# **Activities**

Task

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.

Transaction

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

Event **Sub-Process** 

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 (noninterrupting) depending on the start event.

Call Activity

A Call Activity is a wrapper for a globally defined Sub-Process or Task that is reused in the current process.

#### **Activity Markers**

Markers indicate execution behavior of activities:

Sub-Process Marker

Parallel MI Marker

Loop Marker

Sequential MI Marker

Ad Hoc Marker

Compensation Marker

Task Types

Types specify the nature of the action to be performed:

Send Task

Receive Task

User Task

Manual Task

Business Rule Task

Service Task

Script Task

Sequence Flow

defines the execution order of activities.

**Default Flow** 

outgoing 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 Gateway** 

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

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 the

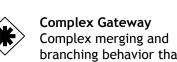
**Parallel Gateway** 



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 outgoing flow.



**Inclusive Gateway** When splitting, one or more branches are activated. All active incoming branches must complete before merging.



branching behavior that is not captured by other gateways.

**Exclusive Event-based Gateway** (instantiate)

Each occurrence of a subsequent event starts a new process instance.



## **Conversations**



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

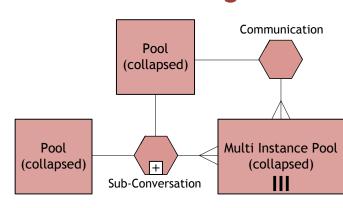
A Forked Conversation Link connects Communications and multiple

A Conversation Link connects

Communications and Participants.

## **Conversation Diagram**

Participants.



## Choreographies

Participant A Choreography Participant B

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

**Multiple Participants Marker** denotes a set of Participants of the same kind.

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

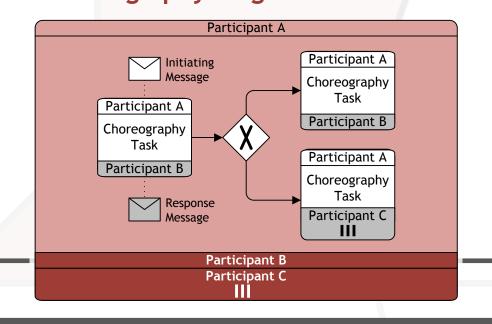
Participant A Choreography

Sub-Process

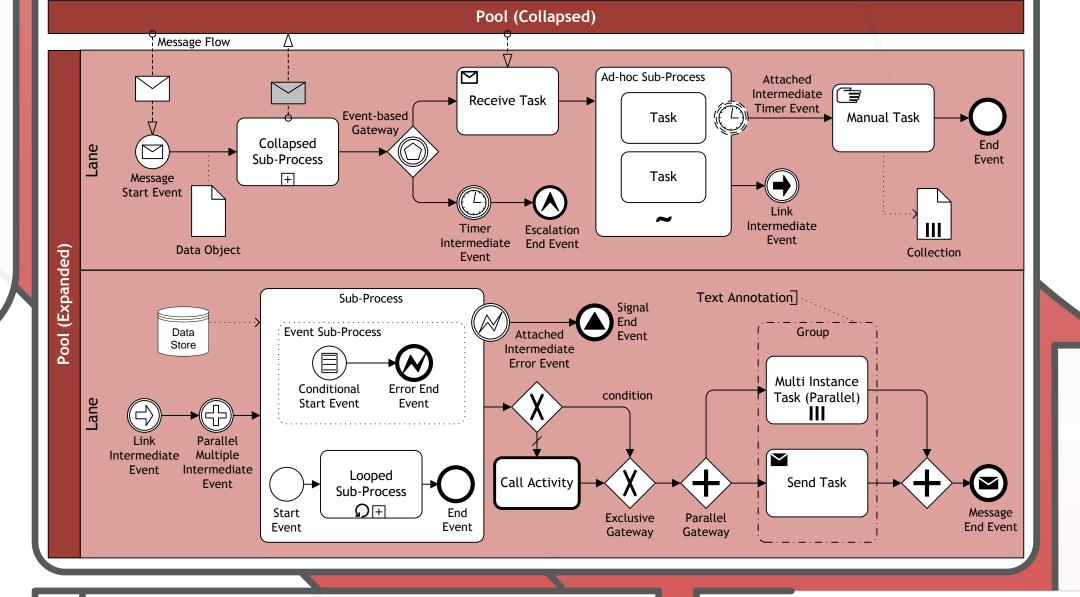
Participant B

Participant C

## **Choreography Diagram**

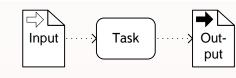


### **Collaboration Diagram**



#### **Events** Intermediate Event Sub-Process Non-Interrupting Event Sub-Proce Interrupting Boundary Interrupting Top-Level 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 $(\bowtie)$ named errors. Cancel: Reacting to cancelled transactions or triggering cancellation. **(4)** 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 Input** is an external input for the entire process. It can be read by an activity.

of the entire process.

A Data Output is a variable available as result

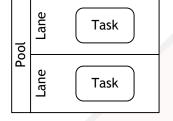
A **Data Object** represents information flowing through the process, such as business documents, e-mails, or letters.

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

Data Store

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.

A Message is used to depict the contents of a communication between two Participants.

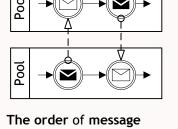


Pools (Participants) and Lanes represent responsibilities for activities in a process. A pool or a lane can be an organization, a role, or a system. Lanes subdivide pools or other lanes hierarchically.



**Swimlanes** 

Message Flow symbolizes information flow across organizational boundaries. Message flow can be attached to pools, activities, or message events.



exchanges can be specified by combining message flow and sequence flow.











