5 Gateways

▷Exclusive gateway

▷Event-based gateway

▷Parallel gateway

▷Inclusive gateway

Gateways

Exclusive Gateway

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 outgoing flow.

Event-based Gateway

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

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.

Complex Gateway

Complex merging and 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.

Parallel Event-based Gateway (instantiate)

The occurrence of all subsequent events starts a new process instance.

1
Exclusive Gateway
(If .. Else if ..)

Exclusive gateway

- Exclusive Gateway (Decision) is used to create alternative paths within a Process flow. For a given instance of the Process, only one of the paths can be taken.

- A Decision can be thought of as a question that is asked at a particular point in the Process.

- The question has a defined set of alternative answers. Each answer is associated with a condition Expression
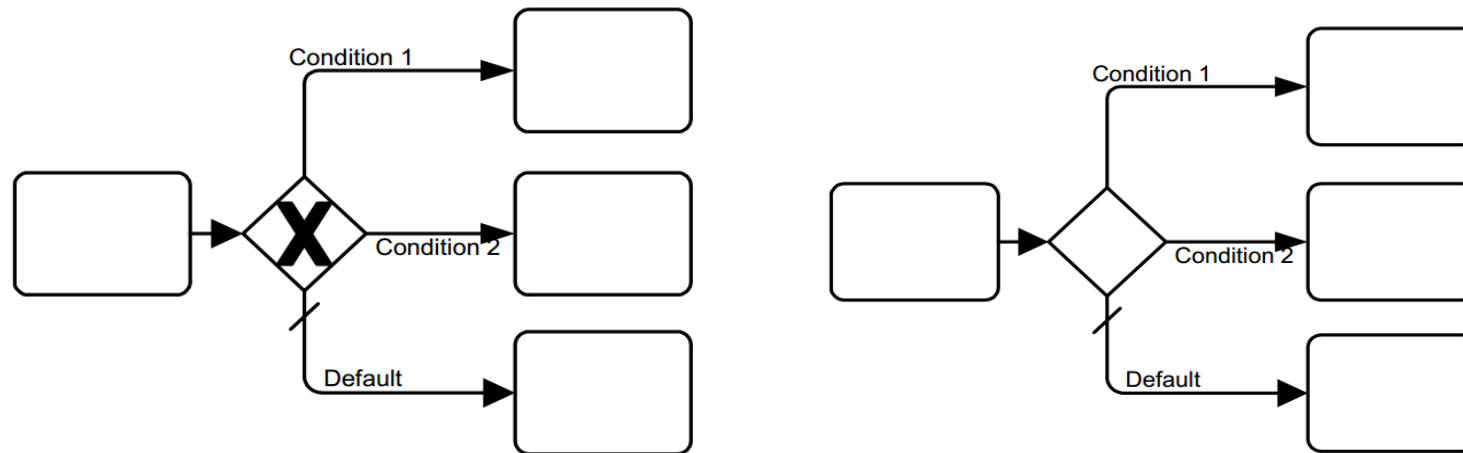
Exclusive Gateway Sample (Data-based Exclusive Gateway)

Exclusive gateway – Real world example

Road Diversion

Exclusive gateway - BPMN Example

Amount > 1000

Order Sale by 10%

Process Request Order

X

X

Order Delivery
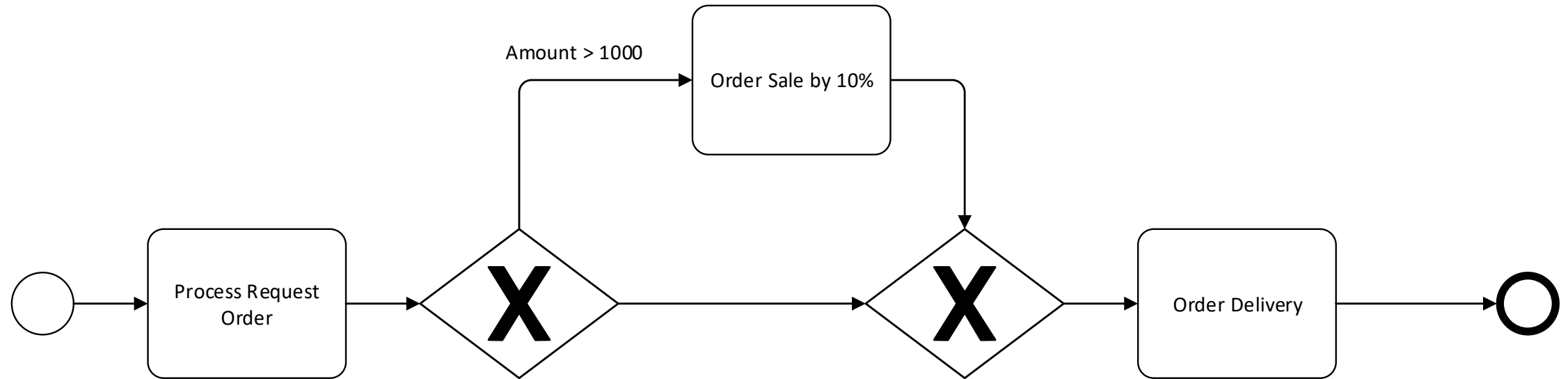
Exclusive gateway Sample
(with X Marker or not is the same)

Exclusive gateway - BPMN Hands-on

BPMN Demo using Microsoft Visio

Token Demo

https://knowhow.visual-paradigm.com/know-how_files/2009/12/04_Exclusive_gateway.html
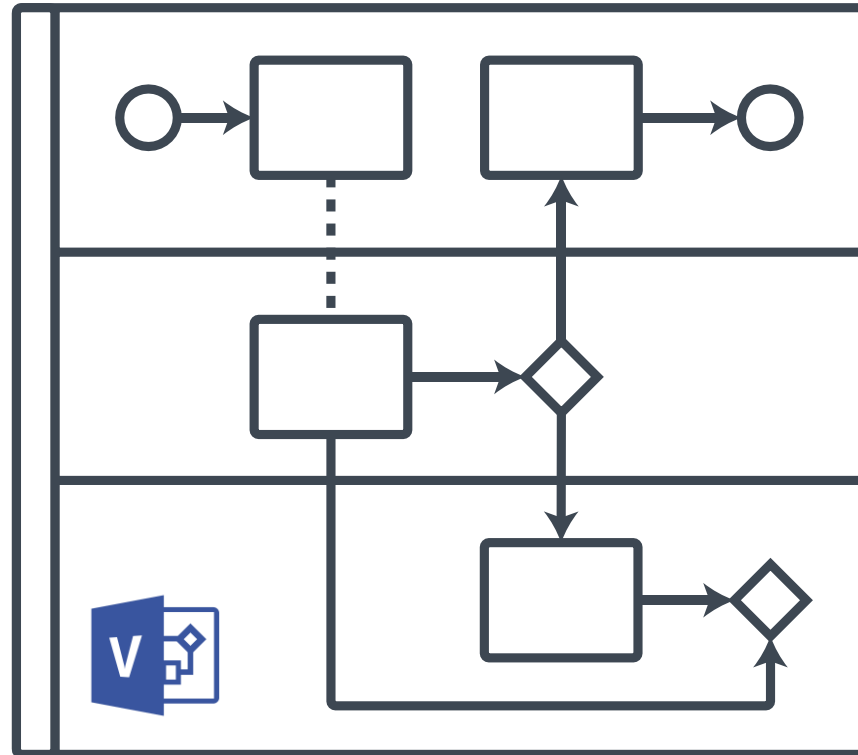
2
Event-based gateway

Event-based gateway

- Event-Based Gateway are similar to exclusive gateway but the trigger of gateway is base on event occur instead of evaluate condition.

- Event-base gateway , is always followed by catching events or receive tasks.

- Sequence flow is routed to the subsequent event/task which happens first.

- Basically, the decision is made by another Participant (which send message) based on data that is not visible to Process

Exclusive
Gateway Notation

Event-based gateway
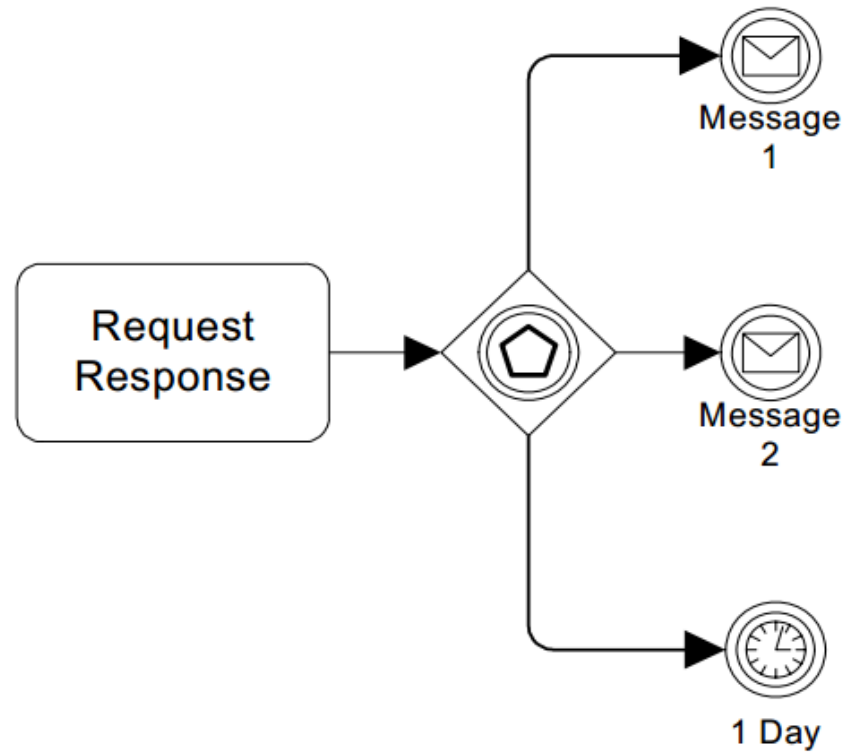
Event-Based Gateway example using Message Intermediate Events

Event-Based Gateway example using Receive Tasks

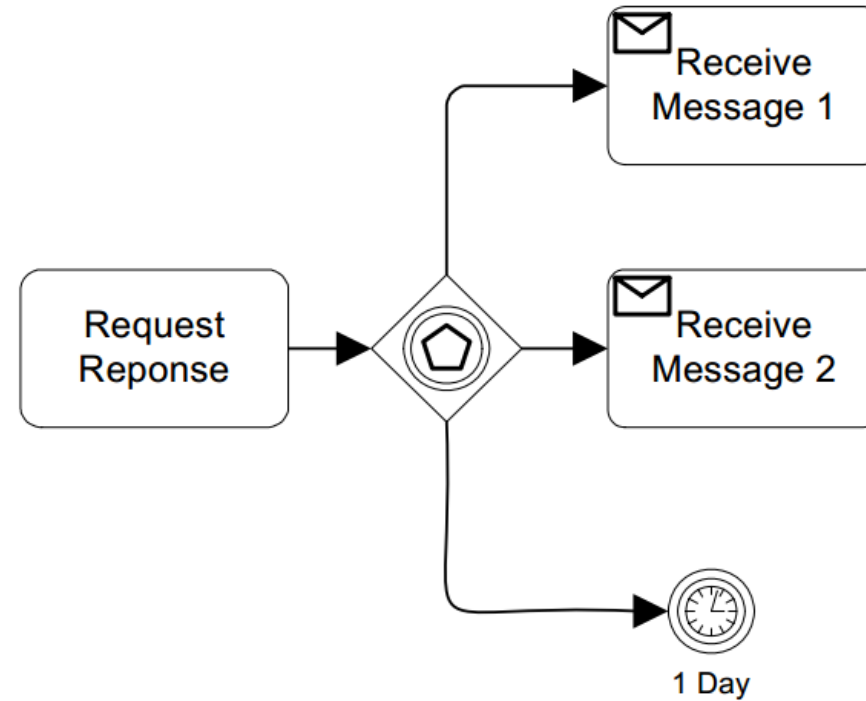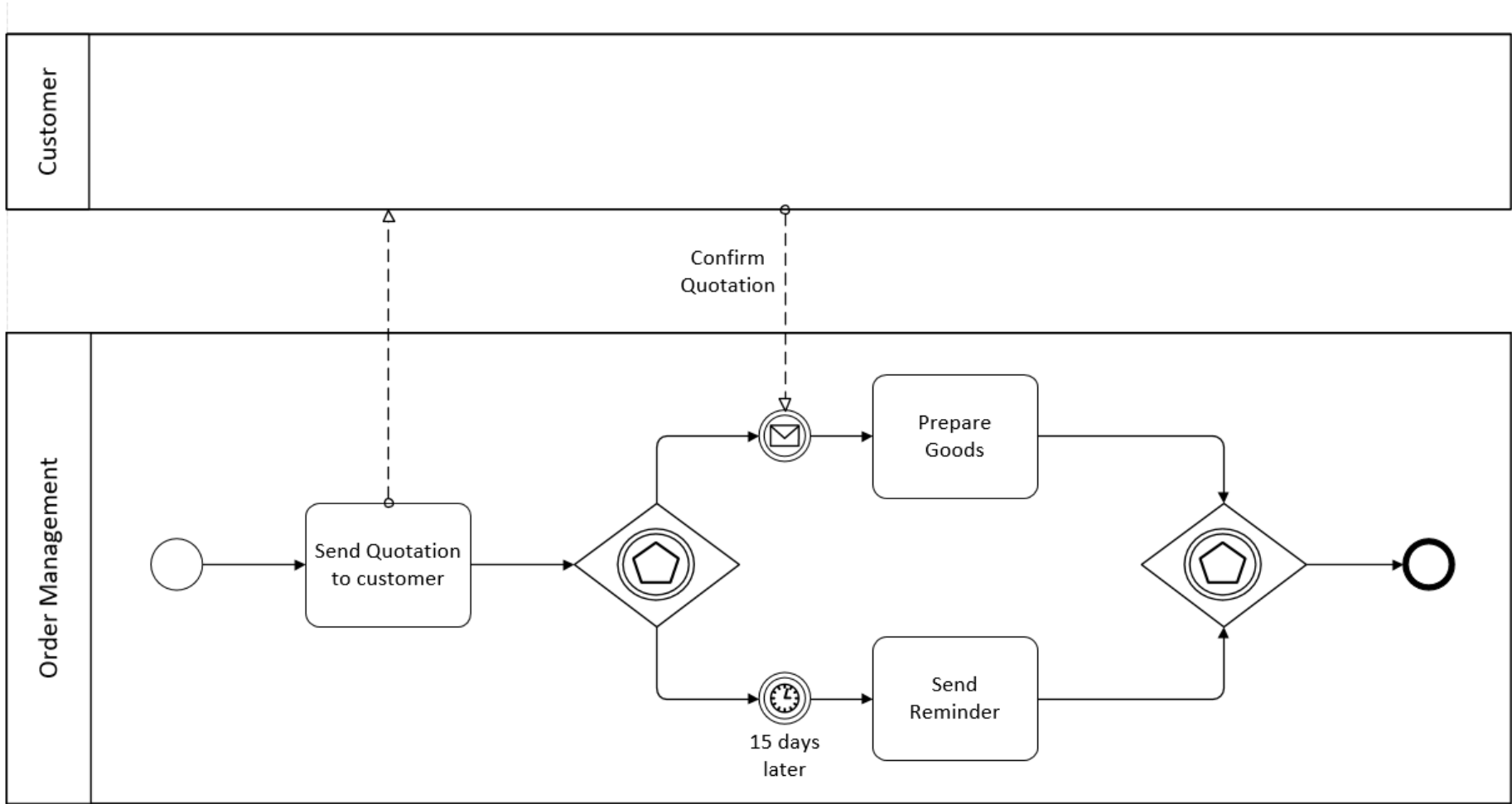# Event-based gateway – Real world example
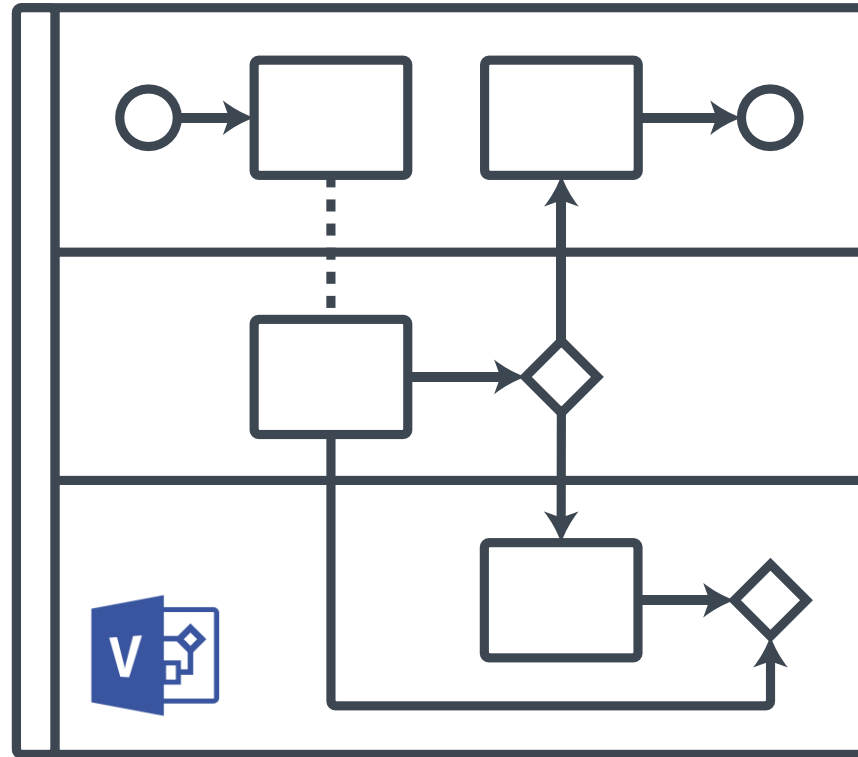

Event-based Gateway
Triggered by time Alarm , sensor Alarm

Event-based gateway - BPMN Example

Event-based gateway Sample

Event-based gateway - BPMN Hands-on

BPMN Demo using Microsoft Visio

3
Parallel gateway

Parallel gateway

- Parallel Gateway is used to synchronize (combine) parallel flows

  and to create parallel flows

- A Parallel Gateway creates parallel paths without checking any condition , each

  outgoing Sequence Flow receives a token upon execution of this Gateway

- For incoming flows, the Parallel Gateway will wait for all incoming flows before

  triggering the flow through its outgoing Sequence Flows
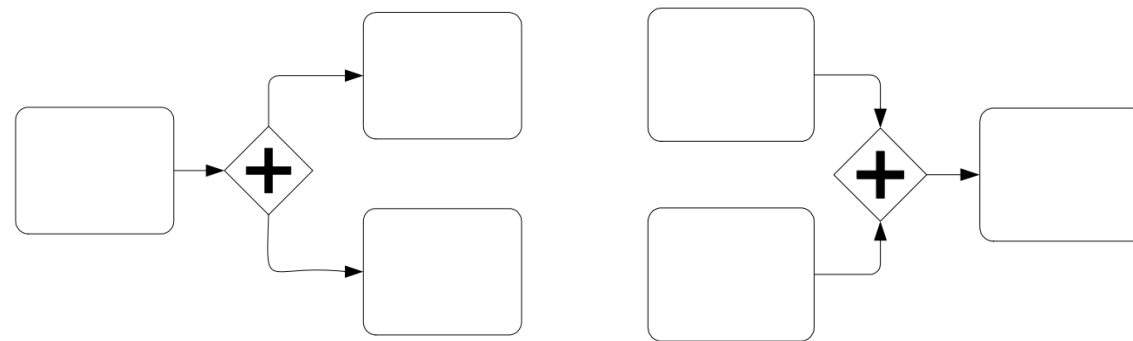
Parallel Gateway Sample (Create & Combine)

Parallel gateway – Real world example

Multi Work (Parallel)

Parallel gateway - BPMN Example

Parallel gateway Sample

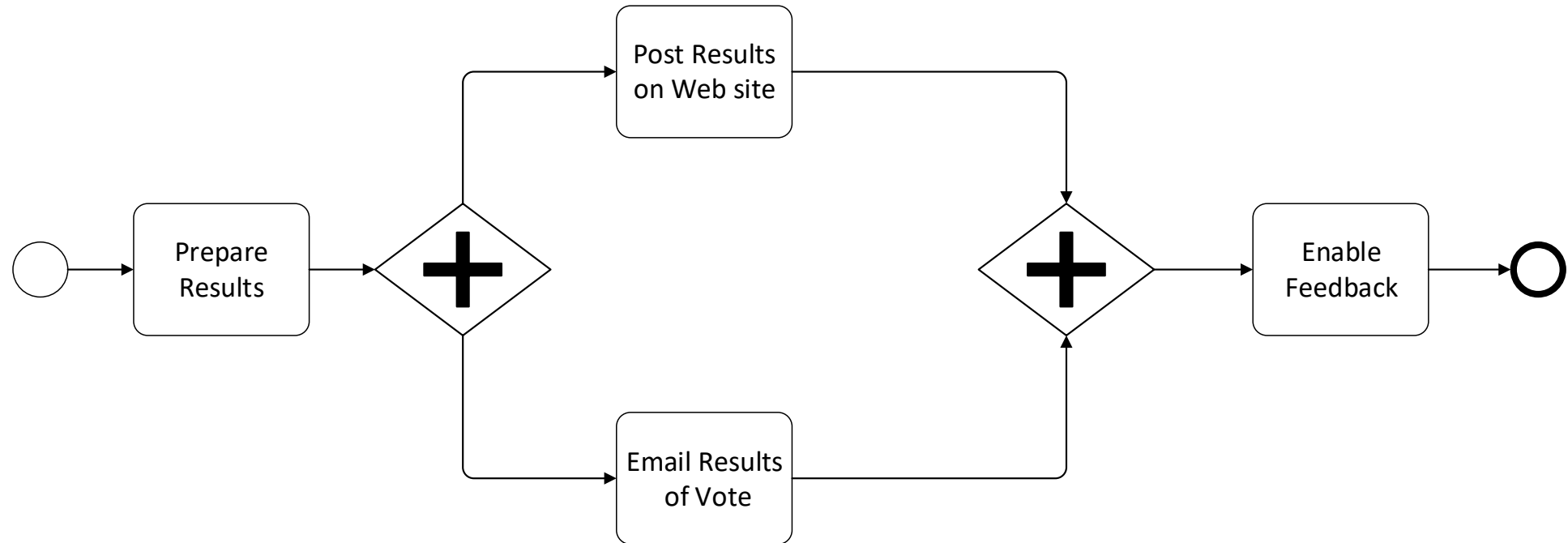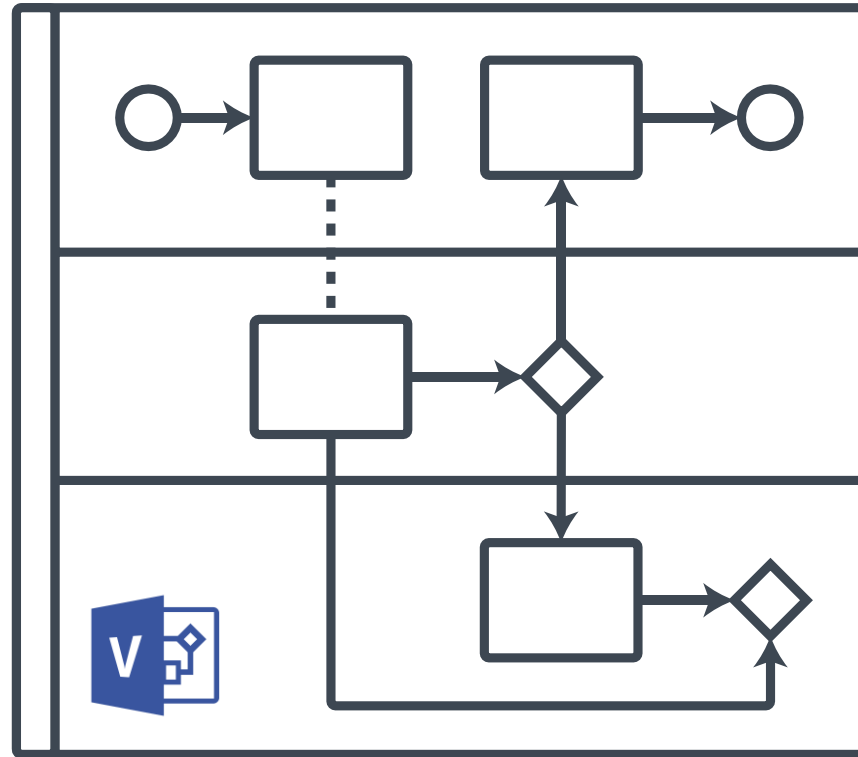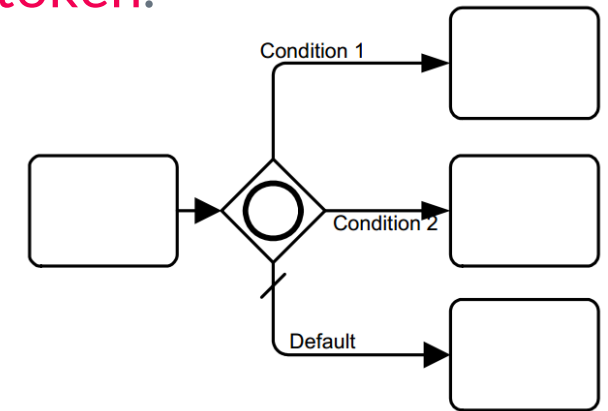# Parallel gateway - BPMN Hands-on

BPMN Demo using Microsoft Visio

4

Inclusive gateway

Inclusive gateway

- Inclusive gateway can be used to create alternative but also parallel paths within a Process flow.

- Unlike the Exclusive Gateway, all condition Expressions are evaluated. The true evaluation of one condition Expression does not exclude the evaluation of other condition Expressions.

- All Sequence Flows with a true evaluation will be traversed by a token.

- Since each path is considered to be independent, all combinations of the paths MAY be taken, from zero to all.

Condition 1

Condition 2

Default

Inclusive Gateway Notation

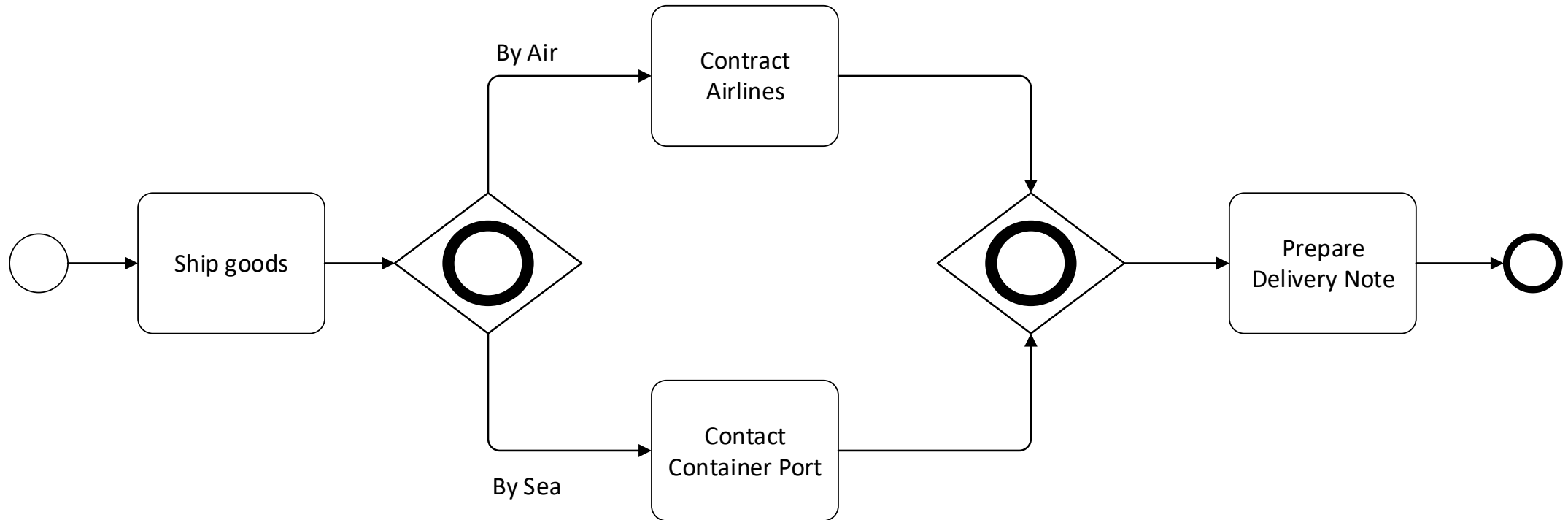# Inclusive gateway – Real world example

OR

Applicable for Exclusive OR Parallel

Mixer can Squeeze one or multiple fruits or vegetables
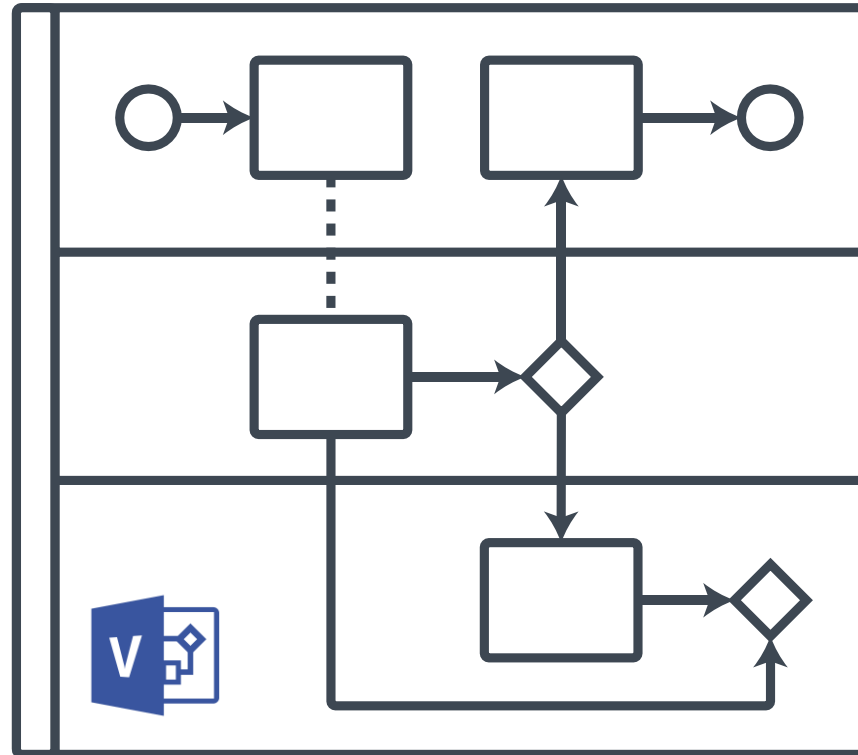
Inclusive gateway - BPMN Example

Inclusive gateway Sample

Exclusive || Parallel || or Both Gateway

Inclusive gateway - BPMN Hands-on

BPMN Demo using Microsoft Visio

Token Demo

https://knowhow.visual-paradigm.com/know-how_files/2009/12/07_Inclusive_gateway.html

References

"

[Togaf Online Documentation](#)

[Process Group for Togaf](#)

[Open 2 Study Course](#)

[Togaf Arabic Playlist](#)

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To Be continue ..☺

Thanks!
Any questions?

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