



Romel Cabling ▾



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# Lesson Proper for Week 8

## Business Process Model Notation

- Business Process Model and Notation (BPMN) is the global standard for process modeling and one of the most important components of successful Business-IT-Alignment.
- Many software products support the standard; you are less dependent on any particular vendor's products.
- Simplicity
- Power of expression
- Implementation in IT

## Quick Guide to BPMN Symbols

### Tasks

#### Standard



Un-typed or "abstract" task – most common task used



With Loop

Task repeated until some condition met (as indicated by Annotation note)



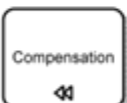
Multiple Instances in Parallel

Task repeated in parallel for a known number of times (e.g., "Committee Members Vote")



Multiple Instances in Sequence

Task repeated in sequence for a known number of times (e.g., "Each Product Reviewed")



Compensation

Task that compensates for an incomplete transaction by rolling back changes (e.g., "Cancel Shopping Cart Order")



Call Activity

Task calling an automated global process (e.g., "Calculate State Sales Tax")

#### Task Types



Service

Automated function (e.g., application function or web service)



Send

Sends a message to a Receive Task



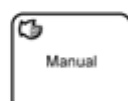
Receive

Receives a message from a Send Task



User

Requires user input through some technology



Manual

Requires user response without IT support



Business Rule

One or more business rules are applied



Script

An automated script is followed to produce a result

### Sub-Processes



Sub Process



With Loop



With Multiple Instances in Parallel



With Multiple Instances in Sequence



Ad Hoc

## Quick Guide to BPMN Symbols

### Gateways



Exclusive

Exclusive – where ONLY ONE OF MANY paths must be taken (Decision: yes / no)



Inclusive

Inclusive – where ONE OR MORE paths must be taken (Condiments: ketchup, mustard, relish, no condiment)



Parallel

Parallel – where ALL paths must be taken (Florida Vacation: book flight, hotel, and car)



Complex

Complex – where SOME BUT NOT ALL paths must be taken (Employment Application: 2 references required from three possible sources)

### Flows



Sequence Flow connects Tasks and Gateways and indicates order of process flow



Message Flow indicates information flowing from one Pool to another

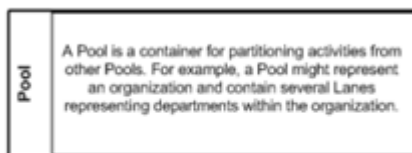


Data Association connects a Data Object to another object such as a Task or Sub-Task

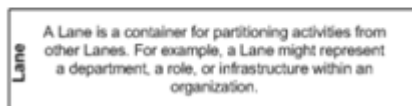


Association connects text or an Artifact to another object such as a Task or Sub-Task

### Swim Lanes



A Pool is a container for partitioning activities from other Pools. For example, a Pool might represent an organization and contain several Lanes representing departments within the organization.



A Lane is a container for partitioning activities from other Lanes. For example, a Lane might represent a department, a role, or infrastructure within an organization.

### Artifacts



An Annotation conveys additional information about the process



A Data Object indicates what information is required or produced by an Activity



A Group logically associates multiple activities without affecting the process flow

## Quick Guide to BPMN Symbols

### Some Commonly Used Events

#### Classification and When to Use

#### Start

#### Intermediate

#### End

**Unspecified** – when no specific event type is indicated



Start



End

**Timer** – when process requires a preset time to begin or continue, or when delay is necessary



**Conditional** – when some criteria must be met



**Error** – when an error occurred



**Message** – when a message or materials object is sent (throw) or received (catch)



Throw



Catch



**Link** – when flow continues to another page



Throw



Catch

**Cancel** – when the process should be stopped



**Terminate** – when the process ends abnormally

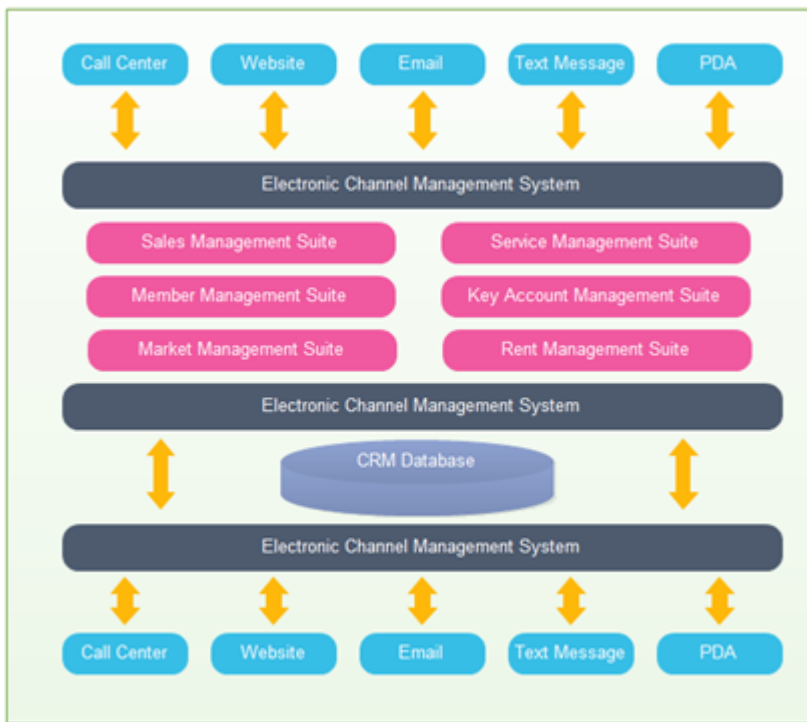


Additional Events Types exist for "escalation", "compensation", "signal", "multiple", and "parallel multiple"

## Application Architecture

Applications architecture is the high-level structure of an application system. It's the process of defining a structured solution that meets all the technical and operational requirements while optimizing common quality attributes such as performance, security, and manageability.

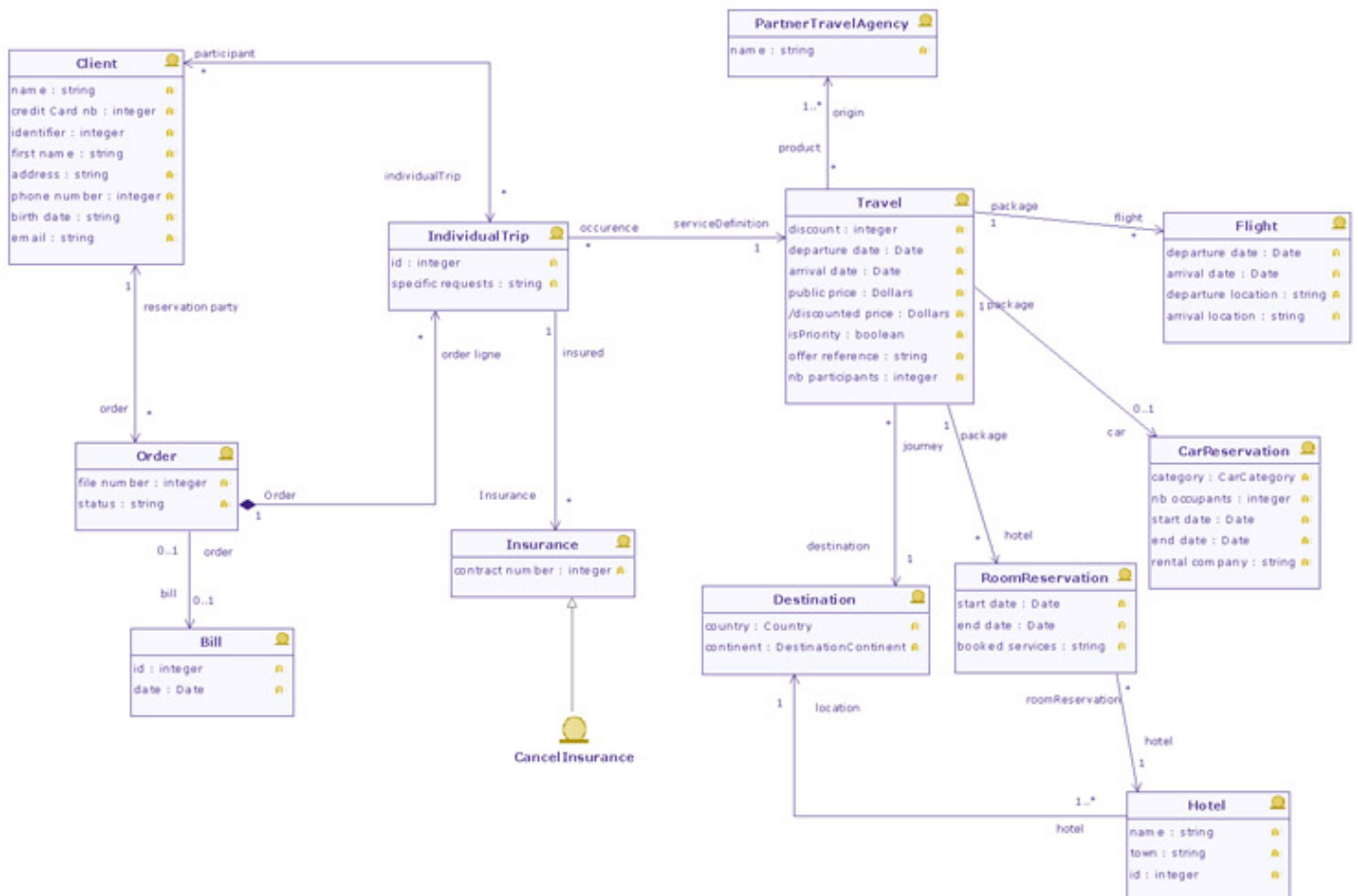
Example:



# Data Architecture

## Class diagrams

The key purpose of the **class diagram** is to depict the relationships among the critical **data entities** (or classes) within the enterprise. This diagram is developed to clearly present these relationships and to help understand the lower-level data models for the enterprise.



# Technology Architecture

An **environments and locations diagram** depicts which locations host which **applications**, identifies what technologies and/or applications are used at which **locations**, and finally identifies the locations from which **business users** typically interact with the applications. This diagram should also show the existence and location of different deployment environments, including non-production environments, such as development and pre-production.