



CAMEO BUSINESS MODELER PLUGIN

18.1
user guide

No Magic, Inc.
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CONTENTS

1 GETTING STARTED 8

Introducing Main Concepts 8

Business Process Model and Notation (BPMN) standard 8

Business Motivation Model standard 9

Supportive Diagrams 9

Installing Cameo Business Modeler Plugin 9

Switching to Business Modeling Perspectives 10

Creating BPMN Projects 10

Creating Empty Business Model 11

2 BUSINESS PROCESS MODEL AND NOTATION CONCEPTS 12

Common BPMN Elements 12

Definitions 12

Artifacts 13

Anchor 13

Text Annotation 13

Association 14

Group 14

Error 15

BPMN Process Diagram 15

BPMN Process 16

Activities 16

Tasks 18

SubProcesses 23

Call Activity 26

Sequence Flow 27

Start Events 28

None Start Event 29

Message Start Event 29

Timer Start Event 30

Compensation Start Event 30

Conditional Start Event 31

Escalation Start Event 31

Error Start Event 32

Signal Start Event 32

Multiple Start Event 33

Parallel Multiple Start Event 34

Intermediate Catch Event 34

None Intermediate Event 34

Message Catching Intermediate Event 35

Timer Catching Intermediate Event 35

Conditional Catching Intermediate Event 36

Link Catching Intermediate Event 36

Signal Catching Intermediate Event 37

Multiple Catching Intermediate Event 38

Parallel Multiple Catching Intermediate Event 38

Intermediate Throwing Event 39

Message Throwing Intermediate Event 39

Link Throwing Intermediate Event 39

Signal Throwing Intermediate Event 40

Compensation Throwing Intermediate Event 40

CONTENTS

Escalation Throwing Intermediate Event	41
Multiple Throwing Intermediate Event	41
Boundary Events	42
Message Boundary Event	42
Timer Boundary Event	43
Escalation Boundary Event	43
Error Boundary Event	44
Cancel Boundary Event	45
Compensation Boundary Event	45
Conditional Boundary Event	46
Signal Boundary Event	46
Multiple Boundary Event	47
Parallel Multiple Boundary Event	47
End Events	48
None End Event	48
Message End Event	49
Error End Event	49
Escalation End Event	50
Cancel End Event	50
Compensation End Event	51
Signal End Event	51
Terminate End Event	52
Multiple End Event	52
Gateways	52
Exclusive Gateway	53
Inclusive Gateway	54
Parallel Gateway	54
Event Based Gateway	55
Complex Gateway	56
Items and Data	57
Data Object	57
Data Store	57
Data Input and Data Output	58
Data Association	58
Compensation	59
BPMN Collaboration Diagram	61
Collaboration	62
Pool and Lane	62
Message Flow	64
Message	67
Conversation	67
SubConversation	67
Call Conversation	68
Conversation Link	69
Participant	69
BPMN Choreography Diagram	70
Choreography	70
Choreography Activities	71
Choreography Task	72
SubChoreography	74
Call Choreography	75
Numbering Elements	76

CONTENTS

Numbering Schemas	76
Multilevel with Owner Number	76
Multilevel without Owner Number	77
Consecutive with Owner Number	77
Consecutive without Owner Number	78
Element Types Numbering Sequence	79

XPDL Support 80

BPMN2 XML support 80

3 SUPPORTIVE DIAGRAMS CONCEPTS 82

Business Motivation Diagram 82

Ends Concepts 83

 Vision 83

 Goal 83

 Objective 84

 End Concept Relationships 84

Means Concepts 85

 Mission 85

 Strategy 85

 Tactic 86

 Business Policy 86

 Business Rule 87

 Mean Concept Relationships 87

Influencer Concepts 90

 External Influencer 90

 Internal Influencer 90

 Influencing Organization 91

 Influence Concepts Relationship 92

Assessment Concepts 92

 Assessment 92

 Risk 93

 Potential Reward 93

 Assessment Concept Relationships 93

Business Data Diagram 95

Class 95

Association 96

Generalization 96

Organization Structure Diagram 97

Resource 98

Organization Unit 98

Role 99

Person 99

Information system 100

Composition 101

Process Definition Diagram 101

Package 102

Relationships 102

 Usage 103

 Dependency 103

 Realizes 104

 Governs 104

CONTENTS

Guides 104

BPMN Tables 105

BPMN Processes Description Table 105

BPMN Resources Description Table 106

BPMN Business Data Description Table 106

BPMN Activities Description Table 107

BPMN Matrices 108

BPMN Resources Usage Matrices 108

BPMN Data Usage Matrices 109

BPMN Processes Structure Map 110

4 USING CAMEO BUSINESS MODELER 111

Using Common BPMN Elements 111

Using BPMN Process Diagram 112

Creating BPMN Process Diagram 112

Creating and Using Tasks 113

Creating and Using SubProcesses 114

Using Activities 116

Creating and Using an Event 118

Creating and Using a Sequence Flow 121

Creating and Using Data Items 122

Navigation Between BPMN Diagrams 126

Using BPMN Collaboration Diagram 126

Creating BPMN Collaboration Diagram 127

Creating and Using Pool and Lanes 128

Creating and Using Message Flow 131

Creating and Using Conversation Nodes 133

Creating and Using Participant 136

Using BPMN Choreography Diagram 137

Creating BPMN Choreography Diagram 137

Using Choreography Activity 138

Creating and Using Choreography Task 141

Creating SubChoreography 143

Creating Call Choreography Activity 144

Using BPMN Tables and Matrices 145

Creating BPMN Processes Description Table 145

Creating BPMN Resources Description Table 146

Creating BPMN Business Data Description Table 147

Creating BPMN Activities Description Table 148

Modifying BPMN Table 149

Creating BPMN Resources Usage Matrix 151

Creating BPMN Data Usage Matrix 151

Modifying BPMN Matrices 152

Using Organization Structure Diagram 153

Creating Organization Structure Diagram 153

Creating and Using Resources 154

Using BPMN Element Numbers 155

Exporting Models to XPDL 158

Exporting Models to BPMN2 159

CONTENTS

Importing from BPMN 1.1	161
Integration with Cameo SOA+	162

5 APPENDIX I: VALIDATION RULES 168

Incoming Sequence Flow is not created for End Event	168
Error code is not specified for an Error or Error is not defined for an Error End Event	169
Too few outgoing Sequence Flow are detected for an Event-Based Gateway	169
A Start Event is not defined for an Event SubProcess	170
An Intermediate Boundary Event does not have outgoing Sequence Flow	170
Incoming/outgoing Sequence Flow is missing for an Intermediate Catch Event	171
Incoming/outgoing Sequence Flow is missing for an Intermediate Throw Event	171
Outgoing Sequence Flow is not defined for a Start Event	172
Resource is not defined for a Task	172
Incoming/outgoing Sequence Flow is missing for a Task	173
Name is not defined for a Task	173
Type is not defined for a Data Object, Data Input, Data Output and Data Store	174
A Representer is not specified for a Lane	174
A Documentation is not specified for a BPMN Activity and Resource elements	175
A Message is not referenced by Message Flow	175

1 GETTING STARTED

Cameo Business Modeler is a tool that provides a solution for modeling and analyzing business processes. This tool allows you to represent and analyze business process models based on the Business Process Modeling and Notation (BPMN) standard, define organization structure and business data as well as business motivation based on Business Motivation Model (BMM) standard.

This chapter contains the following sections:

- [Introducing Main Concepts](#)
- [Installing Cameo Business Modeler Plugin](#)
- [Switching to Business Modeling Perspectives](#)
- [Creating BPMN Projects](#)

1.1 Introducing Main Concepts

This chapter contains the following sections:

- [Business Process Model and Notation \(BPMN\) standard](#)
- [Business Motivation Model standard](#)
- [Supportive Diagrams](#)

1.1.1 Business Process Model and Notation (BPMN) standard

The Business Process Modeling and Notation is a standard created by the Object Management Group (OMG). BPMN provides the capability of describing internal business procedures in a graphical notation and enables organizations to communicate these procedures in a standard manner. Furthermore, the standardized graphical notation facilitates the understanding of performance collaborations and business transactions between organizations. This ensures that businesses will understand themselves and other business participants better.

The Cameo Business Modeler plugin for MagicDraw provides support for BPMN2 standard, business concepts and organization structure definition, and BMM standard support for business goals definition. It also includes BPMN model validation, business analysis tables, matrices, relation maps, reports, manuals, samples, and imports from BPMN 1.1 models that have been created with MagicDraw.

Cameo Business Modeler provides capabilities for model exchange via XPD files import and export, BPMN2 XML export.

The BPMN2 standard consists of the following three major parts:

- Process, which shows business processes, events, and messages.
- Collaboration, which shows how a process is implemented among collaborators and displays details of conversations among participants.
- Choreography, which provides a view of message/information flows among participants.

The following diagrams are supported:

- [BPMN Process Diagram](#)
- [BPMN Collaboration Diagram](#)

- [BPMN Choreography Diagram](#)

1.1.2 Business Motivation Model standard

The Business Motivation Model (BMM) is a standard created by the Object Management Group (OMG). This standard is designed to develop, communicate, and manage business plans. The model identifies and defines the elements of business plans, the motivating factors to establish the business plans, and how all these factors and elements are interconnected.

You can find full details about BMM at http://www.omg.org/technology/documents/br_pm_spec_catalog.htm

The following diagrams are supported:

- [Business Motivation Diagram](#)

1.1.3 Supportive Diagrams

Cameo Business Modeler also supports diagrams that allow for specifying additional information about business model.

The following diagrams are supported:

- [Process Definition Diagram](#)
- [Business Data Diagram](#)
- [Organization Structure Diagram](#)

1.2 Installing Cameo Business Modeler Plugin

You can install the Cameo Business Modeler plugin in one of the following ways:

- Use the **Resource/Plugin Manager** window in MagicDraw to download and install the plugin.
- Follow the manual installation instructions if direct download through the **Resource/Plugin Manager** window is not available or if you have already downloaded the plugin.

To install the Cameo Business Modeler plugin using the **Resource/Plugin Manager** window

1. On the MagicDraw main menu, click **Help > Resource/Plugin Manager**. The **Resource/Plugin Manager** window will open and prompt you to check for the latest tool updates and resources. Click **Check for Updates**. The Question dialog will open.
2. Click **Check**.



Specify HTTP Proxy Settings for the connection to start MagicDraw UML updates and resources.

3. Click to select the **Cameo Business Modeler** check box and click **Download/Install**.
4. Restart MagicDraw.

To install the Cameo Business Modeler plugin manually on all operating systems

1. Close MagicDraw.
2. Download the *Cameo_Business_Modeler_Plugin_<version number>.zip* file.
3. Extract the file to the directory wherein your MagicDraw is installed.

4. Start MagicDraw.



When you install the plugin, you will automatically get an evaluation key, which is valid for seven (7) days. Afterwards, you will need to purchase a license for the plugin to work with business modeling diagrams (once the evaluation license has expired, business modeling diagrams will be in read-only mode).

Related external resource

“Resource Manager” in [MagicDraw UserManual.pdf](#)

1.3 Switching to Business Modeling Perspectives

The business modeling perspectives are dedicated to business process modelers. The perspectives offer a simplified user interface by showing the features that are relevant to business process modeling and hiding the others that are not.

Cameo Business Modeler offers two business modeling perspectives. They are as follow:

- Business Analyst perspective that provides set of most often used elements of BPMN standard.
- Business Architect perspective that provides all BPMN elements.

To switch to the Business Analyst or Business Architect perspective

1. From the main menu, click **Options > Perspectives > Perspectives**. The **Select Perspectives** dialog will open.
2. Select Business Analyst or Business Architect appropriately and click **Apply**.

Related external resource

“Customizing and Selecting Perspective” in [MagicDraw UserManual.pdf](#).

1.4 Creating BPMN Projects

To create a new project from template, you can choose one of the following templates:

- A BPMN2 Project, which provides the workspace for business process modeling. This project is empty.
- A Business Model project, which provides workspace with predefined project structure and guidelines how to create business model.
- BPMN2 - SoaML project, which provides a workspace for business architecture modeling using BPMN2 and SoaML standards.

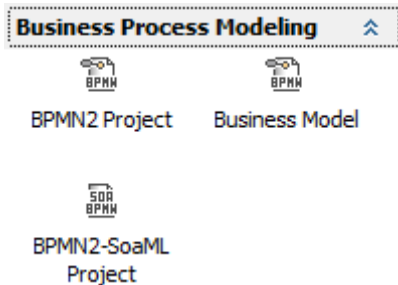


To use the BPMN2-SoaML template for a new project, you must have the Cameo SOA+ plugin installed. Use the Resource Manager window to install the plugin. For more information, see “Resource Manager” in [MagicDraw UserManual.pdf](#).

1.4.1 Creating Empty Business Model

To create a new workspace for an empty project

1. Do one of the following:
 - On the main menu, click **File > New Project**.
 - Click the  button on the File toolbar.
 - Press Ctrl + N.
2. In the **New Project** dialog, select the project template under the **Business Process Modeling** domain.



3. Specify the file name in the **Name** box.
4. Click the ... button to define the location for storing your newly created project in your computer.
5. Click **OK**.



If you work not in the Business Analyst perspective, a message asking whether you want to change the perspective will open. Click Yes to switch to the Business Analyst perspective supporting business modeling diagrams.

Related external resource

“Working with Projects” in [MagicDraw UserManual.pdf](#)

2 BUSINESS PROCESS MODEL AND NOTATION CONCEPTS

This chapter contains the following sections:

- [Common BPMN Elements](#)
- [BPMN Process Diagram](#)
- [BPMN Collaboration Diagram](#)
- [BPMN Choreography Diagram](#)
- [Numbering Elements](#)
- [XPDL Support](#)
- [BPMN2 XML support](#)

2.1 Common BPMN Elements

The following section defines the BPMN elements that can be used in several BPMN diagrams, such as Process, Collaboration, and Choreography diagrams.

Common BPMN2 elements are described in the following sections:

- [Definitions](#)
- [Artifacts](#)
- [Error](#)

2.1.1 Definitions

Description

The Definitions element is a root model in a business modeling project. This element is the outermost containing object for all BPMN elements. It defines the visibility scope and the namespace for all of the BPMN elements in a model.

Example

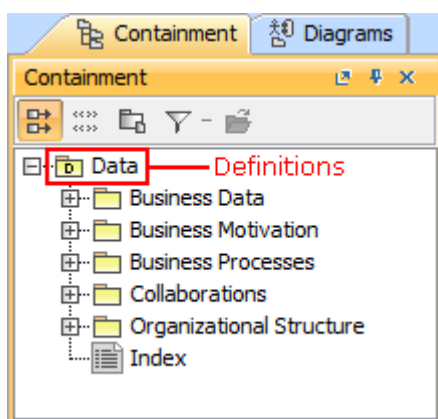


Figure -- Definitions element in Containment tree

2.1.2 Artifacts

Artifacts provide modelers with the capability to show additional information about a process.



This information is not directly related to a sequence or message flow of the process.

Types of Artifacts are as follows:

- [Anchor](#)
- [Association](#)
- [Group](#)
- [Text Annotation](#)

2.1.2.1 Anchor

Description

An Anchor is used to associate a Text Annotation, Note, or Comment with the other diagram elements.

Example

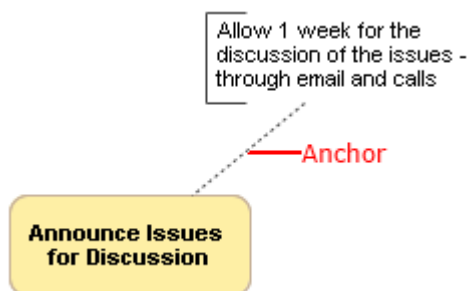


Figure -- Anchor associating Text Annotation with Activity

Related element

[Text Annotation](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related external resource

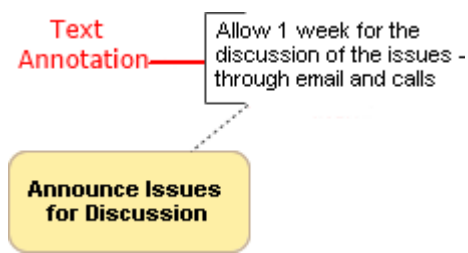
“Note” and “Comment” in [MagicDraw UserManual.pdf](#)

2.1.2.2 Text Annotation

Description

A Text Annotation allows a modeler to provide additional information about elements for the reader of a BPMN diagram.

Example



Related element

[Anchor](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

2.1.2.3 Association

Description

An Association relation can be drawn between any BPMN elements.

This element also can denote an Activity that is used for a Compensation.

Notation

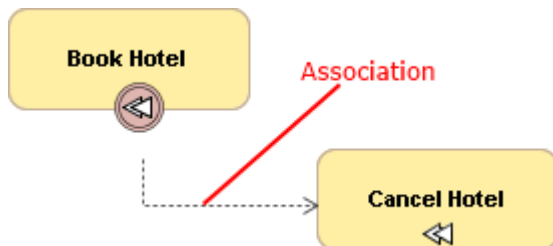


Figure -- Association from Compensation Boundary Event to Compensation task

Related element

[Activities](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

2.1.2.4 Group

Description

A Group element represents an informal visual grouping of the diagram graphical elements.

A group shows all elements that belong to the same category. This type of grouping does not affect a sequence flow within the Group. A category name appears on the diagram as a Group label.

Example

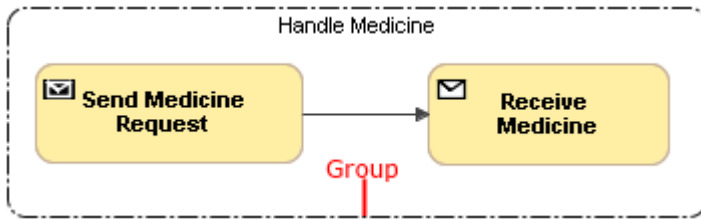


Figure -- Group showing elements in same category

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

2.1.3 Error

Description

An Error represents the content of an error event or the fault of a failed operation. An Error is generated when there is a critical problem in the processing of an Activity or when the execution of an operation fails.

Related elements

[Start Events](#)

[Boundary Events](#)

[End Events](#)

2.2 BPMN Process Diagram

Description

A BPMN Process Diagram describes a sequence or flow of activities in an organization that shows how the business works. The diagram shows activities, events, and data that trigger or feed business activities. A BPMN Process Diagram is similar to the UML Activity diagram with a much richer set of default message types and business process styles of notations.

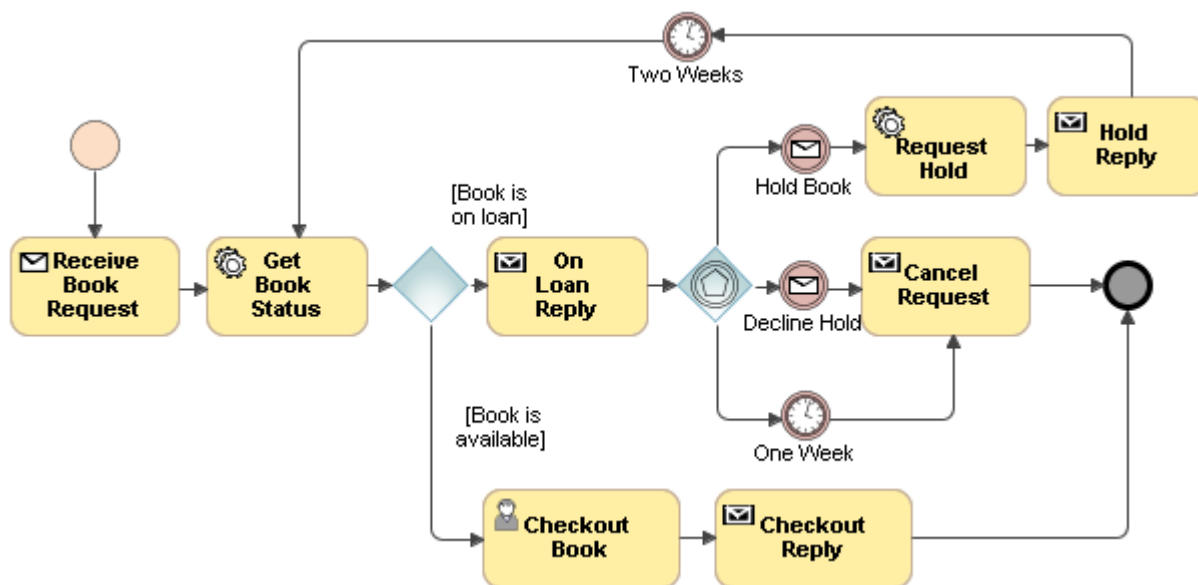
Example

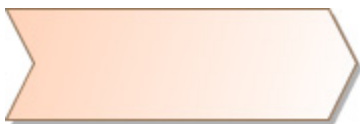
Figure -- BPMN Process diagram

Related element[BPMN Process](#)**Related procedure**[Creating BPMN Process Diagram](#)

2.2.1 BPMN Process

Description

A BPMN Process element defines a process performed in an organization. This element is a container for the BPMN Process diagram and its elements. Process diagram describes how a process is performed.

Notation**Related element**[Tasks](#)**Related diagram**[Process Definition Diagram](#)

2.2.2 Activities

An Activity is a work that is performed within a business process. An Activity can be atomic or non-atomic (compound). There are three types of Activities that are part of a Process:

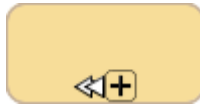
- [Tasks](#)
- [SubProcesses](#)
- [Call Activity](#)

If the Activity property Is For Compensation is set to true, the Activity will be used for compensation, which means that this Activity will be activated only when a Compensation Event is detected and initiated under the Compensation Event visibility scope. The Compensation indicator (marker) is displayed for all activities that are used for the compensation.

- Compensation Task with Compensation indicator



- Compensation SubProcess with Compensation indicator



Activities can be repeated sequentially, essentially behaving like a loop. The presence of loop characteristics signifies that an Activity has the looping behavior. There are two types of looping characteristics defined in BPMN:

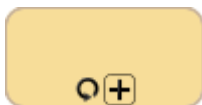
- Standard Loop

A Standard Loop indicator (marker) displayed in an Activity shape shows that the looping behavior based on a boolean condition is defined for this Activity. Additional looping characteristics can be defined, and the Activity will loop as long as the boolean condition is true. The condition is evaluated for every loop iteration and can be evaluated at the beginning or end of the iteration. In addition, a numeric cap can be optionally specified, but the number of iterations cannot exceed this cap.

- Task with Standard Loop marker



- SubProcess with Standard Loop marker



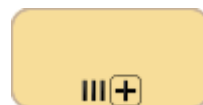
- MultiInstance Loop

A MultiInstance Loop indicator shows that a desired number of Activity instances can be created. The instances can be executed in parallel or sequentially. Either expression is used to specify the desired number of instances or a data driven setup that can be used.

- Task with MultiInstance Loop marker for parallel instances



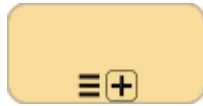
- SubProcess with MultiInstance Loop marker for parallel instances



- Task with MultiInstance Loop marker for sequential instances



- SubProcess with MultiInstance Loop marker for sequential instances



The Compensation, Multi-instance Loop, and Standard Loop indicators can be added to all types of Activities.

Related procedure

[Using Activities](#)

2.2.2.1 Tasks

A Task is an atomic Activity within a process flow. A Task is used when the work in a process cannot be broken down into finer levels of detail. Generally, an end-user and/or application are used to perform the task when it is executed. Types of Tasks used in business process modeling are as follows:

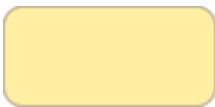
- [Task](#)
- [Service Task](#)
- [Send Task](#)
- [Receive Task](#)
- [User Task](#)
- [Manual Task](#)
- [Business Rule Task](#)
- [Script Task](#)

2.2.2.1.1 Task

Description

A Task that has no specified behavior defined.

Notation



Related elements

[Activities](#)

[Service Task](#)

[Send Task](#)

[Receive Task](#)

[User Task](#)

[Manual Task](#)

[Business Rule Task](#)

[Script Task](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

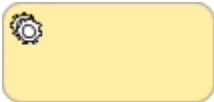
[Creating and Using Tasks](#)

2.2.2.1.2 Service Task

Description

A Service Task is a task that uses some sort of service, which could be a Web service or an automated application.

Notation



Related elements

[Activities](#)

[Task](#)

[Service Task](#)

[Receive Task](#)

[User Task](#)

[Manual Task](#)

[Business Rule Task](#)

[Script Task](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

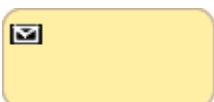
[Creating and Using Tasks](#)

2.2.2.1.3 Send Task

Description

A Send Task is a simple task that is designed to send a message to an external participant. Once the message has been sent, the task is completed.

Notation



Related elements

[Activities](#)

[Task](#)

[Service Task](#)

[Receive Task](#)

[User Task](#)

[Manual Task](#)

[Business Rule Task](#)

[Script Task](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

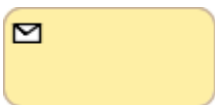
[Creating and Using Tasks](#)

2.2.2.1.4 Receive Task

Description

A Receive Task is a simple task that is designed to wait for a message to arrive from an external participant (relative to the Process). Once the message has been received, the task is completed.

Notation



Related elements

[Activities](#)

[Task](#)

[Service Task](#)

[Send Task](#)

[User Task](#)

[Manual Task](#)

[Business Rule Task](#)

[Script Task](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

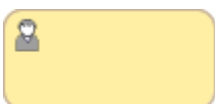
[Creating and Using Tasks](#)

2.2.2.1.5 User Task

Description

A User Task is a typical workflow task where a human performer performs the task with the assistance of software and is scheduled through a task list manager of some sort.

Notation



Related elements

[Activities](#)

[Task](#)

[Service Task](#)

[Send Task](#)

[Receive Task](#)

[Manual Task](#)

[Business Rule Task](#)

[Script Task](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

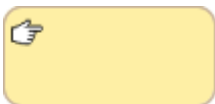
[Creating and Using Tasks](#)

2.2.2.1.6 Manual Task

Description

A Manual Task is a task that is expected to be performed without the aid of any business process execution engine or application, for example, installing a telephone at a customer location.

Notation



Related elements

[Activities](#)

[Task](#)

[Service Task](#)

[Send Task](#)

[Receive Task](#)

[User Task](#)

[Business Rule Task](#)

[Script Task](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using Tasks](#)

2.2.2.1.7 Business Rule Task

Description

A Business Rule Task provides a mechanism for a process to provide inputs to a business rules engine and to get the output of calculations that the business rules engine might provide.

Notation



Related elements

[Activities](#)

[Task](#)

[Service Task](#)

[Send Task](#)

[Receive Task](#)

[User Task](#)

[Manual Task](#)

[Script Task](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

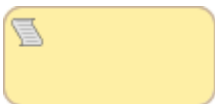
[Creating and Using Tasks](#)

2.2.2.1.8 Script Task

Description

A Script Task is executed by a business process engine. A modeler or an implementer defines a script in a language that the engine can interpret. When the task is ready to start, the engine will execute the script. When the script is completed, the task will also be completed.

Notation



Related elements

[Activities](#)

[Task](#)

[Service Task](#)

[Send Task](#)

[Receive Task](#)

[User Task](#)

[Manual Task](#)

[Business Rule Task](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using Tasks](#)

2.2.2.2 SubProcesses

A SubProcess is an Activity whose internal details have been modeled using activities, gateways, events, and sequence flows. A SubProcess is a graphical object within a process. It can be “opened up” to show a lower-level process. SubProcesses define a contextual scope that can be used for attribute visibility and a transactional scope for the handling exceptions of Events or for compensation.

A collapsed view of a SubProcess hides its details while an expanded view shows its content. A collapsed SubProcess uses a plus sign (+) to distinguish itself from a Task.

Different types of SubProcesses used in business process modeling are as follows:

- [SubProcess](#)
- [AdHoc SubProcess](#)
- [Event SubProcess](#)
- [Transaction](#)

2.2.2.2.1 SubProcess

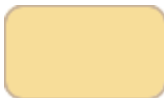
Description

A SubProcess is used to create a context for an exception handling that applies to a group of activities.

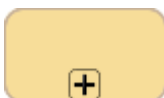
A collapsed SubProcess can be used as a mechanism to show a compact and less clutter group of parallel activities.

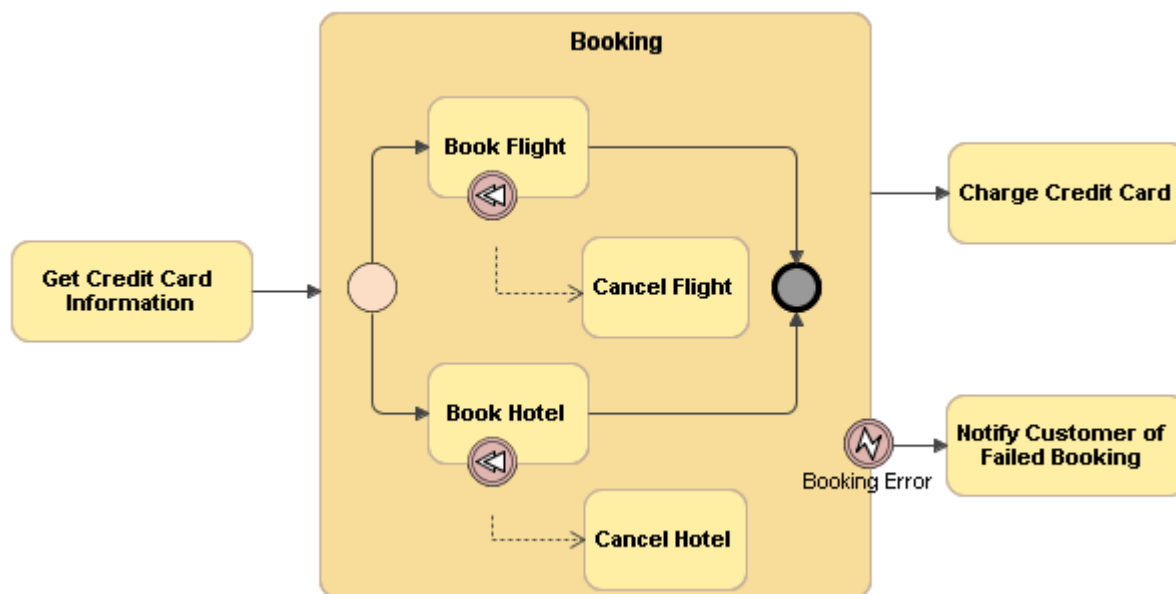
Notation

- Expanded SubProcess



- Collapsed SubProcess



Example*Figure -- Expanded SubProcess***Related elements**

[Activities](#)
[AdHoc SubProcess](#)
[Event SubProcess](#)
[Transaction](#)

Related diagrams

[BPMN Process Diagram](#)
[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using SubProcesses](#)

2.2.2.2.2 AdHoc SubProcess**Description**

An AdHoc SubProcess is a specialized type of SubProcess, which is a group of activities that have no required sequence relationships. A set of activities can be defined for the process, but the sequence and number of performances for the activities are determined by the performers of the activities.

Notation

- Expanded



- Collapsed



Related elements

[Activities](#)
[SubProcess](#)
[Event SubProcess](#)
[Transaction](#)

Related diagrams

[BPMN Process Diagram](#)
[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using SubProcesses](#)

2.2.2.2.3 Event SubProcess

Description

An Event SubProcess is an ordinary SubProcess whose Triggered By Event property is set to true. It is not a part of a normal flow of its parent process - there is no incoming or outgoing sequence flow.

An Event SubProcess may occur many times. Unlike the standard SubProcess that uses the flow of the parent process as a trigger, it has a Start Event as a trigger. Whenever the Start Event is triggered while the parent process is active, the Event SubProcess will start.

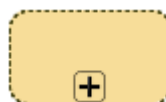
The Start Event icon of a collapsed Event SubProcess will be displayed on the top left corner of the SubProcess.

Notation

- Expanded



- Collapsed



- Collapsed (with its own Start Event)



Related elements

[Activities](#)
[SubProcess](#)
[AdHoc SubProcess](#)
[Transaction](#)
[Start Events](#)

Related diagrams

[BPMN Process Diagram](#)
[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using SubProcesses](#)

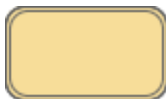
2.2.2.2.4 Transaction

Description

A Transaction is a specialized type of SubProcess whose special behavior is controlled through a transaction protocol (such as WS-Transaction).

Notation

- Expanded



- Collapsed



Related elements

[Activities](#)

[SubProcess](#)

[AdHoc SubProcess](#)

[Event SubProcess](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

2.2.2.3 Call Activity

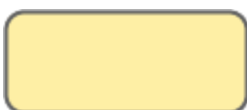
Description

A Call Activity identifies a point in a process where a global process is used. The Call Activity acts as a wrapper for the invocation of the global process within the execution. The activation of the Call Activity results in the transfer of control to the called global process.

A Call Activity shares the same notation as a Task or SubProcess with a thick line around the boundary of its shape.

The BPMN2 Call Activity corresponds to the Reusable SubProcess of BPMN 1.2, and the BPMN2 SubProcess corresponds to the Embedded SubProcess of BPMN 1.2.

Notation



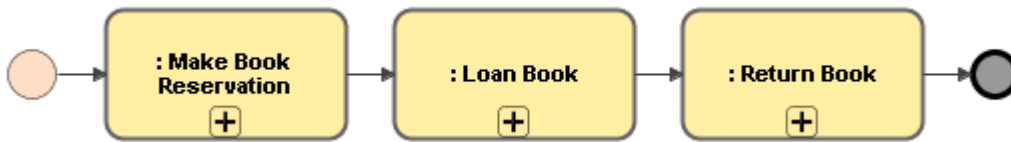
Example

Figure -- Call Activities Referencing Process

Related elements[BPMN Process](#)[Activities](#)**Related diagrams**[BPMN Process Diagram](#)[BPMN Collaboration Diagram](#)

2.2.3 Sequence Flow

Description

A Sequence Flow is used to show the order of flow elements in a process or a choreography.

The source and target of a Sequence Flow must be from a set of the following elements:

- Events (Start, Intermediate, and End events)
- Activities (Task and SubProcess for Processes)
- Choreography Activities (Choreography Task and Sub-Choreography)
- Gateways

A Sequence Flow can optionally define a condition expression indicating that a token will be passed down the Sequence Flow only if the expression is evaluated to be true.

A Condition expression is typically used when the source of a Sequence Flow is a Gateway or an Activity. A conditional outgoing Sequence Flow from an Activity is with a mini-diamond (indicator) at the beginning of the Sequence Flow.



A Conditional Sequence Flow outgoing from a Gateway does not have a mini-diamond at the beginning of the Sequence Flow.

A Sequence Flow, which has an exclusive, inclusive, or complex gateway, or an Activity as its source, can also be defined as a default Sequence Flow. The default Sequence Flow is represented with a backslash.

A default Sequence Flow will be taken (a token is passed) only if all of the other outgoing Sequence Flows from an Activity or Gateway are not valid, meaning that their condition expressions are false.

Example

Figure -- Sequence Flow between two Tasks

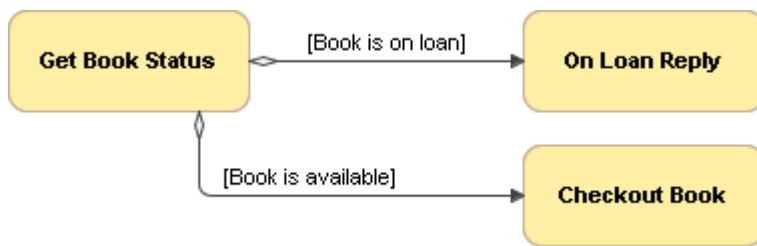


Figure -- Conditional Sequence flow

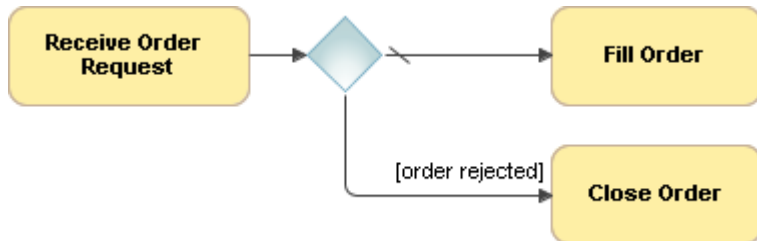


Figure -- Default Sequence Flow

Related elements

[Start Events](#)
[Intermediate Catch Event](#)
[Intermediate Throwing Event](#)
[End Events](#)
[Task](#)
[SubProcess](#)
[Choreography Task](#)
[SubChoreography](#)
[Gateways](#)

Related diagrams

[BPMN Process Diagram](#)
[BPMN Collaboration Diagram](#)
[BPMN Choreography Diagram](#)

Related procedure

[Using BPMN Process Diagram](#)

2.2.4 Start Events

A Start Event indicates where a particular process starts. In terms of sequence flows, a Start Event starts the flow of a process, and thus cannot have any incoming sequence flows.

When a Start Event is owned by an Event SubProcess, it can be:

- Interrupting. The Start Event interrupts the process contained in the Event SubProcess. The Interrupting Message Start Event is drawn with a solid border.
- Non-Interrupting. The Start Event does not interrupt the process contained in the Event SubProcess and starts parallel flow. The Interrupting Message Start Event is drawn with a dashed border.

Types of Start Events are as follows:

- [None Start Event](#)
- [Message Start Event](#)
- [Timer Start Event](#)
- [Compensation Start Event](#)
- [Conditional Start Event](#)
- [Escalation Start Event](#)
- [Error Start Event](#)
- [Signal Start Event](#)
- [Multiple Start Event](#)
- [Parallel Multiple Start Event](#)

2.2.4.1 None Start Event

Description

A None Start Event does not have a defined trigger that invokes the start of a process.

Notation



Related element

[Start Events](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.4.2 Message Start Event

Description

A Message Start Event means that a message from a participant has arrived and triggered the start of a process.

A Message Start Event displays any of the following on a diagram:

- A Message Start Event name if the name is specified.
- A Message Ref property value if the name is unspecified.
- An Operation Ref property if the name and Message Ref are not specified.

Notation

- Interrupting Message Start Event



- Non-interrupting Message Start Event



Related elements

[Start Events](#)

[Message](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.4.3 Timer Start Event

Description

A Timer Start Event allows a particular time and date or cycle setting, for example, on Mondays at 9 A.M., to trigger the start of a process.

A Timer Start Event displays any of the following on a diagram:

- A Timer Start Event name if the name is specified.
- A Time Cycle property name if the name is unspecified.
- A Time Date property if the name and Time Cycle are unspecified.

Notation

- Interrupting Timer Start Event



- Non-interrupting Timer Start Event



Related element

[Start Events](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.4.4 Compensation Start Event

Description

A Compensation Start Event triggers an in-line Compensation Event SubProcess only. The event is triggered when the compensation occurs.

Notation



Related element

[Start Events](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.4.5 Conditional Start Event

Description

A Conditional Start Event is triggered when a condition is specified, become true. For example, “S&P 500 changes by more than 10% since opening” or “Temperature above 300C”.

A Conditional Start Event displays either of the following on a diagram:

- A Conditional Start Event name if the name is specified.
- A Condition property value if the name is unspecified.



A conditional expression of an event must become “false”, and then “true” before the event can be triggered again.

Notation

- Interrupting Conditional Start Event



- Non-interrupting Conditional Start Event



Related element

[Start Events](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.4.6 Escalation Start Event

Description

An Escalation Start Event implements measures to expedite the completion of a business Activity.

This event displays either of the following on a diagram:

- An Escalation Start Event name if the name is specified.

- An Escalation Code property value if the name is unspecified.



An Escalation Start Event triggers an in-line Event SubProcess only.

Notation

- Interrupting Escalation Start Event



- Non-interrupting Escalation Start Event



Related element

[Start Events](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.4.7 Error Start Event

Description

An Error Start Event triggers an in-line Event SubProcess only.

This event displays either of the following on the diagram:

- An Error Start Event name if the name is specified.
- An Error Ref property value if the name is unspecified.

Notation



Related element

[Start Events](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.4.8 Signal Start Event

Description

A Signal Start Event means that a signal, which has been broadcast from another process, has arrived and triggered the start of a process.

A Signal Start Event displays either of the following on a diagram:

- A Signal Start Event name if the name is specified.
- A Signal Ref property value if the name is unspecified.

Notation

- Interrupting Signal Start Event



- Non-Interrupting Signal Start Event



Related element

[Start Events](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.4.9 Multiple Start Event

Description

A Multiple Start Event indicates that there are multiple ways to trigger a process. However, only one is required.

Notation

- Interrupting Multiple Start Event



- Non-interrupting Multiple Start Event



Related element

[Start Events](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.4.10 Parallel Multiple Start Event

Description

A Parallel Multiple Start Event indicates that there are multiple triggers required before a process can be initiated.

Notation

- Interrupting Parallel Multiple Start Event



- Non-Interrupting Parallel Multiple Start Event



Related element

[Start Events](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.5 Intermediate Catch Event

An Intermediate Catch Event indicates that something is happening between the start and end of a process. Intermediate Events affect the flow of a process, but do not start or directly terminate the process.

You can use Intermediate Catch Event to:

- Show where messages are expected or sent within a process.
- Show delays that are expected within a process.
- Interrupt normal flow through exception handling.

Types of Intermediate Catch Events are the following:

- [None Intermediate Event](#)
- [Message Catching Intermediate Event](#)
- [Timer Catching Intermediate Event](#)
- [Conditional Catching Intermediate Event](#)
- [Link Catching Intermediate Event](#)
- [Signal Catching Intermediate Event](#)
- [Multiple Catching Intermediate Event](#)
- [Parallel Multiple Catching Intermediate Event](#)

2.2.5.1 None Intermediate Event

Description

A None Intermediate Event does not have a defined trigger.

This event is used to model methodologies that use events to indicate some changes in a state of process.

Notation



Related element

[Intermediate Catch Event](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.5.2 Message Catching Intermediate Event

Description

A Message Catching Intermediate Event is used to receive a message.

This event causes a process to continue if it is waiting for the message.

A Message Catching Intermediate Event displays any of the following on a diagram:

- A Message Catching Intermediate Event name if the name is specified.
- A Message Ref property value if the name is unspecified.
- An Operation Ref property if the name and Message Ref are not specified.

Notation



Related elements

[Message](#)

[Intermediate Catch Event](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.5.3 Timer Catching Intermediate Event

Description

A Timer Catching Intermediate Event acts as a delay mechanism based on a particular time and date, or cycle, for example, on Mondays at 9 A.M.

This Event displays any of the following on a diagram:

- A Timer Catching Intermediate Event name if the name is specified.
- A Time Cycle property name if the name is unspecified.
- A Time Date property if the name and Time Cycle are unspecified.

Notation



Related element

[Intermediate Catch Event](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.5.4 Conditional Catching Intermediate Event

Description

A Conditional Catching Intermediate Event is triggered when a condition becomes true.

This event displays either of the following on a diagram:

- A Conditional Catching Intermediate Event name if the name is specified.
- A Condition property value if the name is unspecified.

Notation



Related element

[Intermediate Catch Event](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.5.5 Link Catching Intermediate Event

Description

A Link Catching Intermediate Event provides the capability to connect two sections of a process. You can use this event to either:

- Create looping situations or to avoid long sequence flow lines, as “Off-Page Connectors” to print a Process across multiple pages, or as generic Go To objects within a Process level.
- Catch a link from a Link Throwing Intermediate Event.

You can only use one Link Event for each single Process level, meaning that it cannot link a parent Process with a SubProcess.

A Link Catching Intermediate Event displays either of the following:

- A Link Catching Intermediate Event name if the name is specified.
- A Source property value if the name is unspecified.

Notation



Example

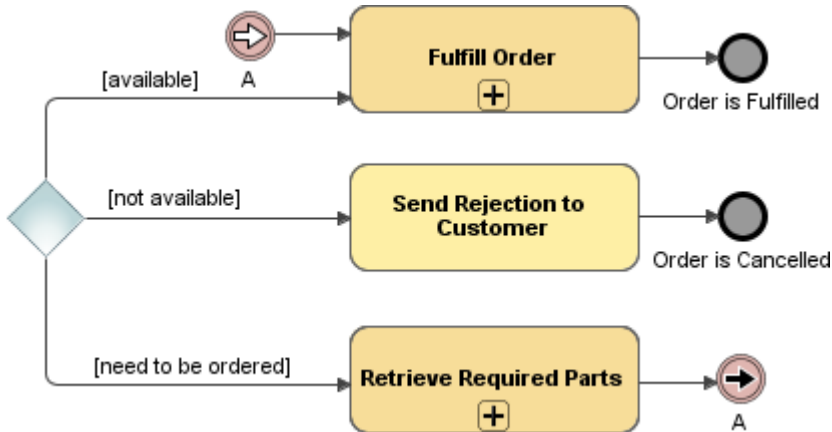


Figure -- Link Catching Intermediate Event

Related element

[Intermediate Catch Event](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.5.6 Signal Catching Intermediate Event

Description

A Signal Catching Intermediate Event is used to receive a signal.

This event displays either of the following on the diagram:

- A Signal Catching Intermediate Event name if the name is specified.
- A Signal Ref property value if the name is unspecified.

Signals in business process modeling are used for general communications within and across process levels.

Notation



Related element

[Intermediate Catch Event](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.5.7 Multiple Catching Intermediate Event

Description

A Multiple Catching Intermediate Event signifies that multiple types of events can be caught. Only one of the defined event triggers is required.

Notation



Related element

[Intermediate Catch Event](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.5.8 Parallel Multiple Catching Intermediate Event

Description

A Parallel Multiple Catching Intermediate Event signifies that multiple types of events are caught. All of the defined event triggers are required to trigger this event.

Notation



Related element

[Intermediate Catch Event](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.6 Intermediate Throwing Event

An Intermediate Throwing Event indicates that something is happening between the start and end of a process. Intermediate Events affect the flow of a process, but do not start or directly terminate the process.

You can use Intermediate Throwing Events to show extra work required.

Types of Intermediate Throwing Events are as follows:

- [Message Throwing Intermediate Event](#)
- [Link Throwing Intermediate Event](#)
- [Signal Throwing Intermediate Event](#)
- [Compensation Throwing Intermediate Event](#)
- [Escalation Throwing Intermediate Event](#)
- [Multiple Throwing Intermediate Event](#)

2.2.6.1 Message Throwing Intermediate Event

Description

A Message Throwing Intermediate Event is used to send a message.

This Event displays any of the following on a diagram:

- A Message Throwing Intermediate Event name if the name is specified.
- A Message Ref property value if the name is unspecified.
- An Operation Ref property if the name and Message Ref are not specified.

Notation



Related element

[Intermediate Throwing Event](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.6.2 Link Throwing Intermediate Event

Description

A Link Throwing Intermediate Event is used to throw a link to a Link Catching Intermediate Event.

This event displays either of the following:

- A Link Throwing Intermediate Event name if the name is specified.
- A Target Link Event property value if the name is unspecified.

Notation



Related element

[Intermediate Throwing Event](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.6.3 Signal Throwing Intermediate Event

Description

A Signal Throwing Intermediate Event is used to send a signal.

This event displays either of the following on a diagram:

- A Signal Throwing Intermediate Event name if the name is specified.
- A Signal Ref property value if the name is unspecified.

Notation



Related element

[Intermediate Throwing Event](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.6.4 Compensation Throwing Intermediate Event

Description

A Compensation Throwing Intermediate Event indicates that a compensation is necessary.

If an Activity, which has been successfully completed, is identified, then it will be compensated.

If no Activity is identified, all successfully completed Activities visible from a Compensation Throwing Intermediate Event will be compensated in reverse order of their sequence flows. To be compensated, the Activity must have a Boundary Compensation Event or contain a Compensation Event SubProcess.

Notation



Related elements

[Compensation](#)

[Intermediate Throwing Event](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.6.5 Escalation Throwing Intermediate Event

Description

An Escalation Throwing Intermediate Event raises an Escalation.

This event displays one of the following on the diagram:

- An Escalation Throwing Intermediate Event name if the name is specified.
- An Escalation Code property value if the name is unspecified.

Notation



Related element

[Intermediate Throwing Event](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.6.6 Multiple Throwing Intermediate Event

Description

A Multiple Throwing Intermediate Event signifies that multiple types of events are thrown. All of the defined triggers will be thrown by this event.

Notation



Related element

[Intermediate Throwing Event](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.7 Boundary Events

A Boundary Event is an Intermediate event which can be placed on the boundary of any of the following activities:

- SubProcess, Task, or Call Activity
- SubChoreography, Choreography Task, or Call Choreography

Boundary Event indicates that while attached-to Activity is running, event is listening for the trigger signal.

Boundary Event types:

- Interrupting Boundary Event aborts Activity and Process is continued of exceptional flow. This event is drawn with a solid border.
- Non-Interrupting Boundary Event splits process to parallel flows. This event is drawn with a dashed border.

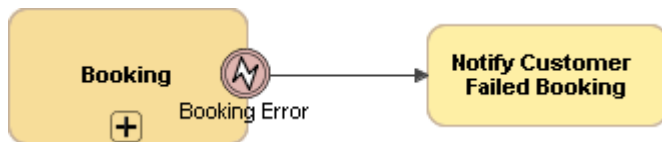


Figure -- Error Boundary Event attached to SubProcess

Types of Boundary Events are as follows:

- [Message Boundary Event](#)
- [Timer Boundary Event](#)
- [Escalation Boundary Event](#)
- [Error Boundary Event](#)
- [Cancel Boundary Event](#)
- [Compensation Boundary Event](#)
- [Conditional Boundary Event](#)
- [Signal Boundary Event](#)
- [Multiple Boundary Event](#)
- [Parallel Multiple Boundary Event](#)

2.2.7.1 Message Boundary Event

Description

A Message Boundary Event is triggered by an arrived message. Once triggered, it changes a normal flow into an exception flow or parallel.

A Message Boundary Event displays any of the following on the diagram:

- A Message Boundary Event name if the name is specified.
- A Message Ref property value if the name is unspecified.
- An Operation Ref property if the name and Message Ref are not specified.

Notation

- Interrupting Message Boundary Event



- Non-interrupting Message Boundary Event



Related elements

[Boundary Events](#)

[Activities](#)

[Message](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.7.2 Timer Boundary Event

Description

A Timer Boundary Event, which is attached to the boundary of an Activity, change a normal flow into an exception flow upon being triggered. A particular time-date or cycle, for example, on Mondays at 9 A.M., can be specified to trigger a Timer Boundary Event.

A Timer Boundary Event displays any of the following on a diagram:

- A Timer Boundary Event name if the name is specified.
- A Time Cycle property name if the name is unspecified.
- A Time Date property if the name and Time Cycle are unspecified.

Notation

- Interrupting Timer Boundary Event



- Non-interrupting Timer Boundary Event



Related elements

[Boundary Events](#)

[Activities](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.7.3 Escalation Boundary Event

Description

An Escalation Boundary Event is used to catch an escalation.

This event displays either of the following on a diagram:

- An Escalation Boundary Event name if the name is specified.
- An Escalation Code property value if the name is unspecified.

Notation

- Interrupting Escalation Boundary Event



- Non-interrupting Escalation Boundary Event



Related elements

[Boundary Events](#)

[Activities](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.7.4 Error Boundary Event

Description

An Error Boundary Event reacts to (catches) a named error or any error if no name is specified.

This Event always interrupts the Activity to which it is attached. The boundary of the event is always solid.

An Error Boundary Event displays either of the following on a diagram:

- An Error Boundary Event name if the name is specified.
- An Error Ref property value if the name is unspecified.

Notation



Related elements

[Boundary Events](#)

[Activities](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.7.5 Cancel Boundary Event

Description

A Cancel Boundary Event is used within a Transaction SubProcess.

This type of Event must be attached to the boundary of a SubProcess and will be triggered if the following conditions are satisfied:

- A Cancel End Event is reached within the Transaction SubProcess.
- A Transaction Protocol Cancel message is received while a transaction is being performed.

A Cancel Boundary Event always interrupts the Activity to which it is attached. The boundary of the event is always solid.

Notation



Related elements

[Boundary Events](#)

[Activities](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.7.6 Compensation Boundary Event

Description

A Compensation Boundary Event is used to catch a Compensation Event. The event will be triggered by a compensation event. When the event is triggered, a Compensation Activity, which is associated with it, will be performed.

The Compensation Boundary Event in this sense does not affect the interrupting or non-interrupting aspect. Compensations can only be triggered after the completion of an Activity to which they are attached. Thus, they cannot interrupt the Activity. The boundary of the event is always solid.

Notation



Related elements

[Boundary Events](#)

[Activities](#)

[Compensation](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.7.7 Conditional Boundary Event

Description

A Conditional Boundary Event is triggered when a specified condition becomes true. When the event is triggered, it will change a normal flow of a Process into an exception flow.

This event displays either of the following on a diagram:

- A Conditional Catching Intermediate Event name if the name is specified.
- A Conditional property value if the name is unspecified.

Notation

- Interrupting Conditional Boundary Event



- Non-interrupting Conditional Boundary Event



Related elements

[Boundary Events](#)

[Activities](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.7.8 Signal Boundary Event

Description

A Signal Boundary Event can receive a Signal. In this context, it will change a normal flow into an exception flow upon being triggered.

A Signal Event differs from an Error Event because it defines a more general, non-error condition for interrupting Activities, such as the successful completion of another Activity, and it has a larger scope than the Error Event does.

Signal Boundary Event displays either of the following on a diagram:

- A Signal Boundary Event name if the name is specified.
- A Signal Ref property value if the name is unspecified.

Notation

- Interrupting Signal Boundary Event



- Non-Interrupting Signal Boundary Event



Related elements

[Boundary Events](#)

[Activities](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.7.9 Multiple Boundary Event

Description

A Multiple Boundary Event indicates that there are multiple triggers assigned to the Event. Only one of the specified triggers is required. The Event that occurred changes a normal flow into an exception flow.

Notation

- Interrupting Multiple Boundary Event



- Non-Interrupting Multiple Boundary Event



Related elements

[Boundary Events](#)

[Activities](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.7.10 Parallel Multiple Boundary Event

Description

A Parallel Multiple Boundary Event indicates that there are multiple triggers assigned to the event and all of them are required to trigger it.

Notation

- Interrupting Parallel Multiple Boundary Event



- Non-Interrupting Parallel Multiple Boundary Event



Related elements

[Boundary Events](#)

[Activities](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.8 End Events

An End Event indicates where the path of a process ends. In terms of sequence flows, an End Event ends the flow of a process, and thus, does not have any outgoing sequence flow.

Types of End Events used in business process modeling are the following:

- [None End Event](#)
- [Message End Event](#)
- [Error End Event](#)
- [Escalation End Event](#)
- [Cancel End Event](#)
- [Compensation End Event](#)
- [Signal End Event](#)
- [Terminate End Event](#)
- [Multiple End Event](#)

2.2.8.1 None End Event

Description

A None Start Event does not have a defined result.

Notation



Related elements

[Boundary Events](#)

[Activities](#)

[End Events](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.8.2 Message End Event

Description

A Message End Event indicates that a message will be sent when a process is completed.

This event displays any of the following on a diagram:

- A Message End Event name if the name is specified.
- A Message Ref property value if the name is unspecified.
- An Operation Ref property if the name and Message Ref are not specified.

Notation



Related elements

[End Events](#)

[Message](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.8.3 Error End Event

Description

An Error End Event indicates that a defined error will be generated, resulting in the termination of all of the currently active threads in a particular SubProcess.

This event displays either of the following on a diagram:

- An Error End Event name if the name is specified.
- An Error Ref property value if the name is unspecified.

Notation



Related elements

[End Events](#)

[Error](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.8.4 Escalation End Event

Description

An Escalation End Event indicates that an Escalation should be triggered. Other active threads are not affected by this event and continue to be executed.

This event displays either of the following on a diagram:

- An Escalation End Event name if the name is specified.
- An Escalation Code property value if the name is unspecified.

Notation



Related element

[End Events](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.8.5 Cancel End Event

Description

A Cancel End Event is used within a Transaction SubProcess. It indicates that the transaction will be canceled and a Cancel Boundary Event attached to the SubProcess boundary will be triggered. It also indicates that a Transaction Protocol Cancel message have to be sent to all entities involved in the transaction.

Notation



Related element

[End Events](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.8.6 Compensation End Event

Description

A Compensation End Event indicates that a compensation is necessary.

- If an Activity, which has successfully been completed, is identified, that Activity will be compensated.
- If no Activity is identified, all successfully completed Activities visible from the Compensation End Event will be compensated in reverse order of their sequence flows.

To be compensated, an Activity must have a Compensation Boundary Event or contain a Compensation Event SubProcess.

Notation



Related elements

[End Events](#)

[Compensation](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.8.7 Signal End Event

Description

A Signal End Event indicates that a signal will be broadcast when the end has been reached.

This event displays either of the following on a diagram:

- A Signal End Event name if the name is specified.
- A Signal Ref property value if the name is unspecified.



A signal, which is broadcast to any process that can receive it, can be sent across process levels or pools.

Notation



Related element

[End Events](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.8.8 Terminate End Event

Description

A Terminate End Event indicates that all activities in a process have to be immediately ended, including all the instances of multi-instance activities. The process will be ended without any compensation or event handling.

Notation



Related element

[End Events](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.8.9 Multiple End Event

Description

A Multiple End Event shows that there are multiple consequences of ending a process and all of them occur, for example, multiple messages might be sent.

Notation



Related element

[End Events](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using an Event](#)

2.2.9 Gateways

A Gateway allows you to control the flow of a process through a sequence flow. The term Gateway implies that there is a gating mechanism that either allows or disallows passage through the Gateway. Tokens that arrive at the gateway can be merged as inputs and/or split as outputs.



If the flow of a process does not need to be controlled, process does not need a gateway.

Types of Gateways are as follows:

- [Exclusive Gateway](#)
- [Inclusive Gateway](#)

- [Parallel Gateway](#)
- [Event Based Gateway](#)
- [Complex Gateway](#)

2.2.9.1 Exclusive Gateway

Description

A diverging Exclusive Gateway (Decision) is used to create alternative paths within a process flow. This is basically the diversion point in the road for a process. Only one alternative path can be taken for a given instance of the process.

A Exclusive Gateway can be thought of as a question that is asked at a particular point in the process. The question has a defined set of alternative answers. Each question is associated with two or more condition expressions associated with outgoing sequence flows of the Gateway.

A converging Exclusive Gateway is used to merge alternative paths. All incoming sequence Flows tokens will be routed to the outgoing sequence flow without synchronizing them.



There are two icons defined for an Exclusive Gateway in the BPMN2 Specification. It can be displayed with or without an internal marker.

Notation

- Without an Internal Marker Exclusive Gateway



- An Internal Marker Exclusive Gateway



Example

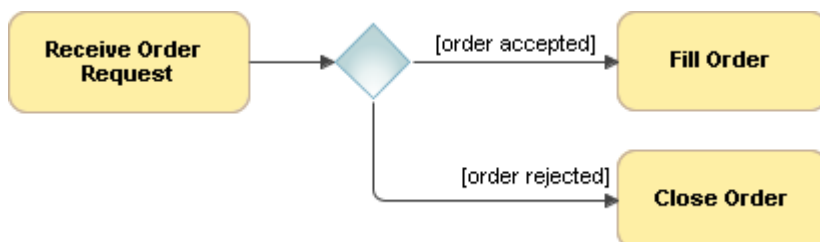


Figure -- Diverging Exclusive Gateway

Related elements

[Gateways](#)

[Sequence Flow](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using a Sequence Flow](#)

2.2.9.2 Inclusive Gateway

Description

A diverging Inclusive Gateway (Inclusive Decision) is used to create not only alternative but also parallel paths within a process flow. Unlike an Exclusive Gateway, it evaluates all condition expressions. The true evaluation of one condition expression does not exclude the evaluation of the other condition expressions. All of the sequence flows with true evaluation will be traversed by a token.

Since each path is considered to be independent, all combinations of the paths may be taken, from zero to all. However, it should be designed in such a way that at least one path is taken.

A converging Inclusive Gateway is used to merge a combination of alternative and parallel paths. A control flow token arriving at an Inclusive Gateway may be synchronized with some other tokens that arrive later at this Gateway.

Notation



Example

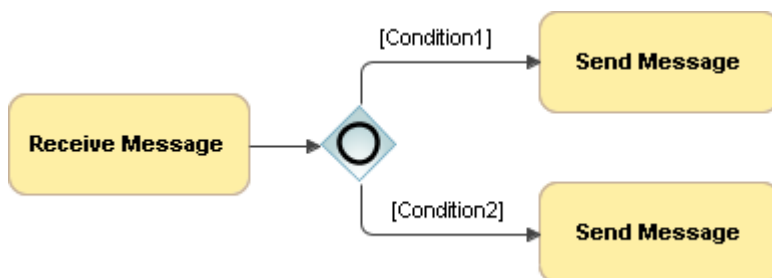


Figure -- Diverging Inclusive Gateway

Related elements

[Gateways](#)

[Sequence Flow](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using a Sequence Flow](#)

2.2.9.3 Parallel Gateway

Description

A Parallel Gateway is used to synchronize (combine) and create parallel flows.

Notation



Example

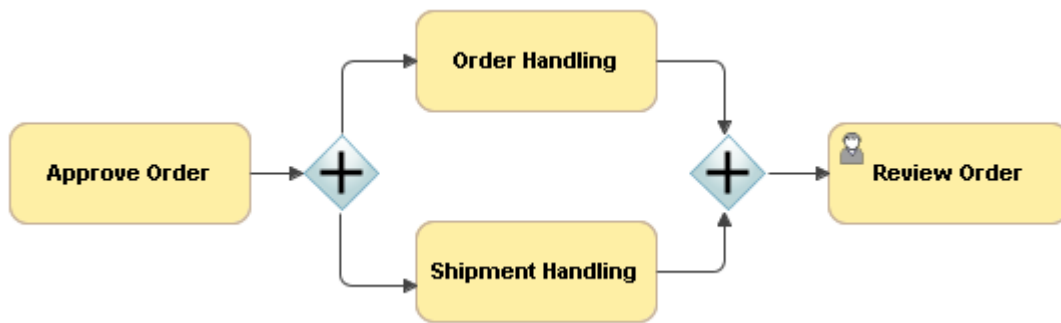


Figure -- Parallel Gateway

Related elements

[Gateways](#)

[Sequence Flow](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using a Sequence Flow](#)

2.2.9.4 Event Based Gateway

Description

An Event Based Gateway represents a branching point in a process where alternative paths that follow the gateway are based on the events that occur rather than on the evaluation of expressions using process data (as with an Exclusive or Inclusive Gateway). A specific event, usually the receipt of a message, determines which path will be taken. Basically, an Event Based Gateway is used when a decision made by another participant is based on data that are not visible to the process.

Notation



Example

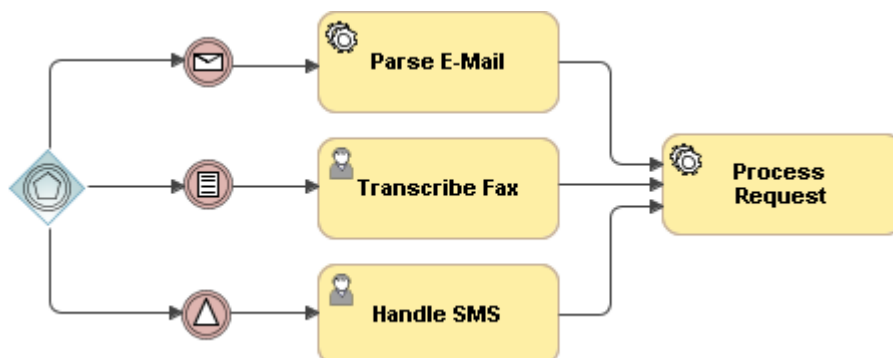


Figure -- Event-Based Gateway

Related elements[Gateways](#)[Sequence Flow](#)[Intermediate Catch Event](#)[Intermediate Throwing Event](#)**Related diagrams**[BPMN Process Diagram](#)[BPMN Collaboration Diagram](#)[BPMN Choreography Diagram](#)**Related procedure**[Creating and Using a Sequence Flow](#)

2.2.9.5 Complex Gateway

Description

A Complex Gateway can be used to model complex synchronization behavior. An Activation Condition is the Complex Gateway's property, which is used to describe precise behavior.

Notation**Example**

The activation condition specifies that tokens on three out of five incoming sequence flows are needed to activate the gateway. Which token the Gateway will produce is determined by the conditions on the outgoing sequence flow as in the split behavior of an Inclusive Gateway.

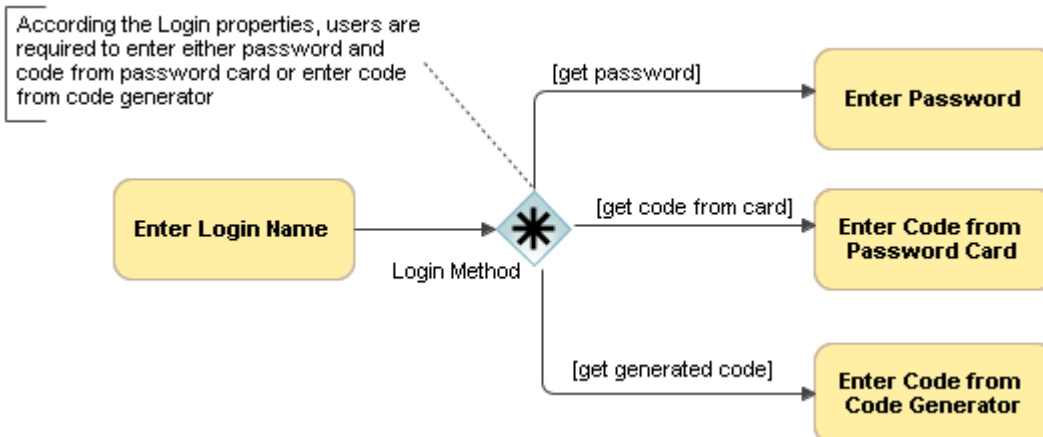


Figure -- Complex Gateway

Related elements[Gateways](#)[Sequence Flow](#)**Related diagrams**[BPMN Process Diagram](#)[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Creating and Using a Sequence Flow](#)

2.2.10 Items and Data

The traditional requirement of process modeling is to be able to model the items (physical or information items) that are created, manipulated, and used during the execution of a process. This requirement is fulfilled in BPMN through various constructs: Data Objects, Item Definition, Properties, Data Inputs, Data Outputs, Messages, Input Sets, Output Sets, and Data Associations.

2.2.10.1 Data Object

Description

A Data Object is an element that stores or conveys items during process execution. The Data Object elements must be contained within the process or SubProcess elements. A Data Object element can optionally reference a DataState element, which is the state of data contained in a Data Object.

A Data Object element, which references an element marked as a collection, is visualized differently.

Notation

- Data Object



- Data Object that is collection



Related elements

[Class](#)

[Resource](#)

[Data Association](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using Data Items](#)

2.2.10.2 Data Store

Description

A Data Store provides a mechanism for activities to retrieve or update stored information that will persist beyond the scope of a process.

Notation



Related elements

[Class](#)
[Resource](#)
[Data Association](#)

Related diagrams

[BPMN Process Diagram](#)
[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using Data Items](#)

2.2.10.3 Data Input and Data Output

Description

Activities and processes often require data in order to execute. In addition, they may produce data during or as the result of the execution. Data requirements are captured as Data Input. The produced data are captured using a Data Output notation.

Notation

- Data Input



- Data Output



Related elements

[Class](#)
[Resource](#)
[Data Association](#)

Related diagrams

[BPMN Process Diagram](#)
[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using Data Items](#)

2.2.10.4 Data Association

Description

A Data Association is used to model how data are pushed into or pulled from item-aware elements. Tokens do not flow along a Data Association. Therefore, they have no direct effect on the flow of a process.

Alternatively, Data Objects can be directly associated with a Sequence Flow to represent the same input or output Data Associations. This is a visual shortcut that is stored in a model as two Data Associations

- from Activity to Data Object
- from Data Object to Activity

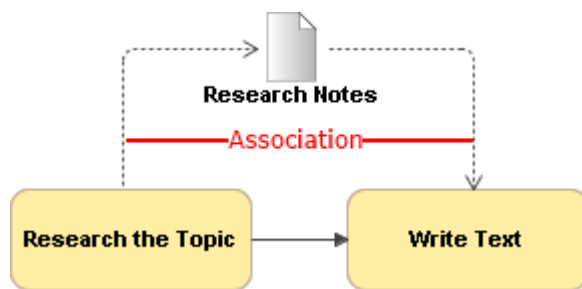
Example

Figure -- Data Association showing flow of Data Object

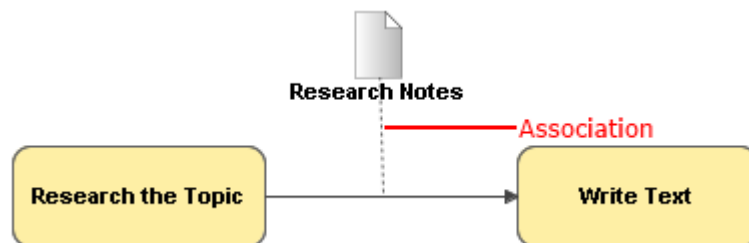


Figure -- Sequence Flow representing the same Input/Output data associations

Related elements

[Data Object](#)

[Data Store](#)

[Data Input and Data Output](#)

[Sequence Flow](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using Data Items](#)

2.2.11 Compensation

Description

A Compensation in business process modeling is concerned with undoing steps that have already been successfully completed because their results and possible side effects are no longer desired and need to be reversed. If an Activity is still active, it cannot be compensated and needs to be canceled. The cancellation of a SubProcess can produce a compensation of the already successfully completed portions of an active Activity.

A Compensation is performed by a compensation handler. A compensation handler performs the steps necessary to reverse the effects of an Activity. For a SubProcess, the compensation handler will have access to the SubProcess data once they have been completed ("snapshot data").

A compensation handler is a set of Activities that is not connected to other portions of the BPMN model. The compensation handler starts with either of the Compensation Events:

- Compensation Boundary Event
- The handler's Start Event (in case of a Compensation Event SubProcess)

A compensation handler connected through a boundary event can only perform a "black-box" compensation of the original Activity. This compensation is modeled with a specialized Compensation Activity, which is connected to the boundary event through an association. The Compensation Activity, which can be either a Task or a

SubProcess, is marked to show that it is used for compensation only and is located outside the normal flow of the Process.

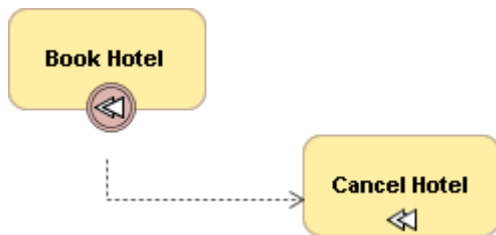


Figure -- Compensation handler connected through Compensation Boundary Event

Another way to model a compensation is using a compensation handler, which starts with a Start Event of an Event SubProcess that is contained within a Process or SubProcess. Just like any other Compensation Activities, a Compensation Event SubProcess is located outside the normal flow of a process. The Event SubProcess, which is marked with a dotted line boundary, has access to data that are part of the parent, which is a snapshot at the point in time when the parent has been completed. A Compensation Event SubProcess can recursively trigger a compensation for activities contained in its parent.

Example

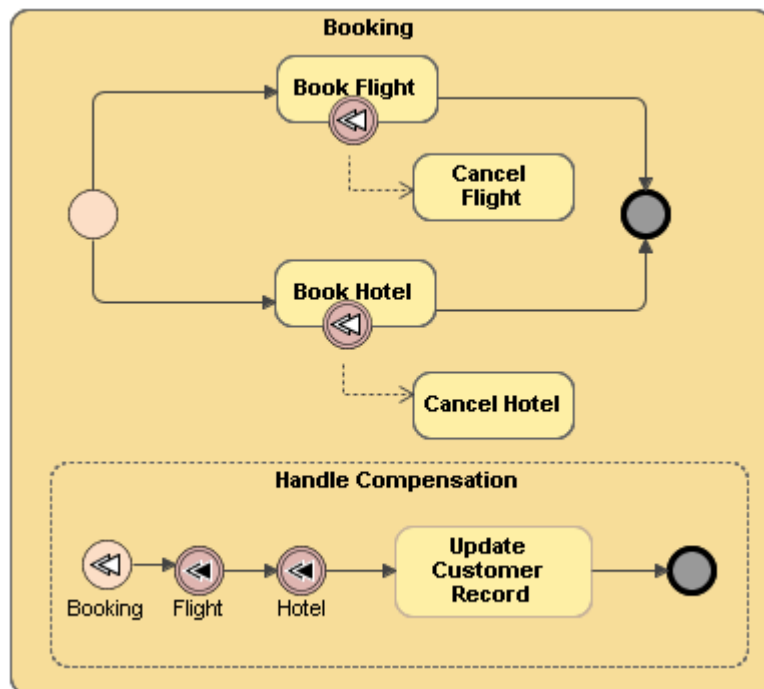


Figure -- Compensation defined by Event SubProcess

Related elements

- [BPMN Process](#)
- [SubProcesses](#)
- [Compensation Start Event](#)
- [Escalation Throwing Intermediate Event](#)
- [Compensation Boundary Event](#)
- [Association](#)

Related diagrams

- [BPMN Process Diagram](#)
- [BPMN Collaboration Diagram](#)

Related procedure[Using Activities](#)

2.3 BPMN Collaboration Diagram

Description

A Collaboration represents the interactions between two or more business entities. A Collaboration diagram depicts a global point of view. It shows the interactions between participants in general.

A Collaboration contains two or more pools, representing the participants in the collaboration. Messages exchanged between the participants are shown by message flows that connect two pools together (or objects within the pools).

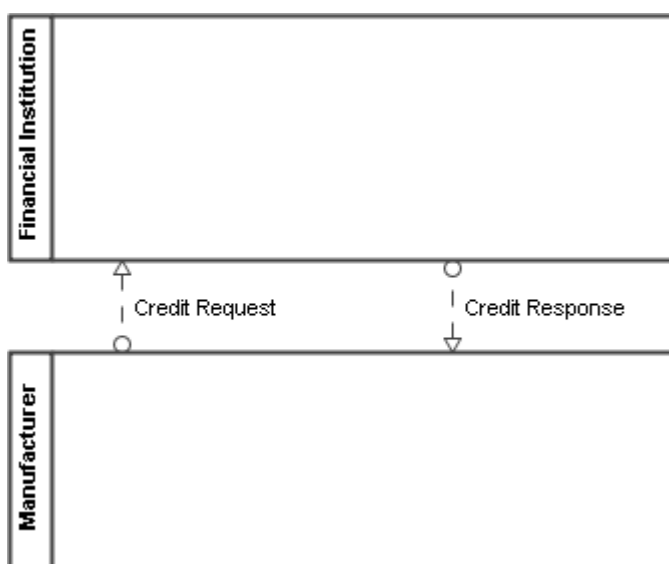


Figure -- Collaboration diagram with two Black Box Pools

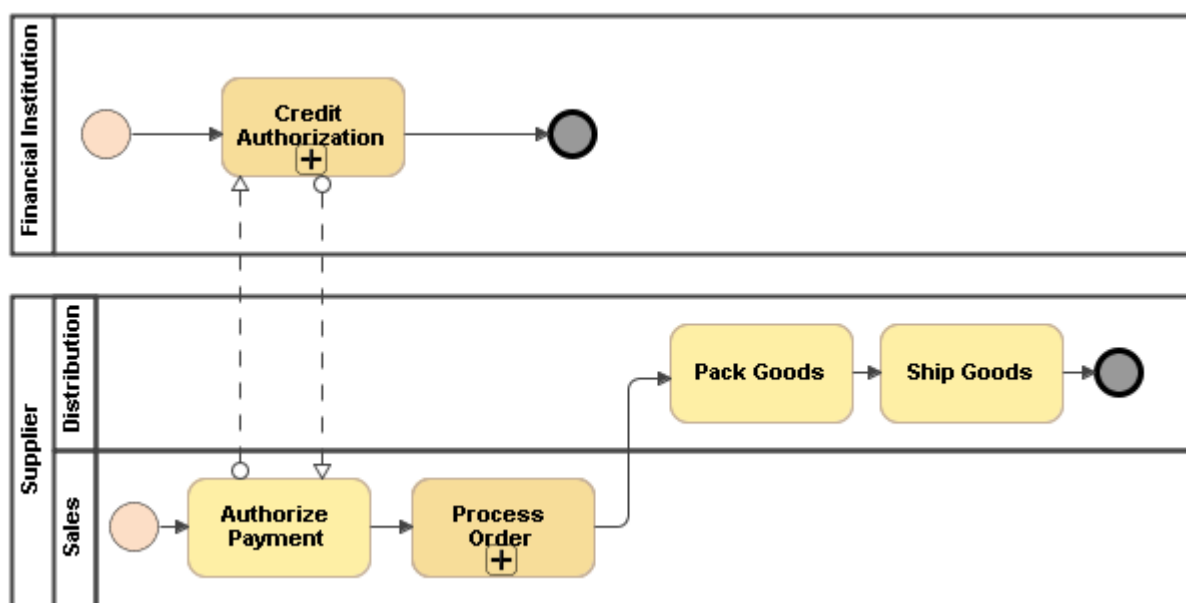


Figure -- Collaboration diagram with two Pools showing process

A Collaboration diagram can also show distinct conversations between collaborating participants in a domain. Communications are defined by the conversations, participants, and conversation links between them.

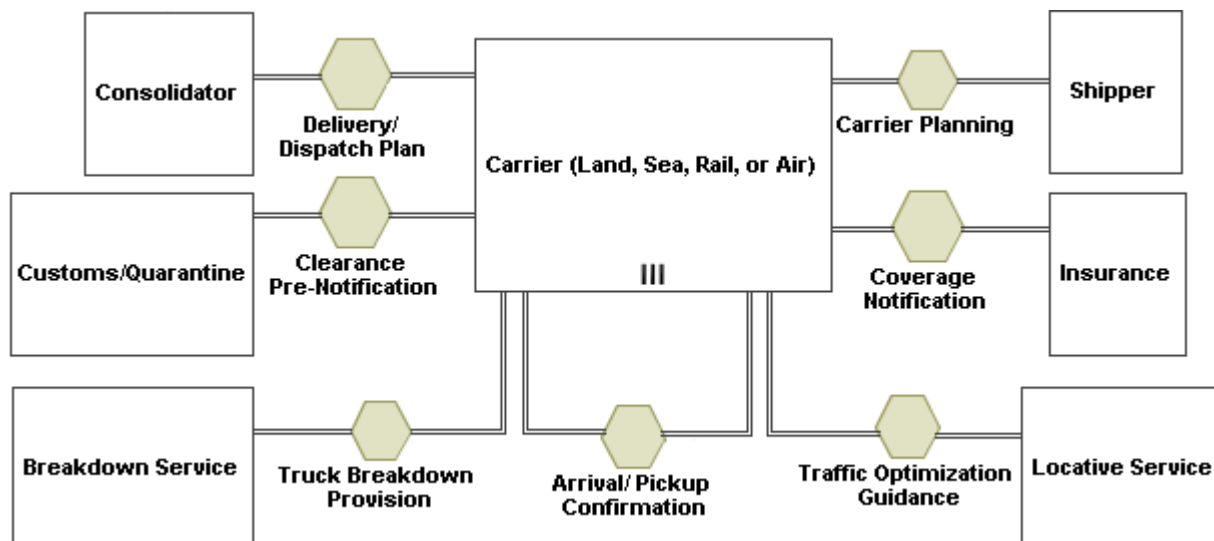


Figure -- BPMN Collaboration diagram with Conversations

The elements of a BPMN Process diagram can be displayed on the BPMN Collaboration diagram.

Related element

[BPMN Process](#)

Related diagram

[BPMN Process Diagram](#)

2.3.1 Collaboration

Description

A Collaboration element provides a description of collaborations between pools. This element is a container for a BPMN Collaboration diagram and its elements.

Related elements

[Pool and Lane](#)

[Participant](#)

Related diagram

[BPMN Collaboration Diagram](#)

2.3.2 Pool and Lane

Description

A Pool represents a participant in a collaboration. The participant can be a specific partner entity, for example, a company, or it can be a more general partner role, such as a buyer, seller, or manufacturer. Graphically, a Pool is a container to partition a process from the other pools.

A Pool can contain a process, or it can be a black box.

A Pool with suppressed content will display a multi-instance marker if the participant referenced by the pool has a minimum multiplicity value of two or more.

A Lane is a sub-partition within a pool. Lanes are used to organize and categorize activities within a pool according to function or role. They are as follows:

- internal roles, for example, Manager and Associate
- systems, for example, an enterprise application
- internal departments, for example, shipping or finance

In addition, Lanes can be nested in a pool. For example, there could be an outer set of Lanes for company departments and an inner set of Lanes for the roles within each department

Notation

- Pool that contains a process or black box



- Pool with suppressed content



- A Pool with Suppressed Contents Referencing a Multi-instance Participant



Example

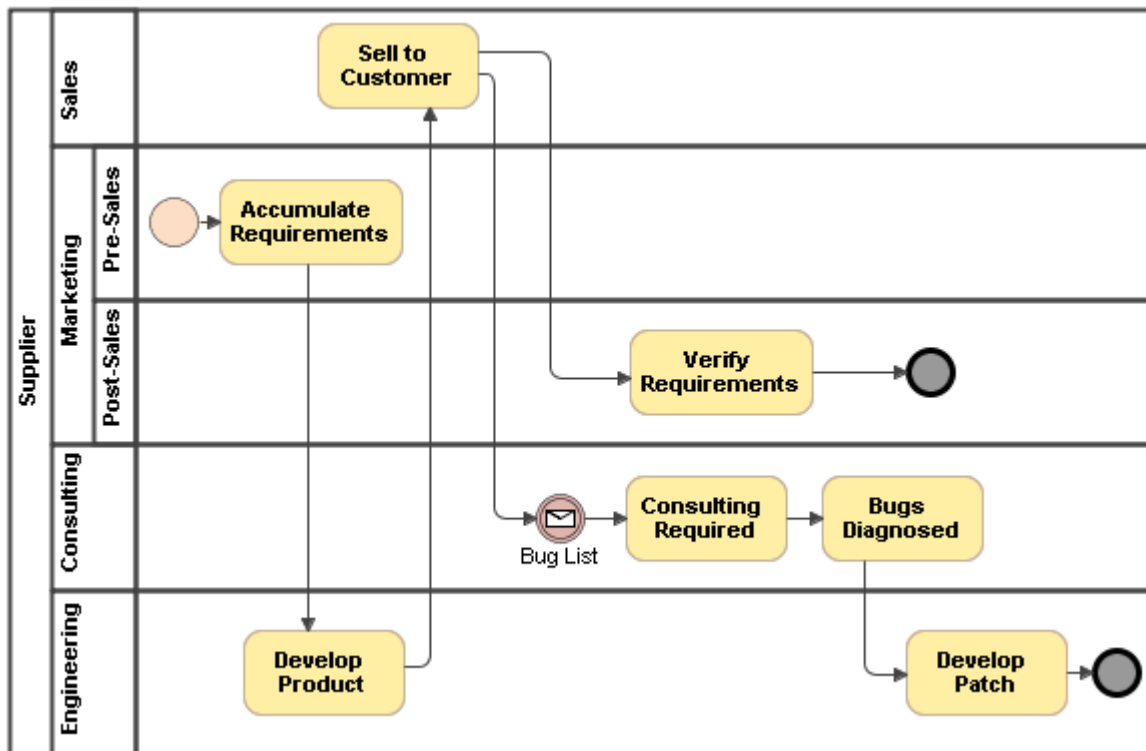


Figure -- Pool with nested Lanes

Related elements

[Resource](#)
[Organization Unit](#)
[Role](#)
[Person](#)
[Message Flow](#)

Related diagrams

[BPMN Collaboration Diagram](#)
[BPMN Process Diagram](#)

Related procedure

[Creating and Using Pool and Lanes](#)

2.3.3 Message Flow

Description

A Message Flow is used to show the flow of messages between two participants who are prepared to send and receive them.



- A Message Flow must connect separate Pools. It can be connected to the pool boundary or an element inside the pool.
- A Message Flow cannot connect two elements in the same Pool.

Messages that are sent by a Message Flow can be displayed on a diagram in two ways:

- overlapping the Message Flow
- associated with the Message Flow

However, they can also be hidden.

Example

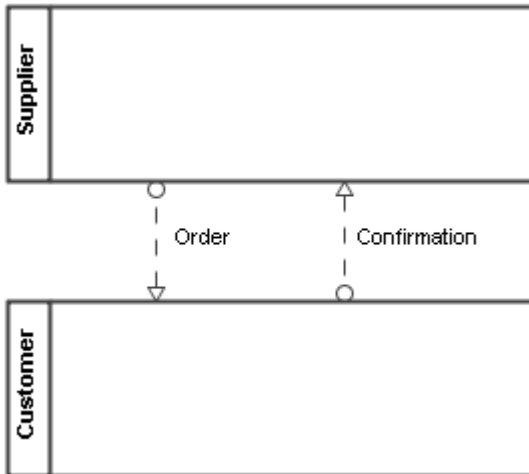


Figure -- Message Flows between two pools.

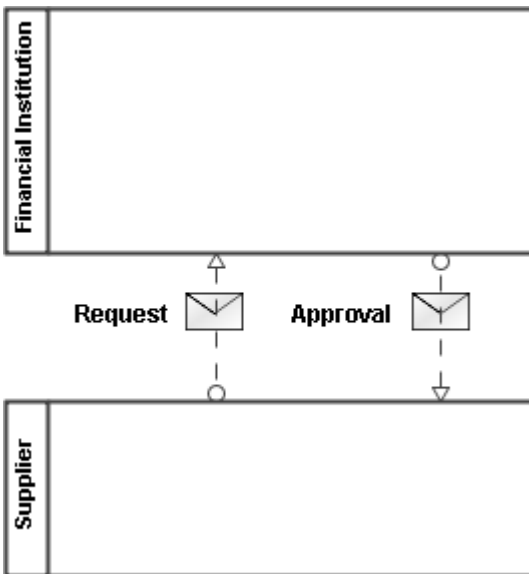


Figure -- Messages overlapping Message Flows

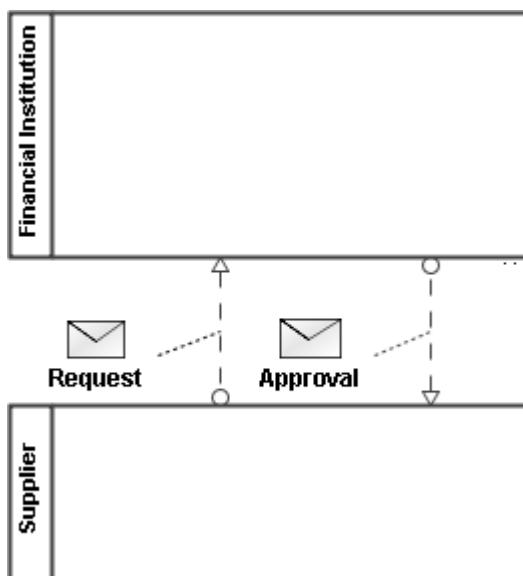


Figure -- Messages associated with Message Flows

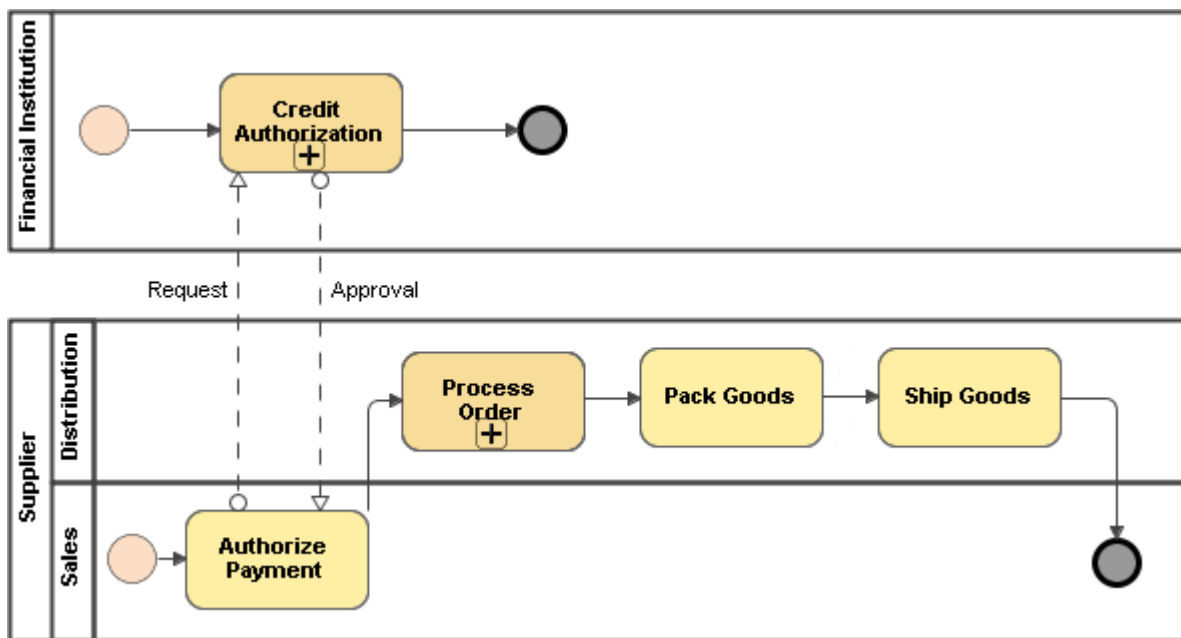


Figure -- Message Flows between Pools Inner elements

Related element

[Pool and Lane](#)

Related diagrams

[BPMN Collaboration Diagram](#)

[BPMN Process Diagram](#)

Related procedure

[Creating and Using a Sequence Flow](#)

2.3.4 Message

Description

A Message represents the content of communications between two participants. It is passed by a message flow and is sent or received by a message event.

Notation



Related elements

[Message Flow](#)

[Choreography Task](#)

Related diagrams

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedures

[Creating and Using Message Flow](#)

[Creating and Using Choreography Task](#)

2.3.5 Conversation

Description

A Conversation is an atomic element for a BPMN Collaboration diagram. It represents a set of message flows that is grouped together.

A Conversation can involve two or more Participants. A Conversation Link path will be from a Conversation to the involved Participants (Pools).

Notation



Related elements

[Pool and Lane](#)

[Conversation Link](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Creating and Using Conversation Nodes](#)

2.3.6 SubConversation

Description

A SubConversation is a conversation node considered as a hierarchical division within a parent's conversation.

A SubConversation is represented as a graphical object within a BPMN Conversation diagram, but it can also be opened up to show a lower-level conversation, which consists of message flows, communications, and/or other SubConversations. A SubConversation shares the participants of its parent conversation.

Notation



Related elements

[Pool and Lane](#)

[Conversation Link](#)

[Conversation](#)

Related diagrams

[BPMN Collaboration Diagram](#)

[BPMN Process Diagram](#)

Related procedure

[Creating and Using Conversation Nodes](#)

2.3.7 Call Conversation

Description

A Call Conversation identifies a place in a conversation where a Conversation is used.

Notation

- Call Conversation that does not call any conversation.



- Call Conversation calling Global Conversation



Related elements

[Collaboration](#)

[Pool and Lane](#)

[Conversation Link](#)

Related diagrams

[BPMN Collaboration Diagram](#)

[BPMN Process Diagram](#)

Related procedure

[Creating and Using Conversation Nodes](#)

2.3.8 Conversation Link

Description

A Conversation Link is used to connect conversation nodes (Communication, SubConversation, and Call Conversation) to and from Participants (Pools).

Example

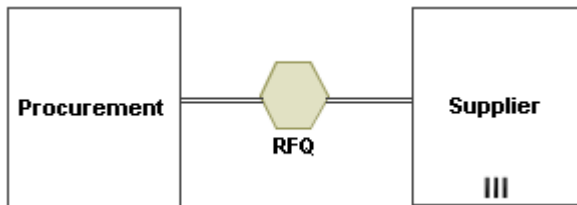


Figure -- Conversation Link notation

Related elements

[Collaboration](#)

[SubConversation](#)

[Call Conversation](#)

[Conversation](#)

Related diagram

[BPMN Collaboration Diagram](#)

2.3.9 Participant

Description

A Participant represents a specific partner entity, such as a company and a more general partner role, for example, a buyer, seller, or manufacturer who is a participant in a collaboration. A Participant is often responsible for the execution of a process enclosed in a pool.

Participant element can be contained only in Collaboration or Choreography and represent Resource.

Related elements

[Pool and Lane](#)

[Conversation](#)

[Choreography Activities](#)

Related diagrams

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedures

[Using BPMN Collaboration Diagram](#)

[Creating and Using Pool and Lanes](#)

2.4 BPMN Choreography Diagram

Description

A Choreography formalizes the way business participants coordinate their interactions. A Choreography is a type of process, but its purpose and behavior are different from a standard BPMN process.

A standard process defines the flow of activities of a specific partner entity or organization. In contrast, a Choreography formalizes the way business participants coordinate their interactions. The focus is not on the work performed within these participants, but rather on the information (messages) exchanged between them.

A Choreography is a definition of expected behavior, basically a procedural business contract between interacting participants. It shows the messages exchanged and their logical relations. This allows business partners to plan their business processes for inter-operation without introducing conflicts.

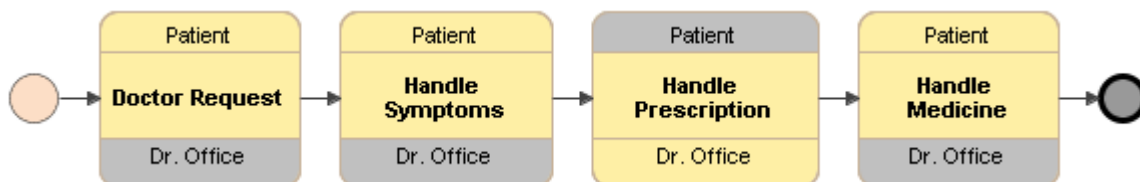


Figure -- BPMN Choreography diagram

A BPMN Choreography diagram is based on the UML Activity diagram and includes restrictions and extensions as defined by BPMN.

Types of Choreography elements are as follows:

- [Choreography](#)
- [Choreography Activities](#)

Related elements

[Choreography](#)

[Choreography Activities](#)

[Error](#)

[Intermediate Catch Event](#)

[Intermediate Throwing Event](#)

[Boundary Events](#)

[End Events](#)

[Gateways](#)

Related diagram

[BPMN Process Diagram](#)

Related procedure

[Using BPMN Choreography Diagram](#)

2.4.1 Choreography

Description

A Choreography is a container for a BPMN Choreography diagram and its elements.

Related diagram

[BPMN Choreography Diagram](#)

2.4.2 Choreography Activities

A Choreography Activity is an abstract element. It represents a point on a choreography flow where an interaction occurs between two or more participants.

There are three types of Choreography activities defined in business process modeling:

- [Choreography Task](#)
- [SubChoreography](#)
- [Call Choreography](#)

The shape of a Choreography Task, SubChoreography, or Call Choreography consists of two or more participant compartments and one name compartment. One of the participants can be selected as an initiating participant. The color of the initiating participant compartment is the same as the color of the name compartment. The other participants compartments are gray.

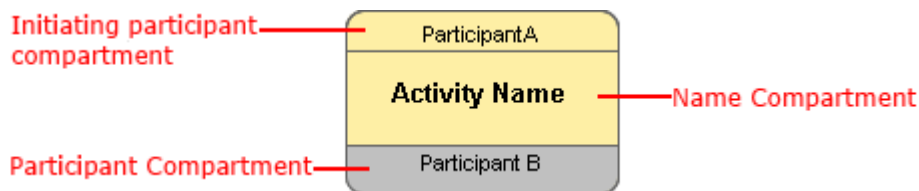


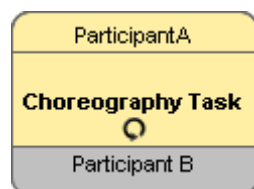
Figure -- Compartments on Choreography Activity shape

The looping properties of a Choreography Activity can be specified. They can be repeated sequentially, essentially behaving like a loop. The presence of loop characteristics signifies that the Choreography Activity has looping behavior. There are two types of Looping characteristics defined in BPMN:

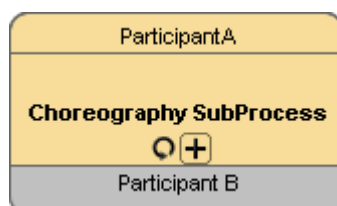
- Standard Loop

A Standard Loop marker displayed on a name compartment of a Choreography Activity shape shows that the looping behavior based on a boolean condition is defined for this Activity. Additional looping characteristics can also be defined: the Activity will loop as long as the boolean condition is true. The condition is evaluated for every loop iteration and can be evaluated at the beginning or end of the iteration. In addition, a numeric cap can be optionally specified, but the number of iterations cannot exceed this cap.

- Choreography Activity with Standard Loop marker



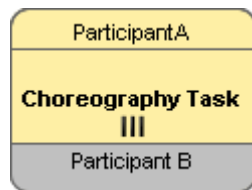
- SubChoreography with Standard Loop marker



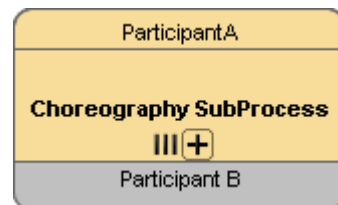
- Multi-instance Loop

A Multi-instance Loop marker shows that a desired number of Choreography Activity instances can be created. The instances can be executed either in parallel or sequentially and each will be identified using a different marker.

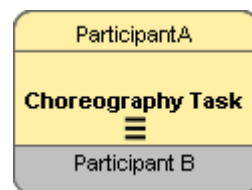
- Choreography Task with Parallel MultInstance Loop marker



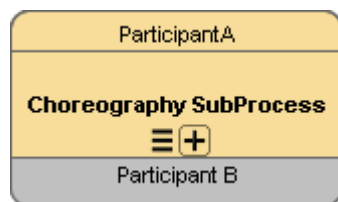
- SubChoreography with Parallel MultInstance Loop marker



- Choreography Task with sequential MultInstance Loop marker



- SubChoreography with sequential MultInstance Loop marker



Multi-instance Loop and Standard Loop markers can be added to all types of Choreography activities.

There are circumstances when a Choreography Activity references a multi-instance participant (the minimum multiplicity property value for a participant is 2 or greater). A multi-instance participant represents a situation where there is more than one possible related participant involved in a Choreography. If this is the case, a MultiInstance marker will be displayed in the participant compartment of a Choreography Activity shape.

Related diagram

[BPMN Process Diagram](#)

Related procedure

[Using Choreography Activity](#)

2.4.2.1 Choreography Task

Description

A Choreography Task is an atomic Activity in a choreography process. It represents one or more messages exchanged between two Participants. A Choreography Task can display messages that are defined by the referenced Message Flows. The messages connected to an Initiating Participant compartment are white and those connected to a Non-Initiating Participant compartment are gray.

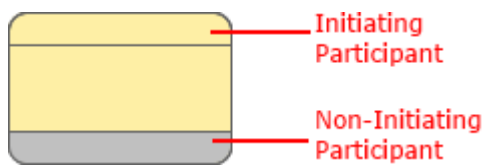
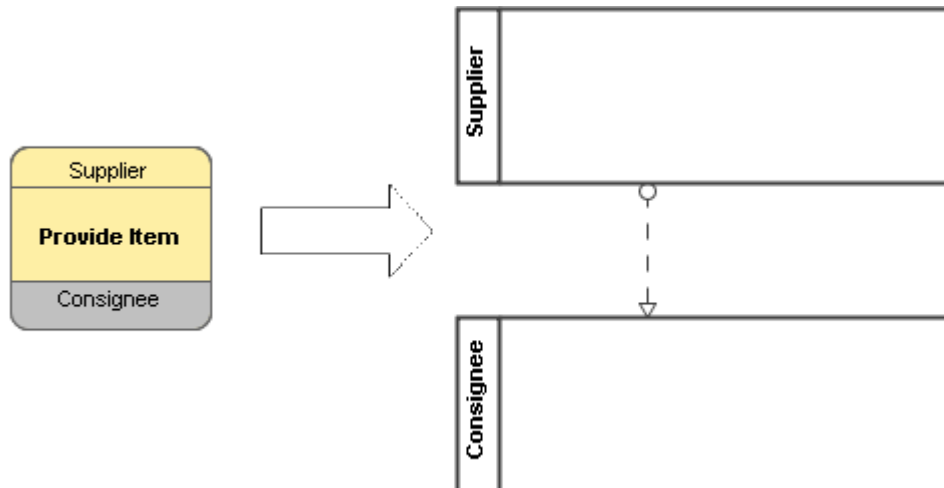
Notation**Example**

Figure -- Choreography task corresponding to BPMN Collaboration diagram

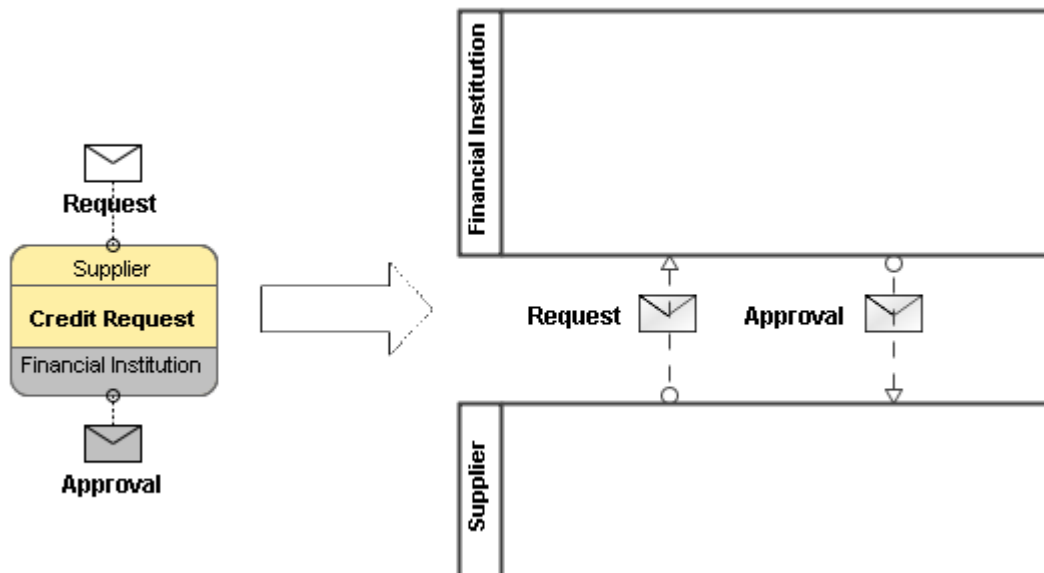


Figure -- Choreography task with Messages Corresponding to BPMN Collaboration diagram

Related elements

[Organization Unit](#)

[Role](#)

[Person](#)

[Choreography Activities](#)

Related diagrams

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedures[Creating and Using Choreography Task](#)[Using Choreography Activity](#)**2.4.2.2 SubChoreography****Description**

A SubChoreography is a compound Activity that can include choreography activities and define their flows. It can be expanded to show its details within the choreography in which it is contained.

It can also be displayed in a collapsed view to hide its details. A collapsed SubChoreography is indicated with a plus sign (+) to distinguish itself from a Choreography Task.

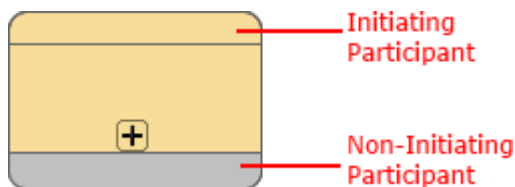
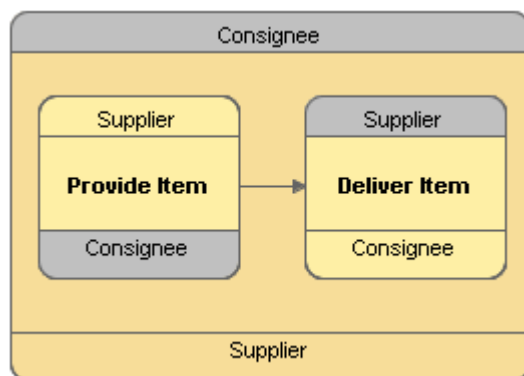
Notation**Example**

Figure -- Expanded SubChoreography



Figure -- Collapsed SubChoreography

Related elements[Organization Unit](#)[Role](#)[Person](#)[Choreography Activities](#)**Related diagram**[BPMN Choreography Diagram](#)

Related procedures

[Creating SubChoreography](#)

[Using Choreography Activity](#)

2.4.2.3 Call Choreography

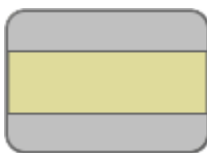
Description

A Call Choreography identifies the point in a process where a global choreography is used. It acts as a place holder to include a choreography element it is calling.

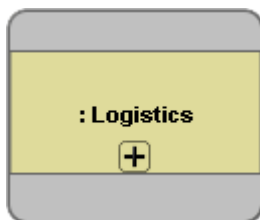
A Call Choreography is with a thick border.

Notation

- Call Choreography



- A Call Choreography referencing another Choreography is marked with a plus (+) sign.



Related elements

[Organization Unit](#)

[Role](#)

[Person](#)

[Choreography Activities](#)

[Choreography](#)

Related diagram

[BPMN Choreography Diagram](#)

Related procedures

[Creating Call Choreography Activity](#)

[Using Choreography Activity](#)

2.5 Numbering Elements

Cameo Business Modeler offers an automatic numbering feature to number specific types of BPMN elements. Each element number is saved in an ID property of element specification.

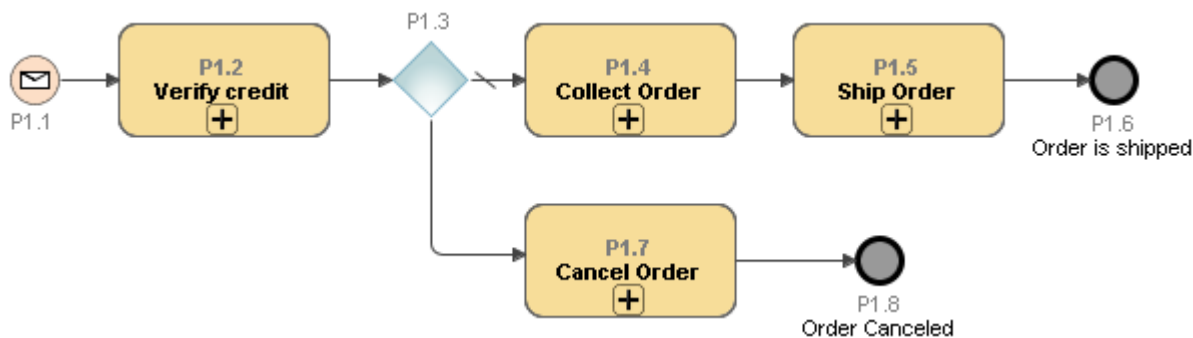


Figure -- BPMN Process Diagram showing element numbers

Numbering elements are described in the following sections:

- [Numbering Schemas](#)
- [Element Types Numbering Sequence](#)

2.5.1 Numbering Schemas

Types of numbering schemas predefined for BPMN elements are as follows:

- [Multilevel with Owner Number](#)
- [Multilevel without Owner Number](#)
- [Consecutive with Owner Number](#)
- [Consecutive without Owner Number](#)

2.5.1.1 Multilevel with Owner Number

Description

A Multilevel with Owner Number numbering schema provides multilevel element numbering. An Element owner (BPMN Process, BPMN Collaboration, or Choreography) number is displayed before the element number.

Example

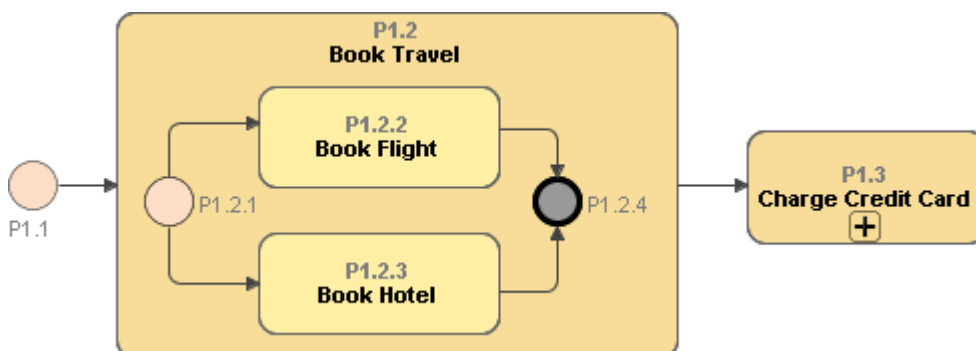


Figure -- Multilevel Numbering style with element owner number



A Multilevel with Owner Number numbering schema is the default schema for all BPMN diagram elements.

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Using BPMN Element Numbers](#)

2.5.1.2 Multilevel without Owner Number

Description

A Multilevel without Owner Number numbering schema provides multilevel element numbering. An Element owner (BPMN Process, BPMN Collaboration, or Choreography) number is not included in the element number.

Example

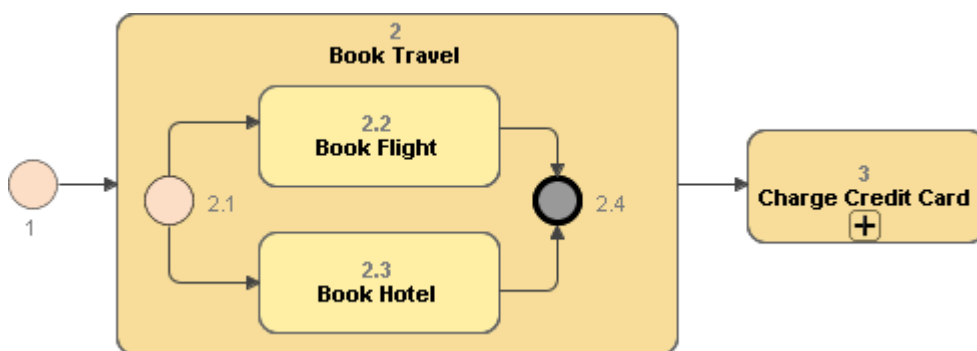


Figure -- Multilevel Numbering style without element owner number



When a Multilevel without element number numbering schema is used, the numbers in a project are not unique. Elements with the same number can exist in multiple diagrams.

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Using BPMN Element Numbers](#)

2.5.1.3 Consecutive with Owner Number

Description

A Consecutive with Owner Number numbering schema provides non-multilevel element numbering. An Element owner (BPMN Process, BPMN Collaboration, or Choreography) number is displayed before the element number.

Example

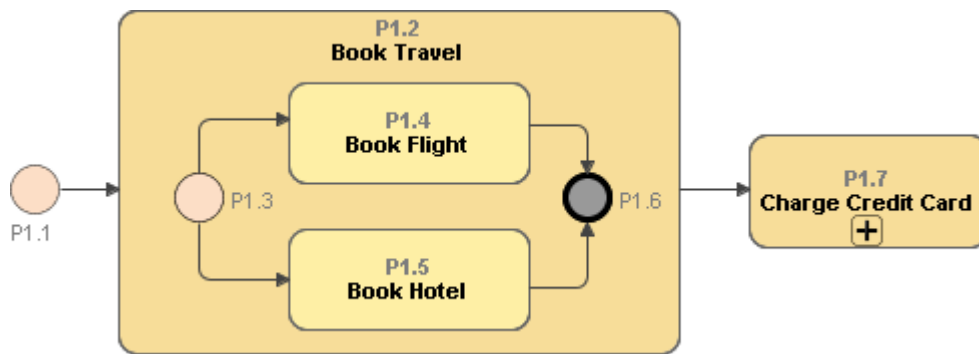


Figure -- Consecutive Numbering style with element owner number

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Using BPMN Element Numbers](#)

2.5.1.4 Consecutive without Owner Number

Description

A Consecutive without Owner Number numbering schema provides non-multilevel element numbering. An Element Owner (BPMN Process, BPMN Collaboration, or Choreography) number is not included in the element number.

Example

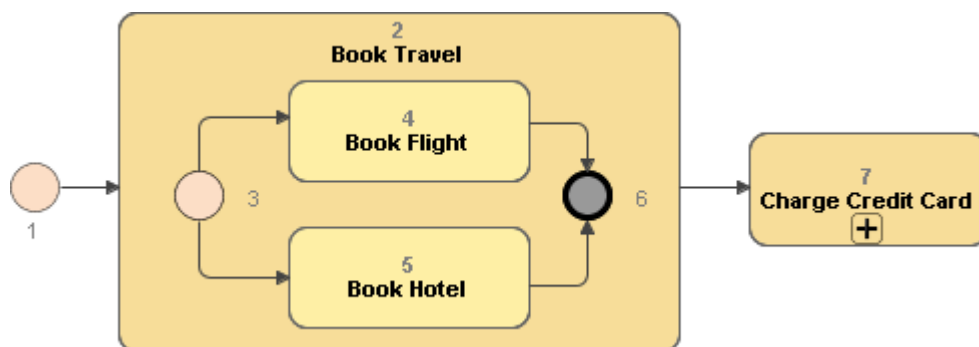


Figure -- Consecutive numbering style without owner number

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Using BPMN Element Numbers](#)

2.5.2 Element Types Numbering Sequence

Cameo Business Modeler uses a predefined sequence of numbers for specific element types as described in table.

Element Type	Description
BPMN Process	A BPMN Process is numbered in the scope of a project. A BPMN Process number has “P” as a prefix.
BPMN Collaboration	A BPMN Collaboration is numbered in the scope of a project. A BPMN Collaboration number has “C” as a prefix.
Choreography	A Choreography is numbered in the scope of a project. A Choreography number has “CH” as a prefix.
Flow Node	A Flow Node element is numbered in the scope of an owner element (BPMN Process, BPMN Collaboration, or Choreography). The elements that belong to the Flow Node element type category are as follows: • All types of tasks • All types of Subprocesses • Call activities • Choreography tasks • Sub-choreographies • Call choreographies • All types of gateways • All types of events
Item Aware Element	An Item Aware Element is numbered in the scope of an owner element. An Item Aware Element number has “D” as a prefix. The elements that belong to the Item Aware element type category are as follows: • Data Object • Data Store • Data Input • Data Output • Property
Conversation Node	A Conversation Node element is numbered in the scope of an owner element. A Conversation Node number has “Conv” as a prefix. The elements that belong to the Conversation Node element type category are as follows: • Conversation • Sub-conversation • Call Conversation
Resource Role	A Resource Role element is numbered in the scope of an owner element. A Resource Role number has “RR” as a prefix. The elements that belong to the Resource Role element type category are as follows: • Human Performer • Performer • Potential Owner • Resource Role

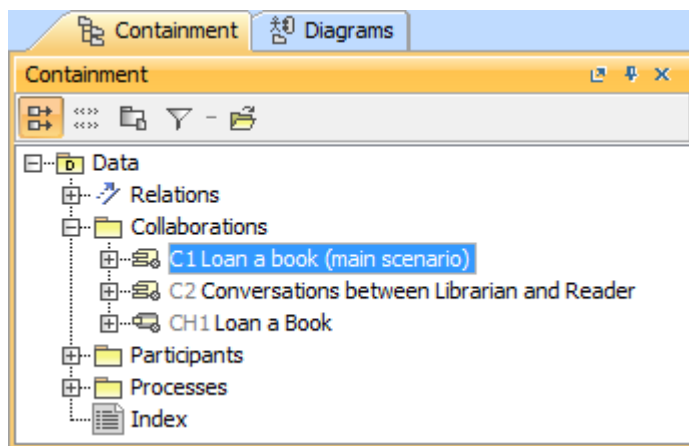


Figure -- Numbered BPMN Process, BPMN Collaboration, and Choreography in Containment tree

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Using BPMN Element Numbers](#)

2.6 XPDL Support

XML Process Definition Language (XPDL) is a serialization format for BPMN. XPDL provides a file format that supports all BPMN process definition description properties. It defines a description of both model element properties and graphical descriptions of the diagram. With XPDL, Cameo Business Modeler can export or import process definitions for or from other products to read. It also allows you to exchange your models with other tools to perform further model simulation, execution, or deployment.

Cameo Business Modeler plugin supports export of BPMN models to XPDL Version 2.2. This version is backward compatible with previous versions of XPDL and can be used to export BPMN2 and BPMN 1.x models.

Cameo Business Modeler supports importing from XPDL Versions 2.0, 2.1, and 2.2 to BPMN2. Business process models created with other tools (e.g. Visio, BizAgi, Process Architect, etc) can be imported to Cameo Business Modeler.

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedure

[Exporting Models to XPDL](#)

2.7 BPMN2 XML support

Cameo Business Modeler supports exporting BPMN2 models as BPMN2 Diagram Interchange files. The BPMN2 Diagram Interchange is a format for interchanging BPMN2 diagrams between tools. Its reduced ambiguity allows

the users to exchange BPMN models between tools more conveniently. You can export a BPMN2 diagram as a BPMN2 Diagram Interchange file (BPMN2 XMI).

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedure

[Exporting Models to BPMN2](#)

3 SUPPORTIVE DIAGRAMS CONCEPTS

This chapter describes how to create and modify supportive diagrams, BPMN Matrices, Tables, and Process Structure Map.

The chapter contains the following sections:

- [Business Motivation Diagram](#)
- [Business Data Diagram](#)
- [Organization Structure Diagram](#)
- [Process Definition Diagram](#)
- [BPMN Tables](#)
- [BPMN Matrices](#)
- [BPMN Processes Structure Map](#)

3.1 Business Motivation Diagram

Description

The Business Motivation Model designed to develop, communicate, and manage business plans. The model identifies and defines the elements of business plans, the motivating factors to establish the business plans, and how all these factors and elements are interconnected.

Example

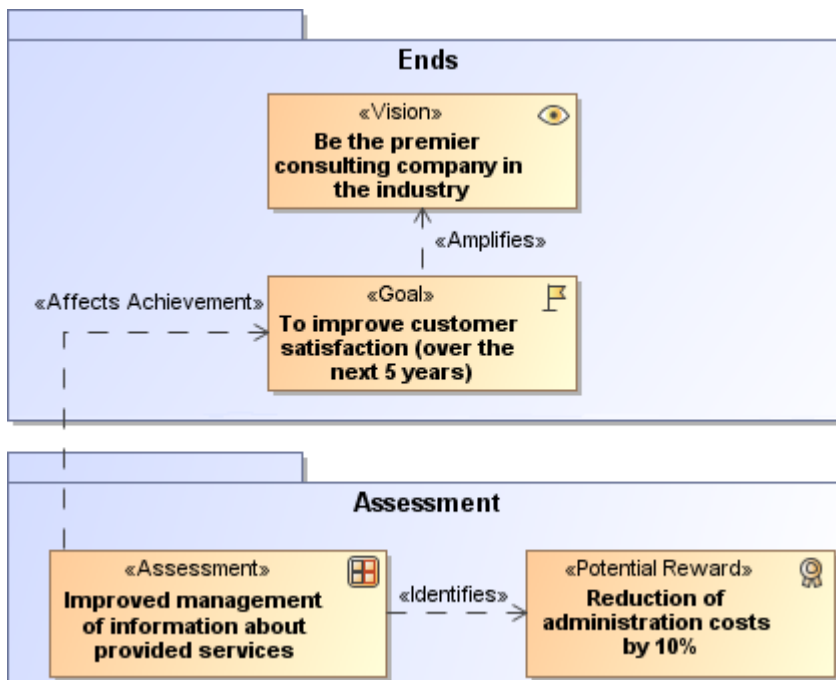


Figure -- Business Motivation Diagram

Related elements

[Ends Concepts](#)

[Means Concepts](#)

[Influencer Concepts](#)

[Assessment Concepts](#)

3.1.1 Ends Concepts

The Ends elements show what an organization wants to achieve.

There are three types of End elements:

- [Vision](#)
- [Goal](#)
- [Objective](#)
- [End Concept Relationships](#)

3.1.1.1 Vision

Description

A vision is a state where an organization wants to achieve in the future. It is common that a vision is made up of many aspects rather than concentrated on a specific factor of the business problem. It is the final, possibly unattainable, state the organization would like to accomplish. It does not describe how the organization will achieve the state. A Vision is often compound, rather than focused toward one particular aspect of the business problem. It is supported or made operative by Missions and amplified by Goals.

Notation



Related elements

[Ends Concepts](#)

[End Concept Relationships](#)

Related diagram

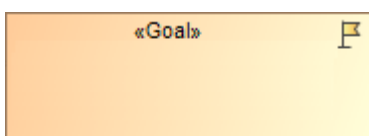
[Business Motivation Diagram](#)

3.1.1.2 Goal

Description

Unlike vision, a goal should generally be attainable and should be more specifically oriented to a single aspect of the business problem. A Goal is a statement about a state or condition of the enterprise to be brought about or sustained through appropriate Means. A Goal amplifies a Vision. It indicates what must be satisfied on a continuing basis to effectively attain the Vision.

Notation



Related elements

[Ends Concepts](#)

[End Concept Relationships](#)

Related diagram

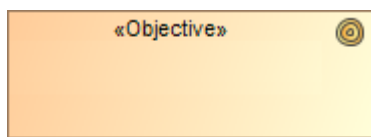
[Business Motivation Diagram](#)

3.1.1.3 Objective

Description

An Objective is a statement of an attainable, time-targeted, and measurable target that the enterprise seeks to meet in order to achieve its Goals.

Notation



Related elements

[Ends Concepts](#)

[End Concept Relationships](#)

Related diagram

[Business Motivation Diagram](#)

3.1.1.4 End Concept Relationships

The relationships that are allowed between elements are as follows.

Relationships	Description	Example
Amplifies	This link connects Goal to a Vision . Meaning that the Goal gives an emphasis on what must be done over a prolonged period to achieve the desired Vision.	
Quantifies	This link connects Objective to a Goal . Meaning that the Objective provides a specific time frame (for example, in June 2013) to work towards the Goal and it also gives a basis for evaluating whether the Goal is being accomplished.	

Related element

[Ends Concepts](#)

Related diagram

[Business Motivation Diagram](#)

3.1.2 Means Concepts

The Means elements provide a method to achieve the ends.

There are five types of Means elements:

- [Mission](#)
- [Strategy](#)
- [Tactic](#)
- [Business Policy](#)
- [Business Rule](#)
- [Mean Concept Relationships](#)

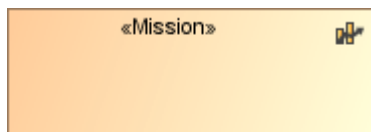
3.1.2.1 Mission

Description

A Mission indicates the ongoing operational Activity of the enterprise. The Mission describes what the business is or will be doing on a day-to-day basis.

A Mission makes a Vision operative. It indicates the ongoing Activity that makes the Vision a reality. A Mission is planned by means of Strategies.

Notation



Related elements

[Means Concepts](#)

[Mean Concept Relationships](#)

Related diagram

[Business Motivation Diagram](#)

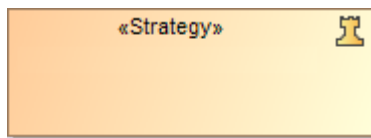
3.1.2.2 Strategy

Description

A Strategy is one component of the plan for the Mission. A Strategy represents the essential Course of Action to achieve Ends (Goals in particular). A Strategy usually channels efforts towards those Goals.

A Strategy is more than simply a resource, skill, or competency that the enterprise can call upon. It is accepted by the enterprise as the right approach to achieve its Goals, given the environmental constraints and risks.

Notation



Related elements

[Means Concepts](#)

[Mean Concept Relationships](#)

Related diagrams

[Business Motivation Diagram](#)

[Process Definition Diagram](#)

3.1.2.3 Tactic

Description

A Tactic is a Course of Action that represents part of the detailing of Strategies. A Tactic implements Strategies. For example, the Tactic “Call first-time customers personally” implements the Strategy “Increase repeat business.”

Tactics generally channel efforts towards Objectives. For example, the Tactic “Ship products for free” channels efforts towards the Objective “Within six months, 10% increase in product sales”.

Notation



Related elements

[Means Concepts](#)

[Mean Concept Relationships](#)

Related diagrams

[Business Motivation Diagram](#)

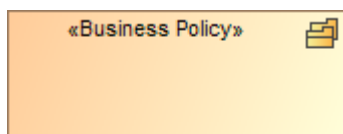
[Process Definition Diagram](#)

3.1.2.4 Business Policy

Description

A Business Policy is a Directive that is not directly enforceable whose purpose is to govern or guide the enterprise. Business Policies provide the basis for Business Rules. Business Policies also govern Business Processes.

Notation



Related elements

[Means Concepts](#)

[Mean Concept Relationships](#)

Related diagrams

[Business Motivation Diagram](#)

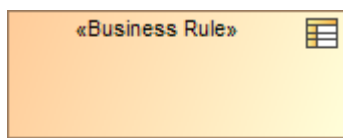
[Process Definition Diagram](#)

3.1.2.5 Business Rule

Description

A Business Rule is a Directive, intended to govern, guide, or influence business behavior, in support of Business Policy that has been formulated in response to an Opportunity, Threat, Strength, or Weakness. It is a single Directive that does not require additional interpretation to undertake Strategies or Tactics. Often, a Business Rule is derived from Business Policy. Business Rules guide Business Processes.

Notation



Related elements

[Means Concepts](#)

[Mean Concept Relationships](#)

Related diagrams

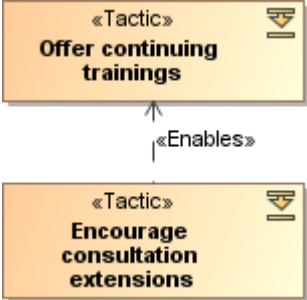
[Business Motivation Diagram](#)

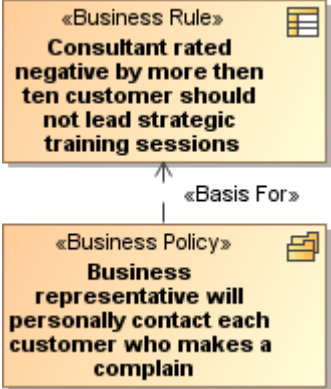
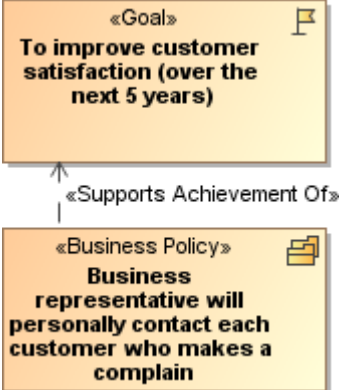
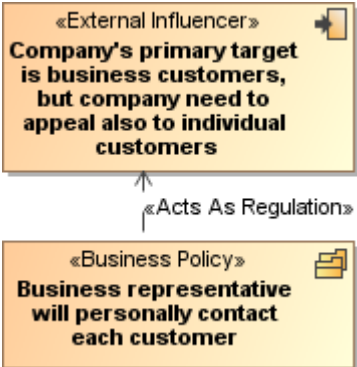
[Process Definition Diagram](#)

3.1.2.6 Mean Concept Relationships

The following table provides the relationships that exist between element types and their meaning.

Relationship	Description	Example
Makes Operative	This link connects Mission to a Vision . Meaning that the Mission lists every continuing Activity to ensure the Vision.	<pre> graph BT Vision["«Vision» Be the premier consulting company in the industry"] Mission["«Mission» Provide consulting and training services to companies in Europe"] Vision -- «Makes Operative» --> Mission </pre>
Component Of	This link connects Strategy to a Mission . Meaning that the Strategy is the method or course of action that will be employed to achieve the Mission.	<pre> graph BT Mission["«Mission» Provide consulting and training services to companies in Europe"] Strategy["«Strategy» Increase repeat business"] Mission -- «Component Of» --> Strategy </pre>

Relationship	Description	Example
Implements	This link connects Tactic to a Strategy . Meaning that the Tactic realizes Strategies.	 <pre> graph BT Tactic["«Tactic» Offer continuing trainings"] -- «Implements» --> Strategy["«Strategy» Increase repeat business"] </pre>
Enables	This link connects Strategy to a Strategy or Tactic to a Tactic . Meaning that a Strategy/Tactic makes another Strategy/Tactic doable. That is to say the latter Strategy/Tactic provides an opportunity for the former Strategy/Tactic to be carried out. Use this link to associate Strategy to another Strategy or Tactic to another Tactic.	 <pre> graph BT Tactic2["«Tactic» Encourage consultation extensions"] -- «Enables» --> Tactic1["«Tactic» Offer continuing trainings"] </pre>
Effects Enforcement Level	This link connects Tactic to a Business Rule . Meaning that the Tactics influences the enforcement level of Business Rule.	 <pre> graph BT Tactic["«Tactic» Offer continuing trainings"] -- «Effects Enforcement Level» --> BR["«Business Rule» New training offer within 6 months"] </pre>
Formulated Based On	This link connects Strategy or Tactic to a Business Policy or Business Rule . Meaning that the Strategy or Tactic is planned according to what result the Business Policy or Business Rule desires.	 <pre> graph BT Tactic["«Tactic» Offer continuing trainings"] -- «Formulated Based On» --> BR["«Business Rule» New training offer within 6 months"] </pre>
Channel Efforts Towards	This link connects Strategy to a Goal , or Tactic to an Objective . Meaning that the Strategy is coordinated as activities aimed towards Goals as Tactic towards Objective. For example, the Tactic "Free delivery" channels efforts towards the Objective "5% increase in sales within 3 months."	 <pre> graph BT Strategy["«Strategy» Increase repeat business"] -- «Channel Efforts Towards» --> Goal["«Goal» To improve customer satisfaction (over the next 5 years)"] </pre>

Relationship	Description	Example
Governs	This link connects Business Policy or Business Rule to a Strategy or Tactic . Meaning that the Business Policy or Business Rule determines the Strategy or Tactic.	
Basis For	This link connects Business Policy to a Business Rule . Meaning that the Business Policy is the key to achieve Business Rule.	
Supports Achievement Of	This link connects Business Policy or Business Rule to a Goal or Objective . Meaning that the Business Policy provides an idea or reason to develop the Strategy or Tactic.	
Acts As Regulation	This link connects a Business Policy or a Business Rule to External Influencer.	

Related element

[Means Concepts](#)

Related diagrams

[Business Motivation Diagram](#)

[Process Definition Diagram](#)

3.1.3 Influencer Concepts

The Influencer elements come up with the factors that are influencing the ends achievement of the organization.

Types of Influencer elements are as following:

- [External Influencer](#)
- [Internal Influencer](#)
- [Influencing Organization](#)
- [Influence Concepts Relationship](#)

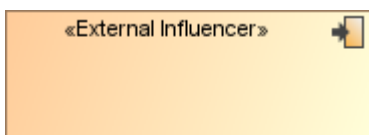
3.1.3.1 External Influencer

Description

External Influencer is this outside an enterprise's organizational boundary that can impact its employment of Means or achievement of Ends. External Influencer is usually categorized as follows:

- Competitor: A rival enterprise in a struggle for advantage over the subject enterprise.
- Customer: A role played by an individual or enterprise that has investigated, ordered, received, or paid for products or services from the subject enterprise.
- Environment: The aggregate of surrounding conditions or Influencers affecting the existence or development of an enterprise.
- Partner: An enterprise that shares risks and profit with the subject enterprise (or is associated with the subject enterprise to share risks and profit) because this is mutually beneficial.
- Regulation: An order prescribed by an authority such as a government body or the management of an enterprise.
- Supplier: A role played by an individual or enterprise that can furnish or provide products or services to the subject enterprise.
- Technology: The role of technology, including its developments and limitations — there may be prerequisites for use of technology; there may be enterprise Activity that technology enables or restricts.

Notation



Related elements

[Influencer Concepts](#)

[Influence Concepts Relationship](#)

Related diagram

[Business Motivation Diagram](#)

3.1.3.2 Internal Influencer

Description

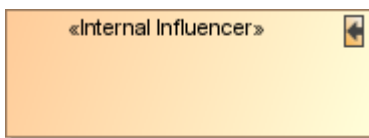
Internal Influencer is an enterprise that can impact its employment of Means or achievement of Ends.

Internal Influencer is usually categorized the following:

- Assumption: Something that is taken for granted or without proof.

- Explicit Corporate Value: An ideal, custom, or institution that an enterprise promotes or agrees with that is explicitly set forth and declared.
- Implicit Corporate Value: A corporate value that is not explicitly declared but nonetheless understood by some or all of the people in an enterprise.
- Habit: A customary practice or use.
- Infrastructure: The basic underlying framework or features of a system.
- Issue: A point in question or a matter that is in dispute as between contending partners.
- Management Prerogative: A right or privilege exercised by virtue of ownership or position in an enterprise.
- Resource: The resources available for carrying out the business of an enterprise, especially their quality.

Notation



Related elements

[Influencer Concepts](#)

[Influence Concepts Relationship](#)

Related diagram

[Business Motivation Diagram](#)

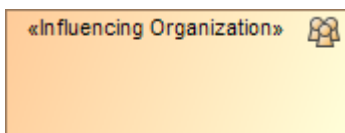
3.1.3.3 Influencing Organization

Description

An Influencing Organization is an organization that is external to the enterprise modeled in a given enterprise BMM, and that influences that enterprise.

An Influencing Organization is the source of Influencer. The Influencer may have multiple sources, or none.

Notation



Related elements

[Influencer Concepts](#)

[Influence Concepts Relationship](#)

Related diagram

[Business Motivation Diagram](#)

3.1.3.4 Influence Concepts Relationship

The following table provides the relationship that exists between element types and the meaning.

Relationship	Description	Example
Is Source Of	This link connects Influencing Organization to an Influencer (External Influencer or Internal Influencer). Meaning that the Influencing Organization is the source of Influencer. An Influencer may have multiple sources, or none.	 The diagram illustrates the 'Is Source Of' relationship. At the top is a box labeled «External Influencer» with the text 'Budget consulting companies offer low cost and low quality trainings'. Below it is a box labeled «Influencing Organization» with the text 'TrainingsEverywhere.com'. An arrow points from the bottom box to the top box, with the label «Is Source Of» written next to it.

Related elements

[Influencer Concepts](#)

Related diagram

[Business Motivation Diagram](#)

3.1.4 Assessment Concepts

The Assessment element is the Influencer's assessment of the organization ends and means including the activities, events, and data that trigger or feed business activities.

There are three types of Assessment elements:

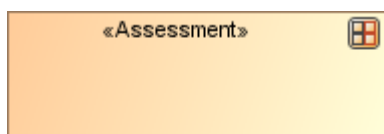
- [Assessment](#)
- [Risk](#)
- [Potential Reward](#)
- [Assessment Concept Relationships](#)

3.1.4.1 Assessment

Description

An Assessment is a judgment of some Influencer that affects the ability of organization to employ its Means or achieve its Ends. In other words, an Assessment expresses a logical connection or fact type between Influencers and the Ends and/or Means of the business plans. In this way, an Assessment indicates which Influencers are relevant to which Ends and/or Means.

Notation



Related elements

[Assessment Concepts](#)

[Assessment Concept Relationships](#)

Related diagram

[Business Motivation Diagram](#)

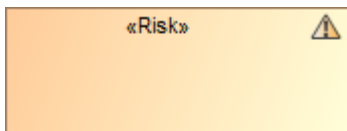
3.1.4.2 Risk

Description

A Risk is a category of Impact Value that indicates the impact and probability of loss. Some Risks are expressible as formulas, for example:

- Probability of loss (for example, 5% probability)
- Potential loss (for example, \$500,000 loss)
- Unit-of-measure (for example, loss in USD)

Notation



Related elements

[Assessment Concepts](#)

[Assessment Concept Relationships](#)

Related diagram

[Business Motivation Diagram](#)

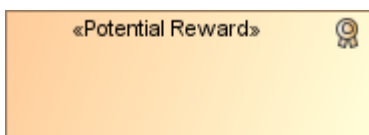
3.1.4.3 Potential Reward

Description

A Potential Reward is a category of Potential Impact that indicates the probability of gain. Some Potential Rewards are expressible as formulas, for example:

- Probability of gain (for example, 30% probability)
- Potential gain (for example, \$40,000 gain)

Notation



Related elements

[Assessment Concepts](#)

[Assessment Concept Relationships](#)

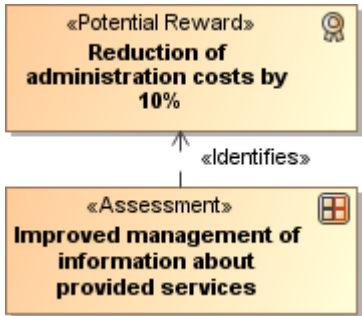
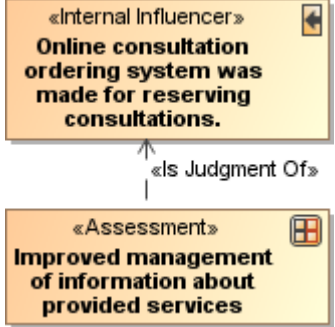
Related diagram

[Business Motivation Diagram](#)

3.1.4.4 Assessment Concept Relationships

Description

The following table provides the relationships that exist between element types and their meaning.

Relationship	Description	Example
Identifies	This link connects Assessment to a Potential Reward or Risk . Meaning that the Assessment points out some possible Potential Reward or Risk that is/are significant to that Assessment. Each possible consequence serves as an appraisal of the worth, value, or quality of some aspect of the Assessment in specific terms, types, or dimensions.	
Provides Impetus	This link connects Assessment to a Business Policy or Business Rule . Meaning that the Assessment is the driving force for the Business Policy or Business Rule.	
Affects Achievements	This link connects Assessment to a Vision , Goal , or Objective . Meaning that the Assessment has an impact on the End outcomes.	
Affects Employment	This link connects Assessment to a Mission , Strategy , Tactic , Business Policy or Business Rule . Meaning that the Assessment has an impact on the use of Means.	
Judgement For	This link connects Assessment to a Influencer (External Influencer or Internal Influencer). Meaning that the Assessment is the Influencer's judgment that influences the organization's ability to carry out its Means or achieve its Ends.	

Related element[Assessment Concepts](#)**Related diagram**[Business Motivation Diagram](#)

3.2 Business Data Diagram

Description

A Business Data diagram provides possibilities to define what business concepts are used in business processes. The diagram shows classes that represent concepts we can identify in a business area. Therefore, it allows defining properties and relations between classes. Class elements identified in Business Data diagrams are represented by Data Object elements and can be reused later in the BPMN Process diagram.

Business Data Diagram is based on UML Class diagram. It is a simplified version of the class diagram that includes only model elements needed for business data definitions.

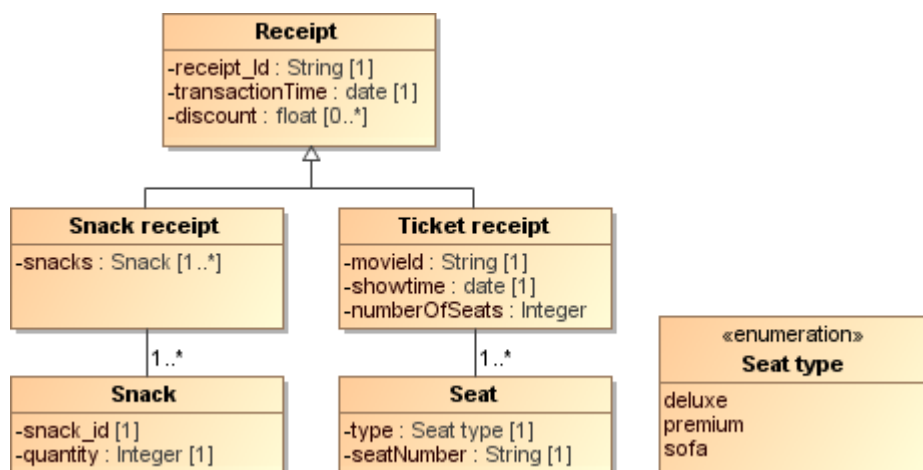
Example

Figure -- Business Data Diagram showing Classes

Related elements[Class](#)[Association](#)[Generalization](#)

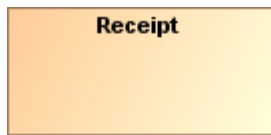
3.2.1 Class

Description

A Class element represents data or a concept that is related to problem area and is used by business processes. To define more information about a class, you can add class properties for the class.

Notation

- Class



- Class with properties



Related elements

[Association](#)

[Generalization](#)

[Data Object](#)

Related diagrams

[Business Data Diagram](#)

[BPMN Business Data Description Table](#)

[BPMN Data Usage Matrices](#)

3.2.2 Association

Description

An Association link shows that particular classes are related to each other. Association links may have names defined – names help to read diagrams. You can also specify multiplicity at the end of an Association.

Example



Figure -- Association between two Classes with Multiplicity at the End

Related element

[Class](#)

Related diagram

[Business Data Diagram](#)

3.2.3 Generalization

Description

A Generalization link shows that one class provides grouping criteria for sets of other classes. Generic class may define sets of properties, that are applicable to all the specific classes. The Generalization link can be among classes.

Example

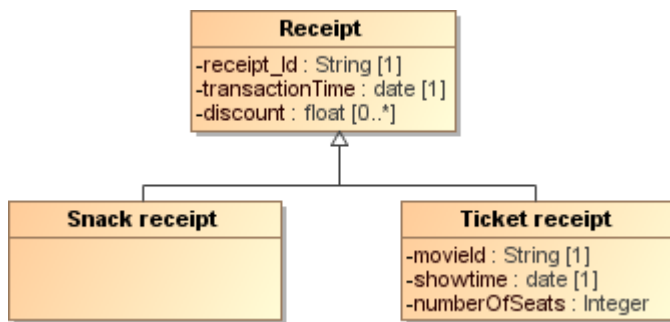


Figure -- Generalization link defining Properties to all specific Classes

Related element

[Class](#)

Related diagram

[Business Data Diagram](#)

3.3 Organization Structure Diagram

Description

An Organization Structure Diagram represents the hierarchical structure of an organization. This diagram allows showing organization departments, roles inside departments, and actual persons inside an organization. The diagram can also represent the reporting structure of an organization.

Example

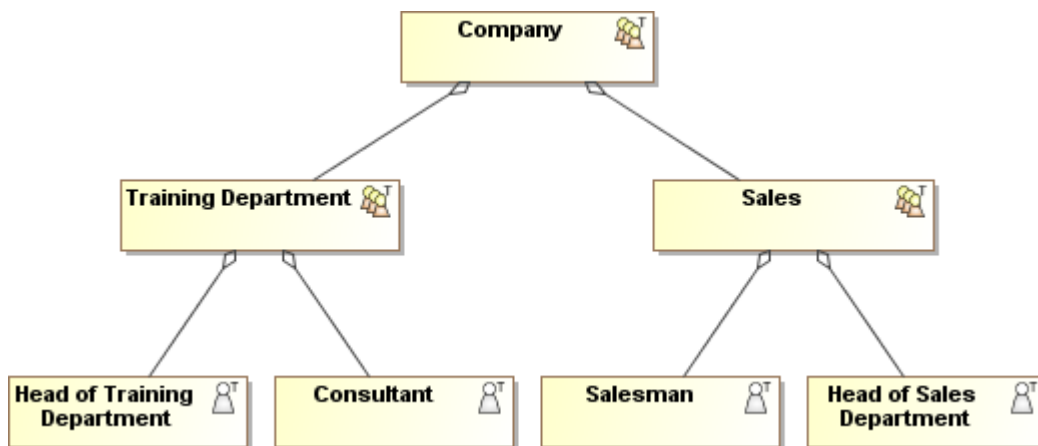


Figure -- Organization Structure diagram

Related elements

[Resource](#)

[Organization Unit](#)

[Role](#)

[Person](#)

[Information system](#)

[Composition](#)

3.3.1 Resource

Description

The Resource is used to specify resources that can be referenced by Process. These Resources can be human resources as well as any other resource assigned to Activities during Process execution time.

Multiple processes can utilize the same Resource.

Resource can be element of the Organization structure such as Organization Unit, Role or Person.

Related elements

[Organization Unit](#)

[Role](#)

[Person](#)

[Information system](#)

[Pool and Lane](#)

[Activities](#)

[Choreography Activities](#)

Related diagrams

[Organization Structure Diagram](#)

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

[BPMN Resources Usage Matrices](#)

Related Procedure

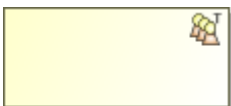
[Using Organization Structure Diagram](#)

3.3.2 Organization Unit

Description

An organization represents a group of persons, associated for a particular purpose. An Element may denote an organization, a department, or a working group inside an organization. e. g., the company, sale department, etc. This element is combined with the Participant definition.

Notation



Related elements

[Resource](#)

[Role](#)

[Person](#)

[Information system](#)

[Pool and Lane](#)

[Activities](#)

[Choreography Activities](#)

Related diagrams

[Organization Structure Diagram](#)
[BPMN Process Diagram](#)
[BPMN Collaboration Diagram](#)
[BPMN Choreography Diagram](#)
[BPMN Resources Usage Matrices](#)

Related Procedure

[Using Organization Structure Diagram](#)

3.3.3 Role

Description

A Role is a type of contact point or a responsible person, e. g., cashier, ticket seller counter, etc. Roles may belong to an organization. This element is combined with the Resource Role definition.

Notation



Related elements

[Resource](#)
[Organization Unit](#)
[Person](#)
[Information system](#)
[Pool and Lane](#)
[Activities](#)
[Choreography Activities](#)

Related diagrams

[Organization Structure Diagram](#)
[BPMN Process Diagram](#)
[BPMN Collaboration Diagram](#)
[BPMN Choreography Diagram](#)
[BPMN Resources Usage Matrices](#)

Related Procedure

[Using Organization Structure Diagram](#)

3.3.4 Person

Description

A Person is a type of human that is recognized by law as the subject of rights and duties. This element is combined with the Resource Role definition.

Notation



Related elements

[Resource](#)
[Organization Unit](#)
[Role](#)
[Information system](#)
[Pool and Lane](#)
[Activities](#)
[Choreography Activities](#)

Related diagrams

[Organization Structure Diagram](#)
[BPMN Process Diagram](#)
[BPMN Collaboration Diagram](#)
[BPMN Choreography Diagram](#)
[BPMN Resources Usage Matrices](#)

Related Procedure

[Using Organization Structure Diagram](#)

3.3.5 Information system

Description

An Information System is a type of hardware or a software, e. g., international sales system, ticket reservation system, etc. Information system can be used by Process or Process Activity.

Notation



Related elements

[Resource](#)
[Organization Unit](#)
[Role](#)
[Person](#)
[Pool and Lane](#)
[Activities](#)
[Choreography Activities](#)

Related diagrams

[Organization Structure Diagram](#)
[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

[BPMN Resources Usage Matrices](#)

Related Procedure

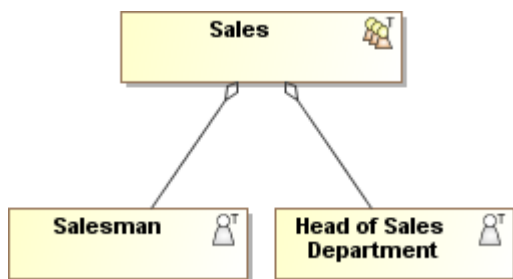
[Using Organization Structure Diagram](#)

3.3.6 Composition

Description

A Composition is a key relationship that shows how organization structure is composed. For example, one organization unit can be a part of a parent organization.

Example



Related elements

[Resource](#)

[Organization Unit](#)

[Role](#)

[Person](#)

[Information system](#)

Related diagrams

[Organization Structure Diagram](#)

Related Procedure

[Using Organization Structure Diagram](#)

3.4 Process Definition Diagram

Description

A Process Definition diagram is a tool for initial process analysis. The diagram allows you to draw business processes, group them into packages, and define the relations between those processes.

When the initial process definition has been completed, a process flow can be provided in a BPMN Process diagram, which can be created for each process.

Example

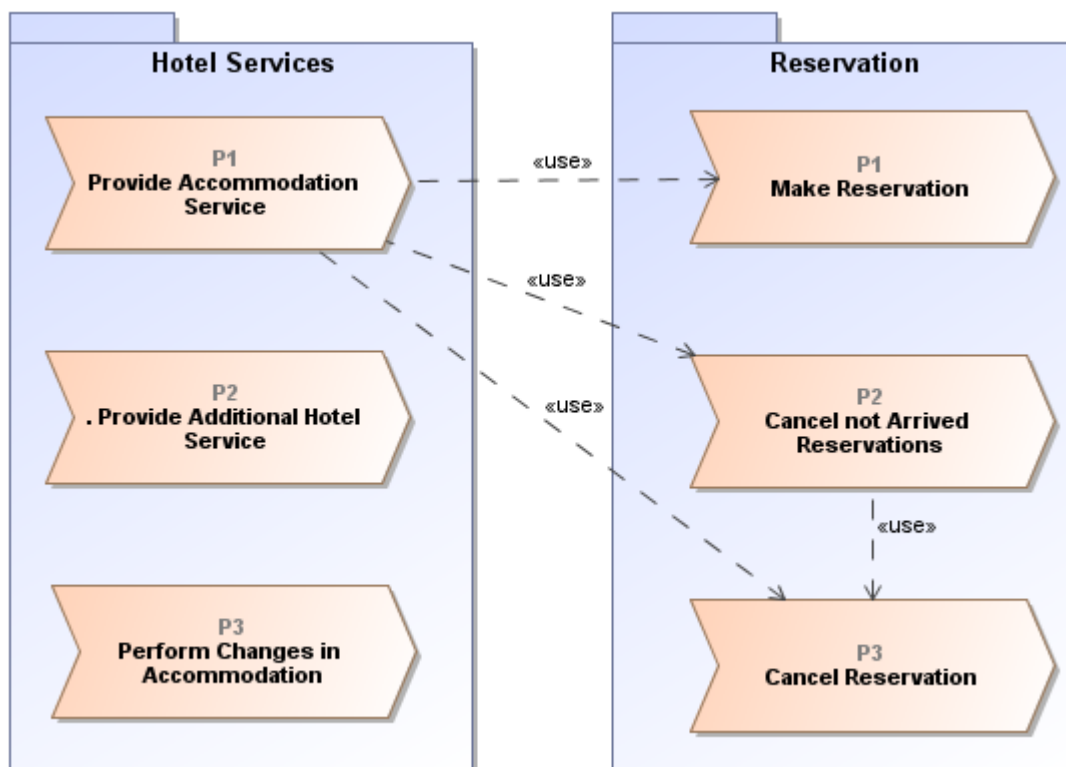


Figure -- Process Definition diagram

Related elements

[BPMN Process](#)

[Package](#)

[Assessment Concept Relationships](#)

3.4.1 Package

Description

Package groups together processes and other model elements. You can organize all types of model elements into packages. The Packages themselves can be nested within other Packages.

Notation



Related diagram

[Process Definition Diagram](#)

3.4.2 Relationships

Process Definition diagram has relationships as follows:

- [Usage](#)

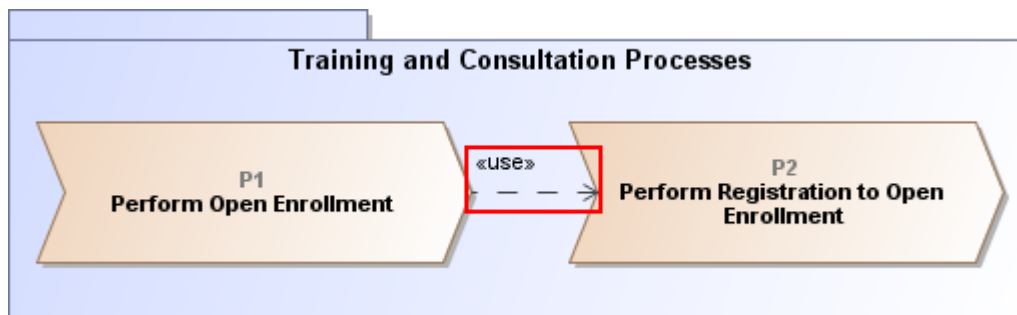
- [Dependency](#)
- [Realizes](#)
- [Governs](#)
- [Guides](#)

3.4.2.1 Usage

Description

A Usage is a relationship in which one element requires another element (or set of elements) for its full implementation or operation.

Example



Related element

[BPMN Process](#)

Related diagram

[Process Definition Diagram](#)

3.4.2.2 Dependency

Description

A Dependency indicates a semantic relationship between two model elements (or two sets of model elements). Dependency indicates a situation in which a change to a supplier (target) element may require a change to a client (source) element in the dependency.

A Dependency is shown as a dashed arrow between model elements. The model element at the start point of the arrow (the client element) depends on the model element at the arrowhead (the supplier element). The arrow can be labeled with an optional individual name.

Example



Related element

[BPMN Process](#)

Related diagram

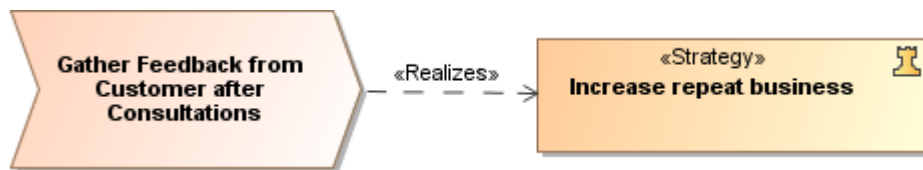
[Process Definition Diagram](#)

3.4.2.3 Realizes

Description

Realizes shows that a BPMN Process can realizes a Strategy or Tactic.

Example



Related element

[BPMN Process](#)

Related diagram

[Process Definition Diagram](#)

3.4.2.4 Governs

Description

Governs shows that a Business Policy governs BPMN Process.

Example



Related element

[BPMN Process](#)

Related diagram

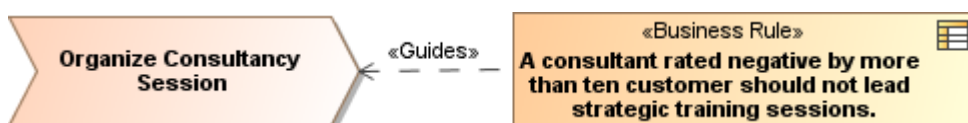
[Process Definition Diagram](#)

3.4.2.5 Guides

Description

Guides shows that a Business Rule guides a BPMN Process.

Example



Related elements

[BPMN Process](#)

[Strategy](#)

[Tactic](#)

[Business Policy](#)

[Business Rule](#)

Related diagram

[Process Definition Diagram](#)

3.5 BPMN Tables

BPMN tables allow the quick creation of BPMN elements as well as easy review and modification of their properties. You can review a group of elements as one set in the same place by using these tables.

Types of BPMN tables in Cameo Business Modeler are as follows:

- [BPMN Processes Description Table](#)
- [BPMN Resources Description Table](#)
- [BPMN Business Data Description Table](#)

[BPMN Activities Description Table](#) **Related external resource**

“Generic Table” in [MagicDraw UserManual.pdf](#)

3.5.1 BPMN Processes Description Table

Description

A BPMN Processes Description table is designed to display or edit processes descriptions in a table form. You can display existing processes or create new processes in this table.

Example

#	Id	Name	Documentation
1	P1	Perform Open Enrollment	Process describes the procedure how open enrollment is organized by the company.
2	P2	Perform Registration to Open Enrollment	After receiving inquiry salesman must send customer detailed information about open trainings. After clients confirms participation, salesman registers customer to open training class.

Figure -- BPMN Processes Description table

Related elements

[BPMN Process](#)

[BPMN Tables](#)

Related procedure

[Creating BPMN Processes Description Table](#)

3.5.2 BPMN Resources Description Table

Description

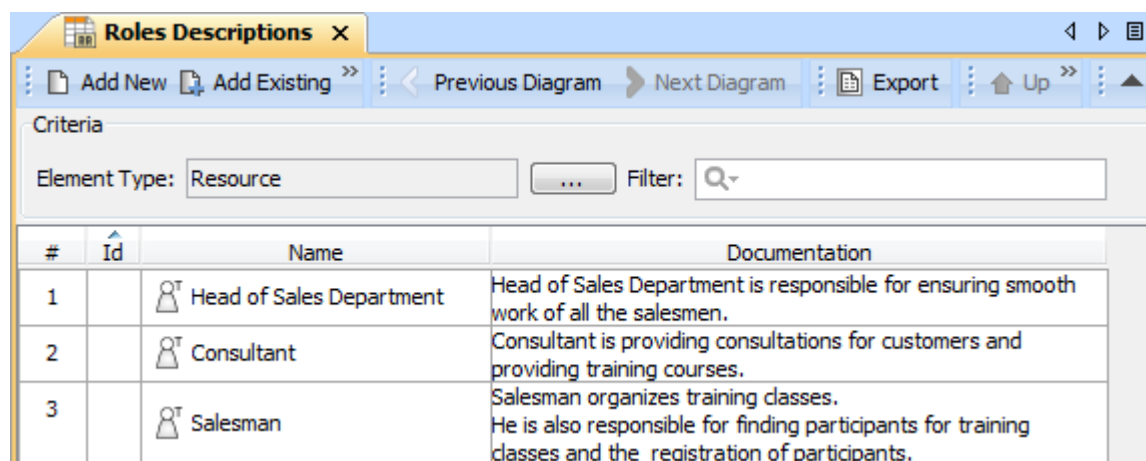
A BPMN Resources Description table is designed to display or edit resources description in a table form. You can display existing Resources or create new ones in this table.

BPMN defines four types of Resources as follows:

- Resource
- Organization Unit
- Role
- Person
- Information System

You can display all of them in a BPMN Resources Description table.

Example



The screenshot shows a software window titled 'Roles Descriptions'. It has a toolbar with buttons for 'Add New', 'Add Existing', 'Previous Diagram', 'Next Diagram', 'Export', and 'Up'. Below the toolbar is a 'Criteria' section with 'Element Type' set to 'Resource' and a search filter. The main area contains a table with three columns: '#', 'Id', and 'Documentation'. The table lists three roles: 'Head of Sales Department', 'Consultant', and 'Salesman', each with a brief description of their responsibilities.

#	Id	Name	Documentation
1		Head of Sales Department	Head of Sales Department is responsible for ensuring smooth work of all the salesmen.
2		Consultant	Consultant is providing consultations for customers and providing training courses.
3		Salesman	Salesman organizes training classes. He is also responsible for finding participants for training classes and the registration of participants.

Figure -- BPMN Resource Roles Description table

Related elements

[Resource](#)

[BPMN Tables](#)

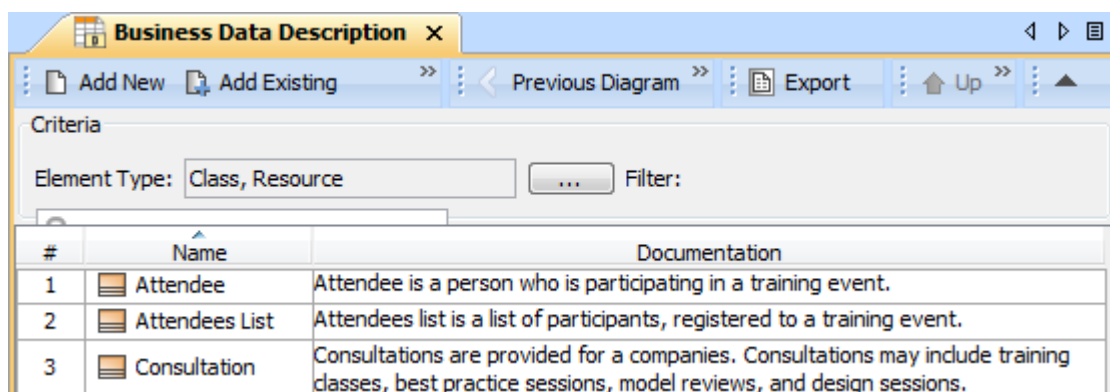
Related procedure

[Creating BPMN Resources Description Table](#)

3.5.3 BPMN Business Data Description Table

Description

A BPMN Business Data Description table is designed to display or edit class descriptions in a table form. You can display existing classes or create new classes in this table.



Business Data Description

Criteria

Element Type: Filter:

#	Name	Documentation
1	Attendee	Attendee is a person who is participating in a training event.
2	Attendees List	Attendees list is a list of participants, registered to a training event.
3	Consultation	Consultations are provided for a companies. Consultations may include training classes, best practice sessions, model reviews, and design sessions.

Figure -- BPMN Business Data Description table

Related elements

[Class](#)

[BPMN Tables](#)

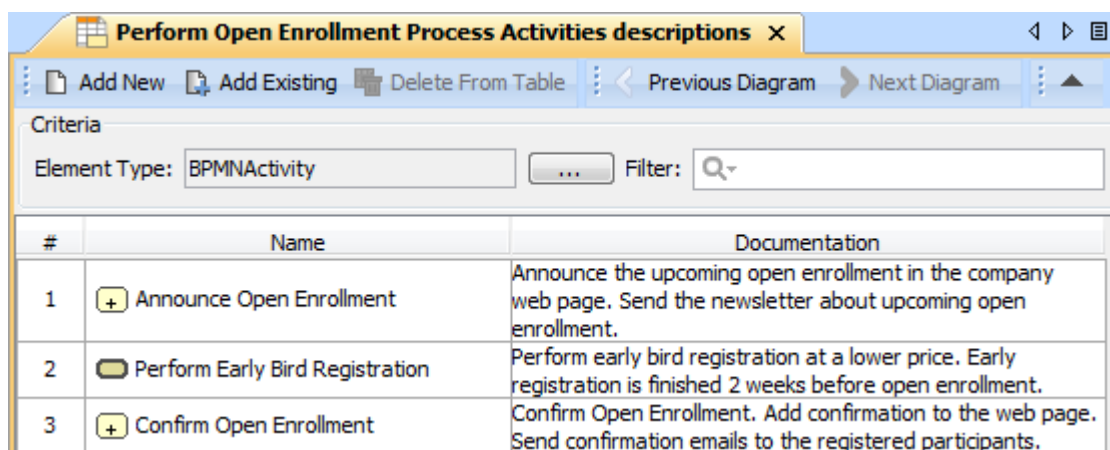
Related procedure

[Creating BPMN Business Data Description Table](#)

3.5.4 BPMN Activities Description Table

Description

A BPMN Activities Description table is designed to display or edit selected process activities descriptions in a table form. A BPMN Activities Description table is created for a BPMN Process.



Perform Open Enrollment Process Activities descriptions

Criteria

Element Type: Filter:

#	Name	Documentation
1	Announce Open Enrollment	Announce the upcoming open enrollment in the company web page. Send the newsletter about upcoming open enrollment.
2	Perform Early Bird Registration	Perform early bird registration at a lower price. Early registration is finished 2 weeks before open enrollment.
3	Confirm Open Enrollment	Confirm Open Enrollment. Add confirmation to the web page. Send confirmation emails to the registered participants.

Figure -- BPMN Activities Description table

Related elements

[Activities](#)

[BPMN Tables](#)

Related procedure

[Creating BPMN Activities Description Table](#)

3.6 BPMN Matrices

A BPMN matrix is designed to explore relations between different types of elements. There are two types of BPMN matrices in Cameo Business Modeler:

- [BPMN Resources Usage Matrices](#)
- [BPMN Data Usage Matrices](#)

Related external resource

“Dependency Matrices” in [MagicDraw UserManual.pdf](#)

3.6.1 BPMN Resources Usage Matrices

Description

A BPMN Resources Usage Matrix is designed to review and edit an allocation of Resource Roles for BPMN Activities. The Resource Roles used in an Activity show a Resources property in a BPMN Activity specification dialog.

A BPMN Resources Usage Matrix presents information about BPMN Activities in rows and Resource Roles in columns. Each arrow in the matrix shows if a Resource Role is used by an Activity.

You can define Resource Roles usage for all BPMN Activities by assigning or removing the Resource Roles to or from the Activities.

Example

The screenshot shows the 'Tasks for Roles' dialog with the following data in the matrix:

	Company	Consultant	Head of Sales Department	Head of Training Department	Sales	Salesman	Training Department
Business Processes	1	3	1	8			
Training and Consultation Processes	1	3	1	8			
P1 Perform Open Enrollment							
P1.2 Announce Open Enrollment						→	
P1.3 Perform Early Bird Registration:Perform						→	
P1.5 Take Decision if the Open Enrollment v				→			
P1.5.1 Evaluate Number of Participants	→					→	
P1.7 Confirm Open Enrollment						→	
P1.9 Prepare for Open Enrollment Class		→					
P1.10 Perform Late Registration:Perform R						→	
P1.13 Run Open Enrollment Class		→					
P1.15 Gather Feedback from Open Enrollme	→						

Figure -- BPMN Resource Usage Matrix

Related elements

[BPMN Process](#)
[Activities](#)
[Resource](#)
[Organization Unit](#)
[Role](#)
[Person](#)
[Information system](#)
[BPMN Matrices](#)

Related procedure

[Creating BPMN Resources Usage Matrix](#)

3.6.2 BPMN Data Usage Matrices

Description

A BPMN Data Usage Matrix shows what data classes are used in BPMN Processes and SubProcess. Data Objects represents classes in a BPMN diagram.

A BPMN Data Usage Matrix presents information about all BPMN Processes and SubProcesses in rows and Classes in columns. Each row in the matrix shows if a class is used in a BPMN Process or SubProcess diagram as a Data Object.

Example

	Attendee	Attendees List	Consultation	Feedback Form	Open Enrollment	Training Event
Training and Consultation Process	1	2		1		
P1 Perform Open Enrollment	1					
P1.2 Announce Open Enrollment						
P1.5 Take Decision if the Open Enrollment is Full	1					
P1.7 Confirm Open Enrollment						
P1.9 Prepare for Open Enrollment						
P1.13 Run Open Enrollment						
P1.15 Gather Feedback from Attendees						
P1.17 Cancel Open Enrollment						
P1.21						
P2 Perform Registration to Open Enrollment	2					

Figure -- BPMN Data Usage Matrix

Related elements

[BPMN Process](#)

[SubProcesses](#)

[Class](#)

[BPMN Matrices](#)

Related diagram

[BPMN Process Diagram](#)

Related procedure

[Creating BPMN Data Usage Matrix](#)

3.7 BPMN Processes Structure Map

Description

A BPMN Processes Structure Map diagram allows you to represent the structure of processes in a project. The processes are grouped into packages on the diagram. And each process may itself contains other processes, which in turn may contain other processes. The diagram makes the processes easier to understand and helps you analyze how they are organized.

A BPMN Processes Structure Map diagram shows packages, processes, subprocesses, and tasks from a selected scope.

Example

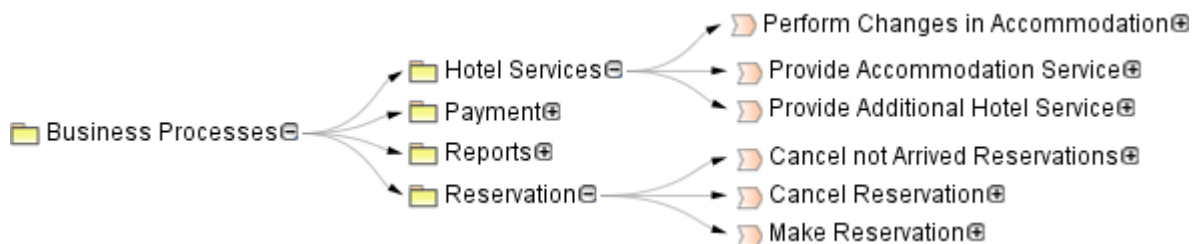


Figure -- BPMN Processes Structure Map

Related elements

[Package](#)

[BPMN Process](#)

[Activities](#)

Related diagram

[BPMN Process Diagram](#)

Related external resource

“Relation Map” in [MagicDraw UserManual.pdf](#)

4 USING CAMEO BUSINESS MODELER

This chapter provides the main procedures of Cameo Business Modeler and contains the following sections:

- [Using Common BPMN Elements](#)
- [Using BPMN Process Diagram](#)
- [Using BPMN Collaboration Diagram](#)
- [Using BPMN Choreography Diagram](#)
- [Using BPMN Tables and Matrices](#)
- [Using Organization Structure Diagram](#)
- [Using BPMN Element Numbers](#)
- [Exporting Models to XPDL](#)
- [Exporting Models to BPMN2](#)
- [Importing from BPMN 1.1](#)
- [Integration with Cameo SOA+](#)

4.1 Using Common BPMN Elements

Some BPMN elements can not be represented on any BPMN diagram. You can use these elements as data types for specifying values of other element properties. This kind of elements can be created in the Containment tree.

To create a BPMN element in the Containment tree

- Right-click a package in the Containment tree. On the shortcut menu, click New Element > BPMN Element, and select a BPMN element that you want to create.

To open an element Specification window

Do one of the following:

- Right-click a selected symbol and from shortcut menu, select Specification.
- Double-click a symbol on the Diagram pane or in the Model Browser.
- Select a symbol on the Diagram pane and press the ENTER key.
- The element Specification window opens when you add a model element to an owning model element in its Specification window. The second Specification window opens on top of the first. Use the Back to or Forward to arrow buttons for switching between windows.

Related element

[Common BPMN Elements](#)

Related external resource

“Specification Window” in [MagicDraw UserManual.pdf](#)

4.2 Using BPMN Process Diagram



A BPMN Process diagram can also contain the elements of a BPMN Collaboration diagram.

The following sections describe how to create and specify a BPMN Process diagram:

- [Creating BPMN Process Diagram](#)
- [Creating and Using Tasks](#)
- [Creating and Using SubProcesses](#)
- [Using Activities](#)
- [Creating and Using an Event](#)
- [Creating and Using a Sequence Flow](#)
- [Creating and Using Data Items](#)
- [Navigation Between BPMN Diagrams](#)

4.2.1 Creating BPMN Process Diagram



You can create a BPMN Process diagram only from the Business Modeler, Business Analyst, and Full Featured user perspectives.

You can create a BPMN Process diagram from

- BPMN2 Diagrams toolbar
- main menu
- shortcut menu of a package in the Containment tree

To create a new BPMN Process diagram from the BPMN2 Diagrams toolbar

1. Click the  button on the BPMN2 Diagrams toolbar. The **Create Diagram** dialog opens.
2. Type the name and select the owner of the BPMN Process diagram.



The owner of Process diagram has to be a BPMN Process.

3. Click **OK**.

To create a new BPMN Process diagram from the main menu

1. On the main menu, click **Diagrams > BPMN2 Diagrams > BPMN Process Diagrams**. The **BPMN Process Diagrams** dialog opens.
2. Click the **Create** button. The Specification window opens.
3. Type the name and select the owner of the BPMN Process diagram.
4. Click **OK**.

To create a new BPMN Process diagram from the shortcut menu of a package in the Containment tree

1. Right-click the package in the Containment tree and from the shortcut menu, select **New Diagram > BPMN2 Diagrams > BPMN Process Diagram**.
2. Type the name for a created BPMN Process diagram.

Related diagram

[BPMN Process Diagram](#)

Related procedures

[Creating and Using Tasks](#)

[Creating and Using SubProcesses](#)

[Using Activities](#)

[Creating and Using an Event](#)

[Creating and Using a Sequence Flow](#)

[Creating and Using Data Items](#)

[Navigation Between BPMN Diagrams](#)

4.2.2 Creating and Using Tasks

There are multiple types of Tasks that you can create in a BPMN Process diagram.

To create a Task

1. Open a Process diagram.
2. On the diagram pallet, click the **Task** button and select a type of Task you need to create.

To change a task type

- Right-click a Task and select a new Task type.

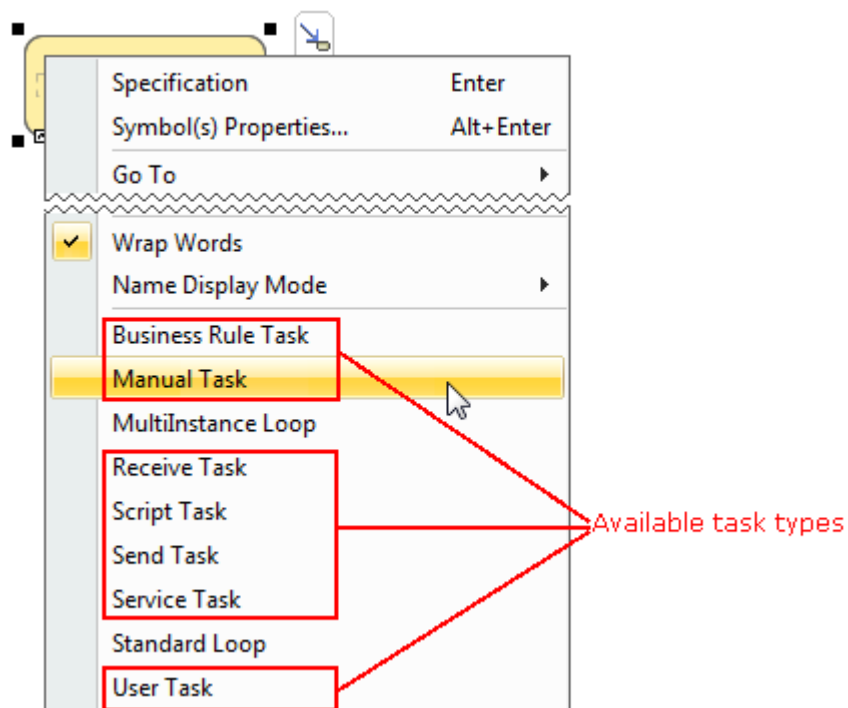


Figure -- Changing Task type

Related element

[Tasks](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedures

[Creating BPMN Process Diagram](#)

[Creating and Using SubProcesses](#)

[Using Activities](#)

[Creating and Using an Event](#)

[Creating and Using a Sequence Flow](#)

[Creating and Using Data Items](#)

[Navigation Between BPMN Diagrams](#)

4.2.3 Creating and Using SubProcesses

A BPMN diagram can display subprocesses with different symbol properties. They are as follows:

- An expanded SubProcess can contain inner shapes.
- A collapsed SubProcess cannot display inner shapes. A plus sign (+) marker will be displayed for a collapsed subprocess.

If the **Is Triggered By Event** property of a SubProcess is set to true, it will call an Event SubProcess and will be drawn with a dashed border.

There are two specific types of SubProcesses:

- Transaction SubProcess. It is represented with double borders.
- AdHoc SubProcess. It is represented with an AdHoc marker on its shape.

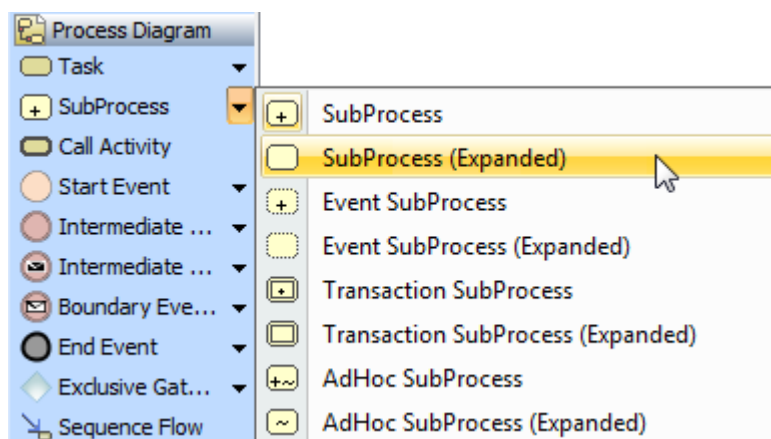
To create a SubProcess



IMPORTANT!

Business Analyst perspective provide most popular SubProcess types. Full list of SubProcesses types you can have only in Business Modeler and Full Featured perspectives.

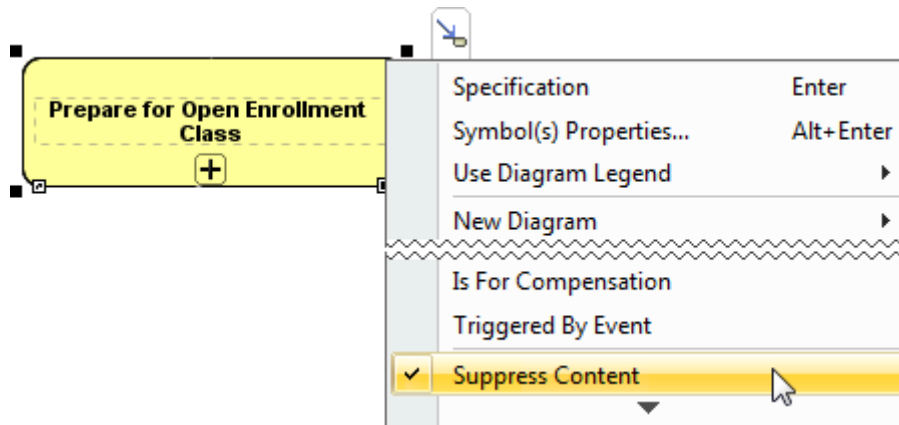
1. Open a Process diagram.
2. On the diagram pallet, click the arrow next to the SubProcess and select needed type of SubProcess.



To expand a SubProcess

Do either:

- Right-click a SubProcess shape and from the shortcut menu select **Symbol(s) Properties**. Then in the Symbol Properties dialog click to clear the **Suppress Content**.
- Right-click a SubProcess shape and then on the shortcut menu click to clear **Suppress Content**.



To collapse SubProcess

Do either:

- Right-click a SubProcess shape and then on the shortcut menu click to select **Suppress Content**.
- Right-click a SubProcess shape and from the shortcut menu select **Symbol(s) Properties**. Then in the Symbol Properties dialog click to select the **Suppress Content**.

To mark a created SubProcess as an event SubProcess

Do either:

- Right-click the SubProcess and on the shortcut menu click to select **Triggered By Event**.
- Open the SubProcess Specification window. Select the **Triggered By Event** check box.

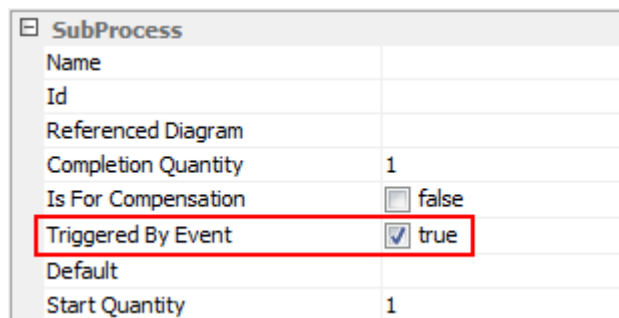


Figure -- Marking SubProcess as Event SubProcess

To convert a SubProcess to a Transaction SubProcess or AdHoc SubProcess

- Right-click the SubProcess and from the shortcut menu select **Refactor > Convert To > More Specific > AdHoc SubProcess** or **Transaction SubProcess**.

To convert a Transaction SubProcess or AdHoc SubProcess to a SubProcess

- Right-click the Ad Hoc SubProcess or Transaction SubProcess and from shortcut menu select **Refactor > Convert To > More General > SubProcess**.

To display a Start Event icon on a Event SubProcess

1. Create an expanded Event SubProcess.
2. Create a Start Event to the Event SubProcess.
3. Right-click the SubProcess and click to select the **Suppress Content** check box.

Related element

[SubProcesses](#)

Related Diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedures

[Creating BPMN Process Diagram](#)

[Creating and Using Tasks](#)

[Using Activities](#)

[Creating and Using an Event](#)

[Creating and Using a Sequence Flow](#)

[Creating and Using Data Items](#)

[Navigation Between BPMN Diagrams](#)

4.2.4 Using Activities

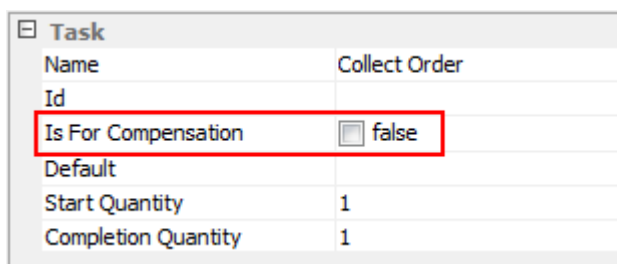
This section will describe how to use Activities in a BPMN process diagram. Activities (Tasks, Subprocesses, and Call Activities) can have the following specific markers displayed on their shapes:

- Compensation
- Standard loop
- MultiInstance loop (parallel)
- MultiInstance loop (sequential)

To add a Compensation marker to an Activity

Do either:

- Right-click an Activity and select **Is For Compensation**.
- Open the Activity Specification window. Click to clear the **Is For Compensation** check box and click **Close**.



Task	
Name	Collect Order
Id	
Is For Compensation	☐ false
Default	
Start Quantity	1
Completion Quantity	1

Figure -- Adding Compensation Marker to Activity

To add a Loop marker to an Activity

- Right-click an Activity and click to select **Standard Loop** or **MultiInstance Loop**.

To display a MultiInstance Loop (sequential) marker on a MultiInstance Loop activity

Do either:

- Right-click an Activity with a MultiInstance Loop (parallel) marker and on the shortcut menu select **Is Sequential**.
- Open the Activity with a MultiInstance marker Specification window. Select **Is Sequential** and then click **Close**.

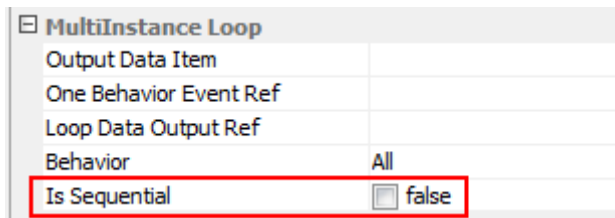


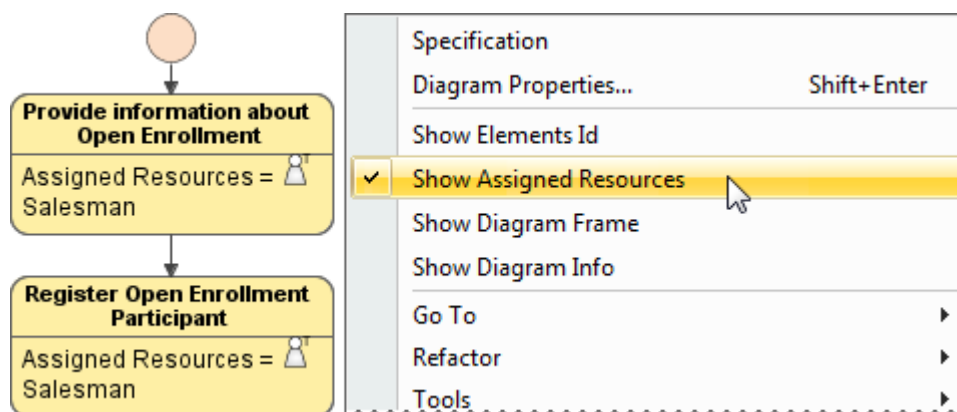
Figure -- Displaying MultiInstance Loop Marker on MultiInstance Loop Activity

To convert an Activity to another type of Activity

- Right-click a Task, SubProcess, or Call Activity and from the shortcut menu select **Refactor > Convert To** and then select an Activity type to which you need to convert the selected Activity.

To display Resources assigned for Activities

- Right-click the diagram pane and then do one of the following:
 - On the shortcut menu, click to select the **Show Assigned Resources** check box (see the following figure).
 - From the shortcut menu, select **Diagram Properties** and in the open dialog, set the **Show Assigned Resources** property value to *true*.



Related element

[Activities](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedures

[Creating BPMN Process Diagram](#)

[Creating and Using Tasks](#)

[Creating and Using SubProcesses](#)

[Creating and Using an Event](#)

[Creating and Using a Sequence Flow](#)

[Creating and Using Data Items](#)

[To open an element Specification window](#)

[Navigation Between BPMN Diagrams](#)

4.2.5 Creating and Using an Event

This section will describe how to create and specify Events in BPMN diagrams.

To create an Event

- On the Process diagram pallet, click a desired event button and then select a type of Event.

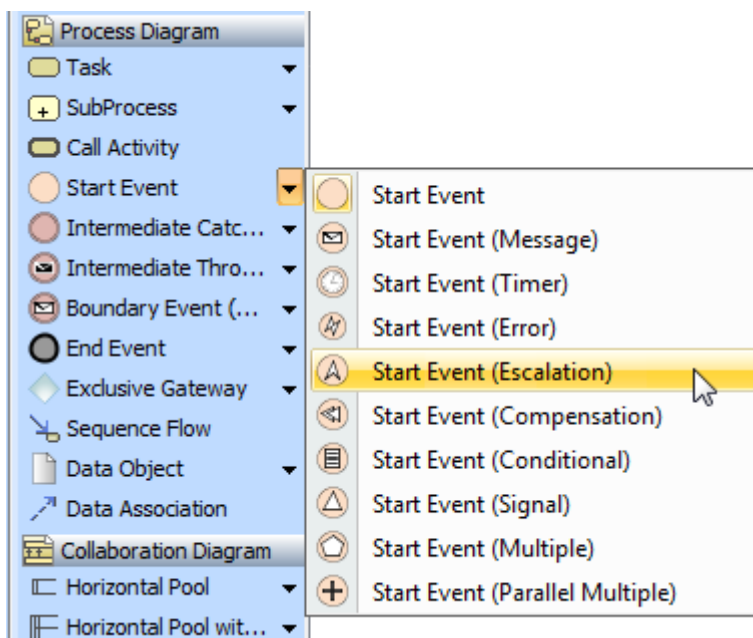
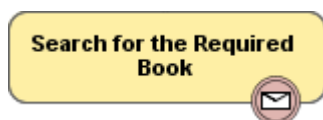


Figure -- Selecting to create new Start Event

To create a Boundary Event

- On the Process diagram pallet, click the **Boundary Event (Message)** button and then select a type of Boundary Event.
- Click an Activity or Choreography Activity in the diagram.



To change an Event type



You can change an Event type for Start, Intermediate, Boundary, or End Events.

- Right-click a created Event and select a new Event type.

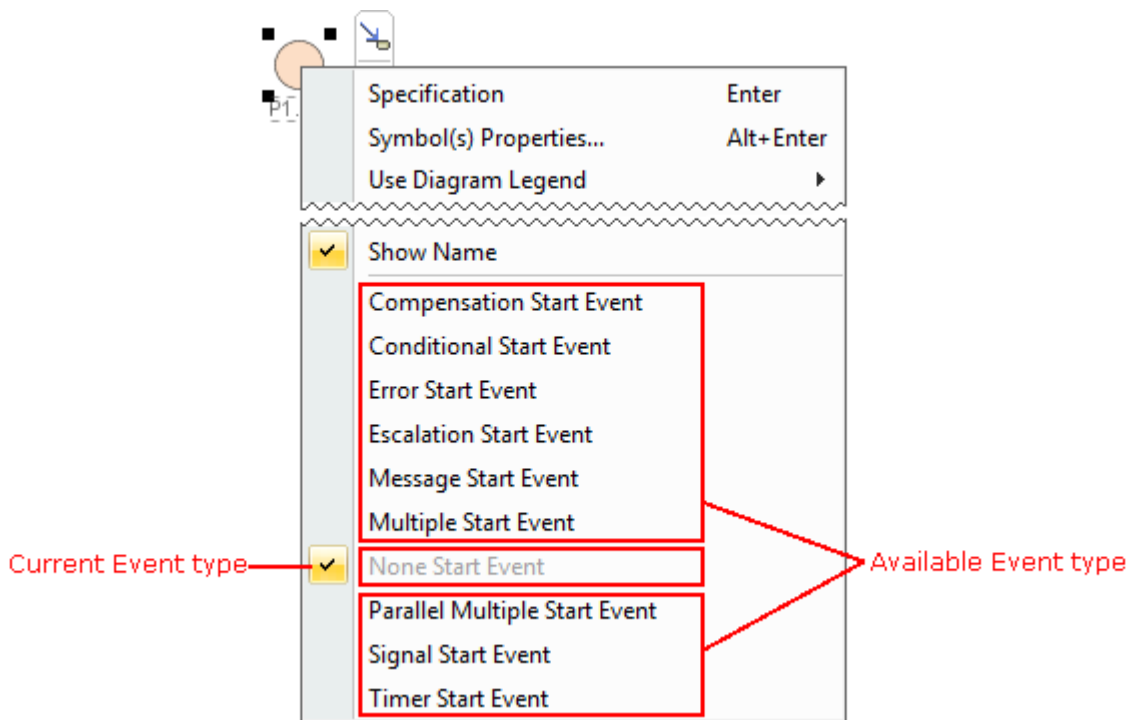


Figure -- Selecting new Event type on Event's shortcut menu

To change a Start Event to non-interrupting

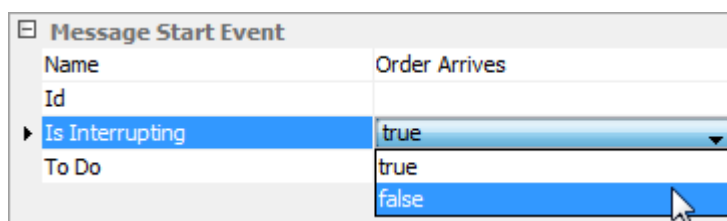


Not all Start Event types can be non-interrupting. The command **Is Interrupting** is only available for the following Start Event types:

- Message Start Event
- Timer Start Event
- Escalation Start Event
- Conditional Start Event
- Signal Start Event
- Multiple Start Event
- Parallel Multiple Start Event

Do either:

- Right-click the Start Event and on the shortcut menu click **Is Interrupting** > **False**.
- Open the Start Event Specification window. In the **Is Interrupting** property box, select **False** and click **Close**.



To change a Boundary Event to non-interrupting



IMPORTANT!

Not all Boundary Event types can be non-interrupting. The command **Cancel Activity** is only available for the following Boundary Event types:

- Message Boundary Event
- Timer Boundary Event
- Escalation Boundary Event
- Conditional Boundary Event
- Signal Boundary Event
- Multiple Boundary Event
- Parallel Multiple Boundary Event

Do either:

- Right-click the Boundary Event and on the shortcut menu click **Cancel Activity> False**.
- Open the Boundary Event Specification window. In the **Cancel Activity** property box, select **False**, and then click **Close**.

Timer Boundary Event	
Name	
Id	
Time Cycle	
Time Date	
Time Duration	
Cancel Activity	true
Attached To	true
To Do	false

Related elements

[Start Events](#)

[Intermediate Catch Event](#)

[Intermediate Throwing Event](#)

[Boundary Events](#)

[End Events](#)

[Activities](#)

[Choreography Activities](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedures

[Creating BPMN Process Diagram](#)

[Creating and Using Tasks](#)

[Creating and Using SubProcesses](#)

[Using Activities](#)

[Creating and Using a Sequence Flow](#)

[Creating and Using Data Items](#)

[To open an element Specification window](#)

Navigation Between BPMN Diagrams

4.2.6 Creating and Using a Sequence Flow

A Sequence Flow connects Activities, Choreography Activities, Events, and Gateways. A Conditional Sequence Flow has a condition expression and is drawn with a mini-diamond marker at the beginning of the Sequence Flow.

A default Sequence Flow is indicated with a backslash at the beginning of the Sequence Flow.

To create a Sequence Flow

Do either:

- Click an Activity on the diagram. On the Smart Manipulators toolbar click the Sequence Flow button.
- Click the **Sequence Flow** button on the diagram pallet and connect appropriate shapes on the diagram pane.

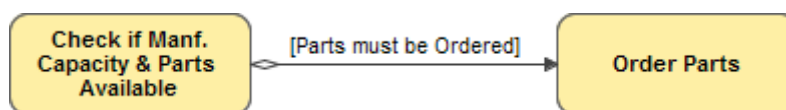
To add a condition to Sequence Flow

Do either:

- Select the created Sequence Flow, open its Specification window and enter the **Condition Expression** property value.

Sequence Flow	
Name	
Id	
Condition Expression	Parts must be Ordered
Is Immediate	☐ <undefined>
Source	Check if Manf. Capacity & Parts Available...
Target	Order Parts [Ordering::Order handling]

- Select the created Sequence Flow and type the condition between the brackets.



NOTE

A Conditional Sequence Flow outgoing from a Gateway is displayed without a mini diamond marker.

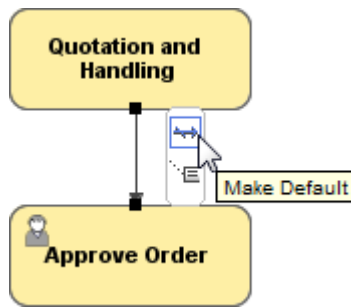
To set a default Sequence Flow



A default Sequence Flow can be specified for Activities (Tasks, Subprocesses, and Call Activities) or exclusive, inclusive, and complex Gateways.

1. Select the Sequence flow on the diagram pane.

2. On the Smart Manipulator toolbar, click the Make Default button.



A default Sequence flow does not have a condition expression.

To change direction of Sequence Flow

- Right-click the Sequence Flow and from the shortcut menu, select **Refactor > Reverse Direction**.

Related element

[Sequence Flow](#)

BPMN Process Diagrams

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedures

[Creating BPMN Process Diagram](#)

[Creating and Using Tasks](#)

[Creating and Using SubProcesses](#)

[Using Activities](#)

[Creating and Using an Event](#)

[Creating and Using Data Items](#)

[To open an element Specification window](#)

[Navigation Between BPMN Diagrams](#)

4.2.7 Creating and Using Data Items

You can create the following data items in a BPMN Process diagram:

- [Data Object](#)
- [Data Store](#)
- [Data Input and Data Output](#)

You can mark a Data Object as a collection.

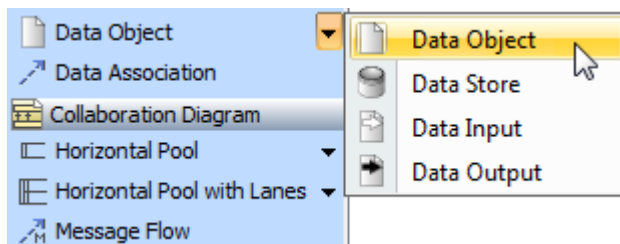
With a Data Association, you can connect a data item to other elements of the BPMN Process diagram.

To create a data item



Business Analyst perspective provide most popular SubProcess types. Full list of SubProcesses types you can have only in Business Modeler and Full Featured perspectives.

- On the **Process** diagram pallet, click **Data Object** and select needed Data item.



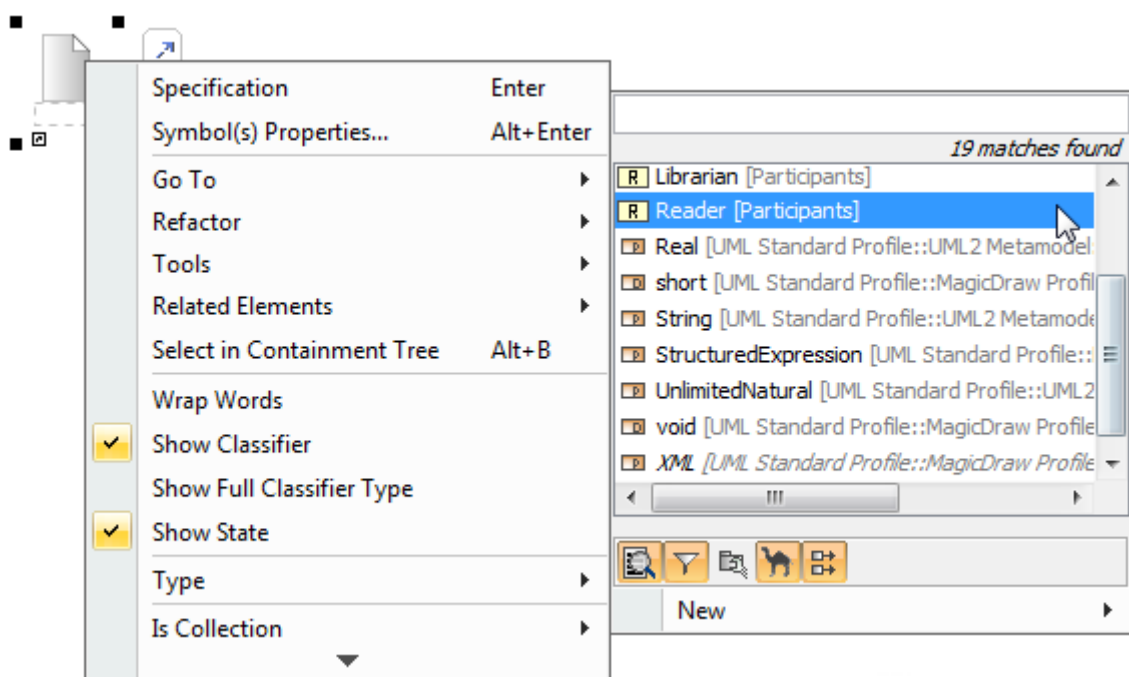
To create a new Data Object, which is typed by a classifier

- Select the classifier in the Containment tree and drag it to a BPMN Process or BPMN Collaboration diagram.

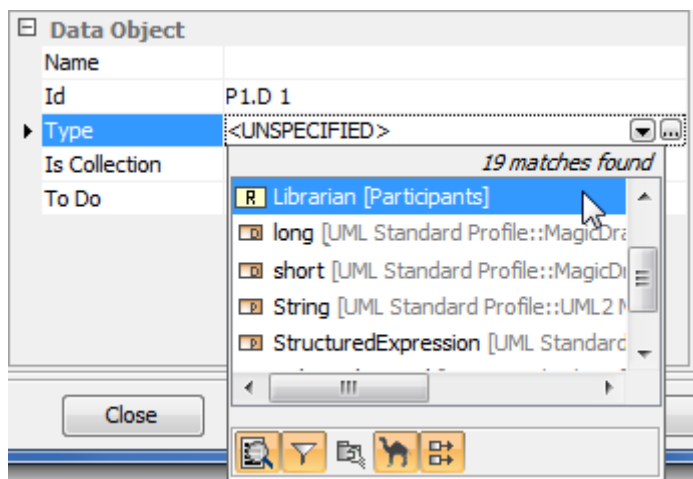
To specify a type of Data Item

Do either:

- In the Containment tree, select an element and drag it on the Data Item.
- Right-click the Data Item, from the shortcut menu, select **Type** and choose the needed type.



- Open the Specification window and select a **Type**.



To mark a Data Object as collection

Do one of the following:

- Right-click the Data Object and from the shortcut menu choose Is Collection > true.
- Open the Data Object Specification window, Is Collection property set to true.

To create a Data Association between two data items

1. On the Process diagram pallet, click the Data Association button.
2. On the diagram pane
 - Click an element, which will be the source of the Data Association.
 - Click an element, which will be the target of the Data Association.



NOTE

- The source or target of a Data Association can only be a Data Object, Data Store, Data Input, or Data Output.
- The other end of the Data Association should always be an activity or event.

To display a Data Object directly connected to a Sequence Flow



NOTE

A Data Object connected to a Sequence Flow is a visual shortcut of two Data Associations. In the model, the Data Associations still exist, and the Data Object connecting to the Sequence Flow will be displayed.

1. Draw a Data Association from an Activity to a Data Object.
2. Draw another Data Association from the Data Object to another Activity.
3. Draw a Sequence Flow from the first to the second Activity.

4. Right-click the Data Object and select Show Connected to Sequence Flow from the shortcut menu.

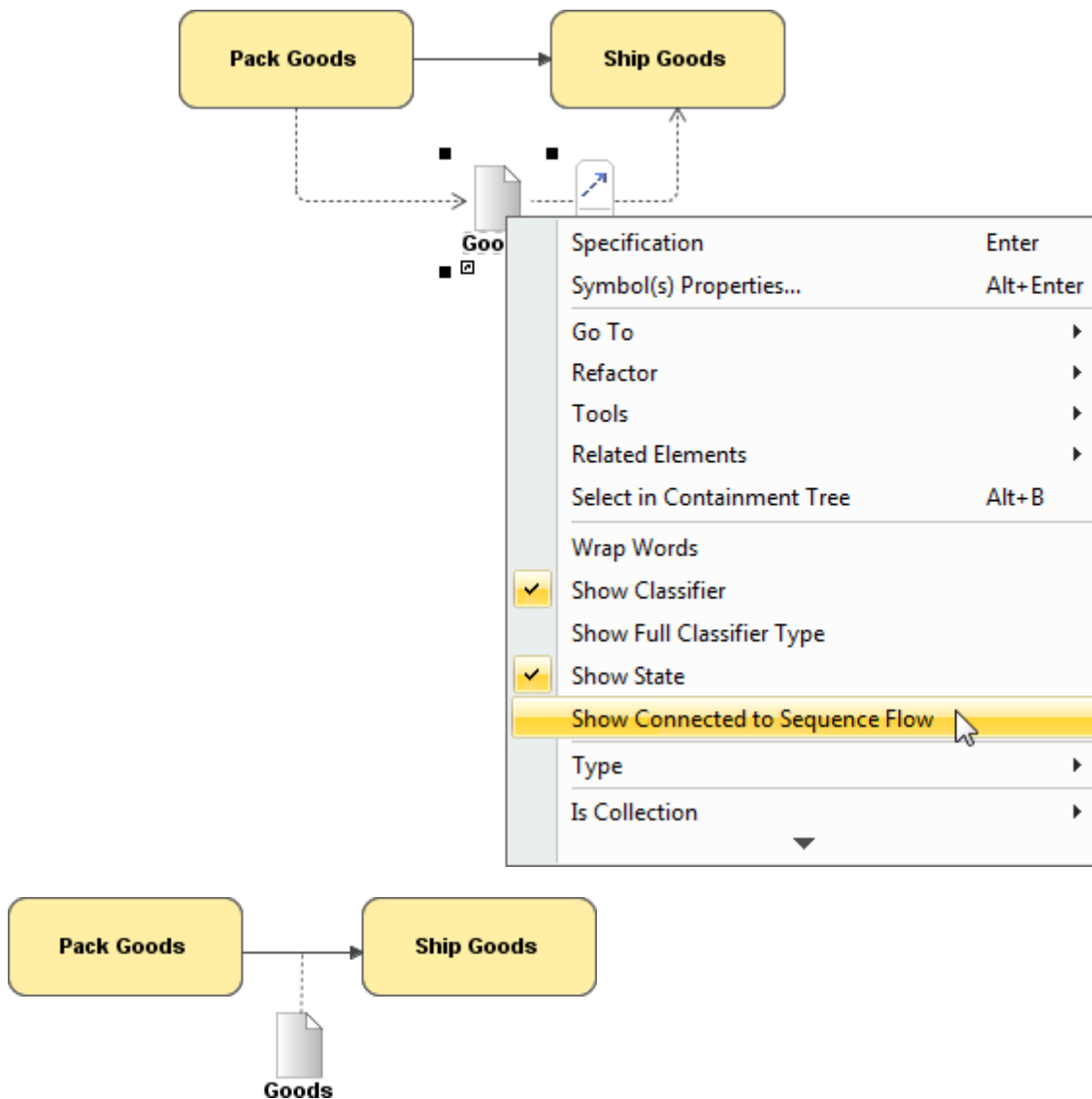


Figure -- Displaying Data Object directly connected to Sequence Flow

Related element

[Common BPMN Elements](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedures

[Creating BPMN Process Diagram](#)

[Creating and Using Tasks](#)

[Creating and Using SubProcesses](#)

[Using Activities](#)

[Creating and Using an Event](#)

[Creating and Using a Sequence Flow](#)

[Navigation Between BPMN Diagrams](#)

4.2.8 Navigation Between BPMN Diagrams

You can navigate to

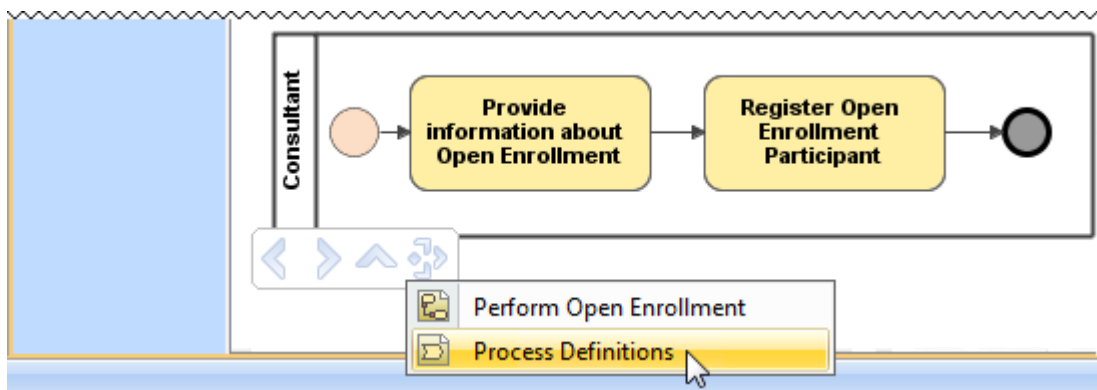
- higher level BPMN diagrams
- related Process diagrams

To navigate to a higher level BPMN diagrams

- At the bottom left corner of the diagram pane, on the toolbar, click the  button and select higher level BPMN diagram.

To navigate to a related Process diagrams

- At the bottom left corner of the diagram pane, on the toolbar, click the  button and select related process diagram.



Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedures

[Creating BPMN Process Diagram](#)

[Creating and Using Tasks](#)

[Creating and Using SubProcesses](#)

[Using Activities](#)

[Creating and Using an Event](#)

[Creating and Using a Sequence Flow](#)

[Creating and Using Data Items](#)

4.3 Using BPMN Collaboration Diagram



A BPMN Collaboration diagram can contain the elements from a Process diagram.

The following sections describe how to create and specify a BPMN Collaboration diagram.

- [Creating BPMN Collaboration Diagram](#)

- [Creating and Using Pool and Lanes](#)
- [Creating and Using Message Flow](#)
- [Creating and Using Conversation Nodes](#)
- [Creating and Using Participant](#)

4.3.1 Creating BPMN Collaboration Diagram



You can create a BPMN Collaboration diagram only from the Business Modeler, Business Analyst, and Full Featured user perspectives.

You can create a BPMN Collaboration diagram from

- BPMN2 Diagrams toolbar
- main menu
- shortcut menu of a package in the Containment tree

To create a new BPMN Collaboration diagram from the BPMN2 Diagrams toolbar

1. Click the  button on the BPMN2 Diagrams toolbar. The **Create Diagram** dialog opens.
2. Type the name and select the owner of the BPMN Collaboration diagram.



The owner of Collaboration diagram has to be a BPMN Collaboration.

3. Click **OK**.

To create a new BPMN Collaboration diagram from the main menu

1. On the main menu click **Diagrams > BPMN2 Diagrams > BPMN Collaboration Diagram**. The **BPMN Collaboration Diagrams** dialog opens.
2. Click the **Create** button. The Specification window opens.
3. Type the name and select the owner of the BPMN Collaboration diagram.
4. Click **OK**.

To create a new BPMN Collaboration diagram through the shortcut menu of a package in the Containment tree

1. Right-click a package in the Containment tree and from the shortcut menu, select **New Diagram > BPMN2 Diagrams > BPMN Collaboration Diagram**.
2. Type the name for the diagram.

Related diagram

[BPMN Collaboration Diagram](#)

Related procedures

[Using BPMN Process Diagram](#)

[Creating and Using Pool and Lanes](#)

[Creating and Using Message Flow](#)

[Creating and Using Conversation Nodes](#)

[Creating and Using Participant](#)

[Navigation Between BPMN Diagrams](#)

4.3.2 Creating and Using Pool and Lanes

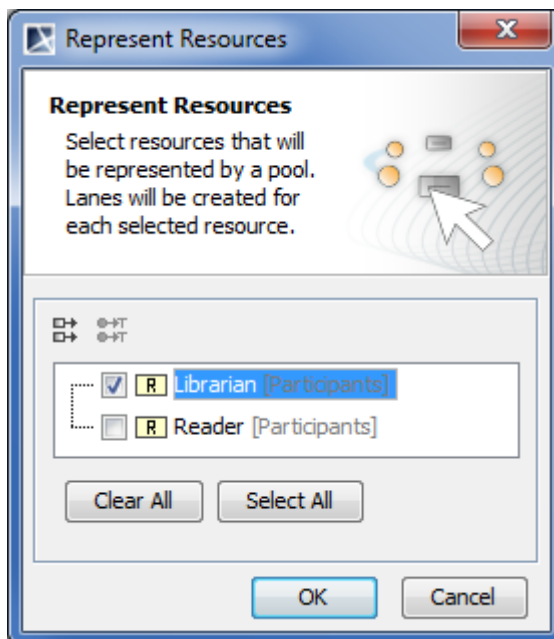
A Pool in a BPMN collaboration diagram represents a participant of a collaboration. A Pool can have its inner process flows defined. You can add the elements from a BPMN Process diagram to a pool. You can also hide the pool details by displaying a “black box” pool. A Pool can also have inner lanes.

To create a Pool from Diagram pallet

1. On the Collaboration Diagram pallet, click **Horizontal Pool** and select a needed type of Pool.



2. Select Resources and click **OK**.

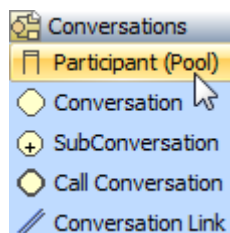


To create a Pool with a representing Resources from the Containment tree

- Drag a Resource, Organization, Post, or Person from the Containment tree to a BPMN Collaboration diagram pane.

To create a Pool with a suppressed content

- On the Collaboration Diagram pallet, under **Conversations** click **Participant (Pool)**.



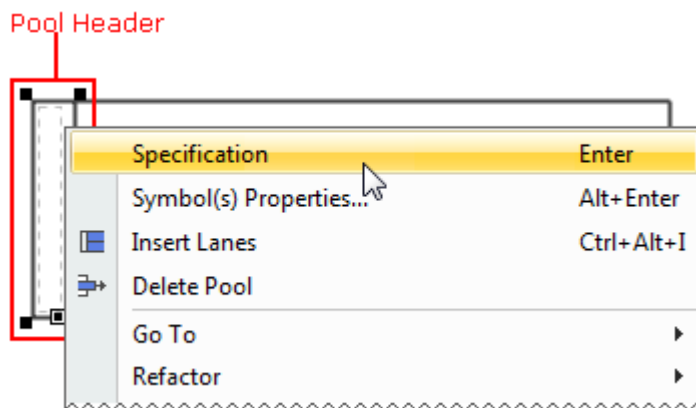
To add Lane to a Pool

Do either:

- Right-click a Pool, point to **Insert Inner Lanes** or **Insert Lanes** and select a lane type.
- Right-click a Pool header and click to select **Insert Lanes**.

To open a Pool Specification window

- Right-click the Pool header and select **Specification**.



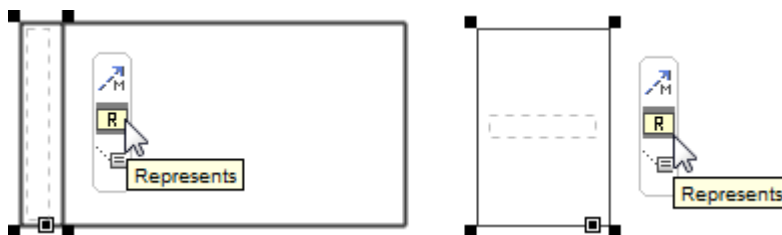
To specify a model element represented by a Pool or Lane



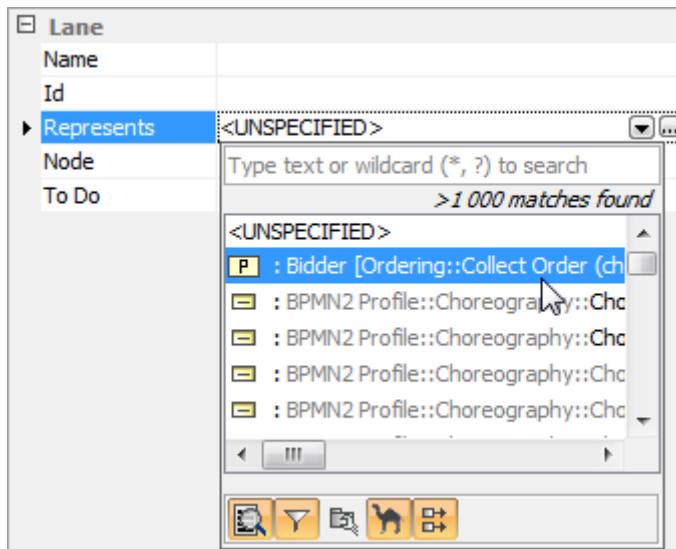
A Pool can represent a BPMN Resource element or UML classifier element.

Do either:

- Click a Pool or Lane header on the diagram. On the Smart Manipulators toolbar click the **Represents** button.



- Open the Pool or Lane Specification window, click **Represents** and select the represented elements from drop down list.



Any type of element you can select only from Specification window.

- Select a represented element in the Containment tree and drag it to the Pool or Lane header on the diagram.

To hide a Pool content on a diagram (to display a “black box” pool)

- Right-click a Pool header and from the shortcut menu select one of the following:
 - **Suppress Pool Content**
 - **Symbol(s) Properties** and in the open dialog set the **Suppress Pool Content** property value to *true*.

A Pool with suppressed content that references a MultiInstance Participant will be displayed with a MultiInstance marker.

To display a MultiInstance marker on a Pool

1. Open the Specification window.
2. Click **Represents** and select a represented multi-instance Participant.



A MultiInstance marker can be displayed only on a Pool with suppressed contents.

To review the Pool or Lane traceability information

- Open the Specification window, click **Traceability**.

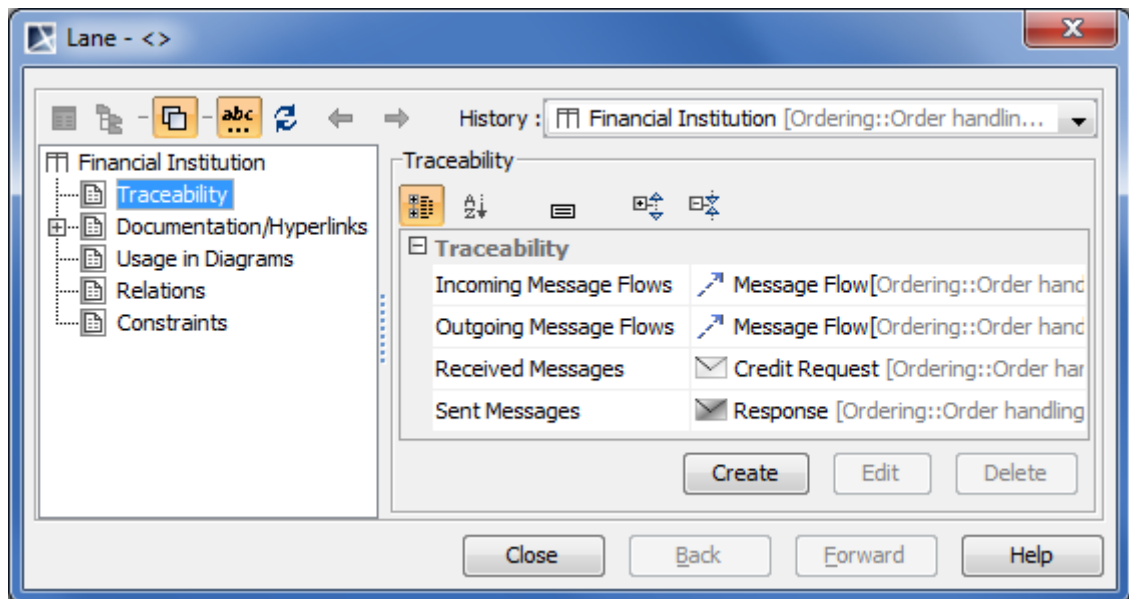


Figure -- Pool Traceability information

Related elements

[Resource](#)
[Participant](#)
[Pool and Lane](#)
[Organization Unit](#)
[Role](#)
[Person](#)
[Information system](#)

Related diagram

[BPMN Collaboration Diagram](#)

Related procedures

[Creating BPMN Collaboration Diagram](#)
[Creating and Using Message Flow](#)
[Creating and Using Conversation Nodes](#)
[Creating and Using Participant](#)
[To open an element Specification window](#)

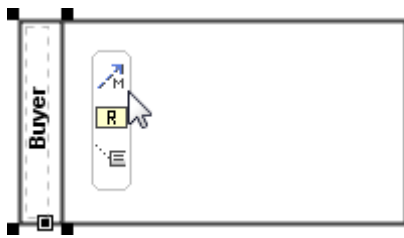
4.3.3 Creating and Using Message Flow

To draw a Message Flow between two elements or Pools

Do either:

- On the Collaboration diagram pallet, click **Message Flow** button and connect appropriate shapes.

- Select the Pool header and on the Smart manipulator toolbar, click the Message Flow button.



A Message Flow must connect two different Pools or inner elements of different Pools.

To create a new Message for a Message Flow, which is typed by a classifier, by using drag and drop operation

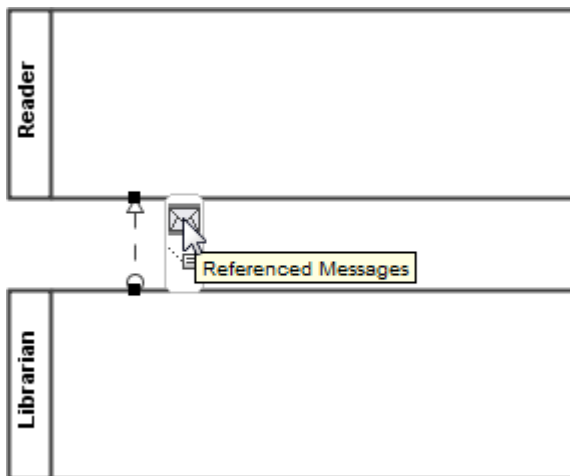
- Select the classifier (Class, Input Set, Output Set, or Error) in the Containment tree and drag it to a Message Flow on a Collaboration diagram.

To create a Message for a Message Flow from the Smart Manipulator toolbar



You can create a Message in a BPMN Process, Collaboration, Choreography, or SubProcess element.

1. On the diagram pane, select a Message Flow path and on the Smart Manipulator toolbar, click the Referenced Messages button. The **Select Message** dialog opens.



2. Select a Collaboration where you want to create a new message and click the **Creation Mode** button.
3. Select a Collaboration element and click the **Create** button.

4. Click **OK**.

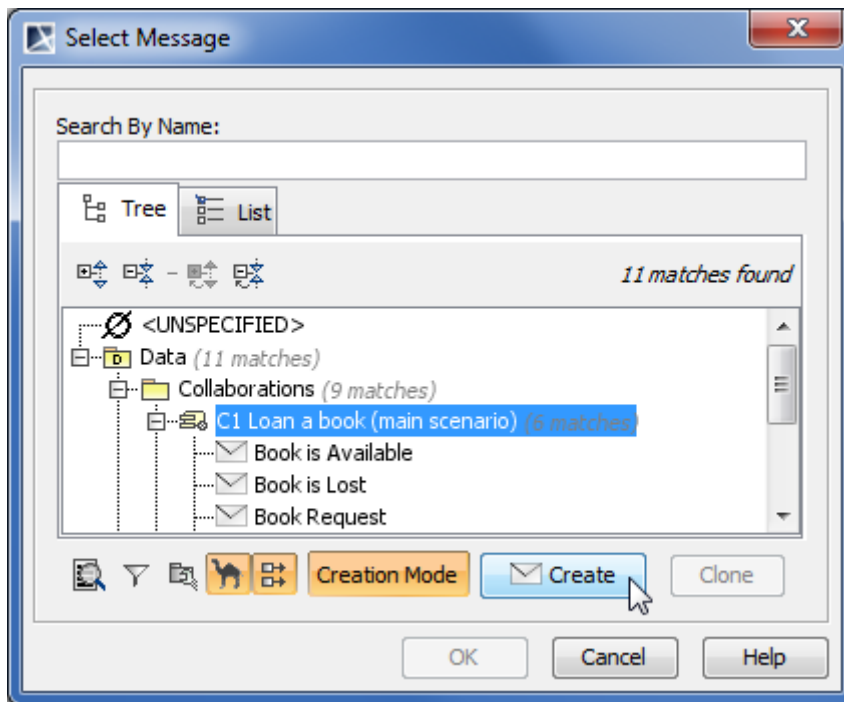


Figure -- Creating Collaboration element in Select Message dialog

To change a Message display mode

- Right-click a Message Flow and from the shortcut menu select one of the following:
 - **Show Message** and select a message display mode.
 - **Symbol(s) Properties** and select the needed **Show Message** property value.

To change direction of Message Flow

- Right-click the Message Flow and from the shortcut menu, select **Refactor > Reverse Direction**.

Related elements

[Message](#)

[Message Flow](#)

[Pool and Lane](#)

Related diagram

[BPMN Collaboration Diagram](#)

Related procedures

[Creating BPMN Collaboration Diagram](#)

[Creating and Using Pool and Lanes](#)

[Creating and Using Conversation Nodes](#)

[Creating and Using Participant](#)

4.3.4 Creating and Using Conversation Nodes

A Conversation groups messages exchanged among collaboration participants.

To create a Communication between two Pools

1. Create a Conversation and Pool.
2. Create a Conversation Link from the Conversation to a Pool.
3. Draw another Conversation Link from the Conversation to another Pool.

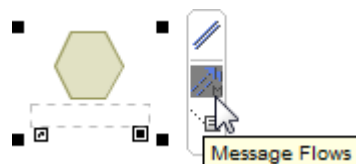


IMPORTANT!

A Pool requires a specified Representing Resource.

To select Message Flows grouped by a Conversation

1. Do either:
 - Open the Conversation shape Specification window. Select the **Message Flow Refs** property value cell and then click the ... button.
 - Select a Communication shape and on the Smart Manipulator toolbar, click the Message Flows button.



The **Select Message Flows** dialog opens. It shows all Message Flows that are grouped by a Conversation.

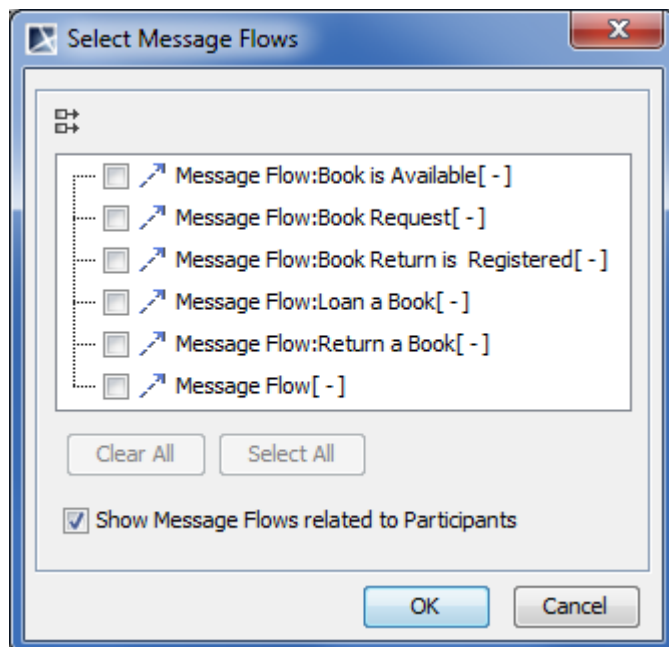


Figure -- Displaying Message Flows in Select Message Flows dialog

2. Select one or more Message Flows and click **OK**.



NOTE

When the **Show Message Flows Related to Participants** check box is selected, only the message flows that exist in a project between the Representing Participants of the pools connected by a Conversation will show.

Click to clear the check box to see all message flows in a project.

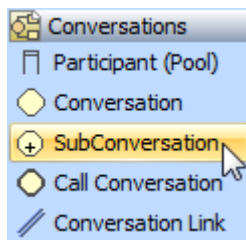


TIP!

You can also assign a Message Flow to a Conversation by dragging it from the Containment tree to a Conversation shape on the BPMN Collaboration diagram.

To create a SubConversation

- On the diagram pallet, click **SubConversation**.

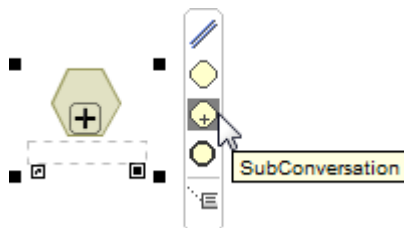


A SubConversation can contain inner Conversation Nodes (Conversation and SubConversation).

To create a Conversation Node for a SubConversation

Do either:

- Select SubConversation and on the Smart manipulator toolbar, click the SubConversation button.



- Open the Specification window, select **Conversation Nodes** in the property group list on the left. Click the **Create** button and select a Node type. Type the name and click **Close**.

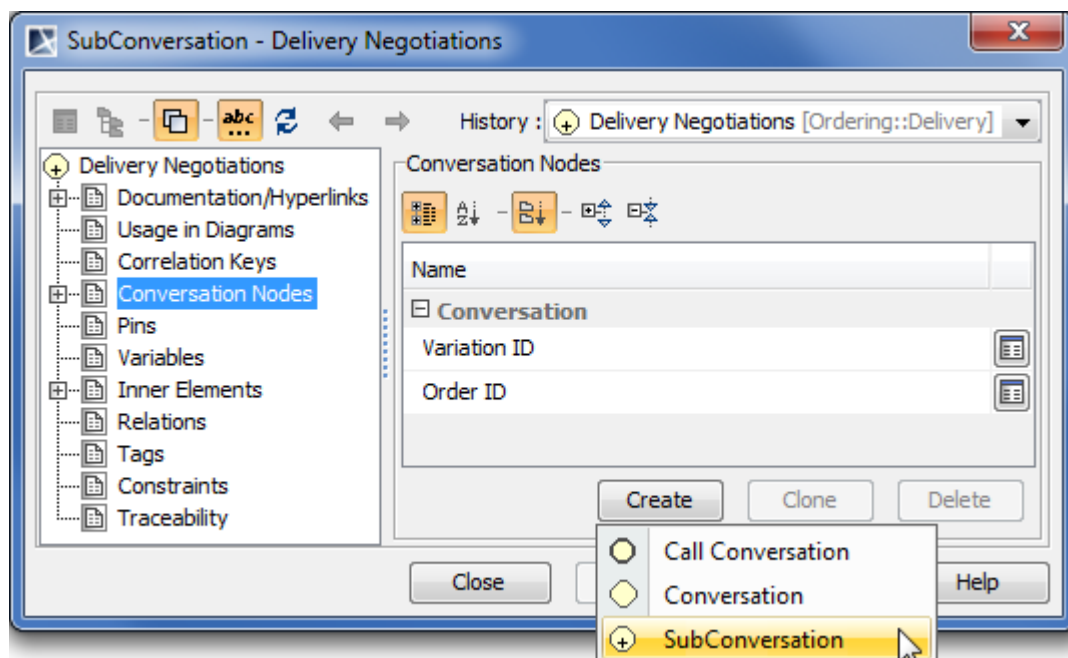
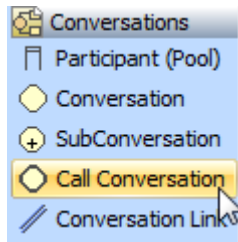


Figure -- Creating Conversation Node in SubConversation Specification window

A CallConversation can reference Collaboration or Global Conversation.

To create a CallConversation

- On the diagram pallet, click **SubConversation**.



Related elements

[Conversation](#)

[SubConversation](#)

[Call Conversation](#)

[Message](#)

[Message Flow](#)

[Pool and Lane](#)

Related diagram

[BPMN Collaboration Diagram](#)

Related procedures

[Creating BPMN Collaboration Diagram](#)

[Creating and Using Pool and Lanes](#)

[Creating and Using Message Flow](#)

[Creating and Using Participant](#)

4.3.5 Creating and Using Participant

To create a Participant

- Right-click the BPMN Collaboration or Choreography element in the Containment tree and from the shortcut menu, select **New Element > BPMN Element > Participant**.

To create a multi-instance Participant

1. Right-click a created Participant in the Containment tree and select **Specification** from the shortcut menu. The Participant Specification window opens.
2. In the Participant Specification window, under the **Multiplicity** category in the **General** property group, type the **Minimum** property value ("2" or greater).



The Minimum Multiplicity value of a MultiInstance participant property must be "2" or greater.

Related elements

[Participant](#)

[Pool and Lane](#)

[Choreography Activities](#)

Related diagrams

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

Related procedures

[Using BPMN Collaboration Diagram](#)

[Using BPMN Choreography Diagram](#)

4.4 Using BPMN Choreography Diagram

The following sections describe how to create and specify a BPMN Choreography diagram:

- [Creating BPMN Choreography Diagram](#)
- [Using Choreography Activity](#)
- [Creating and Using Choreography Task](#)
- [Creating SubChoreography](#)
- [Creating Call Choreography Activity](#)

4.4.1 Creating BPMN Choreography Diagram



IMPORTANT!

You can create a BPMN Choreography diagram only in the Business Modeler or the Full Featured perspective.

You can create a BPMN Choreography diagram from

- BPMN2 Diagrams toolbar
- main menu
- shortcut menu of a package in the Containment tree

To create a new BPMN Choreography diagram from the BPMN2 Diagrams toolbar

1. Click the  button on the BPMN2 Diagram toolbar. The **Create Diagram** dialog opens.
2. Type the name and select the owner of the Choreography diagram.



NOTE

The owner of Choreography diagram has to be a BPMN Choreography.

3. Click **OK**.

To create a new BPMN Choreography diagram from the main menu

1. On the main menu, click **Diagrams > BPMN2 Diagrams > BPMN Choreography Diagrams**. The **BPMN Choreography Diagrams** dialog opens.
2. Click the **Create** button. The Specification window opens.
3. Type the name and select the owner of the BPMN Choreography diagram.
4. Click **OK**.

To create a new BPMN Choreography diagram from the shortcut menu of the package in the Containment tree

1. Right-click the package in the Containment tree and from the shortcut menu, select **New Diagram > BPMN2 Diagrams > BPMN Choreography Diagram**.

2. Type the name for the BPMN Choreography diagram.

Related element

[Choreography](#)

Related diagram

[BPMN Choreography Diagram](#)

Related procedures

[Using Choreography Activity](#)

[Creating and Using Choreography Task](#)

[Creating SubChoreography](#)

[Creating Call Choreography Activity](#)

[Navigation Between BPMN Diagrams](#)

4.4.2 Using Choreography Activity

This section describes how to create and model choreography activities in a BPMN Choreography diagram. You can specify a list of Participants in a Choreography Activity from

- Specification window
- Smart Manipulator toolbar
- Drag-and-drop operation

To specify a list of Participants from the Specification window

1. Do either:
 - Select the Choreography Activity on the diagram pane and on the Smart Manipulator toolbar, click the Participants button.



- Open the Specification window, click the **Participants** property value cell and then click ... button.

The **Select Recourse** dialog opens.

2. In the open dialog, select Resources.

3. Click **OK**.

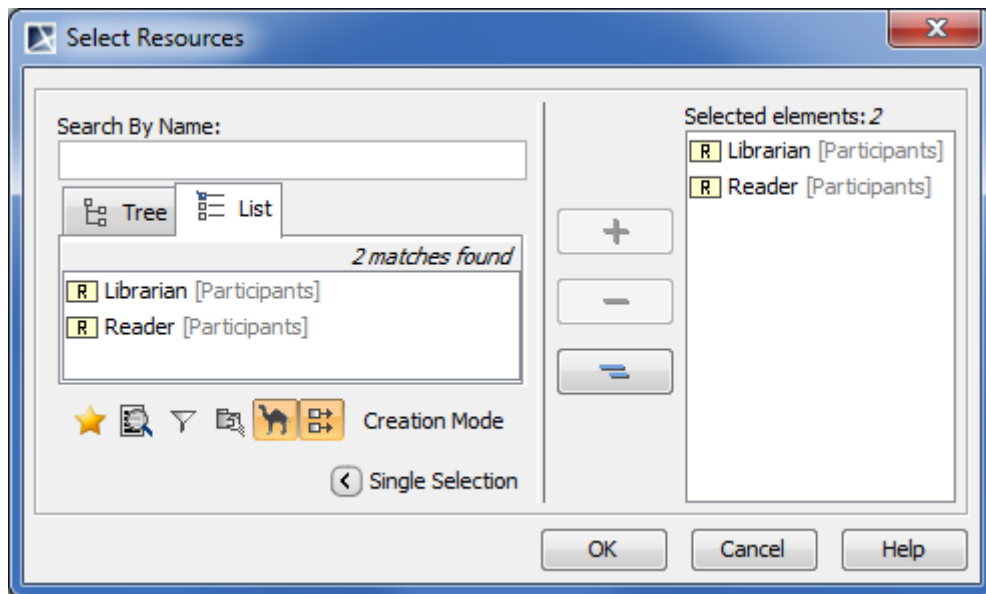


Figure -- Selecting Resources in Select Resource dialog



You need to specify at least two Participants for a Choreography Activity.



The MultiInstance Participants on a Choreography shape will be displayed with a MultiInstance marker in the Participants' compartment.

To specify a list of participants from the drag-and-drop action

- Drag a Resource from the Containment tree to a Choreography Activity on diagram pane.



- Hold down SHIFT to select multiple elements that are grouped together.
- Hold down CTRL to select multiple elements that are not grouped together.

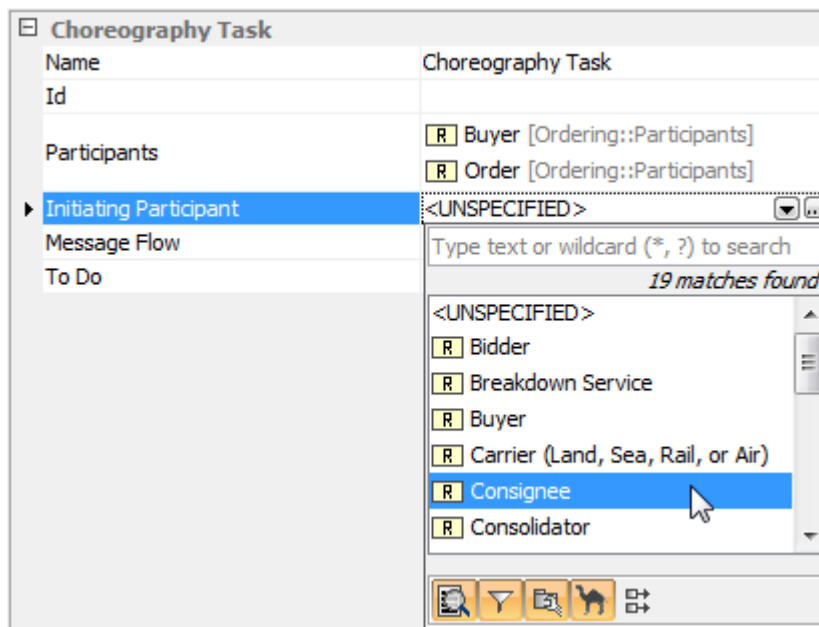
To specify an Initiating Participant in a Choreography Activity



A Choreography Activity needs the **Initiating Participant** property value to be specified.

1. Open the Choreography Activity Specification window.

- Click the **Initiating Participant** property value cell and select a Resource.



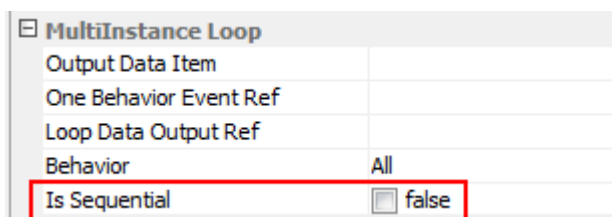
To add a Loop marker to a Choreography Activity

- Right-click a Choreography Activity and select **Standard Loop** or **MultInstance Loop**.

To display a MultInstance Loop (sequential) marker on a MultInstance Loop Choreography Activity

Do either:

- Right-click a Choreography Activity with the MultInstance Loop (parallel) marker and select **Is Sequential**.
- Open the Choreography Activity with the MultInstance Loop marker Specification window. Select the **Is Sequential** check box.



Related elements

[Choreography Activities](#)

[Participant](#)

[Resource](#)

Related diagram

[BPMN Choreography Diagram](#)

Related procedures

[Creating BPMN Choreography Diagram](#)

[Creating and Using Choreography Task](#)

[Creating SubChoreography](#)

[Creating Call Choreography Activity](#)

[Creating and Using Participant](#)

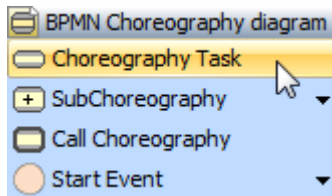
[To open an element Specification window](#)

4.4.3 Creating and Using Choreography Task

A Choreography Task can have references to Message Flows, existing among referenced Resources.

To create a Choreography Task

- On the diagram pallet, click **Choreography Task**.



To select Message Flows referenced by a Choreography Task

1. Open the Choreography Task Specification window.
2. Select **Message Flow** property value cell and click the ... button. The Select Message Flows dialog opens.
3. Select the Message Flows and click **OK**.

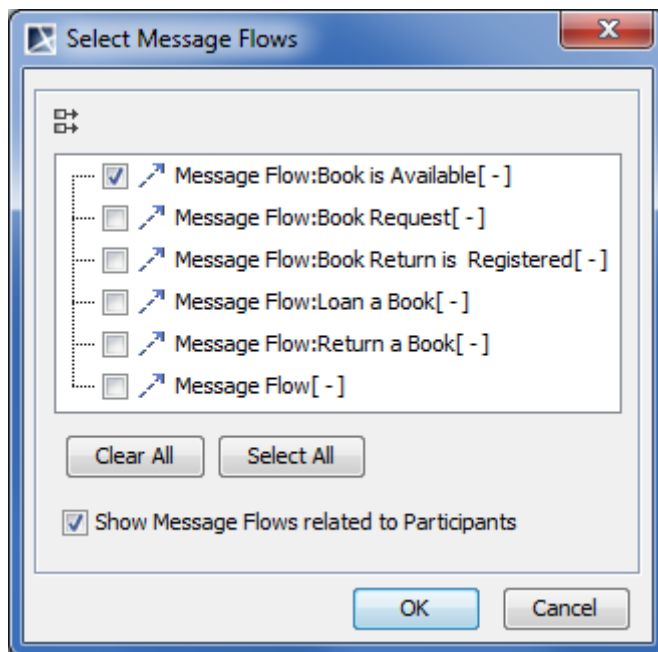


Figure -- Selecting Message Flows



If the Message Flows, which are referenced by a Choreography Task, have the Messages specified, they will be displayed and attached to the Choreography Task in the diagram.

To specify Messages for a Choreography Task

1. Create a BPMN Collaboration diagram with Pools representing Resources and Message Flows with Messages.

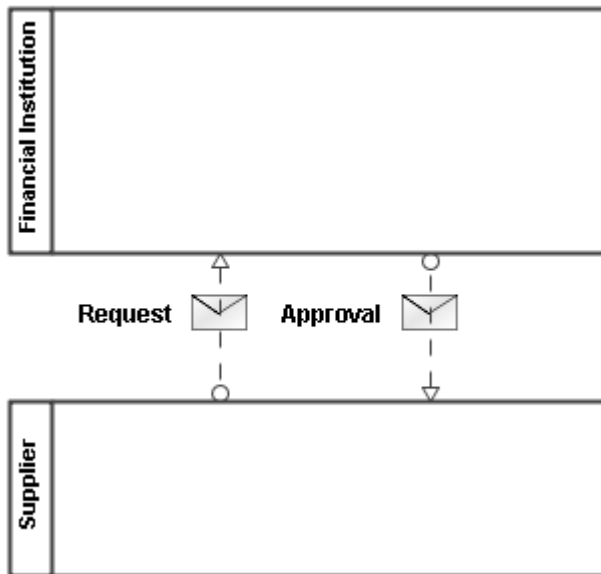
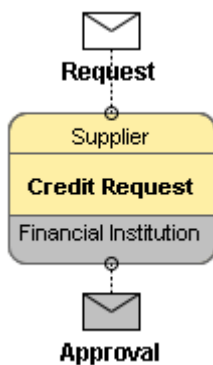


Figure -- Pools, Resources, and Message Flow

2. On a BPMN Choreography diagram and create Choreography Task.
3. Open the Choreography Task Specification window. Specify the Participants for the **Participant Refs** property and a Participant for the **Initiating Participant Ref** property.
4. Select the **Message Flow** property and click the ... button. The **Select Message Flows** dialog opens. Select the Message Flows you have created in step 3 as the **Message Flow** property value and click **Close**.



- Initiating Messages (connected to an initiating Participant compartment) will be displayed in yellow.
- Non-initiating messages (connected to a non-initiating Participant compartment) will be displayed in gray.

To hide the Messages for a Choreography Task

Do either:

- Right-click a Choreography Task and select **Show Messages**.
- Right-click a Choreography Task and click **Symbol(s) Properties**. The **Symbol Properties** dialog opens. Select **Show Messages**.

Related elements

[Choreography Task](#)
[Resource](#)
[Participant](#)
[Message](#)
[Collaboration](#)

Related diagram

[BPMN Choreography Diagram](#)

Related procedures

[Creating BPMN Choreography Diagram](#)
[Using Choreography Activity](#)
[Creating SubChoreography](#)
[Creating Call Choreography Activity](#)
[Creating and Using Pool and Lanes](#)
[Creating and Using Message Flow](#)
[To open an element Specification window](#)

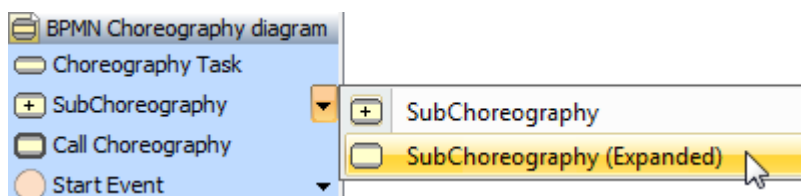
4.4.4 Creating SubChoreography

A SubChoreography can be displayed with different symbol properties:

- An Expanded SubChoreography can contain inner shapes.
- A Collapsed SubChoreography cannot display inner shapes. A plus sign (+) marker is displayed for a collapsed subprocess.

To create SubChoreography

- On the Choreography diagram pallet, click **SubChoreography** and select a needed SubChoreography.



To expand a SubChoreography

Do either:

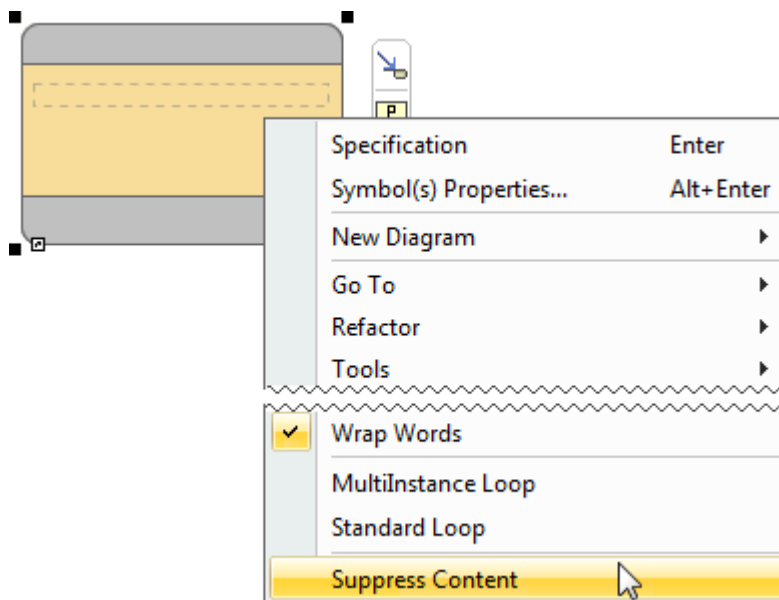
- Right-click a SubChoreography and on the shortcut menu select **Suppress Content**.
- Right-click a SubChoreography and select **Symbol(s) Properties**. The **Symbol Properties** dialog opens. Select or clear the **Suppress Content** and click **OK**.

To collapse a SubChoreography

Do either:

- Right-click a SubChoreography and on the shortcut menu clear the **Suppress Content**.

- Right-click a SubChoreography and select **Symbol(s) Properties**. The **Symbol Properties** dialog opens. Clear the **Suppress Content** and click **OK**.



Related element

[SubChoreography](#)

Related diagram

[BPMN Choreography Diagram](#)

Related procedures

[Creating BPMN Choreography Diagram](#)

[Using Choreography Activity](#)

[Creating and Using Choreography Task](#)

[Creating Call Choreography Activity](#)

4.4.5 Creating Call Choreography Activity



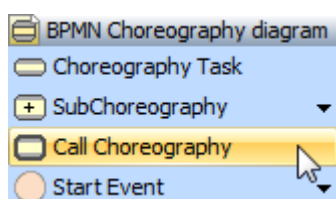
IMPORTANT!

Business Analyst perspective provide most popular Call Choreography types. Full list of Call Choreography types you can have only in Business Modeler and Full Featured perspectives.

A Call Choreography Activity holds a reference to a Choreography.

To create a Call Choreography Activity

- On the diagram pallet, click **Call Choreography** Activity. The **Select Behavior** dialog opens.



- Select a Choreography Activity.
- Click **OK**.

To change the element called by a Call Choreography Activity

Do either:

- Right-click a Call Choreography Activity and click **Called Choreography Ref**. Select a Choreography from the elements list.
- Open the Call Choreography Activity Specification window. Click **Called Choreography Ref** and select a Choreography as property value.

Related element

[Call Choreography](#)

Related diagram

[BPMN Choreography Diagram](#)

Related procedures

[Creating BPMN Choreography Diagram](#)

[Using Choreography Activity](#)

[Creating and Using Choreography Task](#)

[Creating SubChoreography](#)

[Creating Call Choreography Activity](#)

[To open an element Specification window](#)

4.5 Using BPMN Tables and Matrices

The following sections describe how to create and use a BPMN tables and matrices:

- [Creating BPMN Processes Description Table](#)
- [Creating BPMN Resources Description Table](#)
- [Creating BPMN Business Data Description Table](#)
- [Creating BPMN Activities Description Table](#)
- [Modifying BPMN Table](#)
- [Creating BPMN Resources Usage Matrix](#)
- [Creating BPMN Data Usage Matrix](#)
- [Modifying BPMN Matrices](#)

4.5.1 Creating BPMN Processes Description Table



You can create a BPMN Processes Description Table only from the Business Analyst, Business Modeler, and Full Featured perspectives.

You can create a BPMN Processes Description Table from

- BPMN Tables and Matrices toolbar
- main menu
- shortcut menu of a package in the Containment tree

To create a new BPMN Processes Description Table from the BPMN Tables and Matrices toolbar

1. Click the  button on the BPMN Tables and Matrices toolbar. The **Create Diagram** dialog opens.
2. Type the name and select the owner of the BPMN Processes Description Table.
3. Click **OK**.

To create a new BPMN Processes Description Table from the main menu

1. On the main menu, click **Diagrams > BPMN Tables and Matrices > BPMN Processes Description Tables**. The **BPMN Processes Description Tables** dialog opens.
2. Click the **Create** button. The Create Diagram Specification window opens.
3. Type the name and select the owner of the BPMN Processes Description Table.
4. Click **OK**.

To create a new BPMN Processes Description Table from the shortcut menu of the package in the Containment tree

1. Right-click a package in the Containment tree and from the shortcut menu, select **New Diagram > BPMN Tables and Matrices > BPMN Processes Description Table**.
2. Type the name for the created BPMN Processes Description Table.

Related element

[BPMN Process](#)

Related diagram

[BPMN Processes Description Table](#)

Related procedure

[Modifying BPMN Table](#)

4.5.2 Creating BPMN Resources Description Table



You can create a BPMN Resources Description Table only from the Business Analyst, Business Modeler, and Full Featured user perspectives.

You can create a BPMN Resources Description Table from

- BPMN Tables and Matrices toolbar
- main menu
- shortcut menu of a package in the Containment tree

To create a new BPMN Resources Description Table from the BPMN Tables and Matrices toolbar

1. Click the  button on the BPMN Tables and Matrices toolbar. The **Create Diagram** dialog opens.
2. Type the name and select the owner for the BPMN Resources Description Table.
3. Click **OK**.

To create a new BPMN Resources Description Table from the main menu

1. On the main menu, click **Diagrams > BPMN Tables and Matrices > BPMN Resources Description Tables**. The **BPMN Resources Description Tables** dialog opens.
2. Click the **Create** button. The Create Diagram Specification window opens.
3. Type the name and select the owner of the BPMN Resources Description Table.
4. Click **OK**.

To create a new BPMN Resources Description Table from the shortcut menu of a package in the Containment tree

1. Right-click a package the Containment tree and from the shortcut menu, select **New Diagram > BPMN Tables and Matrices > BPMN Resources Description Table**.
2. Type the name for a created BPMN Resources Description Table.

Related elements

[Resource](#)

[Organization Unit](#)

[Role](#)

[Person](#)

[Information system](#)

Related diagram

[BPMN Resources Description Table](#)

Related procedure

[Modifying BPMN Table](#)

4.5.3 Creating BPMN Business Data Description Table



You can create a BPMN Business Data Description Table only from the Business Analyst, Business Modeler, and Full Featured user perspectives.

You can create a BPMN Business Data Description Table from

- BPMN Tables and Matrices toolbar
- main menu
- shortcut menu of a package in the Containment tree

To create a new BPMN Business Data Description Table from the BPMN Tables and Matrices toolbar

1. Click the  button on the BPMN Tables and Matrices toolbar. The **Create Diagram** dialog opens.
2. Type the name and select the owner on the BPMN Business Data Description Table.
3. Click **OK**.

To create a new BPMN Business Data Description Table from the main menu

1. On the main menu, click **Diagrams > BPMN Tables and Matrices > BPMN Business Data Description Tables**. The **BPMN Business Data Description Tables** dialog opens.
2. Click the **Create** button. The Create Diagram Specification window opens.
3. Type the name and select the owner of the BPMN Business Data Description Table.
4. Click **OK**.

To create a new BPMN Business Data Description Table from the shortcut menu of a package in the Containment tree

1. Right-click a package the Containment tree and from the shortcut menu, select **New Diagram > BPMN Tables and Matrices > BPMN Business Data Description Table**.
2. Type the name for a created BPMN Business Data Description Table.

Related element

[Class](#)

Related diagram

[BPMN Business Data Description Table](#)

Related procedure

[Modifying BPMN Table](#)

4.5.4 Creating BPMN Activities Description Table



IMPORTANT!

You can create a BPMN Activities Description Table only from the Business Analyst, Business Modeler and Full Featured user perspectives.

- You can create a BPMN Activities Description Table from
- main menu
- shortcut menu of a package in the Containment tree



NOTE

BPMN Activities Description Table is recommended to be created inside a BPMN Process or Choreography.

To create a new BPMN Activities Description Table from the main menu

1. On the main menu, click **Diagrams > BPMN Tables and Matrices > BPMN Activities Description Tables**. The **BPMN Activities Description Tables** dialog opens.
2. Click the **Create** button. The Create Diagram Specification window opens.
3. Type the name and select the owner of the BPMN Activities Description Table.
4. Click **OK**.

To create a new BPMN Activities Description Table from the shortcut menu of the package in the Containment tree

1. Right-click a package of the BPMN Process or Choreography diagrams in the Containment tree, select **New Diagram > BPMN Tables and Matrices > BPMN Activities Description Table**.
2. Type the name for a created BPMN Activities Description Table.

Related element

[Activities](#)

Related diagram

[BPMN Activities Description Table](#)

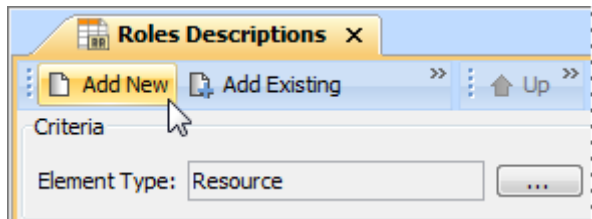
Related procedure

[Modifying BPMN Table](#)

4.5.5 Modifying BPMN Table

To create a new element in a BPMN table

- Click the **Add New** button on the Table Edit toolbar.



To add an existing element to a BPMN table

Do either:

- In the Containment tree, select one or more Resources and drag them to the table.

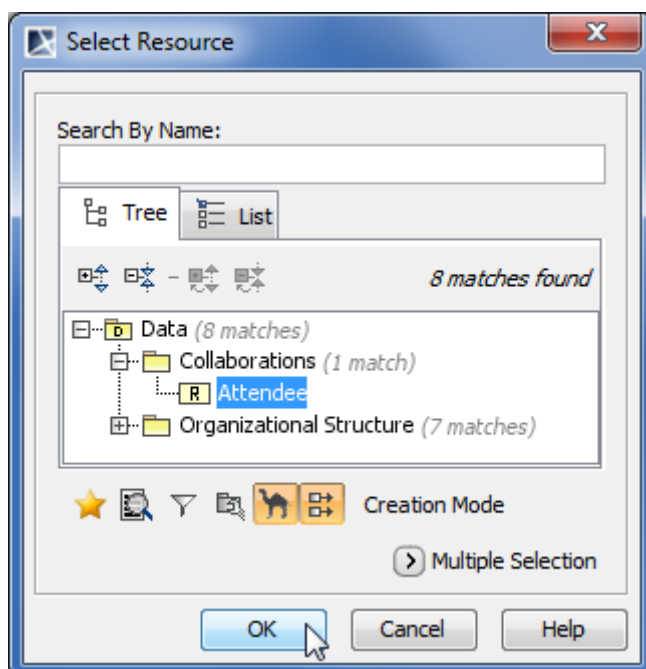


- Hold down SHIFT to select multiple elements that are grouped together.
- Hold down CTRL to select multiple elements that are not grouped together.

- Click the Add Existing button on the Table Edit toolbar. The select element dialog opens, select element you need to add to the table and click OK.



To select more than one element, click the **Multiple Selection** button.



To remove an element from a BPMN table

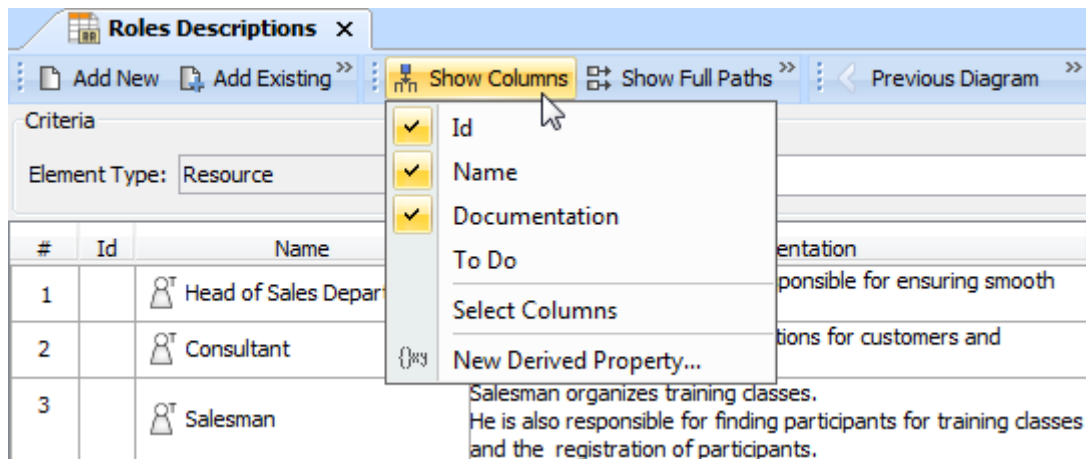
- Select the element in the table and click the **Delete From Table** button on the Table Edit toolbar.

To delete an element from both a BPMN table and the model

- Select the element in the table and click the **Delete** button on the Table Edit toolbar.

To display columns of the table

1. On the Table Edit toolbar, click **Show Columns**.
2. From the menu, select properties to be shown in the table.



To edit element property value in a cell



The property can be edited if it is not locked.

1. Click a cell.
2. Do either:
 - Edit the value directly in the selected cell.
 - Click the button. The property value editor dialog opens.

To export a BPMN table to the *.html, *.csv, or *.xlsx format

1. On the BPMN table toolbar, click **Export**. The Choose file dialog opens.
2. Do either:
 - Browse for a location to save a table in.
 - Type the exported table name.
 - Select the exported table format.
3. Click **Save**.

Related procedures

[Creating BPMN Processes Description Table](#)

[Creating BPMN Resources Description Table](#)

[Creating BPMN Business Data Description Table](#)

[Creating BPMN Activities Description Table](#)

Related external resource

“Generic Table” in [MagicDraw UserManual.pdf](#)

4.5.6 Creating BPMN Resources Usage Matrix



You can create a BPMN Resources Usage Matrix only from the Business Analyst, Business Modeler, and Full Featured user perspectives.

You can create a BPMN Resources Usage Matrix from

- BPMN Tables and Matrices toolbar
- main menu
- shortcut menu of a package in the Containment tree

To create a new BPMN Resources Usage Matrix from the BPMN Tables and Matrices toolbar

1. Click the  button on the BPMN Tables and Matrices toolbar. The **Create Diagram** dialog opens.
2. Type the name and select the owner of the BPMN Resources Usage matrix.
3. Click **OK**.

To create a new BPMN Resources Usage Matrix from the main menu

1. On the main menu, click **Diagrams > BPMN Tables and Matrices > BPMN Resources Usage Matrices**. The **BPMN Resources Usage Matrices** dialog opens.
2. Click the **Create** button. The Create Diagram Specification window opens.
3. Type the name and select the owner of the BPMN Resources Usage Matrix.
4. Click **OK**.

To create a new BPMN Resources Usage Matrix from the shortcut menu of the package in the Containment tree

1. Right-click a package in the Containment tree and from the shortcut menu, select **New Diagram > BPMN Tables and Matrices > BPMN Resources Usage Matrix**.
2. Type the name for the created BPMN Resources Usage Matrix.

Related elements

[Activities](#)

[Resource](#)

Related diagram

[BPMN Resources Usage Matrices](#)

Related procedure

[Modifying BPMN Matrices](#)

4.5.7 Creating BPMN Data Usage Matrix



You can create a BPMN Data Usage Matrix only from the Business Analyst, Business Modeler, and Full Featured user perspectives.

You can create a BPMN Data Usage Matrix from

- BPMN Tables and Matrices toolbar
- main menu
- shortcut menu of a package in the Containment tree

To create a new BPMN Data Usage Matrix from the BPMN Tables and Matrices toolbar

1. Click the  button on the BPMN Tables and Matrices toolbar. The **Create Diagram** dialog opens.
2. Type the name and select the owner of the BPMN Data Usage matrix
3. Click **OK**.

To create a new BPMN Data Usage Matrix from the main menu

1. On the main menu, click **Diagrams > BPMN Tables and Matrices > BPMN Data Usage Matrices**. The **BPMN Data Usage Matrices** dialog opens.
2. Click the **Create** button. The Create Diagram Specification window opens.
3. Type the name and select the owner of the BPMN Data Usage Matrix.
4. Click **OK**.

To create a new BPMN Data Usage Matrix from the shortcut menu of the package in the Containment tree

1. Right-click a package in the Containment tree and from the shortcut menu, select **New Diagram > BPMN Tables and Matrices > BPMN Data Usage Matrix**.
2. Type the name for the created BPMN Resources Usage Matrix.

Related elements

[Activities](#)

[Data Object](#)

[Class](#)

Related diagram

[BPMN Data Usage Matrices](#)

Related procedure

[Modifying BPMN Matrices](#)

4.5.8 Modifying BPMN Matrices

To change a row/column scope

Do either:

- In the Model Browser, select one or more elements you wish to see on your matrix and drag them to the **Row Scope/Column Scope** box in the **Criteria** area.
- Click the ... button next to the **Row Scope/Column Scope** box and in the opened dialog select what elements you wish to see on your matrix. Click **OK**.

To change resource assignment to an Activity for BPMN Resources Usage Matrix

Do either:

- Double-click the cell to create/remove a relationship between Activity and resource.
- Right-click the cell and from the shortcut menu select **Resource**.

To save a BPMN Matrices as *.csv

- On the BPMN Matrix toolbar, click the  button to save your matrix as a Comma Separated Values (.csv) file. The file can be opened with MS Excel.

Related diagrams

[BPMN Resources Usage Matrices](#)

[BPMN Data Usage Matrices](#)

Related procedures

[Creating BPMN Resources Usage Matrix](#)

[Creating BPMN Data Usage Matrix](#)

Related external resource

“Dependency Matrix” in [MagicDraw UserManual.pdf](#)

4.6 Using Organization Structure Diagram

The following sections describe how to create and use a Organization Structure diagram.

- [Creating Organization Structure Diagram](#)
- [Creating and Using Resources](#)

4.6.1 Creating Organization Structure Diagram



You can create an Organization Structure diagram only in the Business Modeler or the Full Featured perspective.

You can create an Organization Structure diagram from

- BPMN2 Diagrams toolbar
- main menu
- shortcut menu of a package in the Containment tree

To create a new Organization Structure diagram from the BPMN2 Diagrams toolbar

1. Click the  button on the BPMN2 Diagram toolbar. The **Create Diagram** dialog opens.
2. Type the name and select the owner of the Organization Structure diagram.
3. Click **OK**.

To create a new Organization Structure diagram from the main menu

1. On the main menu, click **Diagrams > BPMN2 Diagrams > Organization Structure Diagrams**. The **Organization Structure Diagrams** dialog opens.
2. Click the **Create** button. The Specification window opens.
3. Type the name and select the owner of the Organization Structure diagram.
4. Click **OK**.

To create a new Organization Structure diagram from the shortcut menu of the package in the Containment tree

1. Right-click the package in the Containment tree and from the shortcut menu, select **New Diagram > BPMN2 Diagrams > BPMN Organization Structure Diagram**.
2. Type the name for the Organization Structure diagram.

Related elements

[Resource](#)

[Organization Unit](#)

[Role](#)

[Person](#)

[Information system](#)

Related diagram

[Organization Structure Diagram](#)

Related procedure

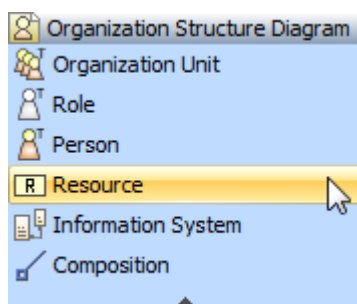
[Creating and Using Resources](#)

4.6.2 Creating and Using Resources

You can create a Resource inside a package. The Resource is not displayed on a BPMN2 diagram as it is represented by a Pool, Data Object, and Choreography Task.

To create a Resource on a Organization Structure diagram

- On the Organization Structure Diagram pallet, click the Resource button.

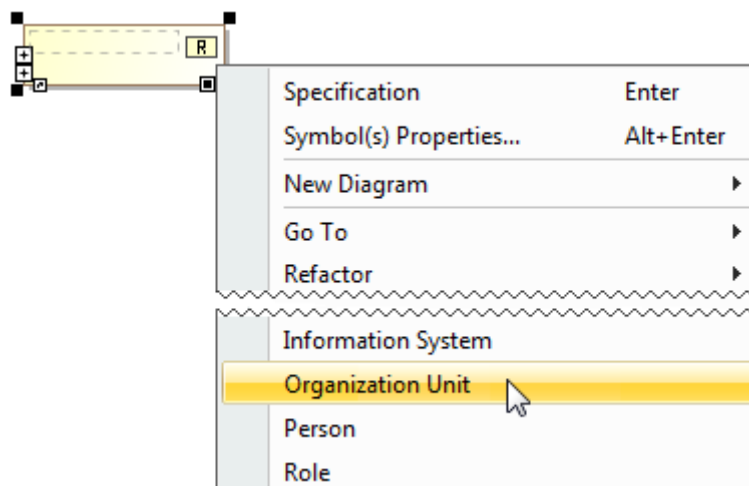


To create a Resource in the Containment tree

- Right-click a package in the Containment tree. On the shortcut menu, click **New Element > BPMN Element > Resource**.

To change a type of Resource

- Right-click the Resource and on the shortcut menu select needed Resource type.



To review traceability information related to a Resource

1. Right-click a created Resource in the Containment tree and click Specification to open the Resource Specification window.
2. In the Resource Specification window, select Traceability.

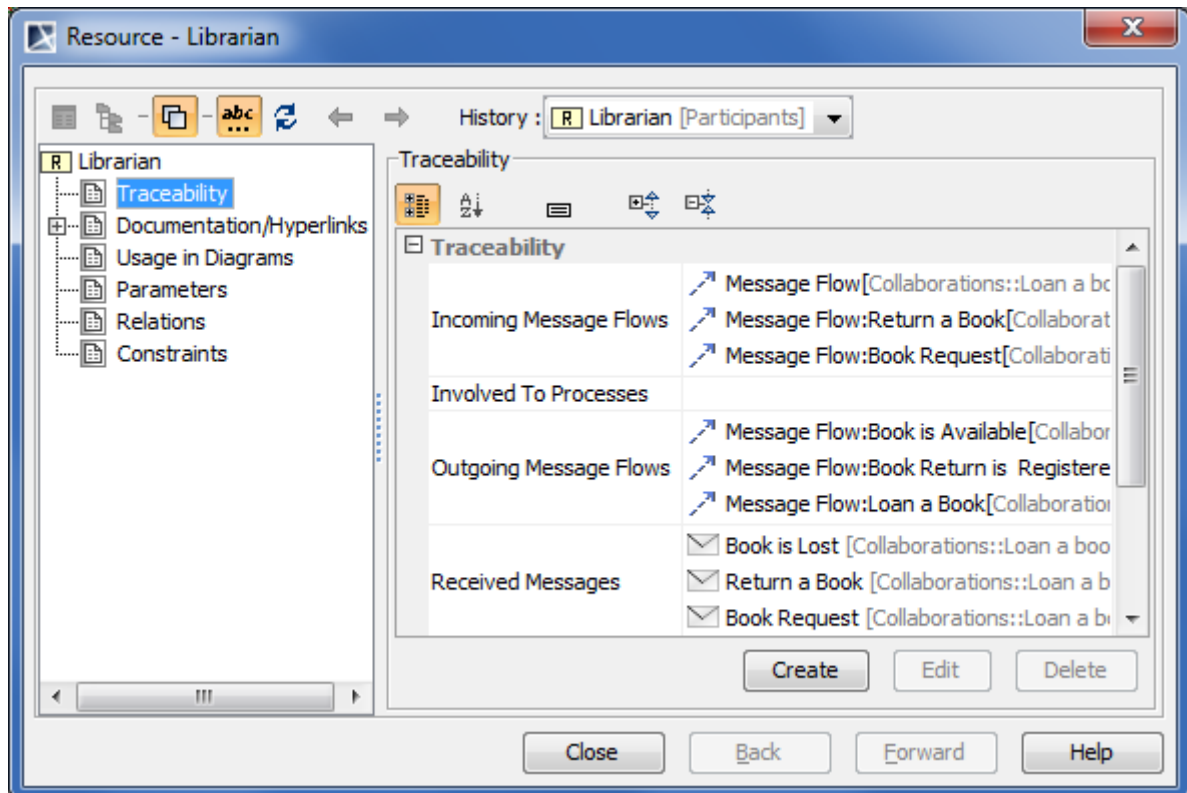


Figure -- Traceability information of Resource

Related elements

[Resource](#)
[Organization Unit](#)
[Role](#)
[Person](#)
[Information system](#)

Related diagrams

[BPMN Process Diagram](#)
[BPMN Collaboration Diagram](#)
[BPMN Choreography Diagram](#)

Related procedure

[Using BPMN Element Numbers](#)

4.7 Using BPMN Element Numbers

Most BPMN elements can have specified their IDs. Element ID is automatically created for BPMN Process, Collaboration, and Choreography diagram flow elements and conversations. The element IDs are displayed (in gray) in the following places:

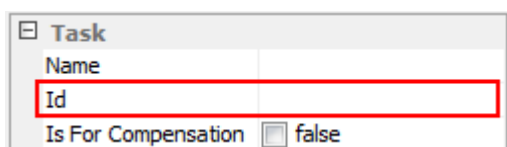
- On a diagram. The ID is displayed above or before the name of element.
- In the Model Browser. The ID is displayed in front of the name of element.
- In the Specification window. The ID is below the Name property.



Automatic elements numbering is turned off in all the projects that are created using BPMN2 Project and BPMN-SoaML Project templates.

To specify or change a BPMN element's ID manually

1. Open the Specification window of element.
2. Type a number in the **Id** property value box.



To turn on/off automatic elements numbering in a project

1. On the main menu, click **Options > Project**. The **Project Options** dialog opens.
2. In the **Project Options** dialog, click **General project options** in the options list on the left.
3. Click to clear the **Use Element Auto-numbering** check box and then click **OK**.

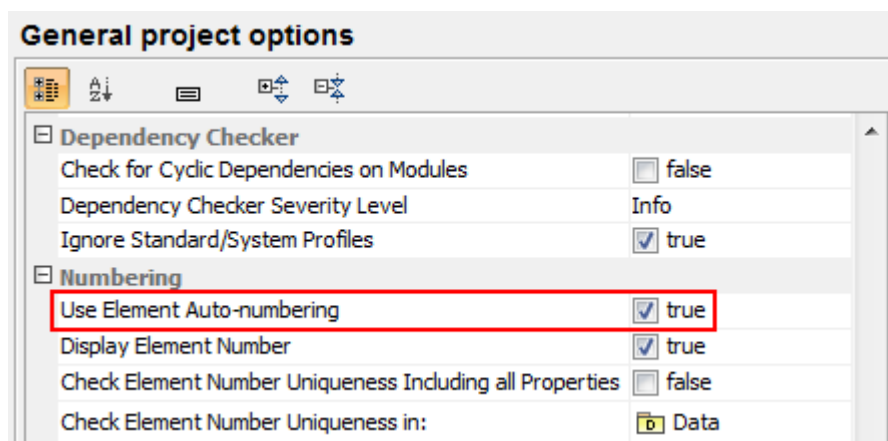
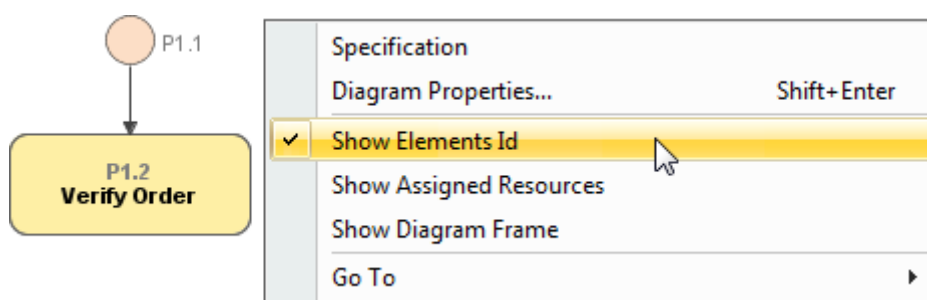


Figure -- Use Element Auto-numbering property in Project Options dialog

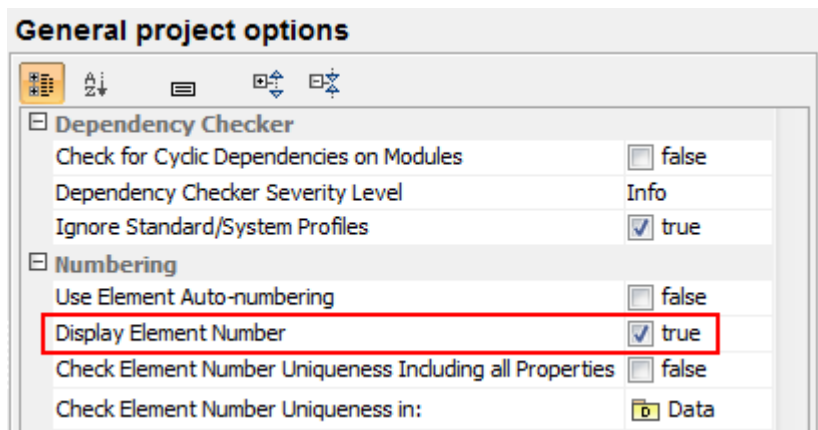
To hide an element Id on a diagram

- Right-click the diagram pane and then do one of the following:
 - On the shortcut menu clear the **Show Elements Id**.
 - From the shortcut menu, select **Diagram Properties**. Clear the **Show Elements Id** check box.



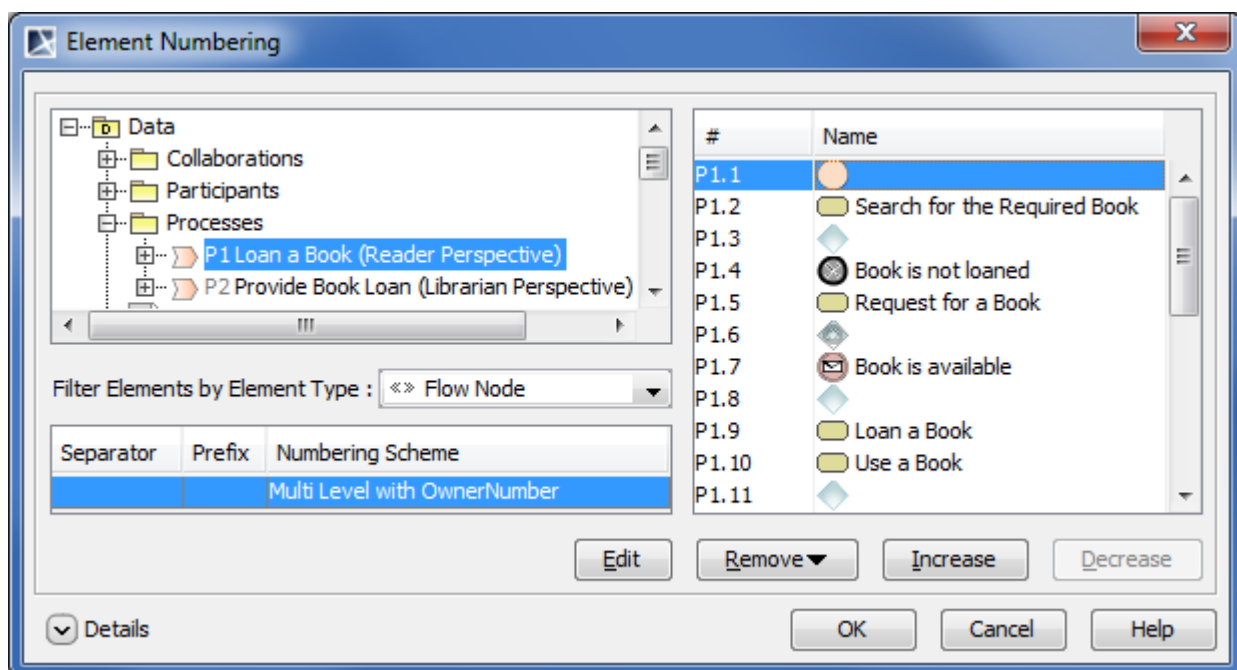
To hide element numbers in the Containment tree

1. On the main menu, click **Options > Project**. The **Project Options** dialog opens.
2. In the **Project Options** dialog, click **General project options** in the options list on the left.
3. Click to clear the **Display Element Number** check box and then click OK.



To edit elements numbering

1. Right-click an element on the BPMN2 diagram and select Element Numbering from the shortcut menu. The Element Numbering dialog opens.



2. Change elements numbers into desired ones at the right side in this dialog.
3. Click **OK**.

To change displayed numbering style for element symbols on a diagram

1. Right-click an element on the BPMN2 diagram and select **Symbol(s) Properties**.
2. In the **Symbol Properties** dialog, select the **Element Number Display Mode** property value from the drop-down list.
3. Select the **Show Number Tag Name** check box to show prefix id = before an element number.

Related element

[Numbering Elements](#)

Related diagrams[BPMN Process Diagram](#)[BPMN Collaboration Diagram](#)[BPMN Choreography Diagram](#)**Related external resource**“Generic numbering mechanism” in [MagicDraw UserManual.pdf](#)“Creating Numbering Customizations” in [MagicDraw UML Profiling and DSL UserGuide.pdf](#)

4.8 Exporting Models to XPDL

Cameo Business Modeler plugin for MagicDraw supports BPMN 2.0 model export to XPDL 2.2.

The support for XPDL 2.2 allows you to export your BPMN Processes and Collaborations to XPDL 2.2 format. A separate XPDL file is then created for each exported BPMN Process or Collaboration diagram.

**IMPORTANT!**

- XPDL 2.2 does not support BPMN Choreography and Conversation elements from BPMN Collaborations.
-

To export multiple BPMN Processes or Collaborations to XPDL

1. On the main menu, click **File> Export To > XPDL File**. The **Export to XPDL** dialog opens.

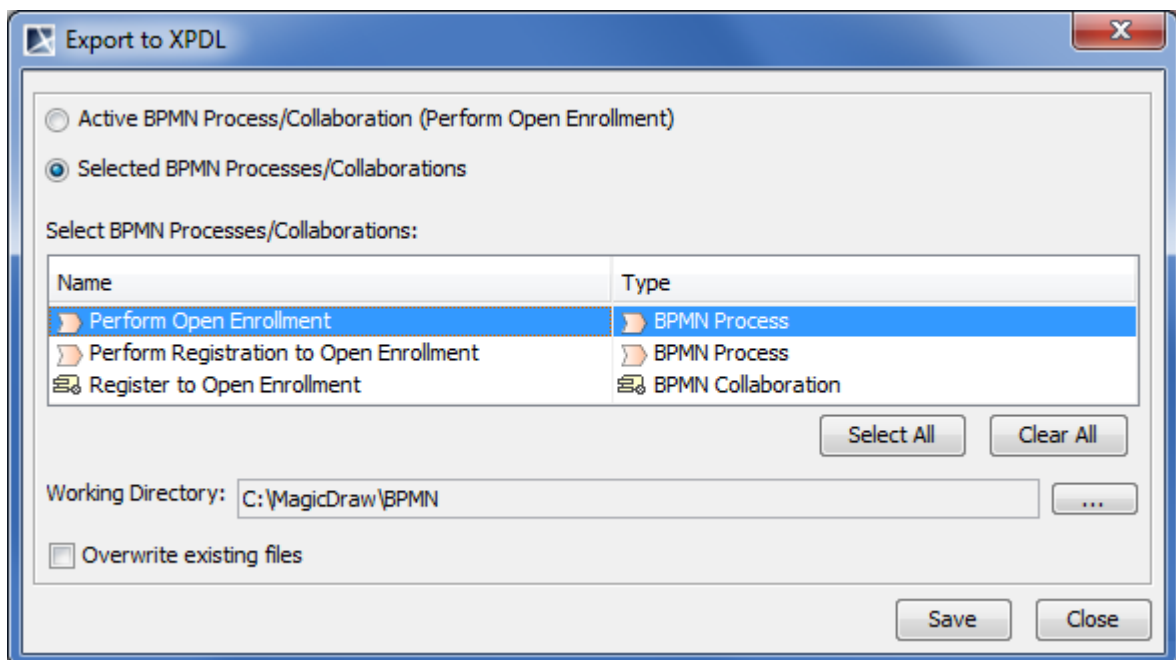


Figure -- Exporting Multiple BPMN Processes or Collaborations to XPDL

2. Select the **Selected BPMN Processes/Collaborations** option button and choose the diagrams you want to export from the BPMN Processes/Collaborations list.

**TIP!**

Press and hold down the Ctrl key to select multiple BPMN Processes or Collaborations.

3. Click the ... button next to the **Working Directory** box to specify the place for saving the exporting project.
4. Click **Save**.

To export an active BPMN Process or Collaboration to XPD

1. Do either:

- On the main menu, click **File > Export To > XPD File**.
- Right-click the BPMN Process or Collaboration diagram in the Containment tree and from the shortcut menu, select **Tools > Export To XPD File**.

The **Export to XPD** dialog opens.

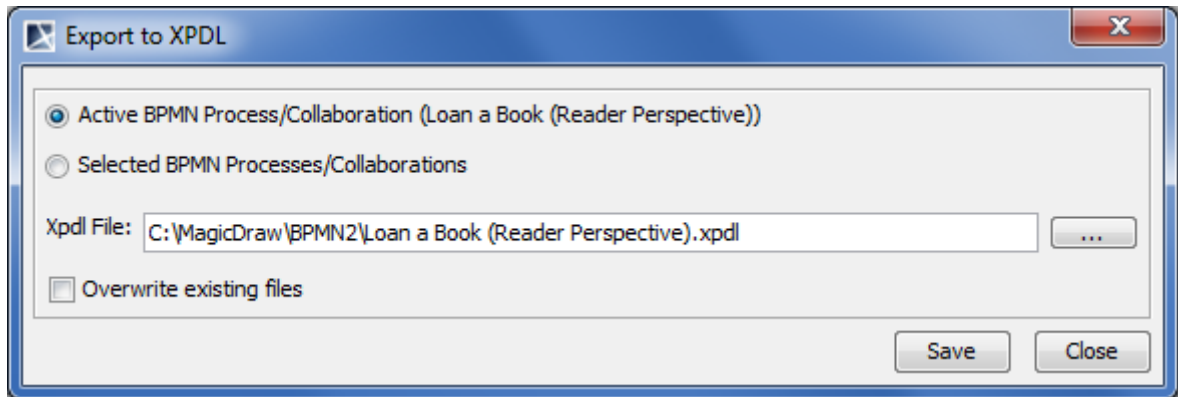


Figure -- Exporting selected BPMN Process/ Collaboration diagram to XPD

2. Select the **Active BPMN Process/ Collaboration** option button.

3. Do either:

- Type the name for a destination directory in the **Xpd File** box.
- Click the ... button next to the **Working Directory** box to specify the place for saving the exporting project.

4. Click **Save**.

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

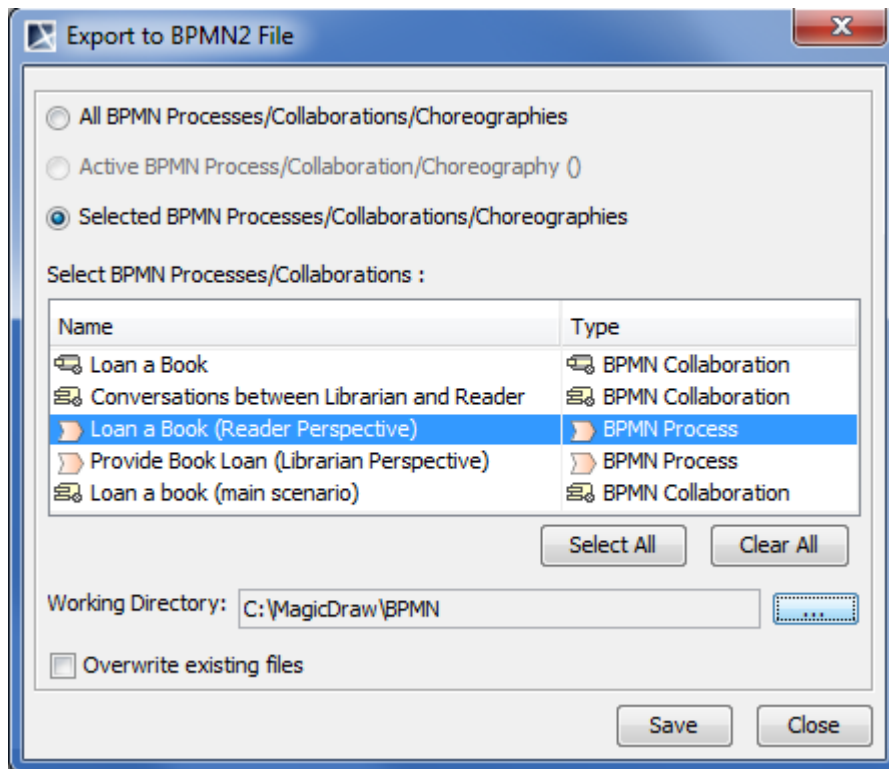
4.9 Exporting Models to BPMN2

Cameo Business Modeler plugin for MagicDraw supports BPMN model export to BPMN2.

The support allows you to export your BPMN Processes, Collaborations or Choreographies to BPMN2 file.

To export BPMN Processes, Collaborations or Choreographies to BPMN2

1. On the main menu, click **File > Export To > BPMN2 File**. The **Export to BPMN2 File** dialog opens.



2. Select the **Selected BPMN Processes/Collaborations/Choreographies** option button and choose the diagrams you want to export from the BPMN Processes/Collaborations list.



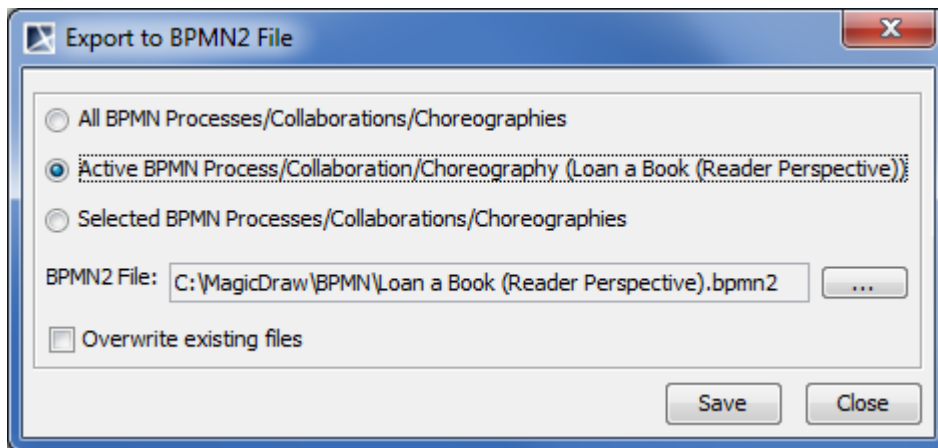
Press and hold down the Ctrl key to select multiple BPMN Processes or Collaborations.

3. Click the ... button next to the **Working Directory** box to specify the place for saving the exported file.
4. Click **Save**.

To export an active BPMN Process, Collaboration or Choreographies to BPMN2

1. Do either:
 - On the main menu, click **File > Export To > BPMN2 File**.
 - Right-click the BPMN Process or Collaboration diagram in the Containment tree and from the shortcut menu, select **Tools > Export To BPMN2 File**.

The **Export to XPD** dialog opens.



2. Select the **Active BPMN Process/Collaboration/Choreographies** option button.
3. Click the ... button next to the **BPMN2 File** box to specify the place for saving the exporting project.
4. Click **Save**.

Related element

[BPMN2 XML support](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

[BPMN Choreography Diagram](#)

4.10 Importing from BPMN 1.1

The MagicDraw 16.8 and its earlier versions support BPMN 1.1 and Business Process diagrams, this let you to model business processes using the BPMN 1.1 notation.

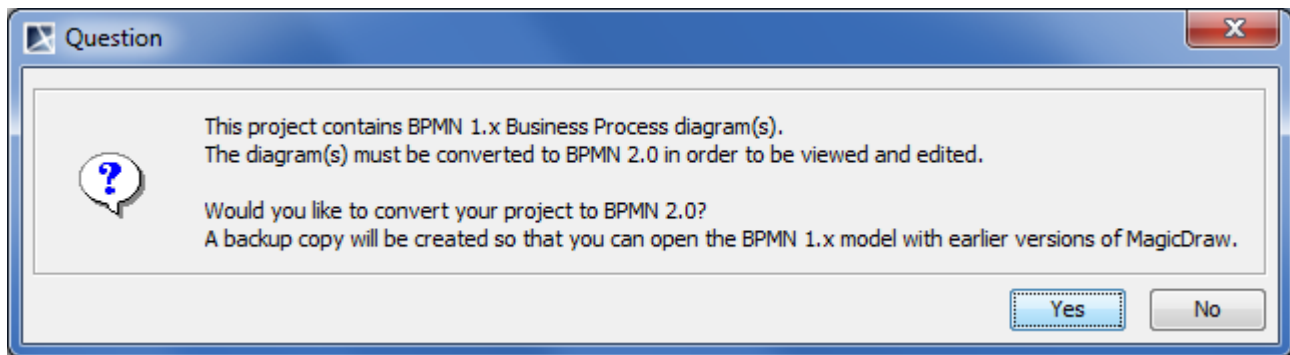


The support for BPMN 1.1 and Business Process diagrams is no longer available from MagicDraw version 17.0.1. It is replaced by the Cameo Business Modeler support for the BPMN 2.0 specification.

You can convert your MagicDraw projects containing old BPMN profile and Business Process diagrams to the new BPMN 2.0 standard. A backup file will be created for the project conversion. This backup file lets you to find your BPMN 1.1 models when you need them.

To convert a BPMN 1.1 project to BPMN 2.0 by opening it

1. Open a MagicDraw project that contains a BPMN Profile or Business Process diagram. A **Question** dialog opens.



2. Click **Yes** to convert the project.
3. Click **OK**.

To convert a BPMN 1.1 project to BPMN 2.0 by importing it

1. On the main menu, click **File > Import From > BPMN 1.1 Project**. The **Open BPMN 1.1 Project** dialog opens.
2. Select a project that contains a Business Process diagram and click **Open**.
3. Click **OK**.



A backup file *project_name_bpmn1.1.bak* is created when the project has been migrated. The file includes the BPMN 1.1 project before the migration.

To convert a Teamwork BPMN 1.1 project to BPMN 2.0



Before migrating a Teamwork BPMN 1.1 project to BPMN 2.0, make sure that other users have not locked the BPMN elements.

1. On the main menu, click **File > Import From > BPMN 1.1 Project**. A **Question** dialog opens.
2. Click **Yes** to convert the project. Another **Question** dialog opens to inform you that all elements will be locked.
3. Click **Yes**.



A backup file for a Teamwork project will not be created when migrating the project to BPMN 2.0. Use a Teamwork version as a backup copy that has included the BPMN 1.1 Business Process diagrams before migrating the project.

4.11 Integration with Cameo SOA+

The BPMN and SoaML standards complement each other. They both describe organizations, information, and behavior from different perspectives: SoaML defines the structure of collaborating systems, and BPMN describes the dynamic behavior.



Cameo SOA+ Plugin have to be installed in order to use the BPMN and SoaML standards together.

The Cameo Business Process Modeler integrated with Cameo SOA + Plugin allows you to use the BPMN and SoaML standards together. The advantages of using SoaML elements are as following:

- A BPMN Pool can represent an SoaML Participant.

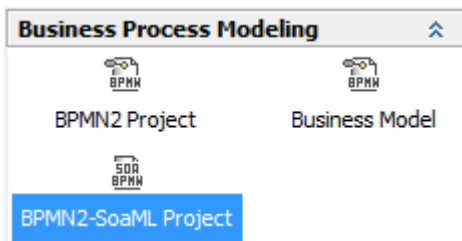
- SoaML elements can be selected as the BPMN Data Object type.
- SoaML elements can be selected as the BPMN Message type.
- BPMN Elements can be traced to SoaML elements.
- SoaML elements can be traced to BPMN elements.

To create a new BPMN-SoaML project

1. Do either:
 - On the main menu, click **File > New Project**.
 - On the File toolbar, click the  button.
 - Press Ctrl + N.

The **New Project** dialog opens.

2. Click **BPMN2-SoaML Project**.



3. Type the project name in the **Name** box.
4. Click the ... button to select the location to store the newly created project.
5. Click **OK**.

To use the SoaML concepts in an existing BPMN2 project

1. On the main menu, click **File > Use Module**. The **Use Module** dialog opens.
2. Select the *BPMN-SOAML Integration Profile.mdzip* module file.

3. Click **Finish**.

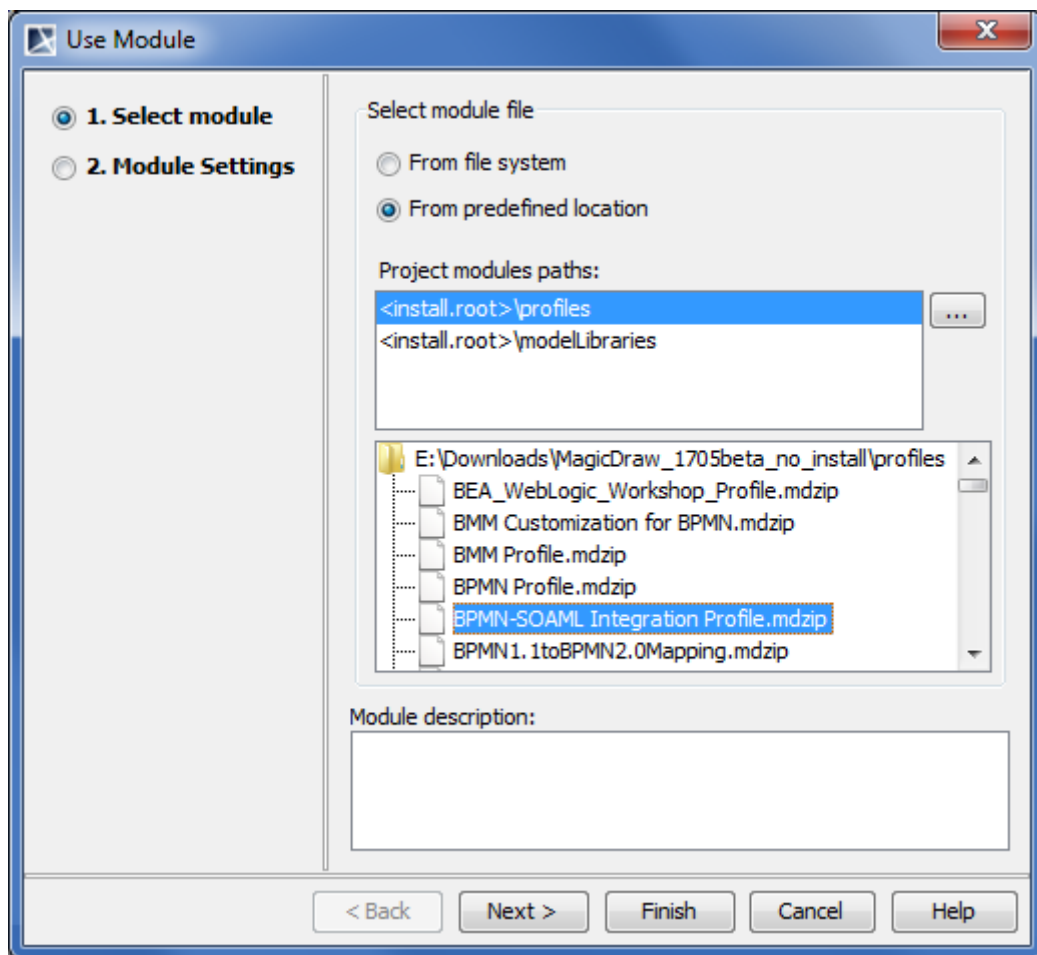


Figure -- Use Module dialog

To create a pool that represents an SoaML participant

1. Create a Pool in the BPMN Process or BPMN Collaboration diagram.
2. Select an SoaML Participant as the Participant referenced by a Pool.

To select an SoaML element as a BPMN Data Object type

1. Create a Data Object in the BPMN Process or BPMN Collaboration diagram.
2. Open the Data Object Specification window.
3. Select an SoaML element as the property Type value.

To create a Message typed by an SoaML element as a Message Flow

1. Select a Message Flow on the BPMN Collaboration or BPMN Process diagram, then on the Smart Manipulator toolbar, click the Referenced Message button.
2. Create a new Message.
3. Open the Message Specification window.
4. Select a SoaML element as the property Type value.

The Traceability relations between the BPMN and SoaML elements can be reviewed and defined in the Element Specification window, BPMN-SOAML Traceability property group. The **BPMN-SOAML Traceability property** group is available for the following elements:

- BPMN Activities
- Events

- Gateways
- Data Objects
- SoaML and UML Classifiers
- Ports

Types of traceability relations defined in MagicDraw are as following:

- Relations to BPMN model elements
- Relations to SoaML model elements

The BPMN-SoaML traceability relations to BPMN elements that are available in MagicDraw are listed in the table.

Property name	Function
BPMN Choreography Diagrams	To select the BPMN Choreography diagrams that describe the current element.
BPMN Collaboration Diagrams	To select the BPMN Collaboration diagrams that describe the current element.
BPMN Interface	To select the BPMN Interfaces that correspond to the current element.
BPMN Participants	To select the BPMN Participants that correspond to the current element.
Choreography	To select the BPMN Choreographies that describe the current element.
Collaboration	To select the BPMN Collaborations that describe the current element.

The BPMN-SoaML traceability relations to SoaML elements that are available in MagicDraw are listed in the table.

Property name	Function
Interface	To select the Interface that is related to the current element.
Request Points	To select the SoaML Request Points that are related to current element.
Service Interface	To select the SoaML Service Interfaces that are related to the current element.
Service Points	To select the SoaML Service Points that are related to the current element.

To review or define BPMN-SoaML element traceability relations

- Open the Element Specification window and click **BPMN/SOAML Traceability** in the tree at the left-hand side.

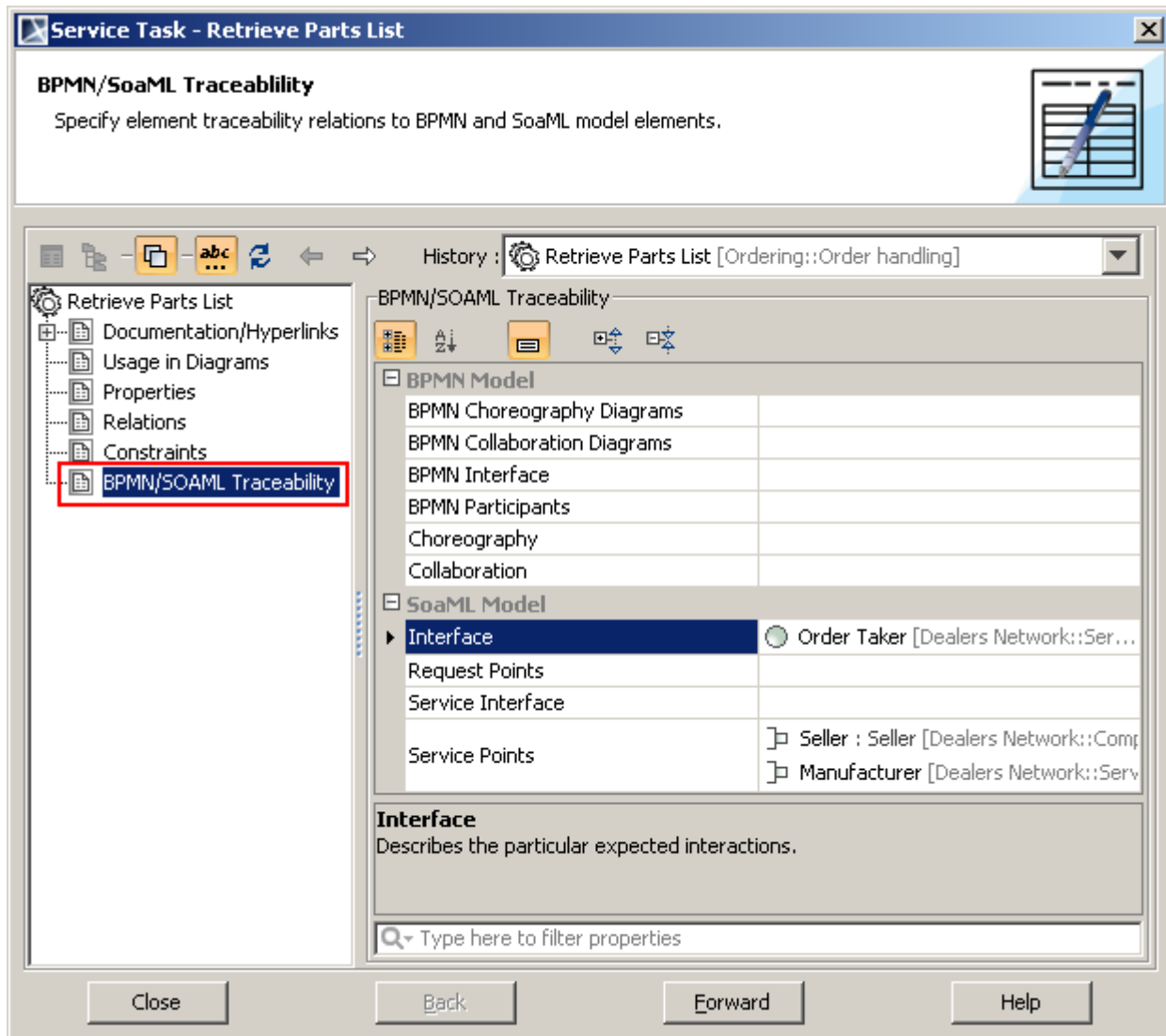


Figure -- BPMN/SOAML Traceability tab in Element Specification window

To review the Lanes that represent SoaML Participants

- Open the SoaML Participant Specification window. The **Property Representing Pools** shows all the Lanes that represent SoaML Participants.

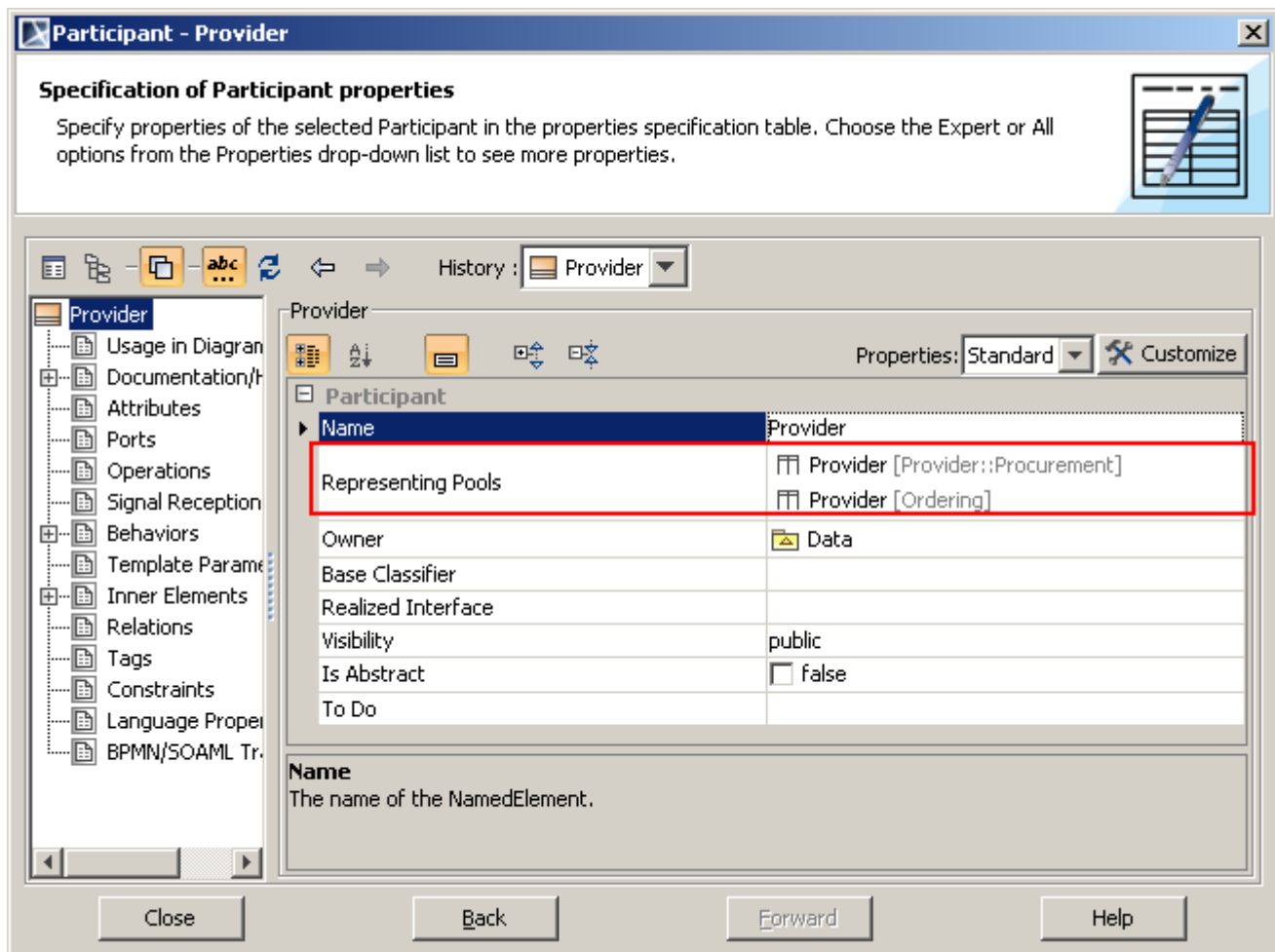


Figure -- Representing Lanes in SoaML Participant Specification window

Related element

[Common BPMN Elements](#)

Related diagrams

[BPMN Process Diagram](#)

[BPMN Collaboration Diagram](#)

Related procedures

[To specify a model element represented by a Pool or Lane](#)

[To create a Message for a Message Flow from the Smart Manipulator toolbar](#)

5 APPENDIX I: VALIDATION RULES

Abbreviation	Validation Rule
COM3001	Incoming Sequence Flow is not created for End Event
COM3002	Error code is not specified for an Error or Error is not defined for an Error End Event
COM3003	Too few outgoing Sequence Flow are detected for an Event-Based Gateway
COM3004	A Start Event is not defined for an Event SubProcess
COM3005	An Intermediate Boundary Event does not have outgoing Sequence Flow
COM3006	Incoming/outgoing Sequence Flow is missing for an Intermediate Catch Event
COM3007	Incoming/outgoing Sequence Flow is missing for an Intermediate Throw Event
COM3008	Outgoing Sequence Flow is not defined for a Start Event
COM3009	Resource is not defined for a Task
COM3010	Incoming/outgoing Sequence Flow is missing for a Task
COM3011	Name is not defined for a Task
COM3012	Type is not defined for a Data Object, Data Input, Data Output and Data Store
COM3013	A Representer is not specified for a Lane
COM3014	A Documentation is not specified for a BPMN Activity and Resource elements
COM3015	A Message is not referenced by Message Flow

5.1 Incoming Sequence Flow is not created for End Event

Abbreviation

COM3001

Description

An end event is detected without the connected incoming sequence flow. Each end event should have at least one incoming sequence flow.

Severity

Warning

Context Element

End Event

Solution

Create an incoming sequence flow for the validated end event.

5.2 Error code is not specified for an Error or Error is not defined for an Error End Event

Abbreviation

COM3002

Description

An Error Code is not specified for an Error that is defined (or Error is not defined) for an Error End Event.

Severity

Warning

Context Element

Error End Event

Solution

Create an Error element and specify the Error Code for it. The created Error Create element must be defined for an Error End Event.

5.3 Too few outgoing Sequence Flow are detected for an Event-Based Gateway

Abbreviation

COM3003

Description

Too few outgoing Sequence Flows are detected for an Event-Based Gateway. An Event-Based Gateway should have two or more outgoing Sequence Flows.

Severity

Warning

Context Element

Event-Based Gateway

Solution

Create two or more outgoing sequence flows for validated Event-Based Gateway.

5.4 A Start Event is not defined for an Event SubProcess

Abbreviation

COM3004

Description

A Start Event is not defined for an Event SubProcess (a Start Event must be defined within each Event SubProcess).

Severity

Warning

Context Element

Event SubProcess

Solution

Create a Start Event within the validated Event SubProcess. The Start Event must be followed by Sequence Flows.

5.5 An Intermediate Boundary Event does not have outgoing Sequence Flow

Abbreviation

COM3005

Description

An Intermediate Boundary Event without outgoing Sequence Flow is detected. An Intermediate Boundary Event should have at least one outgoing Sequence Flow.

Severity

Warning

Context Element

Boundary Event

Solution

Create one more outgoing Sequence Flows for the Intermediate Boundary Event.

5.6 Incoming/outgoing Sequence Flow is missing for an Intermediate Catch Event

Abbreviation

COM3006

Description

Incoming/outgoing Sequence Flow is missing for an Intermediate Catch Event. An Intermediate Catch Event should have both (incoming and outgoing) Sequence Flows.

Severity

Warning

Context Element

Intermediate Catch Event

Solution

Create the missing outgoing or incoming Sequence Flow for the validated Intermediate Catch Event. An Intermediate Catch Event should have both (incoming and outgoing) Sequence Flows.

5.7 Incoming/outgoing Sequence Flow is missing for an Intermediate Throw Event

Abbreviation

COM3007

Description

Incoming/outgoing Sequence Flow is missing for an Intermediate Throw Event. An Intermediate Throw Event should have both (incoming and outgoing) Sequence Flows.

Severity

Warning

Context Element

Intermediate Throw Event

Solution

Create a missing outgoing or incoming Sequence Flow for the validated Intermediate Throw Event. An Intermediate Throw Event should have both (incoming and outgoing) Sequence Flows.

5.8 Outgoing Sequence Flow is not defined for a Start Event

Abbreviation

COM3008

Description

Outgoing Sequence Flow is not defined for a Start Event. Each Start Event should have at least one outgoing Sequence Flow.

Severity

Warning

Context Element

Start Event

Solution

Create outgoing Sequence Flow for the validated Start Event. Each Start Event should have at least one outgoing Sequence Flow.

5.9 Resource is not defined for a Task

Abbreviation

COM3009

Description

Resource is not defined for a Task. Task should have a defined Resource.

Severity

Warning

Context Element

Task

Solution

Define a Resource for the validated Task.

5.10 Incoming/outgoing Sequence Flow is missing for a Task

Abbreviation

COM3010

Description

Incoming/outgoing Sequence Flow is missing for a Task. A Task that is not defined within an Ad Hoc SubProcess should have incoming and outgoing Sequence Flows.

Severity

Warning

Context Element

Task

Solution

Create an incoming/outgoing Sequence Flow for a validated Task.

5.11 Name is not defined for a Task

Abbreviation

COM3011

Description

Name is missing for the Task element. It is recommended to name all Task elements.

Severity

Warning

Context Element

Task

Solution

Specify name for each task.

5.12 Type is not defined for a Data Object, Data Input, Data Output and Data Store

Abbreviation

COM3012

Description

A Type is missing. Each Data Object, Data Input, Data Output, and Data Store elements should have assigned Type.

Severity

Warning

Context Element

Data Object, Data Input, Data Output, Data Store

Solution

Assign type for the Data Object, Data Input, Data Output, and Data Store elements. Data Object with assigned Type can be created automatically by dropping a class element into Business Process diagram.

5.13 A Representer is not specified for a Lane

Abbreviation

COM3013

Description

Representer is missing for a Lane. Each Lane should have specified Resource as Lane Representer.

Severity

Warning

Context Element

Lane

Solution

Use a smart manipulator of a Lane to select a Resource as Lane Representer.

5.14 A Documentation is not specified for a BPMN Activity and Resource elements

Abbreviation

COM3014

Description

Documentation is missing. Each BPMN activity and Resource element should be documented in the model. Element documentation is used for model reports.

Severity

Info

Context Element

Task, Call Activity, Resource

Solution

Specify the documentation for the validated elements. Documentation is widely used in generated model reports.

5.15 A Message is not referenced by Message Flow

Abbreviation

COM3015

Description

A Message is missing. Each Message Flow relationship should reference a Message.

Severity

Warning

Context Element

Message Flow

Solution

Assign a Message for the validated Message Flow. A Message can be assigned using smart manipulator on a Message Flow or in the Message Flow specification dialog.