

THE INFORMATION ARCHITECTURE DESKTOP



The "Information Architecture" desktop is the common workspace for solutions:

- **HOPEX Information Architecture**
- **HOPEX Logical Data**
- **HOPEX Database Builder**

These solutions complement each other to cover the three levels of data modeling for an organization:

- conceptual
- logical
- physical

The elements presented in the Information Architecture desktop depend on solutions available to you as well as the profile with which you are connected.

Modeling level	Associated product	Details
Business function	HOPEX Information Architecture	Definition of the business vocabulary Realization of concepts
Logical	HOPEX Logical Data	Modeling of logical data Realization of concepts by entities and classes
Physical	HOPEX Database Builder	Modeling/generating of physical data Synchronization of logical and physical models

HOPEX Information Architecture

HOPEX Information Architecture is dedicated to the representation of the architecture of information by listing and categorizing business concepts.

See ["Introduction to HOPEX Information Architecture"](#), page 7.

HOPEX Logical Data

HOPEX Logical Data covers the logical part. The solution provides notations to describe the entities implemented in a process. It allows you to connect business concepts to data model elements to ensure consistency and communication between the business actors and the Information System.

See ["Introduction to HOPEX Logical Data"](#), page 1.

HOPEX Database Builder

From logical data models, **HOPEX Database Builder** can be used to build corresponding physical models with a view to using data by the RDBS.

See ["Introduction to HOPEX Database Builder"](#), page 11.

HOPEX Information Architecture

User Guide



HOPEX V2

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INTRODUCTION TO HOPEX INFORMATION ARCHITECTURE



HOPEX Information Architecture offers a solution for managing and sharing the vocabulary specific to your enterprise. This application enables inventory, definition, classification and organization of business concepts to establish a pertinent link with technical objects implemented at information system level.

At the business level, **HOPEX Information Architecture** offers business users simple tooling to describe the concepts they handle and the links that manage their organization. To do this, **MEGA** is based on widely used semantic Web principles, as well as ontological frameworks such as IDEAS or standard ISO 15926 (high level, life cycle and event type).

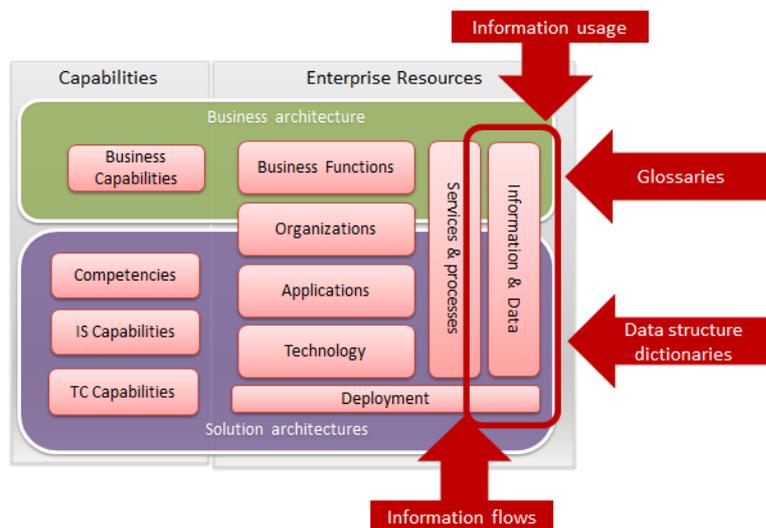
At the IS architecture level, **HOPEX Information Architecture** offers features to establish correspondence between application data, based on UML formalism, and informations described at the business level.

- ✓ ["Vocabulary Management Process", page 8](#)
- ✓ ["Connecting to HOPEX Information Architecture", page 11](#)
- ✓ ["Interface Presentation", page 14](#)
- ✓ ["About This Guide", page 16](#)

VOCABULARY MANAGEMENT PROCESS

HOPEX Information Architecture Positioning in HOPEX Suite

Associated with all **HOPEX Suite** products, **HOPEX Information Architecture** provides an approach at several levels for creation of business ontologies.



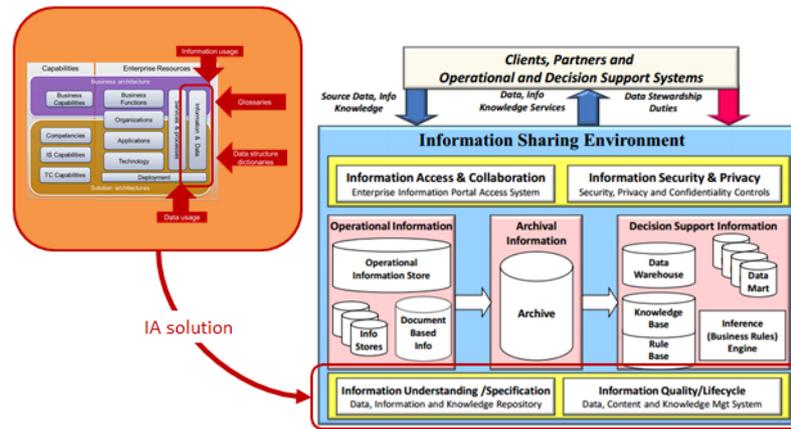
The **HOPEX Information Architecture** solution is integrated in the more global **Information Architecture** offer. This offer contains three solutions: **HOPEX Information Architecture**, **HOPEX Logical Data** and **HOPEX Database Builder**.

The **Information Architecture** offer is used to build the global architecture of data, from the definition of business data to database design. It ensures the traceability of data between the different modeling levels: conceptual, logical and physical.

Business concepts are defined in the **HOPEX Information Architecture** solution.

The concepts can then be connected to logical data models created in **HOPEX Logical Data** to describe the Information System. Company organizers and architects can describe operations using **HOPEX Logical Data** by modeling data used when implementing business processes and applications. To this end, **HOPEX Logical Data** makes available a number of notations.

Using logical data models, **HOPEX Database Builder** builds corresponding physical models, that is, creates database tables, with its columns, indexes and keys as well as the relational diagram drawings.



The **HOPEX Information Architecture** solution allows business users to create a first draft of their vocabulary, to organize this and progressively build increasingly comprehensive glossaries of the business objects they handle.

The inventoried and organized business concepts can then be connected to elements of the technical and functional architecture and data models listed in **HOPEX Suite** to describe and implement your information system.

In **HOPEX Information Architecture**, there are default user profiles with which specific rights and accesses are associated with different solutions:

- The **Business information architect**,
- The **Data architect**,
- The **Database architect**,
- The **Database administrator**,
- The **IA functional administrator**.

For more details, see "[HOPEX Information Architecture Profiles](#)", page 11.

Proposed Methodology

The approach embedded in **HOPEX Information Architecture** starts from basic concepts up to concept classification (concept categories: contact types, vehicle types) passing through time concepts such as events and life cycles.

For example: order issued, order paid, order delivered.

This incremental approach allows enterprises to progressively build comprehensive glossaries adapted to the context of their organizations.

So that business users and IS users share a common vocabulary, **HOPEX Information Architecture** is based on two major functions:

- The analysis and organization of business concepts,
- The relationship setting of business concepts with information system architecture elements.

Analysis and organization of business concepts

This is carried out by a business user. It consists of describing all business concepts, using a simple semantic model based on notions of concept, event and state.

- A concept, representing a business object, is characterized by:
 - its scope, that is, its relationships with other concepts

For example, a work is characterized by its author, its title, its publication date, etc.

- its inheritance links with other concepts

For example, a subscription is a book or media subscription.

- its occurrences,

For example, Alexandre Dumas is an occurrence of Author.

- A State Concept enables identification of an evolution in time of a concept,

For example, a work is available or on loan.

- An Event represents a significant fact modifying the state of one or several concepts.

For example, publication of a work.

HOPEX Information Architecture offers the standard "Business Data Manager" role to assure business concept analysis and organization work.

Concept realization

Business concepts are generally implemented in the IS using the UML method and formalism.

"Concept realization" work therefore consists of connecting data model elements with business concepts in order to:

- define more precisely objects handled at IS architecture level,
- assure improved vocabulary sharing and improved global communication between business users and IS users.

HOPEX Information Architecture offers the standard "Data Manager" profile to ensure the "concept realization" work.

CONNECTING TO HOPEX INFORMATION ARCHITECTURE

The menus and commands available in **HOPEX Information Architecture** depend on the profile with which you are connected.

Connecting to the solution

To connect to **HOPEX Information Architecture**, see HOPEX Common Features, "HOPEX Web Front-End Desktop".

HOPEX Information Architecture Profiles

In **HOPEX Information Architecture**, there are default user profiles with which specific rights and accesses are associated. The profiles available are:

- The **Business information architect**,
- The **Data architect**,
- The **Database architect**,
- The **Database administrator**,
- The **IA functional administrator**.

The Business information architect

The **Business Information Architect** is a representative of the enterprise business. He is responsible for structuring enterprise business information to facilitate its management and access. The business information architect is responsible for designing the enterprise vocabulary by modeling the information, their details and relationships as well as the different subject areas.

The **Business information architect** is responsible for execution of the following tasks:

- Identification of subject areas,
- Creation and definition of business information areas,
- Creation, definition and classification of concepts and concept types, terms creation,
- Creation of information architecture diagrams,
- Creation of concept views,
- Creation of reports facilitating information access

➤ For more details on the activities of the Business Information Architect, see "[Describing Business Information Architecture](#)", page 43..

Data architect

The **Data Architect** is an Information System player with read and write access to the logical data of the company. The Data Architect is responsible for modeling all

the logical data (classes, associations, attributes, etc.) as well as the data areas used to exploit this information in process or application mapping.

Responsible for execution of the following tasks:

- Definition of logical data,
- Creation of realizations connecting logical data to business concepts.

➤ *For more details on the activities of the Business Data Architect, see the **HOPEX Logical Data** guide.*

Database architect

The **Database architect** is responsible for designing databases. For each version of the target DBMS version, the database architect uses the logical data and produces the physical view via synchronization tools.

➤ *For more details on the activities of the Business Data Architect, see the **HOPEX Database Builder** guide.*

Database administrator

Database architects can connect to the desktop to consult the databases that are assigned to them and generate the corresponding SQL files.

➤ *For more details on the activities of the Business Database Administrator, see the **HOPEX Database Builder** guide.*

The IA functional administrator

The **IA functional administration** is responsible for managing all the product's administrative tasks. The IA Functional Administrator has rights to all objects.

- It manages user creation and their profile assignments.
- Prepares the work environment and creates elements required for information management.
- Can intervene in:
 - subject areas,
 - business information areas,
 - concepts, concept types and concept views,
 - information architecture diagrams,
 - Reports,
 - all repository components.

HOPEX Information Architecture Business Roles

In **HOPEX Information Architecture**, objects can be assigned to persons with the following roles:

- The **Data Designer**, who specifies the person responsible for the object design. For example, who is responsible for a given object (eg: subject area, package, data area, databases, etc.);
- The **Data Scientist**, who is responsible for bringing together the data designer (business and logical data) and the managers of the processes who use this data.
- The **Database Administrator**, who can be assigned to databases.

➤ For more details on assignments, see "[Managing assignments](#)", page 37.

INTERFACE PRESENTATION

The menus and commands available in **HOPEX Information Architecture** depend on the profile with which you are connected.

☛ For more details on profiles, see "[HOPEX Information Architecture Profiles](#)", page 11.

☛ For more details on use of the HOPEX solutions Web platform, see the **HOPEX Common Features** guide.

Presentation of space common to all profiles

All users have the **HOPEX Information Architecture** desktop and access to the following panes:

- **Home, Dashboard, List of tasks** and **Reports** that are common to all **HOPEX** solution users.
- **Environment**: pane used to organize library elements and access the library more easily,
- **Business information** : provides access to business data used by the profile,
- **Reports**: accesses all reports, improving understanding of terms and their use.

Business information architect space

In addition to the panes offer in standard mode to all **HOPEX Information Architecture** desktop users, the business information architect has access to all the folders available in the **Business information** pane:

- **Subject areas,**
- **Business information areas,**
- **Concept types,**
- **Concept,**
- **Concept views.**

Data architect space

In addition to the panes offered in standard mode to all **HOPEX Information Architecture** desktop users, the data architect has access to the **Logical data** pane, which provides access to the following folders:

- **Data Type Packages,**
- **Packages,**
- **Data areas,**
- **Data views.**

Moreover, to be able to describe the realizations, the data architect also has access to the **Business information** pane. The data architect can consult the objects, the diagrams and the reports in the following folders:

- **Subject areas,**
- **Business information areas,**
- **Concept,**
- **Concept views.**

IA functional administrator workspace

In addition to the panes offered in standard mode to all users of the **HOPEX Information Architecture** desktop, the IA functional administrator has access to the following navigation panes:

- The **Information Architecture** pane, which groups all folders available to the business information architects.
 - **Subject areas,**
 - **Business information areas,**
 - **Concept types,**
 - **Concept,**
 - **Concept views.**
- The **Logical data** pane, which provides access to the list of logical data via different folders:
 - **DataType Package,**
 - **Package,**
 - **Data areas,**
 - **Data views,**
 - **Databases,**
 - **Tools.**
- The **Physical data** pane, which provides the data architect with access to the databases, physical RDB data areas and physical views.
 - ☛ *For more information on physical data management, see **HOPEX Logical Data**, and **HOPEX Database Builder** guides.*
- The **Administration** pane, particularly for user management.
 - ☛ *For more details on management of users and profiles, see **HOPEX Administration - Supervisor**, chapter "Managing Users".*

ABOUT THIS GUIDE

This guide presents how to make best use of **HOPEX Information Architecture** to assure efficient management of your information.

Guide Structure

The **HOPEX Information Architecture** guide comprises the following chapters:

- "[Objects Used](#)", [page 19](#), presents the objects of the **HOPEX Suite** that support **HOPEX Information Architecture** and the associated specific diagrams.
- "[Describing Business Information Architecture](#)", [page 43](#), presents functionalities proposed by **HOPEX Information Architecture** to data managers to connect application data to business concepts;
- "[HOPEX Information Architecture Reports](#)", [page 87](#), presents reports proposed by **HOPEX Information Architecture** to improve organization of enterprise information and its communication.

Additional Resources

This guide is supplemented by:

- the **HOPEX Common Features** guide, which describes features specific to MEGA solutions.
 - ☛ *It can be useful to consult this guide for a general presentation of the interface.*
- the **HOPEX Administration - Supervisor** administration guide.
- the **HOPEX Logical Data** guide presents logical data management and functionalities proposed by **HOPEX Information Architecture** to data managers to connect application data to business concepts;

Conventions Used in the Guide

Styles and formatting

-  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.

OBJECTS USED



The **HOPEX Information Architecture** application is used to define, structure and organize the business vocabulary of your enterprise simply and in a user-friendly way. From a basic semantic model, the application offers you menus, commands and diagrams simplifying construction of your information architecture.

This chapter introduces basic notions used by **HOPEX Information Architecture** .

- ✓ ["Describing Concepts", page 20](#) ;
- ✓ ["Information Architecture Principles", page 25](#) ;
- ✓ ["Diagrams", page 34](#) ;
- ✓ ["Summaries of Links Between Dictionary Elements", page 39](#).

DESCRIBING CONCEPTS

The aim of this solution is to create a dictionary that describes and defines elements of your business vocabulary.

With **HOPEX**, the basic component of a dictionary is the **Concept**.

 *A concept expresses the essential nature of a being, an object, or a word through its properties and characteristics or its specific qualities.*

The word that is associated with a **Concept** and which depends on language is a **Term**.

 *A term is a word or word group, that is used for a specific meaning in a specific context.*

A term is therefore specific to a language and cannot be translated. On the other hand, it enables creation and viewing of the concept in the language chosen by the user.

- ✓ ["Basic Notions", page 20;](#)
- ✓ ["Term Use Principles", page 22;](#)
- ✓ ["Using the Dictionary in a Multilingual Context", page 24.](#)

Basic Notions

The same term in different languages can represent different concepts.

Example: the term "car" in English refers to a private car, while the same term in French represents a collective transport vehicle.

The terms are not translatable, therefore several **Term** objects can carry the same name in different languages.

In contrast, in the same language, the same term can represent several concepts and the meaning that is given to this term depends on its context of use.

For example, the word "ring" in English refers to a bell as well as a ring.

As a consequence, for the same language, the same **Term** can be connected to several concepts. Each concept gives a specific definition of a term in its subject area.

 *A business information area is a sub-set of elements of a subject area that reduces the scope of a field.*

As a consequence, with **HOPEX**, a concept carries the name of its associated term in the language chosen by the user. To modify the name of a concept in a given language, you must therefore change the name of the associated term.

➡ *For more details, see ["Using the Dictionary in a Multilingual Context", page 24.](#)*

Links between concept, term and synonym

With **HOPEX**, the concept is described by

- the **Dictionary Abstract Type** check box, which enables specification of the concrete or abstract character of a concept

For example, the "Order" concept is an abstract concept compared to "Trip Order".

- its **Designation** that contains all the term associated with the concept in the different languages

☛ For more details, see ["Using the Dictionary in a Multilingual Context", page 24.](#)

- the **Definition Text**, if this has been specified.

Description of a concept can be supplemented by specification of terms that are synonyms.



A synonym is a term interchangeable with another term in the context of a concept of this term that has the same or almost the same meaning.

For example, in the Financial area, the term "Advance" is recognized as a synonym of "Down payment".

Accessing subject area concepts

To access subject area concepts with **HOPEX Web Front-End** :

1. In the **Business information** pane, click **Subject Areas > Architecture Information.**

The list of existing subject areas in the repository appears.

2. Expand the folder that corresponds to the subject area that interests you.
3. Expand the "Concept" folder.

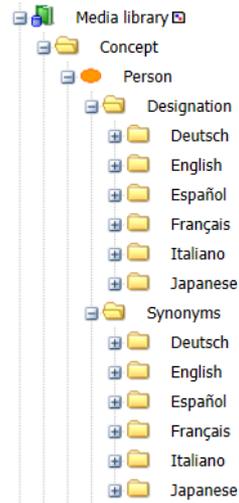
The list of subject area concepts appears.

☛ *Concepts carry the name of the term associated with the concept in the data language. For more details, see ["Using the Dictionary in a Multilingual Context", page 24.](#)*

If you expand the folder associated with a concept, the terms and synonyms are accessible in all languages available in your environment **HOPEX**.

☛ *The number of languages proposed from folders depends on your **HOPEX** environment. To configure the list of languages, see the*

HOPEX Power Supervisor guide, chapter "Managing Options", "Managing Languages", "Installing Additional Languages".



Accessing subject area terms

To access subject area terms:

1. Expand the folder that corresponds to the subject area that interests you.
2. Expand the "Terms" folder.
All subject area terms appear without distinction of language.

Term Use Principles

Using existing terms

The same term can be connected to several Dictionary type objects.

 *A dictionary type groups all the objects that can be connected to a term : concepts, concepts type, individuals, components or classifications.*

When creating a dictionary type object, you can choose to use an already existing term, or create a new term.

 *For more details on concept creation, see "[Creating a New Concept](#)", page 52.*

To consult the list of concepts connected to a term:

1. Expand the folder that corresponds to the subject area that interests you.
2. Expand the "Terms" folder and select the term that interests you.
The properties of the term open in the edit area.

3. Select the **Characteristics** tab.
The list of objects connected to the term appears in the **Identified Dictionary Type** table.

Short Name	Name	Designation
Person	Person (Media library)	Personne

☛ Objects for which the term is declared as a synonym do not appear in the properties dialog box.

☛ You can create a **Dictionary Type** from a term.

Creating a concept from a term

To create a concept from a term:

1. Right-click the term that interests you and select **New > Concept**.
The concept creation wizard opens; the local name of the concept and its subject area are predefined from the term.
2. Click **Next**.
3. In the **Definition Text** field, enter the text of the concept definition and click **Finish**.
The new concept is created with the name of the term and is associated with the same subject area.

Creating a term when creating an object

When creating a dictionary type object, if no term is explicitly connected or created, a new term is automatically created in the data language. This term carries the name of the object created.

Certain MetaClasses are obligatorily associated with at least one term. This is the case for example for **Concept, Concept Type, State Concept**.

☛ For more details on concept creation, see ["Creating a New Concept", page 52](#).

Other MetaClasses can be associated with a term, without this being obligatory. These are objects defining links between dictionary elements, for example **Concept Structural Component**.

☛ For more details on structural Concept Component creation, see ["Describing Concept Structural Components", page 54](#).

☛ If an object is associated with a term, its properties dialog box contains a **Designation** section, a **Definition Text** field and a **Synonyms** section. For more details, see ["Links between concept, term and synonym", page 21](#).

Creating terms in multiple languages

From **dictionary type** object, you can associate terms for each of the data languages of your environment.

To create a term from a concept, for example:

1. Open the properties of the concept that interests you and select the **Characteristics** tab.
2. In the **Designation** section, click the **New** button.
A term creation dialog box opens.
3. Specify the **Local Name** of the term.
4. Select the **Language** and click **OK**.
The new term appears in the concept properties.

Creating synonyms in multiple languages



A synonym is a term interchangeable with another term in the context of a concept of this term that has the same or almost the same meaning.

Synonyms for **dictionary type** objects can be added in multiple languages. This function serves to indicate to the user that a concept defined and used in a certain context corresponds to other synonyms in another language.

Using the Dictionary in a Multilingual Context

For more information, see "Managing Dictionaries > Managing Dictionary Languages" in **HOPEX Common Features** guide.

☛ *You can create several terms associated with a concept in different languages. For more details, see "[Creating terms in multiple languages](#)", page 24.*

INFORMATION ARCHITECTURE PRINCIPLES

The principles on which **HOPEX Information Architecture** is based to describe your architectures are described here:

- ✓ "Links Between Concepts", page 25 ;
- ✓ "Individuals", page 27 ;
- ✓ "The life cycle of a concept or Individual", page 28 ;
- ✓ "Classifying Concepts and the Concept Type Notion", page 32 ;
- ✓ "The Concept View", page 33 ;
- ✓ "Dictionary Element Realization", page 33.

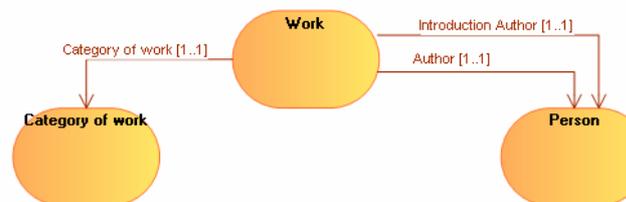
Links Between Concepts

To define semantics of a concept, **HOPEX Information Architecture** allows you to draw several types of link between concepts: definition links or dependency links.

Definition links

Definition links enable characterization of a concept.

For example, a work is defined by its work category (literary or musical), its author, the author of its preface.



With **HOPEX Information Architecture**, a definition link is described by a **Concept Structural Component**, which can be associated with a term.

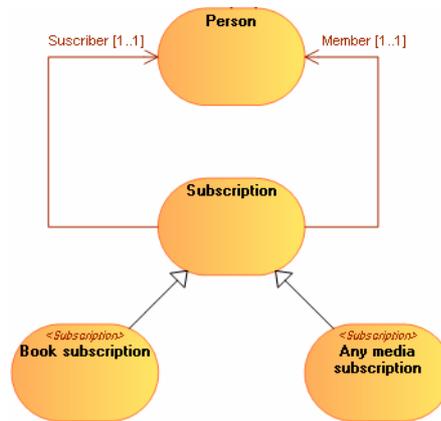
 A concept structural component enables representation of a dependency relationship between two concepts. This relationship is directional.

 For more details, see "[Describing Concept Structural Components](#)", page 54.

Dependency links

Certain business concepts are versions of other concepts; they inherit the same structural components of concept.

For example, "Subscription" concepts are broken down into "Book Subscription" and "Media Subscription". These two subscription types inherit the links "Subscriber" and "Member" at the level of the "Subscription" concept.



With **HOPEX Information Architecture**, this relationship is described by a **Variation**.

 A variation describes how a concept can be varied under another form. The variant is an object similar to the varied object, but with properties or relationships that may differ.

➤ For more details on variations, see the **HOPEX Common Features** guide, "Handling Repository Objects", "Object Variations".

A **Variation** can also be created between two **Concept Structural Components**.

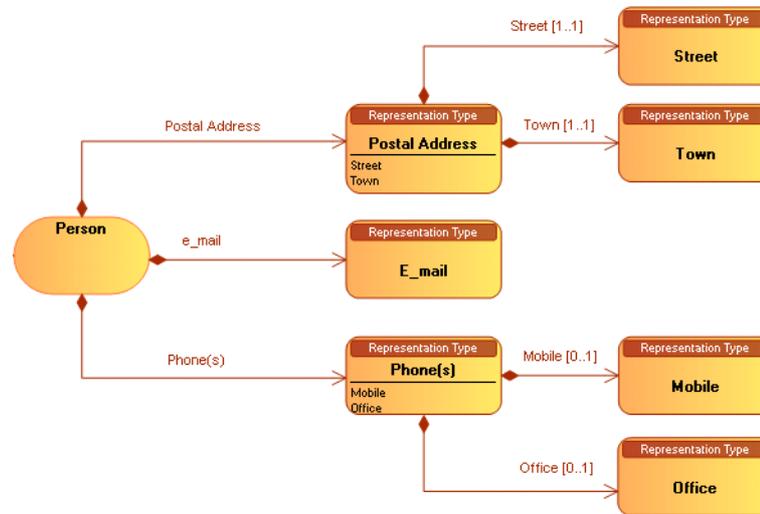
For example, the "Subscriber" is also a "Member".

➤ For more details, see "[Describing Concept Variations](#)", page 57.

Representation types

To describe the concrete elements attached to a concept, **HOPEX Information Architecture** offers the possibility to link a concept to representation types.

For example, a person is associated with a mandatory and unique postal address, possibly an email address and one or more telephone numbers.



With **HOPEX Information Architecture**, the link between a concept and a representation type is described by a **Concept representation** that can, if necessary, be associated with a term.

A representation type component enables specification of the relationship between two representation types.

A concept representation is used to specify the relationship between a concept and a representation type.

For more details, see ["Using representation types", page 55](#).

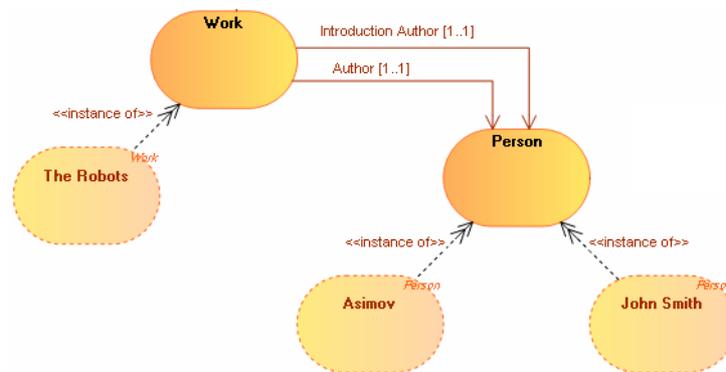
Individuals

To validate the semantic model created from concepts, **HOPEX Information Architecture** allows you to introduce concept instances, ie. real objects.

In this way you can create your semantic model using two approaches: either from real objects to deduce concepts, or from concepts to subsequently introduce real objects.

For example, "Asimov" is an instance of "Person" and "The Robots" is an instance of "Work".

John Smith is also an instance of "Person", but in the subscription holder category.



With **HOPEX Information Architecture**, a concept occurrence is an **Individual**.

An individual represents the occurrence of a concept.

The relationship between a concept and its occurrences is described by an **Individual Classification**.

An individual classification is used to connect an individual to the concept that characterizes it.

HOPEX Information Architecture also enables connection of two individuals with a **Dictionary Entity Component** relationship type.

A entity component enables connection of a individual to a dictionary element.

It is then possible to specify that "Asimov" is the author of the work "The Robots".

It is not possible to describe variations between individuals or between individuals' classifications.

For more details, see "[Describing individuals](#)", page 61.

The life cycle of a concept or Individual

To take account of evolution, in time and of business concepts, **HOPEX Information Architecture** has introduced two particular concepts:

- The **State Concept**, which enables identification of an evolution in time of a concept,

A state concept is a situation in a concept life cycle during which it satisfies certain conditions, executes a certain activity or waits for a concept event. A state concept represents a time interval of which limits

are two concept events. A state concept is a phase through which the concept passes during its life cycle.

- The **Event Concept**, which represents a significant fact modifying the state of one or of several concepts.

 An event concept represents an event occurring during concept life, for example a change of season. An event concept marks the impact on a concept of a phenomenon internal or external to the concept. Concept events can be distinguished as concept start events, end events and intermediate events.

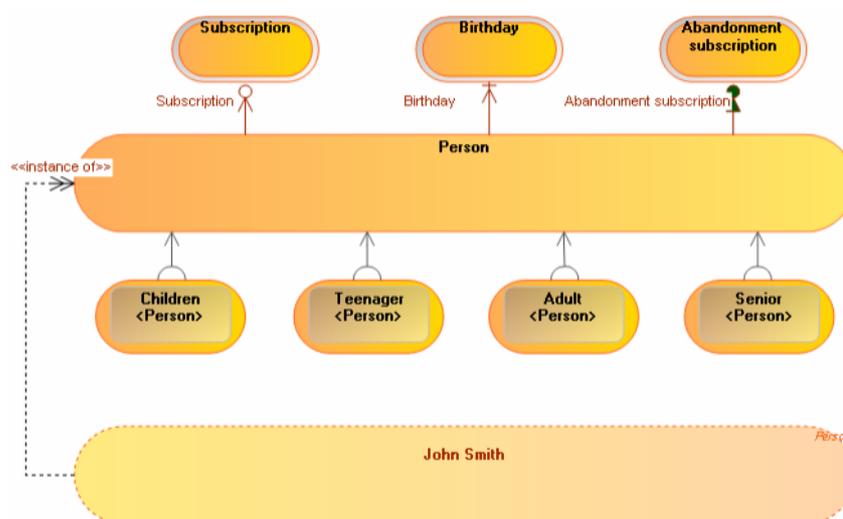
State Concepts and **Event Concepts** can be described in the same way as any other concept.

Concept life cycle

The same business concept can take several states.

For example, the same subscription holder can pass from "Child" state to "Adolescent" state, then to "Adult" state and finally "Senior".

Passage from one state to another can be connected to a event, a "Birthday" for example.



The relationship between a concept and its **State Concept** is described by a **Dictionary State Of**.

 A dictionary state enables connection of a concept to a concept state, and specification of the state nature.

The relationship between a concept and its **Event Concept** is described by:

- a **Start Event**,
- an **End Event**,
- or an **Intermediate Event**.

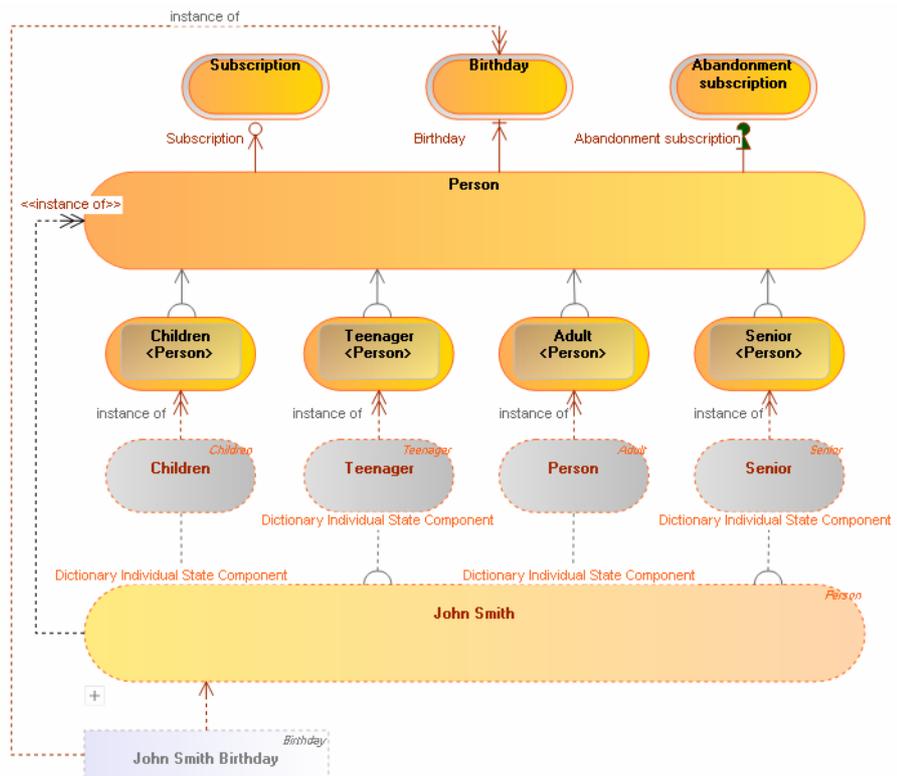
☛ For more details, see *"Describing Concept or Individual States"*, page 65.

Individual life cycle

☛ For more details, see *"Describing Individual States and Events"*, page 71.

If a concept is associated with states and events, occurrences of this concept can also be associated with events and states.

For example, "John Smith" is a "Person" who can pass from one state to another on his birthday.



To represent the individual state notion, **HOPEX Information Architecture** proposes the **Individual State**.

📖 An individual state is an instance of a concept state to which the dictionary state is connected. It represents an individual state during its life cycle.

The relationship between an individual and its **Individual State** is described by an **Individual State Component**.

 An individual state component enables connection of an individual to an individual state.

In addition, the switch from one individual state to another can be conditioned by an **Individual Event**.

 An individual event represents an event occurring during during the life of the individual. It is an instance of an event concept of the concept to which the individual is connected.

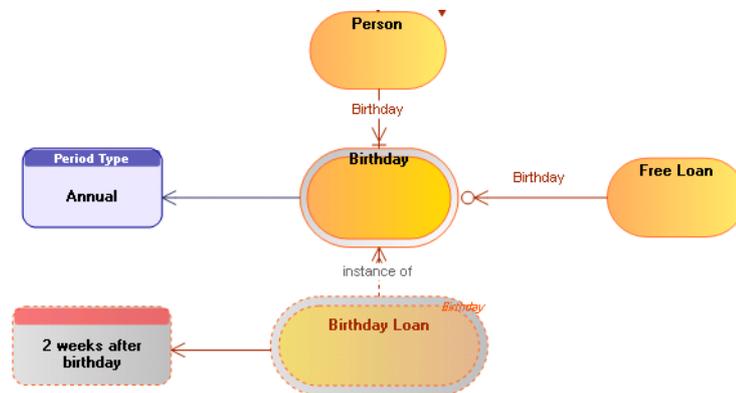
The relationship between an individual and its **Individual Event** is described by a **Entity Component**.

 A entity component enables connection of a individual to a dictionary element.

Periods

Periods are used to add time-related information to events.

For example, a free loan may be offered to subscribers on each anniversary. This annual loan is valid for a period of two weeks.



A **Period type** is connected to an **Event concept**.

 An event concept represents an event occurring during concept life, for example a change of season. An event concept marks the impact on a concept of a phenomenon internal or external to the concept. Concept events can be distinguished as concept start events, end events and intermediate events.

The **Period** is connected to an **Individual event**.

 An individual event represents an event occurring during during the life of the individual. It is an instance of an event concept of the concept to which the individual is connected.

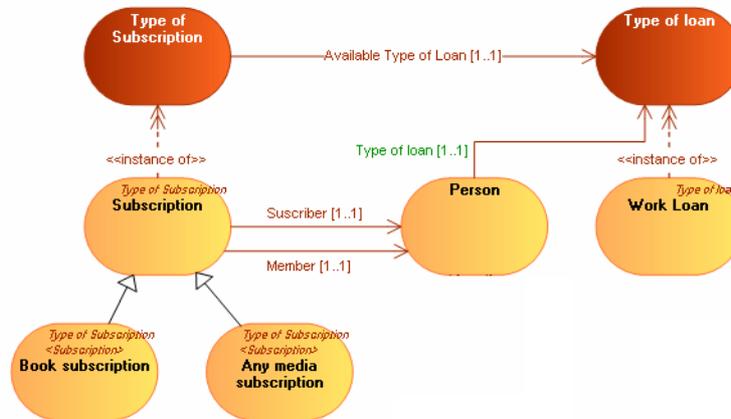
 For more details, see ["Using periods"](#), page 76.

Classifying Concepts and the Concept Type Notion



A concept type enables classification of concepts. Relationships between concept types are represented by concept type components.

For example, "Subscriptions" can be classified by "Subscription Type". A "Subscription Type" being characterized by a "Loan Type".



HOPEX Information Architecture, offers features to create the following relationships:

- the relationship between two **Concept Types** is described by a **Concept Type Component**.

For example, a "Subscription Type" is characterized by an "Available Loan Type".



A concept type component enables specification of the relationship between two concept types.

- The relationship between a **Concept Type** and a Concept Type is described by a **Concept Classification**.

For example, all "Subscriptions" must correspond to a "Subscription Type".



A concept classification enables connection of a concept to the concept that characterizes it.

- The relationship between a concept and a **Concept Type** is described by a **Concept Power Component**.

For example, each member "Person" could be characterized by a "Loan Type".



A concept power component enables connection of a concept to concept type to characterize a property of the concept.

The Concept View

To obtain a conceptualized preview of your business objects, **HOPEX Information Architecture** proposes the **Concept View** notion.

 *A concept view enables representation of the semantic scope covered by a business object. A concept view is based on the selection of several concepts specific to the view.*

From a start concept linked to the business object you wish to describe, you browse the semantic links that define it. In this way you identify several concepts that define the described object in a particular context.

- *You can create different views for the same business object.*
- *For more details, see "[Managing Concept Views](#)", page 82.*

Dictionary Element Realization

To assure consistency between objects in your organizational and technical repository on the one hand, and elements in your dictionary on the other, **HOPEX Information Architecture** proposes the **Realization** notion.

 *A realization of concept connects a technical or organizational object of the repository to a dictionary element.*

- *For more details, see **HOPEX Business Data** guide.*

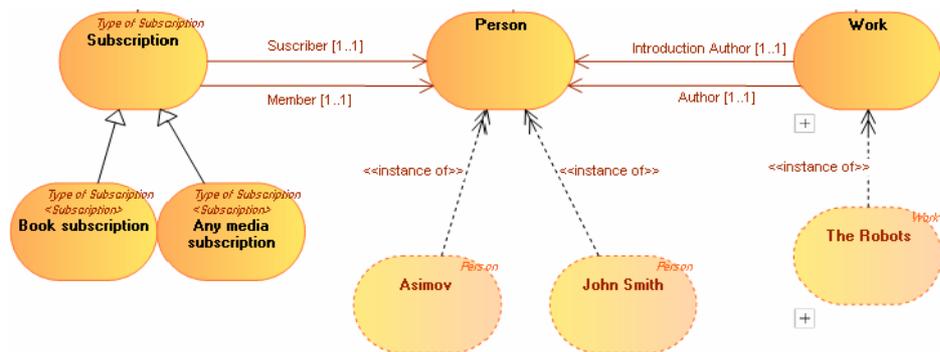
DIAGRAMS

The concept graph

A business information area provides a partial view of ontological models for the business information. It is described by a concept diagram presenting concepts, their components, super-types and links.

Link direction provides a natural mechanism of reading and deducing the scope defining the "the business object".

The following business information area shows a partial view of the "Media Library" subject area.

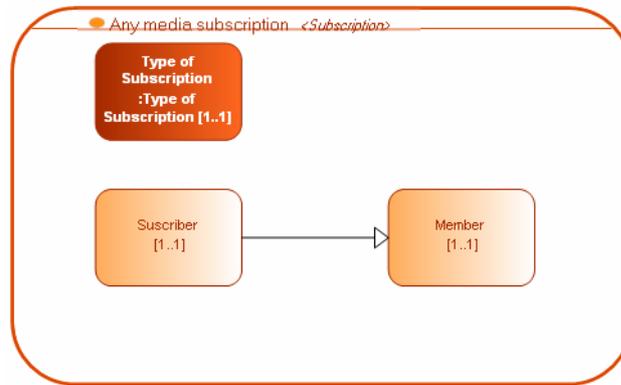


Example of a business information area with standard views

➡ For more details, see ["Using a Concept Graph"](#), page 46.

Concept structure diagram

The content of business objects can be represented in a "Concept Structure Diagram", which can be initialized from concept graph elements.



Concept structure diagram example

➤ For more details, see ["Concept structure diagram"](#), page 59.

Concept type structure diagram

Concept types can be represented in a "Concept Type Structure Diagram", which can be initialized from concept graph elements.

➤ For more details, see ["Concept type structure diagram"](#), page 80.

State concept state structure diagram

State concept states can be represented in a "State Concept Structure Diagram", which can be initialized from concept graph elements.

➤ For more details, see ["Concept state structure diagram"](#), page 70.

Individual structure diagram

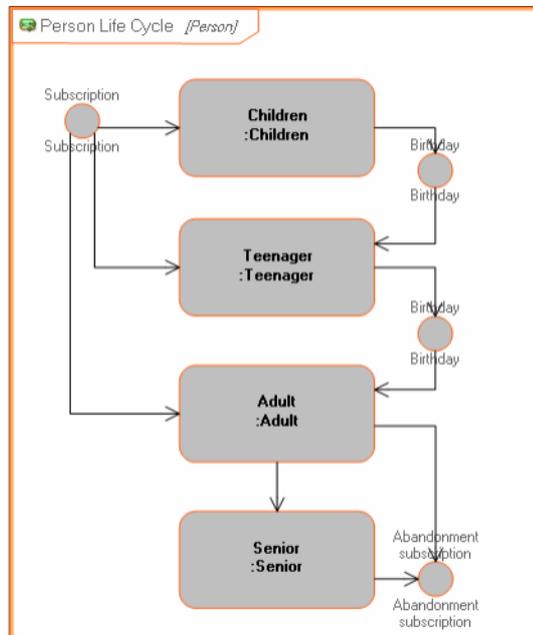
The individual structure diagram describes the internal structure of the concept instance and the links between all components. This diagram can be initialized from concept graph elements.

➤ For more details, see ["Individual structure diagram"](#), page 63.

The concept life cycle structure diagram

The concept life cycle structure diagram is used to describe the sequence of state concepts operating during the concept life cycle. Each state concept, which can be considered as point in time, is followed by other state concepts.

Passage from one state to another is modeled by a transition.



Example of a concept life cycle structure diagram

For more details, see ["Concept life cycle structure diagram"](#), page 73.

MANAGING ASSIGNMENTS

During its creation, a **Subject area** or a **Business information area** is automatically assigned. The other **HOPEX Information Architecture** object types can be assigned explicitly.

Assignable objects are:

- Subject areas,
- Concepts,
- Concept types,
- State concepts,
- Event concepts,
- Concept life cycles,
- Concept views,
- Representation types.

Accessing object assignments

To access information concerning the assignment of an object:

1. Open the properties dialog box of the assignable object.
2. Select the **Assignment** tab.

☛ *Only assignable objects have an **Assignment** tab.*

Automatic assignment of an object

During creation of a **Subject area** or **Business information area** object type, an assignment is automatically created. The object is assigned to the person who created it with the **Data designer** role.

☛ *The **Knowledge area** or **Business information area** object types appear in the **My knowledge areas** or **My business information areas** lists of the person who created them.*

If a **Concept**, **Concept Type** or **Concept View** is created using a **Knowledge area** or **Business information area** type object, the object created is assigned automatically to the person who created the **Knowledge area** or **Business information area**. The created object appears automatically in the **My concepts** (or **My concept types** or **My Concept Views**) lists of the person who created the **Knowledge area**, or **Business information area**.

Explicit assignment of an object

You can explicitly fill in the assignment of an assignable object to an existing person.

To access information concerning the assignment of an object:

1. Open the properties dialog box of the assignable object.
2. Select the **Assignment** tab.
3. Click **New**.
The **Create Assignment** dialog box opens.
4. Using the **Person or Person Group** field, click **Connect**.
A **Connection** window opens.
5. Find and select the person that interests you and click **Connect**.
6. In the **Create an assignment** window, select the **Business role** of the person that you have just assigned.
 *For more details on the business roles used for assignments, see "HOPEX Information Architecture Business Roles", page 13.*
7. Click **OK**.
A new assignment is added to the list of assignments associated with the object.

The **Concept**, **Concept Type** and **Concept View** type objects appear in the **My Concepts**, **My Concept Types** and **My Concept Views** lists of person to whom they were assigned.

SUMMARIES OF LINKS BETWEEN DICTIONARY ELEMENTS

In each concept graph, relationships between concepts, concept types and concept individuals are represented by links.

Link direction provides a natural mechanism of reading and deducing the scope defining the "the business object".



☛ For more details on accessing the properties of concept graph links, see ["Accessing link properties in a concept graph"](#), page 48.

Link type	Definition et Comment
Concept type component	<i>A concept type component enables specification of the relationship between two concept types.</i>
Concept structural component	<i>A concept structural component enables representation of a dependency relationship between two concepts. This relationship is directional.</i>
Dictionary state of	<i>A dictionary state enables connection of a concept to a concept state, and specification of the state nature. With "State concept" view.</i>
Concept Power Component	<i>A concept power component enables connection of a concept to concept type to characterize a property of the concept.</i>
Concept classification	<i>A concept classification enables connection of a concept to the concept that characterizes it.</i>
Individual classification	<i>An individual classification is used to connect an individual to the concept that characterizes it.</i>
Dictionary entity component	<i>A entity component enables connection of a individual to a dictionary element.</i>

Link type	Definition et Comment
Individual state classification	<i>An individual state classification enables connection of an individual state to the state concept that characterizes it.</i> This link is available with "Individual State" view.
Individual state component	<i>An individual state component enables connection of an individual to an individual state.</i> This link is available with "Individual State" view.
Individual event classification	<i>An individual event classification is used to connect an individual to the event concept that characterizes it.</i> This link is available with "Individual State" view.
Concept intermediate event	<i>An event concept represents an event occurring during concept life, for example a change of season. An event concept marks the impact on a concept of a phenomenon internal or external to the concept. Concept events can be distinguished as concept start events, end events and intermediate events.</i> These links are available with "Event Concept" view.
Concept end event	
Concept start event	

DESCRIBING BUSINESS INFORMATION ARCHITECTURE



HOPEX Information Architecture is used to define the business information architecture of your enterprise using an approach whose steps are described in this chapter.

- ✓ ["Managing Subject Areas", page 44](#)
- ✓ ["Managing a business information area", page 46](#)
- ✓ ["Describing Concepts", page 53](#)
- ✓ ["Describing Concept or Individual States", page 67](#)
- ✓ ["Describing Concept Types", page 79](#)
- ✓ ["Managing Concept Views", page 84](#)

MANAGING SUBJECT AREAS

 A business information area is a sub-set of elements of a subject area that reduces the scope of a field.

The subject area is the essential element in creating your information architecture.

Features offered by **HOPEX Information Architecture** to manage your subject areas are described here:

- ✓ "Subject Area Elements", page 44;
- ✓ "Creating Subject Areas", page 45.

Subject Area Elements

HOPEX Information Architecture allows you to easily update your subject areas from already existing dictionary elements: *Term*, *Concept*, *State Concept*, *Event Concept* or *Concept View*.

 The list of elements from a subject area is accessible from its properties dialog box in the **Characteristics**, **Scope** and **Scope Instance** sections.

A subject area is used to describe all the elements defining your information architecture:

- Concepts

 An event concept represents an event occurring during concept life, for example a change of season. An event concept marks the impact on a concept of a phenomenon internal or external to the concept. Concept events can be distinguished as concept start events, end events and intermediate events.

 For more details, see "[Describing Concepts](#)", page 53.

- Concept variations

 A variation describes how a concept can be varied under another form. The variant is an object similar to the varied object, but with properties or relationships that may differ.

 For more details, see "[Describing Concept Structural Components](#)", page 55.

- Concept types

 A concept type enables classification of concepts. Relationships between concept types are represented by concept type components.

 For more details, see "[Describing Concept Types](#)", page 79.

- State concepts

 A state concept is a situation in a concept life cycle during which it satisfies certain conditions, executes a certain activity or waits for a concept event. A state concept represents a time interval of which limits

are two concept events. A state concept is a phase through which the concept passes during its life cycle.

☛ For more details, see ["Describing Concept or Individual States"](#), page 67.

- Event concepts

📖 An event concept represents an event occurring during concept life, for example a change of season. An event concept marks the impact on a concept of a phenomenon internal or external to the concept. Concept events can be distinguished as concept start events, end events and intermediate events.

☛ For more details, see ["Describing Event Concepts"](#), page 70.

- Individuals

📖 An individual represents the occurrence of a concept.

☛ For more details, see ["Describing individuals"](#), page 63.

- Individual states

📖 An individual state is an instance of a concept state to which the dictionary state is connected. It represents an individual state during its life cycle.

☛ For more details, see ["Describing Concept or Individual States"](#), page 67.

A subject area can be completely or partially described by a concept graph.

☛ For more details on environment components, see ["Managing a business information area"](#), page 46.

Creating Subject Areas

To create a *subject area* with **HOPEX Web Front-End** :

1. In the **Business Information** pane, click **Subject Areas > Architecture Information**.
The tree for existing subject areas in the repository appears.
2. Right-click the root of the "Subject Areas" tree and click **New > Subject Area**.
The **Create Subject Area** dialog box appears.
3. Enter the **Name** of your new subject area and click **OK**.
The new subject area appears in the tree.

☛ To create a *subject area* with **HOPEX Windows Front-End**, in the **Information Architecture** desktop, click on the **IA Library** tab, then on the **Information Architecture** navigation pane and expand the "Subject areas" folder to obtain the list of existing subject areas in the repository.

MANAGING A BUSINESS INFORMATION AREA

A business information area provides a partial view of ontological models for the business information of a subject area. It is described by a concept graph.



A business information area is a sub-set of elements of a subject area that reduces the scope of a field.

Features offered by **HOPEX Information Architecture** to manage your subject areas are described here:

- ✓ ["Creating a business information area", page 46](#) ;
- ✓ ["Using a Concept Graph", page 46](#) ;
- ✓ ["Managing the components of a business information area", page 50](#).

Creating a business information area

To create a business information area:

- 1 Right-click the subject area that interests you and select **New > Business Information Area**.

The concept graph associated with the business information area opens in the edit window.

Using a Concept Graph

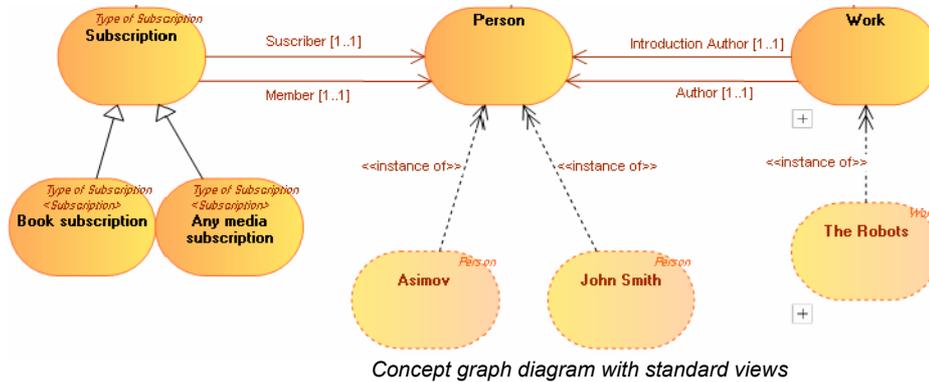
A concept graph is a graphical representation of the elements that make up a subject area and the links that exist between them.

By default, each concept graph associated with a single subject area is also associated with a single business information area. But the objects of a concept graph can be connected to different business information areas.

The components of a concept graph

A dictionary graph describes the information architecture. By default, you see in the dictionary graph concepts, variations and individuals only.

The following concept graph partially describes the "Media Library" subject area.



Activating the views window

The **Views and Details** window presents an extended list of views (object types to be displayed).

To activate the **Views and Details** window:

1. In a diagram, click  **Views and Details**.
The list of views (object types to be displayed) appears.
2. Select or clear the views you wish to display or not.

The views available for a business information area are:

- Concepts,
- Concept types,
- State concepts,
- Event concepts,
- Individuals,
- Individual states,
- Individual events,
- Concept Views

 A concept view enables representation of the semantic scope covered by a business object. A concept view is based on the selection of several concepts specific to the view.

➤ For more details, see ["Managing Concept Views", page 84](#).

Adding a dictionary graph element

For example, to add an existing concept to a business information area:

1. In the concept graph object toolbar, click  **Concept**.

2. Click on the diagram.
The add concept dialog box opens and asks you to select a concept.
3. Select the concept that interests you.
4. Click **Add**.
The concept appears in the diagram.

☛ For more details on concept creation, see "[Describing Concepts](#)", page 53.

Using the object insert toolbar

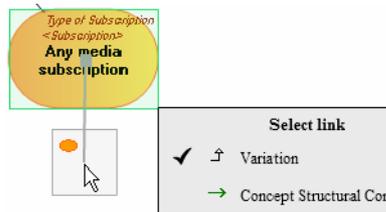
An insert toolbar available on each object simplifies object creation by proposing object selection help. It proposes only those objects that can be connected to the current object.

☛ This function is available with **HOPEX Web Front-End** only.

To create, for example, a concept from a concept graph:

1. Click on the concept of the graph that interests you.
The bar containing the objects you can insert at this stage appears.
2. Click the icon that represents the object you wish to create.

For example: **Concept**  .



The link selection dialog box appears.

3. In the link selection dialog box, select the desired link type.
For example: **Concept Structural Component**.
4. Click in the graph at the point where you wish to place the object.
The object is created, with the link to the previous object.

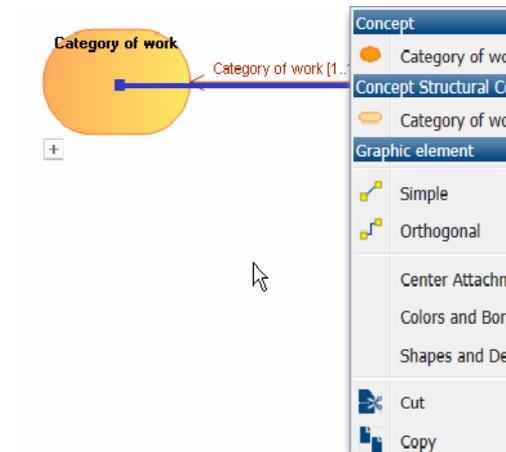
Accessing link properties in a concept graph

In a concept graph, links are directional and access the properties of both the link and the link target object.

☛ For more details on the list of links available in a business information area, see "[Summaries of Links Between Dictionary Elements](#)", page 39.

The pop-up menu of a **Concept Structural Component** link type for example presents:

- commands specific to the object type used by the component
for example **Concept**
- commands relating to the component itself
for example **Concept Structural Component**
- commands relating to the graphics.



To access properties of a link of "component" type:

for example **Concept Structural Component**

1. Right-click the link to open its pop-up menu.
2. Select the link and click **Properties**.
The link properties dialog box opens.

The **Characteristics** tab of the link properties window provides a number of data items.

- The **Local Name** of the link, which corresponds by default to the target dictionary element or term associated with the link.
 - ☛ *For more details on association of a term with a link, see "Describing Concept Structural Components", page 55.*
- The **Composed Concept** targeted by the link.
- The **Owner** who is the dictionary element at the origin of the link.
- The **Minimum Multiplicity** is the number of origin elements that can access the same target elements.
 - For example, how many "Works" can belong to the same "Work Category".
- The **Maximum Multiplicity** is the number of target elements that can be connected to the same origin elements.
 - For example, a "Work" can only belong to only one "Work Category".
- The **Dictionary Abstract Type** check box, which enables specification of the concrete or abstract character of a concept
- **Dictionary Property Scope** which can be one of the following:
 - "Referenced": to indicate that the target concept is referenced by a link,
 - "Embedded": to indicate that the target concept exists in its own right, but is included in the concept that is the source of the link,
 - "Composite": to indicate that the target concept is a component of the concept that is the source of the link; if the target concept is destroyed, the composite is also destroyed.
- The **Designation** of the link and the **Definition Text** field enable association of a term and a definition to the link.
 - ☛ *For more details on association of a term with a link, see "Describing Concept Structural Components", page 55.*
- **Super-types** that are used to access the properties of a linked inherited from a concept type.
 - ☛ *For more details, see "Describing Concept Types", page 79.*
- The **Realization**, which is used to associate this dictionary element with the application architecture.
 - ☛ *For more details, see the HOPEX Business Data guide.*
- **Synonyms**, which are used to specify a list of synonyms.
 - ☛ *For more details, see "Describing Concept Structural Components", page 55 and "Basic Notions", page 20.*

Managing the components of a business information area

HOPEX Information Architecture allows you to easily update your *Business subject areas* dictionary elements that already exist: *Term*, *Concept*, *State Concept*, *Event Concept* or *Concept View*.

The components of a business information area

The list of elements from a business information area that belong to the information area is accessible from the area properties dialog box in the **Components** tab.

Creating a business information area component

To specify that an existing concept is a business information area component:

1. Open the properties dialog box of the business information area.
2. Select the **Components** tab.
3. Click **New**.
The business information creation wizard appears.
4. Opposite the **Saved business information** field, click **Connect**.
A connection window opens.
5. Select the concept that interests you and click **Connect**.
6. In the business information creation window, click **OK**.
The concept is added to the list of business information area components.

Managing a component from a concept graph

To connect a dictionary element to a list of components for a business information area using the concept graph of the area with **HOPEX Web Front-End** :

1. Open the concept graph associated with the business information area.
2. Add the dictionary element that interests you in the graph.
3. Right-click on this element to open its pop-up menu.
4. Select **Add to "Current business information area name"**.
The element is added to the list of business information area elements, in the **Component** tab of the area properties window. The shape changes in the diagram.

To delete a dictionary element from a business information area from the concept graph of the area with **HOPEX Web Front-End** :

1. Open the concept graph associated with the business information area.
2. Right-click the dictionary element concerned to open its pop-up menu.
3. Select **Delete from "Current business information area name"**.
The element is deleted from the list of business information area elements.

Define the CRUD for the components of a business information area

You can specify the access rights to each of the component types of a business information area. To do this, select or deselect the check boxes of each column associated with the actions: Create, Read, Update, Delete.

The content of the **Data access** column is calculated automatically according to the selected actions. This result appears in object form in the concept graph associated with the business information area.

	Nom court	Création de données	Lecture de données	Modification de données	Suppression de données	Access au composant de d...
<input type="checkbox"/>	Anniversaire	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CRUD
<input type="checkbox"/>	Inscription	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CRUD
<input type="checkbox"/>	Personne	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CRUD

➡ For more information on the components of a business information area, see ["The components of a business information area", page 51.](#)

DESCRIBING CONCEPTS

 An event concept represents an event occurring during concept life, for example a change of season. An event concept marks the impact on a concept of a phenomenon internal or external to the concept. Concept events can be distinguished as concept start events, end events and intermediate events.

A concept is the basic dictionary element offered by **HOPEX Information Architecture**. Features enabling management of concepts are described here:

- ✓ ["Accessing the Concepts List", page 53](#)
- ✓ ["Creating a New Concept", page 53](#)
- ✓ ["Concept Properties", page 54](#)
- ✓ ["Describing Concept Structural Components", page 55](#)
- ✓ ["Describing Concept Power Components", page 57](#)
- ✓ ["Describing Concept Variations", page 58](#)
- ✓ ["Concept structure diagram", page 61](#)

Accessing the Concepts List

To access all the concepts of your repository with **HOPEX Web Front-End** :

- 1. In the **Business Information** pane, click **Concepts > Architecture Information**.

The list of concepts appears.

 For more details on use of the repository concepts list, see ["Managing Subject Areas", page 44](#).

To access all the concepts of your repository with **HOPEX Windows Front-End** :

1. Select **IA Library > Dictionary Elements > Subject Area Management**.

The list of dictionary elements appears in the left pane of the edit area and the subject areas tree appears in the right pane of the edit area.

2. In the left pane of the edit area, select the **Concept** tab.

Creating a New Concept

To create a concept from a subject area:

1. Right-click the subject area that interests you and select **New > Subject Area Element > Concept**.

The concept type creation wizard opens.

2. Specify the **Local Name** and click **OK**.

- In the **Term** section, the **Existing Terms** section lists terms with the same name as the new concept.

 A term is a word or word group, that is used for a specific meaning in a specific context.

☛ If a term has already been created with the same name as the new concept, this term is automatically connected and appears automatically in the **Term** section.

- In the **Definition Text** field, enter the text of the concept definition and click **Finish**.

The name of the new concept appears in the tree under the subject area.

☛ A new term with the same name as the concept is also created.

Concept Properties

Concept characteristics

The **Characteristics** tab of the concept properties window provides access to the main characteristics of the concept.

With **HOPEX Information Architecture**, the concept is described by:

- the **Dictionary Abstract Type** check box, which enables specification of the concrete or abstract character of a concept,
- its **Designation**, which is represented by one or several terms,
 - ☛ To modify the name of a concept in the corresponding language, you must access concept properties and modify the name of the term in the specific language. For more details, see ["Basic Notions", page 20](#).
- the **Definition Text**,
- The **Synonyms** section is used to specify a list of concepts that are synonyms.

For example, in the Financial area, the term "Advance" is recognized as a synonym of "Down payment".

 A synonym is a term interchangeable with another term in the context of a concept of this term that has the same or almost the same meaning.

- The **Super-Type** section enables access to all concept types that classify the current concept,
 - ☛ For more details, see ["Describing Concept Types", page 79](#).
- The **Realization** section enables association of an application architecture element to the concept,
 - ☛ For more details, see the [HOPEX Business Data](#) guide.

Links between a concept and other dictionary elements

In addition to terminology characteristics, a concept is characterized by its relationships with other dictionary elements.

- The **Variation** tab presents concepts whose properties are inherited by the described concept, for more details see ["Describing Concept](#)

- [Variations", page 58](#)
- The **Components** tab presents:
 - the list of concept structural components owned, for more details see ["Describing Concept Structural Components", page 55.](#)
 - the list of concept power components, for more details see ["Describing Concept Power Components", page 57.](#)

☛ *State concepts connected to a concept are not present in the properties dialog box, for more details see ["Describing Concept or Individual States", page 67.](#)*

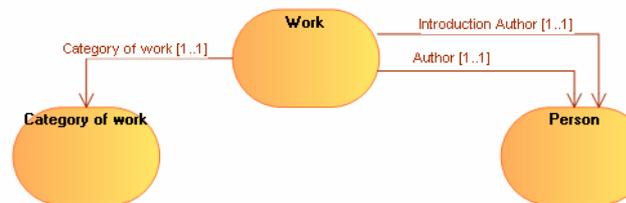
Describing Concept Structural Components

With **HOPEX Information Architecture**, a concept can be connected to another concept to characterize it.

For example, the "Work" concept is connected to the "Person" concept to characterize the "Author" of a work.

This relationship is described by a **Concept Structural Component**, which can be associated with a term.

📖 *A concept structural component enables representation of a dependency relationship between two concepts. This relationship is directional.*



Accessing concept structural components

To access concept structural components:

1. Open the properties of a concept.
2. Select the **Components** tab.
3. Expand the **Structural Components** section.
The list of structural components held appears.

☛ *You can also consult the list of structural components of a concept from its concept structure diagram. For more details, see ["Concept structure diagram", page 61.](#)*

Creating a concept structural component from a graph

The procedure for creating the "Author" concept structural component between concepts "Work" and "Person" is described as an example.

To create a concept structural component between two concepts of a business information area:

1. In the concept graph associated with the business information area, click on the concept that holds the link.

 If you are in **HOPEX Windows Front-End**, roll the mouse over the concept that own the link and click .

2. Select **Concept Structural Component**.
3. Click the target concept.
The concept structural component creation wizard appears.
4. Specify the **Local Name**, for example "Author".
5. Given that the term "Author" must be created, select the "Creation with term" check box.

In the section **Term** appears in the creation creation dialog box.



A term is a word or word group, that is used for a specific meaning in a specific context.

6. In the **Definition Text** field, enter the text of the Concept Structural Component definition and click **OK**.

The concept structural component appears in the graph.

 A new term with the same name as the concept structural component is also created.

You can also create a concept structural component in a concept structure diagram. In this case, you must specify the target concept in the concept structural component creation wizard

 For more details, see "[Concept structure diagram](#)", page 61.

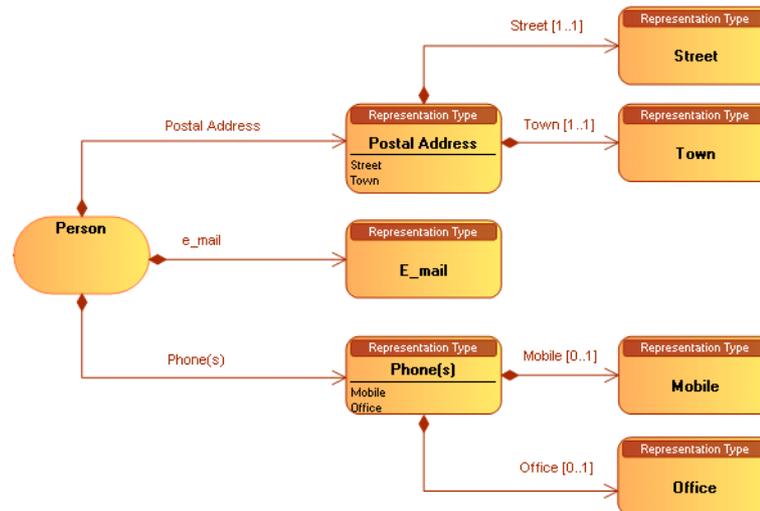
Using representation types

To describe the concrete elements attached to a concept, **HOPEX Information Architecture** offers the possibility to link a concept to **representation types**.

For example, a person is associated with a mandatory and unique postal address, possibly an email address and one or more telephone numbers.

A **representation type** can, itself, be connected to other representations types.

For example, the postal address is defined using the name of the street and the town.



Connecting a representation type to a concept

With **HOPEX Information Architecture**, the link between a concept and a representation type is described by a **Concept representation** that can, if necessary, be associated with a term.

 A concept representation is used to specify the relationship between a concept and a representation type.

Connecting two representation types

With **HOPEX Information Architecture**, the link between a concept and a representation type is described by a **representation type component** that can, if necessary, be associated with a term.

 A representation type component enables specification of the relationship between two representation types.

Describing Concept Power Components

Just as a **Concept** can be characterized by a link to another concept, a concept can also be characterized by a link to a **Concept Type**.

 A concept type enables classification of concepts. Relationships between concept types are represented by concept type components.

For example, each member "Person" could be characterized by a "Loan Type".

 For more details, see "[Describing Concept Types](#)", page 79.

The relationship between a **Concept** and a **Concept Type** is described by a **Concept Power Component**.

 A concept power component enables connection of a concept to concept type to characterize a property of the concept.

To create a **Concept Power Component** between a concept and a concept type in a business information area graph:

1. In the insert toolbar, click the **Link** button.
2. Click the concept that owns the link.

For example, "Person"

3. Click the target concept type.

For example, "Loan Type".

The Concept Power Component creation wizard opens.

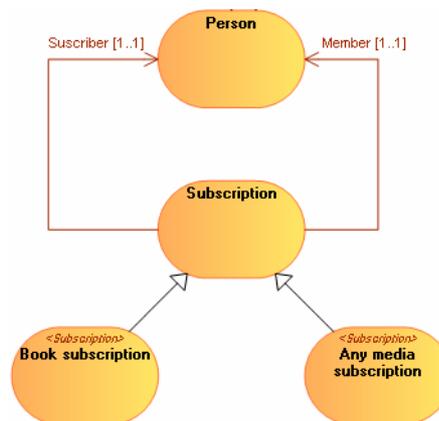
4. Specify the **Local Name**.
5. If no term is to be created, select the "Creation without term" check box.
6. Click **OK**.

The Concept Power Component appears in the diagram.

Describing Concept Variations

Certain business concepts are versions of other concepts; they are characterized by the same concepts.

For example, "Subscription" concepts are broken down into "Book Subscription" and "Media Subscription". These two subscription types inherit the links "Subscriber" and "Member" at the level of the "Subscription" concept.



With **HOPEX Information Architecture**, this relationship is described by a **Variation**.

 A variation describes how a concept can be varied under another form. The variant is an object similar to the varied object, but with properties or relationships that may differ.

➤ For more details on variations and substitutions, see the **HOPEX Common Features** guide, "Handling Repository Objects", "Object Variations".

Accessing concept variations

To access concept variations

1. Open the properties of a concept.
2. Select the **Variation** tab.
The list of variations associated with the concept appears.

Creating a concept variation from a concept graph

You can specify that a concept inherits characteristics defined for another concept.

For example, the "Book Subscription" concept inherits from the "Subscription" concept.

To specify, based on a business information area, that a concept is a variation of another concept:

1. In the insert toolbar, click the **Link** button.
2. Click the object to be varied and drag the pointer to the new concept before releasing the mouse button.
3. Specify the **Name** and click **Add**.
A directional link from the concept to be varied to the root concept appears.

➤ The variation is represented by a link, but it is in fact a **HOPEX** object.

The variation creation wizard opens.

Creating a concept structural component variation

A **Variation** can also be created between two **Concept Structural Components**.

For example, the "Subscriber" is also a "Member".

To define a variation between two concept structural components, they should be connected to the same concepts, either directly or via variations.

To create a variation between two concept structural components:

1. Open the properties of the concept structural component to be varied.
2. Select the **Variation** tab.
3. Click the **New** button.
The variation creation wizard opens.
4. Select the options:
 - "Initialization of attributes"
 - "Initialization of diagrams" so that the variation appears in diagrams.

5. Click **OK**.
The variation is created.

☛ A variation between **Concept Structural Components** is represented graphically in a concept structure diagram. For more details, see "[Concept structure diagram](#)", page 61.

Creating a concept structural component substitution

If, unlike a variation, a link is an other definition of the other link, you have to create a **substitution**.



A substitution determines which element can be used to replace another, or is effectively replaced by an element existing in a given context (for example in the context of a variation). Unlike a variation, a substitution does not involve inheritance but a functional equivalence.

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

To define a substitution between two concept structural components, they should be connected to the same concepts, either directly or via variations.

To create a substitution between two concept structural components from a concept structure diagram:

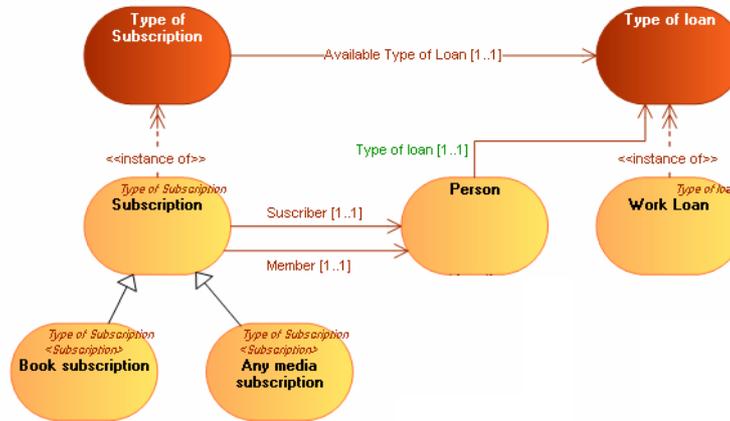
1. In the insert toolbar, click the **Substitution** button.
2. Click the structural components to be substituted and drag the pointer to the substituting structural components before releasing the mouse button.
3. Specify the **Name** and click **Add**.
A dotted line directional link from the structural link to be substituted to the substituting structural component appears.

☛ The substitution is represented by a link, but it is in fact a **HOPEX** object.

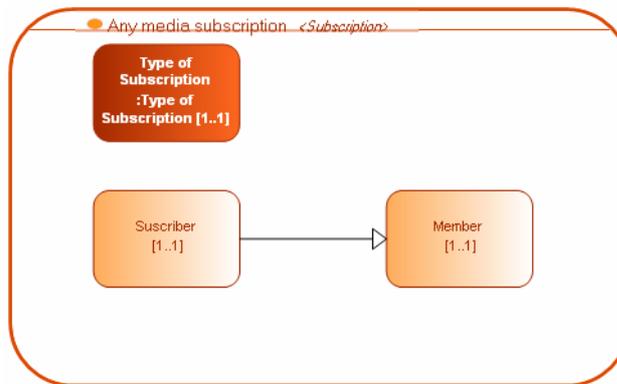
Concept structure diagram

With **HOPEX Information Architecture**, a concept structure diagram assembles all information relating to the concept. This diagram is initialized from concept graph elements.

For example, "Subscriptions" can be classified by "Subscription Type".



A "Subscription Type" is characterized by a "Loan Type".



The diagram includes:

- **variations** between components

For example, "Subscriptions" can be classified by "Subscription Type". A "Subscription Type" being characterized by a "Loan Type".



A variation describes how a concept can be varied under another form. The variant is an object similar to the varied object, but with properties or relationships that may differ.

☛ For more details, see ["Creating a concept structural component variation", page 59.](#)

- **Substitutions** between components



A substitution determines which element can be used to replace another, or is effectively replaced by an element existing in a given context (for example in the context of a variation). Unlike a variation, a substitution does not involve inheritance but a functional equivalence.

☛ For more details, see ["Creating a concept structural component substitution", page 60.](#)

- **Concept structural components** describing the relationship between two **Concepts**

For example, a "Subscription Type" is characterized by an "Available Loan Type".



A concept structural component enables representation of a dependency relationship between two concepts. This relationship is directional.

☛ For more details, see ["Describing Concept Structural Components", page 55.](#)

- **Concept power components** enabling concept characterization from **Concept Types**

For example, each member "Person" could be characterized by a "Loan Type".



A concept power component enables connection of a concept to concept type to characterize a property of the concept.

☛ For more details, see ["Describing Concept Type Variations", page 82.](#)

- **start events, intermediate events** and **end events** enabling definition of events contributing to change of state of a concept,

For example, the change of state of a member can be caused by a birthday.



An event concept represents an event occurring during concept life, for example a change of season. An event concept marks the impact on a concept of a phenomenon internal or external to the concept. Concept events can be distinguished as concept start events, end events and intermediate events.

☛ For more details, see ["Describing State Concepts", page 67.](#)

DESCRIBING INDIVIDUALS

HOPEX Information Architecture, distinguishes a concept from the occurrences that characterize it.



An individual represents the occurrence of a concept.

The features used to manage individuals are described here:

- ✓ "Accessing the List of Individuals", page 63
- ✓ "Creating an Individual from a Subject Area", page 63
- ✓ "Individual Properties", page 64
- ✓ "Creating an Individual Classification", page 64
- ✓ "Creating a Dictionary Entity Component", page 65
- ✓ "Individual structure diagram", page 65

Accessing the List of Individuals

To access all the individuals of your repository with **HOPEX Web Front-End** :

1. In the **Business information** pane, click **Subject Areas > Architecture Information**.

The "Subject area" tree appears.

☛ *To access individuals from a subject area with **HOPEX Windows Front-End**, in the **Information Architecture** desktop, select the **IA Library** tab, then the **Information Architecture** navigation pane.*

2. Expand the "Subject Areas" folder.
3. Expand the folder that corresponds to the subject area that interests you.
4. Expand the "Individuals" folder.
The list of individuals appears.

Creating an Individual from a Subject Area

To create an individual from a subject area:

1. Right-click the subject areas that interest you and select **New > Subject Area Element > Individuals**.
The individual creation wizard opens.
2. Specify the **Local Name** and click **OK**.
3. In the **Individual Classification** section, you can click **New** to specify the concept to which the dictionary individual is connected.

☛ *For more details, see "Creating an Individual Classification", page 64.*

4. Click **OK**.
The name of the new individual appears in the tree under the subject area.

Individual Properties

The individual properties dialog box presents the following elements in the **Characteristics** tab:

- Its **Local Name**
- The individual classifications, which appear in the **Classification** section.

 An individual classification is used to connect an individual to the concept that characterizes it.

 For more details, see "[Creating an Individual Classification](#)", page 64.

The other tabs in the dictionary individual properties dialog box are:

- The **Individual State** section, enabling presentation of the different states of an individual.

 For more details, see "[Describing Individual States and Events](#)", page 73.

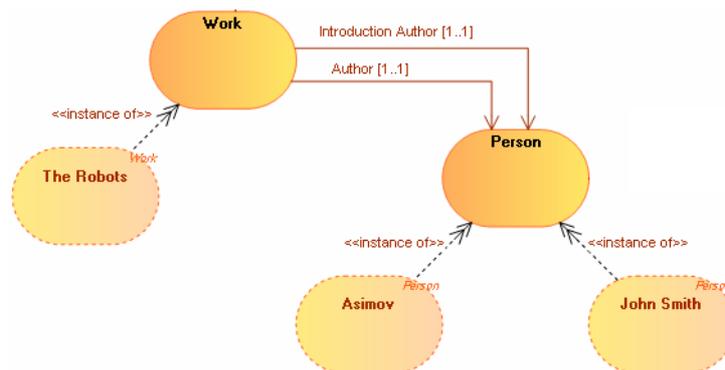
- The **Component** tab, presenting individuals connected to a described individual.

 For more details, see "[Creating an Dictionary Entity Component](#)", page 65.

Creating an Individual Classification

 An individual classification is used to connect an individual to the concept that characterizes it.

For example, the individual "Asimov" is an instance of "Person" and "The Robots" is an instance of "Work".



To create an individual classification:

1. Open the properties window of the individual carrying the relationship.
For example, the "Asimov" individual.
2. Select the **Characteristics** tab.

3. In the **Classification** section, click the **New** button.
The individual classification creation wizard opens.
4. At the left of the **Characterizing Element** field, click the **Connect** button.
The query wizard opens.
5. Select the concept you want to connect.
For example, the "Person" concept.
6. Click **OK**.
The individual classification into individuals is created.

Creating an Dictionary Entity Component



A entity component enables connection of a individual to a dictionary element.

HOPEX Information Architecture also enables connection of two individuals into individuals with a **Dictionary Entity Component** relationship type.

For example, you can specify that "Asimov" is the author of the work "The Robots".

To create a dictionary entity component between two individuals:

1. Open the properties window of the individual carrying the relationship.
For example, the "Asimov" individual.
2. Select the **Components** tab.
3. Click the **New** button.
The dictionary entity component creation wizard opens.
4. At the left of the **Characterizing Element** field, click the **Connect** button.
The query wizard opens.
5. Select the individual you want to connect.
For example, the "The Robots" individual.
6. Click **OK**.
The entity component is created. It appears in the individual structure diagram of the described object.

➡ For more details, see "[Individual structure diagram](#)", page 65.

Individual structure diagram

With **HOPEX Information Architecture**, the individual structure diagram describes the internal structure of the concept instance and the links between its components. This diagram is initialized from concept graph elements.

This diagram is composed of *dictionary entity components* used to connect two individuals.

It is then possible to specify that "Asimov" is the author of the work "The Robots".



A entity component enables connection of a individual to a dictionary element.

➡ For more details, see "[Creating an Dictionary Entity Component](#)", page 65.

DESCRIBING CONCEPT OR INDIVIDUAL STATES

A business object can have a life cycle during which it takes different states according to events. If a concept is connected to a business object, other concepts can be connected to different states of the business object and to events at the causing changes of state. With **HOPEX Information Architecture**, it is possible to associate a life cycle with a concept, as well as state concepts and event concepts.

Individuals can also be connected to individual states and individual events that are instances of state concepts and event concepts.

The features offered by **HOPEX Information Architecture** to describe the evolution in time of a concept and individuals are described here:

- ✓ "Describing State Concepts", page 67
- ✓ "Describing Event Concepts", page 70
- ✓ "Describing Individual States and Events", page 73
- ✓ "Concept life cycle structure diagram", page 75

Describing State Concepts

To represent the notion of a concept, **HOPEX Information Architecture** proposes the **State Concept**.

 *A state concept is a situation in a concept life cycle during which it satisfies certain conditions, executes a certain activity or waits for a concept event. A state concept represents a time interval of which limits are two concept events. A state concept is a phase through which the concept passes during its life cycle.*

For example, the same subscription holder can pass from "Child" state to "Adolescent" state, then to "Adult" state and finally "Senior".

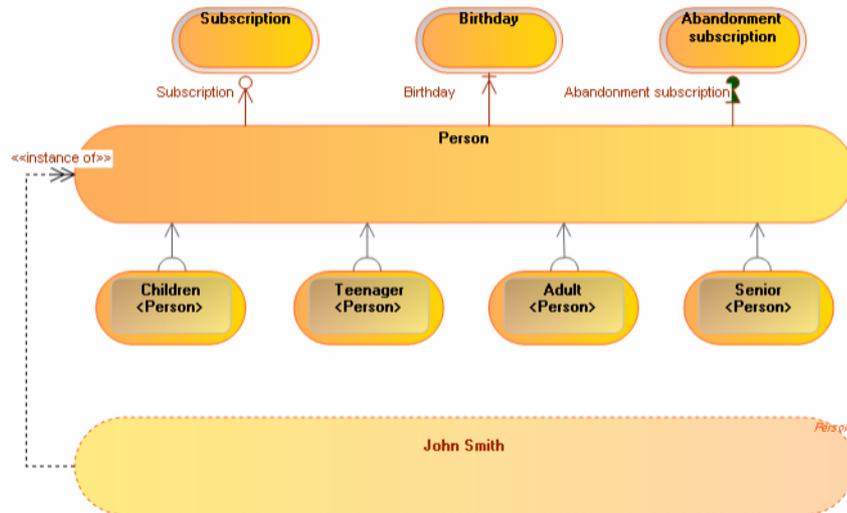
Passage from one state concept to another can be conditioned by an **Event Concept**.

 *An event concept represents an event occurring during concept life, for example a change of season. An event concept marks the impact on a concept of a phenomenon internal or external to the concept. Concept*

events can be distinguished as concept start events, end events and intermediate events.

For example, passage from one state to another can be connected to a event, a "Birthday" for example.

➡ For more details, see "[Describing Event Concepts](#)", page 70.



Accessing the state concepts list

To access subject area state concepts:

1. From the **Information Architecture** navigation tab.
2. Expand the "Subject Areas" folder then the folder of the subject area that interests you.
3. Expand the "Concept" folder.
The list of subject area state concepts appears.

Creating a state concept from a subject area

At creation of a state concept, **HOPEX Information Architecture** also creates a **Dictionary State of**, which represents the relationship between a state concept and its concept.

 A dictionary state enables connection of a concept to a concept state, and specification of the state nature.

To create a state concept from a subject area:

1. Right-click the subject area that interests you and select **New > Subject Area Element > State Concept**.
The event concept creation wizard opens.
2. Specify the **Local Name** and click **OK**.

3. In the **State Individual Type** field, specify to which concept the state concept you are creating is connected.
 - ☛ A **Dictionary State Of** is automatically created between the concept and the state concept.
4. In the **Term** section, the **Existing Terms** section lists terms with the same name as the new state concept.
 - 📖 A term is a word or word group, that is used for a specific meaning in a specific context.
 - ☛ If a term has already been created with the same name as the new state concept, this term is automatically connected and appears automatically in the **Term** section.
5. In the **Definition Text** field, enter the text of the state concept definition and click **OK**.

The name of the new state concept appears in the tree under the subject area.

 - ☛ You can also create a state concept in a business information area.

State concept properties

State concept characteristics

The **Characteristics** tab of state concept properties enables access to its main characteristics.

With **HOPEX Information Architecture**, the state concept is described by:

- its **Designation**, which is represented by one or several terms,
 - ☛ To modify the name of a concept in the corresponding language, you must access concept properties and modify the name of the term in the specific language. For more details, see "[Basic Notions](#)", page 20.
- the **Definition Text**,
- The **Synonyms** section enables specification of a list of synonym concepts,
 - 📖 A synonym is a term interchangeable with another term in the context of a concept of this term that has the same or almost the same meaning.
 - ☛ For more details, see "[Basic Notions](#)", page 20.
- The **Realization** section enables association of an application architecture element to the concept.
 - ☛ For more details, see the **HOPEX Business Data** guide.

Links between a state concept and other dictionary elements

In addition to terminology characteristics, a state concept is characterized by its relationships with other dictionary elements.

- The **Super-Type** tab presents concepts whose properties are inherited by the described concept, for more details see "[Describing Concept](#)"

Variations", page 58

- The **Components** tab presents:
 - the list of concept structural components owned, for more details see "Describing Concept Structural Components", page 55.
 - the list of concept power components, for more details see "Describing Concept Power Components", page 57.

☛ Concepts connected to a state concept are not present in the properties dialog box.

Describing Event Concepts

Accessing the event concepts list

To access subject area event concepts:

1. From the **Information Architecture** navigation tab.
2. Expand the "Subject Areas" folder then the folder of the subject area that interests you.
3. Expand the "Event Concepts" folder.

The list of subject area event concepts appears.

☛ By expanding the folder of a concept, you can access event concepts attached to it.

Creating an event concept from a subject area

To create an event concept from a subject area:

1. Right-click the subject area that interests you and select **New > Subject Area Element > Event concept**.
The event concept creation wizard appears.
2. Specify the **Local Name** and click **OK**.
3. In the **Term** section, the **Existing Terms** section lists terms with the same name as the new state concept.

 A term is a word or word group, that is used for a specific meaning in a specific context.

☛ If a term has already been created with the same name as the new event concept, this term is automatically connected and appears in the **Term** section.

4. In the **Definition Text** field, enter the text of the event concept definition and click **OK**.

The name of the event concept appears in the tree under the subject area.

☛ You can also create a state concept in a business information area.

Event concept properties

The **Characteristics** tab of event concept properties enables access to its main characteristics.

With **HOPEX Information Architecture**, the event concept is described by:

- its **Designation**, which is represented by one or several terms,
 - ☛ *To modify the name of a concept in the corresponding language, you must access concept properties and modify the name of the term in the specific language. For more details, see "Basic Notions", page 20.*
- the **Definition Text**,
- The **Synonyms** section enables specification of a list of synonym concepts,
 - 📖 *A synonym is a term interchangeable with another term in the context of a concept of this term that has the same or almost the same meaning.*
 - ☛ *For more details, see "Basic Notions", page 20.*
- The **Realization** section enables association of an application architecture element to the concept.
 - ☛ *For more details, see the HOPEX Business Data guide.*

Connecting an event concept to its concept

The relationship between a concept and its event concept is described by:

- a **Start Event**,
- an **End Event**,
- or an **Intermediate Event**.

To connect an event concept to its concept in a graph associated with a business information area:

1. In the insert toolbar, click the **Link** button.
2. Click the concept to which the event concept is attached.

For example, "Person"

3. Click the event concept to be connected.

For example, "Birthday".

A wizard proposes selection of an event type:

- **Concept Start Event**
 - **Concept End Event**
 - **Concept Intermediate Event**
4. Select the event type and click **OK**.
The creation wizard of the selected concept event type opens.
 5. Specify the **Local Name**.
 6. If no term is to be created, select the "Creation without term" check box.
 7. Click **OK**.
The link between the concept and the event concept appears in the diagram with an icon representing its type.

Concept state structure diagram

With **HOPEX Information Architecture**, a concept structure diagram assembles all information relating to the state diagram described. This diagram is initialized from concept graph elements.

For example,

The diagram includes:

- **variations** between components

For example, "Subscriptions" can be classified by "Subscription Type". A "Subscription Type" being characterized by a "Loan Type".

 A variation describes how a concept can be varied under another form. The variant is an object similar to the varied object, but with properties or relationships that may differ.

 For more details, see ["Creating a concept structural component variation"](#), page 59.

- **Substitutions** between components

 A substitution determines which element can be used to replace another, or is effectively replaced by an element existing in a given context (for example in the context of a variation). Unlike a variation, a substitution does not involve inheritance but a functional equivalence.

 For more details, see ["Creating a concept structural component substitution"](#), page 60.

- **Concept representation**,

 A concept representation is used to specify the relationship between a concept and a representation type.

 For more details, see ["Using representation types"](#), page 56.

- **Concept structural components** describing the relationship between two **Concepts**

For example, a "Subscription Type" is characterized by an "Available Loan Type".

 A concept structural component enables representation of a dependency relationship between two concepts. This relationship is directional.

 For more details, see ["Describing Concept Structural Components"](#), page 55.

- **start events**, **intermediate events** and **end events** enabling definition of events contributing to change of state of a concept,

For example, the change of state of a member can be caused by a birthday.

 An event concept represents an event occurring during concept life, for example a change of season. An event concept marks the impact on a concept of a phenomenon internal or external to the concept. Concept events can be distinguished as concept start events, end events and intermediate events.

 For more details, see ["Describing State Concepts"](#), page 67.

Describing Individual States and Events

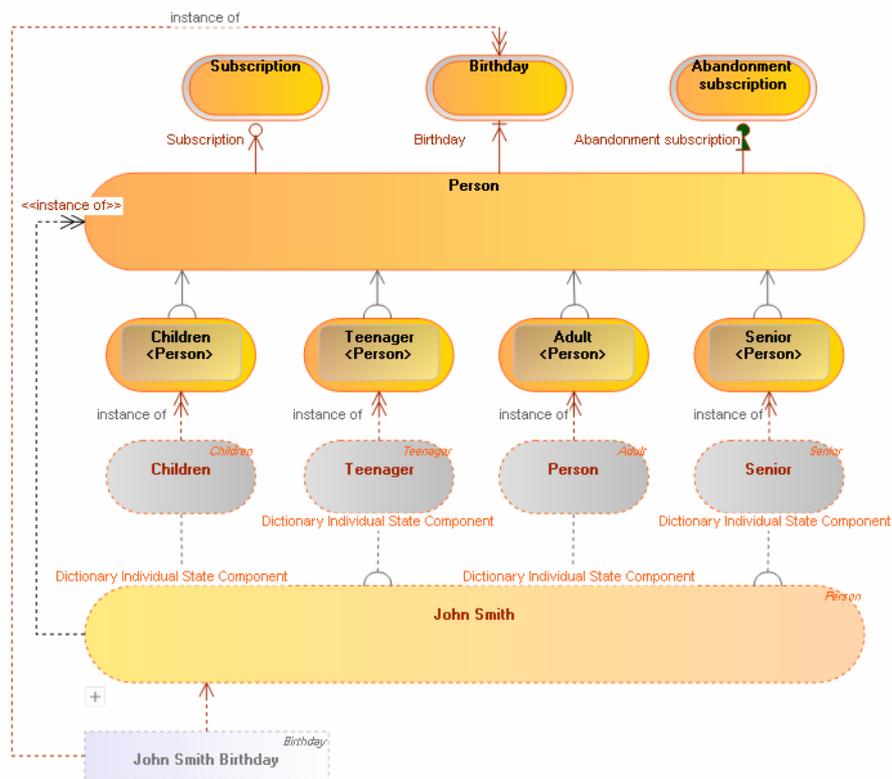
If a concept is associated with states, occurrences of this concept can also be associated with states. **HOPEX Information Architecture** therefore proposes the **Individual State**.

 An individual state is an instance of a concept state to which the dictionary state is connected. It represents an individual state during its life cycle.

In addition, the switch from one individual state to another can be conditioned by an **Individual Event**.

 An individual event represents an event occurring during during the life of the individual. It is an instance of an event concept of the concept to which the individual is connected.

For example, "John Smith" is a "Person" who can pass from one state to another on his birthday.



The relationship between an individual and its **Individual State** is described by an **Individual State Component**.

 An individual state component enables connection of an individual to an individual state.

The relationship between an individual and its **Individual Event** is described by a **Dictionary Entity Component**.

 *An entity component enables connection of a individual to a dictionary element.*

With **HOPEX Information Architecture**:

- an individual state is an instance of a state concept

 *A state concept is a situation in a concept life cycle during which it satisfies certain conditions, executes a certain activity or waits for a concept event. A state concept represents a time interval of which limits are two concept events. A state concept is a phase through which the concept passes during its life cycle.*

- an individual event is an instance of an event concept

 *An event concept represents an event occurring during concept life, for example a change of season. An event concept marks the impact on a concept of a phenomenon internal or external to the concept. Concept events can be distinguished as concept start events, end events and intermediate events.*

Accessing the individual state and event list

To access the individual states of a subject area:

1. From the **Information Architecture** navigation tab, expand the "Subject Areas" folder.
2. From the subject area that interests you, expand the "Individual States" folder.
The list of individual states of the subject area appears.
3. Expand the "Individual Events" folder.
The list of individual events of the subject area appears.

Creating an Individual state from a business information area

The relationship between an individual and its **Individual State** is described by an **Individual State Component**.

 *An individual state component enables connection of an individual to an individual state.*

If you create an individual state in a diagram, you can automatically create the individual state component of the associated individual.

To create an individual state from a concept graph:

1. In the diagram, roll the mouse over the individual who owns the individual state.

 *If you are in **HOPEX Windows Front-End**, roll the mouse over the individual who owns the individual state click .*

2. Select **Individual state**.
3. Click on the diagram.
The individual state creation wizard opens.
4. Specify the **Local Name** and click **Add**.
The new individual state appears in the diagram.

 *You can also create an individual state from its subject area.*

Individual state properties

The individual state properties dialog box presents the following elements in the **Characteristics** tab:

- Its **Local Name**
- The individual classifications, which appear in the **Classification** section.
 -  *An individual state component enables connection of an individual to an individual state.*
 -  *For more details, see "Creating an Individual Classification", page 64.*
- The **Component** tab, presenting the individuals who define the described individual.
 -  *For more details, see "Creating an Dictionary Entity Component", page 65.*

Creating an Individual event from a business information area

To create an individual event from a business information area:

1. In the insert toolbar, click **Individual Event** and click in the diagram. The individual event creation wizard opens.
2. Specify the **Name** and click **Add**. The individual event appears in the diagram.

Connecting an individual event to an individual

The relationship between an individual and its **Individual Event** is described by a **Dictionary Entity Component**.

 *A entity component enables connection of a individual to a dictionary element.*

To connect an event concept to its concept in the diagram:

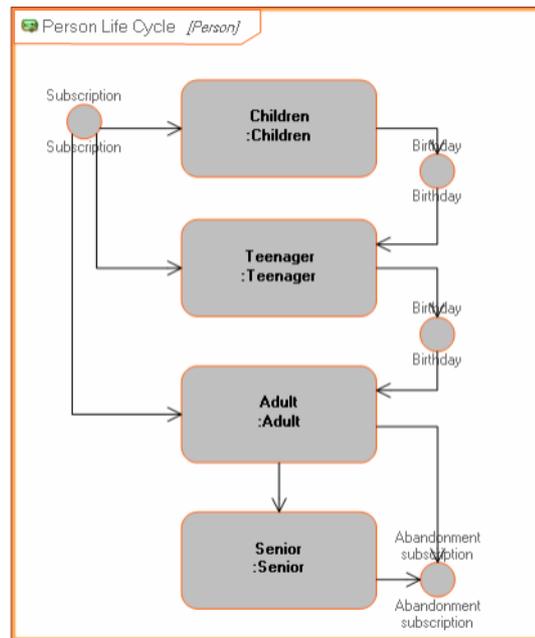
1. In the insert toolbar, click the **Link** button.
2. Click the individual event.
3. Click the event. The link appears in the diagram.

Concept life cycle structure diagram

The concept life cycle structure diagram is used to describe a concept life cycle.

For example, a "Person" becomes visible in a media library after "Registration". It can be registered with state "Child", "Adolescent", "Adult" or "Senior". Passage from

one state to another can be connected to a event, a "Birthday" for example.



A concept life cycle structure diagram includes the following elements:

- **Concept Life Cycle Phases**, which are connected to state concepts of the "Person" concept



A state concept is a situation in a concept life cycle during which it satisfies certain conditions, executes a certain activity or waits for a concept event. A state concept represents a time interval of which limits are two concept events. A state concept is a phase through which the concept passes during its life cycle.

For more details on state concepts, see ["Describing State Concepts", page 67](#)

- **Concept Life Cycle Events**, which are connected to event concepts of the "Person" concept



An event concept represents an event occurring during concept life, for example a change of season. An event concept marks the impact on a concept of a phenomenon internal or external to the concept. Concept events can be distinguished as concept start events, end events and intermediate events.

For more details on event concepts, see ["Describing Event Concepts", page 70](#)

- **Concept Life Cycle Transitions**, which represent sequence flows between concept states and events.

Creating a concept life cycle

With **HOPEX Information Architecture**, to create a concept life cycle structure diagram, and to describe sequence flows of states defining the concept life cycle, you must first create the **Concept Life Cycle**.

To create a concept life cycle from a subject area:

1. Right-click the subject area that interests you, select **New > Subject Area Element > Concept Life Cycle** and click **OK**.
The concept life cycle creation wizard appears.
2. Specify the **Local Name** and click **OK**.
3. In the **Life Cycle of**, specify the concept to which the life cycle relates.
For example, "Person"
4. In the **Term** section, the **Existing Terms** section lists terms with the same name as the new object.
*☛ If a term has already been created with the same name as the now concept, this term is automatically connected to the concept and appears automatically in the **Term** section.*
5. In the **Definition Text** field, enter the text of the state concept definition and click **OK**.
The name of the new concept life cycle appears in the tree under the subject area.

Creating a concept life cycle structure diagram

To create a concept life cycle structure diagram from a concept life cycle:

1. Right-click the concept life cycle that interests you and select **New > Concept Life Cycle Structure Diagram**.
The diagram opens in the edit area. State concepts associated with the described concept are positioned in the diagram via objects of **Concept Life Cycle Phases** type.

Adding a concept life cycle event

To add a concept life cycle event in the concept life cycle structure diagram:

For example, the concept life cycle event representing "Registration".

1. In the diagram insert toolbar, click the **Concept Life Cycle Event** button.
2. Click in the frame of the concept life cycle frame.
A concept life cycle event creation dialog box opens
3. In the **Composite Type** field, specify the name of the event concept to which the new object relates.
For example, "Registration".
☛ If a selection dialog box opens, select the object that interests you.
4. Specify the **Local Name**.
5. If no term is to be created, select the "Creation without term" check box.
6. Click **OK**.
The concept life cycle event event appears in the diagram.

Creating a concept life cycle transition

To represent sequence flow from a phase to a concept life cycle event, you must create a concept life cycle transition.

To create a concept life cycle transition:

1. In the diagram insert toolbar, click the **Concept Life Cycle Transition** button.
2. Click the triggering concept life cycle phase (or event), and, holding the mouse button down, drag the cursor to the triggered phase (or event).
3. Release the mouse button.
The link appears in the diagram.

Using periods

A **Period** adds time-related information to an **individual event**.

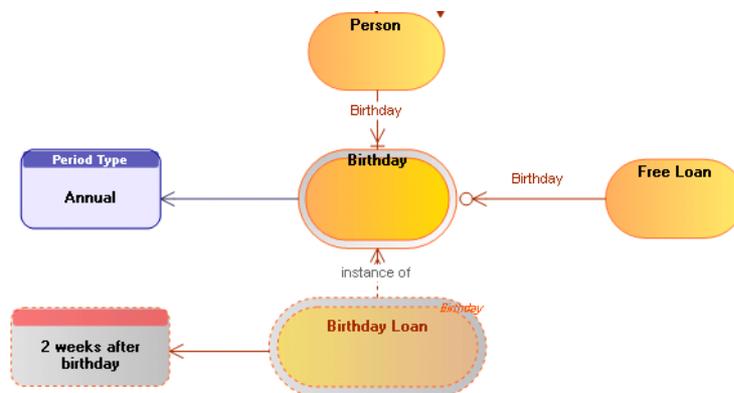
 *An individual event represents an event occurring during the life of the individual. It is an instance of an event concept of the concept to which the individual is connected.*

For example, a free loan may be offered to subscribers on each anniversary. This loan is valid for a period of two weeks after the anniversary date.

A **period type** is used to specify an **event concept**.

 *An event concept represents an event occurring during concept life, for example a change of season. An event concept marks the impact on a concept of a phenomenon internal or external to the concept. Concept events can be distinguished as concept start events, end events and intermediate events.*

For example, a free anniversary loan is offered every year.



The relationship between a **Period type** and an **Individual event** is described by an **Event type periodization**.

The relationship between a **Period** and an **Event concept** is described by an **Event periodization**.

DESCRIBING CONCEPT TYPES

 A concept type enables classification of concepts. Relationships between concept types are represented by concept type components.

The features offered by **HOPEX Information Architecture** to use your concept types are described here:

- ✓ "Accessing the Concept Types List", page 79
- ✓ "Creating a New Concept Type", page 80
- ✓ "Concept Type Properties", page 80
- ✓ "Describing Concept Type Components", page 81
- ✓ "Describing Concept Type Variations", page 82
- ✓ "Concept type structure diagram", page 83

Accessing the Concept Types List

To access all the concept types of your repository with **HOPEX Web Front-End** :

- 1. In the **Business Information** pane, click **Concept Types > All concept types**.
The list of concept types appears.

*☛ To access all the concept types that you have created with **HOPEX Web Front-End** : in the **Business Information** pane, click **Concept Types > My Concept types**.*

To access all the concept types of a subject area with **HOPEX Windows Front-End** :

1. In the **Information Architecture** desktop, select the **IA Library** tab, then the **Information Architecture** navigation tab.
2. Expand the "Subject Areas" folder.
3. Expand the folder that corresponds to the subject area that interests you.
4. Expand the "Concept Type" folder.
The list of subject area event concepts appears.

To access the concept types you have created with **HOPEX Windows Front-End** :

1. In the **Information Architecture** desktop, select the **Home** tab, then **My Desktop > My Responsibilities**.
2. Expand the "My Concept Types" folder.
The list of your concept types appears.

Creating a New Concept Type

To create a concept type from a subject area:

1. Right-click the subject area that interests you and select **New > Subject Area Element > Concept Type**.
The concept type creation wizard appears.
2. Specify the **Local Name** and click **OK**.
3. In the **Term** section, the **Existing Terms** section lists terms with the same name as the new concept type.



A term is a word or word group, that is used for a specific meaning in a specific context.

*If a term has already been created with the same name as the new concept type, this term is automatically connected and appears in the **Term** section.*

4. In the **Definition Text** field, enter the text of the concept type definition and click **Finish**.
The name of the new concept type appears in the tree under the subject area.

A new term with the same name as the concept type is also created.

Concept Type Properties

Concept type characteristics

The **Characteristics** tab of concept type properties enables access to its main characteristics.

With **HOPEX Information Architecture**, the concept type is described by:

- its **Designation**, which is represented by one or several terms,
 - To modify the name of a concept in the corresponding language, you must access concept properties and modify the name of the term in the specific language. For more details, see "[Basic Notions](#)", page 20.*
- the **Definition Text**,
- The **Synonyms** section enables specification of a list of synonym concepts,
 - A synonym is a term interchangeable with another term in the context of a concept of this term that has the same or almost the same meaning.*
 - For more details, see "[Basic Notions](#)", page 20.*
- The **Realization** section enables association of an application architecture element to the concept.
 - For more details, see the [HOPEX Business Data](#) guide.*

Links between a concept and other dictionary elements

In addition to terminology characteristics, a concept is characterized by its relationships with other dictionary elements.

- The **Component** tab presents the list of owned concept type components, for more details see ["Describing Concept Structural Components"](#), page 55.
- The **Super-Type** tab presents concept types whose properties are inherited by the described concept type, for more details see ["Describing Concept Type Variations"](#), page 82

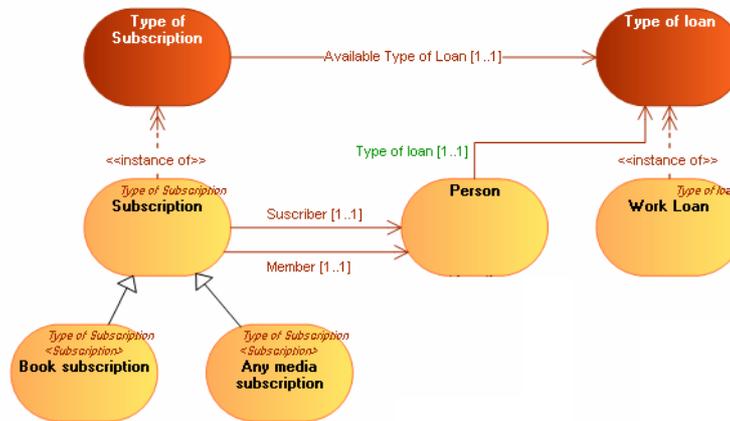
Describing Concept Type Components

With **HOPEX Information Architecture**, a concept type can be connected to another concept type to characterize it.

For example, a "Subscription Type" is characterized by a "Loan Type".

This relationship is described by a **Concept Type Component**, which can be associated with a term.

 A concept type component enables specification of the relationship between two concept types.



Accessing concept type components

To access concept type components of a concept type:

1. Open the concept type properties dialog box.
2. Select the **Components** tab.

The list of concept type components associated with the concept appears.

 You can also consult the list of structural components of a concept type from its concept life cycle diagram. For more details, see ["Concept type structure diagram"](#), page 83.

Creating a concept type component from a business information area

To create a concept type component between two concept types in a business information area diagram:

1. In the insert toolbar, click the **Link** button.
2. Click the concept type that owns the link.

For example, "Subscription Type".

3. Click the target concept type.

For example, "Loan Type".

The concept type component creation wizard appears.

4. Specify the **Local Name**.
5. If no term is to be created, select the "Creation without term" check box.
6. Click **OK**.

The Concept Type component appears in the diagram.

You can also create a concept type component in a concept type structure diagram. In this case, you must specify the target concept type in the concept type component creation wizard.

➤ For more details, see "[Concept type structure diagram](#)", page 83.

Describing Concept Type Variations

Certain concept types are versions of other concept types; they are characterized by the same concept type components.

With **HOPEX Information Architecture**, this relationship is described by a **Variation**.



A variation describes how a concept can be varied under another form. The variant is an object similar to the varied object, but with properties or relationships that may differ.

➤ For more details on variations and substitutions, see the **HOPEX Common Features** guide, "Handling Repository Objects", "Object Variations".

Accessing concept type variations

To access concept type variations

1. Open the concept type properties dialog box.
2. Select the **Super-Type** tab.

The list of variations associated with the concept appears.

Creating a concept type variation from a business information area

To specify, from a business information area diagram, that a concept type inherits characteristics defined for another concept type:

1. In the insert toolbar, click the **Link** button.
2. Click the concept type to be varied and drag the cursor to the new concept before releasing the mouse button.

3. Specify the **Name** and click **Add**.
A directional link from the concept type to be varied to the root concept type appears.

☛ *The variation is represented by a link, but it is in fact a **HOPEX** object.*

Concept type structure diagram

With **HOPEX Information Architecture**, a concept type structure diagram describes the internal structure of the concept type instance using relationships defined for other concept types it characterizes.

This diagram includes *concept type components* enabling characterization of the concept type by connecting it to other concept types.

For example, a "Subscription Type" is characterized by a "Loan Type".

📖 *A concept type component enables specification of the relationship between two concept types.*

☛ *For more details, see "[Describing Concept Type Components](#)", page 81.*

MANAGING CONCEPT VIEWS



A concept view enables representation of the semantic scope covered by a business object. A concept view is based on the selection of several concepts specific to the view.

HOPEX Information Architecture provides a tool enabling creation and simple display of business views and their components.

☛ On the same principle, the dictionary view can be used to navigate from Classes or entities. For more details, see the **HOPEX Business Data** guide.

Creating a Concept View

To create a concept view with **HOPEX Web Front-End** :

1. In the **Business Information** pane, click **Concept Views > Concept View**.

The list of concept views appears.

☛ To create a concept view with **HOPEX Windows Front-End**, select the **IA Library > Dictionary Elements > Concept View** tab.

2. Click **New**.

The concept view creation wizard appears.

3. Specify the **Local Name**.

4. In the **Term** section, the **Existing Terms** table lists terms with the same name as the view.



A term is a word or word group, that is used for a specific meaning in a specific context.

5. In the **Definition Text** space, enter the text of the definition of the view and click **Next**.

6. In the **Owned View Specification** section, click **New**.

The concept view specification creation wizard opens.

7. Select the concept, the concept status or the concept event concerned by the view and click **OK**.

8. Click **OK** to close the concept view creation wizard.

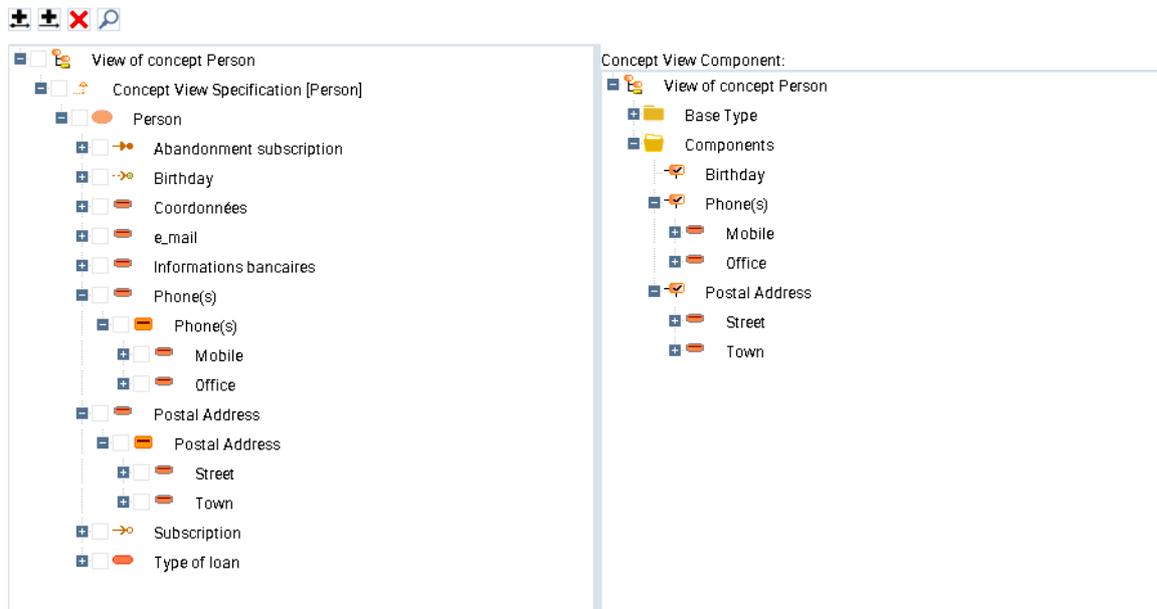
The new concept view appears in the list.

☛ The new concept view is also accessible from the **My Concept View** menu.

Defining a Concept View

HOPEX Information Architecture proposes a tool allowing you to make best use of your concept views.

These views are then accessible in a report. For more details, see ["View Reports"](#), page 90.



View Component Path: Vue du concept personne médiathèque (Vue de concept) ==> Spécification de vue de concept [Personne] (Spécification de vue de concept) ==> Personne (Concept) ==> Adresse postale (Représentation de concept)



Concept View List:

Short Name	Name

The view editor is made up of a number of parts:

- the left part that presents all the concept components held by the view, as defined in the subject area,
- the right part that presents the concept components that will be kept for the view created,
- the buttons in the upper left that are used to define the components of the view created,
- the "View component path" that presents how a component is present in the view,
- the "Concept view list" that presents the views associated with a concept that will be a concept held by the view.

To add a component to the view created:

1. Select the component that you wish to add to the tree in the left part.
2. Click **Add an Embedded Component**.
The component added appears in the tree on the left with a specific icon showing that it is "embedded".

☛ You can **Add a referenced component** in the same way.

Using a concept view in a concept graph

HOPEX Information Architecture proposes a tool allowing you to make best use of your concept views.

These views are then accessible in a report. For more details, see ["View Reports"](#), page 90.

HOPEX INFORMATION ARCHITECTURE REPORTS



HOPEX Suite uses reports to group sets of repository objects and study their interactions. **HOPEX Information Architecture** offers features for analyzing collected and classified architecture information.

➤ *For more details on operation of reports, see the HOPEX Common Features guide, "Generating Reports".*

The different report templates proposed as standard by **HOPEX Information Architecture** are designed to make best possible use of architecture information. Report templates offer various analysis presentation possibilities.

➤ *Reports on the diagrams available in standard mode with **HOPEX** are also accessible with **HOPEX Information Architecture**.*

The following report templates are presented here:

- ✓ ["Glossary Reports", page 87.](#)
- ✓ ["Realization Reports", page 88.](#)
- ✓ ["View Reports", page 90.](#)

Glossary Reports

HOPEX Information Architecture provides a ready-to-use glossary report to automatically build the business glossary of terms derived from a set of subject areas. For each term, the glossary displays a list of associated definitions with their text, synonyms and components list.

The user can indicate if he/she wishes to display translation.

Report parameters

This consists of defining report input data.

Parameters	Parameter type	Constraints
List of libraries	Library	Displayed terms selection criterion Not mandatory.
List of subject areas	Subject area	Displayed terms selection criterion Domain mandatory if no library.
Glossary of translations	yes or no	
Example option		

Report example

The example below enables viewing of terms and their links with contexts.

Media library	
Abandonment subscription	 Event 1.  Component 1. (Component of) Person Life Cycle
Adult	 State 1. (Examples)  Person (State of) Person (Through Component) Person
Annual	 Period Type 1.
Any media subscription	 Concept 1. (Hypernyms) Subscription (Component 1) Type of Subscription (Type) Type of Subscription (Presence) Always (Cardinality) 1
Author	 Component 1. (Component of) Work
Available Type of Loan	 Component 1. (Component of) Type of Subscription
Birthdate	

Realization Reports

The realization report enables viewing of coverage of realization (or implementation) of dictionary elements by other architecture elements under different perspectives: Organizational, Business/Data, Logical/Physical Application, etc.

➔ For more details, see the **HOPEX Business Data** guide.

Report parameters

This consists of defining report input data.

Parameters	Parameter type	Constraints
List of objects	Org-unit Application Library Capability Class Concept State concept Event concept Concept type Content Exchange contract Concept life cycle Exchange Entity (DM) functionality Business function System process Functional process Business process Organizational process IT service Data view Concept view	One object mandatory.
Responsibles display mode	Show responsables Show responsables and percentages Hide responsables	
Indicators display mode	Boolean	

Report example

The example below enables viewing of the coverage rate of objects specified as parameters.

Note that realizations of structural components of concepts specified as parameters are also displayed.

Covered				
Covered by multiple objects				
Not Covered				
<input type="checkbox"/> Consultant Realizer <input type="checkbox"/> Consultant 100%	<input checked="" type="checkbox"/> Consulting Organization Realizer <input type="checkbox"/> Consulting Compagny 100% Realizer <input type="checkbox"/> IT Subsidiary 100%	<input checked="" type="checkbox"/> Training Realizer <input type="checkbox"/> Training 100%	<input checked="" type="checkbox"/> Training certification	<input checked="" type="checkbox"/> Training Session
	<input checked="" type="checkbox"/> Consultant <input type="checkbox"/> Consultant		<input checked="" type="checkbox"/> Certified consultant	<input checked="" type="checkbox"/> Trainer
	<input checked="" type="checkbox"/> Delivered certification		<input checked="" type="checkbox"/> Granted training	<input checked="" type="checkbox"/> Delivered training
	<input checked="" type="checkbox"/> Proposed training <input type="checkbox"/> Delivered training <input type="checkbox"/> Mission			<input checked="" type="checkbox"/> End
				<input checked="" type="checkbox"/> Training occurrence (EN)

View Reports

HOPEX Information Architecture proposes a view report to automatically obtain the business glossary of terms derived from a set of subject areas. For each term, the glossary displays a list of associated definitions with their text, synonyms and components list.

➡ For more details, see "[Managing Concept Views](#)", page 82.

The user can indicate if he/she wishes to display translation.

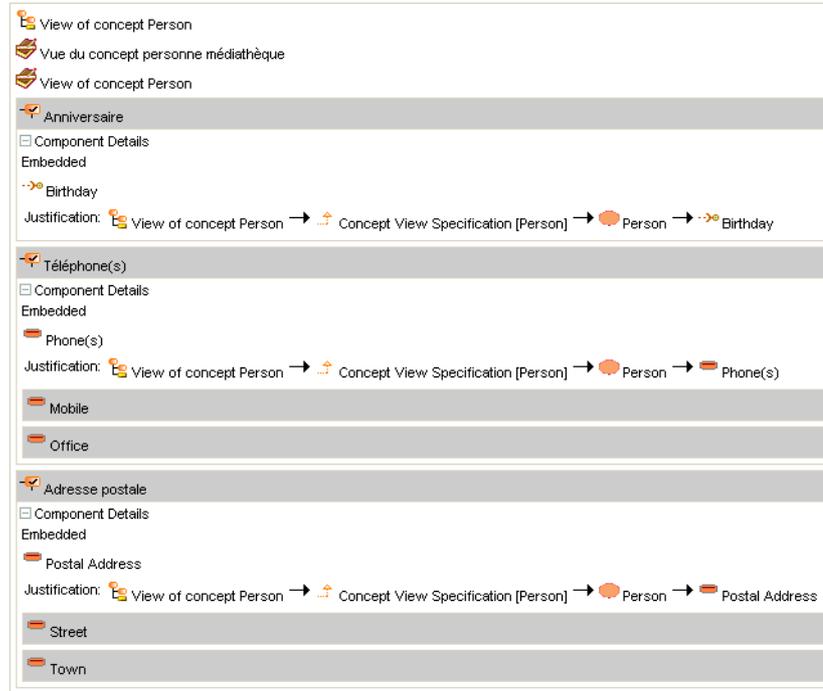
Report parameters

This consists of defining report input data.

Parameters	Parameter type	Constraints
View	View	Mandatory.
Sub-view	yes or no	Yes by default
Justification	yes or no	Yes by default
Depth level	Short	

Report example

The following example show the elements in the view based on the "Person" concept.



HOPEX Information Architecture Data Set reports

☛ A Data Set report provides data structures used to generate reports via the Instant report functionalities. For more details, see ["Managing Concept Views", page 82](#).

In addition to the report template, data set reports are also provided:

- ["Definition of terms used.", page 91](#).
- ["Knowledge area x Concept matrix", page 92](#).

Definition of terms used.

This report is used to identify the connections between the terms and the concepts.

Parameter	Parameter type	Constraints
Root objects	Term	Object list.

It is used for example to create a **Term/Concept** matrix that presents the list of concepts that use a term.

The screenshot displays a software interface with two main panels. The left panel, titled 'Métrice', contains configuration options for a matrix: 'Ligne:' (Concept), 'Colonne:' (Term), 'Cell Display:' (Value), 'Appliquer le calcul sur:' (Concept), and 'Calculer:' (Count). The central area shows a matrix with rows for terms and columns for concepts. The right panel, titled 'Propriétés de Report DataSet-3', shows a 'Term List' with checkboxes for 'Abandon inscription', 'Abandonment subscription', 'Available Type of Loan', 'Birthday', and 'Book subscription'. Below this, a 'Report DataSet' table is visible with columns for 'Term' and 'Concept'.

Term	Abandon inscription	Abandonment subscription	Available Type of Loan	Birthday	Book subscription
Book subscription (EN)					1
Work (EN)					1
compte cible					1
Virement Planifié					1

Knowledge area x Concept matrix

A concept can be referenced by one or more business information areas.

Parameter	Parameter type	Constraints
Root object:	Subject area	Object list.

The data structure is used for example to create a **Capability area x Concept matrix** used to create the list of concepts referenced in a knowledge area.

Matrice

Ligne: Concept

Colonne: Subject Area

Cell Display: Value

Appliquer le calcul sur: Concept

Calculer: Count

Concept	Count
Prêt gratuit	1
Book subscription (EN)	1
Work (EN)	1
Category of work (EN)	1
Any media subscription (EN)	1
Work Loan (EN)	1
compte cible	1
Personne	1
Subscription (EN)	1
Virement Planifié	1

Propriétés de Report DataSet-2

Données

Paramètres

Subject Area List:

Nom Local

Médiathèque

Page 1 sur 1

Report DataSet

Rafraîchir PDF Excel Rapport Instantané

Créer un DataSet	Concept	Concept
Médiathèque	Any media subscription (EN)	
Médiathèque	Book subscription (EN)	
Médiathèque	Category of work (EN)	

