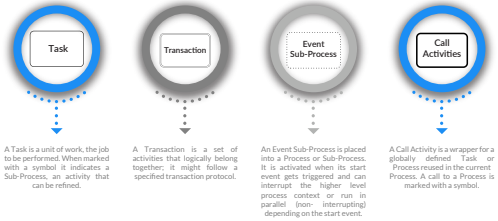
BPMN 2.0 - Business Process Model and Notation

Activities



A Task is a unit of work, the job to be performed. When marked with a symbol it indicates a Sub-Process, an activity that can be refined.

A Transaction is a set of activities that logically belong together; it might follow a specified transaction protocol.

An Event Sub-Process is placed into a Process or Sub-Process. It is activated when its start event gets triggered and can interrupt the higher level process context or run in parallel (non- interrupting) depending on the start event.

A Call Activity is a wrapper for a globally defined Task or Process reused in the current Process. A call to a Process is marked with a symbol.

Activities

Activities Marker

Markers indicate execution behavior of activities

Task Types

Types specify the nature of the action to be performed

Activities

Sequence Flow

defines the execution order of activities.

Default Flow

is the default branch to be chosen if all other conditions evaluate to false.

Conditional Flow

has a condition assigned that defines whether or not the flow is used.

Gateways

Exclusive Gateways

When splitting, it routes the sequence flow to exactly one of the outgoing branches. When merging, it awaits one incoming branch to complete before triggering theoutgoing flow.

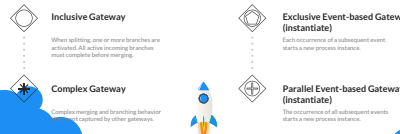
Event-Based Gateways

Is always followed by catching events or receive tasks. Sequence flow is routed to the subsequent event/task which happens first.

Parallel Gateways

When used to split the sequence flow, all outgoing branches are activated simultaneously. When merging parallel branches it waits for all incoming branches to complete before triggering the outgoingflow.

Gateways



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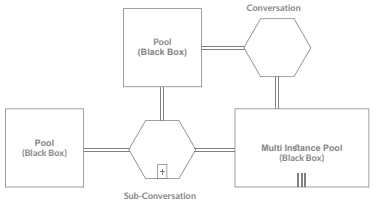
Conversation

Conversation Diagram

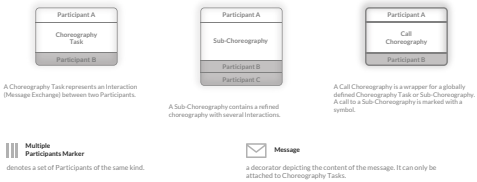


A Conversation defines a set of logically related message exchanges. When marked with a symbol it indicates a Sub-Conversation, a compound conversation element.

A Call Conversation is a wrapper for a globally defined Conversation or Sub-Conversation. A call to a Sub-conversation is marked with a symbol.

A Conversation Link connects Conversations and Participants.

Choreography



A Choreography Task represents an Interaction (Message Exchange) between two Participants.

A Sub-Choreography contains a refined choreography with several Interactions.

A Call Choreography is a wrapper for a globally defined Choreography Task or Sub-Choreography. A call to a Sub-Choreography is marked with a symbol.

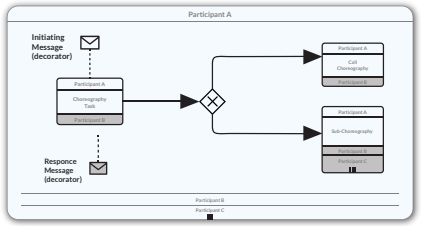
Multiple Participants Marker

denotes a set of Participants of the same kind.

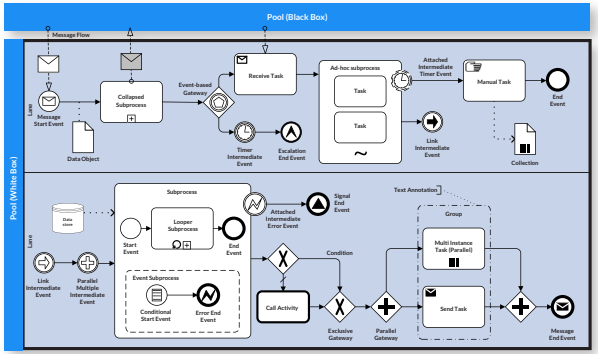
Message

a decorator depicting the content of the message. It can only be attached to Choreography Tasks.

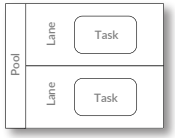
Choreography Diagram



Collaboration Diagram

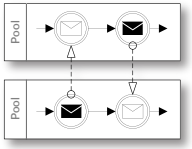


Swimlanes



Pools (Participants) and Lanes represent responsibilities for activities in a process. A pool or a lane can be an organization, a role, or a system. Lanes subdivide pools or other lanes hierarchically.

Message Flow symbolizes information flow across organizational boundaries. Message flow can be attached to pools, activities, or message events. The Message Flow can be decorated with an envelope depicting the content of the message.

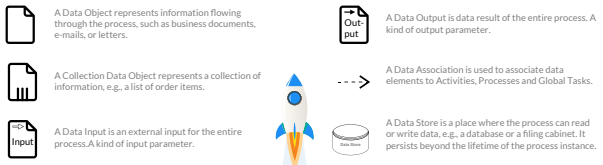


The order of message exchanges can be specified by combining message flow and sequence flow

Events

Type	Start			Intermediate				End
	Standard	Event Sub Process Interrupting	Event Sub Process Non-Interrupting	Catching	Boundary Interrupting	Boundary Non-Interrupting	Throwing	Standard
None: Untyped events, indicate start point, state changes or final states.	○						○	○
Message: Receiving and sending messages.	✉	✉	✉	✉	✉	✉	✉	✉
Timer: Cyclic timer events, points in time, time spans or timeouts.	🕒	🕒	🕒	🕒	🕒	🕒		
Escalation: Escalating to an higher level of responsibility.		⌃	⌃		⌃	⌃	⌃	⌃
Conditional: Reacting to changed business conditions or integrating business rules.	≡	≡	≡	≡	≡	≡		
Link: Off-page connectors. Two corresponding link events equal a sequence flow.				→			→	
Error: Catching or throwing named errors.		↯			↯			↯
Cancel: Reacting to cancelled transactions or triggering cancellation.					⊗			⊗
Compensation: Handling or triggering compensation.		⏪			⏪		⏪	⏪
Signal: Signalling across different processes. A signal thrown can be caught multiple times.	△	△	△	△	△	△	▲	▲
Multiple: Catching one out of a set of events. Throwing all events defined	⬠	⬠	⬠	⬠	⬠	⬠	⬟	⬟
Parallel Multiple: Catching all out of a set of parallel events.	✚	✚	✚	✚	✚	✚		
Terminate: Triggering the immediate termination of a process.								●

Data



A Data Object represents information flowing through the process, such as business documents, e-mails, or letters.

A Collection Data Object represents a collection of information, e.g., a list of order items.

A Data Input is an external input for the entire process.A kind of input parameter.

A Data Output is data result of the entire process. A kind of output parameter.

A Data Association is used to associate data elements to Activities, Processes and Global Tasks.

A Data Store is a place where the process can read or write data, e.g., a database or a filing cabinet. It persists beyond the lifetime of the process instance.

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