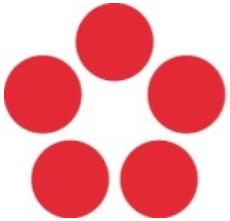


Jihočeská univerzita
v Českých Budějovicích
University of South Bohemia
in České Budějovice

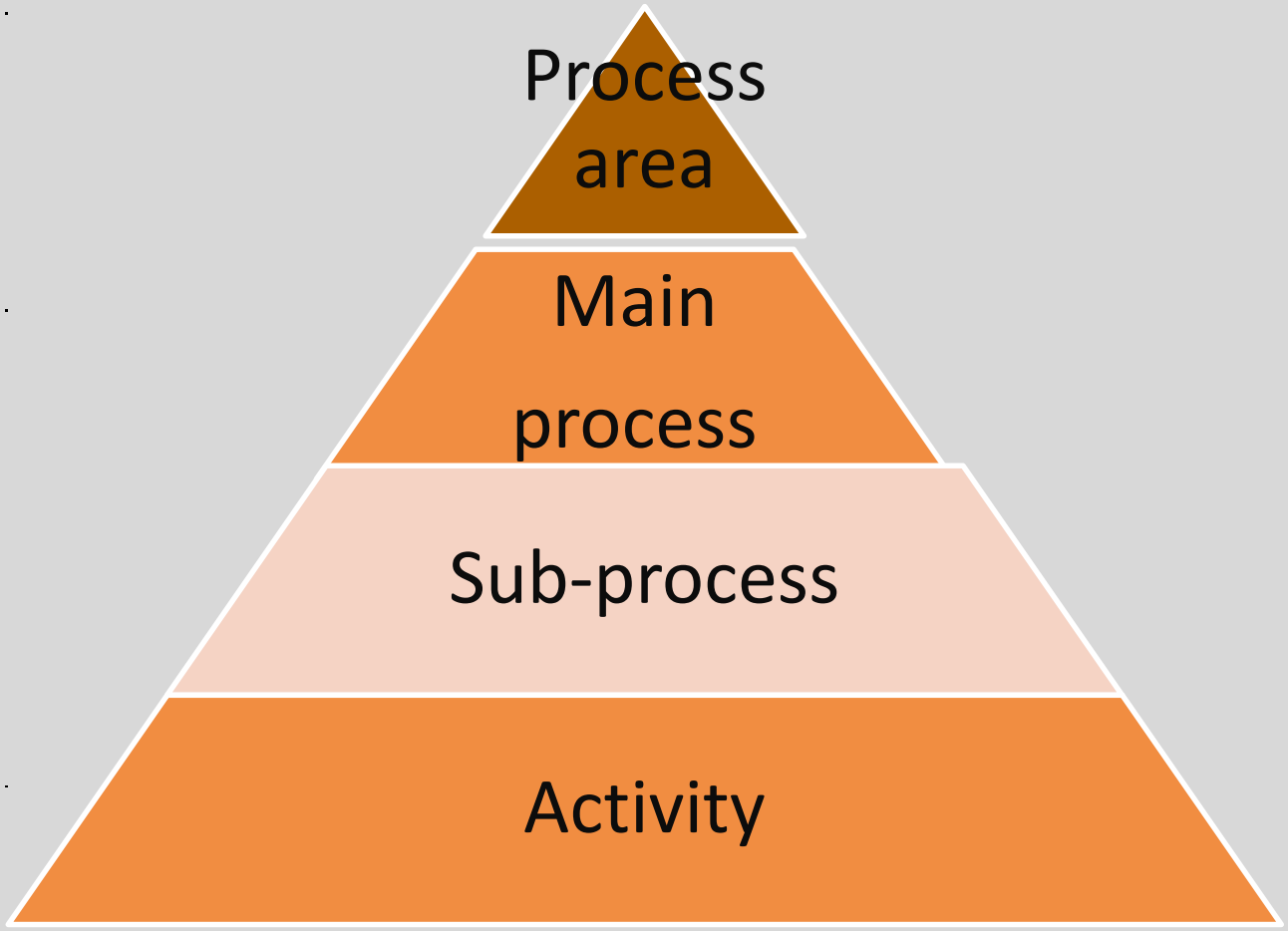
Process modeling in ARIS

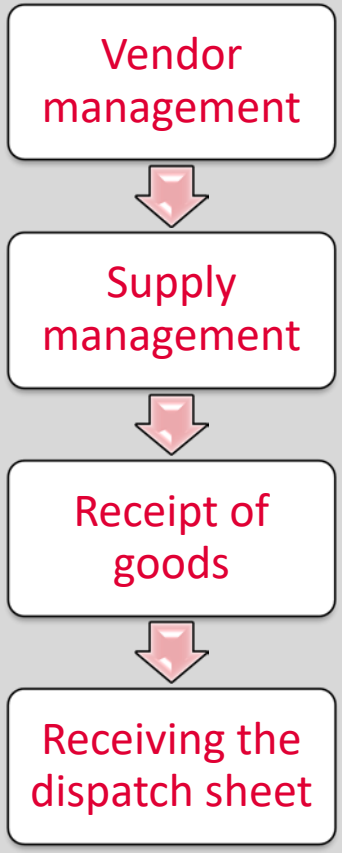
doc. Ing. Ladislav Rolínek, Ph.D.

EVROPSKÁ UNIE
Evropské strukturální a investiční fondy
Operační program Výzkum, vývoj a vzdělávání

MINISTERSTVO ŠKOLSTVÍ, MLÁDEŽE A TĚLOVÝCHOVY

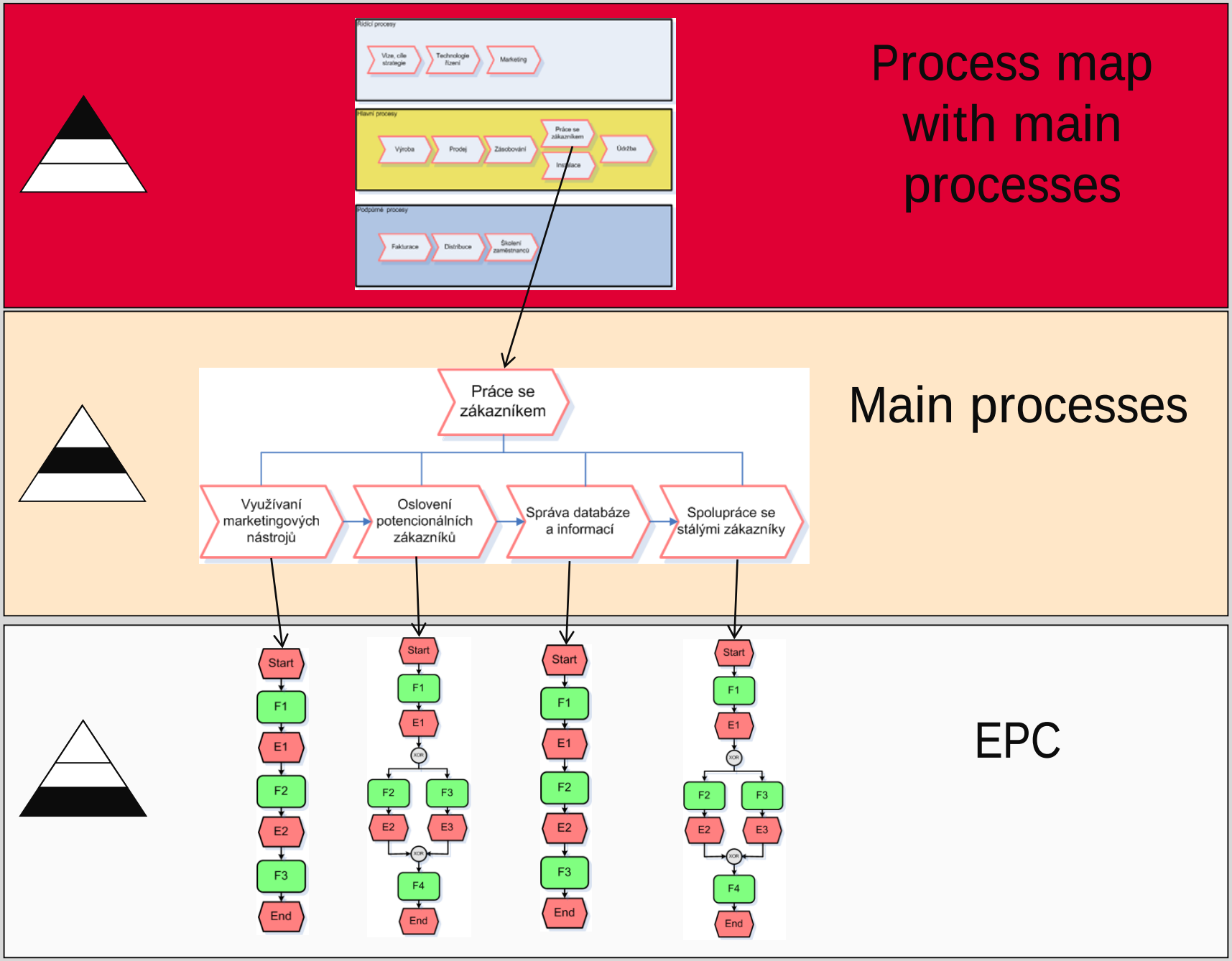
Process Maps - Level Concepts





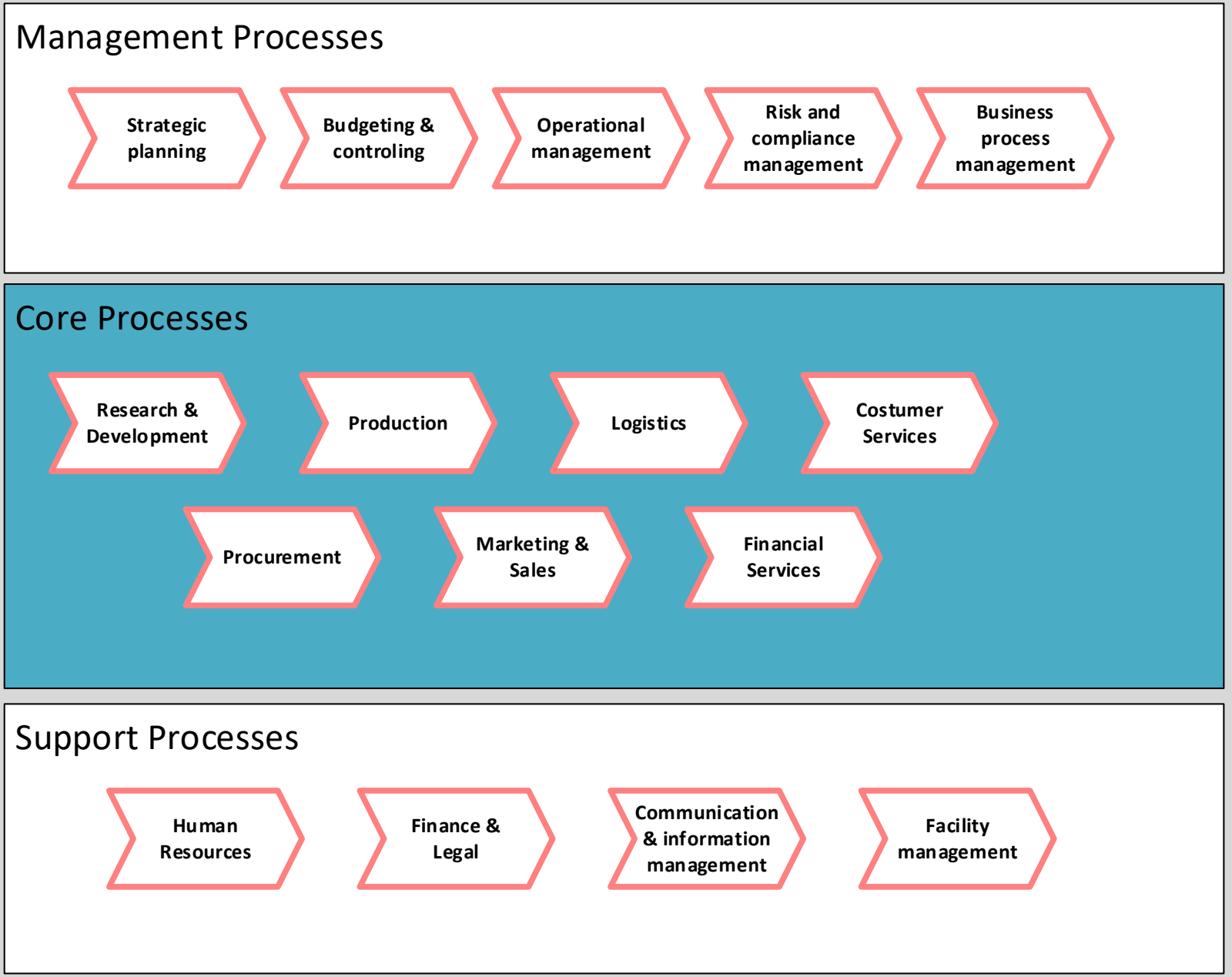
(adopted and modified by IDS Scheer)

Process Maps - Level Concepts



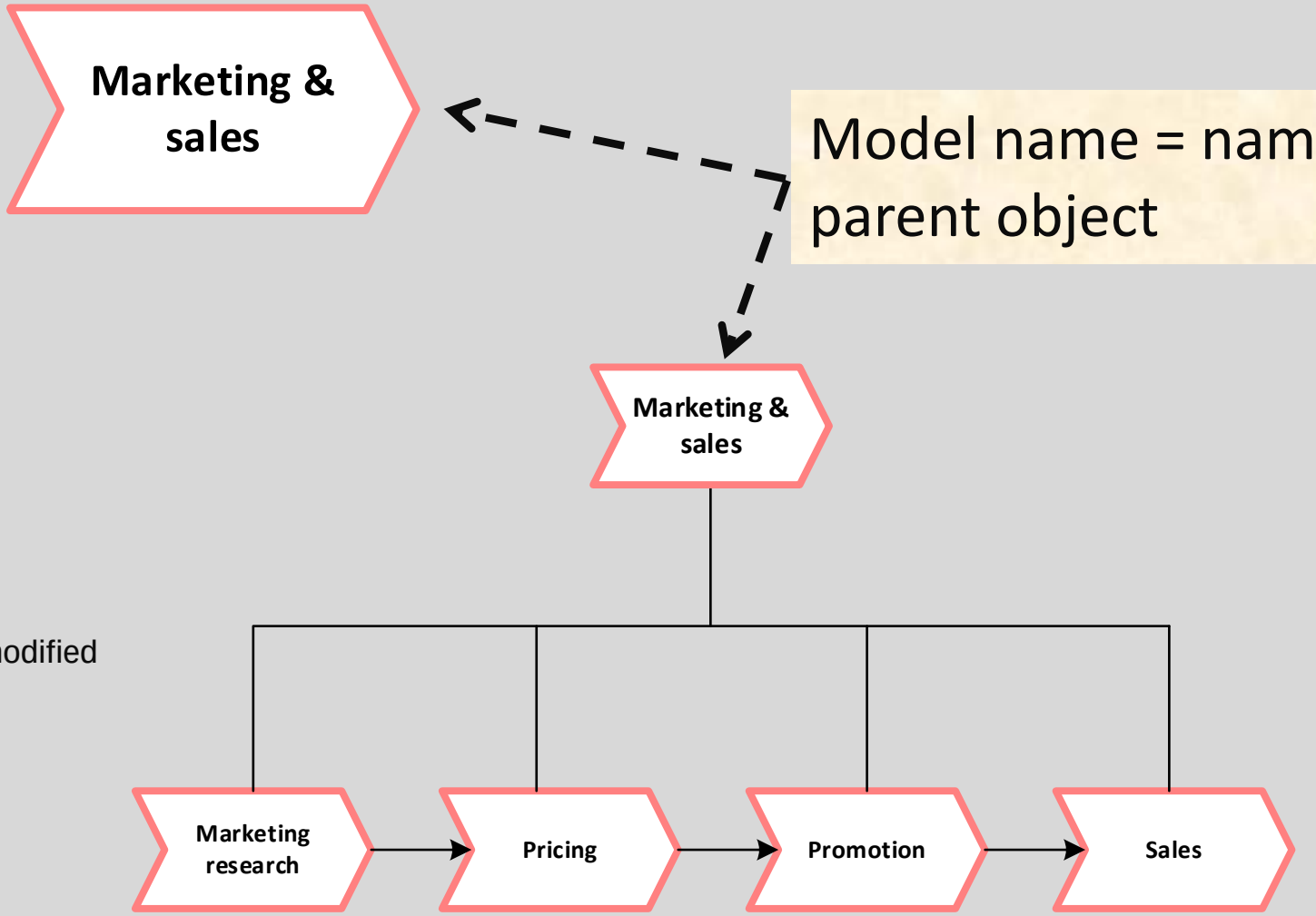
(adopted and modified by IDS Scheer)

Process Maps - Landscape



Named conventions for models

Models that are hierarchized to an object take its name.



(adopted and modified by IDS Scheer)

Named conventions for models

Process:
The name should be derived by one or more nouns or widespread adjective, prefix or suffix.

Marketing & sales

Other examples: Strategic Planning, Order Processing, Domestic Payments, Addressing Potential Customers

(adopted and modified by IDS Scheer)

Essence and creation of EPC

(Event-driven Process Chain)

EPC: Purpose

Control flow display ie the chronological and logical sequence of each function in the process

Basic elements for modeling the flow of control:

Checking reservation requests

Object type: Function

Reservation request is accepted

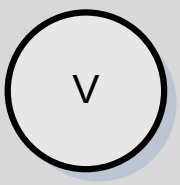
Object type: Event

Object type: Logical Connector

AND

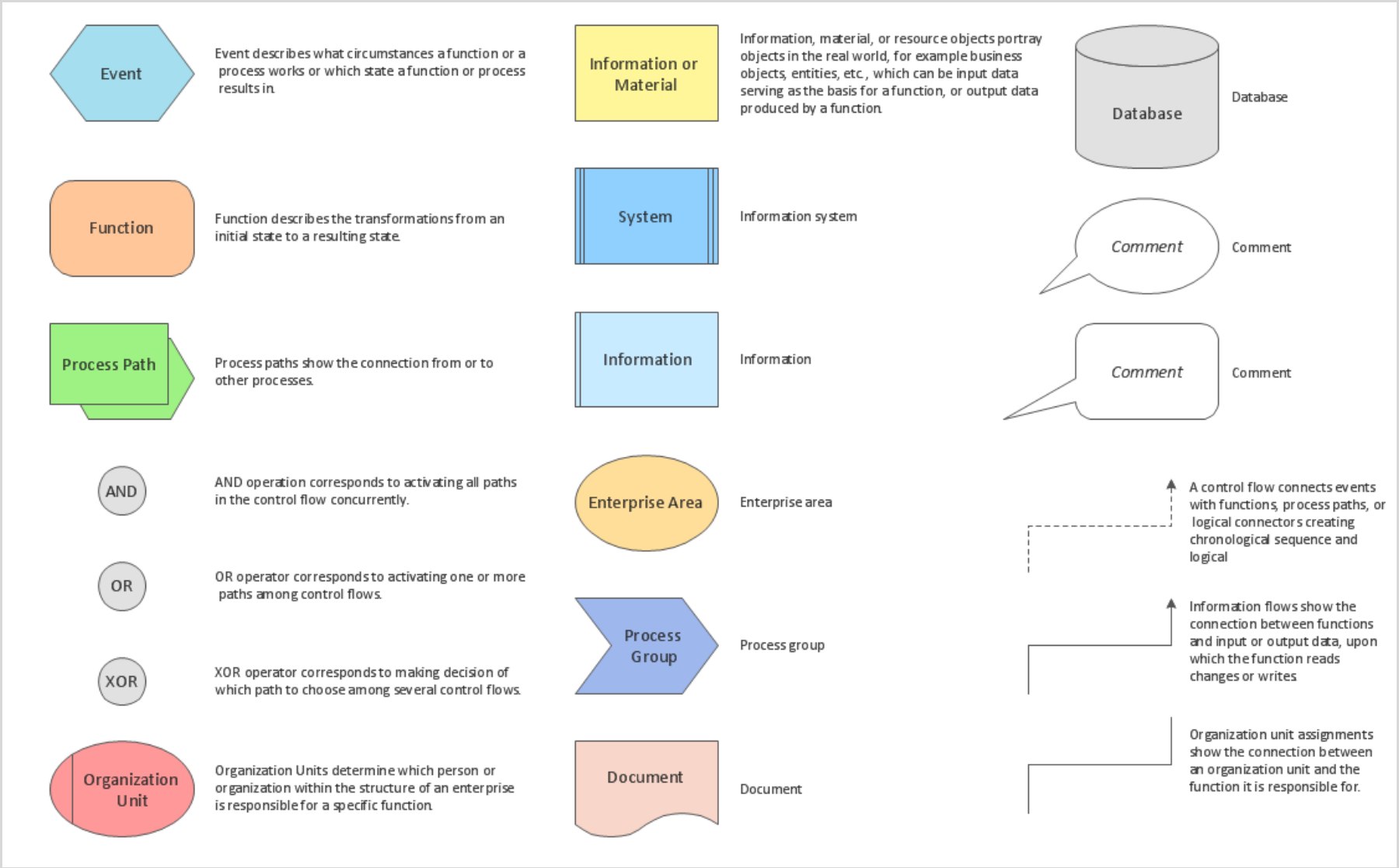
XOR = buď a nebo

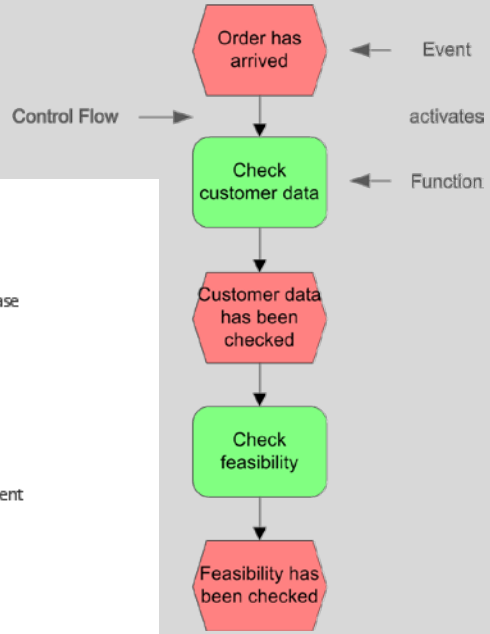
OR = a/nebo



(adopted and modified by IDS Scheer)

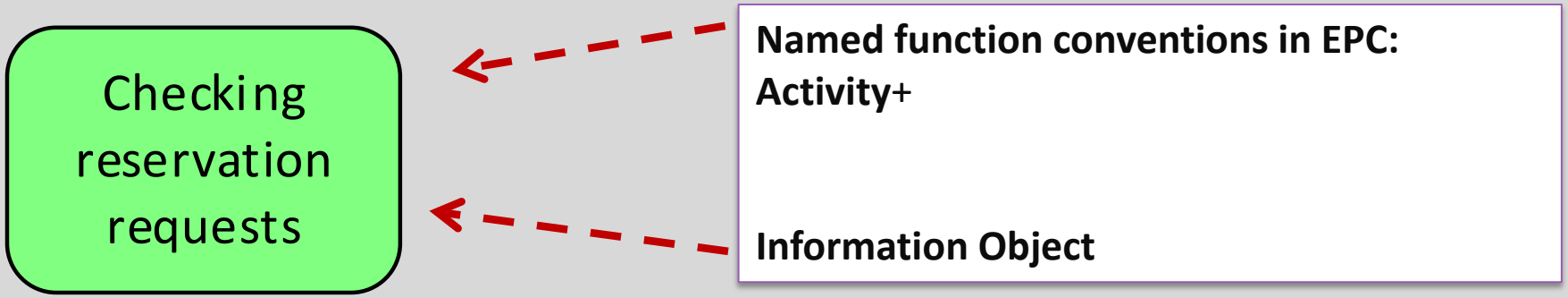
EPC: Digram Design Elements





Function: definitions and naming conventions

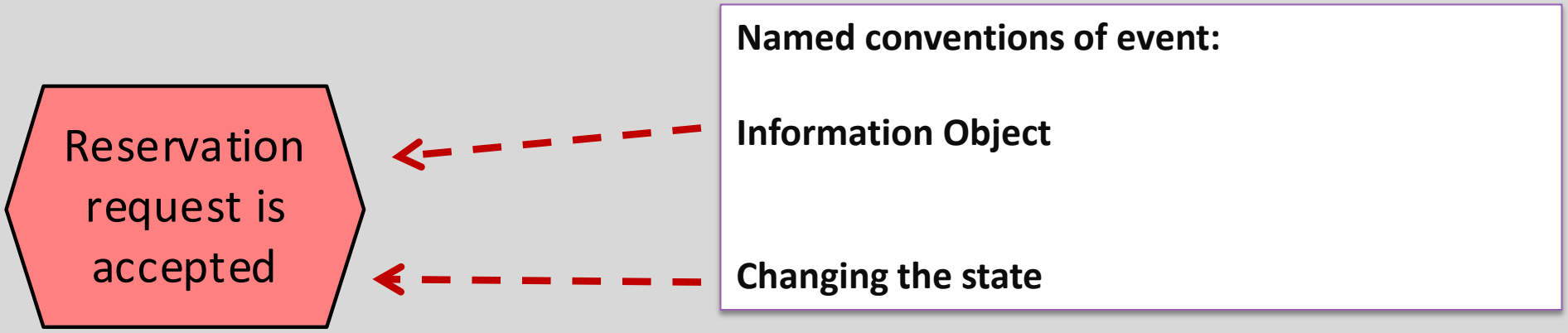
Functions: Expert task performed on an object supporting one or more goals.
Synonyms: activity, activity, process step, procedure



(adopted and modified by IDS Scheer)

Event: definitions and naming conventions

Event: Describes the commercially relevant status of an information object that controls or affects the next process.

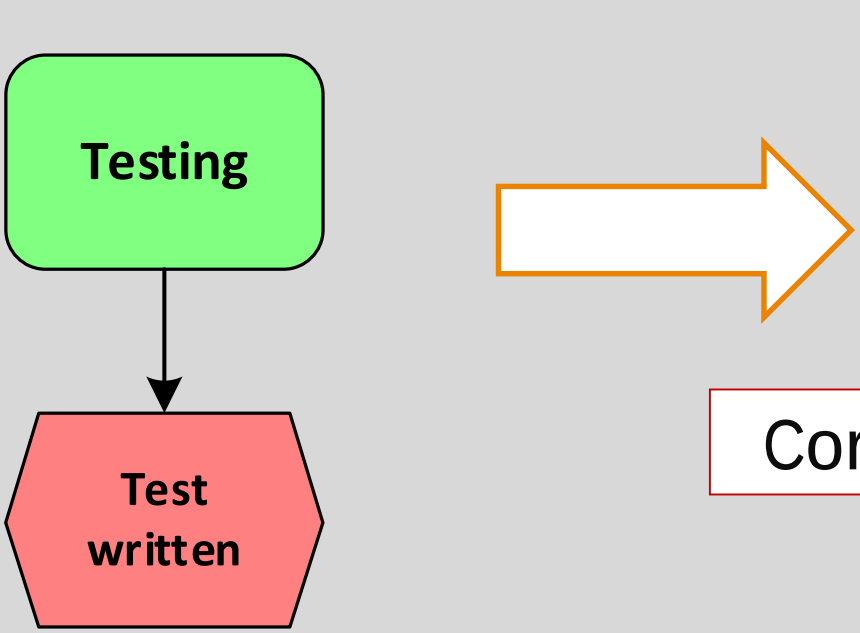


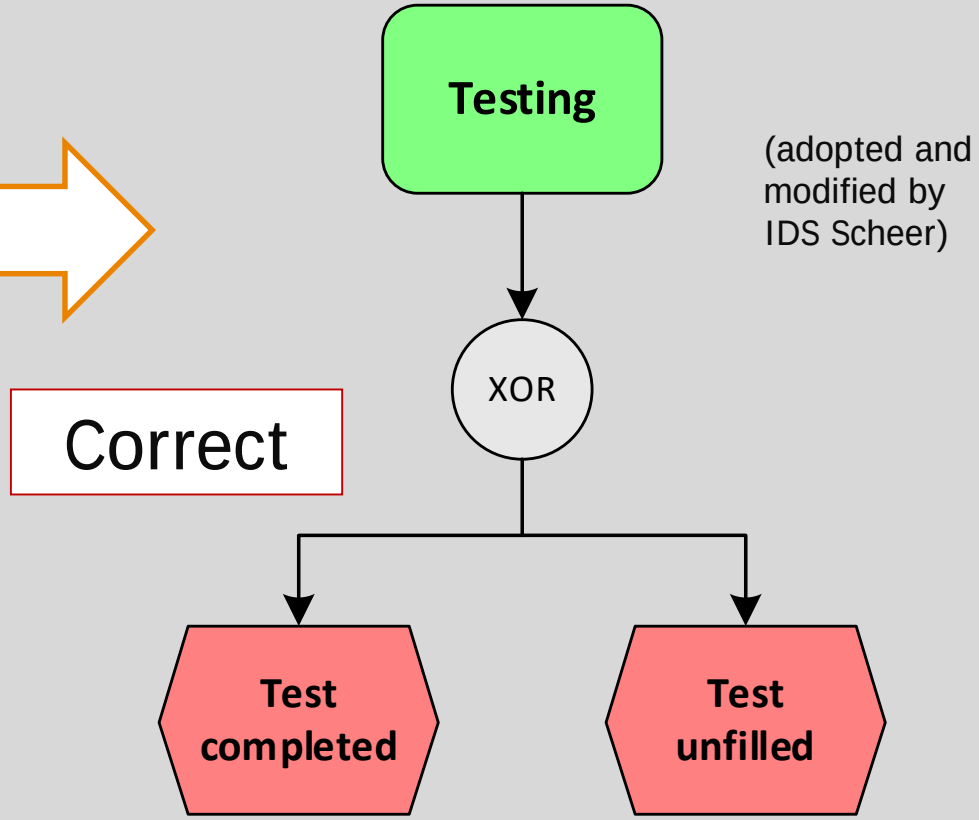
(adopted and modified by IDS Scheer)

Event: definitions and naming conventions

After the decision making functions (testing):

- **Incorrect:** "Tests performed„
- **Correct:** Specify the possible test results (the test function usually has at least two mutually exclusive events)





(adopted and modified by IDS Scheer)

Event: definitions and naming conventions

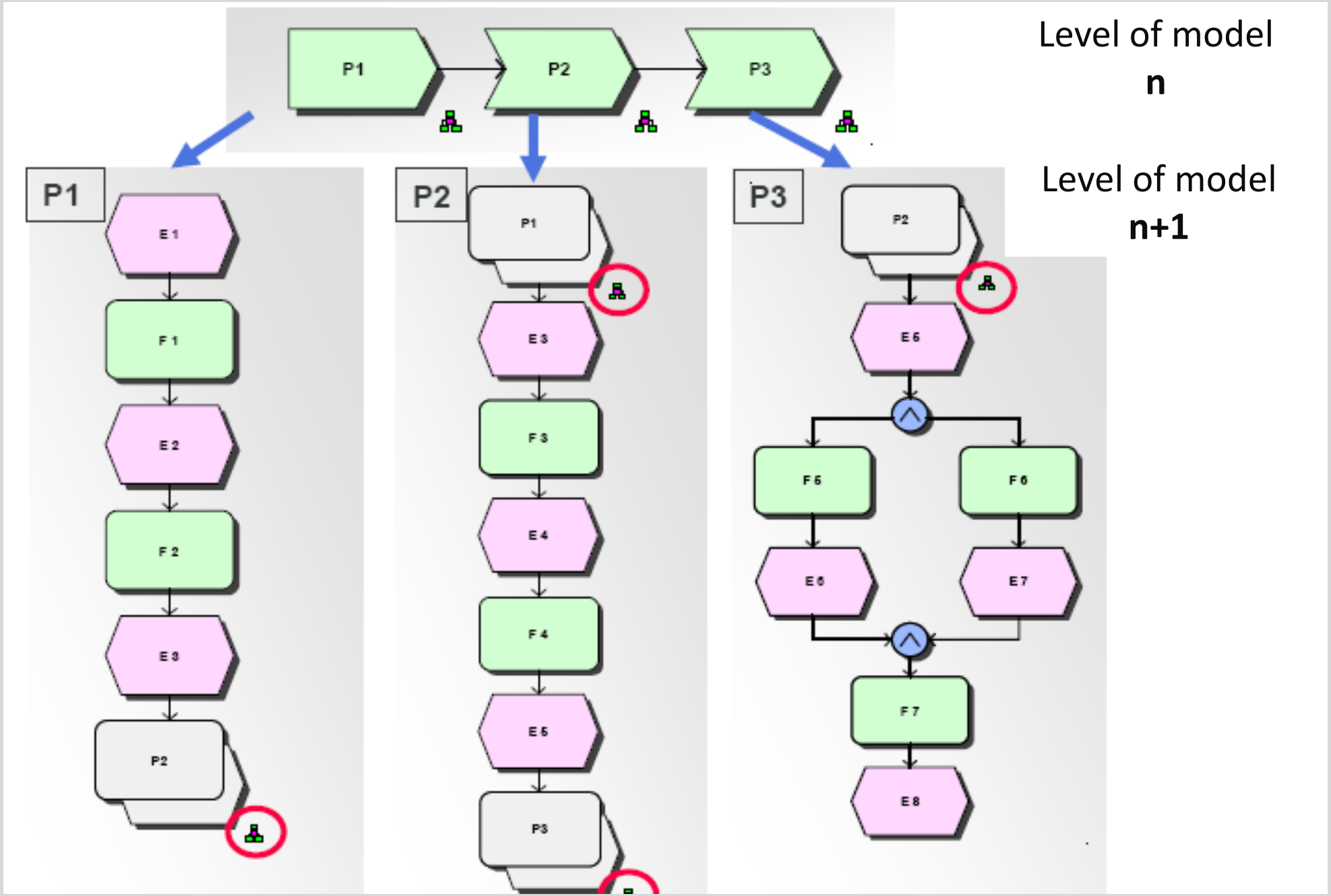
The process path (interface) is a symbol for the EPC Function object.

Process path are used:

- demonstration of downstream and upcoming processes;
- to navigate to follow-up and upstream processes directly from the EPC (by opening the attached model).

(adopted and modified by IDS Scheer)

Process path (example)



Level of model
n

Level of model
n+1

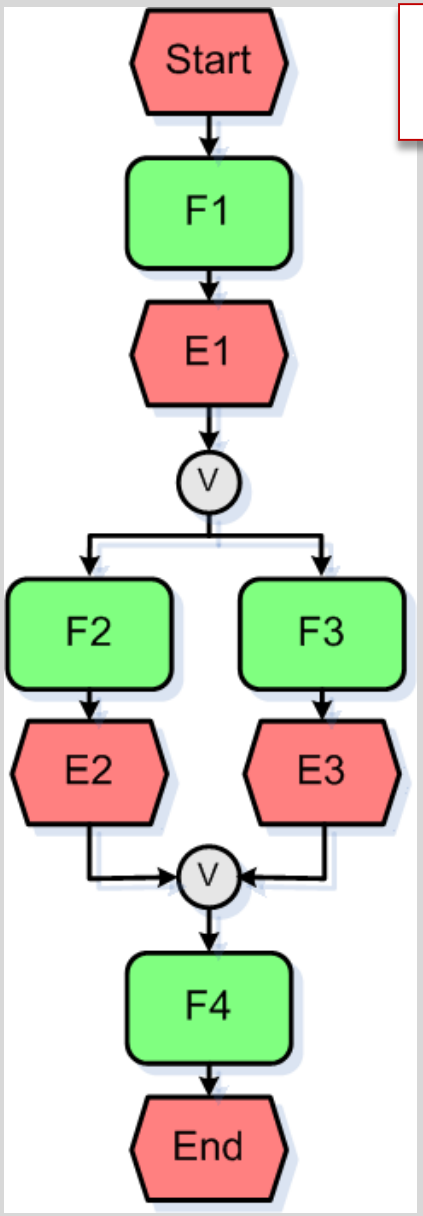
EPC - Modeling rules

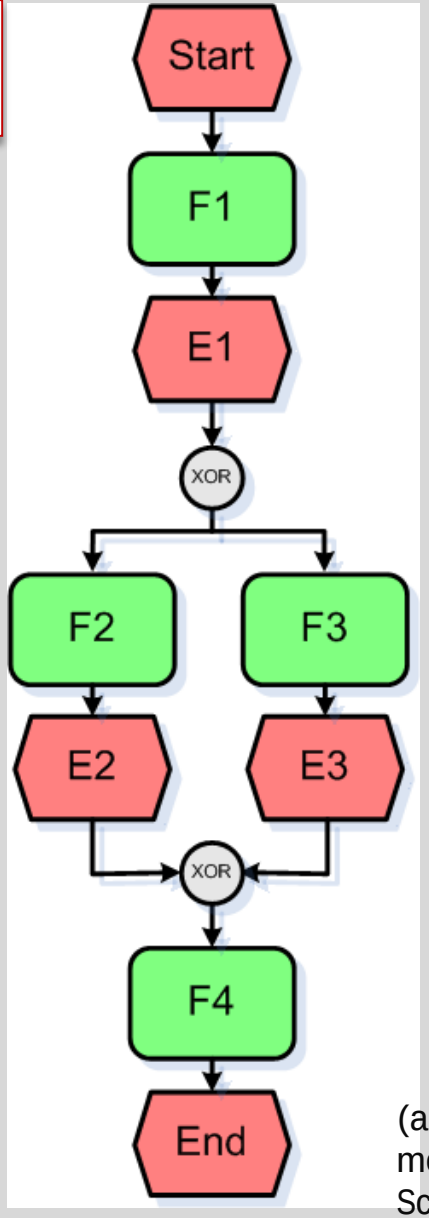
- Each EPC starts with at least one trigger event (or process interface).
- Each EPC ends with at least one end event (or process interface).
- The event is followed by either a function or an operand (the exception is the ending event).
- The function is followed by either an event or an operand.
- Each feature has one input connection and one output link (exception is end or input event).
- Each event has one input connection and one output link (the exception is the end or entry event).
- The Operand has either:
  multiple input connections and one output link or
  one input connection and multiple output connections.

(adopted and modified by IDS Scheer)

EPC: merging paths

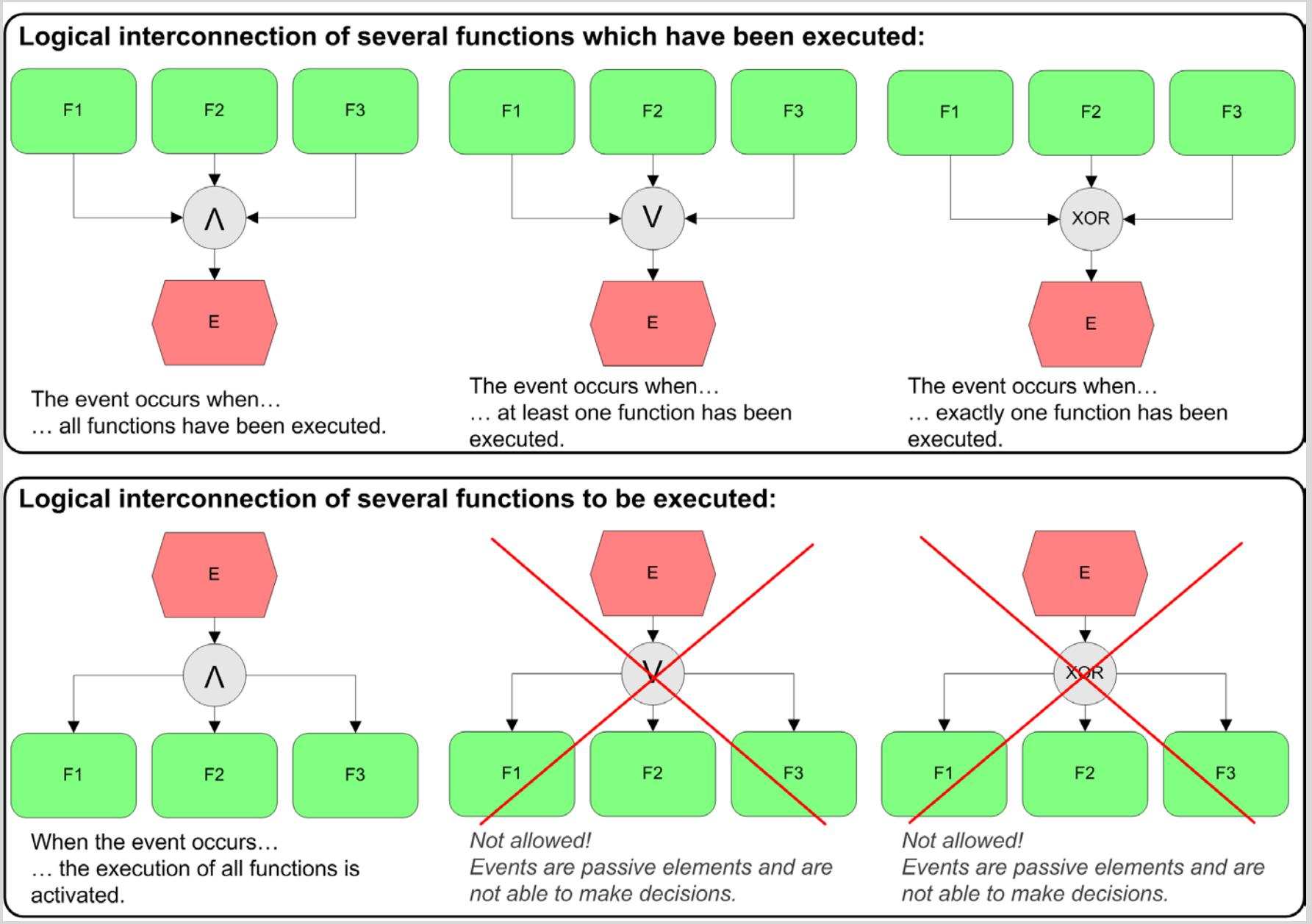
The paths must be merged with the same operand that was used for branching.





(adopted and modified by IDS Scheer)

EPC: příklad operandu OR



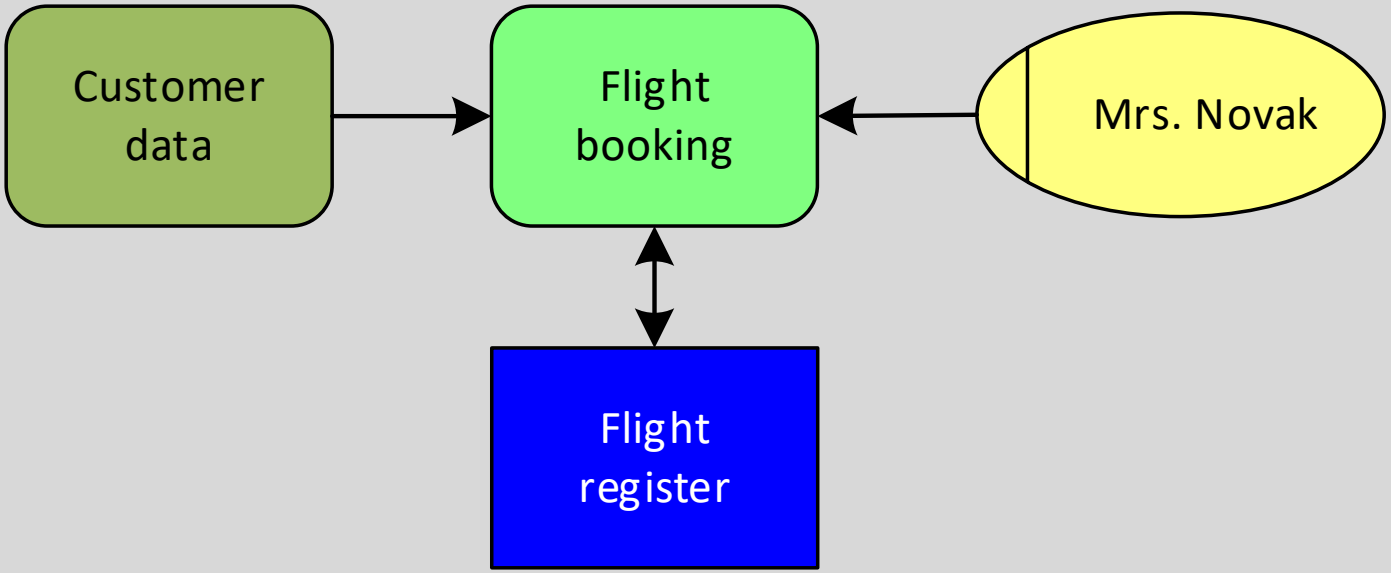
EPC: příklad operandu OR

Modeling: access solutions

Process representation by text:

- Flights are registered by Mrs. Novak in the LETREGISTR system. Customer data is required as input.

Diagram representation of the process:



Modeling: access solutions

Representation of the process in the following table:

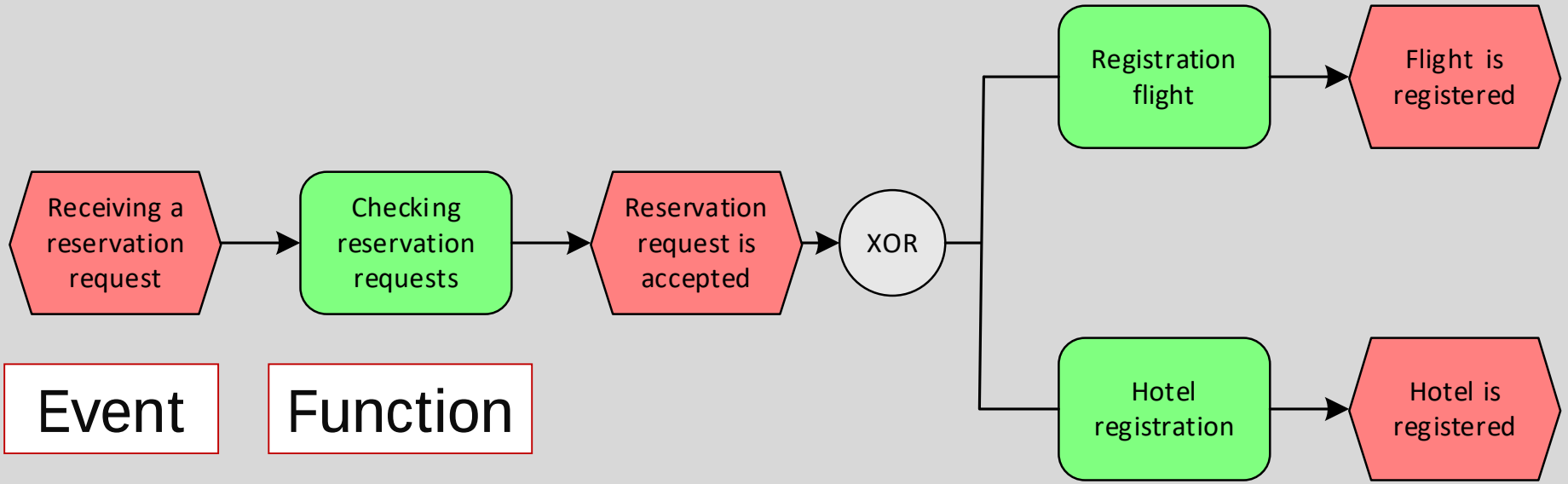
A	B	C	D
Activity (function)	Organization unit	IT system	Input data
Flight booking	Mrs. Novak	Flight register	**Customer data**

(adopted and modified by IDS Scheer)

ARIS Architecture (1)

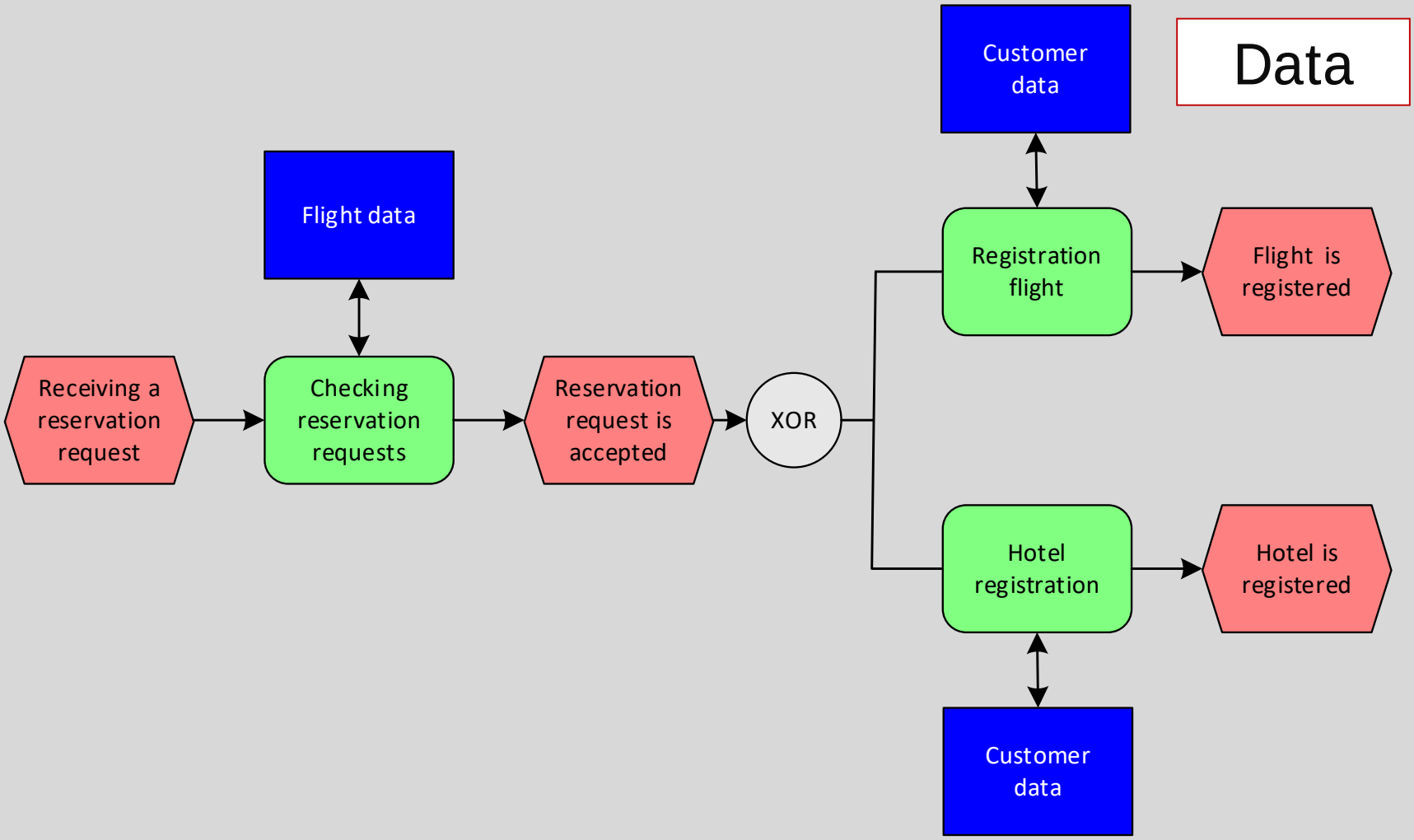
Events initiate functions.

Functions create events.



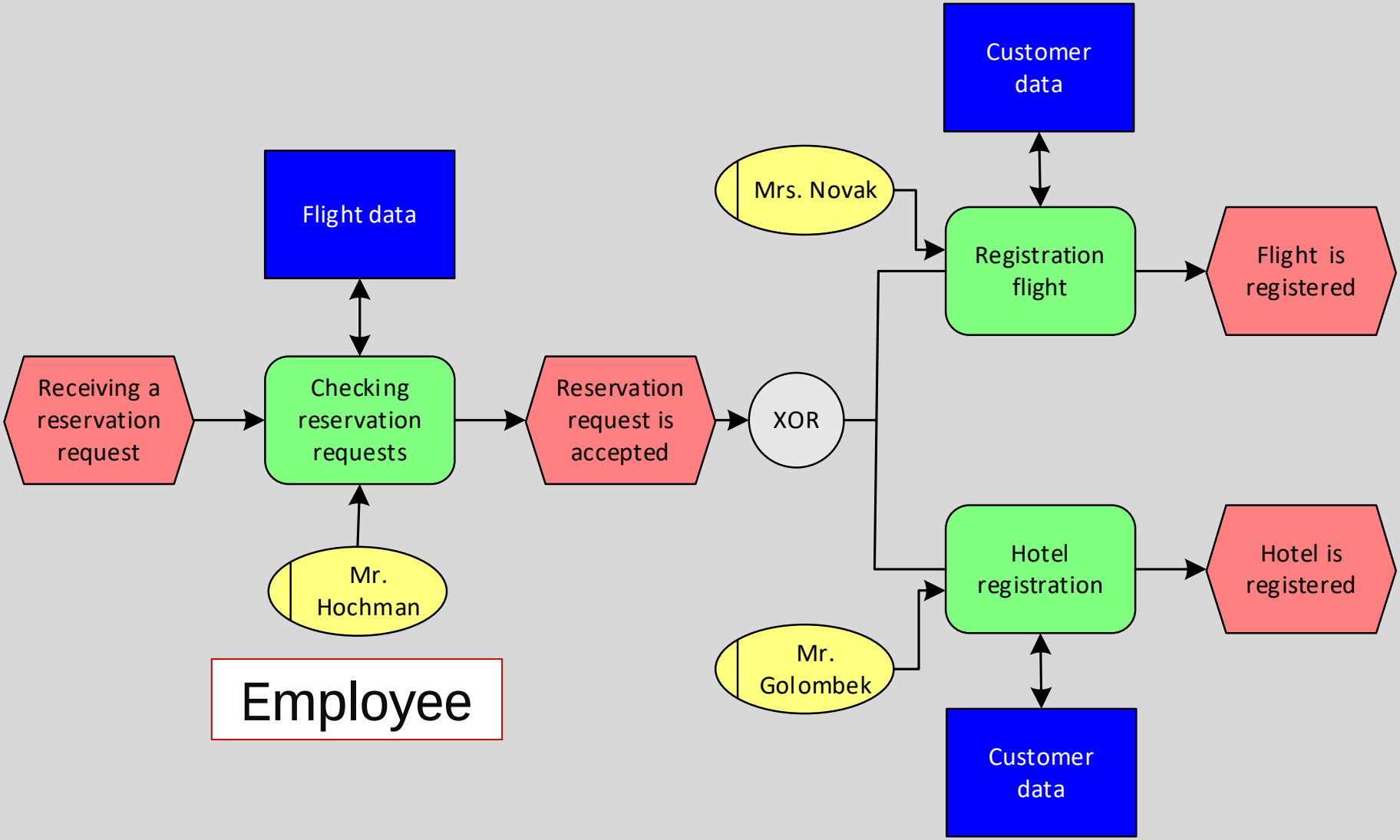
ARIS Architecture (2)

Functions process data.



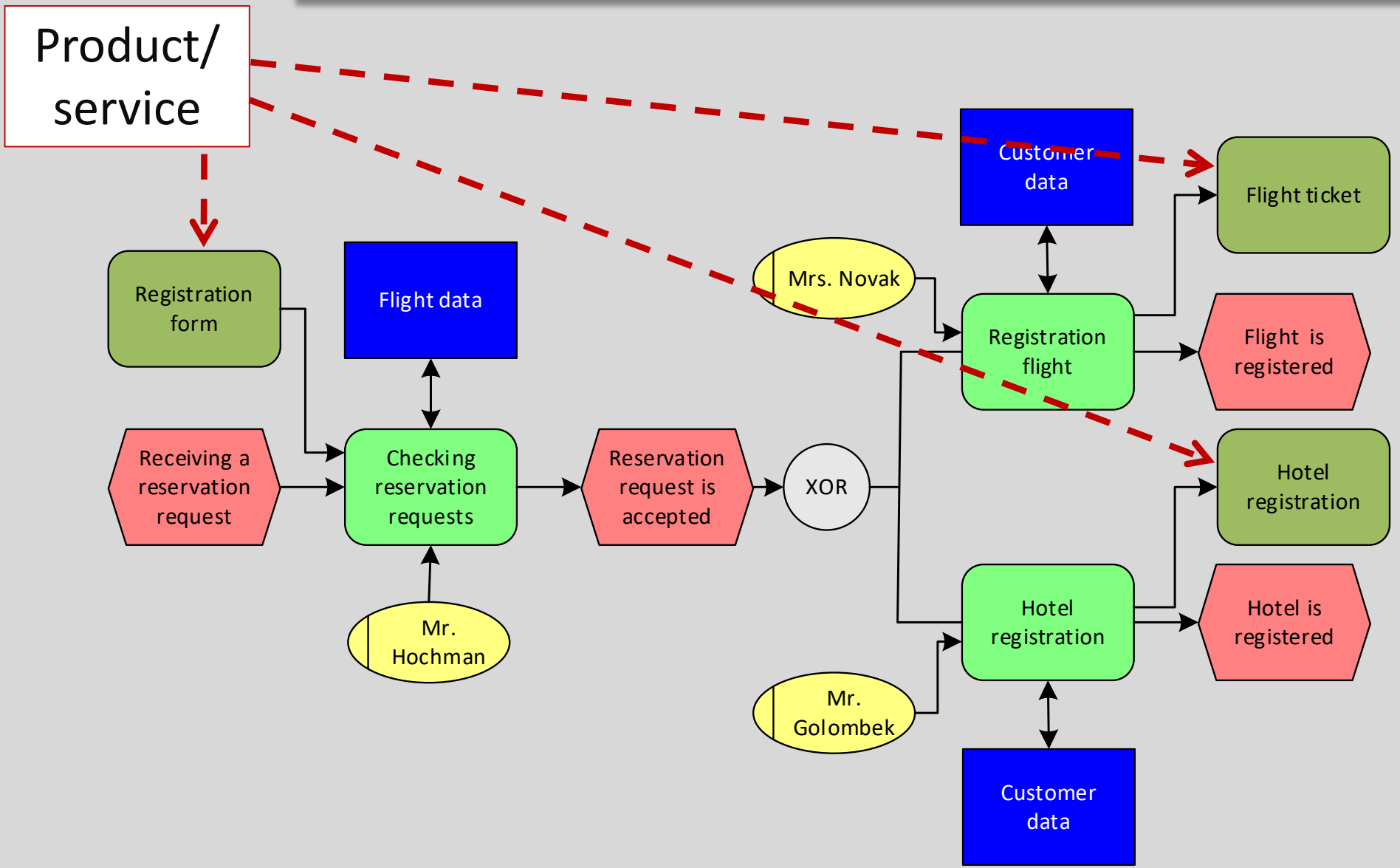
ARIS Architecture (3)

Functions are performed by employees (organization unit).

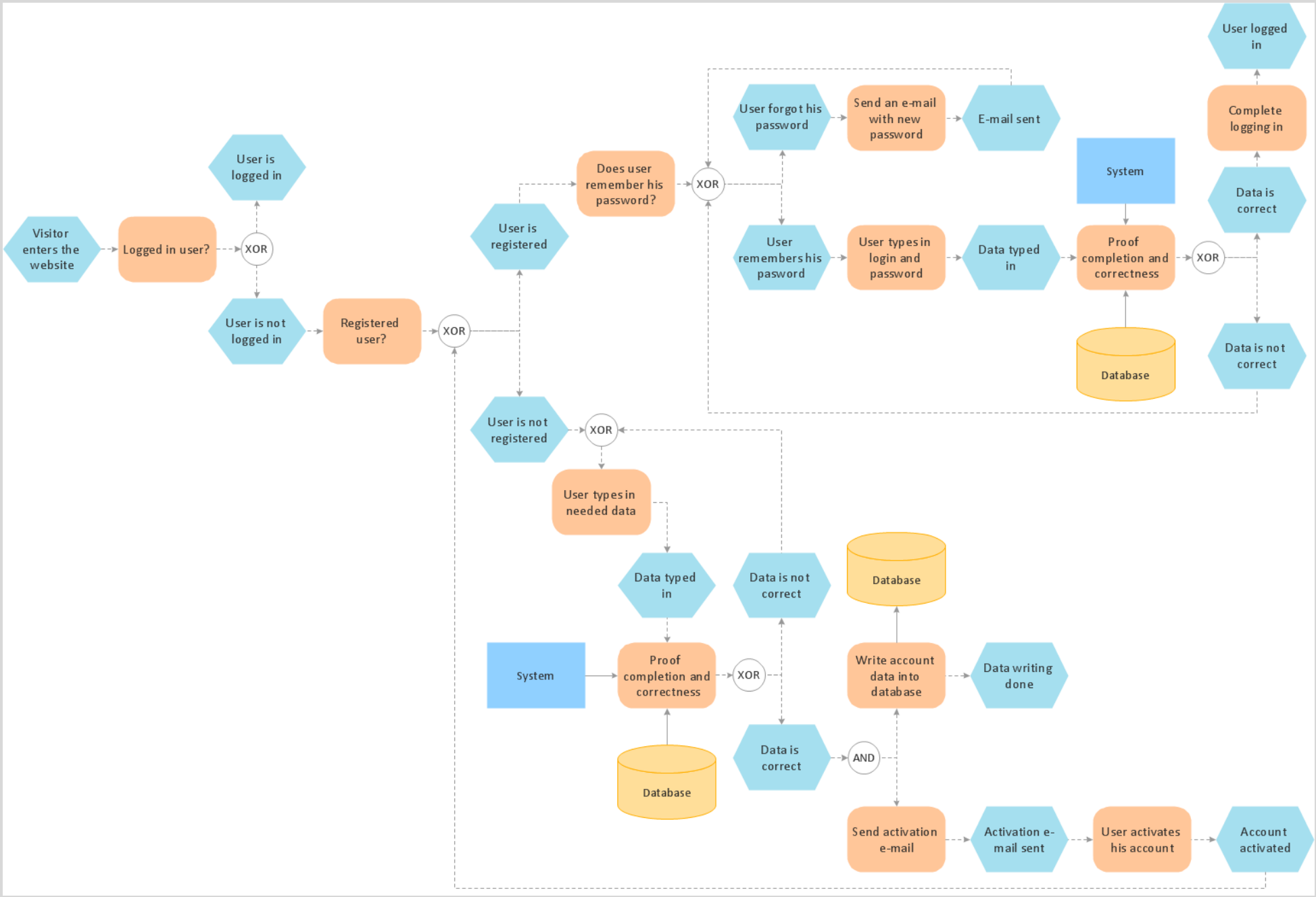


ARIS Architecture (4)

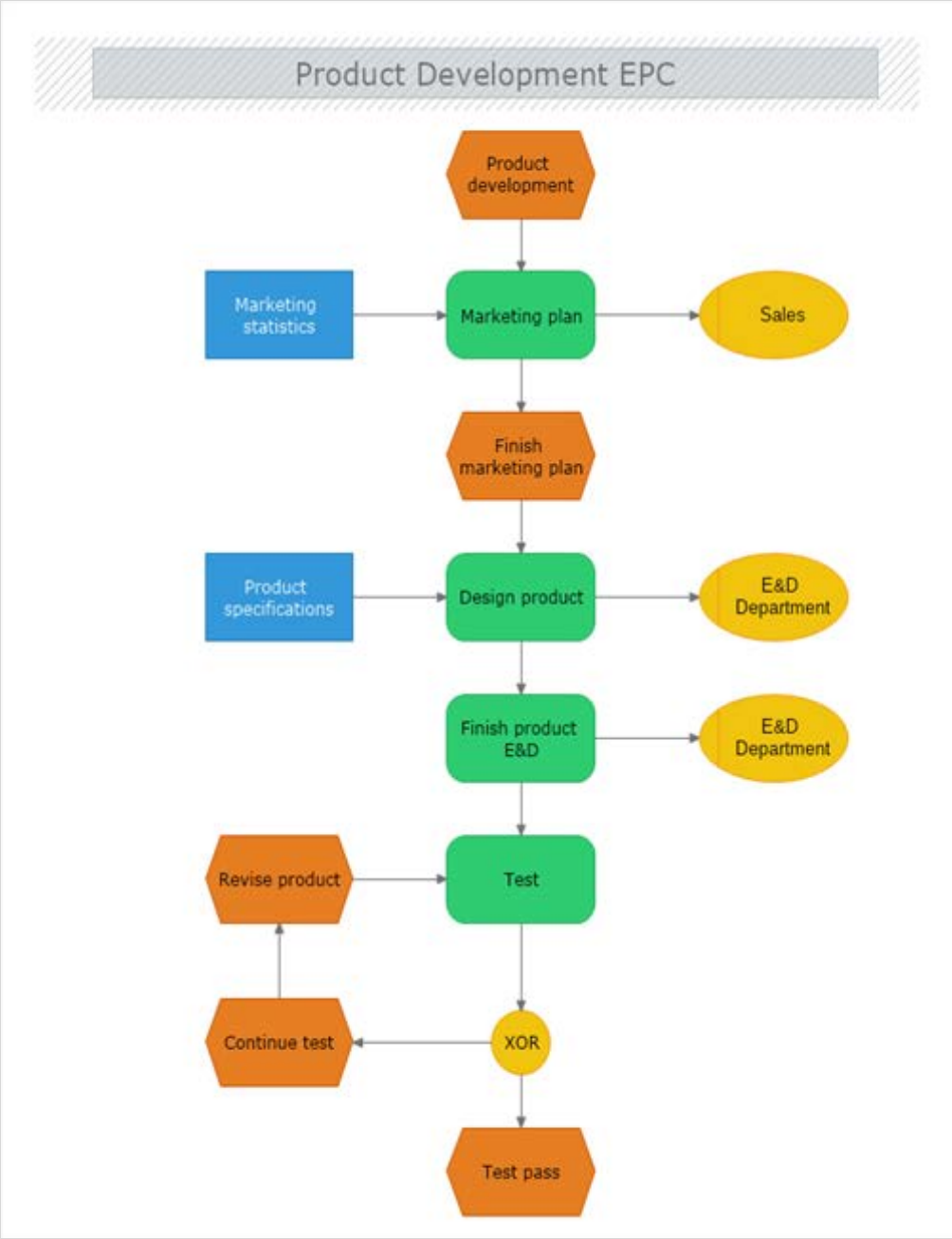
Functions create and process products / services.

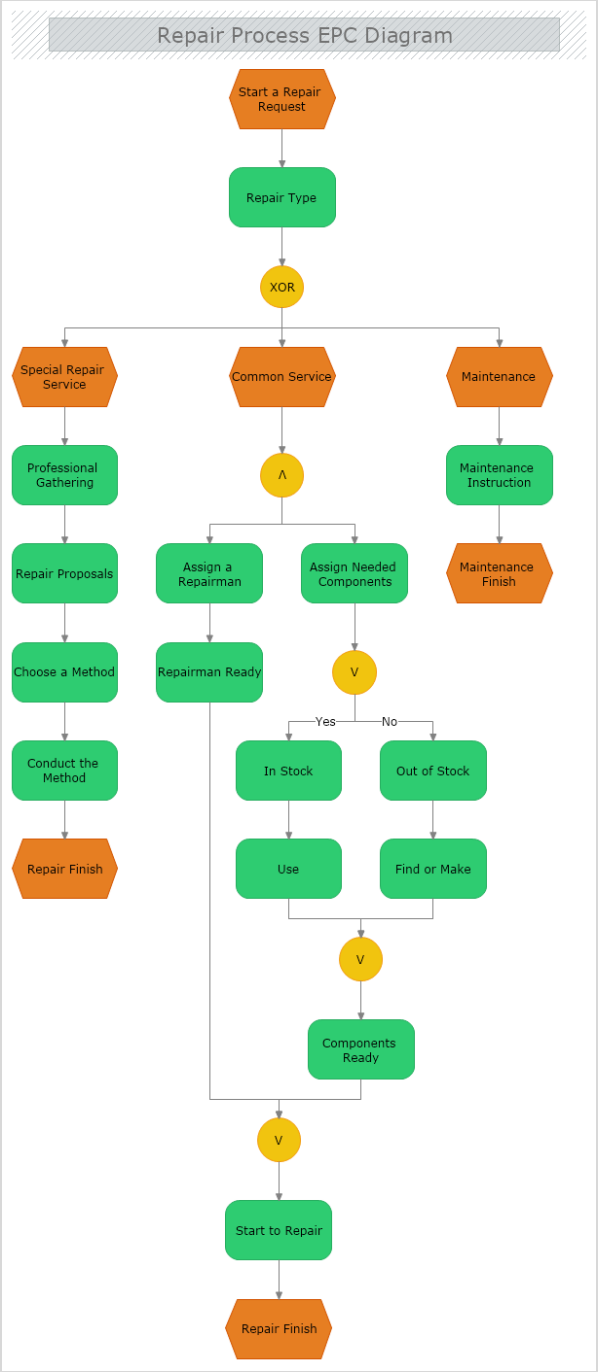


EPC

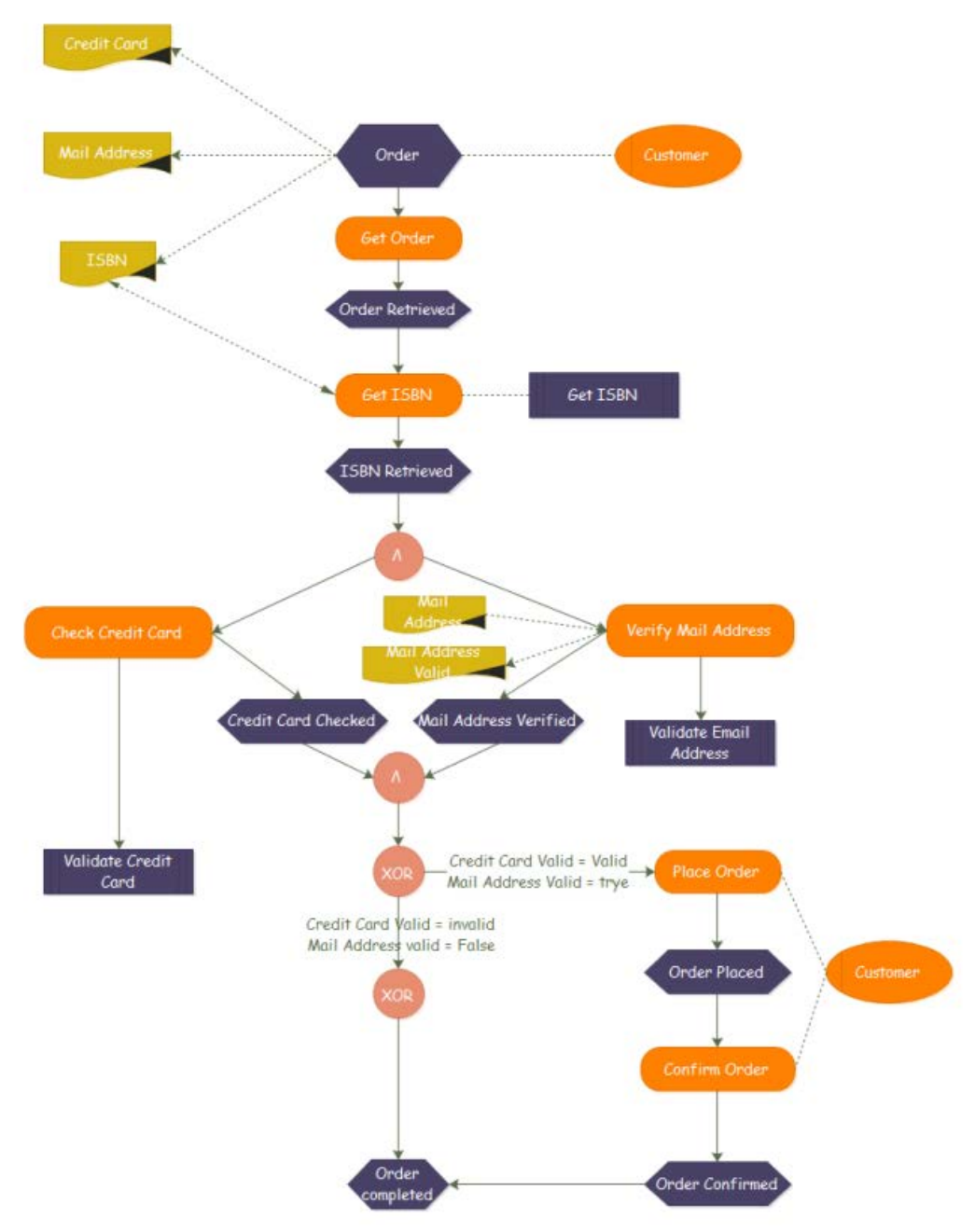

Visitor enters the website
Logged in user?
XOR
User is logged in
User is not logged in
Registered user?
XOR
User is registered
Does user remember his password?
XOR
User forgot his password
Send an e-mail with new password
E-mail sent
User remembers his pasword
User types in login and password
Data typed in
System
Proof completion and correctness
XOR
Database
User logged in
Complete logging in
Data is correct
Data is not correct
User is not registered
XOR
User types in needed data
Data typed in
System
Proof completion and correctness
XOR
Database
Data is not correct
Database
Write account data into database
Data writing done
Data is correct
AND
Send activation e-mail
Activation e-mail sent
User activates his account
Account activated

EPC


Product Development EPC
Product development
Marketing statistics
Marketing plan
Sales
Finish marketing plan
Product specifications
Design product
E&D Department
Finish product E&D
E&D Department
Revise product
Test
Continue test
XOR
Test pass


Repair Process EPC Diagram
Start a Repair Request
Repair Type
XOR
Special Repair Service
Common Service
Maintenance
Professional Gathering
∧
Maintenance Instruction
Repair Proposals
Assign a Repairman
Assign Needed Components
Maintenance Finish
Choose a Method
Repairman Ready
V
Yes
No
Conduct the Method
In Stock
Out of Stock
Repair Finish
Use
Find or Make
V
Components Ready
V
Start to Repair
Repair Finish

EPC


Credit Card
Mail Address
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Customer
Get Order
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Get ISBN
Get ISBN
ISBN Retrieved
∧
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Mail Address
Mail Address Valid
Verify Mail Address
Credit Card Checked
Mail Address Verified
Validate Email Address
∧
Validate Credit Card
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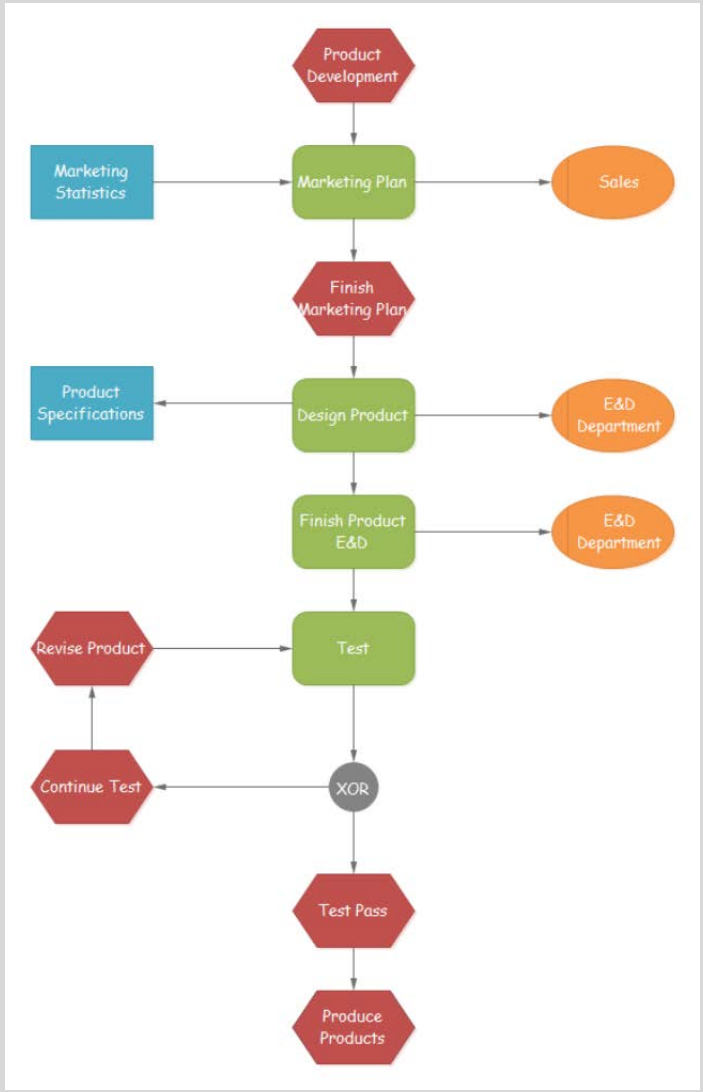
Mail Address valid = False
XOR
Order Placed
Customer
Confirm Order
Order completed
Order Confirmed


Product Development
Marketing Statistics
Marketing Plan
Sales
Finish Marketing Plan
Product Specifications
Design Product
E&D Department
Finish Product E&D
E&D Department
Revise Product
Test
Continue Test
XOR
Test Pass
Produce Products