

## Activities

TASK

**Task** - Unit of work. The work or job that needs to be accomplished.  
⊕ indicates a sub-process or an activity that can be refined.

TRANSACTION

**Transaction** - activities that sensibly go together. May follow particular transactional protocol.

EVENT  
SUB-PROCESS

**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.

CALL  
ACTIVITY

**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
- 🔄 LOOP MARKER
- ≡ PARALLEL MI 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



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.

## Conversations



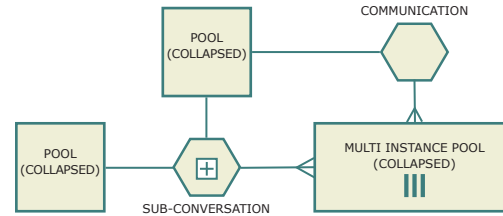
communications that identify a group of logically related message exchanges.  
⊕ shows a sub-conversation or compound conversation element.



**Conversation Link** connects Communications to Participants.

**Forked Conversation Link** attaches Communications and many Participants.

## Conversation Diagram



## Data



A **Data Input** is an external input for the entire process. It can be read by an activity.

A **Data Output** is a variable available as result of the entire process.



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 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.

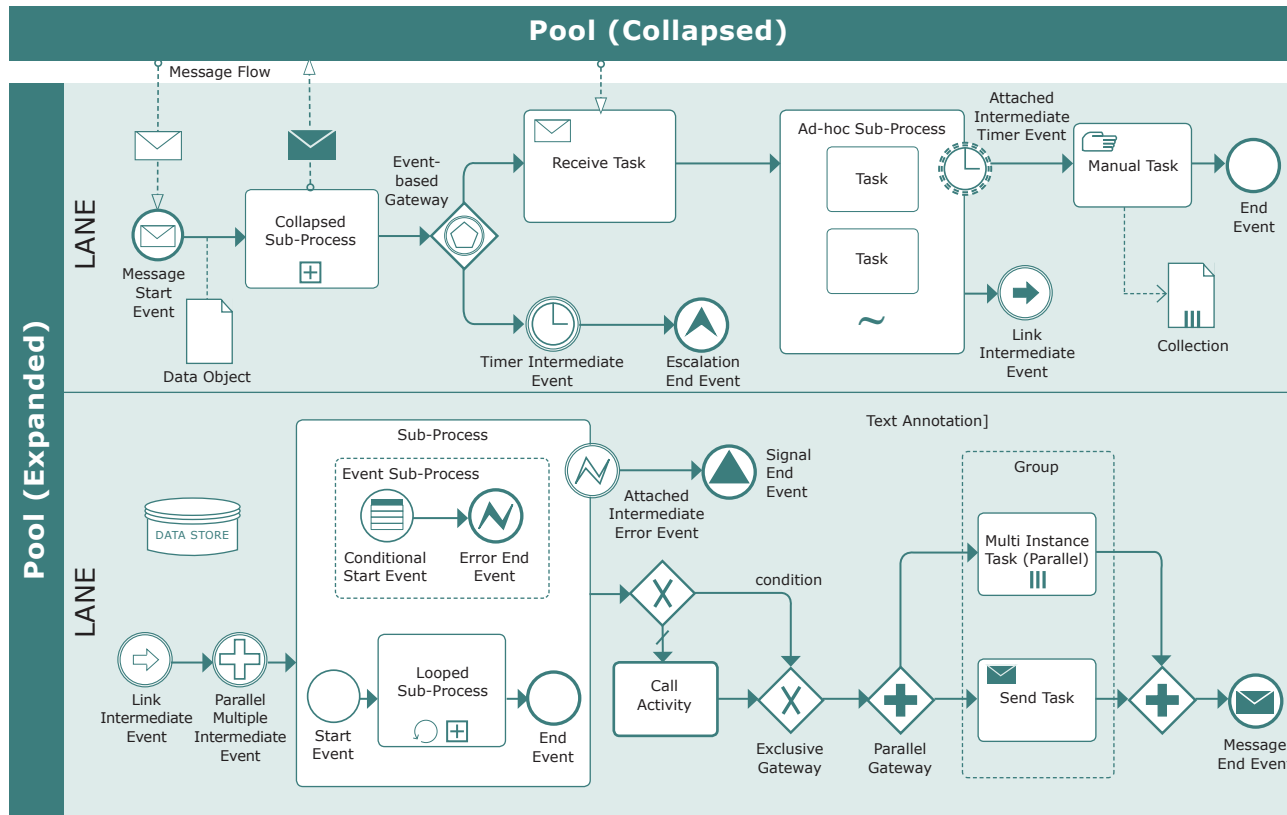


A **Message** is used to depict the contents of a communication between two Participants.

## Events

	START			INTERMEDIATE			END
	TOP-LEVEL	EVENT SUB-PROCESS INTERRUPTING	EVENT SUB-PROCESSING NON-INTERRUPTING	CATCHING	BOUNDARY INTERRUPTING	BOUNDARY NON-INTERRUPTING	THROWING
None: Untyped events, indicate start point, state or changes or final states.	○						○ ○
Message: Receiving and sending messages.	✉	✉	✉	✉	✉	✉	✉
Timer: Cyclic timer events, points in time, time spans or timeouts.	🕒	🕒	🕒	🕒	🕒	🕒	
Escalation: Escalating to a 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: Signaling 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.							⬛

## Collaboration Diagram



## Choreographies

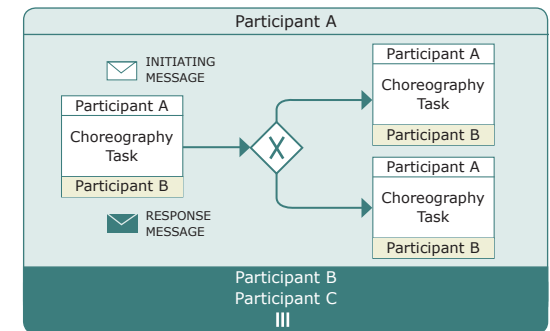


**Choreography Task** - Is an exchange between two participants. It's an interaction (Message Exchange).

**Multiple Participants Marker** - represents a group of participants that are of the same kind.

**Choreography Sub-Process** - holds a refined choreography with a number of Interactions.

## Choreography Diagram



## Gateways

**Exclusive Gateway** - Split - routes sequence flow to a precise outgoing branch. Merge - waits for one incoming branch to finish before triggering an outgoing flow.



**Parallel Gateway** - When splitting sequence flow - outgoing branches are initiated simultaneously. When merging parallel branches- the gateway awaits all incoming branches to finish before triggering outgoing flow.



**Event-based Gateway** - Must be followed by a catching event(s) or a receiving task(s). Sequence flow is sent to the subsequent event/task which happens first.



**Inclusive Gateway** - One or more branches are activated when splitting. All active incoming branches must complete before merging.

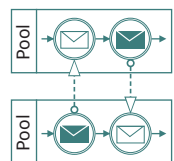
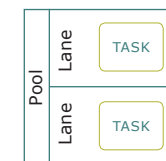


**Complex Gateway** - Gateways that represent actions not captured by other gateways. Can be complex, merging or branching actions/behaviors.

**Exclusive Event-based Gateway (instantiate)** - Each occurrence of a subsequent event starts a new process instance.

**Parallel Event-based Gateway (instantiate)** - The occurrence of all subsequent events begins a new process instance.

## Swimlanes



**Pools (Participants) and Lanes** - show what an activity is responsible for in a process. Pools or lanes can represent the organization as a whole, a system or a role. Lanes are used to hierarchically separate pools or other lanes.

**Message Flow** - can be connected to pools, activities or message events. Illustrate how information flows across organizational borders.

**The order of message exchange** - can be determined by various combinations of message and sequence flows.