

To attach an event to a process:


1. Click the event and hold the mouse button down.
2. Position the event on the border of the process.

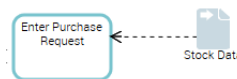
To detach the event from the process border:

1. Right-click the event and select **Detach**.

USING SHARED OBJECTS

In an organizational process diagram, a *data object* can be used to represent the fact that data or objects (correspondence, raw materials, finished products, etc.) are in stock awaiting use.




 A data object is used to explain how documents, data, and other objects are used and updated during the process. A data object can represent an electronic document, or any other type of object, electronic or physical.



In this example, the shared object "Stock Data" is represented with an open head arrow since it is used by the "Analyze Purchase Request" process without having been produced by one of the processes represented in the repository.

Creating a Data Object

To create a data object:

1. Click the **Data Insertion**  button in the diagram insert toolbar.
2. Click in the diagram to position the object.
The **Create Data Object** dialog box appears.
3. Click the arrow at the right of the **Content** field and select the content that interests you.
 A content can be used by several data objects.
4. Enter **Data Object State** if required.
 By default the data object carries the same name as its content.
The state appears between brackets.
5. Click **OK**.
The data object appears in the diagram.

Describing a Data Object

To specify that a shared object corresponds to an object collection:


1. Open the **Characteristics** properties page of the data object.


2. Click the arrow at the right of the **Collection** box, and select **Yes**. The shared object then takes the following form:




Information necessary for execution of operations can be consulted or updated in the data objects.

To indicate that information was obtained from a data object, for example that stock data used by the "Analyze Purchase Request" operation was obtained from the "Stock Data" data object:

1. Click the link  button in the insert tool bar to link the "Stock Data" to the "Analyze Purchase Request" operation.

 A data object is represented by an open head arrow if it is read by a process without having been updated by one of the processes in the repository.

 A data object is represented with a solid head arrow if it is updated by a process and not read by any of the processes in the repository.

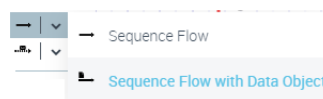
Associating a data object with Sequence Flow

You can specify that the content of a *shared object* is sent at sequencing of two operations.

For example, a shared object "Purchase Request" can be sent between the operations "Enter Purchase Request" and "Finalize Request".

To simultaneously create a sequence flow and a data object:

1. Click the **Sequence Flow** button arrow, option **Sequence Flow With Data Object**.



2. Click the operation representing the start step, and, holding the mouse button down, draw a line to the operation representing the next step. The **Creation of Sequence Flow -Data Object** dialog box opens.
3. In the **Content** drop-down list, select the content you wish to associate with the flow.

The sequence flow and its content are displayed in the diagram.

Using Data Stores

Objects that are shared, supplied or used in processing can be stored in a **data store**.



A data store provides a mechanism to update or consult data that will persist beyond the scope of the current process. It enables storage of input message flows, and their retransmission via one or several output message flows.

Prerequisites to using data stores

HOPEX Business Process Analysis provides several types of **data store**:

- **Process data store**, associated to a business information area.



*A business information area is a sub-set of elements of a subject area that reduces the scope of a field. For more information, see the **HOPEX Information Architecture guide**.*

- **Process logical data store**, associated to a logical data area.



*A logical data area is used to define a logical data structure made up of classes and data views. For more information, see **HOPEX Information Architecture**.*

To activate these options:

1. In the workspace, open the **Options** navigation window.
2. In the tree on the left, select **HOPEX Solutions > Business Process Analysis**.
3. Select the check boxes that interest you in the following fields:
 - **Activate former BPMN data stores (HOPEX V3 and lower)**

If the **Data Store** button is not visible by default, click the diagram **Views and Details** button and select the "Data Stores" view.
 - **Activate BPMN data stores for conceptual, logical and physical layers (from HOPEX V3.1)**

If the **Process Data Store** and **Logical Process Data Store** buttons are not visible in your organizational process diagram, click the diagram **Views and Details** button and select the "Process Data Stores view".

Creating a process data store

To create a process data store:

1. Click the **Process Data Store** button in the insert toolbar.

If the button is not visible by default, click the diagram **Views and Details** button and select the "Data Stores" view.
2. Click in the diagram to position the object.
The **Add Business Information Area** dialog box appears.
3. Select the name of the Business Information Area connected to the process data store.
4. Click **OK**.

In the same way you can create:

- **Process data stores**, associated to a business information area.



*A business information area is a sub-set of elements of a subject area that reduces the scope of a field. For more information, see the **HOPEX Information Architecture guide**.*

- **Process logical data stores**, associated to logical data area.




*A logical data area is used to define a logical data structure made up of classes and data views. For more information, see **HOPEX Information Architecture**.*

Describing exchanges with a Process data store

You can specify that informations are exchange between a process data store and an operation.

For example, to describe that an organizational process reads informations from a process data store using an operation:

1. Click the link button .
2. Click on the Data Store and, keeping the mouse button pressed down, draw a line to the operation.

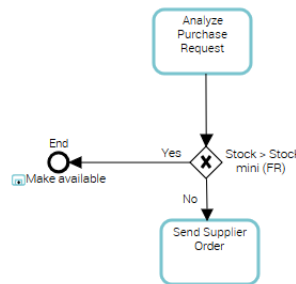
The link appears in the diagram.



The reading or writing access is determined by the direction of the link.

USING GATEWAYS

The following example presents a case where continuation of processing is conditioned: following analysis of a purchase request, the process either ends, or an order is sent to a supplier.



To specify that several processing steps are accessible following a particular processing step, you can use a **gateway**.

Gateways are modeling elements that are used to control how sequence flows interact as they converge and diverge within a process.

Conversely, you can also use a gateway to indicate that a particular processing step is available from several processing steps of a process.

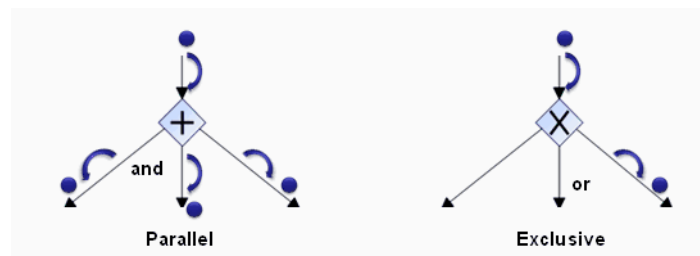
In compliance with the BPMN standard, in the insertion toolbar, several **gateway** types are available to you.

To better understand the main use cases, we distinguish output gateways of a processing step from input gateways.

Processing Step Output Gateways

In the case of an **Exclusive** gateway, only one output branch can be selected from those available. The branch can be selected as a function of the **Data** available for the process, or of the **Events** occurring during its execution.

In the case of a **Parallel** gateway, all output branches are processed simultaneously.



In the case of a **Complex** gateway, one or several output branches can be selected from those available.

A **Complex** gateway represents a combination of those above.

When the gateway has been created, its type can be modified in its properties page.

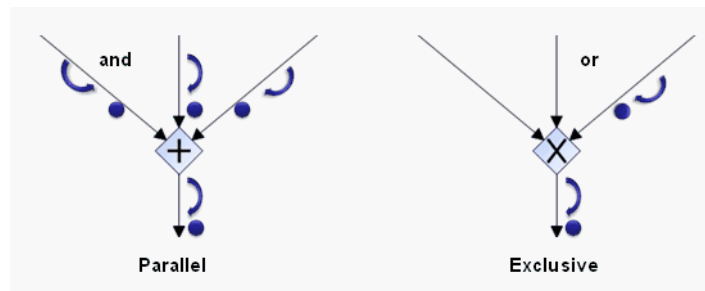
At output of a step, a gateway represents a point of divergence of sequence flows of a process.

Step Input Gateways

At input of a step, a gateway represents a point of convergence of sequence flows of a process.

In the case of an **Exclusive** gateway, the process step is triggered when one of these branches is active.

In the case of a **Parallel** gateway, all input branches are processed simultaneously.



Creating gateways

To create a gateway:


1. Click the arrow at the right of the **Gateway** button in the diagram insert toolbar and select the gateway type you wish to create.
2. Click in the diagram.
The gateway appears in the diagram with the shape appropriate to its type.

☛ You can specify the name of the gateway from its **Characteristics** property page.

Modifying gateway type

To modify gateway type:

- 1 Right-click the gateway and select **Gateway Type**.
The **Gateway Types** proposed are:
 - **Complex**: the process can take a complex combination of paths.
 - **Exclusive** : the process can take a single path from several possible paths depending on the value of the data available. This is the default gateway type.
 - **Exclusive (Start)**: the process is triggered by the first event occurring; others are ignored.
 - **Exclusive (Event)**: the process can take a single path from several possible paths depending on the events occurring.
 - **Inclusive**: the process can take one or several paths simultaneously.
 - **Parallel**: the process takes several parallel paths simultaneously.
 - **Parallel (Start)**: the process is triggered by the first event occurring. The other events occurring during progress of the process are also taken into account.

 You can also access to the gateway type from the **Characteristics** property pages of the gateway.

IMPORT AN ORGANIZATIONAL PROCESS FROM EXCEL

HOPEX Business Process Analysis enables creation of organizational processes with their components from Excel in order to import these in a library.

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



Structure of the import Excel template of HOPEX Business Process Analysis

The **HOPEX Business Process Analysis** Excel template enables import of organizational processes components.

☛ For more details on the way to build the Excel template, see [Building the import file for HOPEX Business Process Analysis](#).

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

- Only one sheet for the components of the set of the imported organizational processes.
- Each Excel line is dedicated to the description of the component whose name is specified in the **Process Name** column.
 - ☛ The Excel file template is available only in English language.
- **Organizational Process**: Owner organizational process **HOPEX** identifier.
- **Process Name**: Owner organizational process Name.
- **What**: Described component Name.
- **Type**: Described component type (*Operation*, *Event* or *Gateway*).
- **Event Nature**: Nature of component whose **Type** is *Event*. For more details on an event nature, see [Event natures](#).
- **Who**: Name of the Org_Unit associated to the participant executing the described component. For more details on participants(Org-Unit), see [Creating a Participant \(Org-Unit\)](#).
- **Comment**: Described component comment.
- **Previous Item**: Name of the component preceding the described component.
- **Previous Item Type**: Type of the component preceding the described component(*Operation*, *Event* or *Gateway*).
- **Sequence Label**: Predicate of the sequence flow between the component preceding the described component and the described component itself. For more details, see [Defining a Condition on a Sequence Flow](#).
- **Sequence Type**: specifies a condition on a sequence flow. Possible values are: *conditioned* and *default*. For more details, see [Defining a Condition on a Sequence Flow](#).

Importing organizational processes description with HOPEX Business Process Analysis

☛ For more information on the structure of the Excel template, see [Structure of the import Excel template of HOPEX Business Process Analysis](#).

Several steps must be followed in order for the Excel import of a organizational process description to be performed correctly:

1. [Checking the Excel Import/Export Options](#),
2. [Importing the description of organizational process into the current library](#),

☛ For more information on the structure of the Excel template to be imported, see [Building the import file for HOPEX Business Process Analysis](#).

Importing the description of organizational process into the current library

To import objects using the Excel file of **HOPEX Business Process Analysis**:

1. Click the Main menu and select **Import > Excel (*.xls, *.xlsx)**.
The import wizard appears in the edit window.
2. At the right of the **Excel Import File** field, click the **Browse** button.
3. Select the file to be imported.

☛ For more information on the creation of the Excel file to be imported, see [Building the import file for HOPEX Business Process Analysis](#).


4. Click **Import**.
The wizard provides a report of import results.
5. To obtain a detailed report of import errors, click the **Open Report** button.
The .xls (or .xlsx) file opens indicating in color red the problem data.
6. To have the data imported into the current library, click **Done**.
7. To modify the imported file or the import parameters, click **Previous**.
8. To discard import, click **Cancel**.

Building the import file for HOPEX Business Process Analysis

To access to the Excel file template that can be imported with **HOPEX Business Process Analysis** :

1. Check that your export options are correct. See [Checking the Excel Import/Export Options](#).
2. Click the Main menu and select **Export > Excel (*.xls, *.xlsx)**.
The export wizard appears in the edit window.
3. Select **From a template**.
4. Click **Next**.
5. In the **Predefined Template File** field select **Organizational Process Template**.
6. Click twice on **Next**.
The export report dialog box is displayed.

7. Click **Open the Export file** to view the export file.
8. Click **OK** to finish.
The generated.xlsx file is in the format expected for later import. To be able to import organizational processes components, you must fulfill the Excel file.

 For more details on establishing this Excel file, see [Structure of the import Excel template of HOPEX Business Process Analysis](#).

ORGANIZATIONAL CHARTS AND RESPONSIBILITIES



HOPEX enables representation of enterprise structure. It indicates the hierarchy of org-units in the enterprise, specifies the persons that play the role of these org-units, and shows at which site the org-unit is located.

HOPEX also enables definition of organizational process responsibilities by means of the RACI matrix (Responsible, Accountable, Consulted, Informed) as well as business processes.

- ✓ [Managing a organizational chart](#)
- ✓ [Process responsibilities](#)

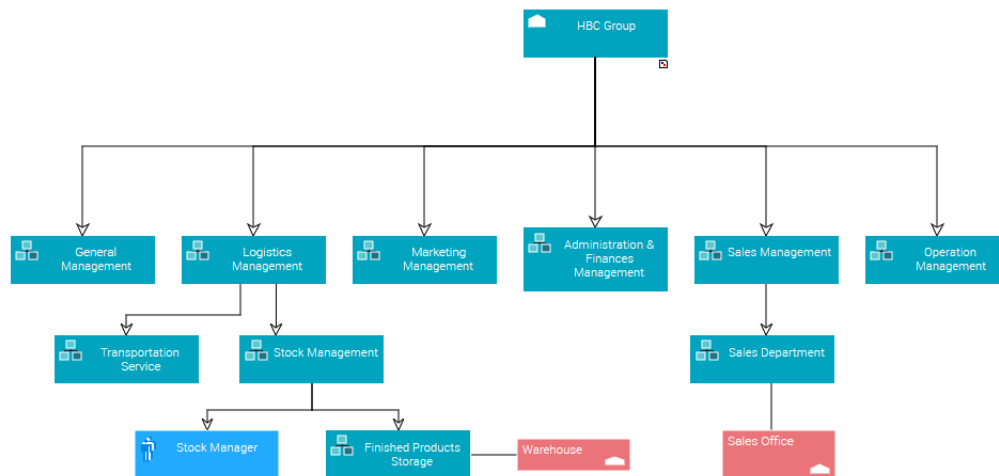
MANAGING A ORGANIZATIONAL CHART

An organizational chart provides an overview of the enterprise structure. **HOPEX Business Process Analysis** allows you to design your organizational charts using the same tools and methods as applied to processes.

HOPEX Business Process Analysis organizational charts contain the following descriptive objects:

- Org-Units, which are generally elements defining the enterprise structure, such as Sales Department.
- Sites that are geographical locations pivotal to the organization, such as headquarters, plants, etc.

Organizational chart example



Creating an Organizational Chart

To create an *Organizational Chart* from the **Processes** navigation pane:

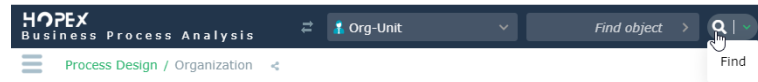
1. Select **Hierarchy**.
2. Expand the **Org-Units** folder.
The list of existing actors appears.
3. Right-click an org-unit and select
4. **New > Diagram**.
The Diagram type selection dialog box opens.
5. Select **Org-Unit Organizational Chart**.
The corresponding organizational chart opens. It is automatically initialized with the component org-units of the described org-unit.

Drawing an Organizational Chart

Searching for objects

To simultaneously add all the org-units involved in your processes that were not automatically inserted at diagram initialization:

1. In the query tool, select the **Org-Unit** object and click the **Find** button .



The result dialog box appears.

2. Select the desired org-units holding the <Shift> key down.
 - ☺ When you click on an object while holding down the Ctrl key, you add it to the list of selected objects if it was not previously selected, or you remove it from the selection if it was.
3. Drag-and-drop the selected objects from the result dialog box into the diagram.
 - ☺ When an org-unit appears in a diagram, you can describe it with a new organizational chart using its pop-up menu.
4. Draw the links between these org-units.

🔑 Note that certain links might already exist.

When you create a link between two org-units, always drag from the org-unit higher in the hierarchy down to the subordinate. Once the link is drawn, an arrowhead indicates the direction of the hierarchy.

Specifying org-unit properties

To specify the properties of an org-unit:

1. Open the **Characteristics** property page of the Org-Unit.
2. In the **Org-Unit-Type** list box, select the org-unit type.

There are several types of org-units:

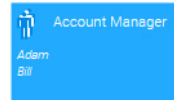
- "Vendor"
- "Institution"
- "Company"
- "Public Department"
- "Structure" (for example, Sales Management).
- "Function" (for example, Sales Engineer)
- "Accountable" (for example, Sales Manager)
- "Generic": corresponds to a role to be played during a project (Writer, Requester,...).

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

Associating a person with an actor

You can connect *Person (System)* with an Org-Unit.

☛ A person (System) represents a person in the enterprise. This person can be assigned a login and a role (or a profile depending on the connection mode). The login provides access to the HOPEX Application. The role (or the profile) defines the access to product functions and repositories. A system person, if assigned a login, has a specific desktop in each database, and can connect to this desktop from any workstation in a given environment.



The name of the persons linked to the org-unit appear in the org-unit frame.


To associate a *Person (System)* with an Org-Unit:

1. Expand the **Responsibility** section of the **Characteristics** property page of the Org-Unit.

☛ To display the **Responsibility** section, open the **Options** window and check that **HOPEX Solution > Common Features > System Person Management** is activated.

2. In the **Org-Unit member** tab, select the *Person (System)* concerned.

Associating a site with an org-unit

You can also add *sites*  where the org-units are located.

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

Consulting reports associated with org-units

HOPEX Business Process Analysis provides several reports about org-units.

To view these reports:

1. Open the **Report** property page of the Org-Unit.
The list of available reports is proposed.

Consulting the Org-Unit Structure report

HOPEX Business Process Analysis proposes a report in the form of a matrix which presents:

- The selected org-unit, its type and the associated persons
- The selected org-unit, its parent Org-Unit and the associated persons

To consult the Org-Unit Structure report

1. Open the **Report > Structure** property page of the Org-Unit.

Consulting the RACI Matrix of Org-Units

☞ *RACI is the acronym of Responsible, Accountable, Consulted, Informed.*

HOPEX Business Process Analysis proposes a report in the form of a matrix which presents:

- The selected org-unit and sub-org-units
- The organizational processes and operations in which these org-units intervene.

☞ *RACI is the acronym of Responsible, Accountable, Consulted, Informed.*

To consult the RACI matrix:

- 1 Open the **Report > RACI** property page of the Org-Unit.

☞ *For more details on the use of RACI, see [Process responsibilities](#).*

PROCESS RESPONSIBILITIES

From an organizational process or a business process, you can:

- Define process control responsibilities
- View org-units concerned by the organizational processes connected to this process

Defining process control responsibilities

Business processes are managed by persons. The business process steering team therefore comprises a list of persons whose individual roles in the team can be indicated.

To specify organizational process control responsibilities:

1. Open the **Characteristics** property page of a process and expand the **Responsibility** section.
2. Select one of the following tabs to create or connect the persons (system) involved in process control:
 - "Organizational process Designer"
 - "Organizational Process Contributor"
3. Select **Organizational Process Owner** .

Using RACI

 *RACI is the acronym of Responsible, Accountable, Consulted, Informed.*

HOPEX Business Process Analysis specifies the responsibility level of the various org-units:

- On an operation
- On an organizational process.

The proposed levels of responsibility are described in the table below.

Responsibility	Explanation
Responsible	Org-unit responsible for the operation or process
Responsible	Org-unit monitoring progress of the operation or process and taking decisions. There is only one "Accountable" org-unit for each action.

Responsibility	Explanation
Responsible/Accountable	Org-unit executing the operation or process, informs on progress and takes decisions. There is only one "Accountable" org-unit for each action.
Consulted	Org-unit consulted as first priority before an action or decision.
Informed	Must be informed after an action or decision.

Prerequisites to using RACI

One option is used to display the information about **RACI**.

To activate this option:


1. In the workspace, open the **Options** navigation window.
2. In the tree on the left, select **HOPEX Solutions > Business Process Analysis**.
3. Select the **Managing RACI (BPMN)** and **Automatic synchronization of RACI by means of participants** check boxes.

Defining RACI responsibilities

Org-units displayed in a participant

The list of org-units displayed in the header of the shape of a participant groups the org-units declared in the participant's properties.

- Org-units attached to the participant but with a responsibility in the process or operations executed by the participant. The name of the org-units is followed by a letter corresponding to their responsibility. These org-units are declared in the properties of the participant.


 For more details on org-units connected to a participant, see [Creating a Participant](#).

Defining the RACI of an org-unit for an operation or a process

To indicate the responsibility of an org-unit in an operation, for example:


1. In the operation **Characteristics** property page, expand the **Actors** section.
2. Click the **Connect** button.
3. In the dialog box that opens, select **Candidate Org-Units (RACI)** and click the **Find** button.

A dialog box proposes the list of org-units that execute the operation or the process via a participant.

 An org-unit can be connected directly to an operation or process or indirectly via a participant. An RACI candidate org-unit is an org-unit assigned to a participant.

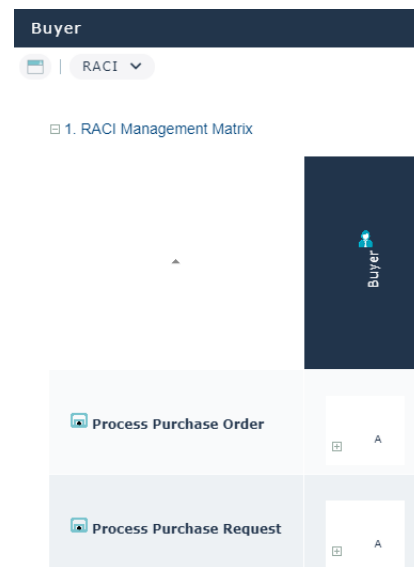
4. Select the org-units that interest you and click **Relier**.
The org-units appear in the properties dialog box of the operation or process.
5. For each of these, in the **RACI** drop-down list, select a responsibility level from the four proposed.
 - **Consulted** (C)
 - **Responsible** (R)
 - **Responsible/Accountable** (R/A)
 - **Informed** (I)
 - **Accountable** (A)

The selected responsibility level appears with an icon corresponding to context:

Icon	Meaning
	Indicates that responsibility is deduced from the participant. The icon appears when the selected org-unit is: <ul style="list-style-type: none">- assigned to the participant, and- declared with Responsible responsibility (default responsibility).
No icon	There is no icon when the selected org-unit is: <ul style="list-style-type: none">- assigned to the participant, and- declared with responsibility other than Responsible (default responsibility).

To indicate responsibility of each of the org-units attached to a participant in the different operations or organizational processes it executes:

1. Open the **RACI** property page of the participant.
The analysis report is displayed carrying the letter representing the responsibility of the org-unit in the process or operation:
 - (A) for Accountable
 - (R) for Responsible
 - (R/A) for Responsible/Accountable
 - (C) for Consulted
 - (I) for Informed

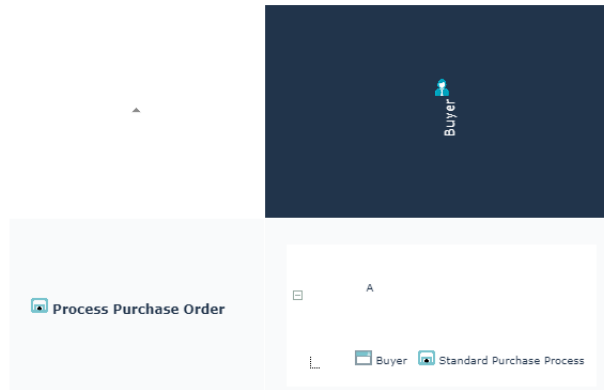



In the example above, the "Purchasing Department" assigned to the participant to which the analysis relates, executes the "Process Purchase Request" process and is Accountable for "Process Purchase Order".

2. Click .

The context of responsibility of the org-unit is indicated. You can view:

- the name of the participant to which the org-unit is assigned
- the name of the process that is owner of the participant




 For more details on reports relating to the RACI or an org-unit, see [Org-Unit RACI Matrix \(BPMN\)](#).

Generating a RACI Matrix of an Organizational Process

From an organizational process you can generate a matrix presenting:

- Organizational processes connected to current process or to its sub-processes,
- Operations of these organizational sub-processes,
- Org-units concerned by these organizational processes and operations.

 For more details on reports relating to the RACI, see [Managing RACI \(BPMN\)](#).

- To generate an RACI matrix from an organizational process, for example:
1. Open the **Reporting > RACI** property page of the process.

The analysis report is displayed carrying the letter representing the responsibility of the org-unit in the process or operation:

You obtain a result like this:

1. Organizational Process RACI matrix

	<div>Buyer</div>	<div>Purchasing Department</div>	<div>Purchasing Assistant</div>	<div>Purchasing Manager</div>	<div>Buyer</div>
<div>Notify Reject</div>			<div>(R)</div>		
<div>Enter Purchase Request</div>			<div>(R)</div>		
<div>Approve Request</div>				<div>(R)</div>	
<div>Finalize Request</div>			<div>(R)</div>		
<div>Process Purchase Request</div>	<div>A</div>				



VALUE STREAMS



Value streams of the enterprise can be described in the form of functional processes. For example, when an enterprise operates out of numerous geographical locations, organization of business process operations can vary significantly between regions.

It is therefore useful to have a summary view, independent of organizational structure, to represent steps in the value stream connected to enterprise business and common to all organizational variants.

A functional representation of the value stream also facilitates improvement in enterprise operation.

Indeed, when the operation of each organizational process is represented, this enables local optimization of each process.

This structure however remains partitioned by existing organizational structures. More significant changes require a broader view of the value stream, independent of organization. This global view is represented by the value stream diagram.

HOPEX Business Process Analysis enables the creation and description of enterprise value streams.

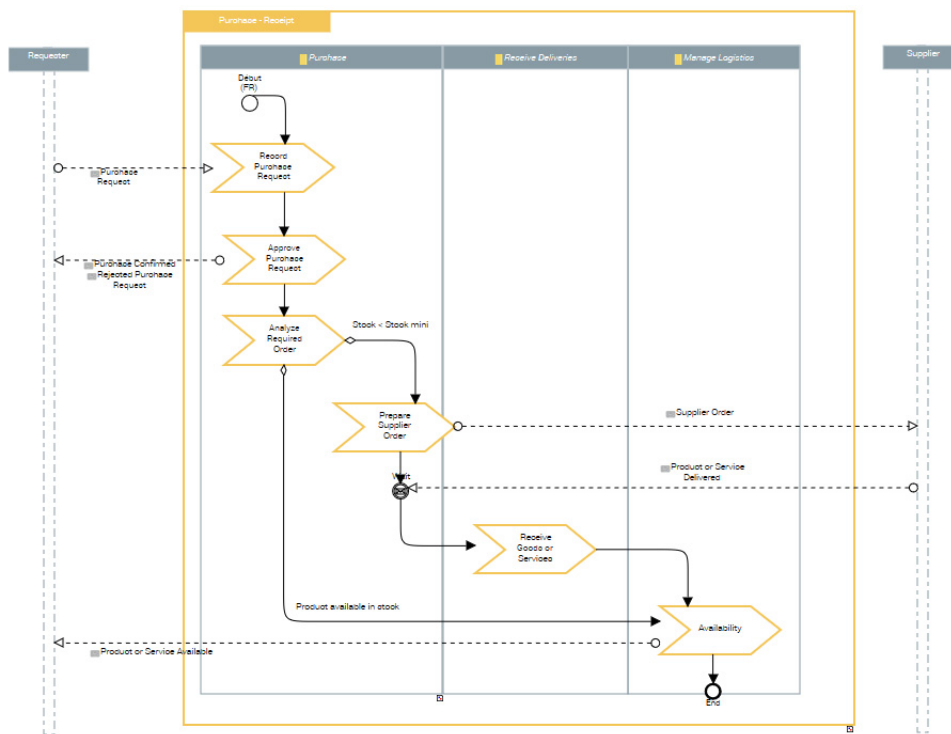
- ✓ [Value streams management](#)
- ✓ [Representing a Value Stream](#)

REPRESENTING A VALUE STREAM

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

Value Stream Example

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.

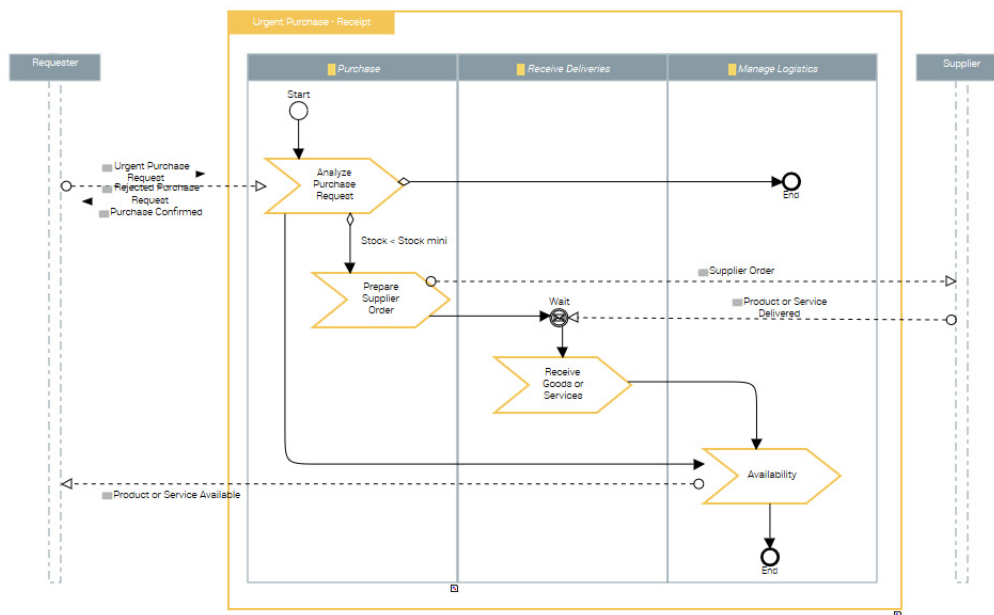
 A business function is a conceptual unit of the division of responsibilities in an enterprise. It is used to structure the management of information processing, energy, and equipment produced or used. Business functions define the skills and the functionalities necessary to the enterprise to fulfill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

VALUE STREAMS MANAGEMENT



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.

Prerequisites to using value streams

One option is used to display the **value streams**.

To activate this option:

1. In the workspace, open the **Options** navigation window.
2. In the tree on the left, select **HOPEX Solutions > Business Process Analysis**.
3. Click **Value Stream Modeling** and **Business Functions Modeling**.

Accessing Value Streams with HOPEX Business Process Analysis

To access the list of *Value Streams* from the **processes** navigation pane:

1. Select **Hierarchy**.
2. Expand the **Value Streams** folder.
The list of value streams appears.

Creating a value stream

To create a *Value stream* from the **Processes** navigation pane:

1. Select **Hierarchy**.
2. Select the **Value Streams** folder and click **New > Value Stream**.
The value stream creation window appears.
3. Modify the name of the Value Stream.
4. Specify the **Owner**.
5. Click **OK**.
The value chain is created and added to the list of value chains.

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](#);

 For more information on a Value Stream diagram initialization with **HOPEX Business Process Analysis**, see [Organizational Process Diagram initialization](#).

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 the company's value streams as presented in paragraph : [Value Stream Example](#).

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

✎ For more information on a Value Stream diagram initialization with **HOPEX Business Process Analysis**, see [Organizational Process Diagram initialization](#).

The value stream to capability diagram

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

✎ Tabular input is available with this diagram. For more information on using tabular input, see the "Entering a diagram in tabular mode" in the **HOPEX Common Features** guide.

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

Value Stream

[New](#) [Multiple Add](#)

<input type="checkbox"/>	What ? ↑	Previous item	Required Capabilities
<input type="checkbox"/>	Customer Proposal		Display the Catalog Content
<input type="checkbox"/>	Travel reservation	Customer Proposal	Ask for a Booking State, Display the Catalog Content, Get customer information
<input type="checkbox"/>	Manage Claims	Travel reservation	Dispatch Ticket, Determine client situation
<input type="checkbox"/>	Satisfaction Analysis	Manage Claims	

« < | Page 1 of 1 | > » | [Refresh](#) | Show 50 [elements](#)

[Search](#) [Filter](#) [Add](#) [Remove](#) [Reset](#)



✎ For more information on business capabilities see [Business Capability Maps](#).

Representing the value stream fulfillment with HOPEX Business Process Analysis

You can represent the fulfillment of a value stream by an organizational process from the organizational process concerned

To access the list of *Value Streams* from the **Processes** navigation pane:

1. Select **Hierarchy**.
2. Expand the **Organizational Processes** folder.
3. Open the **Value Stream Fulfillments** property page of the organizational process that interests you.
4. In the **Fulfilled Value Streams** section, click the **New** button.
5. In the creation window that opens, select the fulfilled value stream.

☛ To represent the implementation of a value stream by an organizational process in the context of a business process, you can also use the concept of contextualization. For more details, see [Representing Process Contextualization](#).





BUSINESS CAPABILITY MAPS



HOPEX Business Process Analysis 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. Our method consists of analyzing the business capabilities of your enterprise and checking their suitability with your business functions and skills. This work leads to a better understanding of the current state of your organization ('As-Is').

Business Architecture helps managers define the operating architecture of their enterprise to remain in compliance with its business model and to adapt to changes in the enterprise and in its economic and regulatory environment. Thus the analysis of the company's *business capabilities* makes it possible to identify and implement the services that the company plans to offer.

 *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).*

DESCRIBING BUSINESS CAPABILITIES WITH HOPEX

BUSINESS PROCESS ANALYSIS

This step consists, on the one hand, in describing what the company is able to deliver (the business capabilities) and, on the other hand, in describing how it delivers it (functionalities covered, skills and business functions).

Prerequisites to use of business capabilities

An option is used to display the business capabilities and the business skills.

To activate this option:

1. In the workspace, open the **Options** navigation window.
2. In the tree on the left, select **HOPEX Solutions > Business Process Analysis**.
3. Select the check box **Capability visibility**.

Building the Capability Maps and Business Function Elements

The goal of this work is to check the suitability between the *business capabilities* of the enterprise, the *business functions* delivering this capabilities as well as the required functionalities and business skills.

This consists of the following tasks:

- [Describing the Existing Architecture of Business Capabilities](#),
- [Accessing business capability components](#).

Describing the Existing 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.



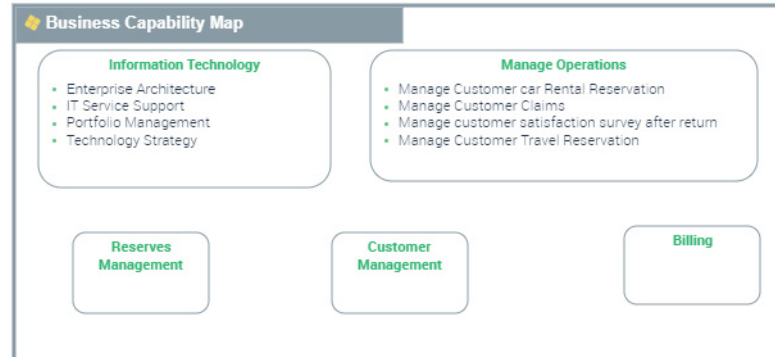
A business capability map is a set of business capabilities with their dependencies that, together, define a framework for an enterprise stage.



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

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

In this example, the business capability to deliver pizzas is based on the business capability to cook them.



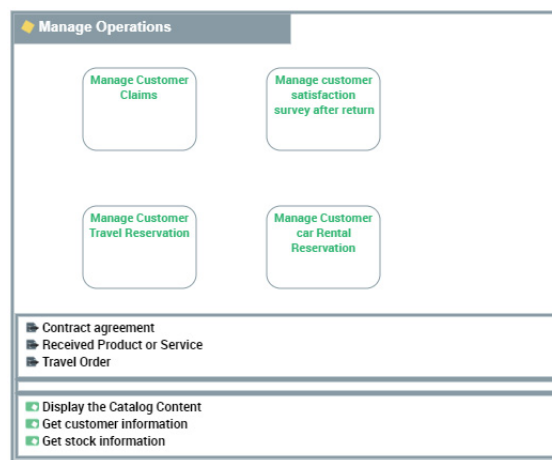
For more details on business capability map diagrams, see [Creating a business capability map diagram](#).

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 such as: "Handle customer complaints", "Manage travel reservations".



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 component, you must define the required business skills and functionalities, for each business function.



A technical functionality is a capability expected from an equipment item (hardware or software) to ensure the operation of a technical element or an application.

☛ For more details on skills and the business capability functionalities, see [Defining the business skills and functionalities associated with business capabilities](#).

HOPEX Business Process Analysis provides a report available detailing the breakdown of capabilities.

☛ For more details on breakdown maps, see [Breakdown Report of Business Capabilities](#).

Accessing business capability components

To access the list of business capability maps from **Capabilities** navigation pane:

- 1 Select **Business Capability Maps** in the navigation menu.
The list of business capability maps appears in the edit area.

To access the list of business skills maps from the **Capabilities** navigation pane:

- 1 Select **Business Skills Maps** in the navigation menu.
The list of business skill maps appears in the edit area.

To access the list of Functionality maps from **Capabilities** navigation pane:

- 1 Select **Functionality Maps** in the navigation menu.
The list of functionality maps appears in the edit area.

DESCRIBING A BUSINESS CAPABILITY MAP

☛ To display business capabilities, business capabilities maps and business skills, vérifier que l'option **HOPEX Solutions > Business Process Analysis > Capability visibility** is activitated.

Building the Business Capability Map

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

The properties of a business capability map

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

- its **Owner**, by default on creation of the business capability map, the current enterprise.
- its **Name**,
- the text of its **Description**.

With **HOPEX IT Business Management** , a business capability map is described by the following pages:

- the **Structure** page is used to specify on the one hand the list of business capability components that constitute the business capability map described, and on the other hand, the dependencies between these components,

☛ For more details on business capacity structure, see [Using the capability compositions](#) and [Defining business capability dependencies](#).

- The **Capability Usage** page provides access to the enterprise stages that use the capability map.

📖 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).

Creating a business capability map diagram

To create a business capability map diagram:

1. Select the business capability map that interests you and click **New > Diagram**.
The Diagram type selection dialog box opens.
2. Select **Business Capability Map Diagram**.
3. (Optional) Uncheck the **Diagram Initialization** box.

4. Click **OK**.

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.

🔑 *Tabular input is available with this diagram. For more information on using tabular input, see the "Entering a diagram in tabular mode" in the **HOPEX Common Features** guide.*

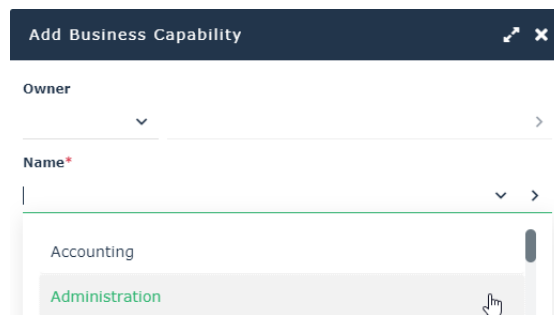
Using the capability compositions

The components represented in a business capability map diagram are **Capability Compositions**. Each capability composition is associated with a business capability.

📖 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 business Skills 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. Enter the user assembly result in the **Desired Business Effect** field.

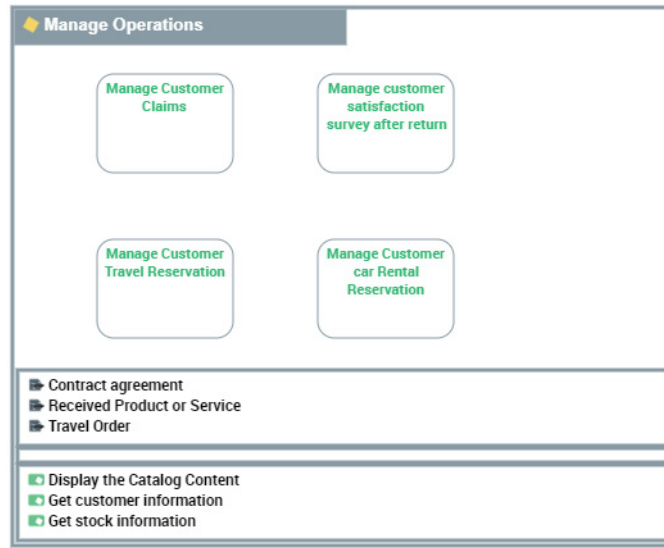
For example, "Order to be delivered".

Describing a business capability

A business capability can be based on business sub-capabilities. The capabilities expected by the business capabilities described are the capabilities associated with each business sub-capability.

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".

The capability structure diagram describes the composition of a business capability.



Creating a business capability

You can create a new business capability in several ways:

- From the business capability map diagram,
- From the properties page of a business capability map,
- From the navigation pane.

To create a *Business Capability* from a business capability map diagram:

1. Click the **Capability Composition** button.
The Add Business Capability window appears.
2. Enter the name of the new capability and click **Next**.
3. Specify the **Owner** of your business capability and click **OK**.
The new business capability appears in the diagram.

The properties of a business capability

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

- its **Owner**, by default on creation of the business capability, the current enterprise.
- its **Name**,
- the text of its **Description**.
- the **Desired Capability Effect** is 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](#).

An business capability is described by the following pages:

- the **Structure** page specifies a part of the list of components that constitute the business capability described, as well as the dependencies between these components,
➤ For more details on the structures of a business capability, see [Defining the structure of a business capability](#).
- the **Expected Capabilities** property page is used to specify a list of business skills and functionalities 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](#).
- In the **Capability Usage** page:
 - the **Capability Component** section provides access to the capacity maps that use the described capability.
➤ For more details on the components of a business capability, see [Using the capability compositions](#).

Creating a capability structure diagram

To create a capability structure diagram:

1. Right-click the business capability that interests you and select **New > Diagram**.
The Diagram type selection dialog box opens.
2. Select **Business Capability Map Diagram**.
3. (Optional) Uncheck the **Diagram Initialization** box.
4. In the **Edit Mode** section, select **Edit diagram with graphical entry**.
5. Click **OK**.

The diagram opens in the edit area. The frame of the business capability described appears in the diagram.

You can construct this diagram in tabular input mode.

➤ For more information on using tabular input, see the "Entering a diagram in tabular mode" in the **HOPEX Common Features** guide.

Defining the structure of a business capability

The components represented in a business capability structure diagram are **Capability Composition**. Each capability composition is associated with a business capability.



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 [Using the capability compositions](#).

A dependency link between one capability composition 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 [Using the capability compositions](#).

The capability compositions and their dependencies appear in the **Structure** property page of the business capability described.

Defining the business skills and functionalities associated with business capabilities



A technical functionality is a capability expected from an equipment item (hardware or software) to ensure the operation of a technical element or an application.



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.

Each business capability is associated with functionalities that it is able to provide and that it needs to ensure its 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 Skills](#).

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 [Breakdown Report of Business Capabilities](#).

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, see [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](#).
- The sub-skills in the skill maps, see [Defining the business skill dependencies](#).

The properties of an outcome

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

- its **Owner**, by default on creation of the result, the current enterprise.
- its **Name**,
- the text of its **Description**.

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**.

Breakdown Report of Business Capabilities

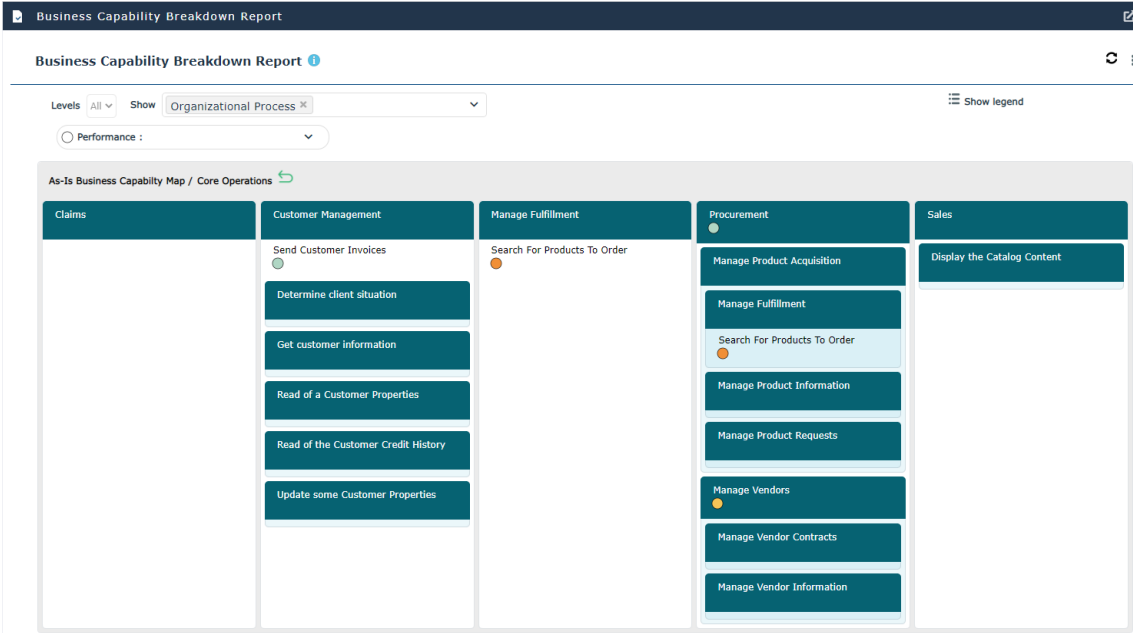
You can use this breakdown report to display the realization coverage of business capability elements by operational elements such as business skills, functionalities or organizational processes, according to different approaches: Organizational, Business/Data, Logical/Physical Application, etc.

☛ For more details on how to associate a business capability with operational elements, see [Describing Fulfillment of a Business Capability](#).

Report example

The example below enables viewing of the coverage rate of the business capability map specified as parameters by organizational processes.

➡ For more details on business capability maps, see [Building the Business Capability Map](#).



Example of a business capability map breakdown report

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

DESCRIBING THE BUSINESS SKILL MAP



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



To display business capabilities, business capabilities maps and business skills, check option **HOPEX Solutions > Business Process Analysis > Capability visibility** is activated.

The properties of a business skill map

The **Characteristics** properties page of the business skill map provides access to:

- its **Owner**, by default during creation of the business skill map, the current enterprise.
- its **Name**,
- the text of its **Description**.

With **HOPEX Business Process Analysis** a business skill map is described by:

- the **Structure** page that specifies the list of business skill components owned and the dependencies between them.



For more information on the components of business skills, see [Creating a business skill component in a diagram](#) and [Defining the business skill dependencies](#).

Creating a skill map diagram

To create a business skill map diagram:

1. Right-click the business skill map that interests you and select **New > Skill Map**.

The diagram opens in the edit area. The frame of the business skill map described appears in the diagram.

Creating a business skill component in a diagram

The components represented in a business skill map are **Business skills**.



A business skill is a capability acquired by a person or an organization through a specific training.

To add a sub-skill to the business skill map diagram:

1. In the diagram insert toolbar, click **Business skill component**.
2. Click in the frame of the business skill map.
The business skill component creation window opens.
3. Select the business skill that interests you.
4. Click **OK**.

The business skill component appears in the diagram.

Defining the business skill dependencies

You can create a dependency link between two business skills to specify that one business skill is required for the other in the context of a skill map.

To create dependency links between two business skills:

1. In the insert toolbar, click **Business Skill Dependency**.
2. Click the main business skill, and keeping the left mouse button pressed, move the cursor to the business skill required.
3. Release the mouse button.
The link appears in the diagram.




Describing Business Skills

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

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

- its **Owner**, by default during creation of the business skill map, the current enterprise.
- its **Name**,
- the text of its **Description**.

With **HOPEX Business Process Analysis** a business skill is described by the following pages:

- the **Structure** page specifies a list of business skill held and the dependencies between them.
 For more details on business skill diagrams, see [Creating a Business Skill Diagram](#).
- the **Fulfillments** page provides access to the list of architecture elements that implement the business skill.
- the **Usage** page, **Skill Component** section, provides access to the business skills that use the described business skill.
 For more details on skills used, see [Creating a business skill component in a diagram](#).
- the **Usage** page, **Business Capability** section, provides access to the business capabilities that require the described business skill.
 For more details on the skills associated with business capabilities, see [Defining the business skills and functionalities associated with business capabilities](#).
- the **Usage** page, **Business Function** section, provides access to the business functions that require the described business skill.

Creating a Business Skill Diagram

To create a business skill diagram:

1. Right-click the business skill that interests you and click **New > Diagram**.
The Diagram type selection dialog box opens.
2. Select **Skill Diagram**.
3. (Optional) Uncheck the **Diagram Initialization** box.


4. Click **OK**.

The diagram opens in the edit area. The frame of the business skill described appears in the diagram.

To create a business skill component in a diagram, see [Creating a business skill component in a diagram](#).

To define the dependencies of business skills, see [Defining the business skill dependencies](#)

DESCRIBING THE FUNCTIONALITY MAP

 A technical functionality map is a set of functionalities with their dependencies that, jointly, define the scope of an architecture.


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**.

With **HOPEX Business Process Analysis** a Functionality map is described by:

- the **Structure** page is used to specify a list of components owned by the functionality map and the dependencies between them.

 For more information on the components of a functionality map, see [Creating a functionality component in a functionality map diagram](#) and [Defining Functionality dependencies](#).

Creating a functionality map


To create a functionality map diagram:

1. Right-click the functionality map that interests you and select **New > Functionality Map Diagram**.

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 technical functionality is a capability expected from an equipment item (hardware or software) to ensure the operation of a technical element 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. Select the functionality that interests you.
4. 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.

For example, for a "Pizza delivery" functionality, there must first be a "Prepare pizzas" functionality. Note that the effect of the "Deliver pizzas" functionality is a "Pizza delivered" functionality and the effect of the "Prepare the pizzas" functionality is a "Cooked pizza".

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 technical functionality is a capability expected from an equipment item (hardware or software) to ensure the operation of a technical element or an application.

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**.
- its **Desired capability effects**.
- the **Desired Capability Effect** is an **Outcome**.

For example, the desired capability effect of "Displaying the status of a reservation" is a "Reservation status"

☛ For more details on results, see [Describing the outcomes](#).

☛ For more information on the use of expected functionality effects, see [Defining Functionality dependencies](#).

With **HOPEX Business Process Analysis**, 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 **Fulfillments** 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 the relationship 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](#).

Creating a Functionality Diagram

To create a functionality diagram:

1. Right-click the functionality that interests you and select **New > Diagram**.
The Diagram type selection dialog box opens.
2. Select **Functionality Diagram**.
3. (Optional) Uncheck the **Diagram Initialization** box.
4. Click **OK**.
The diagram opens in the edit area. The frame of the functionality described appears in the diagram.

To create a functionality in a diagram, see [Creating a functionality component in a functionality map diagram](#).

To define the dependencies of sub-functionalities, see [Defining Functionality dependencies](#)

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.

Describing Fulfillment of a Business Capability

Creating a business capability realization

A business capability can be achieved either by an application or an application system, or by an org-unit or an organizational process.

To associate an organizational process with a business capability, you must create a business capability fulfillment.



An implementation describes the relationship between a logical entity and a physical entity that implements it. The physical entity gives the list of logical entities that it implements.

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

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

Analyzing business capability fulfillment

HOPEX Business Process Analysis provides reports to display fulfillment coverage of business capability elements by operational elements such as applications, and according to different perspectives: Organizational, Business/Data, Logical/Physical Application, etc.




For more details on fulfillment reports for business capabilities, see [Breakdown Report of Business Capabilities](#).

Creating Fulfillment of a Business Skill

A business skill can be fulfilled by an org-unit.

To associate an org-unit with a business skill, you must create a business skill fulfillment.

 *An implementation describes the relationship between a logical entity and a physical entity that implements it. The physical entity gives the list of logical entities that it implements.*


To specify that a business skill is fulfilled by an org-unit:

1. Open the **Fulfillments** property page of the business skill that interests you.
2. Click **New**.
The creation window for a business skill realization opens.
3. Select **Reusing an org-unit**.
4. Select the org-unit that interests you and click **OK**.
The business skill fulfillment appears in the list with the name of the selected org-unit.

Creating Fulfillment of a Functionality

A functionality can be achieved either by an application or application system, or at a conceptual level, by a logical application or application system.

To associate an application with a functionality, you must create a functionality fulfillment.

 *An implementation describes the relationship between a logical entity and a physical entity that implements it. The physical entity gives the list of logical entities that it implements.*

To specify that a functionality is implemented by an application:

1. Open the **Fulfillments** property page of the functionality that interests you.
2. Click **New**.
The creation window for a functionality realization opens.
3. Select **Reusing an existing...**
4. Select the **Application** object type.
5. Select the application that interests you and click **OK**.
The functionality fulfillment appears in the list with the name of the selected application.



BUSINESS PROCESSES



This chapter presents how to describe products or services provided by the enterprise to its customers.

The business process diagram enables representation of product or service offerings proposed by the enterprise to each of its markets, as well as the processes that produce these.

The points covered here are:

- ✓ [Managing Business processes](#)
- ✓ [Representing Product Offerings](#)
- ✓ [Representing Process Contextualization](#)

MANAGING BUSINESS PROCESSES



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

Prerequisites to use of business processes

One option is used to display the **business processes**.

To activate this option:

1. In the workspace, open the **Options** navigation window.
2. In the tree on the left, select **HOPEX Solutions > Business Process Analysis**.
3. Select the **Business Process Modeling** check box.

Creating a Business Process

To create a **business process** from the **Processes** navigation pane:

1. Select **Hierarchy**.
2. Select **Business process** folder, click **New > Business process**.
The creation dialog box of a business process opens.
3. Modify the name of the business process.
4. Specify the **Owner**.
5. Click **OK**.

The business process is created and added to the list of business processes.

With **HOPEX Business Process Analysis**, business processes are described by diagrams.

Creating a Business Process Diagram

To create a business process diagram:


1. Right-click the business process name and select **New > Diagram**.
The Diagram type selection dialog box opens.
2. Select **Business Process Diagram**.
3. (Optional) Uncheck the **Diagram Initialization** box.
4. In the **Edit Mode** section, select **Edit diagram with graphical entry**.
5. Click **OK**.

The diagram opens in the edit area. You are now in the **HOPEX** graphic editor. The frame of the described business process appears in the diagram.


For more information on a business process diagram initialization with **HOPEX Business Process Analysis**, see [Organizational Process Diagram initialization](#).


Using an Organizational process in a Business Process Diagram

In a business process diagram, you can create an organizational process or reusing an existing one.

 In tabular entry mode, you can insert in your diagram an organizational process using the **Connect** button. Then you must specify the previous and next elements.

Using a system process in a Business process diagram

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

 For more details on creating system process diagrams, see the **HOPEX IT Architecture** guide, paragraph "describe Processes".



Prerequisites to using System Processes

One option is used to display the **System Processes**:

1. In the workspace, open the **Options** navigation window.
2. In the left tree, select **HOPEX Solutions > Business Process Analysis**.
3. Select the **System Process modeling** box.
4. Click **Apply**.

Accessing the list of System Processes with HOPEX Business Process Analysis

To access the list of system processes from the **Process Design** navigation pane:

1. Select **System Processes > System Processes List > All System Processes**.

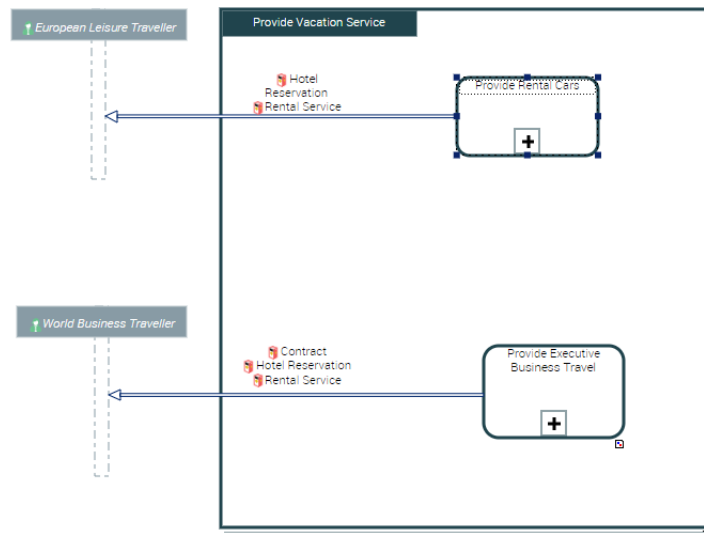
Inserting a system process in a business process diagram

To display risks in a process diagram with their likelihood:

1. Select **Views and Details** button of the diagram.
2. In the right pane of the window, select "System Processes" view.

REPRESENTING PRODUCT OFFERINGS

The business process diagram enables representation of product or service offerings proposed by the enterprise to each of its markets, as well as the processes that produce these.




In the example above, the enterprise is targeting two customer segments: tourists and business travelers.

In the case of vehicle rental, the enterprise also proposes hotel reservation.

In the case of business travelers, the enterprise also proposes car and hotel reservations, as well as Contract negotiation.

Defining Offerings

Offerings are proposed by enterprise business processes to participants outside the enterprise.

 *An offering represents the availability of a product or service supplied by an enterprise through a specific process.*


Creating an offering

To create a offering from a Business process diagram:

1. Click the **Offering**  button.

2. Click the business process and, holding the mouse button down, draw a link to the participant.
3. Release the mouse button.
The link representing the offering appears in the diagram.


Defining offering products

 A product represents commodities offered for sale, either goods or merchandise produced as the result of manufacturing, or a service, ie. work done by one person or group that benefits another.

To specify the detail of offerings of **products**:

1. Open the **Characteristics** property page of the offering that interests you.
2. In the **Product** section, click the **New** button and enter the product name.


The name of the product appears in the diagram.

 A product can be broken down into component products from its properties page or from the navigator.

Describing offering implementation

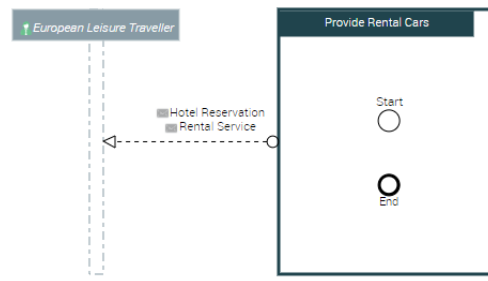
Use the **business process diagram** of the process that is linked to the offering to describe the organization and exchanges that are associated with it.

In this way, when you initialize a **Business process diagram** of a process, a flow is automatically created for each offering.

 For more details on business process diagrams, see [Creating a Business Process Diagram](#).

 For more details on flows, see [Defining Message Flows](#).

Flows and contents are automatically created.



In the example above, a flow is created to describe the Contents that support the car rental and the hotel reservation.

Launching a Report Illustrating Product Offerings

From the property page **Reporting > Products x Markets** of a business process, you can launch a report in the form of a matrix to illustrate product offerings.

	Contract	Rental Service	Hotel Reservation
European Leisure Traveller		<div>▼ Provide Rental Cars --> European Leisure Traveller</div> <div>Provide Rental Cars</div>	<div>▶ Provide Rental Cars --> European Leisure Traveller</div>
World Business Traveller	<div>▼ Provide Executive Business Travel --> World Business Traveller</div> <div>Provide Executive Business Travel</div>	<div>▼ Provide Executive Business Travel --> World Business Traveller</div> <div>Provide Executive Business Travel</div>	<div>▶ Provide Executive Business Travel --> World Business Traveller</div>

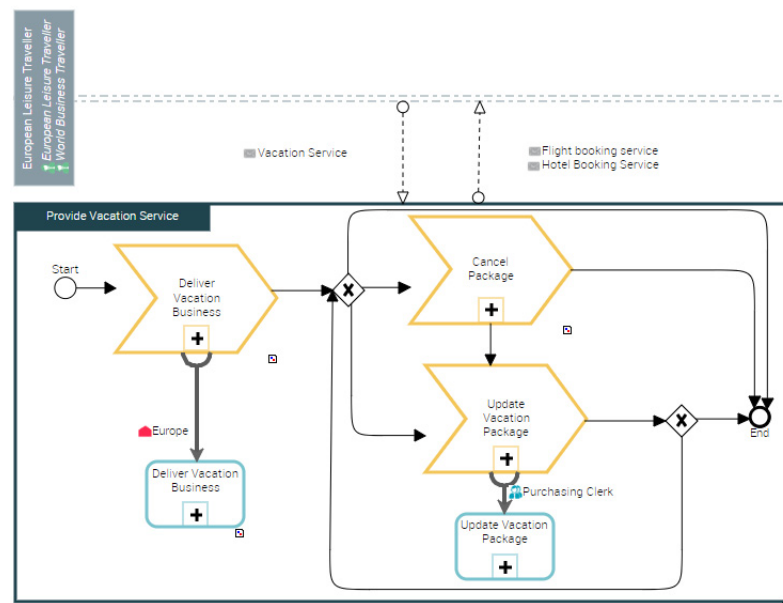
This matrix presents:

- the products in columns
- the org-units in rows

REPRESENTING PROCESS CONTEXTUALIZATION

Contextualization enables to represent, in a business process diagram, the context in which the organizational processes or value chains that make up a business process are used.

➡ To represent the implementation of a value chain by an organizational process using fulfillments, see [Representing the value stream fulfillment with HOPEX Business Process Analysis](#).



"Provide Vacation Service" Business Process Diagram

Dedicated organizational processes are associated to the business process value streams

Prerequisites to using contextualizations

An option is used to display the **Contextualizations**.

To activate this option:

1. In the workspace, open the **Options** navigation window.
2. In the tree on the left, select **HOPEX Solutions > Business Process Analysis**.
3. Select the **Use of Contextualizations** check box.

Defining Contextualizations


Contextualizations enable the association of processes between each other.



A contextualization allows specification of the implementation of a process by another process in a specific context, such as the geographical location on a site.

Creating a contextualization

To create a contextualization:

1. Click the **Contextualization**  **button**
2. Click the process to be implemented and, holding the left mouse button down, draw a link to the process describing implementation. Release the mouse button.
The link representing the contextualization appears in the diagram.

Defining context

To specify the context in which a process implements another process:

1. Open the **Characteristics** property page of the contextualization that interests you.
2. In the **Implementation Context** section, click the **Connect** button.
3. In the window that opens, select the context type, org-unit or site.
4. Click the **Find** button.
5. In the list that opens, select the org-units or sites concerned and click **Connect**.
6. Click **OK**.

Launching a Report Illustrating Contextualizations

From the property page **Reporting > Contextualization** of a business process, you can launch a report in the form of a matrix to illustrate product offerings.

	Update Vacation Package	Deliver Vacation Business	Cancel Package
Update Vacation Package	▼ Contextualization Purchasing Clerk		
Deliver Vacation Business		▼ Contextualization Europe	

This matrix presents:

- the value streams of the business process in columns
- the organizational processes of the business process in rows

To view a specific context (org-unit, site or product):

- Click arrow in the cell.



THE CUSTOMER JOURNEY



The **HOPEX Customer Journey** Product is used 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.

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.

The points covered here are:

- ✓ [HOPEX Customer Journey product presentation](#)
- ✓ [Managing the Components of a Customer Journey](#)
- ✓ [Assessment of a customer journey](#)
- ✓ [The reports available on a customer journey](#)

HOPEX CUSTOMER JOURNEY PRODUCT PRESENTATION

Associated with **HOPEX Business Process Analysis** and **HOPEX IT Business Management**, **HOPEX Customer Journey** product supports the methodology and the tools that are used to describe and improve the acquisition process of your products and services.

The methodology embedded in the **HOPEX Customer Journey** product is based on the features of the **HOPEX** Suite to describe and manage the different project phases and steps in the customer journey.

Last but not least, the **HOPEX** suite assessment tool is used to record, over time, an assessment of the steps in the customer journey. The consolidated results of these assessments are visible in the customer journey diagrams. Standard reports are also available to facilitate analysis of the journey and help with identifying a solution for improvement.

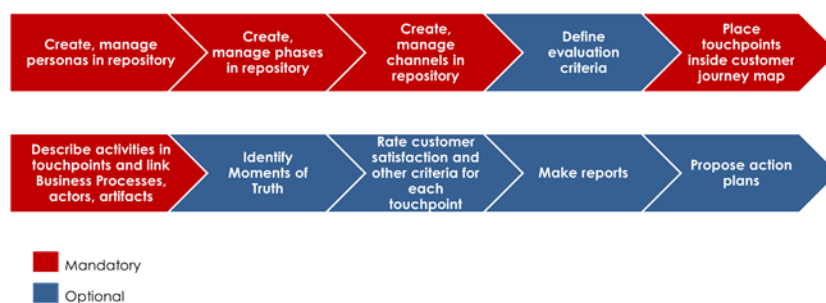
This presentation is based on the example of a travel agency that offers different types of holidays to different types of customers.

The **HOPEX Customer Journey** Product is introduced here by :

- [Description of a Customer Journey](#)
- [Assessing a Customer Journey](#)

Description of a Customer Journey


To be able to benefit, at the end of your customer journey representative work, from the analysis facilities offered by **HOPEX Customer Journey**, we recommend you follow the methodological steps shown in the diagram below.




Defining persona and business lines

This consists of preparatory work identifying the different types of customers according to their needs and what they bring to the company.


The purpose of this phase is to identify the *persona* as well as the *business lines*.

 A *persona* corresponds to a customer segment targeted by the experience of the client journey. The resources implemented to give customers the ability to interact with the enterprise and its environment, to acquire the expected results, are supported by the interaction channels.

 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.

Using our example of the travel agency, we are interested in the young adult segment. The business line preferred for this population is "Sports holidays".

You must begin by assessing the *customer expectations* for each *persona*.

 A *customer expectation* is an enterprise result expected by the *persona* at the end of the journey.

For example, a population of young adults can expect, with a sports holiday, a wide range of activities in an exceptional setting for a reasonable price.


From a methodological point of view, we suggest you proceed as follows:

1. Identify the customer segments,
2. Define, via the hierarchy, the *persona groups* and the *persona* associated with each segment,
 - For more details, see [Defining persona hierarchy](#). and [Creating a persona](#).
3. Identify the org-units that correspond to the segments,
 - For more details, see [Creating a persona](#).
4. Create *customer expectations* for a given *persona*,
 - For more details, see [Specifying the expectations of a persona](#).
5. Create the *business lines*.
 - For more details, see [Creating a business line](#).

Defining the customer journey

Each *customer journey* corresponds to a specific *persona*. So, when the *persona* are identified, you can create *customer journeys*.

➤ If you wish, you can also create the customer journey first and the *persona* second.

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

We can, for example, build the customer journey that corresponds to a "sports holiday" for a "young adult" *persona*.

➤ For more details, see [Creating a customer journey](#).

Defining the phases of a customer journey

A *customer journey* is described by a number of sequenced *phases*.



A customer journey phase is a time or experience-bound period within a Customer Journey.

In the example "sports holiday", we identify three phases: the "selection of holidays", the "qualification of holidays" selected and the holiday "reservation".

☛ For more details, see [Defining the customer journey phases in tabular input mode](#).

Defining the steps in a customer journey

The customer journey *steps* are closely linked to the business line. The customer journey *steps* are organized to most closely represent reality. They are essential because the assessments deal with each of the steps of a customer journey.



A customer journey step is the basic elementary advancement unit of a customer via a customer journey phase.

In the "reservation" phase of the holiday, we can identify the following steps: "Validate the order", "Complete the customer information", "Proceed with payment".

Finally, the resources used at each *step* of the customer journey are represented by *channels*.



A channel is used to identify the enterprise resources used by a persona to achieve a step. For example, a channel can be a phone or internet connexion.

In our example for selling sports holidays, the resources made available to customers are advertising brochures, web applications and a support service to answer customer questions.

To describe the steps of a customer journey, we suggest you proceed as follows:

1. Define the customer journey *steps* associated with each phase.

☛ For more details, see [Creating the customer journey steps in tabular input mode](#).

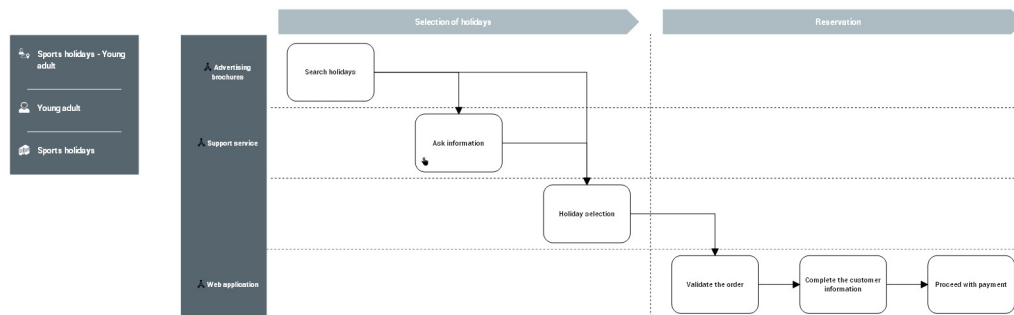
2. Describe the sequences that link the steps.

☛ For more details, see [Organizing the customer journey steps in tabular input mode](#).

3. Link the steps to the *channels* concerned.

☛ For more details, see [Defining the channels in a customer journey](#).

At this stage, the diagram that you are building with **HOPEX Business Process Analysis** looks like the figure below.



Understanding customer expectations and painpoints

Each customer journey *step* can be linked to:

- One or more customer expectations.



An external org-unit is an external entity that exchanges flows with the enterprise. Example: customer, supplier, government office.

The expectations of young adults for a sports holiday can concern the context of the holiday or activities offered.



For more details, see [Adding persona expectations to customer journey mapping](#).

- One or more *Painpoints*.



A painpoint describes the difficulties encountered by a persona when carrying out a step in the customer journey.

The painpoints of a group of young adults can concern the painpoint of agreeing, prices that are too high or the possibilities of accessing the vacation site.



For more details, see [Defining customer painpoints](#).

Identifying the touchpoints

The objective is to identify the organizational elements that are used during the customer journey and that could have an impact on customer satisfaction.



A touchpoint describes an interaction between a persona and an enterprise.

The touchpoints between the customers and the travel agency are by telephone and by email. A support center can thus be put in place.



For more details, see [Creating an involved resource in a customer journey](#).

Each **touchpoint** can be linked to:

- One or more **Involved Resources**.



A resource is a means used to perform certain actions.

An operator able to answer to questions about a specific holiday, is an Involved resource.



For more details, see [Creating an involved resource in a customer journey](#).

- One or more **business opportunities**.



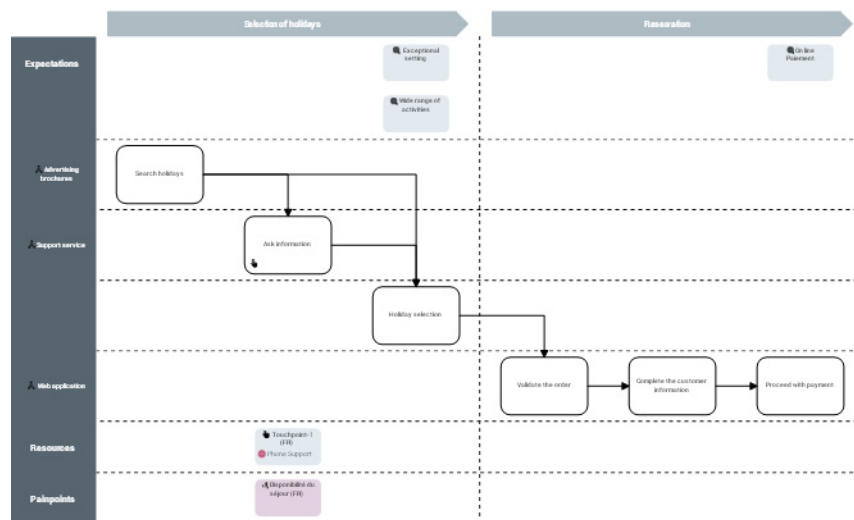
An opportunity characterizes an improvement action for one of the composite elements of the customer journey (steps, touchpoint).

To be able to offer another holiday if the holiday selected is no longer available constitutes a business opportunity.



For more details, see [Defining the business opportunities of a customer journey](#).

- One or more **Painpoints**.



Identifying moments of truth



A moment of truth is a decisive step for the remainder of the customer journey. Either customers believe that they cannot obtain what they are searching for under the desired conditions and they are not satisfied; Or, on the contrary, they believe that they have found what they are looking for and continue the journey.

A reservation that is too late constitutes a moment of truth. The sports holiday is completed or, on the contrary, it was canceled due to low staff numbers.



For more details, see [Identifying a Moment of truth](#).

Following this last description step of your customer journey, you obtain a diagram that looks like this.

Assessing a Customer Journey

Customer satisfaction can be assessed at each **Step** of the customer journey on a list of criteria by a number of people on different dates.



A customer journey step is the basic elementary advancement unit of a customer via a customer journey phase.

➡ For more details, see [Assessment of a customer journey](#).

The assessment criteria are presented in a questionnaire specific to each customer journey.

The results of the assessments filled in for the steps of a customer journey are then consolidated and accessible from:

- Reports available on a customer journey,
➡ For more details, see [The reports available on a customer journey](#).
- The shape of the steps in the diagram of the customer journey which is different depending on the results of the assessment,
- The **Customer Journey > Assessments > Assessed Customer Journeys**,
- The **Assessment** properties page of the customer journey.


MANAGING THE COMPONENTS OF A CUSTOMER JOURNEY

The following points are covered here:


- Describing persona and persona groups,
- Using Business Lines,
- Building a customer journey,
- Describing the Steps of a Customer Journey,
- Client Expectations and Painpoints,
- The Touchpoints of a Customer Journey,
- Creating an Action Plan for a Customer Journey.

Describing persona and persona groups

This phase consists of identifying the different customer segments according to their needs and what they bring to the company.

 A persona corresponds to a customer segment targeted by the experience of the client journey. The resources implemented to give customers the ability to interact with the enterprise and its environment, to acquire the expected results, are supported by the interaction channels.


Defining persona hierarchy

 A persona group is grouping of personas according to similar objectives on several customer journeys.

To create a Persona Group:

1. Open the **Customer journey** navigation window.
2. Select **Customers > Persona Groups**.
The tree of persona group is displayed in the edit area.
3. Click on the tree root to display its pop-up menu and select **New > Persona Group**.
The **Creation of a Persona Group** window appears.
4. Enter the name of the group.
"Sports clientele" and "Young clientele", for example.
5. Click **OK** to close this dialog box.
The persona group that you have just created appears in the tree of the Persona Group.

Creating a persona

 A persona corresponds to a customer segment targeted by the experience of the client journey. The resources implemented to give customers the ability to interact with the enterprise and its environment, to acquire the expected results, are supported by the interaction channels.

You can create a persona from a persona group or from of the persona tree.

You can create a persona from the persona tree.

1. Open the **Customer journey** navigation window.
2. Select **Customers > Persona**.
The Persona tree appears in the Edit Area.



*With the **HOPEX IT Business Management** solution, **Personas** are **Business Partners**.*

3. Right-click the tree root to open its pop-up menu and select **New > Persona**.
The creation window opens.
4. Enter the name of the persona.
5. "Young adults", for example. Click **OK** to close this dialog box.
The persona you have just created now appears in the persona tree.

Specifying the fulfillment of a persona



The fulfillment of a persona enables to associate a persona to Org-Units described in your repository.

To specify the fulfillment of a persona:

1. Open the **Characteristics** property page of the persona that interests you and expand the **Realization of Persona** section.
2. Click **New**.
The **Creation of Realization of Business Agent** window appears.
3. Select Org-Unit in the **Object Type** field.
4. Select the required Org-Unit in the **Business Agent Realizer** field.
5. Click **Add**.
The fulfillment of the persona is added.

Specifying the expectations of a persona



A customer expectation is an enterprise result expected by the persona at the end of the journey.

To create a **Customer Expectation** from a persona:

1. Open the **Characteristics** property page of the persona that interests you and expand the **Customer Expectation** section.
2. Click **New**.
The **Creation of a Client Expectation** window appears.
3. Enter the name of the customer expectation.
4. Click **OK**.
The customer expectation is added to the list of persona expectations.

Using Business Lines

Creating a business line



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.

To create a business line:

1. Open the **Customer journey** navigation window.
2. Select **Customers > Business Lines**.
The business line tree appears in the edit area.
3. Click on the tree root to display its pop-up menu and select **New > Business Line**.
The **Creation of a Business Line** window appears.
4. Enter the Name.
5. Click **OK** to close this dialog box.
The business line appears in the business line tree.

Connecting a business line to a customer journey

Customer journeys connected to a business line are accessible from the **Characteristics** property page of the business line, in the **Customer journey** section.

 For more details, see [Connecting a customer journey to a business line](#).

Building a customer journey



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

A customer journey is associated with a persona. Therefore, a customer journey can be created in three different ways:

- From a persona or a persona group,
- From a customer journey group,
- Directly from the **Customer Journey** navigation pane.

Creating a customer journey

To create a Customer Journey from the **Customer Journey** navigation pane:

1. Select **Customer Journeys > Customer Journeys**.
A list of customer journeys is displayed in the edit area.
2. Click the **New** button.
The **Creation of a Customer Journey** window appears.
3. Enter the Name.
4. Click **OK** to close this dialog box.
The customer journey appears in the customer journey tree.


Connecting a customer journey to a persona

To connect a persona to a customer journey:

1. Display the customer journeys list.
2. Select the Customer Journey line that interests you.
3. Click in the **Persona** column.

 With the **HOPEX IT Business Management** solution, **Personas** are **Business Partners**.


4. Select the persona (or the business partner) that interests you.

 The persona associated with a customer journey is accessible in the **Characteristics** property page of the customer journey.


Connecting a customer journey to a business line

To connect a business line to a customer journey:

1. Open the **Characteristics** property page of the customer journey that interests you and expand the **Business Line** section.
2. Click **Connect**.
Select the business line that interests you.

 The customer journey is accessible in the **Characteristics** page the business line.

Creating a customer journey group

 A customer journey group consolidates the journeys that comply with similar criteria.


To create a customer journey group:

1. Open the **Customer journey** navigation window.
2. Select **Customer Journey > Customer Journey Groups**.
A list of customer journey groups is displayed in the edit area.
3. Click on the tree root to display its pop-up menu and select **New > Customer Journey group**.
The **Creation of a Customer Journey Group** window appears.
4. Enter the name of the group.
"Sports holidays" and "cruises", for example.
5. Click **OK** to close this dialog box.
The Customer Journey group that you have just created appears in the tree of the Customer Journey Group.

Using the **Characteristics** properties page of the customer journey, you can then connect the customer journey to the group.

Creating a mapping of the customer journey in tabular entry mode

Mapping of the customer journey can be created and updated using tabular entry mode.

 Tabular entry mode is available with the **HOPEX Web Front-End** product. For more information on using tabular entry, see the "Entering a diagram in tabular mode" in the **HOPEX Common Features** guide.

To create a mapping of the customer journey:

1. Select the customer journey that interests you and click **Create Diagram**.



The UI of the table input mode opens in the edit area. The tabs available are **Phases** and **Steps**.

☛ If a mapping already exists for the selected customer journey, the preview button allows you to access it.

Defining the customer journey phases in tabular input mode

📖 A customer journey phase is a time or experience-bound period within a Customer Journey.

A customer journey is described by several sequenced phases.

*☛ The list of phases of a customer journey is accessed from the **Characteristics** properties page, in the **Phases** section.*



Diagram of a customer journey connected to a persona and a business line with phases

Creating a customer journey phase in tabular input mode

To create a phase in tabular input mode for a customer journey:

1. Click the **Phases** tab.
2. Click **New**.
The Add Phase wizard allows you to create a new phase or connect an existing phase.
3. Click on the name of the phase to update it.
If you are in **Auto Refresh** mode, the diagram is automatically updated, otherwise click **Refresh Diagram** to display the new phase in the diagram.

Ordering the customer journey phases in tabular input mode

By default, the phases are ordered in the order of creation.

To modify the order of a customer journey using its diagram:

1. Click the **Phases** tab to access the list of diagram phases.

2. Select the phase whose order you want to modify and click in the **Order** column.
3. Modify the value of the order of the phase.

☛ If you enter an order number that already exists, the order of creation remains the same in the diagram.

Create several customer journey phases simultaneously

To simultaneously create several ordered phase for a customer journey:

1. Click the **Multiple Add** button.
A creation window appears.

2. Enter the **Number of phases** you wish to create.
3. If you wish to create phases with steps, specify the **Number of Steps** that you wish to create for each phase.

☛ The steps created in the same phase are sequenced.

4. Click **OK**.

Describing the Steps of a Customer Journey

📖 A customer journey step is the basic elementary advancement unit of a customer via a customer journey phase.

A customer journey is described by several sequenced steps.

☛ The list of steps of a customer journey is accessed from the **Characteristics** property page, in the **Steps** section.

You can, for example, proceed as follows:

1. [Creating the customer journey steps in tabular input mode,](#)
2. [Organizing the customer journey steps in tabular input mode,](#)
3. [Defining the channels in a customer journey.](#)

Creating the customer journey steps in tabular input mode

Create a customer journey step

To create a step using tabular entry mode for a customer journey:

1. Click the **Step** tab.
2. Click **New**.

The **Choose Object Type** window appears.

 A step can be associated to a **Sub customer journey**. The choice of the object type allows you to create a customer journey.

3. Select **Steps** and click **OK**.
The new step appears in the list of journey phases.
4. Click on the name of the step to update it.
The step created appears in the diagram outside of the phase area.

Create several steps simultaneously


To create several steps in tabular input mode simultaneously:

1. Click on the step starting from which you wish to create the other steps.
2. Click the **Multiple Add** button.
A creation window appears.



The 'Create Steps' dialog box is shown. It has a title bar 'Create Steps' with a close button. Below the title bar, there is a 'Concept*' field with a dropdown menu showing 'Step'. Below that is a 'Number of steps*' field with a spinner set to '1'. At the bottom, there are two radio buttons: 'Sequence of ...' (selected) and 'Steps'.

3. Enter the **Number of Steps** you wish to create.
4. Choose **Sequenced Steps** or **Independent Steps**.
5. Click **OK**.

 The steps are created but are not connected to a phase.

Organizing the customer journey steps in tabular input mode

By default, steps are not associated with phases and they are not sequenced.

Defining the sequencing of a customer journey

To define the sequencing order of the steps of a customer journey, you must specify the list of predecessors at each step.

To specify the predecessor of a step of a customer journey from its diagram:

1. Click the **Steps** tab to access the list of diagram steps.
2. Select the step concerned and click **OK**.
A window opens with the list of steps of the diagram that can be connected.


3. Select the step concerned.
You can select several steps.
4. Click outside of the selection pane of the steps.
The organization of the steps in the diagram are automatically updated.
Connections are created between each other.

Specify the phase of a customer journey step

To specify that a customer journey step is performed within the context of a journey phase:

1. Click the **Steps** tab to access the list of diagram steps.
2. Select the step that you want to connect to a phase and click **Phase**.
Use the down arrow to easily access the list of customer journey phases.
3. Select a phase in the list proposed.
The step is moved to the swimlane that corresponds to the phase.

Defining the channels in a customer journey

 A channel is used to identify the enterprise resources used by a persona to achieve a step. For example, a channel can be a phone or internet connexion.

The channels of a customer journey are also linked to the steps of the journey that uses them.

To create a customer journey channel in tabular input mode

1. Click the **Steps** tab of the mapping of the customer journey to access the list of steps of the customer journey.
2. Select the step that you want to connect to a channel and click **Channel**.
Use the down arrow to easily access the list of customer journey channels and connect the step to a channel that already exists.
3. Click the right facing arrow and select the **Create Channel** command.
The **Creation of Channel** window appears.
4. Enter the Name.
5. Click **OK** to close this creation window.
The channel is created and appears in the list. The step is automatically moved to the line that corresponds to the channel.

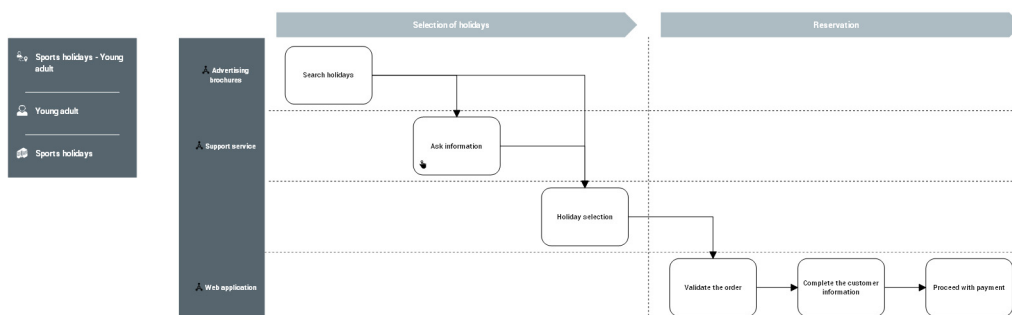


Diagram of customer journey with steps and channels

Client Expectations and Painpoints

The expectations and painpoints are specific to each persona with respect to a customer journey step.

Adding persona expectations to customer journey mapping



An external org-unit is an external entity that exchanges flows with the enterprise. Example: customer, supplier, government office.

The expectations of a customer journey are also connected to personas and they must also be connected to the steps in the customer journey that use them.



*The list of expectations of a customer journey is accessed from the **Characteristics** properties page, in the **Customer Expectations** section.*



*The list of expectations of a persona is accessed from the **Customer Journey** properties page of the persona, in the **Customer Expectations** section.*



For more details, see [Specifying the expectations of a persona](#).

To specify that a new customer expectation is connected to a customer journey:

1. Select the mapping of customer journey that interests you.
2. Click the **Steps** tab to access the list of steps in the customer journey.
3. Select the step that you wish to connect to an expectation and click in the **Expected Results**.



Use the down arrow to easily access the list of customer expectations of the customer journey.

4. Select the expectations that you want to connect to the step and click on the outside of the selection window pane.

The customer expectations selected appear in the swimlane of the step.



To create a new customer expectation, enter its name. The new customer expectation appears in the list of customer journey expectations.

Defining customer painpoints



A painpoint describes the difficulties encountered by a persona when carrying out a step in the customer journey.

To specify that a new painpoint is connected to a customer journey:

1. Click the **Steps** tab to access the list of steps in the customer journey.
2. Select the step concerned and click in the **Painpoint** column.
The list of painpoints connected to the mapping of the customer journey is displayed.


3. Select the painpoints that you want to connect to the step and click on the outside of the selection window pane.

The painpoints selected appear in the swimlane of the step.



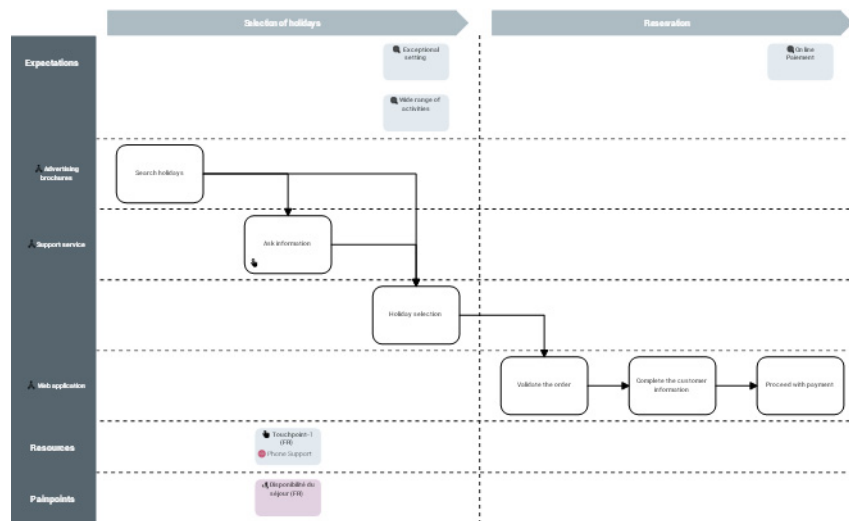
To create a new painpoint, enter its name. The new painpoint appears in the list of journey painpoints.


The Touchpoints of a Customer Journey


 A touchpoint describes an interaction between a persona and an enterprise.

A touchpoint is used to identify the organizational elements, used during the customer journey, that could have an impact on customer satisfaction. A touchpoint is connected on the one hand to a step and its channels and painpoints, and on the other hand to business improvement opportunities.

In the diagram, the touchpoints, the channels and the painpoints and the business opportunities are in the same swimlane as the customer journey step.



 The list of touchpoints of a customer journey is accessed from the **Characteristics** property page of the customer journey, in the **Touchpoint** section.

 The list of painpoints of a customer journey is accessed from the **Characteristics** property page of the customer journey, in the **Painpoint** section.

 For more details on painpoints, see [Defining customer painpoints](#).

Creating an involved resource in a customer journey

 A resource is a means used to perform certain actions.

An involved resource may be an actor, an application or an organizational process.

To create an involved resource in a customer journey:

1. Click the **Steps** tab to access the list of steps in the customer journey.
2. Select the step that you wish to connect to an involved resource and click in the **Involved Resource** column.
The list of involved resources connected to the mapping of the customer journey is displayed.

3. Select the involved resources that you want to connect to the step.
The selected involved resources appear in the swimlane of the step inside the touchpoint shape.

✎ To create a new involved resource, enter its name. A wizard opens prompting you to specify its type. The new involved resource appears in the list.

The touchpoint shape is modified.



Step connected to a touchpoint

Defining the business capabilities of a customer journey

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

To specify that a new business capability connected to customer journey step.

1. Click the **Steps** tab to access the list of steps in the customer journey.
2. Select the step that you wish to connect to a business capability and click in the **Involved business capability** column.

The list of business capabilities connected to the mapping of the customer journey is displayed.

3. Select the business capability that you want to connect to the step.
The selected business capabilities appear in the swimlane of the step.

✎ To create an business capability, enter its name. The new business capability appears in the list.

The selected business capabilities appear inside the paintpoint of the step and their are automatically connected to the step.

✎ The list of business capabilities connected to a paintpoint can be accessed from the **Characteristics** property page of the painpoint, in the **Customer journey** section.

Defining the business opportunities of a customer journey

📖 An opportunity characterizes an improvement action for one of the composite elements of the customer journey (steps, touchpoint).

To specify that a new business opportunity is connected to a customer journey:

1. Click the **Steps** tab to access the list of steps in the customer journey.
2. Select the step that you wish to connect to a business opportunity and click in the **Opportunity** column.

The list of opportunities connected to the mapping of the customer journey is displayed.

3. Select the opportunity that you want to connect to the step.
The opportunities selected appear in the swimlane of the step.

☛ To create an opportunity, enter its name. The new opportunity appears in the list.

The business opportunities selected appear in the swimlane of the step directly under the touchpoints of the step and are automatically connected.

☛ The list of opportunities connected to a touchpoint is accessed from the **Characteristics** property page of the touchpoint, in the **Opportunities** section.

Identifying a Moment of truth

📖 A moment of truth is a decisive step for the remainder of the customer journey. Either customers believe that they cannot obtain what they are searching for under the desired conditions and they are not satisfied; Or, on the contrary, they believe that they have found what they are looking for and continue the journey.

To specify the steps of a customer journey that constitute moments of truth:

1. Click the **Steps** tab to access the list of steps in the customer journey.
2. Select the **Moment of Truth** column.
Check boxes appear on each row of the column.
3. Select the check box that corresponds to the step you wish to specify as a moment of truth.
The step shape is modified.



Step declared as a moment of truth

☛ In the **Characteristics** property page of the selected step, the check box **Moment of Truth** is checked.

Creating an Action Plan for a Customer Journey

Following the identification of possible improvements to a customer journey, it is possible to create an action plan from a touchpoint.

📖 An action plan comprises a series of actions, its objective being to reduce risks and events that have a negative impact on company activities.

To create an action plan from a customer journey touchpoint:

1. Click the **Steps** tab to access the list of steps in the customer journey.

2. Select the step that you want to connect to an action plan and click in the **Action Plan** column.
The list of action plans connected to the mapping of the customer journey is displayed.

3. Select the action plan that you want to connect to the step.

☛ To create an action plan, enter its name. The new action plan appears in the list.

The action plans selected appear in the swimlane of the step.

☛ The list of action plans of a customer journey is accessed from the **Characteristics** properties page, in the **Action plan** section.

☛ For more information on using action plans, see the "Using action plans" in the **HOPEX Common Features** guide.

ASSESSMENT OF A CUSTOMER JOURNEY

The objective of the **HOPEX Customer Journey** product is to describe your customer journeys with a view to improving efficiency. By performing assessments, you can acquire valuated information and compare it.

With **HOPEX Customer Journey**, assessments are made using questions attached to channels. It is therefore possible to measure improvements made through the implementation of touchpoints on the sensitive steps of the journey.

HOPEX Customer Journey is based on assessment functionalities to define the questions and obtain the assessments of the steps of your customer journeys.

The following points are covered here:

- [Defining Questions for the Assessment of a Customer Journey](#),
- [Assessing a Customer Journey](#),
- [Consolidating results and assessments](#).

Defining Questions for the Assessment of a Customer Journey

With **HOPEX Customer Journey**, you assess the tools used by the persona for a customer journey. As a result, the questions are connected to the channels of the customer journey steps. The assessment of the customer journey takes place via questions that concerns each channel-step pair.

To create a question:

1. From the **Customer Journey** navigation pane.
2. Select **Assessment > Questions**.
A tree with the list of channels appears.
3. Open the **Assessment Instrument** property page of the channel that interests you.
4. Click the **New** button.
The assessment template creation dialog box opens.
5. Enter the assessment template name and click the **OK** button.

➤ For more details on the management of specific questions, see "Presentation of the Questionnaire Builder" chapter in the **HOPEX Common Features** guide.



6. To be able to assess your customer journey, you have to create at least one **Drop-down list** question.
7. Then, you have to create the five items required for the customer journey assessment consolidation.

➤ For more details on calculating assessment values, see [Consolidation rules](#)

8. Click the **Save and Close** button .

Assessing a Customer Journey

When the questions have been defined, the customer journey can be assessed.

Access the customer journeys for the assessments


Access to the customer journey is different depending on what you want to do:

To access the list of customer journeys that have never been assessed:

- 1 Select **Assessment > Non Assessed Customer Journeys**.

To consult the results of the assessment consolidation of a customer journey:

- 1 Select **Assessment > Assessed Customer Journeys**.

 For more details on calculating assessment values, see [Consolidation rules](#)

To assess a customer journey that has already been assessed:

- 1 Select **Customer Journeys > Customer Journeys**.

Answering questions for the assessment of a customer journey

To assess a customer journey for the first time:

1. Select **Assessment > Non Assessed Customer Journeys**.

The list of non-assessed customer journeys is displayed.


 To access a customer journey that has already been assessed, select **Customer Journeys > Customer Journeys**.

2. Select the customer journey that interests you and, from the More button, select **Evaluate**.

The properties dialog box for the window appears.

3. Answer the questions by selecting the assessment level among the proposed itmes and click **OK**.

 For more details on calculating assessment values, see [Defining Questions for the Assessment of a Customer Journey](#)

 To assess a customer journey that has already been assessed: open the **Customer journey** navigation pane, select **Customer Journeys** and click **More > Evaluate**.

Consolidating results and assessments

Consolidation rules

Each answer to a question is associated with a value included between 1 and 5.

Overview

The assessment results presented in the diagrams, the lists and properties pages are in general the values of the latest assessment.

Only the reports present average results. The calculation rules for averages are always the same irrespective of the object:

- 】 The average value of the assessments of an object is the average of the assessment values of the object for a given period.

For example, if for the question "Rapidity of web application" the first answer was "High" (value 5) and a second answer was "Too slow" (value 1), then the average value of assessments equals"" (Value 3)

Value of the latest assessment of a question

The value of the latest assessment of a question is used to calculate the values of the last assessment of the steps for which the answers were given.

Value of the latest assessment of a step

Each of the questions associated with a channel are asked for all steps that use the channel.

For example, the web application channel is used for all the steps in the "Holiday reservation" phase.

The questions on the "Application web" channel can deal with its "Rapidity" and its "Conviviality"

The value of the latest assessment of a step is used to calculate the assessment values of a channel if answers were given.

The value of the last assessment of a step is the average of the values of the latest assessment of each of the questions relating to the step.

For example, the value of the "Proceed to payment" step is the average calculated using the value of the latest assessment given to the "Rapidity" and to "Conviviality".

Value of the latest assessment of a channel

The value of the latest assessment of a channel is the average of the values of the latest assessment of each of the steps connected to the channel.

Value of the latest assessment of a customer journey

The value of the latest assessment of a customer journey is used to calculate the assessment values of a customer journey group and a persona.

The value of the latest assessment of a customer journey is the average of the values of the latest assessment of each of the steps in the customer journey.

Value of the latest assessment of a customer journey group

The value of the latest assessment of a customer journey group is the average of the values of the latest assessment of the customer journey of the group.

Value of the latest assessment of a Persona

The value of the latest assessment of a persona is used to calculate the assessment values of a persona group.

The value of the latest assessment of a persona is the average of the values of the latest assessment of the customer journeys connected to the persona for a given period of time.

Value of the latest assessment of a Persona Group

The value of the latest assessment of a persona group is the average of the values of the latest assessment of the group persona.

Consolidated results

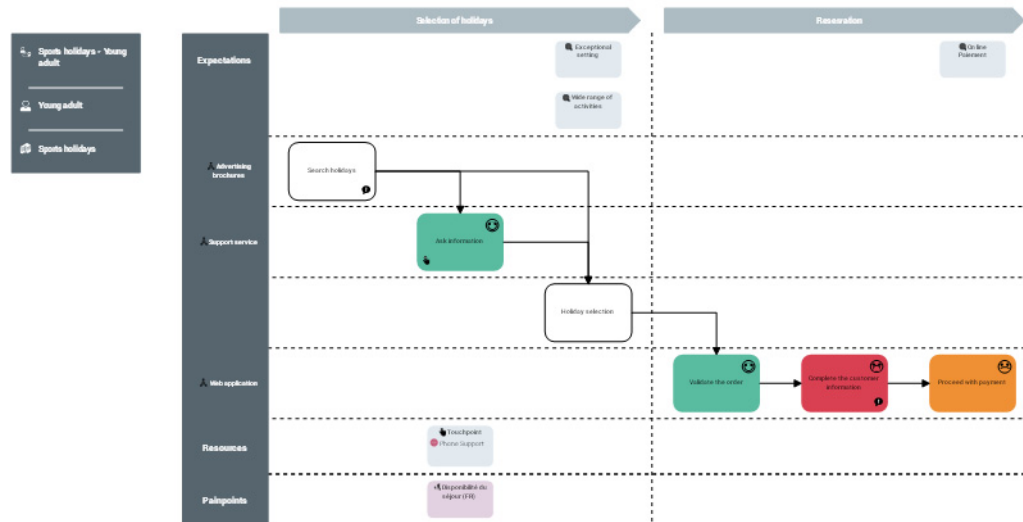
The consolidated results on the customer journey are presented in:

- Diagrams,
 For more details, see [Representation of consolidated results in the diagrams](#).
- Lists,
 For more details, see [Representation of consolidated results in the lists](#).
- Dedicated reports.
 For more details, see [The reports available on a customer journey](#).

Representation of consolidated results in the diagrams

After assessment of a customer journey, the shape of the steps in the customer journey diagram is modified to present the results of the latest assessment of steps.

For more details on calculating the value of the assessment, see [Value of the latest assessment of a step](#)



Mapping a journey after assessment

Journey step	Comment
	Customer satisfaction very low
	Customer satisfaction low
	Customer satisfaction neutral
	Customer satisfaction high
	Customer satisfaction very high
	Customer satisfaction not assessed

Presentation of the shape of steps differs according to the consolidated result of assessments.

Representation of consolidated results in the lists

After assessment of a customer journey, the consolidated results of the latest assessment appears in the lists. For example:

- In the **Assessment > Assessed Customer Journeys** folder,
- In the properties page for the customer journey in the **Assessments** tab.

🔗 For more details on calculating the value of the assessment, see [Value of the latest assessment of a step](#)

THE REPORTS AVAILABLE ON A CUSTOMER JOURNEY

This paragraph presents the list of reports available from the Report property page of a customer journey.

- [Global satisfaction](#)
- [Improved scope](#)

Global satisfaction

This report presents the results of the satisfaction of persona with the various customer journeys.


Report parameters

Parameter	Parameter type	Constraints
Assessment values	"All assessment values" or "Latest assessment values"	Mandatory
From Date	Date	Today's date by default.
To	Date	Today's date by default.

Persona satisfaction

The first chapter presents a summary view of the satisfaction of persona with the customer journey for given dates.

- The x-axis carries the dates of the assessment period.
- The y-axis carries the value of the latest assessment of persona.
The table under the curve indicates the value of the latest assessment of each persona at different dates.

 For more details on calculating the satisfaction of a persona, see [Value of the latest assessment of a Persona](#).

- The figure presents a curve by persona and a curve that presents the average.



Satisfaction of customer journey groups

The table is organized as follows:

- Each row is associated with a customer journey group assessed between the two dates given as a parameter.
 - The group expands to show the results of the customer journeys to which they are connected.
- Each column is associated with a persona
- The cells present the satisfaction of the persona with the corresponding journey group (or with the customer journey itself).
 - For more details on calculating the satisfaction of the persona for a customer journey, see [Value of the latest assessment of a customer journey](#) and [Value of the latest assessment of a customer journey group](#).

Improved scope

This report presents the assessment results with respect to the resources associated with the touchpoints.

Report parameters

Parameter	Parameter type	Constraints
Assessment values	"All assessment values" or "Latest assessment values"	Mandatory
From Date	Date	Mandatory, today's date by default.
To	Date	Mandatory, today's date by default.

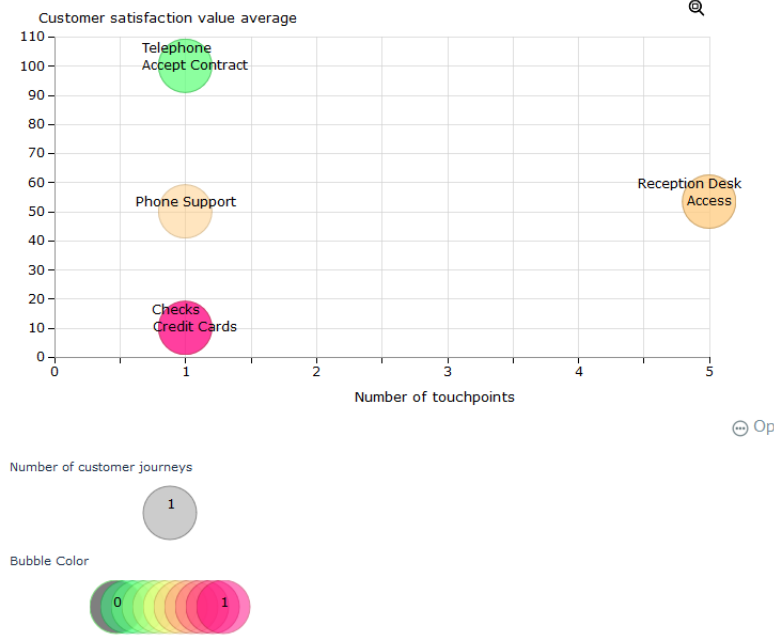
Assessment of the scope

The first chapter of this report presents a bubble chart that is used to assess the efficiency of the touchpoints with respect to the assessment period.

- Each bubble represents a touchpoint.
- The size of the bubble represents the number of customer journeys that use the touchpoint resource.
- The color of the bubble represents the average value of the assessment of the resource for the steps assessed.
- The x-axis shows the number of touchpoints to which the resource is connected.
- The y-axis presents the average value of the assessment of the resource for the steps assessed.

☛ The x-axis presents the same information as the colour of a bubble. Thus, the red bubbles are at the bottom of the diagram and the green bubbles are on top.

1. Improvement Scope

















The table under the bubble diagram specifies the value of the latest assessment of each person at different dates.

For more details on calculating the satisfaction of a persona, see [Value of the latest assessment of a customer journey](#).

Customer Journey	Persona	Assessment Date	Customer Satisfaction
Sports holidays - Young adult	Young adult	01/08/2016	Neutral
Sports holidays - Young adult	Young adult	07/08/2016	Neutral
Sports holidays - Young adult	Young adult	09/08/2016	Very High
Sports holidays - Young adult	Young adult	15/08/2016	Very High

The latest table of the report details the data presented in the bubble diagram.

- Each row is associated with a resource (if appropriate connected to a number of touchpoints).
- The first column specifies the average value of the assessment of the resource for the steps assessed.
- The second column specifies the number of touchpoints to which the resource is connected.
- The third column specifies the number of customer journeys to which the resource is connected.
- The name of the customer journey that uses the resource is specified in the fourth column.
- The fifth column specifies the percentage of steps noted as moments of truth that use the resource.
- The last column draws up the list of channels to which the resource is connected.

	Customer satisfaction value average▲	Number of touchpoints▲	Number of customer journeys▲	Customer journeys	Percentage of moment of truth	Impacted Channels
 Reception Desk	53.34	5.0	1.0	 Sports holidays - Young adult	40.0 %	  
 Accept Contract	100.0	1.0	1.0	 Sports holidays - Young adult		
 Telephone	100.0	1.0	1.0	 Sports holidays - Young adult		
 Phone Support	50.01	1.0	1.0	 Sports holidays - Young adult		

➡ For more details on calculating the satisfaction a persona for a customer journey, see [Consolidation rules](#).



SIMULATING A BPMN PROCESS



Simulation is a tool that aids decision-making, enabling analysis of company business process operation and performance. By identifying relevant indicators, it enables indication of organization improvements.

Complementing **HOPEX Business Process Analysis**, the **HOPEX Process Simulation** software is edited by **MEGA International** to assist organizers and decision-makers in:

- Analyzing enterprise process performances.
- Improving existing processes or evolving processes.

HOPEX Process Simulation is used to:

- Describe the detailed organization of operations during execution of organizational or system processes, and the use of company resources by these processes.
 - ☛ *The simulation with the **HOPEX Process Simulation** product is only possible on processes respecting the BPMN formalism.*
 - ☛ *The description of a process respecting the BPMN formalism can be derived from a **Process Mining** analysis. For more details, see [Using the Process Mining](#).*
- Associate quantitative information (processing time, costs) with operations executed and resources used.
- Create several optimization scenarios to build a comparative performance analysis of the different configurations.

The following points are covered here:

- ✓ [Introduction to HOPEX Process Simulation.](#)
- ✓ [Connecting to HOPEX Process Simulation.](#)
- ✓ [Simulation Steps.](#)
- ✓ [Creating a Simulation Scenario.](#)
- ✓ [Using Simulation Schedules.](#)
- ✓ [Simulation Results.](#)
- ✓ [Using the Process Mining with HOPEX Process Simulation.](#)

INTRODUCTION TO HOPEX PROCESS SIMULATION

Why ~~simulate~~^{ing} a process?

Simulation offers:

- An alternative viewpoint on the system, seen as a set of resources that must be shared by the different elements.
- Additional credibility supplementing traditional measures.
- Obtaining performance indicators on configurations impossible in reality, or on quantities that cannot be measured.

There are therefore multiple reasons for simulating a process described with **HOPEX Business Process Analysis**:

- Improving enterprise operation.
- Considering organizational changes ~~from valued~~ based on quantitative data.
- Sizing resources.

Improving enterprise operation

Describing organization operation in order to simulate it can reveal:

- Possible reasons for performance deterioration.
- Simple improvement solutions that have not been envisaged.

Considering organizational changes from ~~valued~~ quantitative data

Solutions envisaged to improve enterprise process performance can, by increasing system productivity, highlight weaknesses that extend production deadlines. Simulation enables anticipation of this type of problem: proposed scenarios are tested and ~~valued~~ quantitative results can be compared.

Sizing resources

The description of the processes can be completed by the description of the means (technology or other) required for them:

- Equipment resources
- Applications
- Application services

An estimate of quantities required can be obtained using simulation.

Using the Process Mining

Process Mining is an approach that consists of analyzing files that trace the execution of a process: start and end dates of completed tasks, identification of resources used, identification of the activity in progress, routing of steps.

Depending on the quality of the trace files, this analysis can provide information such as:

- The list of executed tasks and the average duration of each execution,
- Routing information: probability of activation of a task from another task.

From a trace file, a **Process Mining** tool is thus able to provide the BPMN representation of the executed process as well as information about routing probabilities and execution times. This information can be imported and analyzed by **HOPEX Process Simulation**.

☞ For more details, see [Using the Process Mining with HOPEX Process Simulation](#).

Using HOPEX Process Simulation

HOPEX Business Process Analysis is used to describe the organization of the enterprise. This description can then be simulated and performance criteria can be compared to identify the configuration that best meets enterprise objectives.

To this end you will use the following concepts:

- processes,
- operations,
- events,
- gateways,
- resources,
- simulation scenarios.

This user guide is designed to help you quickly discover the main functionalities of **HOPEX Process Simulation** and how to use them.

CONNECTING TO HOPEX PROCESS SIMULATION

Prerequisites for the use of HOPEX Process Simulation

To use **HOPEX Process Simulation**, you must import the **Simulation Engine** module in your environment.

For import a module in **HOPEX**, see “Importing a module in **HOPEX**” chapter in the **HOPEX Administration** guide.

In addition, to obtain process simulation results you must have purchased of simulation product license.

Accessing HOPEX Process Simulation

To access **HOPEX Process Simulation**, you must log in with the **Process Manager** profile, see [Presenting the Process Manager space](#).

SIMULATION STEPS

The BPMN model of a process represents an organized series of steps. For an organizational process, the steps correspond to operations, events and gateways encountered by an instance.

The simulation consists in activating the different steps of the process while respecting their sequence as well as the time constraints specified for each of them.

Before being able to simulate a process, it must be represented graphically. Simulation is based on the diagram that describes the different steps of the process.

Simulating a process consists of moving requests for work through the various steps in the process. Each instance is introduced into the process model from a start event and stops at an end event.

For example: in a purchase processing process, a purchasing request is triggered by the sending of the instance and ends with the delivery of the order. In the meantime, it goes through different steps (order recording, order processing, etc.).

The circulating instances thus make it possible to represent the sequencing of the steps of a process.

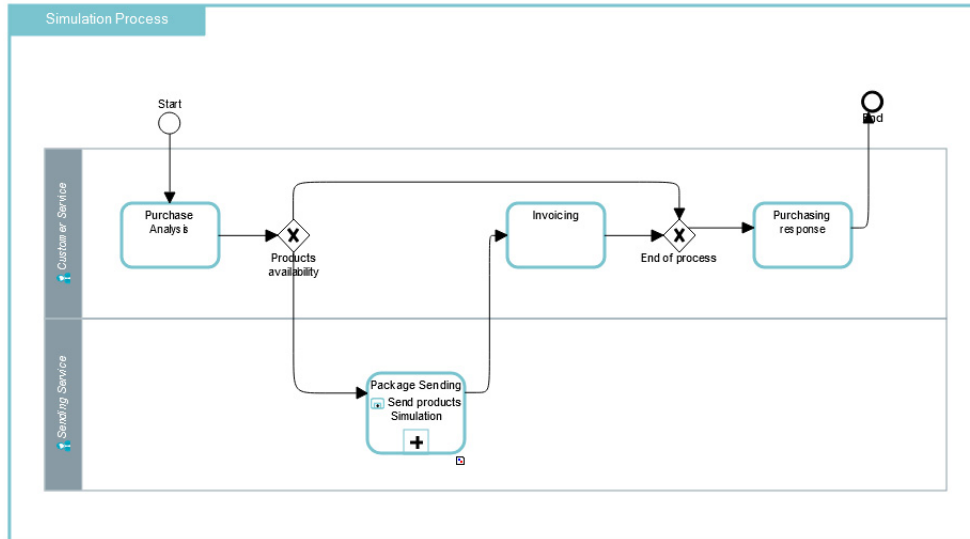
From their respective BPMN diagrams, you can simulate the following concepts:

- Organizational process,
- Value streams,
- System process.

☛ *These types of processes are proposed to you only if your options allow it.*

Example of Running a Simulation

Let's take the organizational process of order processing as an example.



Simulation start event

When a process has several entry points, the simulation editor asks you to choose between the different possible start events.

The routing of the instances in the graph depends on the selected entry point.

☛ If you change the entry point of an already created scenario, the scenario must be updated, see [Updating a simulation scenario](#).

Tasks

In a BPMN process, tasks are associated with processing steps requiring the intervention of an enterprise participant (for example an org-unit).

A task can be industrial (machining a component), logistical (receiving a delivery), or it can involve information processing (entering an order).

During the simulation, the execution of a task is triggered by the arrival of an instance that has taken the **sequence flow** that links the task to the other objects describing the process flow.

When an instance arrives at a task, the simulator checks that resources expected for task execution are available. If this is not the case, the instance is placed in a queue until the resource is free.

Participants represent resources needed to perform a task.

☛ If a task is described by a process, the simulation can take into account the detail of the process or remain at the task level, depending on the option selected in the simulation scenario. See [Hierarchical description of the simulated process](#).

☛ The simulator does not take into account behaviors of tasks as defined specifically by the BPMN standard. For more details on these

behaviors, see [Specifying Process Behavior](#). Behaviors **Loop** and **Multiple** must be described explicitly in the model.

Resources

Performing the tasks requires the use of resources that can be human, software or hardware, depending on the type of process described.

You can customize their quantity, cost and availability schedule for each simulation scenario.

☛ A task is allowed to use only one resource which must be connected to the participant in charge of the task.

Using Gateways

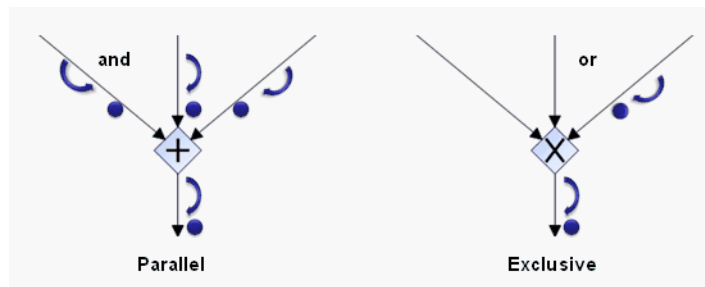
A task may contain several input or output flows. To represent these situations, you must use BPMN gateways and set probabilities. See [Probabilities on the sequences flows](#).

Managing task inputs

Several sequence flows can lead to the same task. In this case, you must define the processing policy of the incoming instances in the task using a **gateway**. Thus, an instance can be the result of the merging of several instances coming from different sequences, a **Parallel** gateway is then used.

For example, in an order delivery process, the various items that make up the order are processed separately. These items are then assembled to form a single order.

By default, each instance arriving in a sequence is taken into account as soon as the resources required for its processing are available. Input policy is then an **Exclusive** policy.



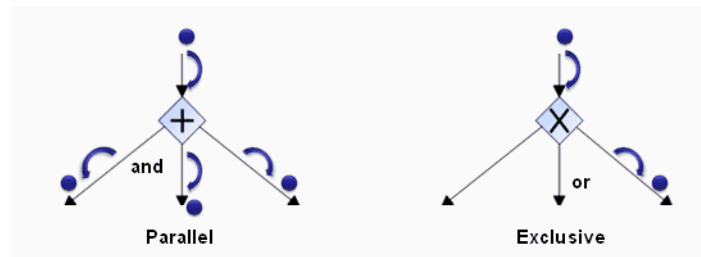
☛ If the gateway is of the **Parallel** type, one instance must arrive via each of the different sequence flows to be grouped into a single instance which will execute the task.

Managing task outputs

A task can produce different processings executed in parallel. There are basically two output policies:

- A policy of **Exclusive** type: The instance is directed to one and only one sequence flow among the different possible outputs.
 - ☛ By default, the output policy of a gateway is **Exclusive**.
- A policy of **Parallel** type: the instance is duplicated and directed to each of the output sequence flows.

In the case of a **Parallel** gateway, all output branches are processed simultaneously.



⚠ Although the BPMN standard covers other input and output management policies, only the **Exclusive** policies are taken into account by the simulator.

Events

BPMN events enable representation of:

- The simulated process start point: this is the point from which processing instances are generated. Nature of these events must be **Start** or **Catching**,
- The point marking the end of the simulated process. Nature of these events must be **End** or **Throwing**,
- Occurrence of a particular fact that modifies behavior of the current process or another process. Events used in this case are of intermediate nature **Catching** or **Throwing**.

CREATING A SIMULATION SCENARIO

A scenario enables definition of what you wish to simulate. It memorizes definition of the process to be taken into account, as well as parameters specific to the simulation.

Creating multiple scenarios for a process allows you to make comparisons between the performance of several configurations.

For example, by changing the number of org-units from one scenario to another, you can analyze the impact of additional personnel on production.

Accessing the List of Simulation Scenarios

To access the list of scenarios from the **Simulation** navigation pane:

- 1. Select **Simulation Scenarios > All Simulation Scenarios**.

The list of scenarios is displayed.

The **Simulated process** column indicates the name of the process considered for the scenario.

Simulation Scenario Parameters

Parameters that must be managed in a scenario are:

- simulation and measurement conditions (start date, number of instances sent in the process, warmup and tail phases),
- conditions of arrival of instances sent to the simulated process,
- characteristics of the resources of the simulated process,
- characteristics of the steps of the simulated process,
- routing probabilities of the instances.

Creating a Simulation Scenario

To create a simulation scenario:

1. From the **Simulation** navigation pane, select **Simulation Scenarios > My Simulation Scenarios**.
The list of your scenarios is displayed.
2. Click the **New** button.
The window for creating a scenario opens.
3. Specify the **Name** of the simulation scenario.
4. Select the **Process type** you want to create.
5. Select the process you want to simulate from the **Simulated Process** field.

6. (Optional) Check the box **Import the exact arrival time of process instances from a CSV file**.

The following fields are grayed.

☞ For more details on use of a CSV file of input flows, see [Input flow CSV file](#).

7. Specify the number of **Process instances** that will activate the process as well as the **Simulation start date**.

☞ Those fields are grayed if you use a CSV file to describe the input flow.

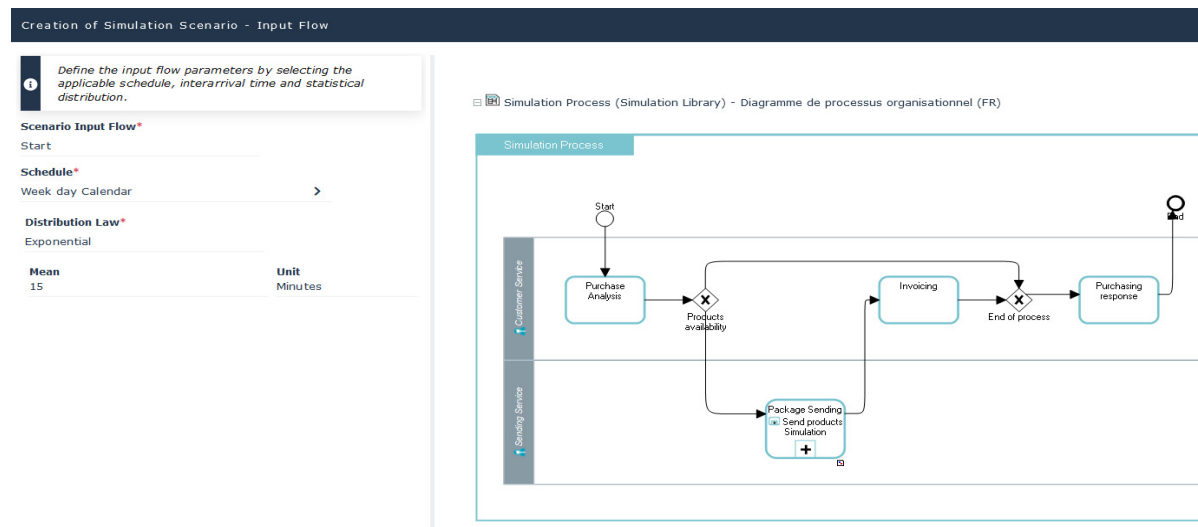
8. Click the cells that interest you among the following:

- **Infinite Resources**,
- **Simulate all processes levels**,
- **Simulation logfile**.

☞ For more details on process resources, see [Characteristics of a simulation scenario](#).

9. Click the **Next** button.

The simulated process diagram appears in the creation window.



10. Select the event that will mark the **Scenario Input Flow**.

11. If you don't use a CSV file to describe the input flow, select the **Schedule** of instances that should activate the process as well as the inter-arrival Distribution Law and associated parameters.



☞ For more details on the input flow configuration in the simulated process, see [Characteristics of a simulation scenario](#):

12. Click the **Next** button.

The task list of the simulated process is displayed.

☞ For more details on setting up the tasks of the simulated process, see [Tasks of the simulated process](#).

☞ If you have chosen to simulate an organizational process more precisely, the **Next** button allows you to set the parameters of its tasks. See [Hierarchical description of the simulated process](#).

13. Click the **Next** button.
The resource list of the simulated process is displayed.
 For more details on setting up the resources of the simulated process, see [Input flow](#).
14. Click the **Next** button.
The sequence flow list of the simulated process is displayed.
 For more details on setting up the sequence flows of the simulated process, see [Probabilities on the sequences flows](#).
15. Click **OK**.
The new simulation scenario appears in the list of simulation scenarios.

You can refine these settings from the scenario properties pages.

When all parameters are filled in, you can start the simulation: see [Running Simulation](#).

Characteristics of a simulation scenario

To access characteristics of a simulation scenario:

1. From the **Simulation** navigation pane, select **Simulation Scenarios > All Simulation Scenarios**.
The list of simulation scenarios is displayed.

2. Select the simulation scenario that interests you and open its **Characteristics** properties page.

My simulation scenario

General **Characteristics** Input Flow Resources Tasks Simulation Data Sequence Flows Probal

Update Scenario Simulate

Identification

Scenario Parameters

Process Type
Organizational Process

Simulated Process*
Simulation Process

Open diagram

☐ Import the exact arrival time of process instances from a CSV file

Define the simulation scenario start date and number of simulated instances; the beginning (warm up) and end (tail) of the simulation can be excluded from results computation if necessary.

Process Instances*
100

WarmUp (%)
0%

Simulation Start Date*
12/22/2020

Tail % to Exclude
0%

"Simulate all processes levels" option enables taking into account the simulation data for all processes levels. Processes are breaking down further than one level of decomposition.
"Infinite Resources" option allows you to simulate the simulation scenario without taking into account resources (and their filled parameters) by allocating them the maximum quantity.

☐ Infinite resource ☐ Simulate all processes levels

The simulation logfile provides access to the MXML file generated during the execution of the simulation scenario.

☒ Simulation logfile

The following characteristics appear:

- ☺ Clicking the **Update Scenario** button allows to take into account the modifications made on the objects of the scenario or on their parameters. For more details, see [Updating a simulation scenario](#).
- The **Process Type** and the name of the process you want to simulate in the scenario.
 - ☞ The list of process types available to you depends on the options you have selected.
 - ☺ The **Open diagram** button allows you to open the diagram of the simulated process in edit mode.
- The **File location** if you have checked the **Import the exact arrival time of process instances from a CSV file** box.
As a consequence, the following fields are grayed.
 - ☞ For more details on use of a CSV file of input flows, see [Input flow CSV file](#).
- The **Process Instances** as well as the **Simulation start date** which define the duration of the simulation. See [Simulation duration](#).
- The **Load increase** and **Tail to exclude** periods which define the collection period for the statistical measures. See [Measurement period](#).
- The **Infinite Resources** box is checked to simulate a situation where resources can't be bottleneck.
 - ☞ For more details on process resources, see [List of Resources](#).
- The **Simulate all processes levels** box enables taking into account the simulation data for all processes levels.

☛ For more details on process simulation, see [Hierarchical description of the simulated process](#).

- The **Simulation logfile** box provides access to the MXML file generated during the execution of the simulation scenario.

☛ For more information on the MXML file, see [Scenario overall results](#).

Input flow CSV file

It is possible to define an input flow corresponding to the real system behavior. You have to create a CSV file with a “start” column providing the list of dates in an ISO 8601 format type: YYYY-MM-DD'T'HH:MM:SS:SSSZ.

For example :2021-07-28T15:50:03.000

Each date corresponds to a treatment requirement.

Such a file can be automatically generated by a **Process Mining** tool. For more details, see [Using the Process Mining](#).

Simulation duration

The quality of the statistical results you expect depends on the size of your sample and the stability of the process you are simulating. The more unstable the behavior of your process, the more measurements you will need to compose a representative sample.

If you don't use a CSV file for input flow, the duration of the simulation is therefore defined by two parameters:

- The **Number of instances** that will be sent in the simulated process to make up the sample,
☛ *The number of instances must be less than 1000.*
- the **Simulation Start Date** which defines, according to the parameters of the input flow, the effective duration of the simulation. See [Input flow](#).

Measurement period

A simulation can be divided into three periods:

- The warmup period during which the instances corresponding to the work requests progressively load the process resources.
- The steady-state period: the average number of instances being processed is stationary.
- The period of load reduction: depending on the processing conditions of the instances and schedules, it is possible that the number of instances being processed in the process will gradually decrease.

Depending on the statistical results you are interested in, you can restrict the collection of results to one of these three periods.

The parameterization of the measurement period makes it possible, for example, to exclude transitional periods that could distort the statistical results. You can therefore exclude:

- The percentage of instances that correspond to the **WarmUp** phase of the process,
- The percentage of instances that correspond to the phase of progressive decrease of load of the process: **Tail to exclude**.

Input flow

Since the process response times will be different depending on whether all work requests are sent at once or if they are sent at regular time intervals, it is important to specify the process load conditions.

To access the parameters that define the conditions of arrival of the instances in the simulated process:

1. From the **Simulation** navigation pane, select **Simulation Scenarios > All Simulation Scenarios**.
The list of your scenarios is displayed.
2. Select the simulation scenario that interests you and open its **Input Flow** properties page.

The following characteristics appear:

- The **Scenario Input Flow** allows you to select the event that will mark the beginning of the treatment associated with the simulated process.
*☛ If the simulated process has several **Start** or **Waiting** events or is described by several diagrams, you must specify which event is taken into account in the simulated scenario.*
- The **Schedule** allows you to define the time slots during which the instances will be generated. See [Using Simulation Schedules](#).
☛ This calendar is the default calendar also used for resources if no other calendar has been associated with them.
☛ Those fields are grayed if you use a CSV file to the input flow.
- The **Distribution Law** of the inter-arrivals of the instances in the process as well as the parameters of this distribution. See [Distribution Laws and their Parameters](#).
☛ Those fields are grayed if you use a CSV file to the input flow.

By default, instances are introduced continuously and at regular intervals. You can enter the distribution law and the corresponding parameters to specify the mean inter-arrival time. For more details, see [Distribution Laws and their Parameters](#).

☺ To represent the fact that all instances are generated at the beginning of the simulation, set the value of the **Mean** to 0.

Tasks of the simulated process

All the tasks of the simulated process are detected during the construction of the simulation scenario.

To access the tasks that will be simulated in the context of the simulation scenario:

1. Open the **Tasks Simulation Data** properties page of the simulation scenario that interests you.
The list of tasks specified in the BPMN diagram of the simulated process is displayed.
2. Expand the section of a task.
The list of parameters for the selected task is displayed.

Creation of Simulation Scenario - Tasks Simulation Data

Define the fixed cost and performing time statistical model parameters for the process tasks. For complex tasks (subprocess or called processes), the description can be ignored (default); when deactivated for such a task, the parameters for the tasks will be entered in subsequent screen(s).

Invoicing

Package Sending

Resources

Sending Service

Default Performing Cost

30

Distribution Law

Exponential

Mean	Unit
20	Minutes

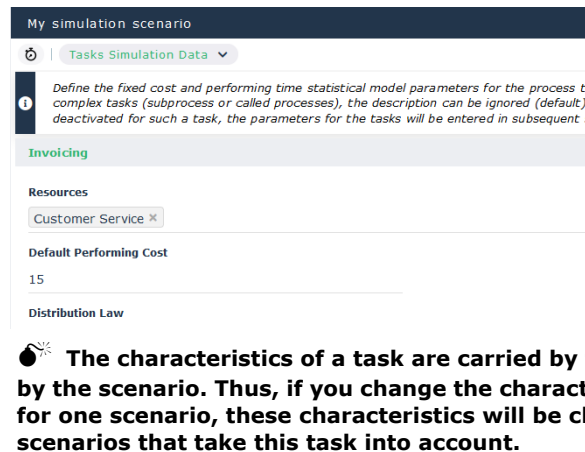
Purchase Analysis

Purchasing response

For each task you can indicate:

- The level of details of the simulated process by unchecking the **Ignore Process Description** box. For more details, see [Hierarchical description of the simulated process](#).
- The **Resource** in charge of executing the task as defined in the simulated process diagram. See [List of Resources](#).
☛ This resource is not modifiable at the scenario level, the diagram must be modified.
- The **Distribution law** and the parameters that characterize the working time of the task. See [Distribution Laws and their Parameters](#).
- The **Default Performing Cost**.
☛ For more details on how to calculate the cost of a task, see [Simulation Results for a Scenario](#).

You can access to these informations in the **Simulation Data** property page of the task.



My simulation scenario

Tasks Simulation Data

Define the fixed cost and performing time statistical model parameters for the process tasks. For complex tasks (subprocess or called processes), the description can be ignored (default), deactivated for such a task, the parameters for the tasks will be entered in subsequent scenarios.

Invoicing

Resources

Customer Service

Default Performing Cost

15

Distribution Law

⚠ The characteristics of a task are carried by the task and not by the scenario. Thus, if you change the characteristics of a task for one scenario, these characteristics will be changed for all scenarios that take this task into account.

To access the tasks that will be simulated in the context of the simulation scenario:

- 1) Open the **Tasks Simulation Data** properties page of the simulation scenario that interests you.
The list of tasks specified in the BPMN diagram of the simulated process is displayed.

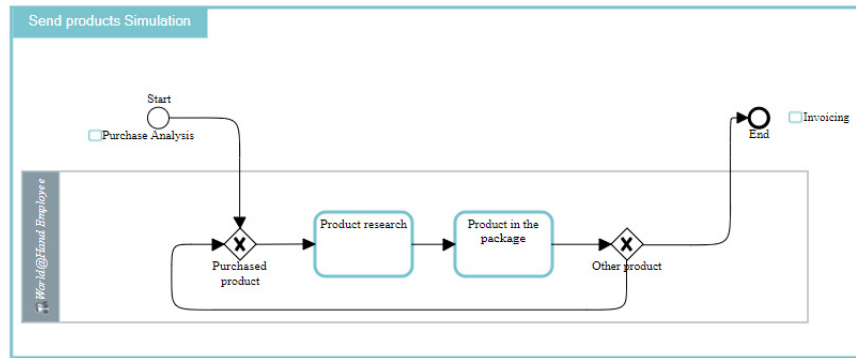
Hierarchical description of the simulated process

All the tasks of the simulated process are detected during the construction of the simulation scenario.

If a task is described by a process, the simulation can take into account the detail of the process or remain at the task level.

*☛ The process components are automatically simulated if you have checked the **Simulate all processes levels** box in the scenario parameters, see [Characteristics of a simulation scenario](#).*

For example, the "Package Sending" operation is linked to the "Send Products Simulation" process modeled by a BPMN diagram.



To specify that the simulation must take into account the tasks of a process linked to an operation in the context of the simulation scenario:

1. Open the **Tasks Simulation Data** properties page of the simulation scenario that interests you.
 2. Unfold the section of the task you wish to simulate in detail.
 3. Uncheck the **Ignore Process Description** box.
 4. Fill in the task settings for the process described.
- The results of the simulation will present in detail the results of the tasks of the described process and the resources it uses. The results are aggregated at the level of the process described.

➡ For more details on simulation results, see [Results for tasks](#).

List of Resources

For a process to be simulated, all of its tasks must be assigned to resources.

All the resources assigned to the participants of the simulated process are detected during the construction of the simulation scenario.

To access the resources available in a simulation scenario:

1. Open the **Resources** properties page of the simulation scenario that interests you.
- The list of resources specified in the BPMN diagram of the process is displayed.

Mon scénario de simulation				
<	Général	Caractéristiques	Flux d'entrée	Ressources
Définissez la quantité des ressources, leur calendrier et leur coût horaire.				
Nom court ↑	Quantité	Calendrier utilisé	Coût horaire d'utilisation	
Service Client	2	Calendrier Journalier	10	
Service Envoi Produits	1	Calendrier 24/24	20	

For each resource you can indicate:

- Its available **Quantity**.
☛ *The maximum quantity of resources is 1000, the resource is considered as infinite.*
- The **Used Schedule** that specifies the periods of availability of the resource. See [Using Simulation Schedules](#).
☛ *If no schedule is specified for the resource, the schedule defined for the input flow is taken into account for the resources.*
- The **Hourly rate** of use. By default, this cost is assumed to be zero.
☛ *For more details on how to calculate the resource costs, see [Results for resources](#).*

if you have checked the **Infinite Resources** option in the scenario parameters, resources have no more impact on the performances of the simulated process.

☛ *For more details on a scenario parameters, see [Characteristics of a simulation scenario](#).*

Probabilities on the sequences flows

Probabilities on the sequence flows determine the routing of the instances in the simulated process.

☛ *For more details on the different gateways, see [Using Gateways](#).*

To define the routing probabilities on the sequence flows of the simulated process :

1. Open the **Sequence Flows Probability** properties page of the simulation scenario that interests you.
The **Sequence Flows** section lists the process sequences at the output of a gateway.
2. Select the sequence flow you are interested in and, in the **Probability** column, enter the value between 0 and 100 associated with the routing probability of the sequence flow.



Local name	Probability
Simulation Process (2)	
Products availability-->(Start)Package Sending	80%
Products availability-->End of process	20%

☛ *If no probability is defined, the simulator generates an error.*

☛ *The sum of the probabilities of the flows at the output of a gateway must be equal to 100. An error is signaled if this rule is not respected.*

Distribution Laws and their Parameters

Distribution laws are used to represent the random behavior of the processing time of a task or the delay between the generation of two new instances injected in the simulated process.

The distribution laws available in **HOPEX Process Simulation** are presented in the table below

Distribution law	Mean	1st parameter	2nd parameter
Fixed	Fixed value		
Exponential	mean		
Gamma	mean	variance	
Log Normal	mean	variance	
Normal	mean	standard deviation	
Triangular	mode	minimum	maximum
Uniform		minimum	maximum

List of proposed distribution laws with their parameters

Running the Simulation

Updating a simulation scenario

Clicking the **Update Scenario** button allows to take into account the modifications made on the objects of the scenario or on their parameters.

If, for example, you have modified the diagram of the simulated process, you must update the scenario so that this modification is taken into account during the next simulation.

My Simulation Scenario

Characteristics

Update Scenario

Name*

My Simulation Scenario

Owner

Simulation Library

Running Simulation

Once you have entered the parameters of the process simulation scenario, you can start the simulation.

To run the simulation:

- 1. Click the **Simulate** button  in the simulation editor.

Simulation results are recorded in the scenario.

Errors of a simulation scenario

Errors in the parameters of the simulation scenario or in the simulated process itself may prevent the simulation from calculating the results.

In this case, you can display the Raw Simulation Data report to localize the source of the error.

To access this option you must have access to the advanced user interfaces.

To activate this option:

1. On the desktop, click **Main Menu > Settings > Options**.
2. In the left pane of the window, click **Workspace > Desktop** folder.
3. In the right part of the window, verify that **Display advanced UI** box is set to "Yes"..
4. Click **OK**.

To access the scenario error report:

1. Open the property page **Simulation Outputs > Row Simulation Data**.

My simulation scenario

Resources Tasks Simulation Data Sequence Flows Probability **Simulation Outputs** Reporting Activity Feed

Raw Simulation Data

Input Data

Input BPMN Simulation Data

```
<?xml version="1.0" encoding="UTF-8"?><bpmn:definitions xmlns:bpmn="http://www.omg.org/spec/BPMN/20100524/MODEL"
xmlns:bpmndi="http://www.omg.org/spec/BPMN/20100524/DI" xmlns:dc="http://www.omg.org/spec/DD/20100524/DC"
xmlns:di="http://www.omg.org/spec/DD/20100524/DI" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" exporter="Mega"
exporterVersion="901.5718" id="MegaId-E7D0EB155FB470CEDef" targetNamespace="http://www.mega.com/bpmn20"><bpmn:collaboration
id="MegaId-9DA18DDF5FE082F3COLLAB"><bpmn:participant id="MegaId-E7D0EB155FB470CEPOOL" name="Processus Simulé" processRef="MegaId-
E7D0EB155FB470CE"/></bpmn:collaboration><bpmn:process id="MegaId-E7D0EB155FB470CE" name="Processus Simulé"><bpmn:laneSet><bpmn:lane
id="MegaId-E7D0EBB35FB47348" name="Service Client"><bpmn:flowNodeRef>MegaId-13D615175FBE6324</bpmn:flowNodeRef>
```

Output Data

Status
Completed

Errors

XML Result

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?><Results xmlns="https://www.minit.io/hubfs/Simulation/ApiSchema"><processKpis
version="1.2"><process><minCycleTime>82.62956285476685</minCycleTime><averageCycleTime>11712.123318068981</averageCycleTime>
<maxCycleTime>401846.5799732208</maxCycleTime><totalCycleTime>625530.3379912376</totalCycleTime>
<minCost>7.2295265634854635</minCost><averageCost>51.833621147367694</averageCost><maxCost>84.01878050102128</maxCost>
<totalCost>5183.362114736769</totalCost><minDuration>82.62956285476685</minDuration>
<averageDuration>2785.8980990290643</averageDuration><maxDuration>8566.014899492264</maxDuration>
<processInstances>100</processInstances></process><elements><element id="MegaId-E7D0EB155FB470CE.MegaId-E7D0EDAA5FB47572"
```

MXML Log

Local name ↑

Mon scénario de simulation

2. The **Input Data** section includes the XML file generated from the BPMN diagram of the simulated process and imported to run the simulation.
3. The **Output Data** section includes three sub-sections:
 - The simulation scenario **Status**,
 - An **Error** message if the simulation failed,
 - If you have checked the option **Simulation logfile** in the scenario parameters, the **Log MXML** file is generated by the simulator.

For more details on a scenario parameters, see [Characteristics of a simulation scenario](#).

All simulated events are traced in this MXML file.

Because of its size, this file is compressed. To access it, select the file and click **Open**.

USING SIMULATION SCHEDULES

The instance generator, which corresponds to the entry point of the process, introduces the instances over periods defined by a **Simulation Schedule**.

For example, you will indicate that customer calls are generated during opening hours, i.e. from Monday to Friday, from 9am to 6pm.

Schedules also allow you to define the period of activity of a resource.

For example, you will indicate that the resources responsible for handling customer calls are from 8:45 am to 6:45 pm.

Example of schedule

You can create a schedule to indicate that a type of employee works Mondays from 9am to 7pm and Tuesdays and Wednesdays from 8am to 6pm.

Your schedule is defined from three **Time slots**: one on Mondays from 9am to 7pm and two others for Tuesdays and Wednesdays from 8am to 6pm.

Week day Calendar

Calendar icon

Characteristics

Name

Week day Calendar

Owner

Library Simulation Library

Default font

B I U T T I

Text alignment icons

Link icon

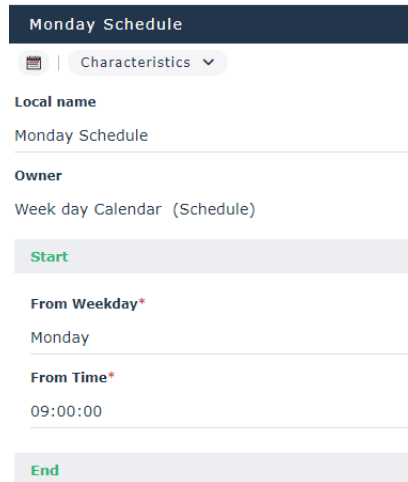
Time Slots

New Reorganize

	Local name ↑	From	At	To	At
<input type="checkbox"/>	Monday Schedule	Monday	09:00:00	Monday	19:00:00
<input type="checkbox"/>	Tuesday Schedule	Tuesday	08:00:00	Tuesday	18:00:00
<input type="checkbox"/>	Wednesday Schedule	Wednesday	08:00:00	Wednesd...	18:00:00

Example of time slot

A time slot is defined by the day of the week and the time that mark the beginning of the time slot as well as the day of the week and the time that mark its end.



Monday Schedule

Characteristics

Local name
Monday Schedule

Owner
Week day Calendar (Schedule)

Start

From Weekday*
Monday

From Time*
09:00:00

End

Managing Schedules and Time Slots

Accessing the list of schedules

To access the list of schedules from the **Simulation** navigation pane:

1. Click **Schedules**.
The list of available schedules appears.

Creating schedules

To create an simulation schedule from the **Simulation** navigation pane:

1. Click **Schedules**.
The list of available schedules appears.
2. Click the **New** button.
The window for creating a schedule appears.
3. Enter the **Name** of the schedule and click **OK**.
The new schedule appears in the list of simulation schedules.
4. You must then define the time slots in your schedule. See [Creating time slots](#).

You can create a schedule from a scenario by associating it either to the input flow or to a resource.

To create a schedule for an input flow from a scenario:

1. Open the **Input Flow** property page of the scenario.

2. At the right of the **Schedule** field, click **Create Schedule**.
The window for creating a schedule appears.
3. Enter the **Name** of the schedule.
4. Click **OK** to complete the schedule creation.

☛ You must then define the time slots in your schedule. See [Creating time slots](#).

Creating time slots

You can create a schedule from a scenario by associating it either to the input flow or to a resource.

To create a time slot in a schedule:

1. From the **Simulation** navigation pane, click **Schedules**.
The list of available schedules appears.
2. Select the schedule that interests you and open its **Characteristics** properties page.
3. In the **Time Slots** section, click the **New** button.
The window for creating a time slot appears.
4. Enter the **Name** of the schedule.
5. In the **Start** section, from the **From Weekday** field, select the day on which the activity starts, and from the **From Time** field, specify the start time of the activity.
6. In the **End** section, from the **To Weekday** field, select the day on which the activity ends, and from the **To Time** field, specify the end time of the activity.

☛ The time format is `<hh:mm:ss.ddd>` and must be included between `00h00` and `23h59`.

7. Click **OK**.
The new time slot appears in the list of time slots of the simulation schedule.

Associating a schedule with the input flow of a scenario

To associate an existing calendar with a scenario:

1. Open the **Input Flow** property page of the scenario.
2. Click the arrow at the right of the **Schedule** field and select **Connect Schedule**.
3. In the selection window, select the schedule you are interested in.
4. Click **Connect**.

Associating a schedule with a resource

To associate an existing schedule with a resource:

1. Open the **Resources** properties window of the scenario.
The list of resources specified in the BPMN diagram of the process is displayed.
2. Select the row of the resource you are interested in and, in the **Used Schedule** column, choose the schedule that corresponds to the activity period of the resource.

SIMULATION RESULTS

Simulation Results for a Scenario

When the parameters of the various process objects have been entered, you can run the simulation.

The **Simulation Outputs** property page displays:

- The **Average Cost** of processing an instance. It includes the cost of tasks and the cost of resources.
*☛ This cost is obtained by dividing the **Total execution cost of the process** by the number of instances processed. The **Total execution cost of the process** is the sum of the resource costs plus the sum of the costs of each task. See [Results for tasks](#).*
- The **Average performing time** is the average task execution time for each instance. This time therefore includes the waiting time and the effective working time for each of the tasks performed by an instance.

My simulation scenario
Tasks Simulation Data Sequence Flows Probability Simulation Outputs Simulation Results
Overall Results
Average Cost €51.83
Average Processing Time 3h 15m 12s
Average Performing Time 46m 26s
Instances Processed 100
Tasks Results
Resource Results

Global Results

In addition to **Average cost** and **Average actual work time**, the overall results show:

- The **Average processing time** corresponds to the average time spent by an instance to go through the whole process. This time therefore

includes waiting time, effective working time and downtime due to scheduling.

- The number of **Instances processed**.

➡ This result must be identical to the number of instances specified at the start of the simulation.

Results for tasks

The results for the tasks are given in seconds. They are also available in the form of a report. See [Scenario Reports](#).

The results of a simulation for each task are:

- The **Average performing time** is the average execution time for a task. This value includes the average time declared at the input to perform the treatment plus the average waiting time.
- The **Average queuing time** is the average time spent waiting for instances arriving earlier to be processed by available resources. This time does not include any possible interruption time.
- The **Average interruption time** is the time spent waiting for the resource performing the task to become available again after a schedule-related interruption.
- The number of **Instances processed** by the task.

➡ Note that the **Total cost of a task** is the unit cost of the task multiplied by the number of instances it has processed.

Tasks Results

The temporal results are expressed in seconds in this table.
This allows easy sorting and Excel export.
See reports for DD HH MM SS format.

<input type="checkbox"/>	Local name ↑	Owner Process	Average Performing Time	Average Queuing Time	Average Interruption Time	Instances Processed
<input type="checkbox"/>	Invoicing	Simulation Process	779.05	51.3	561.72	83
<input type="checkbox"/>	Package Sending	Simulation Process	1865.47	895.28	0	83
<input type="checkbox"/>	Purchase Analysis	Simulation Process	337.26	38.98	8460	100
<input type="checkbox"/>	Purchasing response	Simulation Process	253.69	72.42	0	100

Results for resources

The **Resources Results** displays for each resource its **Utilization**.

☛ *Utilization is the percentage of time a resource has been occupied out of the total time allocated to it.*

☛ *Note that the **Total cost of a task** is the hourly cost of using the resource multiplied by the time the resource has been occupied.*

^ Resource Results

<input type="checkbox"/>	Short Name ↑	Utilization
<input type="checkbox"/>	Customer Service	42.09%
<input checked="" type="checkbox"/>	Sending Service	12.87%

Scenario Reports

You can view the scenario reports in the **Reporting** tab.

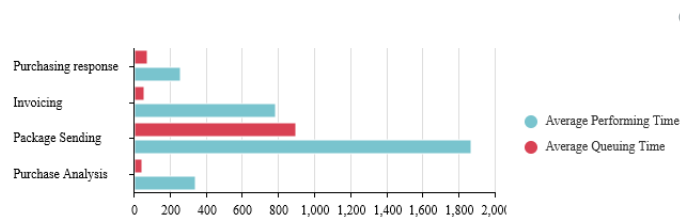
Scenario overall results

You can view the scenario report in the **Reporting > Mining & Simulation > 1-Overall Results** tab.

The graphs below allow a comparison of the performance of the different components of the simulated process.

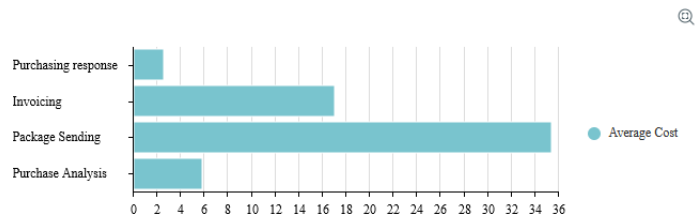
1. Process Performing Time

Process : Simulation Process



NB : The time is expressed in (s)

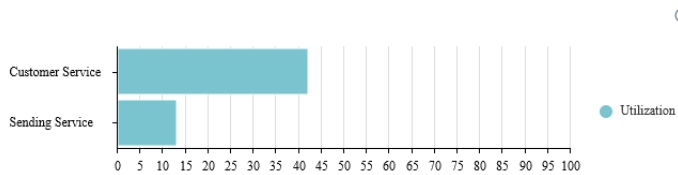
Process : Simulation Process



NB : The cost is expressed in (€)

3. Process Resource Utilization

Process : Simulation Process



NB : The utilization is expressed in (%)

Detailed results and heatmap

This report displays a heatmap of the simulated process components performances.

You can view the scenario report in the **Reporting > Mining & Simulation > 2-Detailed Results and Heatmap** tab.

The **Indicator** parameter is used to compare components on the following criteria:

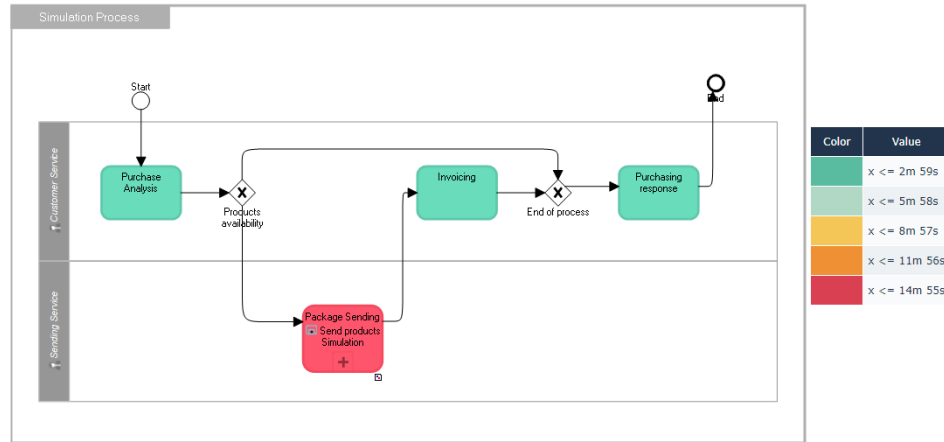
- the average cost,
- the utilization,
- the average queuing time,
- the average performing time.

The first part of the report is a heatmap. The values represented by colors are based on the maximum value achieved by the criteria.

Indicator

Average Queuing Time

Refresh the report



➡ The **Average queuing time** indicator is displayed below.

The second part of the report presents in the table an overall of performances.

2. Detailed Results

Process : Simulation Process

Process Tasks Results

Process tasks	Average Performing Time	Average Queuing Time	Average Cost
Purchase Analysis	5m 37s	38s	€5.83
Package Sending	31m 5s	14m 55s	€35.39
Invoicing	12m 59s	51s	€17.02
Purchasing response	4m 13s	1m 12s	€2.5

Resource Utilization

Resources	Utilization
Sending Service	12.87%
Customer Service	42.09%

Process and Resource load

You can view the scenario report in the **Reporting > Mining & Simulation > 3-Process and Resource Load** tab.

The first part of this report presents the evolution of the mean number of instances in the process per period of time.

You can see:

- the evolution of the mean number of instances waiting in the process components per period of time.
- the evolution of the mean number of instances using resources in the process components per period of time.
- Total number of instances processed during the period.

Periodes number
100

Rafraichir le rapport

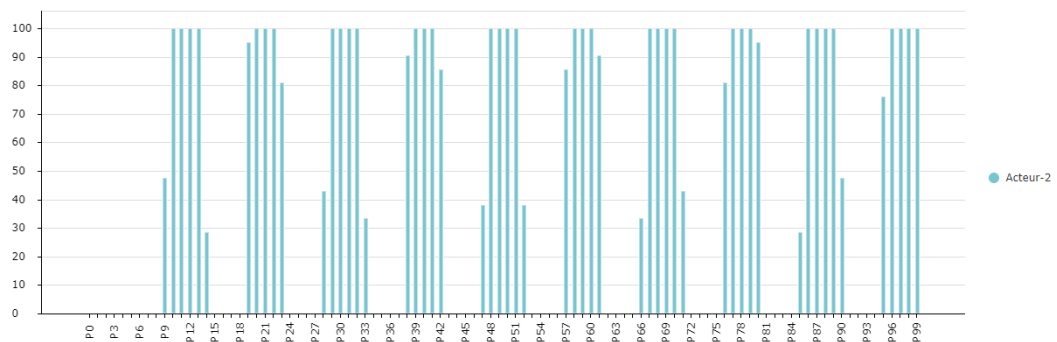
Charge de processus



Simulated process performances

➡ The **Average queuing time** indicator is displayed below.


The second part of the report presents the evolution of the periodic utilization of process resources. This graph helps to detect peak-loads that generate degraded performances.



Load of an Org-Unit

Scenario Comparison Report of a Process

From the Process **Report** property page, you can view the comparison report of two process simulation scenarios.

 The list of simulation scenarios available on the process is accessible from the **Simulation - Simulation Scenarios** property page.

To access the process simulation scenario comparison report:

1. Open the **Reporting** property page of the process that interests you.
2. Select **Others > Process Simulation Scenarios Comparison**.
3. In the **Parameters** select the **Scenario A** and the **Scenario B**.
4. In the **Heatmap Indicator** field, select the indicator that will be used for the presentation of the **Indicator Map**.

Indicators proposed are:

- the average cost,
- the average performing time,
- the utilization.

5. Click **Refresh the report**.

The graphs below allow a comparison of the performance of the different elements of the simulated process.

Simulation Process

Reporting

Others / Process Simulation Scenarios Comparison

Parameters

Scenario A

My Simulation Scenario

Scenario B

Simulation Scenario-1

Heatmap Indicator

Average Performing Time

Refresh the report

Process Performance

	Scenario A	Scenario B	Ratio B / A
Average Cost	€51.83	€44.91	-13.35%
Average Performing Time	46m 25s	3h 28m 10s	348.36%

Process Performance

	Scenario A	Scenario B	Ratio B / A
Average Cost	€51.83	€44.91	-13.35%
Average Performing Time	46m 25s	3h 28m 10s	348.36%
Instances Processed	100.0	100.0	0.00%

Process Tasks Performances

Average Performing Time			
Process tasks	Scenario A	Scenario B	Ratio B / A
<input type="checkbox"/> Invoicing	12m 59s	1h 13m 11s	463.64%
<input checked="" type="checkbox"/> Package Sending	31m 5s	17h 37m 21s	3300.85%
<input type="checkbox"/> Purchase Analysis	5m 37s	43m 41s	677.29%
<input type="checkbox"/> Purchasing response	4m 13s	1h 43m 44s	2353.72%

Average Cost			
Process tasks	Scenario A	Scenario B	Ratio B / A
<input type="checkbox"/> Invoicing	€17.02	€16.48	-3.17%
<input checked="" type="checkbox"/> Package Sending	€35.39	€0.0	-100.00%
<input type="checkbox"/> Purchase Analysis	€5.83	€5.74	-1.54%
<input type="checkbox"/> Purchasing response	€2.5	€2.54	1.60%

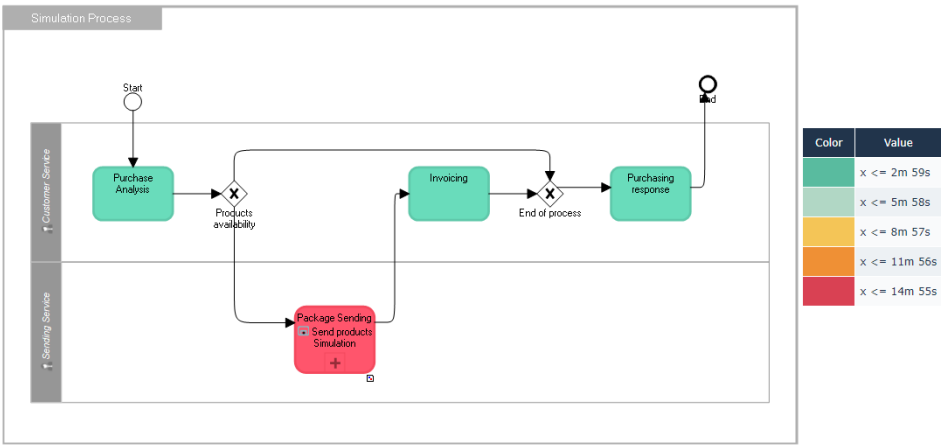
Resource Utilization

Resources	Scenario A	Scenario B	Ratio B / A
Customer Service	42.09%	50.06%	18.94%
Sending Service	12.87%	0.0%	-100.00%

Indicator

Average Queuing Time

Refresh the report



The indicator presented above is resource **Utilization**.

USING THE PROCESS MINING WITH HOPEX PROCESS SIMULATION

HOPEX Process Simulation allows you to analyze information from a Process Mining tool.

Three types of information are taken into account by **HOPEX Process Simulation**. This consists of:

1. The BPMN representation of the executed process;
 - ☛ For more details on how to import a BPMN file, see the chapter "Importing BPMN files" in the **HOPEX Common Features** guide.
 - ☛ You can compare the imported process diagram with a similar process diagram. For more details, see [Conformité de diagrammes de processus](#).
2. CSV files containing treatment requests dates.
 - ☛ For more details on use of a file to specify the input flows, see [Input flow CSV file](#).
3. Data in XML format from the analysis of process execution data.
 - ☛ For more details on how to import an Excel file, see [Importing a Process Mining XML file](#).

When the data has been imported, **HOPEX Process Simulation** provides facilities for analysis of this information.

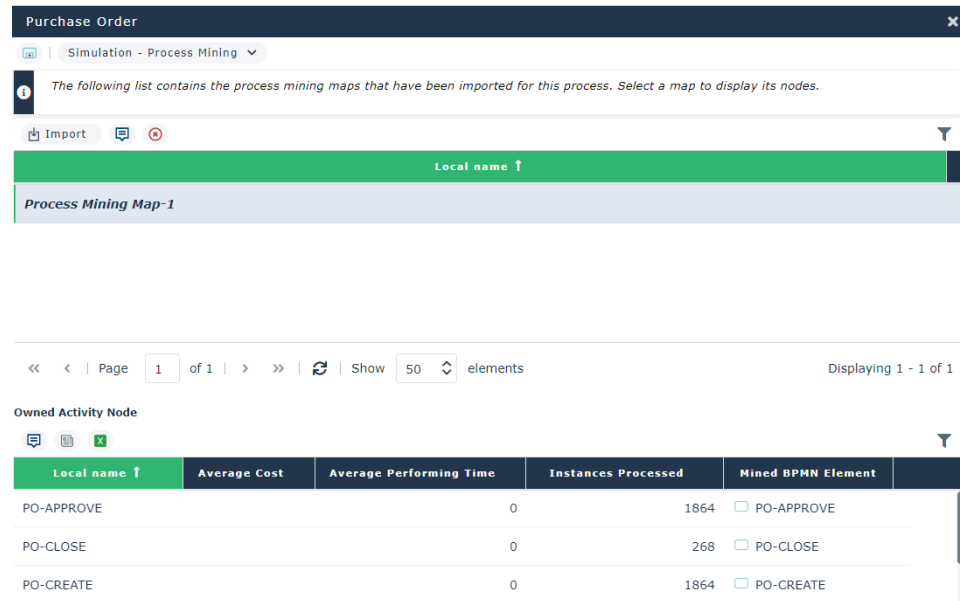
☛ For more details on how to use this data, see [Analyzing data from Process Mining](#).

Importing a Process Mining XML file

To import a Process Mining XML file, you must have already imported the BPMN representation of the concerned process.

To import a Process Mining XML file:

1. Open the **Simulation > Process Mining** property page of the process that interests you.
2. Click **Import**.
An import window opens.
3. Select the simulation data XML file that interests you and click **OK**.
The imported file is added to the list.
4. Click the map associated to the XML file to access to the list of tasks with their indicators.



Simulation - Process Mining

The following list contains the process mining maps that have been imported for this process. Select a map to display its nodes.

 Import

Local name 1

Process Mining Map-1

« ‹ | Page 1 of 1 | › » | Show 50 elements

Displaying 1 - 1 of 1

Owned Activity Node

Average Cost

Average Performing Time

Instances Processed

Mined BPMN Element	Modeling Language	Notation	Definition
Start Event	BPMN		The start event marks the beginning of a process.
Intermediate Event	BPMN		An intermediate event occurs during the execution of a process.
End Event	BPMN		The end event marks the completion of a process.
Activity	BPMN		An activity represents a task or function performed within a process.
Exclusive Gateway	BPMN		An exclusive gateway splits the flow into one path based on a condition.
Inclusive Gateway	BPMN		An inclusive gateway joins multiple flows into one path.
XOR Split	EPC		An XOR split gateway divides the flow into two or more paths.
XOR Join	EPC		An XOR join gateway merges two or more flows into one path.
AND Split	EPC		An AND split gateway divides the flow into two or more parallel paths.
AND Join	EPC		An AND join gateway merges two or more parallel flows into one path.
OR Split	EPC		An OR split gateway divides the flow into two or more alternative paths.
OR Join	EPC		An OR join gateway merges two or more alternative flows into one path.
Function	EPC		A function represents a task or operation performed within a process.
Flow	BPMN/EPC		A flow connects events, activities, and gateways, representing the sequence of steps in a process.

PO-APPROVE

0

1864

☐ PO-APPROVE

PO-CLOSE

0

268

☐ PO-CLOSE

PO-CREATE

0

1864

☐ PO-CREAT

Analyzing data from Process Mining

You can use the imported data in a Process Mining map.

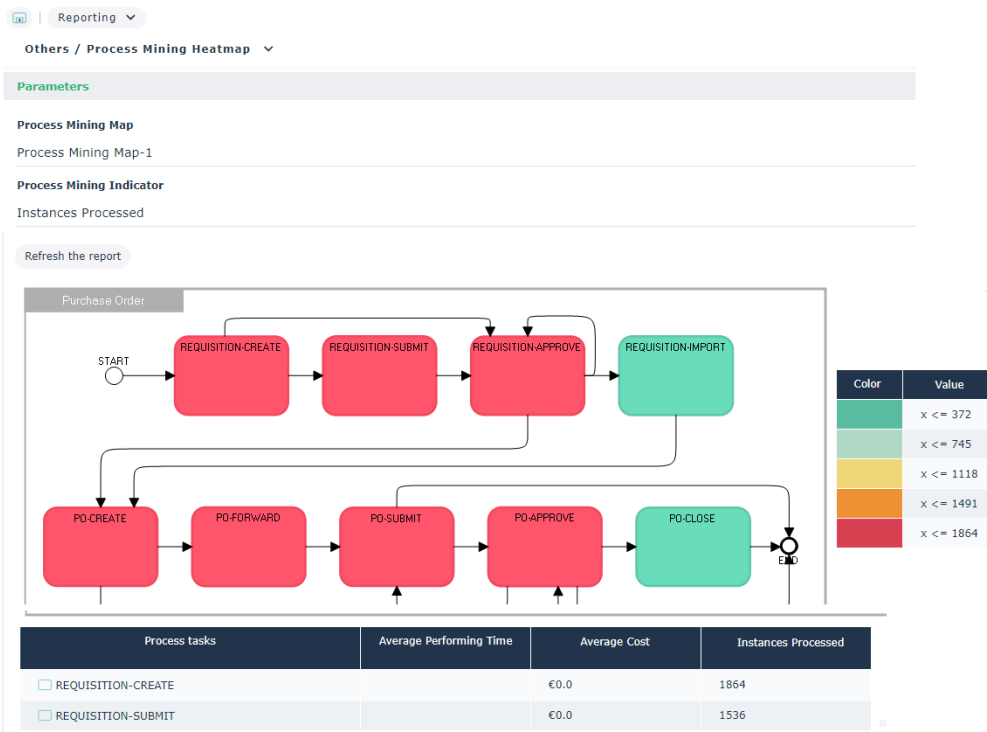
To access the process simulation scenario comparison report:

1. Open the **Reporting** property page of the process that interests you.
2. Select **Others > Process Mining Heatmap**.
3. In the **Parameters** section, select the **Process Mining Map** concerned.
4. Then select the **Process Mining Indicator** and click **Refresh the report**.

Indicators proposed are:

- the average cost,
- the average performing time,
- Instances processed.

The **Process Mining Heatmap** report is generated.





ASSESSMENTS WITH HOPEX BUSINESS PROCESS ANALYSIS



Questionnaires are used to obtain an assessment of the execution and performance of business and organizational processes.

HOPEX Business Process Analysis uses assessment features to carry out assessments of your business and organizational processes based on answers to standard questionnaires. In this way you can improve their real and perceived quality.

The following points are covered here:

- ✓ [Assessment principles](#)
- ✓ [Assessing a process with HOPEX Business Process Analysis](#)

ASSESSMENT PRINCIPLES

Concepts Overview

Assessment is carried out using assessment questionnaires. In **HOPEX Business Process Analysis**, these questionnaires are accessible directly. Results are then aggregates according to predefined rules to present results so they can be used.

Assessments relate to process execution and performance.



An assessment is a mechanism used to receive feedback (qualitative or quantitative) from an identified population on identified objects. The assessment is then supplemented by results analysis tools.



An assessment questionnaire is a list of questions relating to a particular object and addressed to persons questioned.

The results of these assessments are then presented in reports. For more details, see [Execution and Performance Heatmap report](#).

Criteria assessed with HOPEX Business Process Analysis

These characteristics relate to attribute values linked to process performance and execution.

List of characteristics linked to process execution:

- **Specification**: assessment of quality of description of the object in the repository.
- **Knowledge**: assessment of knowledge of the object by stakeholders.
- **IT Support**: assessment of application support of the object.
- **Execution**: this characteristic is a global assessment of object execution. It is calculated from assessment of object specification, knowledge and support.

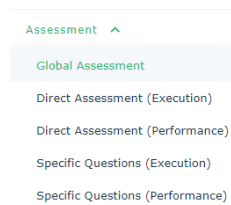
List of characteristics linked to process performance:

- **Effectiveness**: characterizes effectiveness of object operation
- **Business Value**: characterizes business value of the object.
- **Risk**: characterizes risks concerning the object.
- **Performance**: this characteristic is a global assessment of process performance. It is calculated from assessment of process business value, effectiveness and risk.

ASSESSING A PROCESS WITH HOPEX BUSINESS PROCESS ANALYSIS

Accessing the Process Assessment with HOPEX Business Process Analysis

The properties pages of an organizational process (or a business process), enables access to different forms of **Assessment**.



The following choices are available:

- **Global Assessment:** to attribute values to the assessment criteria of the process.
See [Global assessment](#).
- **Direct Assessment (Execution)** and **Direct Assessment (Performance)**: enables expert users to assess the execution and performance criteria for a process in its different use contexts.
See [Direct Assessment](#).
- **Specific Questions (Execution)** and **Specific Questions (Performance)**: to add questions to existing assessment questionnaires.
See [Specific questions](#).

Completed assessments are used to obtain summary reports.

➡ For more details on this summary report, see [Process Assessment](#).

Global assessment

The **Assessment > Global assessment** property page of an organizational process allows an expert user to specify values of attributes linked to assessed characteristics.

< General ▾ Characteristics **Assessment** ▾
Global Assessment

^ Execution

Design
Very Poor

Knowledge
Medium

IT Support
Very Good

Execution
Medium

^ Performance

Efficiency
Very Low

Business Value
Low

Risk
Very Low

Performance
Medium

Direct Assessment

You can create new assessments to globally assess an organizational process on all the organizational contexts to which it is connected (i.e. entities).

This is an "expert view" assessment.

Creating direct assessments (Execution)

To create a direct execution campaign:

1. Open the **Assessment > Specific Questions (Execution)** property page of the process that interests you.
2. Click the **Evaluate** button.

3. Select the context in which the process is to be assessed, then click **Next**.

☛ A context is defined by a use of the assessed process by an org-unit or another process.

☛ The contexts are available only if there is more than one.

The assessment questionnaire page appears.

Answers

Measure Date*

10/15/2020

Diagram

Assessment

Account Management

Description

1. Map and description of the process is exhaustive and up to date in process repository ?

No

2. Process stakeholders are well aware of their requested contribution to the process ?

100% of stakeholders are at a good level

3. The process is executed as it is described in process repository ?

No

4. Interactions with other processes are identified, listed and qualified ?

Choose...

Choose...

No

Partially

Yes

Choose...

Operation

1. How does this process enable you to reach objectives assigned to you ?

Previous

Next

OK

Cancel

4. Specify the values for the questionnaire characteristics:
5. (Optional) Add **Attachments**.
6. Check the **Assessment Date**.
7. Click **OK**.
An assessment is created.

Creating direct assessments (Performance)

You create an assessment of the performance of your process in the same way as for an execution assessment (see [Creating direct assessments \(Execution\)](#)).

The standard questionnaire for the performance appears.

Answers [X]

Measure Date*
10/15/2020 [Calendar Icon]

Diagram [v]
Assessment [^]

Account Management

Business Value [^]

1. Performance indicators are defined and updated according to company objectives ?
No [v]

2. What is process contribution to company objectives ?
Medium [v]

3. Evaluate the process direct or indirect business value for the company ?
Very High [v]

Specific questions

You can add new questions to your questionnaires for your processes.

Your question then appears in the associated questionnaire in the corresponding section: "Process execution" or "Process performance".

Creating a specific question (Execution)

To create a specific execution question:

1. Open the **Assessment > Specific Questions (Execution)** property page of the process that interests you.
2. Click the **Open an assessment template** button.
The assessment template creation dialog box opens.

➡ For more details on the management of specific questions, see "Presentation of the Questionnaire Builder" chapter in the **HOPEX Common Features** guide.

Creating a specific question (Performance)

You create a question specific to the performance of your process in the same way as you do for an execution assessment (see [Creating a specific question \(Execution\)](#)).

The question then appears in the direct assessment questionnaire (Performance).



MANAGING RISKS AND CONTROLS



Managing risks, assuring and maintaining compliance with new regulations provides a real opportunity for those managing enterprise changes. In this perspective, **HOPEX Risk Mapper** offers total visibility of operational risks, control points and value chains.

The **HOPEX Business Process Analysis** repository covers all enterprise resources, from global value streams to IT resources. The **HOPEX Risk Mapper** approach allows managers to ensure traceability of compliance controls across business and application layers.

With **HOPEX Risk Mapper**, it is easier to integrate the risk management policy and the compliance controls for corporate governance by, on the one hand, setting realistic goals, and on the other hand, by supplying the deliverables and information required by all the org-units involved.

RISK MANAGEMENT PROCESS

Associated with **HOPEX Business Process Analysis**, **HOPEX Risk Mapper** is used to assess the risks, to mitigate them and finally to control them thanks to an effective control policy.

The recommended risk management process is therefore composed of the following steps:

- *Modeling the environment,*
- *Identifying, analyzing and assessing risks,*
- *Remediating Risks,*
- *Risk Control Monitoring and Policy.*

Modeling the environment

Risks must be managed in the external and internal environments of the organization, its strategic objectives and the specific objectives of the risk management activity.

- The external environment defines the external environment in which the organization operates as well as its relationships with this environment.
➤ For more details, see [External Environment](#).
- The internal environment describes the organization. This ensures that risk management acknowledges the major objectives and constraints of the organization.
➤ For more details, see [Internal Environment](#).
- The risk management context is essentially linked to the objectives that the enterprise pursues through its risk management process.
➤ For more details, see [Risk Management Context](#).

Identifying, analyzing and assessing risks

It is necessary to identify the risks concerned, then analyze and assess them to get the elements required for their treatment.

Identifies risks

It is necessary to determine where, when, why and how events might prevent, degrade, delay or improve the achievement of the organization's objectives.

Internal and external events affecting the achievement of entity objectives must be described with the distinction made between risks and opportunities. The opportunities can then be used to form management strategy or in objective-setting processes.

More specifically, several risk identification methods can be proposed depending on the context:

- Method based on organization objectives achievement
- Method based on lists of risk types, risk factors or controls applied to an appearance context
- Method based on historical data (databases of incidents, claims, faults, etc.)

➤ For more details, see [Identifies risks](#).

Analyzing Risks

This consists of completing the identification of each risk by precisely indicating what could occur, where, when, why, and how this could have arisen. This analysis could reveal new risks that were not directly identified in the previous step. The effectiveness of existing controls that could prevent this risk are also assessed.

➤ For more details, see [Risk Analysis](#).

Assessing Risks

After having identified and analyzed the risks faced by the enterprise, the next step is to estimate their importance so as to highlight the most important risks to be remediated.

Risks are assessed taking into account:

- their occurrence frequency,
- their impact

➤ For more details, see [Assessing Risks](#).

Remediating Risks

Risk assessment is therefore an essential step in obtaining a list of risks requiring remediation, indicating their priority.

The acceptable level for each risk is defined based on previous evaluations.

➤ For more details, see [Risk Treatment](#).

Remediating risks involves:

- identification of the various options possible
- assessment of these options
- preparation and implementation of remediation plans:
 - [Specification of actions to be implemented](#)
 - [Controls](#)

Risk Control Monitoring and Policy

Policies and procedures are established and implemented to help ensure that risk responses are effectively carried out.

Monitoring is accomplished through ongoing management activities or independent assessments, or both.

Information and communication

Relevant information is identified, collected, and communicated in a form and timeframe that enable collaborators to carry out their responsibilities. Effective communication should also occur in a broader sense, flowing downwards, across, and upwards in the entity.

Communication and consultation are important considerations at each step of the risk management process. They should involve dialog with stakeholders with efforts focused on consultation rather than a one-way flow of information from the decision-maker to other stakeholders.

RISK ENVIRONMENT ANALYSIS

Analysis of the environment in which the risk management project will be carried out enables definition of basic parameters according to which risks must be managed, with an indication of project scope. This analysis includes the internal and external environments of the organization, its strategic objectives and the specific objectives of the risk management activity.

Internal Environment

The internal environment includes the culture and spirit of the organization. It sets the basis for how risk is viewed and addressed by all entity co-workers, particularly risk management philosophy and risk appetite, integrity and ethical values, and the environment in which the organization operates.

At this stage it is possible to determine:

- the list of strategic *objectives* of the organization and the associated *requirements*
Objectives must exist before management can identify the events that may affect their achievement. Risk management ensures that objectives are in line with the mission of the organization and its risk appetite.
- What exists in the enterprise (Organizational Chart, *processes*, *management rules*, *control systems*, responsibilities, etc.)

Defining the internal environment ensures that risk management acknowledges the major objectives of the organization.

Organization of internal org-units

The different org-units concerned must be involved at each step of the risk management project via a communication and consultation process.

This enables building a solution that will be better accepted by the different stakeholders.

To access all entities of the organization with the **Process Manager** profile from the **Processes** navigation pane:

- 1 Select **Hierarchy** and expand the **Org-Units** folder.

To define the list of *org-units* concerned, **HOPEX Risk Mapper** enables you to enter the enterprise organizational chart.

➤ For more information on organizational charts, see [Organizational Charts and Responsibilities](#).

You can also define objectives and requirements for each organization unit.

➤ For more information on defining objectives, see [Organization objectives and requirements](#).

Organization objectives and requirements

☛ To activate the option that allows you to view **objectives** and **requirements**: in the left pane of the **Options** window, select **HOPEX Solution > Common Features** on the left and check **Objectives and requirements modeling** box.

Certain key documents, such as strategic plans, the business plan, annual reports, economic analyses and other relevant documentation related to the organization and its aims may be consulted to define its **objectives** and **requirements**.

📖 An objective is a goal that a company/organization wants to achieve, or is the target set by a process or an operation. An objective allows you to highlight the features in a process or operation that require improvement.

📖 A requirement is a need or expectation explicitly expressed, imposed as a constraint to be respected within the context of a project. This project can be a certification project, or an enterprise information system organization or modification project.

With **HOPEX Risk Mapper**, the objectives and requirements of your organization are defined in the properties of the org-unit that represents the organization.

To define the **objectives** and **requirements** of each org-unit:

1. Open the **Characteristics** property page of the Org-Unit.
2. Expand the **Strategy and Decisions** section,
3. Select the **Achieved objectives** tab or **Imposed Requirements** tab.

Here you can create new objectives and requirements or connect those which already exist.

☛ For more information on the definition of objectives and requirements, see "Objectives and Requirements" in **HOPEX Common Features**.

Organization Processes

To access the organization processes tree:

1. From the **Processes** pane, select **Hierarchy** and expand the **Organizational Process** folder.

If you expand the folder of a process, you can display the sub-processes owned by the current process.

The specific property pages of a process

The process **Characteristics** property page presents the following sections:

- **Responsibilities**: to present the persons responsible for the process. For more details, see [RACI on a risk](#).
- **Controls and Risks**: lists the controls and the risks that relate to the process. For more details, see [Assessing Risks](#).
- **Strategy and Decisions**, for more details, see [Organization objectives and requirements](#).

External Environment

This is the external environment in which the organization operates as well as its relationships with this environment. For example, this can include:


- The business, social, regulatory, cultural, competitive, financial and political environments of the organization
- The list of regulations that impact the organization and the associated requirements
- The strengths, weaknesses, opportunities and threats of the organization
- External stakeholders and their requirements
- Key performance indicators


Establishing the external context ensures that external org-units and their objectives and requirements are considered for the development of risk management policies.

To describe the external environment in which the organization operates, **HOPEX Risk Mapper** enables you to define:

- The list of regulations that impact the organization and the associated requirements, see [Regulation Frameworks](#).
- The list of external stakeholders of the organization and their objectives and requirements, see [External org-units: objectives and requirements](#).

Regulation Frameworks


 A regulation framework is a set of directives, compulsory or not, defined by a government in a law, by standard bodies as "best practices" or as an internal policy in an organization.


 To activate the option that allows you to view **regulation frameworks**: in the left pane of the **Options**, window, select on the left **Compatibility > HOPEX Solution** and check the box **"Regulation Frameworks" activation (Hopex V4 and lower)**.

Accessing the regulation frameworks of the organization

To access the list of regulation frameworks from the **Processes** pane:

1. Select **Control & Risks**.
2. Click the **Regulation Frameworks** tile.
The list of regulation frameworks for the organization is displayed.

 You can import into your repository libraries containing description of a regulation framework with its associated **requirements**, **risk types**, **risk factors** and **control types**.

 There can also be regulation frameworks internal to the organization serving as a guide to governance. In this documentation, the terms "Regulation" or "regulation framework" are used to refer to both internal and external regulations.

Create a regulatory framework

To create a regulation framework from the **Processes** pane:

1. Select **Control & Risks > Regulation Frameworks**.
2. Click the **New** button.

3. Enter the regulation framework name and click **OK**.
The new regulation framework appears in the navigator menu tree.

Regulation framework characteristics


To access the general characteristics of a regulation framework:


1. Open the **Characteristics** property page of the regulation framework.
The characteristics are as follows:
 - The **Regulation Code** , which is internal,
 - **Application Begin Date** of the regulation,
 - **Application End Date** of the regulation

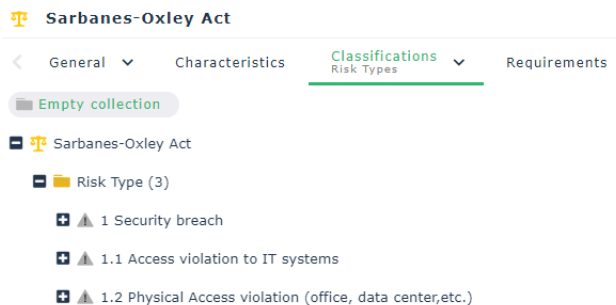
Regulation framework classifications



To access the classifications of a regulation framework:

1. Open the **Classification** property page of the regulation framework that interests you.
 - Risk types, see [Risk types](#);

 A risk type defines a risk typology standardized within the context of an organization.

 If you select **Risk Types**, the list of risk types associated with the regulation framework appears.




- Risk factors, see [Risk factors](#);
 A risk factor is an element which contributes to the occurrence of a risk or which triggers a risk. Several Risks can originate from a same Risk Factor Examples: the use of a hazardous chemical product, the complexity of an application, the size of a project, the number of involved parties, the use of a new technology, the lack of quality assurance, the lack of rigor in requirements definition...
- Control types, see [Control Types](#).
 A control type allows the classification of controls implemented in a company in accordance with regulatory or domain specific standards (Cobit, etc.).

Regulation framework requirements

To access the requirements of a regulation framework:

- 1 Open the **Requirements** property page of the regulation framework that interests you.


 *A requirement is a need or expectation explicitly expressed, imposed as a constraint to be respected within the context of a project. This project can be a certification project, or an enterprise information system organization or modification project.*


Control systems of a regulation framework

 To activate the option that allows you to view **control systems**: in the left pane of the **Options** window, select **Compatibility > HOPEX Solution** on the left and check **Activate 'Control Systems'** box.

To access the control systems of a regulation framework:

- 1 Open **Control systems** property page of the regulation framework that interests you.


 *A risk and control system is a set of controls that enables the assurance of risk prevention and management, application of internal operating rules, respect of a law or regulation, or achievement of an objective as defined by company strategy.*

 For more details on control systems, see [Control Systems](#).

Risk types

By grouping similar potential events, managers can improve their procedure for identifying opportunities and risks.

Enterprises can also classify potential events to ensure that the efforts deployed for identification are exhaustive. This classification can also contribute to subsequent development of an overview of risks.

 *A risk type defines a risk typology standardized within the context of an organization.*

A risk type enables risk characterization. For example, a risk type can be regulatory, legal, technical, etc.

Breakdown of risk types will be specific to activities and will depend on the particular business line or activity. Generic risk types can be broken down to a greater or lesser extent into specific risk type levels.

It is important to have a risk type definition framework that is identifiable, measurable and manageable, and to limit the number of levels to assure usable nomenclature.

Validation of nomenclature should ensure that a risk defined in two different entities or activities will have the same definition and the same sense, therefore ensuring system consistency.

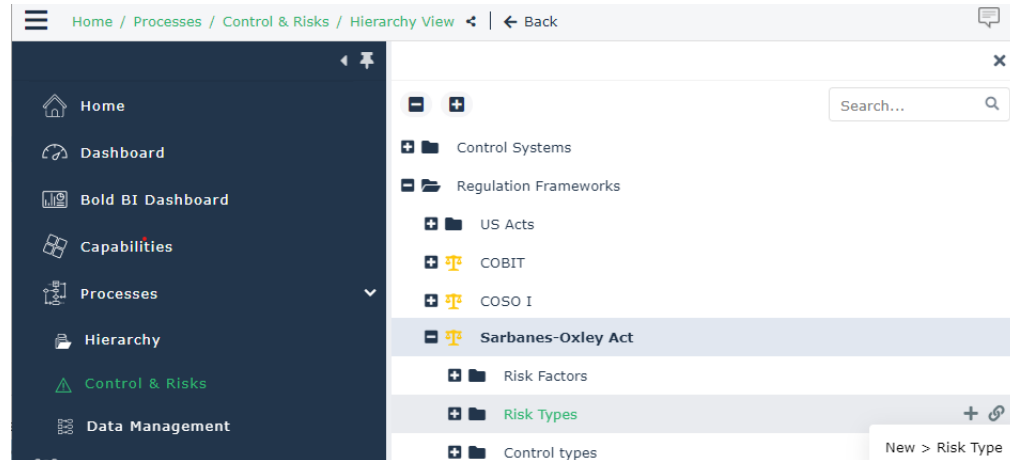
In that the system installed should also meet regulatory requirements, it will also be necessary to define a second nomenclature to meet declaration aspects and to enable exchanges with control authorities.

For example, in the banking sector, risk types have been defined in the context of Basel II recommendations. For more

details, see <http://www.bis.org/bcbs/> HOPEX enables handling of these risk types.

To create a risk types from the **Processes** pane:

1. Select **Control & Risks > Hierarchy View**.
2. Expand the regulation framework folder that interests you.
3. Click on the title bar of the **Risk Types** folder, select **New > Risk Type..**




4. Enter the name of the risk type and click **OK**.
The new risk type appears in the navigator menu tree.

☛ Similarly, you can create a sub-risk type from a risk type.

Risk factors

Many risk factors are defined within the framework of international, national or inter-professional regulations, or within the enterprise itself.

 A risk factor is an element which contributes to the occurrence of a risk or which triggers a risk. Several Risks can originate from a same Risk Factor Examples: the use of a hazardous chemical product, the complexity of an application, the size of a project, the number of involved parties, the use of a new technology, the lack of quality assurance, the lack of rigor in requirements definition...

To access the list of risk factors from the **Processes** pane:

1. Select **Control & Risks > Regulation Frameworks**.
The list of regulation frameworks is displayed.
2. Expand the regulation framework folder that interests you.
The **Risk factors** folder appears.

With each risk, you can associate one or more risk factors, sources of risks that have intrinsic potential to endanger organization operation. For example, dangerous chemical products, competitors, governments, etc.


Control Types

Controls can be defined by referencing the control types defined in the risk and control system concerned.

A control nomenclature frequently used is that defined by the COBIT.

COBIT stands for "Control Objectives for Information and related Technologies".


COBIT is a framework of best practices that now integrates numerous other frameworks and has the support of a large number of world experts. Of the 34 processes defined in COBIT there are 318 corresponding control objectives for which detailed control practices have been identified. The proposed verification guide describes elements necessary for correct understanding of each process, specifies controls to be carried out, provides elements for assessment of conformity to best practices and assessment of risk of non-achievement of objectives.

 A control type allows the classification of controls implemented in a company in accordance with regulatory or domain specific standards (Cobit, etc.).

To access the list of control types from the **Processes** pane:

1. Select **Control & Risks > Hierarchy View**.
2. Expand the **Regulation Frameworks** folder.
The list of regulation frameworks is displayed.
3. Expand the regulation framework folder that interests you.
The **control types** folder appears.

External org-units: objectives and requirements

 An external org-unit is an external entity that exchanges flows with the enterprise. Example: customer, supplier, government office.

Defining the various parties concerned by risks faced by the enterprise is important in the majority of activities. This analysis is generally necessary from the first steps of a risk management project.

External org-units to be considered can be:

- Legislators
- Government agencies, ministries and local administrations
- Interest groups such as ecological lobbies
- Emergency services
- Financial institutions and other private sector fund suppliers
- Customers of the organization, including their managers, executives and personnel
- Suppliers and sub-contractors
- Persons who may be affected by enterprise activities due to their geographical location
- The media


To access all the org-units of the organization, see [Organization of internal org-units](#).

To specify that an org-unit is external to the organization:

1. Open the **Characteristics** property page of the Org-Unit.
2. In the **Internal / External** field, select **External Org-Unit**.
The **External Org-Units** appear with a green icon in the diagrams and in the navigation trees.

RISK MANAGEMENT CONTEXT


The risk management project must acknowledge the enterprise objectives that are relevant to the project. It must also consider the necessity of balancing costs, benefits and opportunities.

 *A project consists of a set of tasks entrusted to a team, which transforms a system or part of a system with the aim of achieving a given objective.*

 For more details on projects, see [Risk Management Projects](#).


The responsibility of management in relation to risks taken by their enterprise not only imposes the installation of control systems to enable risk management, but also their demonstration at audit and attachment to the corresponding paragraphs of regulations.

Control systems imposed by regulations (Sarbanes-Oxley Act, etc.), by clients (ISO 9000 certification), or by sectorial control systems (Basel II in the banking sector, etc.) can be superimposed on the **control systems** implemented in an enterprise


 *A risk and control system is a set of controls that enables the assurance of risk prevention and management, application of internal operating rules, respect of a law or regulation, or achievement of an objective as defined by company strategy.*

Last but not least, the description of the internal context in which the risk management process operates can be supplemented by the description of existing **control systems**.

During risk management projects, existing control systems will be reviewed and new **control systems** may be created.

 For more details on control systems, see [Control Systems](#).

Risk Management Projects

 *A project consists of a set of tasks entrusted to a team, which transforms a system or part of a system with the aim of achieving a given objective.*

A risk management project must be approached by taking into account the company objectives that are relevant to the project. It must also consider the necessity of balancing costs, benefits and opportunities.

Defining a risk management project involves:

- selecting the strategic **objectives** and requirements relevant to the project
- defining the **objectives** specific to the project
- determining the resources available for the project (capital, persons, systems, etc.)
- selecting from among existing **control systems** those that are concerned by this project
- defining the new **control systems** to be installed
- defining the project scope: org-units, sites, processes and systems concerned, for instance.

During risk management projects, existing control systems will be reviewed and new **control systems** may be created.

🔑 For more information on project management, see **HOPEX Common Features**.

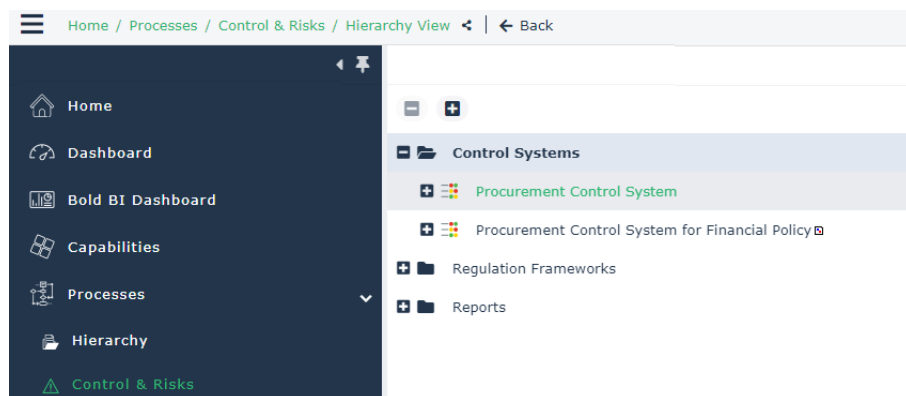
Control Systems

📖 A risk and control system is a set of controls that enables the assurance of risk prevention and management, application of internal operating rules, respect of a law or regulation, or achievement of an objective as defined by company strategy.

🔑 To activate the option that allows you to view **control systems**: in the left pane of the **Options** window, select **Compatibility > HOPEX Solution** on the left and check **Activate 'Control Systems'** box.

To access the list of control systems from the **Processes > Controls & Risks** navigation pane:

1. Expand **Control Systems**.
The list of control systems defined in the database appears.

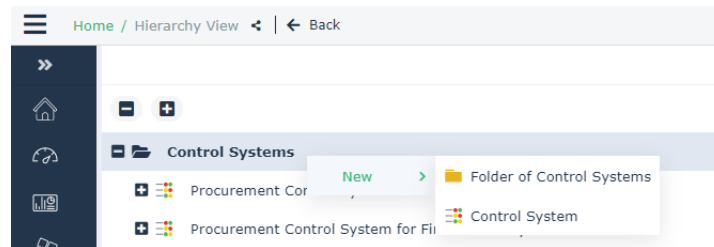


With each control system can be associated **requirements**, **risk types**, etc.

Creating a control system

To create a control system from the **Processes** pane:

1. Select **Controls & Risks > Control Systems**.
2. Click **New > Control system**.



A dialog box asks you to enter the name of the new control system.

3. Having entered the name, click **OK**.
The new control system appears in the navigator menu tree.

Control system characteristics


To access the characteristics of a *control system*:

- 1. Open the **Characteristics** property page of the control system.
For a control system you can enter:
 - the **Control System Code**.
 - The **Control System Audit Periodicity**.
 - The **Regulation Frameworks** to which the control system makes reference.

Control System scope

In the **Scope** property page of the Control System, you can indicate the *business functions, processes, org-units, sites*, etc. concerned by the control system.

Control system requirements

 *A requirement is a need or expectation explicitly expressed, imposed as a constraint to be respected within the context of a project. This project can be a certification project, or an enterprise information system organization or modification project.*

From among the *requirements* associated with *regulation frameworks* to which the control system refers, you can select those relevant to this *control system*.

You can also add requirements specific to the particular control system.

Control system objectives

You can find *objectives* and *requirements* of the control system in the **Objectives and Requirements** property page.



An objective is a goal that a company/organization wants to achieve, or is the target set by a process or an operation. An objective allows you to highlight the features in a process or operation that require improvement.

Classifications


The different classifications (*risk factors*, *risk types*, *control types*) associated with a control system are accessible from the *control system* page.

As for *requirements*, you can select from among the classifications associated with *regulation frameworks* those that are relevant to this control system.

IDENTIFIES RISKS

When the control internal environment has been defined and enterprise objectives in terms of risk have been specified, the step of identification of events at risk starts.

Identification of risks is generally carried out within the framework of a specified *control system*.

 *A risk and control system is a set of controls that enables the assurance of risk prevention and management, application of internal operating rules, respect of a law or regulation, or achievement of an objective as defined by company strategy.*

This control system can be defined as the implementation of a regulation within the framework of one of the enterprise business functions, such as application of an enterprise financial policy in the purchasing field.

Risk Identification Methods

The identification of risk events involves the inventory of the internal and external events that could compromise the achievement of objectives. A distinction must be made between those that represent risks, those that constitute opportunities and those that result from both simultaneously. Opportunities are integrated in the strategy of the organization or in the objective setting procedure.

Risk events can be identified using several approaches that involve operational management to differing degrees.

Method based on risk type or risk factor lists

It is possible to start by defining a list of generic risks faced whatever the activity. In particular, this includes natural disaster, IT system failure, human error, fraud, etc.

An initial list drawn up by a central team will avoid a complete analysis of risks with business function operational managers, to concentrate on risks that are specific to their activity. This list could be based on regulatory texts and lists provided by professional partners (professional associations, insurance companies, etc.).

This list can then be completed during interviews with operational managers of processes who can define the types of risks to which they are vulnerable to give a precise definition. In this case you identify the processes and the stakeholders or org-units of the organization concerned by these risk types or these risk factors.

A risk identification questionnaire is prepared, from which each stakeholder selects risk types and risk factors of particular concern.

A questionnaire can therefore be produced and sent to the various stakeholders to enable them to identify risk events that concern them.

➡ See **HOPEX Common Features** for more information on questionnaires.

Replies to these questionnaires are then analyzed by experts in each of the subjects concerned, in consultation with the stakeholders concerned if necessary, to finalize risk identification.

It is then possible to remove from this generic list, which has been supplemented by risks specific to the activity, those risk events that do not apply to the particular field (example: a purely manual activity that does not require the services of an IT system).

Method based on enterprise objectives and business process diagrams

It is possible to determine the risks of not achieving organization objectives or not satisfying regulatory or organization internal requirements using the description of organization business processes.


To do this, we select the processes that contribute to achieving these objectives or satisfying these requirements. Next, determine the risks by analyzing the flows exchanged between the org-units participating in these processes as well as the operations executed by these org-units. From among these flows and operations, determine which ones could, in the event of malfunction, prevent the achievement of objectives or the satisfaction of requirements of the organization.

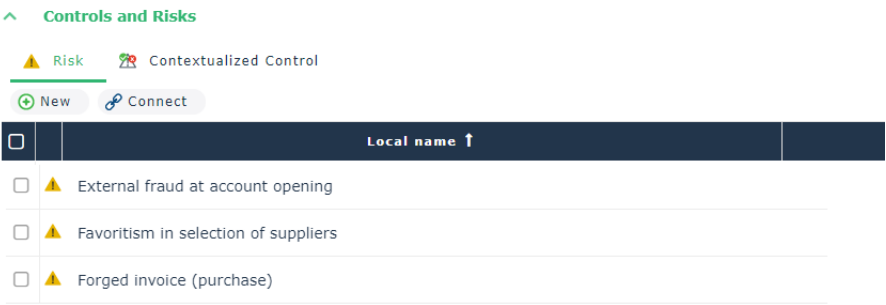
This approach can be supplemented by using other risk identification criteria such as risk type or risk factor lists if these are available.








If enterprise business process diagrams already exist, they can help to identify risks.

Risk events can be associated with each of the modeled processes.

Risks associated with a process are visible in the **Control & Risks** section of the process **Characteristics** property page.

 Risks can be linked to other concepts such as org-units, business processes, etc.



Controls and Risks	
 Risk	 Contextualized Control
 New	 Connect
<input type="checkbox"/>	Local name ↑
<input type="checkbox"/>	 External fraud at account opening
<input type="checkbox"/>	 Favoritism in selection of suppliers
<input type="checkbox"/>	 Forged invoice (purchase)

Method of identification from incidents repository

All types of stored history can be used, such as repositories of incidents, faults, claims, etc.

Identification consists of analyzing repositories to determine risk events. You should then specify for each risk its appearance context (business process, organization org-unit, enterprise site, etc.).

☛ See the **HOPEX LDC** user guide for more information on incidents (events) repository management.

Accessing risks

To access the list of risks from the **Processes** pane:

- 1. Select **Controls & Risks** and click **Risks**.

Creating risks

To create a risk associated to an organizational process:

1. Open the **Characteristics** property page of the process that interests you.
 2. Expand the **Controls & Risks** section,
 3. Select the **Risks** tab.
 4. Click the **New** button.
- The new risk is added to the list of risks associated to the process.

To create an independent risk from the **Processes** pane:

1. Select **Control & Risks > Risks**.
 2. Click the **New** button.
- The new risk is added to the list of risks.

Risk characteristics

In the **Characteristics** property page of a Risk you can specify characteristics below:

- the risk identification **Code**
- the risk **Name**
- the fact that the risk is high level by selecting the **Major Risk** check box,
- the risk **Owner**.

☛ By default the **owner** is the risk creator.

- the risk **Identification Mode**
The risk could have been identified from:
 - an "Incident database"
 - a "Workshop"
 - a "Survey"
 - a "Mission audit"
- the risk **Description**

☛ the **Risk Status** appears grayed and cannot be modified since it is managed by the workflow associated with the risk. For more information, see **HOPEX Enterprise Risk Management**.

Risk scope

Risk scope enables definition of risk location. It relates to several component types:

- **Business Processes** and **Organizational Processes** exposed to the risk. For more details, see [Organization Processes](#).



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



An organizational 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.

- **Entities** concerned by the risk. For more details, see [Organization of internal org-units](#).



An entity can be internal or external to the enterprise: an entity represents 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 entity represents an organization that exchanges flows with the enterprise, Example: customer, supplier, government office.

- **Objectives and Requirements** expected related to risk management. For more details, see [Organization objectives and requirements](#).



An objective is a goal that a company/organization wants to achieve, or is the target set by a process or an operation. An objective allows you to highlight the features in a process or operation that require improvement.



A requirement is a need or expectation explicitly expressed, imposed as a constraint to be respected within the context of a project. This project can be a certification project, or an enterprise information system organization or modification project.

- **Applications,**



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

- **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.

RACI on a risk

A risk **Characteristics** property page includes a **RACI** section to define the different persons responsible for risk management.



RACI is the acronym of Responsible, Accountable, Consulted, Informed.

Responsibility levels

The proposed responsibility levels are as follows:


Responsibility	Explanation
Responsible	Persons responsible for execution of required actions.
Accountable	Persons reporting on progress of planned actions and making decisions. There is only one "Accountable" for each action.
Consulted	Persons consulted as first priority before an action or decision.
Informed	Must be informed after an action or decision.

HOPEX Risk Mapper enables specification of the responsibility level of the various persons:

- on a risk,
- on a control.

Specifying Responsibilities

With **HOPEX Risk Mapper**, persons are represented by **(system persons)**.

 A person (System) represents a person in the enterprise. This person can be assigned a login and a role (or a profile depending on the connection mode). The login provides access to the HOPEX Application. The role (or the profile) defines the access to product functions and repositories. A system person, if assigned a login, has a specific desktop in each database, and can connect to this desktop from any workstation in a given environment.

To specify the persons responsible for a specific object:

1. In the risk **Characteristics** property page, expand the **RACI** section..
2. Connect the persons (system) in each of the following tabs:
 - **Responsible**
 - **Accountable**
 - **Consulted**
 - **Informed.**

 In some solutions, RACI information can be redundant with roles defined in the object property dialog box or can supplement them.

For example, in **HOPEX Enterprise Risk Management**, the process responsible user can be specified directly in the **Responsible** field of the process property dialog box and not in the RACI section. In this case, it is important to specify one responsible user only.

RISK ANALYSIS

The aim of risk analysis is to obtain a good understanding of risks. It offers elements that help to decide on whether treatment of a risk is necessary, and to select the most appropriate and cost-competitive treatment strategies. Risk analysis must take risk sources into account as well as positive or negative risk consequences.

The analysis phase associates a risk with:


- risk types
- risk factors (or causes)
- consequences
- objectives

Contextualization of a risk enables risk classification by:

- on the one hand their type
- on the other the objects to which they relate.

The same risk can relate to several component types specified in the risk scope:

- an entity,
- a process,
- a business line,
- a site.

 These components are specified in the risk characteristics, in the **Scope** section. For more details, see [Risk scope](#).

Risk analysis

To analyze a risk:

1. Select a risk and open its **Characteristics** property page.
2. Expand the **Analysis** section.

A risk is characterized by:

- **Control System(s)**: for handling risk management, see [Control Systems](#).
- **Risk Types**: for more details, see [Risk types](#).



A risk type defines a risk typology standardized within the context of an organization.

- **Risk Factors**: for more details, see [Risk factors](#).



A risk factor is an element which contributes to the occurrence of a risk or which triggers a risk. Several Risks can originate from a same Risk Factor Examples: the use of a hazardous chemical product, the complexity of an application, the size of a project, the number of

involved parties, the use of a new technology, the lack of quality assurance, the lack of rigor in requirements definition...

- **Risk Consequences:** for more details, see [Risk consequences](#).



A risk consequence can be positive or negative. It is associated with a type, which enables its characterization, for example: image, environment, employees.

- **Related Risks**

Risk consequences



A risk consequence can be positive or negative. It is associated with a type, which enables its characterization, for example: image, environment, employees.

To define consequences associated with a risk:

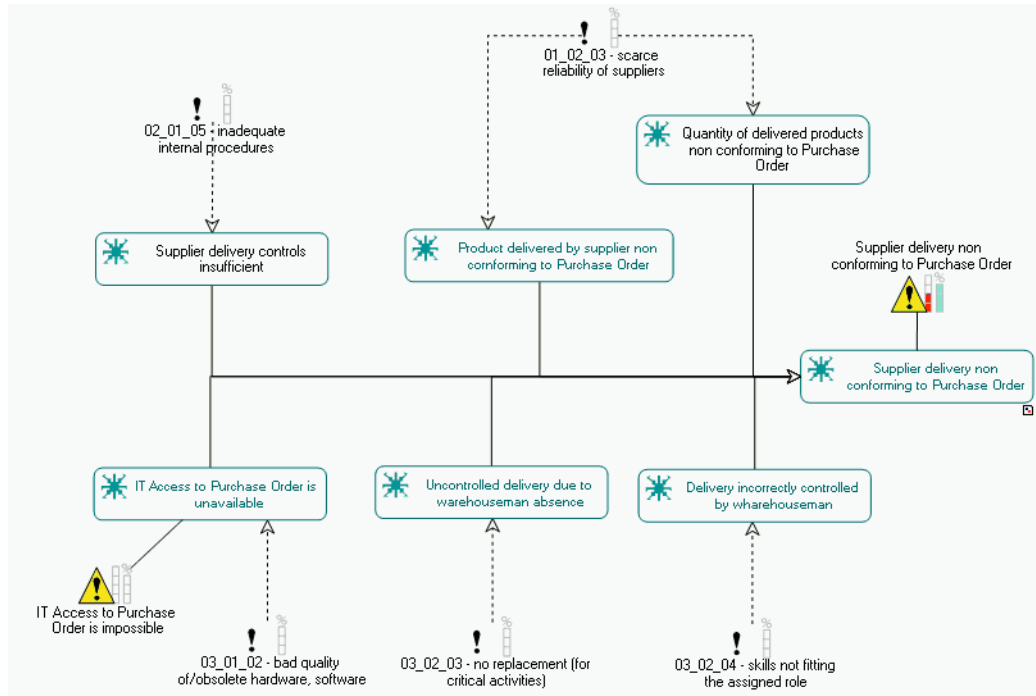
1. Open the **Characteristics** properties page of a risk,
2. Open the **Analysis** section.
3. Select the **Risk Consequence**, and click the **New** button.
The consequence creation page appears.

☛ *Since a risk consequence can relate only to a single risk, the **Risk** field is already entered with the current risk.*

Cause-and-Effect Diagram

Analysis of the most important risks can be completed with the help of a cause-and-effect diagram to describe the sequence of its causes and/or its effects. This study could reveal new risks or risk factors.

A Cause-and-Effect diagram, also called a "Ishikawa Diagram" or a "Fishbone Diagram" enables description of a sequence of causes and effects for problem or issue analysis.



Cause-and-effect diagram

In the above example, we analyze possible causes of the "Supplier delivery non-conform to purchase order" risk.

We list possible causes of the problem, and for each cause we specify the corresponding risk factors. At this point it is possible to identify new risks.

➤ For more information on the cause-and-effect diagram, see "Cause-and-Effect Diagram" in the chapter "Objectives and Requirements" in **HOPEX Common Features**.

➤ For more information on the cause-and-effect diagram, see "Cause-and-Effect Diagram" in the chapter in the **HOPEX Common Features** guide.

ASSESSING RISKS

After having identified and analyzed the risks encountered by the enterprise, it is essential to highlight the most important of these in order to remediate them.

In **HOPEX Risk Mapper**, risk assessment is qualitative: the impact of a risk is described by terms corresponding to a predefined scale (for example 1 to 4). In this way mapping of risks can be established to quickly identify the most critical risks.

HOPEX Risk Mapper offers the possibility of a direct assessment, which allows an expert to specify global assessment of a risk on a given date,

If you have the **HOPEX Enterprise Risk Management** solution and you have imported the associated framework, you have additional assessment facilities.

Results of risk assessment can be displayed in dedicated reports which make it easier to analyse the assessed risks.

➤ For more details on the reports about risks, see [Risk related reports](#).

Assessing risks directly

Direct assessment provides, at a given date, assessment of a risk on an entity of the organization.

You can carry out:

- direct assessment from a risk,
- multiple assessment from a table.

Creating direct assessments

You can create new assessments to globally assess a risk on all objects of the organization to which it is connected (ie. entities).

This is an "expert view" assessment.

To create an assessment:


1. Select a risk,
2. Open the **Assessment** property page of the risk.
3. Click the **Evaluate** button.
4. Select the entities for which the risk is to be assessed, then click **Next**.

➤ The contexts are available only if there is more than one.

5. Specify characteristics values:
 - **Impact**: the impact of the risk when it occurs.
 - **Likelihood**: the probability that the risk will occur.
 - **Control levels**
6. Specify the assessment date.
7. Click **OK**.
An assessment is created.

Representation in a Diagram

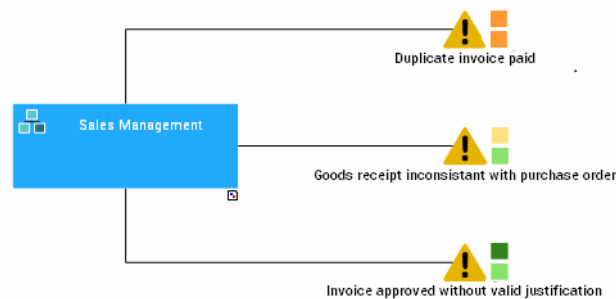
You can represent *risks* and *controls* in a process diagram or an organizational chart.

 You can easily represent risks and controls in a diagram using tabular entry mode. See [Tabular entry mode principles](#).

To display risks in a process diagram with their likelihood:

1. Select **Views and Details** button.
2. In the right pane of the window, select “Risks and Controls” view.

Risks can be displayed in the diagram with colors that indicate their impact and likelihood.



The colors vary according to the values resulting from the risk assessments.



Impact: medium, Likelihood: possible



Impact: very low, Likelihood: possible

Risk Summary

HeatMap by Entity/Risk Type/Process

When the likelihood and the impact of a risk have been specified, you can obtain a summary view of risks to highlight the risks to be treated as a matter of priority.

 For more details on the reports about risks, see [Heatmap report](#).

RISK TREATMENT AND CONTROLS

The assessment of risks produced a list of risks that could require treatment, with their estimation and order of priority.

Treating risks involves the identification of the various options possible, assessment of these options and the preparation and implementation of treatment plans.

Before determining the appropriate treatment actions, it can be useful to review the risk analysis and extend it to obtain the information required for identifying the different treatment options. The design of risk treatment measures should be based on a perfect understanding of the risks concerned; this understanding is obtained from an appropriate level of risk analysis. It is particularly important to identify risk causes so that the risks themselves will be treated and not just their symptoms.

It is not generally profitable, or indeed desirable, to implement all possible risk remediations. It is however necessary to select and implement a combination of the most appropriate of these.

- ✓ Risk Treatment
- ✓ Controls

Risk Treatment

When risks have been analyzed and assessed, management determines how each of these risks should be treated.

To specify risk remediation choices:

- Open the **Treatment** property page of the risk.

Risk-1

⚠ | Treatment

Treatment Decision

Target Risk

☐ Acceptance

☐ Reduction

☐ Transfer

☐ Insurance

Controls and Action Plans

Risk Control Level Selection

Target risk

For a given risk, you can define the level of risk acceptable for the organization.



The target risk presents the residual risk value expected by the risk manager after treatment of the risk.

Treatment Decision

Target Risk

Acceptance

Reduction

Transfer

Insurance

Very Low

Low

Medium

High

Very High

Controls and Action Plan

If this risk level is higher than or equal to the previously assessed risk, the organization can accept the risk as it stands.

For each risk identified, a level of risk acceptable to the organization must be defined.

If the risk cannot be accepted as it stands, various solutions for facing the risk can be proposed.

- **Acceptance**

The risk is accepted and no action is taken to try to reduce the risk.

- **Reduction**

Risk likelihood can be reduced by installing additional controls, or the severity of its consequences can be reduced if the risk occurs.

- **Transfer** (sub-contractor)

The risk can also be shared with other partners, in particular when they have greater skills in controlling the risk. For example, you can sub-contract a dangerous activity to a partner specialized in the particular field. In such cases, it should be noted that it is often necessary to carry out a new risk study, since the introduction of a new partner can bring additional risks.

- **Insurance**

To supplement all the above approaches, it is often necessary to resort to insurance, in particular for risks of low likelihood but with high severity. In such cases, the insurer will generally request that risk prevention and reduction measures also be implemented.

We analyze the different possible scenarios, weighing up their positive and negative aspects, so as to select a scenario compatible with the desired risk control level.

Depending on the solution adopted, the effect of the different solutions in terms of likelihood and impact should be considered, as well as costs and benefits.

The choice should be the solution that reduces residual risk to within the tolerance limit required by management.

A **Detailed description** field allows you to specify the risk treatment method.

Specification of actions to be implemented

Management draws up a set of actions matching risk levels with risk tolerance level and risk appetite for the organization.


For each risk, the selected scenario is described in detail, with the various risk factors and the controls implemented to counter them highlighted. Also specify which controls are installed to warn of risks, as well as the curative business processes to be implemented if the risks occur.

In the case of transfer to partners or assurance, we can specify contracts to be agreed with them, as well as the predicted impact on organization processes.


Implementation of prevention controls to reduce risk frequency and impact can be a solution for risk reduction.

To indicate the **Controls** and **Action Plans** enabling risk prevention:

- In the **Treatment** property page of a risk, expand the **Controls and Action Plans** section.
 - The **Action Plans** tab contains the list of action plans installed: for example for creation or improvement of a control, management of a crisis linked to occurrence of an incident, or revision of a process with a view to its improvement. See [Implementing Action Plans](#).

 *An action plan comprises a series of actions, its objective being to reduce risks and events that have a negative impact on company activities.*

- The **Controls** tab lists controls planned for risk reduction. See [Risk prevention controls](#).

 *A control is a set of rules and means enabling the assurance that a legal, regulatory, internal or strategic requirement is respected.*

Risk prevention controls

Installation of prevention controls to reduce risk likelihood and impact can be a solution for risk reduction.

To indicate the controls that enable risk prevention:

1. Open the **Treatment** property page of the risk that interests you and expand the **Controls and Action Plans** section.
2. Select the **Control** tab.
3. Click the **Connect** button and select a control.

➡ For more details on implementation of controls, see [Controls](#).

Implementing Action Plans

The use of action plans is available with the **HOPEX Risk Mapper** product.



An action plan comprises a series of actions, its objective being to reduce risks and events that have a negative impact on company activities.



*For more information on use of action plans, see **HOPEX Common Features**.*

CONTROLS

Control activities comprise policies and procedures that enable assurance that risk treatment required by management has been effectively implemented. Control activities are present throughout the organization, at every level and in every function. They also include a range of varied activities such as validation, authorization, verification, data mapping, operational performance review, assets security and task assignment.

Risk identification and analysis previously described highlighted a certain number of risks against which it is important to be protected. It is therefore necessary to define the control activities that will prevent these risks and reduce their potential consequences.

These *controls* must be formally defined in order to respond to regulatory requirements such as the Sarbanes-Oxley Act, or Basel II agreements in the banking world.



A control is a set of rules and means enabling the assurance that a legal, regulatory, internal or strategic requirement is respected.

In **HOPEX Risk Mapper**, there are different object types linked to controls:

- the object types enabling indication of the framework within which the control is installed (*control system*, *control type*, associated *requirement* or *risk*).
- the object types enabling indication of control implementation means (*process*, *operation*, *service*, *constraint* or *resource*, etc.).
- the object types enabling indication on responsibilities of control implementation (*org-unit*, *person*).

☛ *Operation and service object types are available with **HOPEX Business Process Analysis**.*

Identifying controls

It is generally preferable to inventory existing controls before implementing new ones.

To do so, controls can be identified in various ways:


- From risks
Certain controls are installed to meet a particular risk.
- From control type lists
Control type lists are associated with certain regulations (eg.: COBIT).
- From diagrams of existing business processes
Similarly to risk identification, it is possible to examine the operation of each step in the business process from its diagram, if this exists, to discover the controls installed.
- From specialist expertise
A specialist in a particular field is often able to describe controls which are or should be implemented.
- From incident databases
By consulting past events, controls that could have prevented them or reduced their consequences can be proposed.

Access to Controls

To create a control from the **Processes** pane:

- 1 Click **Controls & Risks > Controls**.

As with risks, associated controls can be numerous. To improve control management, **HOPEX Risk Mapper** proposes several control classification criteria.

 The controls covered by a control system can be viewed in the **Treatment** section of the Control System. For more details, see [Control Systems](#).

Control characteristics

In the **Characteristics** property page of a control, you can specify:

- its **Code** enabling unique identification of the control
- **Name**
- **Owner**

 By default the **owner** is the control creator.

- control importance if required, by selecting the **Key Control** check box.
- **Level**
- **Control Nature**
- **Execution Mode**
- **Frequency**

Control level

Control level enables the distinction to be made between "operational" and "organizational" controls.

- level 1 - operational
Operational level controls are those executed during the normal operation of enterprise business processes.
- level 2 - organizational
Organizational level controls are then carried out periodically by management to check that operational processes have been correctly executed and that their results comply with requirements.

Control nature

This characteristic concerns the motives of the control:

- Correction
- Detection
- Prevention

Control Execution Mode

This characteristic enables the specification of the way in which the control is executed:

- Observation,
- Control by survey,
The control is executed on random samples.
- Systematic control
The control is executed systematically and exhaustively on all objects treated.

Control Execution Mode

Control execution periodicity can be systematic, daily, weekly, monthly, etc.

RACI on a control

A control properties page includes an **RACI** section to define the different persons responsible for control management. For more details, see [RACI on a risk](#).

Control scope

You can define the control more precisely by indicating the risks, processes, entities and requirements that are attached to it.

To define control scope:

1. Open the **Characteristics** properties page of a control.

2. Expand the **Scope** section.
The following tabs are available:
 - **Risks** covered by controls. For more details, see [Assessing Risks](#).
 - **Business Processes** and **Organizational Processes** exposed to risks covered by the control. For more details, see [Organization Processes](#).
 - **Entities** concerned by controls. For more details, see [Organization of internal org-units](#).

Analyzing Controls

You can define the control more precisely by indicating the control systems that are attached to it.

The *control types* enable specification of regulation frameworks that apply to a given control.

☞ For more details, see [Risk types](#).



A control type allows the classification of controls implemented in a company in accordance with regulatory or domain specific standards (Cobit, etc.).

This control system can be defined as the implementation of a regulation within the framework of one of the enterprise business functions, such as application of an enterprise financial policy in the purchasing field.

☞ For more details, see [Control Systems](#).



A risk and control system is a set of controls that enables the assurance of risk prevention and management, application of internal operating rules, respect of a law or regulation, or achievement of an objective as defined by company strategy.

Control Objectives and Requirements

The **Objectives and Requirements** property page of a control provides indication of the organization *objective* or regulatory or legal *requirement* met by the control.



An objective is a goal that a company/organization wants to achieve, or is the target set by a process or an operation. An objective allows you to highlight the features in a process or operation that require improvement.



A requirement is a need or expectation explicitly expressed, imposed as a constraint to be respected within the context of a project. This project can be a certification project, or an enterprise information system organization or modification project.

Control Implementation

Installation of a control frequently consists of checking that a management rule (*constraint*) is effectively applied, either manually or by an IT program.



A constraint is represented by a check or a business rule that must be applied during processing.

You can specify the management rules associated with a control in its **Management Rules** property page.

It is possible to specify processing that will implement the control or the management rules associated with the control. You can specify control implementation means in the **Characteristic** tab, **Scope** section.

The control can be implemented by:

- a *process*: this can be the business process on which the control is implemented or it can be a risk preventive business process (example: "Account manager training" to prevent the "Overselling" risk)



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

- an *operation*: this is the operation on which the control is executed.



An operation is an elementary step in an organizational process executed by an org-unit. It cannot be broken down. An operation can be industrial (manufacturing a component), logistical (receiving a delivery), or can involve information processing (entering an order).

RISK CONTROL POLICIES OPERATIONAL MONITORING

Policies and procedures are established and implemented to help ensure that risk responses are effectively carried out.

Monitoring is accomplished through ongoing management activities, independent assessments, or both.

- ✓ [Control System Ongoing Improvement](#)
- ✓ [Control Efficiency Assessment](#)
- ✓ [Incident and Loss Monitoring](#)

Control System Ongoing Improvement

Malfunctions identified via permanent operation monitoring or during periodic reviews are referenced and analyzed. Corrective actions are then planned and implemented.

- **Malfunction identification**
The malfunctions to be examined are identified using a number of available sources: the initial remediation plan, feedback on risk remediation and incidents in installed control systems, and periodic reviews by operational management.
- **Malfunction analysis**
Malfunctions are studied to deduce risks faced by the organization. These are then analyzed as previously discussed by determining risk factors with the possible help of a cause-and-effect diagram.
- **Risk treatment implementation**
When the risk treatment actions to be undertaken, the control data storage requirement, and the risk measurement indicators to be implemented have been determined, an action plan including the necessary resources, budgets, deadlines and implementation managers is defined.
- **Risk treatment action plan monitoring**
The frequency and terms of risk treatment plan monitoring are established.

The **HOPEX Business Process Analysis** repository enables the definition of controls carried out during enterprise business process execution, and the specification of which organizational, IT or human resources will implement them (see [Risk Treatment and Controls](#)).

Control Efficiency Assessment

In addition to the continuous monitoring of risks during normal operation of organization business processes, periodic reviews of risk management are carried

out by operational managers to verify that new risks have not appeared and that the risk treatment strategies applied are still suitable and effective. To determine this, control self-assessment questionnaires can be used.

In addition to the operational management reviews, audits that are internal or external to the activity offer an outside view of organization operation, and can reveal new malfunctions.

Audit findings will usually indicate systemic weaknesses of the risk management system. Actions taken in response to audits should be focused on remedying the system and not just the symptoms.

➤ For more information, see **HOPEX Internal Control**.

Incident and Loss Monitoring

After implementing a risk management policy, continuous monitoring of risks incurred using regular measurement of a number of parameters (eg: pollution levels, available budget, etc.) must be established to verify its efficient operation.

This can be done in particular through incident database management. Each incident is listed here and the resulting losses are evaluated. In certain cases, it is enough to ensure that the incident monitoring activity has been correctly executed and that it has not produced results exceeding anticipated tolerance thresholds.

If new risks are identified at this point, they should be added to the list of risks managed by the organization. Operational managers or the risk management manager within the organization must take these into account at the next risk review.

➤ For more information, see **HOPEX LDC**.

RISK RELATED REPORTS

This paragraph presents the list of reports available with **HOPEX Business Process Analysis** and dedicated to risks handling.

- [Heatmap report](#).

Heatmap report

This report inventories risks incurred by a set of processes as well as the controls implemented. It presents, in the form of a matrix, distribution of risks and controls associated with a list of processes in relation to these criteria.

Impact/LikeLihood

	Rare	Possible	Likely	Probable	Certain	Sum
Very High	0	0	0	0	0	0
High	0	0	0	0	0	0
Medium	0	0	0	0	0	0
Low	0	0	0	0	0	0
Very Low	0	0	0	0	0	0
Sum	0	0	0	0	0	

Control Level/Inherent Risk

	Very Low	Low	Medium	High	Very High	Sum
Very Weak	0	0	0	0	0	0
Weak	0	0	0	0	0	0
Medium	0	0	0	0	0	0
Strong	0	0	0	0	0	0
Very Strong	0	0	0	0	0	0
Sum	0	0	0	0	0	

Report parameters

Subject of this report type is a set of processes.

MANAGING QUALITY



HOPEX Business Process Analysis offers functions that simplify creation and maintenance of a quality system conforming to ISO 9000 standards. You can:

- Draw up your organizational processes graphically using organizational process diagrams.
- Enter the characteristics specific to the quality problem.
- Synchronize your processes and the various chapters or themes of the quality repository on which you are based (ISO 9001 standard, 2015 edition, etc.).
- Generate a quality manual automatically

Prerequisites to Use of Quality

An option is used to display the properties dedicated to the management of processes quality.

To activate this option:

1. In the workspace, open the **Options** navigation window.
2. In the tree on the left, select **HOPEX Solutions > Business Process Analysis**.
3. Select the check box **Quality Modeling**.

ORGANIZATIONAL PROCESS PROPERTIES

In the properties dialog box of an organizational process, the **Quality** tab allows you to:

- enter quality characteristics specific to processes.
- indicate to which section of which repository the process you are describing refers. In this way, the processes are associated with chapters or themes so as to indicate their field of application.

Indicating Organizational Process Quality Characteristics

From the **Quality** tab and the **Details** section, you can define characteristics that are specific to the quality issue.

The screenshot shows the 'Quality' tab selected in the 'Organizational Process Properties' dialog box. The 'Details' section is expanded, showing the following fields:

- Process Frequency:** Daily
- Organizational Process Type:** General
- QA Organizational Process:** Quality System
- Organizational Process Class:** Normal
- Application Date:** (calendar icon)
- End of Validity Date:** (calendar icon)

Below the 'Details' section, there are two expandable sections: 'Texts' and 'Chapter'.

Organizational process types and classes

Two **types of organizational process** are managed:


- "General" organizational processes: involve the entire enterprise or organization.
- "Specific" organizational processes: specific to a part of the enterprise or to a product.

Organizational process classes proposed are:

- "Normal" organizational processes: describe the typical operations of the enterprise.
- "Urgent" organizational processes: describe a fast track such as providing speedier service to a customer.
- "Special" organizational processes: used for exceptional events such as accidents.

Other organizational process characteristics


The **QA-Organizational Process** field allows you to specify if the procedure forms part of the Quality Assurance (external) or Quality System (internal) documentation of the organization.

 This option concerns the 1994 version of ISO 9001 standard.

The **Frequency of the process** can be:

- "On Request": the process is applied when the event that triggers it occurs.
- Daily, Weekly, Monthly, Twice a Month, Quarterly, or Annually.

The **Application date** and **End of validity date** of the process can also be indicated.

 The application and validity end dates are displayed using the Windows default format. You can change this format in the Regional Settings properties dialog box (short date).

To enter a date beyond the year 2000, you should select short date format of type dd/MM/yyyy with four characters for the year.

Entering the texts of an organizational process

The **Quality** property page of an organizational process includes a **Texts** section that allows you to enter different types of text (standard): "Application domain", "process object", "references", "definitions", etc.

The screenshot shows the 'Quality' tab selected in a navigation bar. Below the navigation bar, there is a 'Details' section and a 'Texts' section. The 'Texts' section contains four text entry fields, each with a rich text editor toolbar. The toolbars include a font color selector, a font size dropdown, and buttons for bold, italic, underline, strikethrough, bulleted list, numbered list, link, and unlink. The four text entry fields are labeled 'Scope of application', 'Purpose', 'References', and 'Definitions'.

Specifying Context of the Quality Approach

The **Quality** property page of an organizational process includes a **Chapters** section that allows you to specify the standard on which you are based for your quality approach or certification.

➡ To have access to data relating to the standard ISO 9001 2015, you must have imported the "ISO" [module](#). For more details, see "Importing a [module](#) in HOPEX" in **HOPEX Administration** guide.

The subtabs **ISO 9001** and **Other chapters** correspond to different repositories serving as the basis for your quality approach:

- **ISO 9001**
This sub-tab presents the 20 chapters (or requirements) of the ISO 9001 standard.
- **Other chapters**
This sub-tab concerns you if you are using another standard for your quality approach or certification. The chapters that you may have created will appear here.

➡ *To create new chapters you must use the explorer.*

MESSAGE FLOW PROPERTIES

The **Quality** properties page allows you to specify characteristics of a message flow related to quality.

General	▼	Characteristics	Quality
Collector Org-Unit			
>			
Identification			
Message-Type			
▼			
Access			
Storage Time			
Storage Location			
Retention Time			
Retention Location			
Destruction			

The **Message-Type** list box enables characterization of the message flow: "External Data", "Quality Record" or "Instruction".

The other fields allow you to enter additional indications for messages of "Quality record" type that are particularly important in documentation of your quality system. Here you can define the controls needed for identification, storage, retention time, etc.




According to the ISO 9000 standard, a "Record" is a "document stating results achieved or providing evidence of activities performed". It can document traceability and provide evidence of the verification, preventive action, and corrective action. It can consist of a form, report, list of actions, etc. It can be written or saved on any data carrier. Generally records need not be under revision control.

ACTION PLANS WITH HOPEX BUSINESS PROCESS ANALYSIS



HOPEX Business Process Analysis allows you to specify, implement and follow up *action plans* defined for managing, for example, a Customer Journey.


 *An action plan comprises a series of actions, its objective being to reduce risks and events that have a negative impact on company activities.*

The following points are covered here:

- ✓ [Managing Action Plans with HOPEX Business Process Analysis](#)
- ✓ [Managing actions with HOPEX Business Process Analysis](#)

Managing Action Plans with HOPEX Business Process Analysis

An *Action plan* can be set up, for example, to improve the efficiency of a process.

 *An action plan comprises a series of actions, its objective being to reduce risks and events that have a negative impact on company activities.*


Creating Action Plans with HOPEX Business Process Analysis

With **HOPEX Business Process Analysis**, an action plan is connected to a process.


To create an action plan from an organizational process, for example:

1. Open the **Action Plans** property page of the process that interests you.
2. Click **New**.
3. Enter the **Name** and the dates (**Planned Begin Date** and **Planned End Date**) and click **OK**.

The new action plan is created in the list of action plans of the process.

 *To create an action plan from a Customer Journey, see [Creating an Action Plan for a Customer Journey](#).*

Characterizing Action Plans

 For more details on action plans characteristics, see chapter "Entering Action Plan Information" in the **HOPEX Common Features** guide.

Accessing the list of action plans with HOPEX Business Process Analysis

To access the list of action plans from the **Projects** navigation pane:

1. Select **Corrective Action Plans**.
2. Expand the **Action Plans** folder.
The list of action plans appears.

Action Plans execution with HOPEX Business Process Analysis

During the execution, an action plan takes different states. Passage between states is submitted for the approval of the action plan owner or the action plan approver.

 For more details on an action plan execution, see the, chapter "Action plan execution" in the **HOPEX Common Features** guide.

With **HOPEX Business Process Analysis**, actions can be created as long as the action plan is not closed.

 For more details, see [Managing actions with HOPEX Business Process Analysis](#).

Having specified the characteristics of a new action plan, the creator can: **Send** the action plan to the "Approver" user.

The action plan "Approver" user can: **Reject** or **Start** the action plan.

When the action plan actions are closed, the "Owner" user must **Close** the action plan.

After having consulted action plan follow-up reports, the "Approver" user can: **Close** or **Reopen** the action plan for complementary actions.

Preparing the action plan progress follow-Up


Action plan progress is specified at periodic dates by the action plan responsible user.

HOPEX Business Process Analysis offers the opportunity to regularly remind the action plan owner user by email to update the progress of his action plan using a steering calendar.

 For more details on an action plan execution, see the, chapter "Action plan execution" in the **HOPEX Common Features** guide.

Managing actions with HOPEX Business Process Analysis

With **HOPEX Business Process Analysis**, the action plan **Owner** can propose and assigning *actions* corresponding to the execution of the action plan.

 An action is included in an action plan and represents a transformation or processing in an organization or system.

To create actions, the action plan status must be "In progress", that is it has been validated by the "Approver" user.

➤ For more details on the actions management, see "Managing action" chapter in guide **HOPEX Common Features**.



CONVERSATIONS



This chapter presents how to describe *conversations* between process architecture components.



A conversation describes an exchange of several message flows between two roles.




A composite conversation is described by an exchange contract. This exchange contract uses other exchanges or exchange contracts.

- ✓ [Conversations Example](#)
- ✓ [Managing Conversations](#)
- ✓ [Managing Exchange Contracts](#)
- ✓ [Summary of Concepts](#)

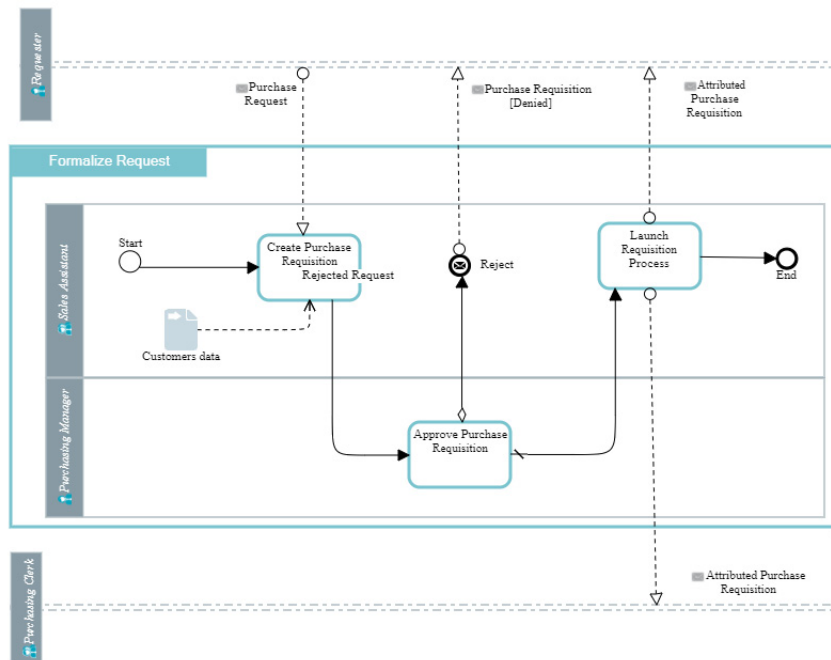
CONVERSATIONS EXAMPLE

The **Conversation** concept is introduced in standard BPMN 2.0.

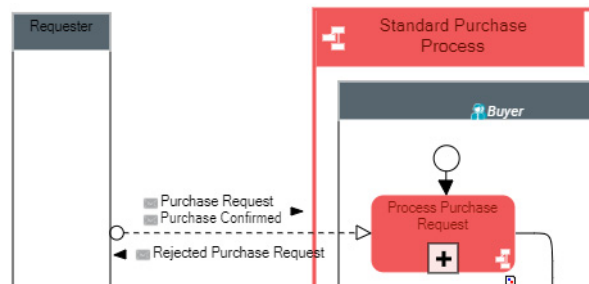
In **HOPEX Business Process Analysis**, a conversation is implemented by an **Exchange**.

 *An exchange specifies message flow exchanges between two participants.*

The example of purchase request processing involves several exchanges between the requester and the "Purchasing Assistant".



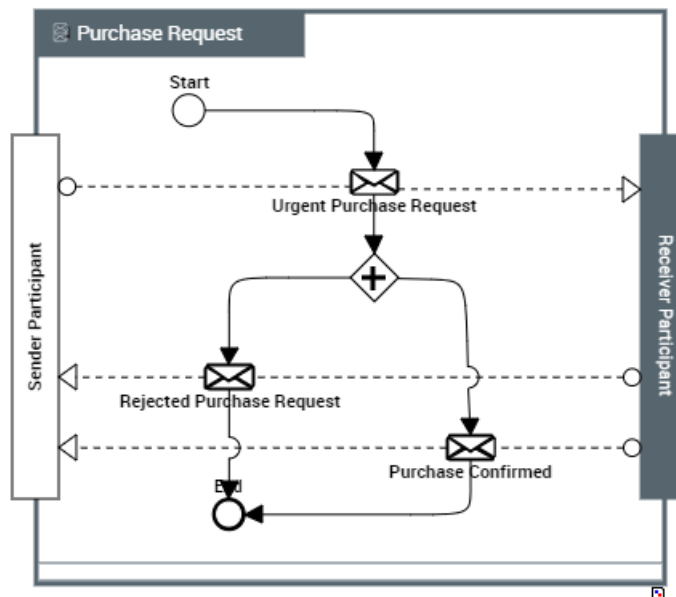
At the highest level, these exchanges can be represented by the same message flow.



A conversation is described by a set of message flows with content.

An exchange diagram can be built presenting the sequence of message flows exchanged.

The "Purchase Request" exchange diagram is shown below.



MANAGING CONVERSATIONS

A conversation represents the exchange of information between architecture components.



A conversation describes an exchange of several message flows between two roles.

Creating Conversations


Creating Conversations with an Existing Exchange

A conversation is described by an exchange representing an information exchange channel between architecture components.



An exchange specifies message flow exchanges between two participants.

To create a conversation from an existing exchange:

1. In the process diagram insert toolbar, click the **Conversation**  button.
2. Draw a link between the two entities in communication.
3. In the conversation creation window, specify the **Exchange** you wish to use.




You can also create a new exchange, see [Creating Conversations with a New Exchange](#).

4. Click **OK**.

Creating Conversations with a New Exchange

You can create an **Exchange** from a library or a process diagram.

To create an *exchange* from a process diagram:

1. Click the **Conversation** button  and create a link between the two communicating entities.
The conversation creation dialog box appears.
2. Click the arrow at the right of the **Exchange** field and select **Create Exchange**.
The Creation of Exchange dialog box appears.
3. Enter the **Name** of your exchange.
4. Click **OK** to close this dialog box.
The exchange is automatically created.
5. Click **OK**.
The conversation appears in the diagram.

Describing Conversation Message Flows

The *message flows* exchanged in a conversation are described in the exchange associated to the conversation.




A message flow represents circulation of information within an exchange contract. A message flow transports its content.

Exchange is described by message flows and their content which are exchanged between the two roles representing the stakeholders in the conversation.



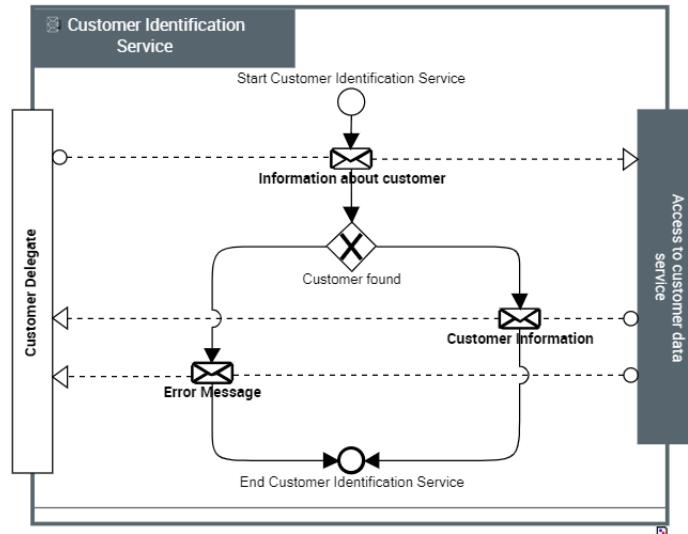
The content designates the content of a message or an event, independent of its structure. This structure is represented by an XML schema linked to the content. A content may be used by several messages, since it is not associated with a sender and a destination. There can be only one content per message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

To describe message flows exchanged in a conversation:

1. Open the **Characteristics** property page of the Conversation that interests you.
2. From **Exchange** field, you can access to the pop-up menu of the exchange used.
3. Open the **Message Flow** property page of the exchange.
4. Click the **New** button.
The **Creation of Message Flow - Content** dialog box opens.
5. From the **Content** drop-down list, select the content you wish to associate with the message flow.
The message flow with its content is displayed in the list of conversation contents.
 *You can associate several contents with the message flow.*
6. Specify the direction of each message flow.
7. Click **OK**.

Creating an exchange diagram (BPMN)

The sequence of flows exchanged during a conversation can be described by an exchange diagram.



"Customer Identification Service" Exchange Diagram

The customer identification service protocol begins by sending information enabling identification of the customer. An error message appears if the customer is not found, otherwise customer information is sent (customer identification, status of orders, etc.).


To create an exchange diagram:


1. Open the **Characteristics** property page of the Conversation that interests you.
2. From **Exchange** field, you can access to the pop-up menu of the exchange used.
3. In the pop-up menu of the exchange, select **New** > **Exchange Diagram (BPMN)**.

The diagram opens. The exchange frame is positioned and the two roles (Consumer and Supplier) are created. The message flows associated with the exchange are also positioned in the diagram.

Creating a composite conversation


A composite conversation is described by an exchange contract. This exchange contract uses other exchanges or exchange contracts.

 *An exchange contract is a model of a contract between organizational entities. This contract is described by exchanges between an initiator role and one or several contributor roles.*

 For more details on exchange contracts, see [Managing Exchange Contracts](#).

To create a **composite conversation** from an existing **exchange contract**:

1. In the diagram insert toolbar, click the **Composite Conversation** button.
2. Draw a link between the two entities in communication.
3. In the composite conversation creation window, specify the **Exchange contract** you want to use.

 You can also create a new exchange contract.

4. Click **OK**.


Replacing a conversation

As standard, a conversation is connected to an exchange. However, from its pop-up menu, you can replace a conversation with a composite conversation or by the message flows of the exchange to which it is associated.

Replacing a conversation with an exchange contract

To replace a conversation:

1. Right-click on the conversation to open its pop-up menu.
2. Select **Replace Exchange by an Exchange contract**.
A new exchange contract is created and the conversation becomes a **composite conversation**.

 *A composite conversation is described by an exchange contract. This exchange contract uses other exchanges or exchange contracts.*


Replacing a conversation with flows

To replace a conversation:

1. Right-click on the conversation to open its pop-up menu.
2. Select **Replace by Message Flows**.
The conversation is replaced by the messages flows of its associated exchange.

MANAGING EXCHANGE CONTRACTS

An **Exchange Contract** represents the exchange of information between architecture components of the process.

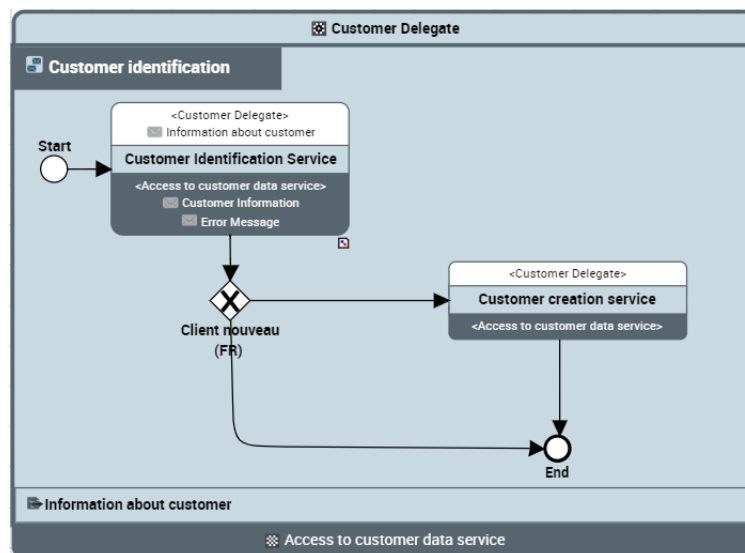
 An exchange contract is a model of a contract between organizational entities. This contract is described by exchanges between an initiator role and one or several contributor roles.

With **HOPEX Business Process Analysis**, an exchange contract can be built using exchanges or using exchange contracts.

Exchange Contract Example


Example of exchange contract using exchanges

The "Customer Identification" exchange starts with a customer search step. If the customer is found, the protocol returns customer information, if not, a "Customer Creation" protocol is activated. The result of the "Customer Identification" exchange contract is a "Customer Information" message.



Exchange contract diagram (BPMN)


Progress steps are represented by **Exchange Uses**.

 An exchange use represents the usage of an exchange in another exchange contract.

Example of exchange contract using exchange contracts

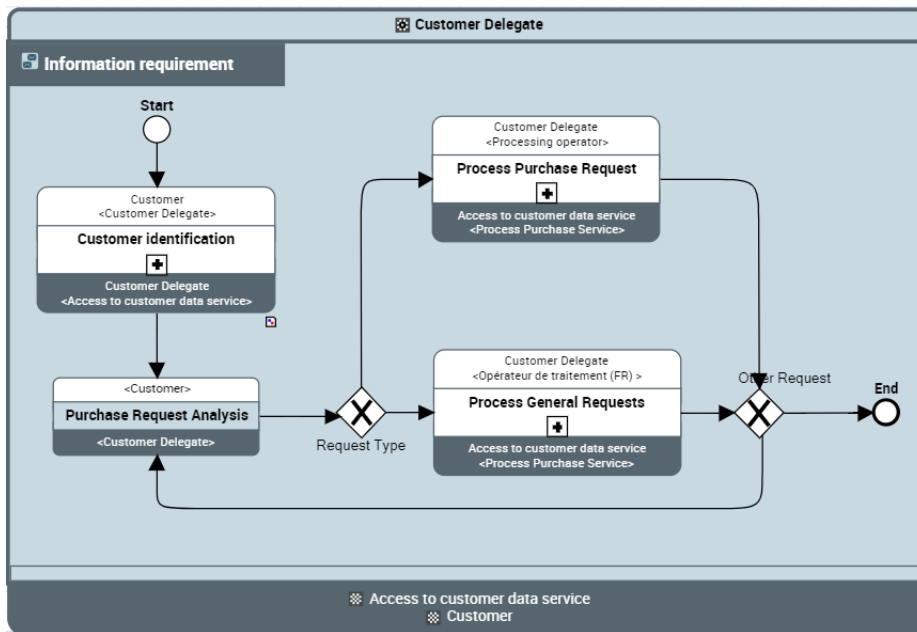
With **HOPEX Business Process Analysis**, a protocol is described by a sequence flow of steps which are represented:

- by **Exchange Uses**,
- by **Exchange Contract Uses**.

 An exchange contract use is associated with an exchange contract. It enables representation of complex exchanges.

The protocol roles, presented at the border of the frame, represent participants *invoker* or *invoked*.

An exchange can be described by involving more than two participants. In this case, a role is consumer of the exchange contract and the others are providers.



"Information Requirement" Exchange Contract Diagram (BPMN)

The "Information Request" exchange contract is used by the supplier call center to take account of a customer request online. There are therefore three participants in this contract: the customer, the IT applications and the customer representative who is the effective requester of the service (in this case the call center).

This contract consists of identifying the customer, then analyzing the request. The request is then processed as a purchase request or as another request if it is an information request for example.

Using Exchange Contracts

An **Exchange Contract** is described by a **Composite Conversation** which represents the information exchange channel between architecture components.




An exchange contract is a model of a contract between organizational entities. This contract is described by exchanges between an initiator role and one or several contributor roles.



A composite conversation is described by an exchange contract. This exchange contract uses other exchanges or exchange contracts.

To create a composite conversation:

1. In the diagram insert toolbar, click the **Composite Conversation**  button.
2. Draw a link between the two entities in communication.
3. In the add composite conversation dialog box, specify the name of the conversation and the exchange contract you want to use.




You can also create a new exchange contract, see [Creating Conversations with a New Exchange](#)..

4. Click **OK**.

Creating an exchange contract from a composite conversation

To create an exchange contract from a composite conversation:

To create an exchange contract from a composite conversation:

1. In the diagram insert toolbar, click the **Composite Conversation**  button.
2. Draw a link between the two communication entities.
3. In the composite conversation creation dialog box, click the arrow on the right of the **Exchange Contract** field and select **Create Exchange Contract**.

The **Creation of Exchange Contract** dialog box opens.

4. Select the **Creation Mode. Standard Creation**.




*You can create an exchange contract from an exchange contract model. For more details, see chapter "Creating an exchange contract from an exchange contract model" in the **HOPEX IT Architecture** guide.*


5. Enter the name of the contract in the **Name** box.
6. Click **OK**.


The composite conversation and exchange contract are created.

Describing Exchange Contracts


An **Exchange Contract** can be supported by **Exchanges** or **Exchange Contracts** representing information exchanges between architecture components.

 *An exchange contract is a model of a contract between organizational entities. This contract is described by exchanges between an initiator role and one or several contributor roles.*

 *An exchange use represents the usage of an exchange in another exchange contract.*

 *An exchange contract use is associated with an exchange contract. It enables representation of complex exchanges.*

To describe that an exchange is used by an exchange contract:

1. Open the exchange contract properties dialog box.
2. Select the **Exchange** tab.
3. Click the **New** button.
A selection dialog box opens.
4. Select **Exchange Use**, which is the type of exchange you want to use, and click **OK**.
The creation dialog box opens.
5. Click the arrow at the right of the **Specification** box.
6. Select **List** in the drop-down list and select the exchange to be associated with the exchange use.
The name of the exchange appears in the **Specification** field.
7. In the **From** field, select the described exchange role connected to the Invoker role of the exchange used.
8. In the **To** field, select the described exchange role connected to the *Invoked* role of the exchange used.
9. Click **OK**.
 *You can associate several exchanges with the exchange contract.*
10. Click **OK**.

Creating an Exchange Contract Diagram

With **HOPEX Business Process Analysis**, an exchange contract is represented by an Exchange Contract Diagram (BPMN).

To create an exchange diagram:

1. Right-click the conversation containing the exchange.
2. In the pop-up menu of the exchange, select **New** > **Exchange Contract Diagram (BPMN)**.

The diagram opens with the exchange contract frame and the two roles representing invoker or invoked.

Defining exchange and exchange contract uses

In an Exchange Contract Diagram (BPMN), operations are described by:

- **Exchange Uses**
- **Exchange Contract Uses**




An exchange use represents the usage of an exchange in another exchange contract.







An exchange contract use is associated with an exchange contract. It enables representation of complex exchanges.

To create an exchange contract use:

1. Click the **Exchange Contract Use** button  and click in the diagram within the exchange contract frame.
The creation dialog box opens.
2. Click the arrow at the right of the **Specification** box.
3. Select **List** in the drop-down list and select the exchange contract associated with the exchange contract use.
4. In the **From** field, select the described exchange role connected to the *Invoker* role of the exchange used.
5. In the **To** field, select the described exchange role connected to the *Invoked* role of the exchange used.
6. Click **Finish**.

SUMMARY OF CONCEPTS


	Exchange	Exchange contract
Definition	An exchange specifies message flow exchanges between two participants.	An exchange contract is a model of a contract between organizational entities. This contract is described by exchanges between an initiator role and one or several contributor roles.
Use in a Process Diagram	 A conversation describes an exchange of several message flows between two roles.	 A composite conversation is described by an exchange contract. This exchange contract uses other exchanges or exchange contracts.
Use in an Exchange Contract Diagram	 An exchange use represents the usage of an exchange in another exchange contract.	 An exchange contract use is associated with an exchange contract. It enables representation of complex exchanges.




DESCRIBING A PROCESS PORTFOLIO



Creating a *portfolio* with **HOPEX Business Process Analysis** allows you to define all the information that will then enable you to select *initiatives* to be implemented.

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

 *An initiative is a portfolio element corresponding to an investment program identified by the enterprise (or department) to achieve strategic objectives.*

You will begin by:

- ✓ [Creating a process portfolio](#)
- ✓ [Defining Criteria](#)
- ✓ [Defining Portfolio processes](#)
- ✓ [Using Scenarios](#)

INTRODUCTION TO PROCESS PORTFOLIO USE

By means of portfolio management, **HOPEX Business Process Analysis** enables planning over time of development of organizations and more generally all enterprise architecture.

Describing and Analyzing Portfolios

HOPEX Business Process Analysis, portfolio concept allows to compare processes on criteria standard such as costs, benefits or risks. You can also define criteria specific to your context.

Reports dedicated to portfolios allow you to create charts enabling analysis of portfolios on different comparison criteria you have defined.

Analysis reports can be grouped in a **HOPEX** book or integrated in an Internet site.

Developing portfolios

Your enterprise processes, will without doubt be developed. So that representation of your organization remains updated, your models will be modified.

The process portfolios allows you to plan and follow up these developments.

- You can quickly access processes of which development is planned.
- You can transfer the impacts of development of a process to other programs in which this element appears.
- You can regenerate all reports in which this process is involved.

The aim of this chapter is to introduce you to the main use of Process Portfolio facilities.

CREATING A PROCESS PORTFOLIO

Creating a process portfolio consists of defining the processes and the comparison criteria relating to 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 initiatives to be compared based on comparison criteria associated with the portfolio.

Creating a process portfolio

HOPEX Business Process Analysis allows you to define process portfolio.

To create a process portfolio from the **Projects** navigation pane:


1. Select **Process portfolios**.
2. Click the **Process portfolios** tile.
The list of process portfolios is displayed.
3. Click **New**.
A creation dialog box opens.
4. Enter the Process Portfolio name and click **OK**.
The new portfolio appears in the list.

Creating a Process Sub- Portfolio

To be able to closely study development hypotheses, you can divide a portfolio into sub-portfolios, each subject to different *scenarios*.

To create a sub-portfolio:

1. Open the **Characteristics** property page of the portfolio that interests you.
2. Expand the **Sub-Portfolios** section and click **New**.
3. Modify the name of the sub-portfolio.

 *If a scenario is associated with a main portfolio, it is not inherited by the sub-portfolio.*

Process portfolio characteristics


A portfolio is described by the **Characteristics** property page. This page describes

- the general characteristics of a portfolio are:
 - name,
 - Portfolio type,
 - Project start and end dates,
 - description.
 - As well as:
- The list of **Owned Scenario**: see [Creating a Scenario](#).
- The list of **Sub-Portfolios**: see [Creating a Process Sub-Portfolio](#).
- The list of **Criteria** of the process portfolio, see [Defining Criteria](#).

The **Processes** property page enables listing of portfolio processes to evaluate their criticality. See [Defining Portfolio processes](#).

DEFINING CRITERIA

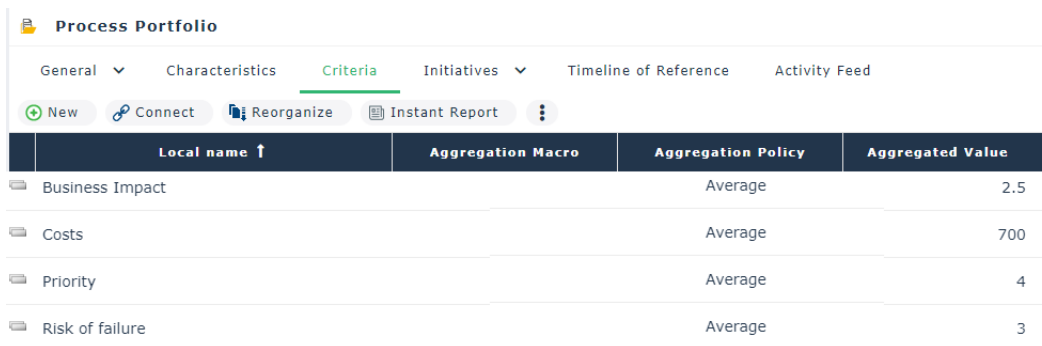
You can compare processes of a portfolio based on common *criteria* associated with the portfolio.

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

To view criteria associated with a portfolio:

- 1 Open the **Characteristics** property page of a portfolio and expand **Criteria** section.


Example




Process Portfolio			
General	Characteristics	Criteria	Initiatives
New	Connect	Reorganize	Instant Report
Local name ↑	Aggregation Macro	Aggregation Policy	Aggregated Value
Business Impact		Average	2.5
Costs		Average	700
Priority		Average	4
Risk of failure		Average	3

To define portfolio criteria, you can:

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

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

 For more details on the assessment of a portfolio criteria, see "Defining Portfolio Assessment criteria" in the **HOPEX IT Portfolio Management** guide.

DEFINING PORTFOLIO PROCESSES

Several processes can be grouped in a *group* to simplify portfolio management.

Associating a process to a portfolio

To associate, for example, an organizational process to a portfolio:

1. Open the **Processes > Inventory** page of the portfolio that interests you.
2. Select the **Organizational processes List** tab.
3. Click **Add Organizational Process** button.
The search window appears.
4. Select the process that interest you.
5. Click **Connect**.

Creating a Processes Group

To create a processes group from a portfolio:

1. Open the **Processes > Group** page of the portfolio that interests you.
2. Click the **New** button.
The **Create group** dialog box opens.
3. In the **Name** field, enter the name of the group.
4. Click **OK**.
The group appears in the list of portfolio processes groups.

To connect an organizational process to a group:

1. Open the **Processes** property page of the group.
2. Select the **Organizational processes List** tab.
3. Click **Add Organizational Process** button.
The search window appears.
4. Select the process that interest you.
5. Click **Connect**.

Modeling costs from a process portfolio

To view costs defined on a process associated to a portfolio from the **Projects** pane:

1. Select **Process portfolio**.
2. Click the **Hierarchical view** tile.
The hierarchy of process portfolios and reports is displayed.
3. Expand the folder of the process portfolio that interests you.
The list of processes appears.
4. Open **Cost** property page of the process that interests you.

Evaluating Process portfolios

Process portfolios are assessed related to different portfolio criteria.

Accessing objects to be evaluated

To access and assess all portfolio objects:

1. Open the **Processes > Assessment** properties page of the process portfolio.
The matrix for assessment of all objects connected to portfolio initiatives according to different criteria is displayed.
2. To define a criteria value on an application, such as a Priority level, select the process concerned and click in the criteria column.

General

Characteristics

Processes Assessment

Timeline of Reference

Activity Feed

Reorganize

<input type="checkbox"/>	Local name ↑	Business Impact	Profit	Workload
<input type="checkbox"/>	 Join Loyalty Club	1 - Strategic		1000
<input type="checkbox"/>	 Purchase Goods & Services	2 - Critical		2000

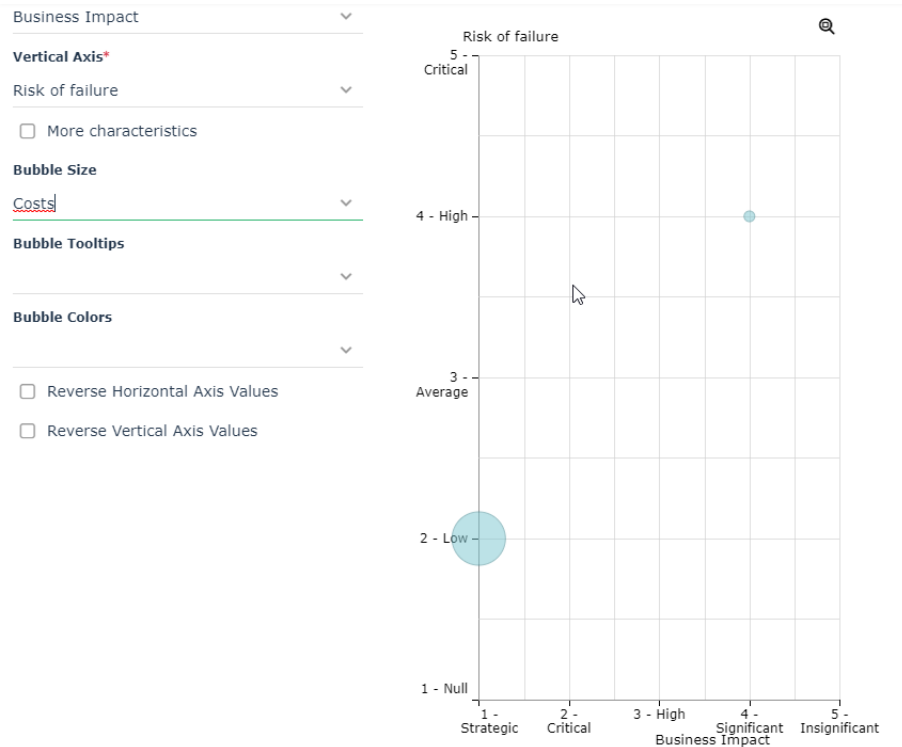
Generating an instant report on evaluation data

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 process:

1. In the list of processes, select those to be analyzed.
If you do not select any process, by default the report covers all processes.
2. Click the **Instant Report** button.
3. Select the required analysis type, for example "Bubble (Multidimensional)".
4. Click **OK**.

5. In the list of possible grouping criteria, select "Costs".
For all the selected processes, you obtain the breakdown of implementation risks according to their level.



For more information on instant reports, see the paragraph "Running instant reports on a list of objects" in the chapter "Generating Documentation" of the **HOPEX Common Features** guide.

Creating a Process Assessment Report

This report is a matrix that presents the value of the criteria presented in columns related to portfolio processes in rows.

To generate this matrix from the **Report** navigation pane:

1. Select **Other Reports** then the **Reports** tile.
2. In the **My Reports** tab, click **New**.
The report creation dialog box opens.
3. In the list of report templates, select "Portfolio Initiative Assessment Sheet", then click **Next**.

4. Select the process portfolio that interests you and the associated criteria.
You obtain a result like this:

Portfolio Initiative Assessment sheet ⓘ

	Profit
 Car Movement	0.0
 Develop and implement human resources plans	0.0
 Develop competency management models	0.0
 Join Loyalty Club	1000.0
 Purchase Goods & Services	2000.0
 Vacation Package Delivery	0.0
Total	500.0


Report parameters

Parameter	Parameter type	Constraints
Portfolio (in line)	Portfolio	One object mandatory.
List of criteria (in column)	Portfolio criteria	At least one mandatory criteria.

USING SCENARIOS

Several initiatives can relate to the same object, in the same portfolio, to represent different hypotheses (exclusive between themselves) of the same object.

Then, some *Scenarios* can be created by selection of a set of processes. The different scenarios created can be compared by means of specific reports:

 *A scenario is a projection in time of development of real objects through initiatives.*

- ✓ [Creating a Scenario](#)
- ✓ [Accepting or Rejecting Scenario Processes](#)

Creating a Scenario

A scenario is a coherent set of processes enabling the cost of a hypothesis in process portfolio.

To create a scenario on a portfolio:

1. Open the **Characteristics** property page of the portfolio that interests you.
2. Expand the **Scenario** section and click **New**.
The scenario is created with a default name. It is also automatically connected to processes of the portfolio.

You can open the scenario properties to modify its name if necessary or to define its properties.

Accepting or Rejecting Scenario Processes

A process must be accepted in order to be taken into account in a given scenario. Conversely, a process must be rejected if you want the scenario to ignore it.

To define processes be taken into account in a scenario:

1. Open the **Characteristics** properties page of the portfolio you want to study.
2. In the **Scenario** section, select the scenario you are interested in.
The list of processes connected to the scenario appears in the matrix.
3. In the matrix, click the cells at intersections of processes and scenarios and select one of the following values:
 - **In progress**: the process is under study, it is integrated in the scenario
 - **Rejected**: the process is not taken into account in the scenario
 - **Accepted**: the process is integrated in the scenario





HOPEX BUSINESS PROCESS ANALYSIS REPORTS



HOPEX **Business** **Process** **Analysis**
offers analysis and follow-up of implementation of the business architecture evolutions of your enterprise. **HOPEX** Suite uses reports to group sets of repository objects and study their interactions.

➤ For more details on operation of reports, see the **HOPEX Common Features** guide, "Generating Reports".

Report templates proposed as standard by **HOPEX Business Process Analysis** offer various analysis presentation possibilities.

The following points are covered here:

- ✓ [Organization management](#)
- ✓ [Managing Processes](#)
- ✓ [Business and IT Ressources](#)
- ✓ [Process deployment](#)
- ✓ [Process Assessment](#)

ORGANIZATION MANAGEMENT

This paragraph presents the list of reports available from Organization.

- [Org-Units Analysis](#).
- [Managing RACI \(BPMN\)](#).
- [Org-Unit RACI Matrix \(BPMN\)](#).
- [Org-Unit and owned org-units RACI Matrix \(BPMN\)](#).

Org-Units Analysis

This report details the organizational structure, the responsibilities and the sites associated to the org-units specified as parameters.

This report is broken down into three parts:

- The first part details organizational structure of each org-unit specified as parameter. In this part, the org-units analyzed are listed with their type, parent, sub-org-units, persons involved in execution of the tasks associated with the org-unit, including other information related to these persons. This part also displays statistical data: number of org-units, number of persons.

1. Org-Unit Structure

Type d'acteur Business Person			
 Purchasing Assistant			
 Purchasing Management	Structure		
 Purchasing Department	Structure		
 Supply Management	Structure		
 Supply Chain Manager	Fonction		
 Purchasing Manager			
Nom	Type d'acteur	Parent Org-Units	Business Person
 Purchasing Assistant			
 Purchasing Management	Structure	 HBC Group	
 Purchasing Manager			

- The second part describes responsibilities of org-units. It presents detail of operations executed by the org-units and the processes for which it is responsible. This part also displays statistical data: maximum, minimum

and average value of operations executed per org-unit, as well as equivalent values for assigned processes.

2. Org-Unit Responsibility

Number of responsibilities :	5.0
Min. responsibilities per org-unit :	0.0
Max. responsibilities per org-unit :	4.0
Average number of responsibilities per org-unit :	1.67

Nom	Type d'acteur	Responsibilities
Purchasing Assistant		<div><div>Process Purchase Request</div><div>Enter Request</div><div>Finalize Request</div><div>Send Confirmation</div></div>
Purchasing Management	Structure	
Purchasing Manager		<div><div>Process Purchase Request</div><div>Approve Request</div></div>

- The final part presents geographical distribution of org-units on sites.

3. Org-Unit Geographical Distribution

Nom	Sites
Purchasing Assistant	
Purchasing Manager	
Purchasing Management	Headquarters

Sites List

Nom	Org-Units
Headquarters	Purchasing Management

Report parameters

Parameter	Parameter type	Constraints
Org-units analyzed	Org Unit	Not mandatory. If no value is given, all org-units are analyzed.

☛ Org-units can be distributed in sub-groups. In this case, statistical values are calculated for each of these.

Org-Unit RACI Matrix (BPMN)

Like report [Organizational Process RACI Matrix \(BPMN\)](#), this report describes a matrix presenting the RACI value of org-units presented in columns related to operations and organizational processes presented in rows.

☛ For more details on managing RACI, see [Process responsibilities](#).

This report automatically specifies matrix rows and columns with objects connected to objects specified as parameters.

☛ To generate a matrix to search for organizational processes and operations in depth, you must use report [Org-Unit and owned org-units RACI Matrix \(BPMN\)](#).

Report parameters

Parameter	Parameter type	Constraints
Org-unit (in columns)	Org Unit	At least one object mandatory.

Org-Unit and owned org-units RACI Matrix (BPMN)

Like report [Organizational Process and sub-processes RACI Matrix \(BPMN\)](#), this report describes a matrix presenting the RACI value of org-units presented in columns related to operations and/or organizational processes presented in rows.

☛ For more details on managing RACI, see [Process responsibilities](#).

The second parameter of this report indicates the number N of the depth level of search for sub-org-units. If this number is not indicated, the complete hierarchy of sub-org-units is specified.

The report searches for all sub-org-units of the given org-unit given as parameter to N levels and adds this org-unit. It presents in columns the org-units found, and


in rows the operations or organizational processes associated with these org-units,
with the RACI value in the cell.

MANAGING PROCESSES

This paragraph presents the list of reports available from a process.

- [Comparaison de diagrammes BPMN](#).
- Conformité de diagrammes de processus ;
- [BPMN Organizational Process](#).
- [Inconsistency of Message Flows in a Process](#).
- [Managing RACI \(BPMN\)](#).
- [Organizational Process RACI Matrix \(BPMN\)](#).
- [Organizational Process and sub-processes RACI Matrix \(BPMN\)](#);
- Graphe d'impact du processus.


Comparaison de diagrammes BPMN

 For more details on the use of a diagram comparison report, see "Comparing diagrams" chapter in the **HOPEX Common Features** guide.

This report can be accessed from the **Reports > Processes Follow-up** navigation pane.

To activate this report:


1. Click on **Diagram comparison** tile.
An edit window opens.
2. For the diagrams that interest you, select the **Source object** and **Target object**.

 The comparison is based on the hypothesis that the target object has been created from a source object version.

3. Select, for each object, the diagram to be compared.
4. Click the **Refresh Report** button.

The report is displayed providing the following informations:


- The list of **deleted** objects: name and type of objects existing in the diagram of the older object (source object) but not in the diagram of the most recent object (target).

 If the target object is in a version less recent than the source object, **HOPEX** automatically manages the error correction.

- The list of **new** objects: name and type of objects existing in the diagram of the most recent object (target) but not in the diagram of the older object (source).
- The list of **modified** objects that provides:
 - The name and the type of each object whose name has been modified in the target object.
 - The name and the type of objects connected to different participants in the target and the source diagram.

Conformité de diagrammes de processus


This report enables comparison of the diagram of two different processes. This report is based on the diagram comparison report principle, but there is no constraint on the diagrams defined as parameters.

 For more details on the use of a diagram comparison report, see "Comparing diagrams" chapter in the **HOPEX Common Features** guide.

This report can be accessed from the **Reports > Processes Follow-up** navigation pane.

To activate this report:

1. Click on **Diagram Conformance** tile.
An edit window opens.
2. Select the **Object Type** of the diagrams owners.
3. Select the **Source Object** and the **Source Diagram**.
4. Select the **Target Object** and the **Target Diagram**.

 The comparison is based on the hypothesis that the target object has been created from a source object version.

5. Click the **Refresh Report** button.

The report is displayed providing the following informations:

- The list of **Deleted** objects: name and type of objects existing in the source diagram but not in the target diagram.
- The list of **New** objects: name and type of objects existing in the target diagram but not in the source diagram.
- The list of **modified** objects that provides:
 - The name and the type of each object whose name has been modified in the target object.
 - The name and the type of objects connected to different participants in the target and the source diagram.

BPMN Organizational Process

Like report [Support of Processes by Applications Table \(Statistics\)](#), this report describes an organizational process, its template and its participants, as well as the activities for which each participant is responsible. This analysis also presents exchanges, systems used to support activities and the risks encountered during process execution.

Report parameters

Parameter	Parameter type	Constraints
Object	Organizational Process	One object mandatory.

Inconsistency of Message Flows in a Process

This report provides a detailed view of the inconsistencies on the flows exchanged by a process with the outside. The flows, and associated content, exchanged with the outside must be described in the process diagram.

➡ For more details, see [Defining Message Flows](#).

Report parameters

Parameter	Parameter type	Constraints
Object	Organizational Process	One object mandatory.

This report only details the flows in error.

Process Message Flows Inconsistencies ⓘ



1. Inbound Contents Consistency Check ⓘ

Process	Target Element	Called Process	Inconsistent Inbound Message Flow	Carried Content	Source Element
My Organizational Process	Sub Organizational Process		Participant o--> Sub Organizational Process	Sub Test	Participant
Organizational Process Test	My Organizational Process	My Organizational Process	Start o--> My Organizational Process	Error	Start

2. Outbound Contents Consistency Check ⓘ

Process	Source Element	Called Process	Inconsistent Outbound Message Flow	Carried Content	Target Element
My Organizational Process	Sub Organizational Process				
Organizational Process Test	My Organizational Process	My Organizational Process			

Managing RACI (BPMN)

Like report [Organizational Process RACI Matrix \(BPMN\)](#), this report describes a matrix presenting the RACI value of org-units presented in columns related to operations and organizational processes presented in rows.

➡ For more details on managing RACI, see [Process responsibilities](#).

Report parameters

Parameter	Parameter type	Constraints
Org-unit (in columns)	Org Unit	At least one object mandatory.
Process (in rows)	Organizational process or operation	At least one object mandatory.

Organizational Process RACI Matrix (BPMN)

This report is a matrix presenting the RACI value of org-units presented in columns related to organizational processes presented in rows.

☛ For more details on managing RACI, see [Process responsibilities](#).

☛ To generate a matrix to search for organizational processes and operations in depth, you must use report [Organizational Process and sub-processes RACI Matrix \(BPMN\)](#).

To generate A RACI matrix from the **Reports** navigation pane:

1. Select **Other Reports** then the **Reports** tile.
2. In the **My Reports** tab, click **New**.
The report creation dialog box opens.
3. In the list of report templates, select "Business Process RACI Matrix (BPMN)", then click **Next**.

- Then select the organizational process that interests you.
You obtain a result like this:


1. Organizational Process RACI matrix

	Buyer	Purchasing Department	Purchasing Assistant	Purchasing Manager	Buyer
<input type="checkbox"/> Notify Reject			(R)		
<input type="checkbox"/> Enter Purchase Request			(R)		
<input type="checkbox"/> Approve Request				(R)	
<input type="checkbox"/> Finalize Request			(R)		
<input checked="" type="checkbox"/> Process Purchase Request	A				

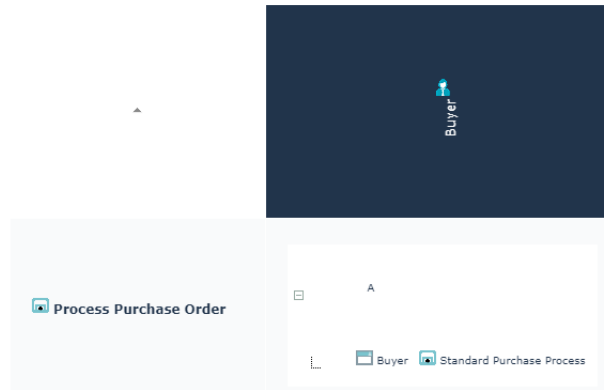
Cells of this matrix are filled with a letter representing responsibility of the org-unit in the process (or operation):

- (A) for Accountable
- (R) for Responsible
- (R/A) for Responsible/Accountable
- (C) for Consulted
- (I) for Informed

This value can be automatically proposed when a participant assigned to the org-unit executes the operation or organizational process. It can be modified or confirmed by the user.

If you click button , the context of the responsibility of the org-unit is indicated. You can view:

- the name of the participant to which the org-unit is assigned
- the name of the process that is owner of the participant



Report parameters

Parameter	Parameter type	Constraints
Process (in rows)	Organizational process or operation	At least one object mandatory.

Organizational Process and sub-processes RACI Matrix (BPMN)

Like report [Organizational Process RACI Matrix \(BPMN\)](#), this report describes a matrix presenting the RACI value of org-units presented in columns related to operations and/or organizational processes presented in rows.

➡ For more details on managing RACI, see [Process responsibilities](#).

The second parameter of this report indicates the number N of the depth level of search for sub-processes. If this number is not indicated, it takes into account the entire sub-process hierarchy.

The report searches for all sub-processes of the process given as parameter to N levels and adds this process. It presents in columns the org-units found, and in rows the organizational processes associated with these org-units, with the RACI value in the cell.

Process Impact Graph

This report is a dendrogram. It displays the link between an organizational process and different object types.

➡ See [Handling a Dendrogram](#) for further information.

Access path

Property page of the organizational process > Reporting > Process Description > Process Impact Graph.

Object types

Object type	For further details
Value chain	See Representing the value stream fulfillment with HOPEX Business Process Analysis .
Business capability	See Describing Fulfillment of a Business Capability .
Catégorie de processus	See Managing Business processes .
Customer journey	See Creating an involved resource in a customer journey .
Project	See Prerequisites to linking a project to a process .
Risk	See Creating risks .
Concept	See Prerequisites to linking a concept to a process .
Application	See Creating a System Used in an organizational process diagram .
Participant	See Creating a Participant .

Prerequisites to linking a project to a process

You need to use **HOPEX Project Portfolio Management**.

To display the link between an organizational process and a project:

1. Fill the organizational process in the section **Project Deliverables**.

➡ For further details, see [Project deliverables](#).

Prerequisites to linking a concept to a process

You need to use **HOPEX Information Architecture**.

To display the link between an organizational process and a concept:

1. In the diagram toolbar, click **Data Object**.
2. In the Creation of Data Object window, select a **Content**.
3. Access the property page of the content and expand the **Business Information Used** section.

4. Click **New**.
5. In the Add Concept window, select an existing concept or create a new one.

BUSINESS AND IT RESSOURCES

This paragraph presents the list of reports relating to functional and technical aspects.

- [Support of Processes by Applications Table \(Statistics\)](#).

Support of Processes by Applications Table (Statistics)

This report describes which business applications support business or organizational processes.

An organizational process is considered as supported by an application if this process or one of its sub-processes or one of their operations is connected to this application or to one of its sub-applications or to one of their application services.

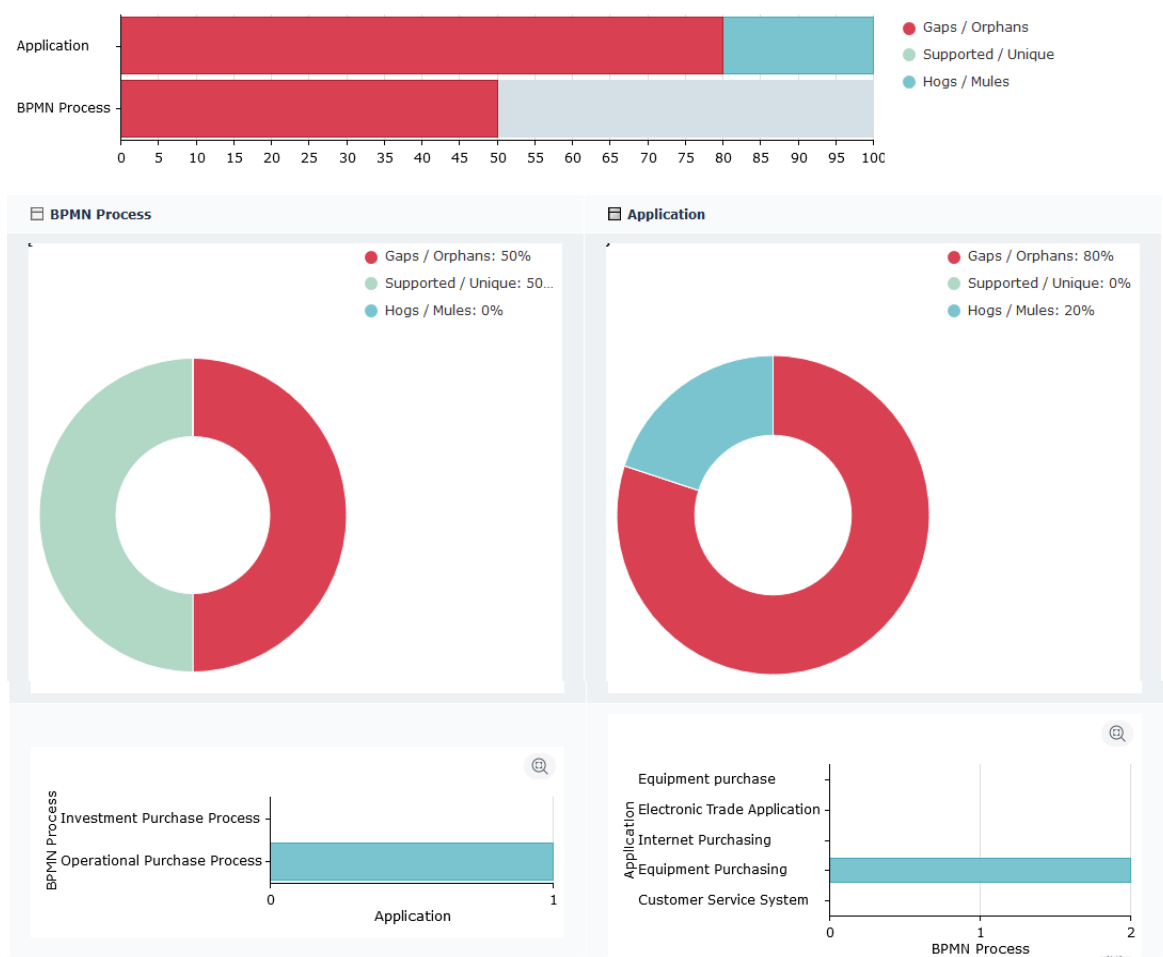
A business process is considered as supported by an application if this business process or one of its sub-processes or one of their organizational processes (or sub-processes) or one of their operations is connected to this application or to one of its sub-applications or to one of their application services.

In a report of this type, applications are broken down into several categories:

- A process can be supported by zero (Orphan), one (Unique) or several (Mule) applications.
- An application can support zero (Gap), one (Supported) or several (Pivot) processes.

The number of components of each category is presented:

- as stacked bars.
- as pie charts.



Report parameters

Parameter	Parameter type	Constraints
Processes	Business processes	At least one object mandatory.
Application	Application	At least one object mandatory.

PROCESS DEPLOYMENT

This paragraph presents the list of reports about deployment of processes.

- [Contextualization Matrix \(BPMN\)](#).
- [APQC Value Chain Analysis](#);

Contextualization Matrix (BPMN)

This report enables identification of contextualizations representing the implementation of organizational processes (specified as parameters and presented in rows) between functional processes (presented in columns).

When an organizational process is the implementation of a functional process in a particular context, this is displayed in the cell.

If a contextualization exists between a functional process and an organizational process, it is presented in the corresponding cell.

 For more details on the use of contextualizations, see the guide **HOPEX Business Process Analysis**, "Defining Contextualizations" chapter.


	Update Vacation Package		Deliver Vacation Business		Cancel Package
Update Vacation Package	▼	Contextualization			
		Purchasing Clerk			
Deliver Vacation Business			▼	Contextualization	
				Europe	



















Report parameters

Parameter	Parameter type	Constraints
Organizational Process	Organizational Process	At least one process mandatory.
Functional process	Functional process Activity	

APQC Value Chain Analysis

You can use the **APQC - Process - DataSet Definition** report DataSet to display the structure of the value chains imported in APQC libraries.

 For more details on APQC elements import, see [Prerequisites to using APQC libraries](#).

Level 1	Level 2	Level 3	Level 4
 1.4 Develop and maintain business models (20944)	 1.4.1 Develop business models (20945)		
	 1.4.2 Maintain business models (20950)		
	 1.4.3 Establish business model governance (20955)		
		 11.1.1 Establish the enterprise risk framework and policies (16439)	 11.1.1.1 Determine risk tolerance for organization (16440)
			 11.1.1.2 Develop and maintain enterprise risk policies and procedures (16441)
			 11.1.1.3 Identify and implement enterprise risk management tools (16442)
			 11.1.1.4 Coordinate the sharing of risk knowledge across the organization (16443)
			 11.1.1.5 Prepare and report enterprise risk to executive management and board (16444)
		 11.1.2 Oversee and coordinate enterprise risk management activities (16445)	 11.1.2.1 Identify enterprise level risks (16446)
			 11.1.2.2 Assess risks to determine which to mitigate (16447)
			 11.1.2.3 Develop risk mitigation and management strategy and integrate with existing performance management processes (16448)
			 11.1.2.4 Verify business unit and functional risk mitigation plans are implemented (16449)
			 11.1.2.5 Ensure risks and risk mitigation actions are monitored (16450)
			 11.1.2.6 Report on enterprise risk activities (16451)
			 11.1.2.7 Coordinate business unit and functional risk management activities (16452)

Report parameters

Parameter	Parameter type	Constraints
List of Value chains	Value chain	Mandatory to access to instant reports:

PROCESS ASSESSMENT

This paragraph presents the list of reports dedicated to Process Assessment.

- [Execution and Performance Heatmap report](#),
- [Execution and Performance Heatmap report](#).

Execution and Performance Heatmap report

This report presents, in the form of a matrix, the assessment results of processes.

➤ For more details on process assessment, see [Assessments With HOPEX Business Process Analysis](#).

Assessed criteria

These characteristics relate to attribute values linked to process performance and execution.

List of characteristics linked to process performance:

- **Business Value**: characterizes business value of the object.
- **Effectiveness**: characterizes effectiveness of object operation
- **Risk**: characterizes risks concerning the object.
- **Performance**: this characteristic is a global assessment of process performance. It is calculated from assessment of process business value, effectiveness and risk.

List of characteristics linked to process execution:

- **Specification**: assessment of quality of description of the object in the repository.
- **Knowledge**: assessment of knowledge of the object by stakeholders.
- **Support**: assessment of application support of the object.
- **Execution**: this characteristic is a global assessment of object execution. It is calculated from assessment of object specification, knowledge and support.

The results of this report can have two origins:

- the values of attributes linked to the characteristics assessed on objects directly specified as "expert view" by the user
- the questionnaires results aggregation that enable to get a value for each attribute connected to assessed characteristics of each object ((**Performance**, **Execution**, for example).

➤ For more details, see [Assessment by questionnaire](#).

Report presentation

This report is broken down into three parts:

- The first part details the performance assessment heatmaps.

Performance x Execution

	N/A	Inefficient	Insufficient	Medium	Good	Very Good	Sum
Very High	0	0	0	0	0	0	0
High	0	0	0	0	0	0	0
Medium	0	0	0	0	0	0	0
Low	0	0	0	0	0	0	0
Very Low	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0
Sum	0	0	0	0	0	0	0

Business Value x Risk

	N/A	Very High	High	Medium	Low	Very Low	Sum
Very High	0	0	0	0	0	0	0
High	0	0	0	0	0	0	0
Medium	0	0	0	0	0	0	0
Low	0	0	0	0	0	0	0
Very Low	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0
Sum	0	0	0	0	0	0	0


Efficiency x Business Value

	N/A	Very Low	Low	Medium	High	Very High	Sum
Very High	0	0	0	0	0	0	0
High	0	0	0	0	0	0	0
Medium	0	0	0	0	0	0	0
Low	0	0	0	0	0	0	0
Very Low	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0
Sum	0	0	0	0	0	0	0

Efficiency x Risk

	N/A	Very High	High	Medium	Low	Very Low	Sum
Very High	0	0	0	0	0	0	0
High	0	0	0	0	0	0	0
Medium	0	0	0	0	0	0	0
Low	0	0	0	0	0	0	0
Very Low	0	0	0	0	0	0	0
N/A	0	0	0	0	0	0	0
Sum	0	0	0	0	0	0	0

- The second part details the execution assessment heatmap.

 The values used for these reports can be obtained in different ways. For more details, see [Expert view assessment](#) and [Assessment by questionnaire](#).


- The final part presents geographical distribution of org-units on sites.

Report parameters

Parameter	Parameter type	Constraints
Object	Business processes Organizational Process	At least one object mandatory.

Expert view assessment

In the properties of an organizational process or a business process, the **Assessment** tab allows an expert user to specify values of attributes linked to assessed characteristics.

 The values used for such reports are obtained from the process **Assessment** property pages. For more details, see [Assessing a process with HOPEX Business Process Analysis](#).

Assessment by questionnaire

Assessment is carried out using assessment questionnaires. Assessment questionnaires are sent to the appropriate addressees using customizable deployment modes. Results are then aggregates according to predefined rules to present results so they can be used.

Questionnaires

Questionnaires relate to characteristics to be assessed for all processes determined as objects of assessment.

Execution and Performance Heatmap (with contexts)

Like **Execution and Performance Heatmap**, this report presents, in the form of a matrix, the assessment results of processes in the context of entities and processes.

➡ For more details on this report, see [Execution and Performance Heatmap report](#).



APPENDIX - HOPEX BUSINESS PROCESS ANALYSIS WORKFLOW



This chapter presents the **HOPEX Business Process Analysis** workflow.

- ✓ [HOPEX Business Process Analysis Review Workflow](#)
- ✓ [Organizational Process review workflow](#)

HOPEX BUSINESS PROCESS ANALYSIS REVIEW

WORKFLOW

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

Roles on Objects

Object owners

The **Owner** is responsible for the following tasks:

- Risk identification
- Replying to questionnaires,
- Defining and implementing action plans,
- Validating modifications made by the **Business Architect** in the context of object review workflows.

Owners exist for:

- Capabilities
- organizational processes
- value stream
- business processes
- Organizational units

☛ To specify the owner of a process for example, open the properties of the process, select the **Characteristics** tab and complete the **Owner** field.

Business architect

The business architect is the main user of the solution. Intervenes on the process architecture at each project phase.

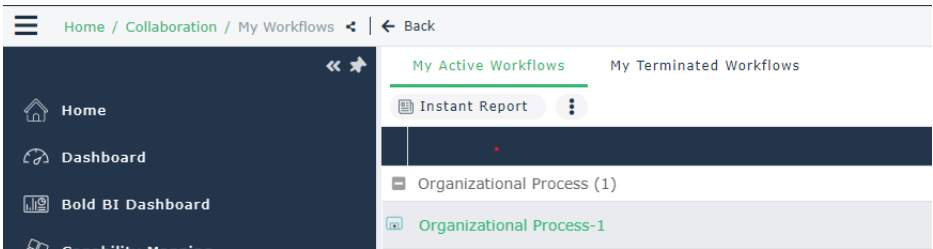
Activating process review workflows

Depending on the status of the workflow associated with the object, the object appears in the desktop of the user who must intervene to modify or validate it.

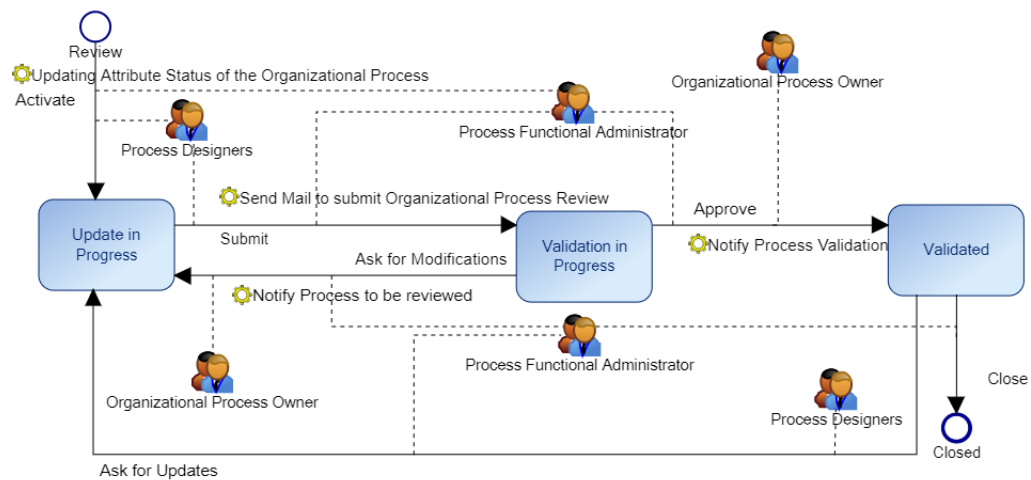
Commands enabling activation of the different steps of a workflow can be accessed from the **Collaboration > My workflows** button:

1. Select the **My active workflows** tab.

2. Click on the object that interests you to display its pop-up menu.



The steps in the organizational process review process are described by the diagram below.



Organizational Process Review Workflow Mails

Submit review request

From	Business architect
To	Organizational process owner
Subject	Organizational process to be validated - [Organizational process name]
Content	Sir, Madam, Please validate organizational process: [Organizational process name] To access the application and execute this task, [click here] Comment: [Comment]

Request modification

From	Organizational process owner
To	Business architect
Subject	Organizational process to be reviewed - [Organizational process name]
Content	Sir, Madam, Please review organizational process: [Organizational process name] Comment: [Comment]

Notify validation

From	Organizational process owner
To	Business architect
Subject	Organizational process validated - [Organizational process name]
Content	Sir, Madam, This organizational process has been validated: [Organizational process name] Comment: [Comment]

