University of Applied Sciences and Arts Northwestern Switzerland
School of Engineering
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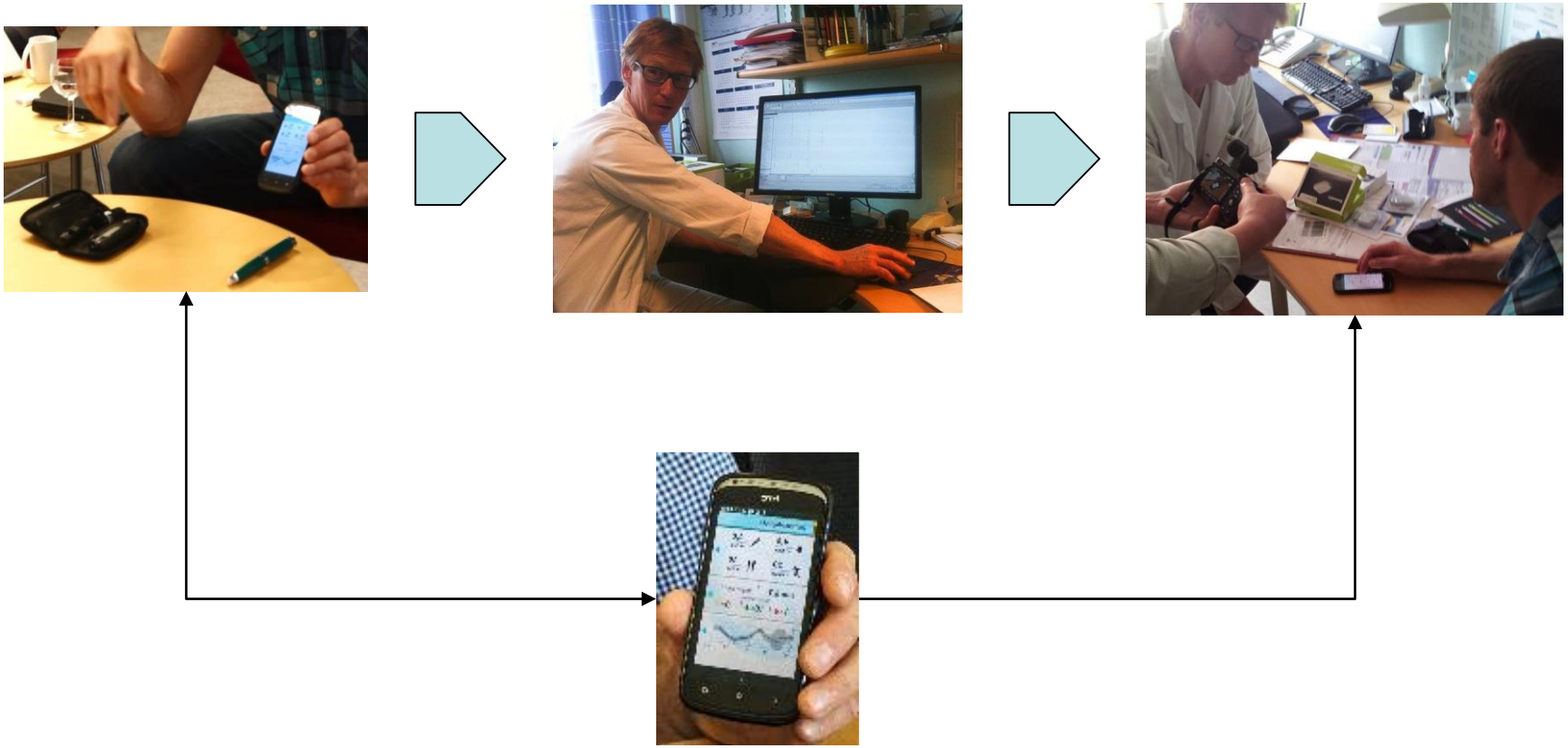
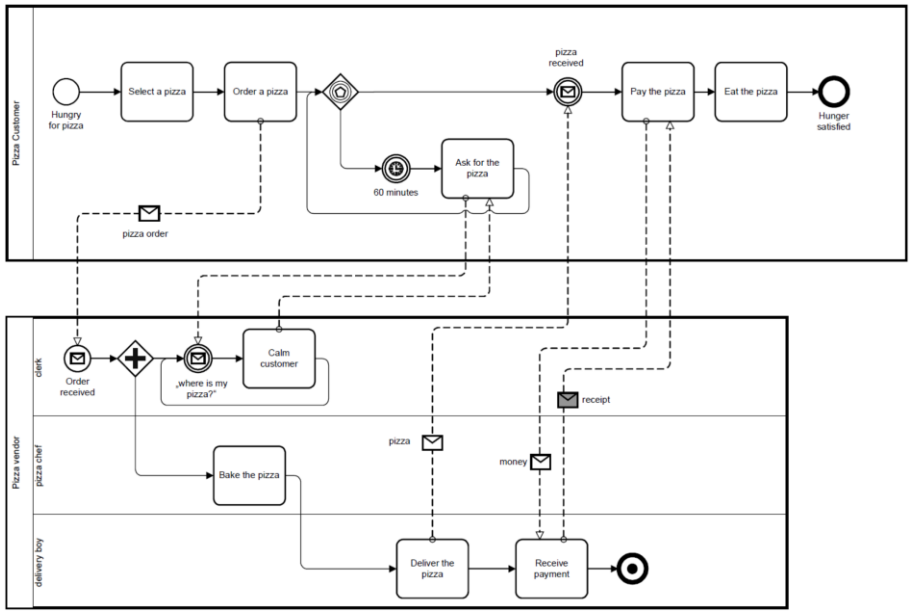
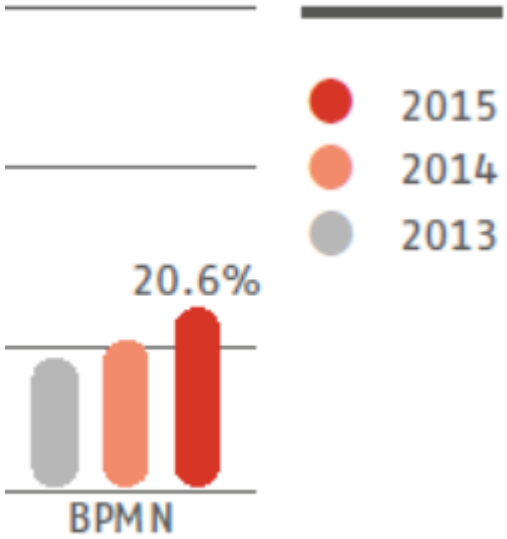
Business Process Modelling
Analysis and Specification of the Users' Work Processes



Common Approach to Document a Business Process

Business Process Modelling Notation (BPMN)





BPMN 2.0 by Example; swissQ (2015): Trends & Benchmarks Report Schweiz – Software Development 2015.

Learning Objectives

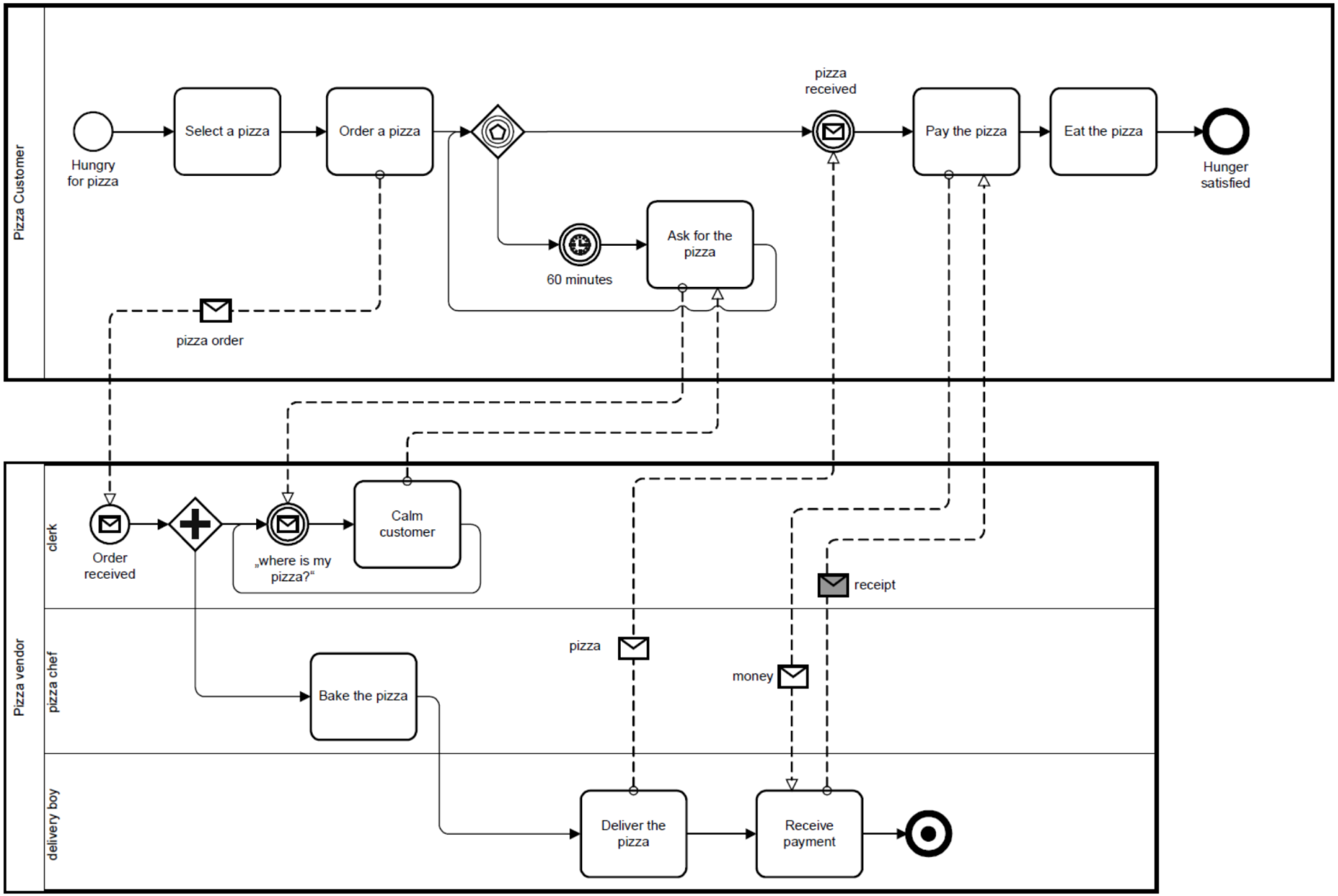
Know

- Important elements of BPMN

Be able to do the following activities

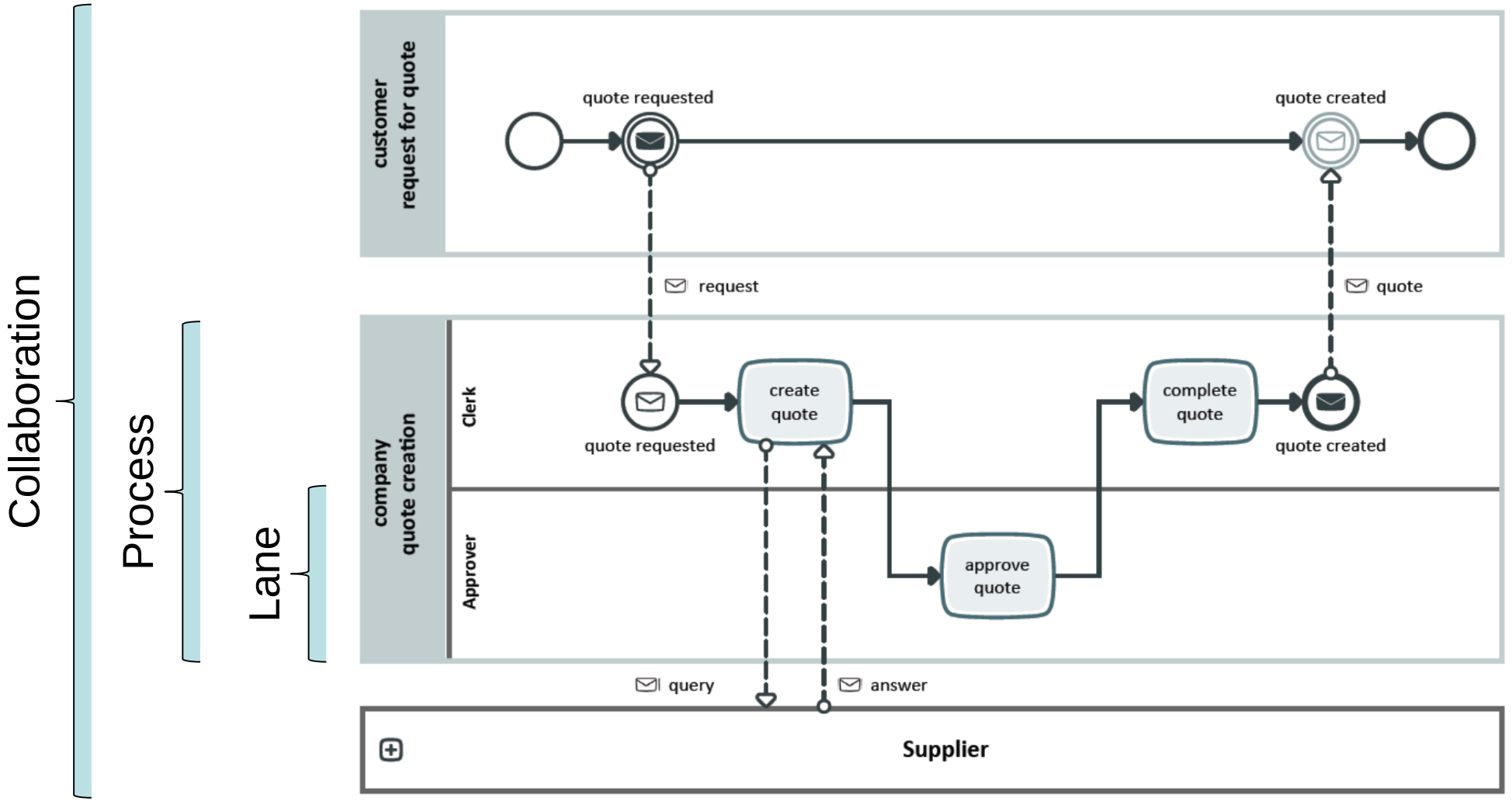
- Model a simple process with BPMN

BPMN Example: Ordering and Delivering Pizza



BPMN 2.0 by Example

BPMN Syntax



Mid.de (2014): BPMN 2.0 Poster

BPMN Syntax: Tasks and Processes

Task: represents a single step in a process or a work unit.

Manual Task: is expected to be performed without the aid of any business process execution engine or any application.

User Task: is executed by a user with the assistance of a software application.

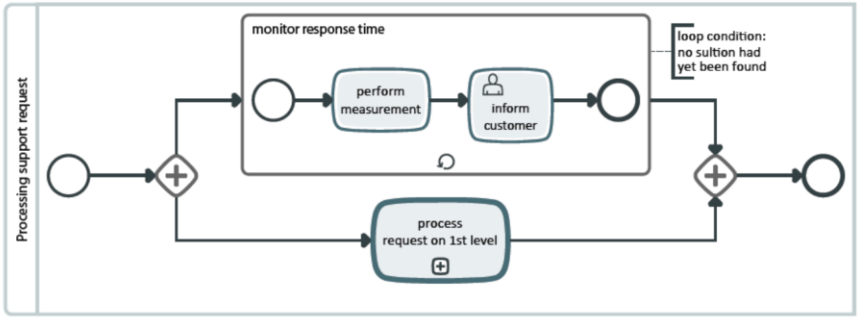
Script Task: is executed by a business process engine.

Send Task: sends messages and complies with the semantics of an intermediate event for messages thrown.

Receive Task: receives messages and complies with the semantics of an intermediate event for messages caught.

Call Activity Subprocesses: is an independent process that can be called from various processes.

Subprocess: is a graphical object within a process but it also can be „opened up“ to show a lower-level process. It is not an independent process and may not be devided in different lanes.



Markers for Tasks and Subprocesses

This activity implies a subprocess.

Loop: repeats the performance as long as the loop condition is met.

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BPMN Syntax: Flows

Sequence Flow

Shows the flow in a process. The sequence flow cannot cross a pool boundary but can switch between lanes.

Massage Flow

Shows the flow of messages between two participants. It can start or end at a participant or at any element of the process. It always goes beyond participant borders.

Default Flow

Is traversed if none of the conditions after a gateway is true.

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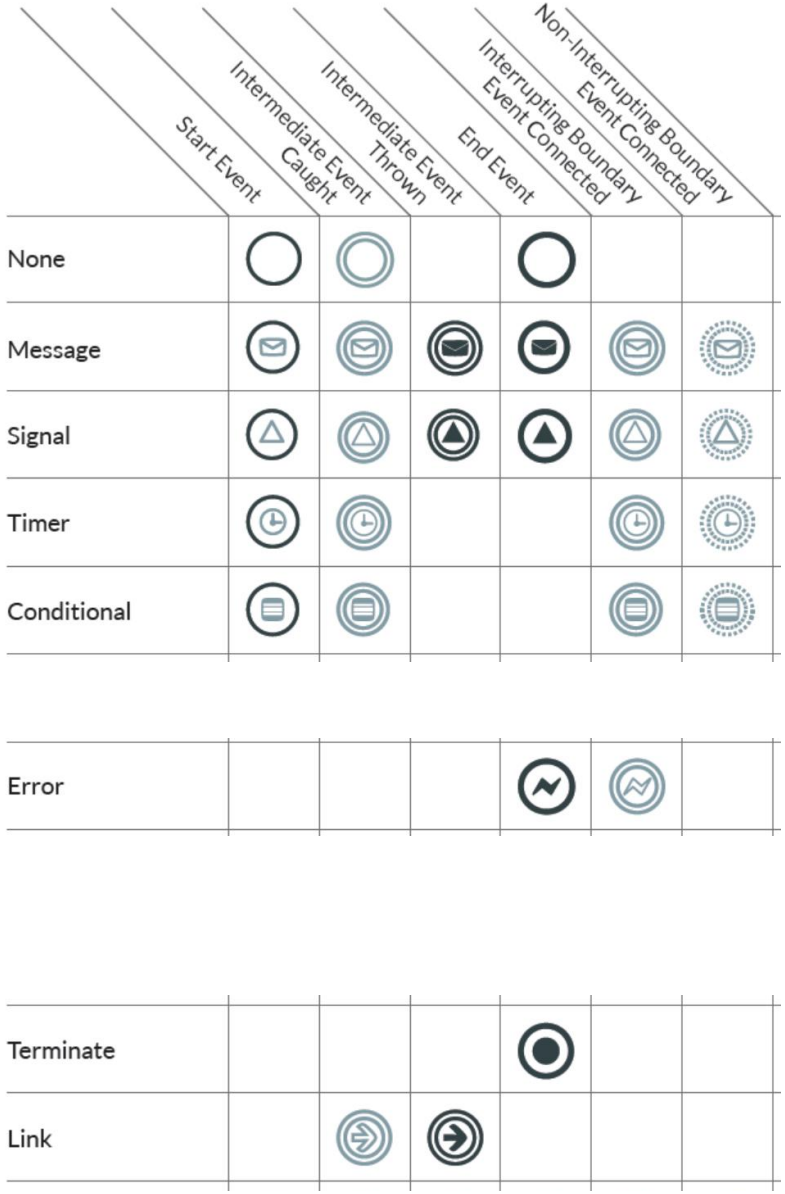
BPMN Syntax: Event Types



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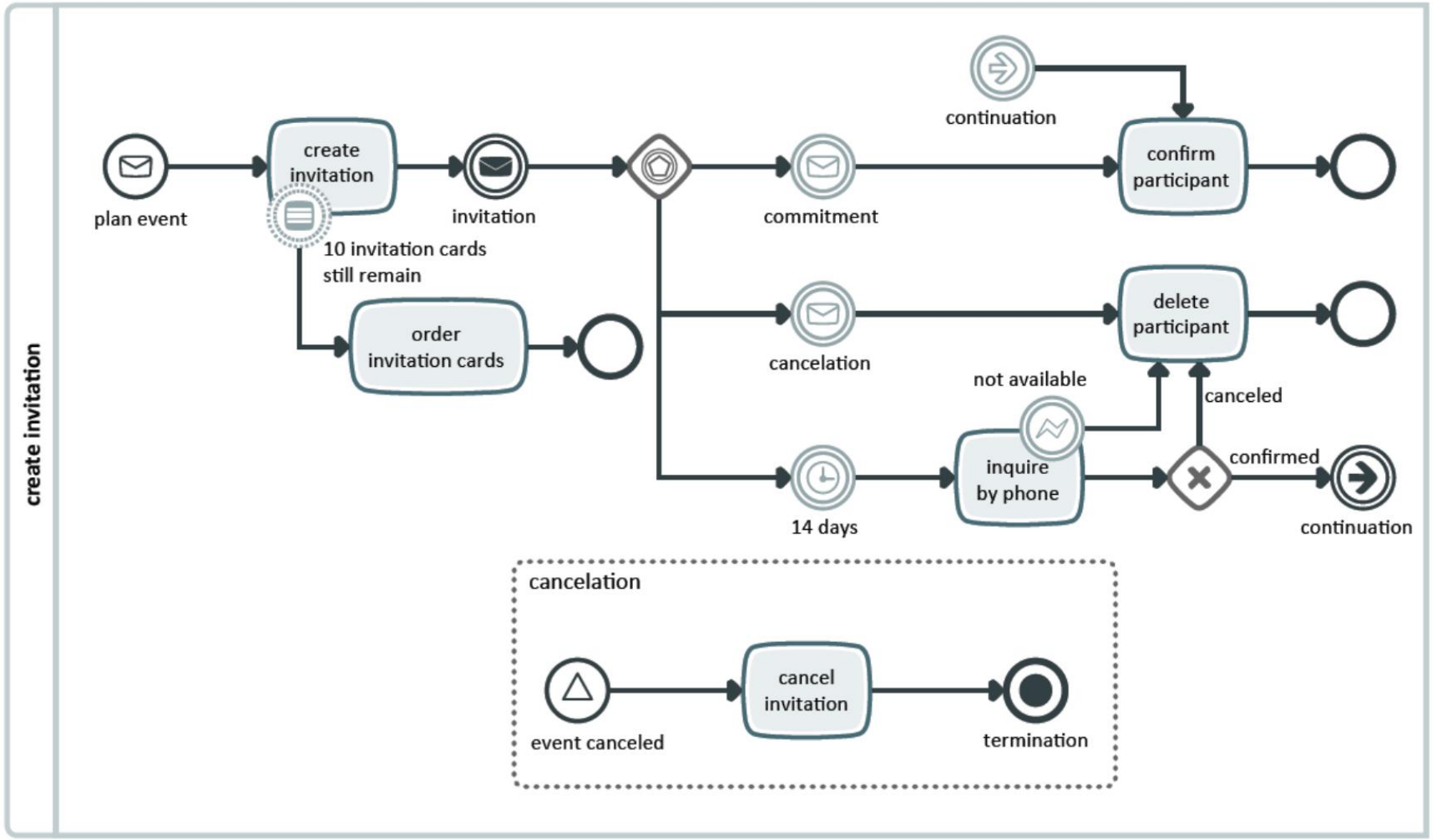
BPMN Syntax: Events, Tasks, Sequence Flows, and Gateways



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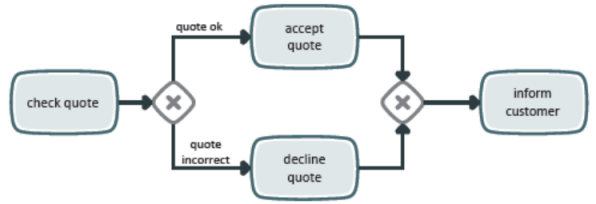
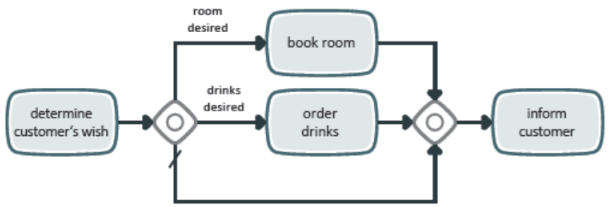
BPMN Syntax: Gateways

Gateways are used to control how the process flows through sequence flows as they converge and diverge within a process.

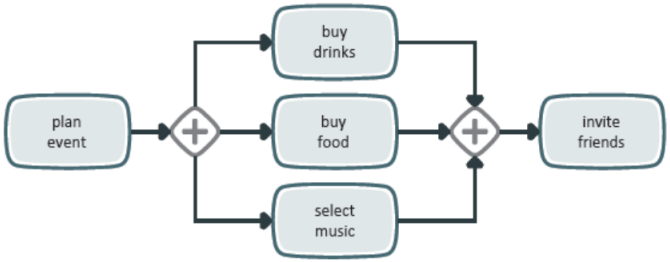
data-based exclusive (either OR)		only one path can be taken
inclusive (OR/AND)		none, one or more paths can be taken
parallel (AND)		all paths are taken
event-based exclusive		one path is taken depending on the first occuring event



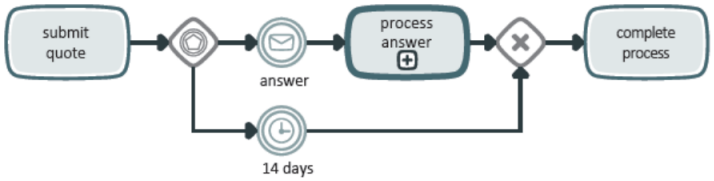
exclusive: exactly one path is taken



inclusive: more than one path can be taken



parallel: all paths are taken



event-based: the flow is forwarded to the path whose events occured first.

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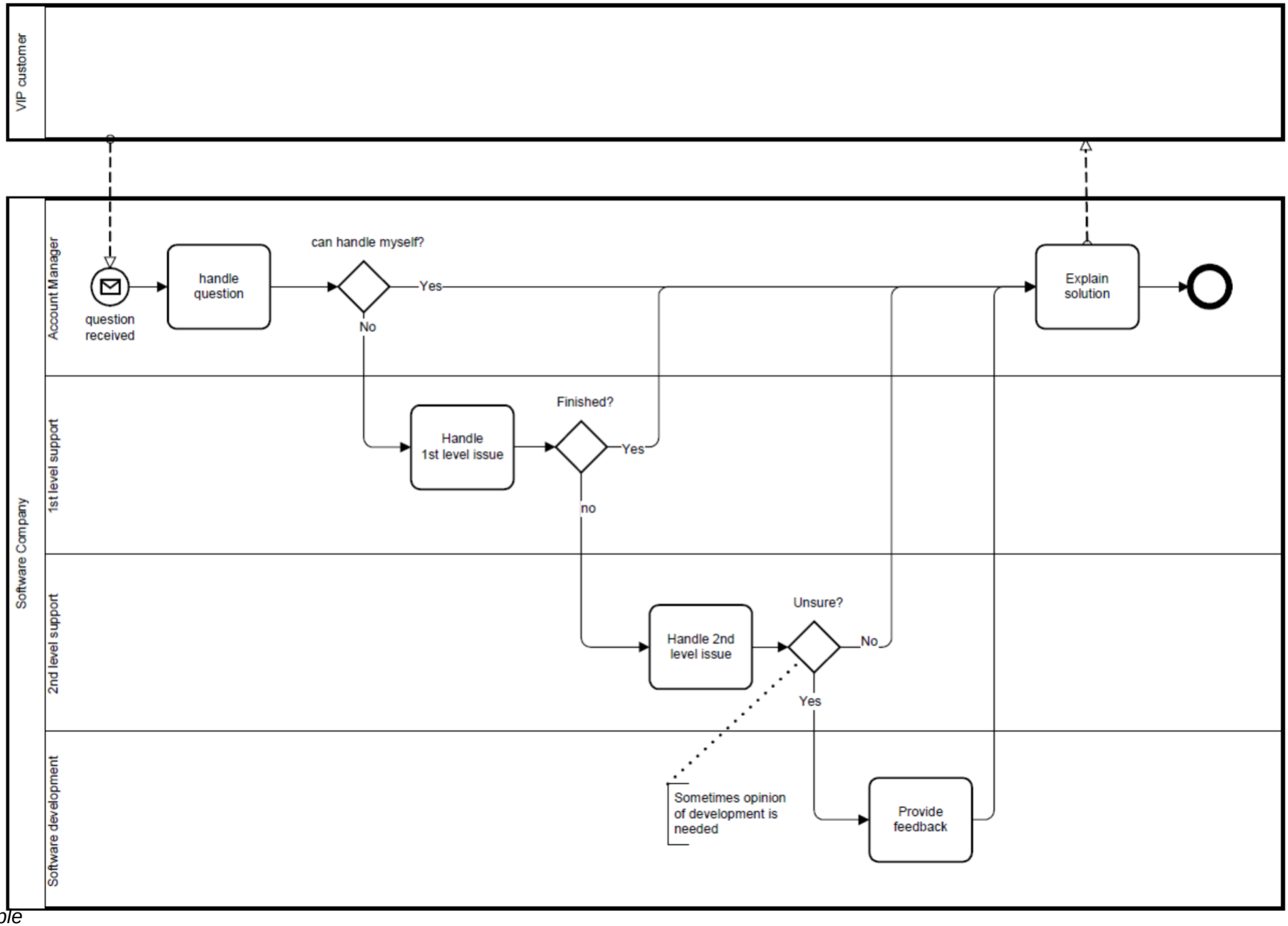
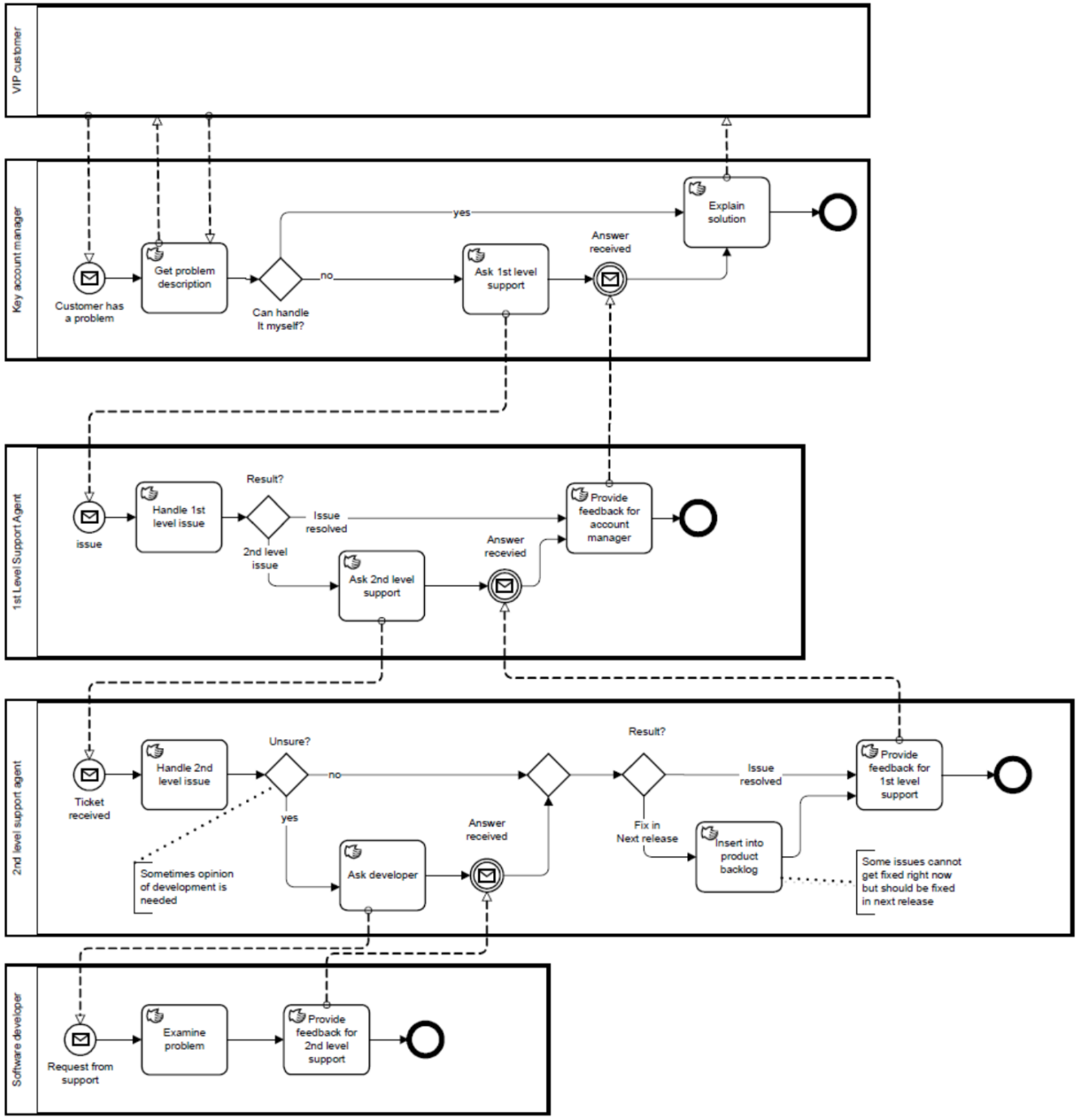
High-level Model Example: Incident Management



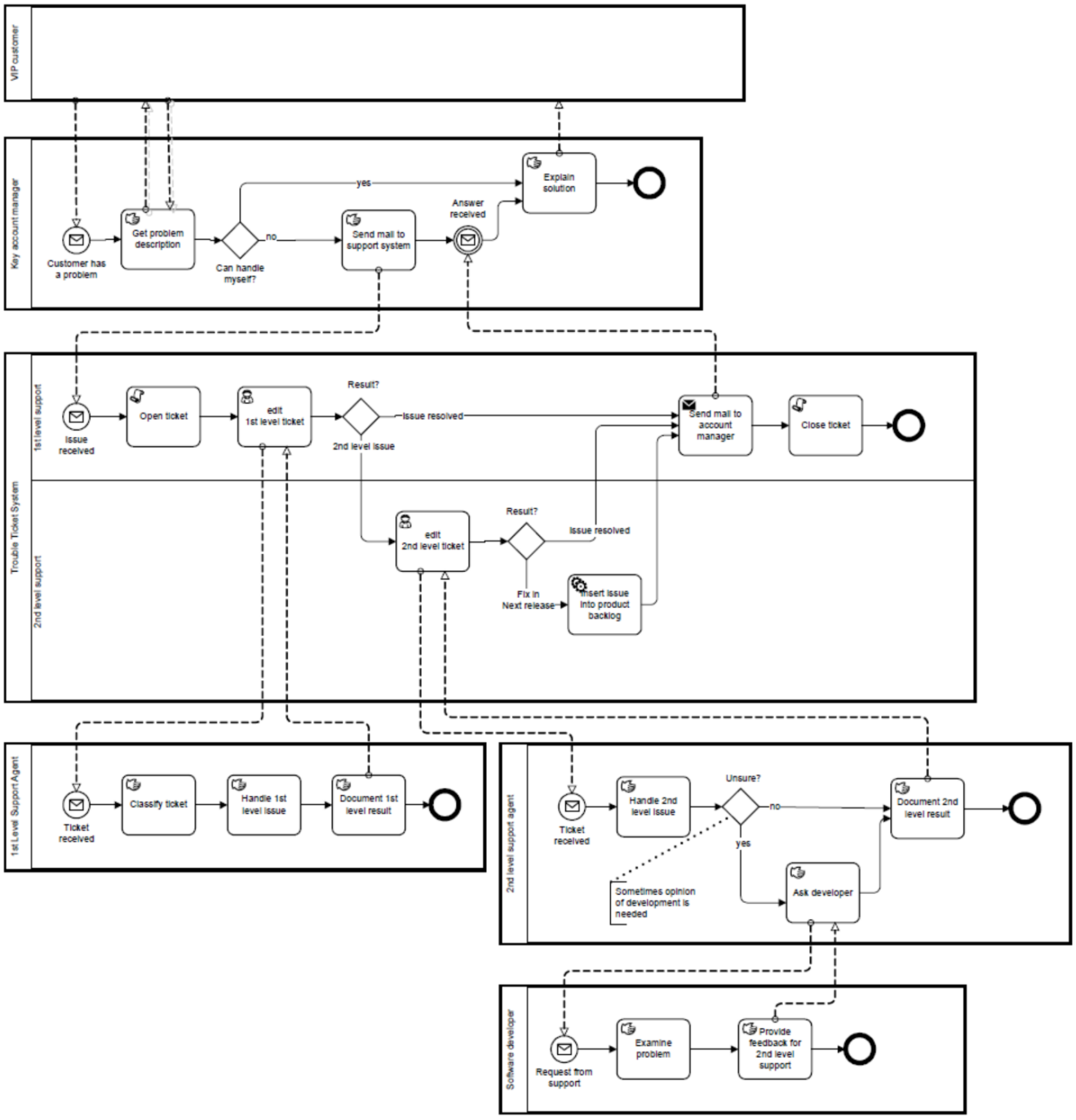
BPMN 2.0 by Example

Detailed Collaboration Model Example: Incident Management

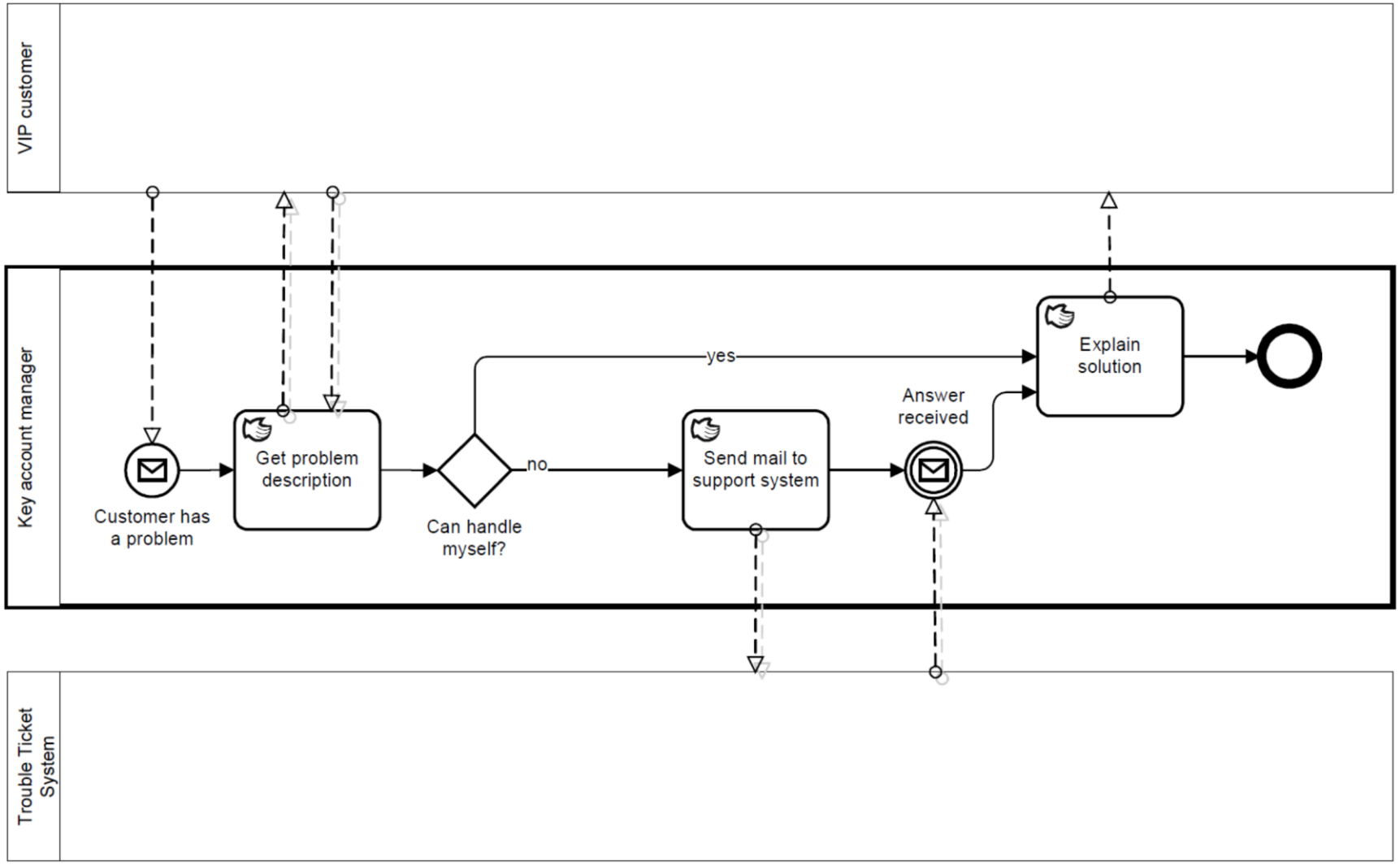


BPMN 2.0 by Example

Detailed Collaboration Model with System Support: Incident Management

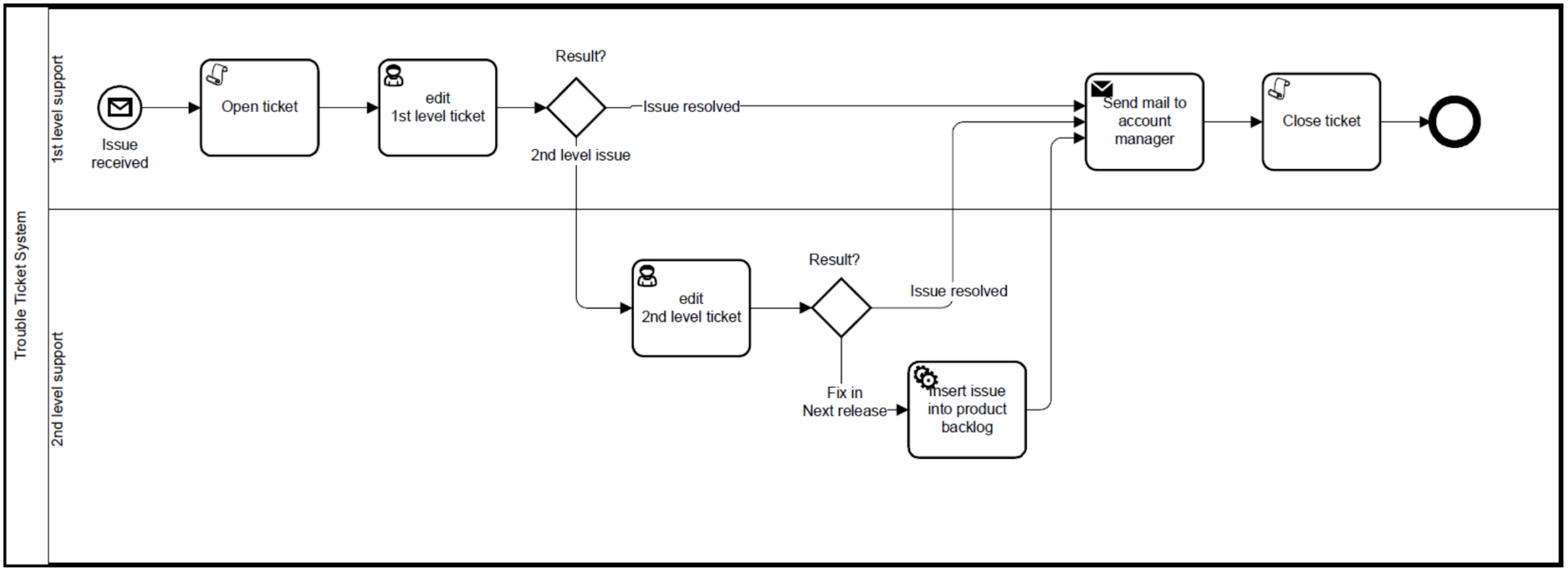


Role Descriptions, Example: Account Manager

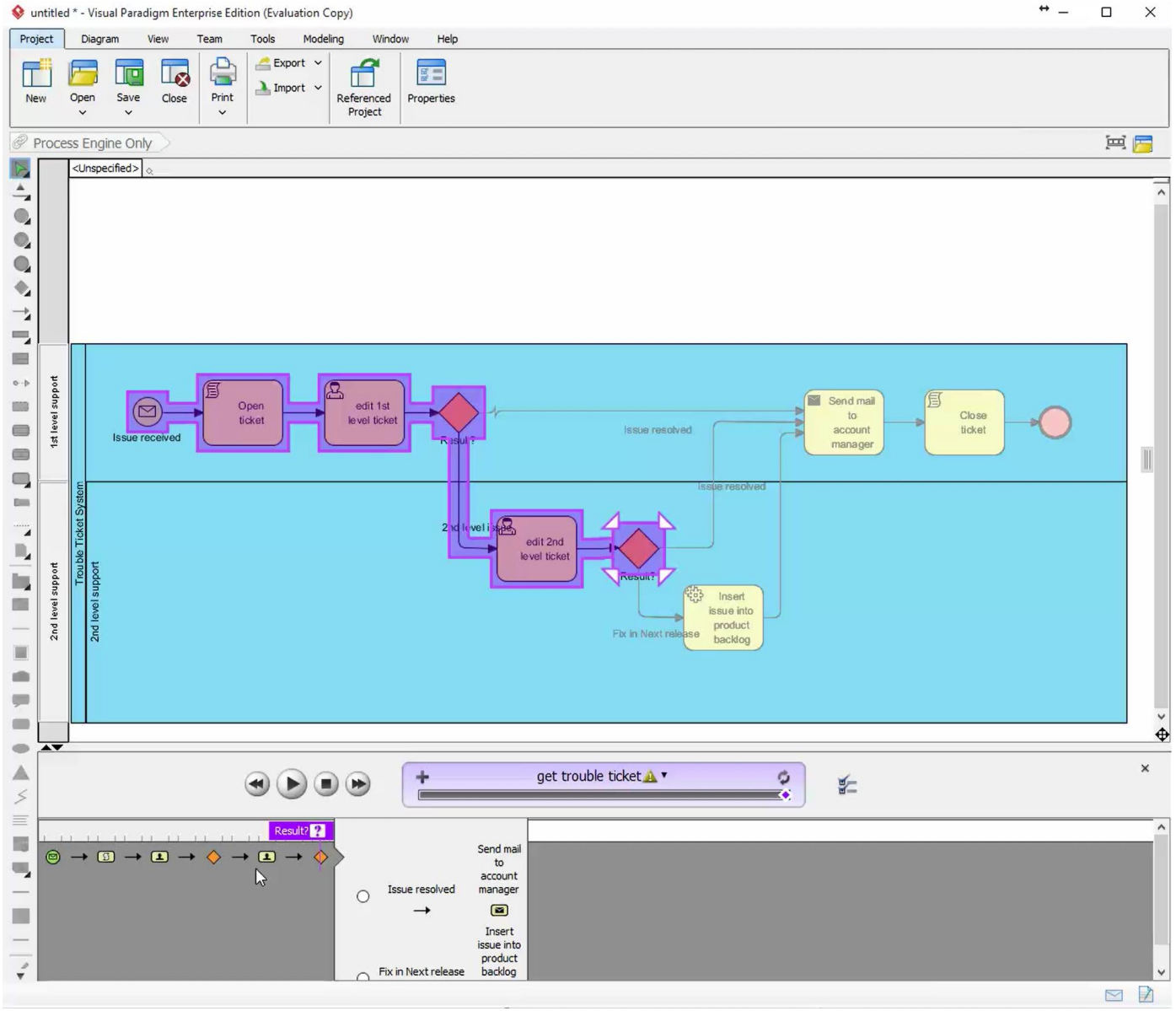


BPMN 2.0 by Example

System Support, Example: Ticket Management System



Modelling and Animation Tools: Example Visual Paradigm



Exercise

Goal: be able to express a simple process with a BPMN diagram.

Tasks

1. Study Mr. Smokey Ladder's request for an improved NY-FEDS system.
2. Model the current business process with BPMN.
   – Highlight the problems in the process.
3. Discuss the benefits and limitations of expressing a business process as a BPMN model.