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BPMN events - Basics

Events come in 3 types:

1. **Start events** are shown as **circles with single thin border**.
2. **Intermediate events** show what can happen in the course of the process and allow you to document how will it be handled. There are two types of intermediate events: the ones that are part of the process flow (think of milestones) and the ones that are attached to the boundaries of activities (think of special events that need some handling) They are **circles with double thin border**.
3. **End events** show what are the results/outcomes of the process, so that you know its scope. They are **circles with single thick border**.

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Start events

Start events show what needs to happen, so that a process can start. This is NOT what you do (not activity from your side), but what triggers process to start. They are **circles with single thin border**. If they have some specific trigger defined they will have some marker inside.

Symbol	Name	Meaning
	Start event (Trigger: None)	Name of this object shows you what makes the process start. This type of start event is also used in Sub-Processes since what triggers them is call from the parent process.
	Message Start event	Process starts after receiving some kind of message (e.g. document, e-mail, phone call – something with specific recipient) from other participant (=pool)

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	Timer Start event	Process starts on a specific moment of time (e.g. every Monday on 9 AM, two days after quarter is closed etc.)
	Conditional Start event	Process starts when certain condition is met (e.g. stock level in warehouse drops below minimum)
	Signal Start event	Process starts upon receiving some kind of signal (e.g. information about state of other process – as opposed to message there is no specifically defined recipient)
	Multiple Start event	There are several ways in which process can be triggered and any one of them is sufficient to make it start (e.g. process

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		starts every Tuesday morning or when CEO asks for it).
	(Multiple) Parallel Start event	There are several things that need to happen together in order to trigger a process (e.g. process starts only when customer placed an order for item that we don't have in stock and due to bank holidays we cannot check with our suppliers immediately).

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Start events – Event Sub-Processes

Start events can also be placed in **Event Sub-Processes**. This is not very commonly used, but very powerful concept allowing you to show how to handle special events (e.g. errors) in your process.

Apart from the markers inside you will notice that they have either solid or dashed line. The former signifies that they will interrupt the main process to do their job. The latter means they will do their job without interrupting the main process.

	Message Interrupting Start event	If a specific message is received, course of action defined in Event-Sub-Process is executed and the main process is interrupted
	Message Non-Interrupting Start event	If a specific message is received, course of action defined in Event-Sub-Process is executed without interrupting the main process.

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	Timer Interrupting Start event	On a given moment of time course of action defined in Event-Sub-Process is executed and the main process is interrupted
	Timer Non-Interrupting Start event	On a given moment of time course of action defined in Event-Sub-Process is executed without interrupting the main process.
	Error Interrupting Start event	If an error occurs, course of action defined in Event-Sub-Process is executed and the main process is interrupted.
	Escalation Interrupting Start event	If a specific situation (not being an error) that requires process to react occurs, course of action defined in Event-Sub-Process is executed and the

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		main process is interrupted.
	Escalation Non-Interrupting Start event	If a specific situation (not being an error) that requires process to react occurs, course of action defined in Event-Sub-Process is executed without interrupting the main process.
	Compensation Interrupting Start event	If a need to undo steps already executed in a process occurs, course of action defined in Event-Sub-Process is executed and the main process is interrupted.
	Conditional Interrupting Start event	If a specific condition is met, course of action defined in Event-Sub-Process is executed and the main process is

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		interrupted
	Conditional Non-Interrupting Start event	If a specific condition is met, course of action defined in Event-Sub-Process is executed without interrupting the main process.
	Signal Interrupting Start event	If a specific broadcast (e.g. information about state of other process – as opposed to message there is no specifically defined recipient) is received, course of action defined in Event-Sub-Process is executed and the main process is interrupted
	Signal Non-Interrupting Start event	If a specific broadcast (e.g. information about state of other process – as

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		opposed to message there is no specifically defined recipient) is received, course of action defined in Event-Sub-Process is executed without interrupting the main process.
	Multiple Interrupting Start event	There are several events that we are expecting and when one of them takes place, course of action defined in Event-Sub-Process is executed and the main process is interrupted
	Multiple Non-Interrupting Start event	There are several events that we are expecting and when one of them takes place, course of action defined in Event-Sub-Process is executed without interrupting the

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		main process.
	(Multiple) Parallel Interrupting Start event	There are several events that we are expecting and when all of them take place, course of action defined in Event-Sub-Process is executed and the main process is interrupted
	(Multiple) Parallel Non-Interrupting Start event	There are several events that we are expecting and when all of them take place, course of action defined in Event-Sub-Process is executed without interrupting the main process.

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Intermediate events

Intermediate events show what can happen in the course of the process and allow you to document how will it be handled.

There are two types of intermediate events: the ones that are part of the sequence flow (think of milestones) and the ones that are attached to the boundaries of activities (think of special events that need some handling). They are **circles with double thin border**.

For both of them there are further sub-types. Additionally you will see markers inside that show you type of the trigger.

Intermediate events – Sequence flow

Those events allow you to show important process milestones. They can be divided into active (called in BPMN throwing – they will have dark markers inside) and passive (called catching – with light markers inside).

Symbol	Name	Meaning
	Intermediate Event Throwing (none)	Your process just reached some important milestone and continues.

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	Intermediate Event Throwing Message	Your process sends some message to the outside and continues.
	Intermediate Event Catching Message	Your process needs to wait for a message from the outside before it can continue.
	Intermediate Event Throwing Signal	Your process sends some signal about an important event.
	Intermediate Event Catching Signal	Your process needs to wait for a signal about some specific event that took place somewhere else (in this or other process).
	Intermediate Event Catching Timer	Your process needs to wait for a certain time (e.g. for 2 days or for a certain date) till it can continue.
	Intermediate Event Catching Conditional	Your process needs to wait till some external condition is met (e.g. stock level drops below some value)

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	Intermediate Event Throwing Link	To see where does the Sequence Flow continue, find the corresponding Catching Link Event.
	Intermediate Event Catching Link	Your process continues the flow started at a corresponding throwing link event.
	Intermediate Event Throwing Escalation	Your process informs higher level process (the one from which it was called) about some important event that needs to be handled in a specific way.
	Intermediate Event Throwing Compensation	Your process reached state where we need to undo some activities that were already executed
	Intermediate Event Throwing Multiple	Your process reached state where several events happen at the same time.
	Intermediate Event Catching Multiple	Your process needs to wait for one of several events to happen before it can continue.

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	Intermediate Event Catching Parallel	Your process needs to wait for all of several events to happen before it can continue.

Intermediate events – boundary

Boundary events are placed on the boundary of Activities and allow you to show how will it react to a specific event. You can distinguish two types of boundary events – those that interrupt their parent when they occur (solid line) and those that do not interrupt (dashed line).

Symbol	Name	Meaning
	Boundary Event Interrupting Message	When a certain message is received while an Activity is being executed, this Activity is interrupted and process continues instead with the sequence flow outgoing from the event.
	Boundary Event Non-Interrupting Message	When a certain message is received while an Activity is being executed, additional process path (outgoing

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		from the event) is activated without interrupting the Activity.
	Boundary Event Interrupting Time	When some Activity takes longer to execute than a given time or when it is still being executed when we reach some moment in time, this Activity is interrupted and process continues instead with the sequence flow outgoing from the event.
	Boundary Event Non-Interrupting Time	When some Activity takes longer to execute than a given time or when it is still being executed when we reach some moment in time, additional process path (outgoing from the event) is activated without interrupting the Activity.

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	Boundary Event Interrupting Conditional	When a certain condition turns true (e.g. it turns out we are out of stock) while an Activity is being executed, this Activity is interrupted and process continues instead with the sequence flow outgoing from the event.
	Boundary Event Non-Interrupting Conditional	When a certain condition turns true (e.g. it turns out we are out of stock) while an Activity is being executed, additional process path (outgoing from the event) is activated without interrupting the Activity.
	Boundary Event Interrupting Signal	When a certain signal is received while an Activity is being executed, this Activity is interrupted and process continues instead with the sequence flow

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		outgoing from the event.
	Boundary Event Non-Interrupting Signal	When a certain signal is received while an Activity is being executed, additional process path (outgoing from the event) is activated without interrupting the Activity.
	Boundary Event Interrupting Escalation	When we are notified about the escalation from the lower level while an Activity is being executed, this Activity is interrupted and process continues instead with the sequence flow outgoing from the event.
	Boundary Event Non-Interrupting Escalation	When we are notified about the escalation from the lower level while an Activity is being executed, additional process path (outgoing from the event) is activated

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		without interrupting the Activity.
	Boundary Event Interrupting Error	When an error occurs while an Activity is being executed, this Activity is interrupted and process continues instead with the sequence flow outgoing from the event.
	Boundary Event Interrupting Compensation	When something goes wrong in a process, we may need to return to already completed Activities to undo them. This event is linked with association with Activities perform this undoing.
	Boundary Event Interrupting Cancel	You place this event on a border of a Transaction to show that it needs to be undone. It can be triggered by Cancel End Event in Event Sub-Process or specific Message.

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	Boundary Event Interrupting Multiple	When one of several possible events happens while an Activity is being executed, this Activity is interrupted and process continues instead with the sequence flow outgoing from the event.
	Boundary Event Non-Interrupting Multiple	When one of several possible events happens while an Activity is being executed, additional process path (outgoing from the event) is activated without interrupting the Activity.
	Boundary Event Interrupting Parallel	When all of several possible events happen while an Activity is being executed, this Activity is interrupted and process continues instead with the sequence flow outgoing from the event.

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	Boundary Event Non-Interrupting Multiple	When all of several possible events happen while an Activity is being executed, additional process path (outgoing from the event) is activated without interrupting the Activity.

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End events

End events show what are the results/outcomes of the process, so that you know its scope. They are **circles with single thick border**.

Symbol	Name	Meaning
	End Event None	When a process reaches this end state, token is consumed. If this was the last one, process instance ends.
	End Event Message	When a process reaches this end state, token is consumed and a message is sent.
	End Event Signal	When a process reaches this end state, token is consumed and a signal is sent.
	End Event Escalation	This end event signifies that process did not complete as we would expect and we need some special handling on the higher process level.

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	End Event Error	This end event signifies that process did not complete successfully.
	End Event Compensation	When a process reaches this end state, token is consumed and information is sent about the need to undo some of the Activities that were completed.
	End Event Multiple	When a process reaches this end state, token is consumed and several events are triggered.
	End Event Cancel	When Transaction Sub-Process does not end successfully you want to trigger Cancel Boundary Event and send a special message that will undo content of this Transaction.
	End Event Terminate	When a process reaches this end state, all remaining tokens are consumed and process instance ends.