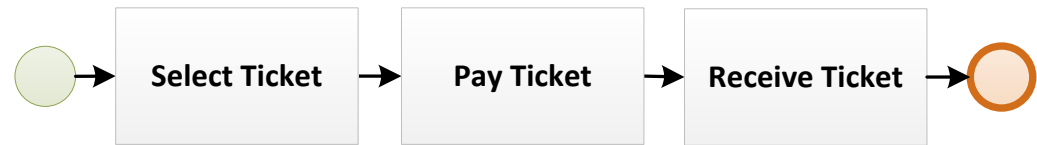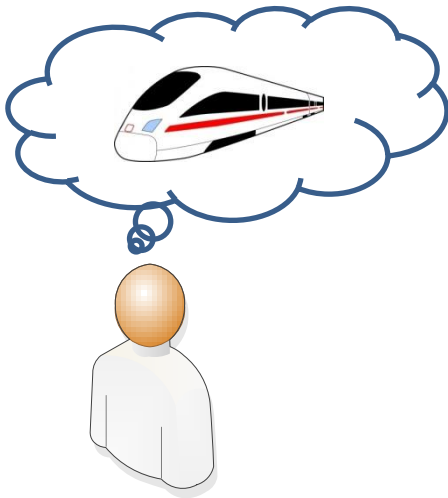# Use Your Best Device!
# Enabling Device Changes at Runtime

**Dennis Bokermann**, Christian Gerth, and Gregor Engels

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*Die Universität der Informationsgesellschaft*

# Motivation

A lot of different devices

A lot of different options



Select Ticket → Pay Ticket → Receive Ticket

# Motivation

*A lot of different devices*

*A lot of different options*

**Select Ticket**

*Our goal is to enable device changes at runtime for process-driven applications*

Smartphone

Ticket Vending Machine

Select Ticket

# Overview



Creating a Combined Process Model → Adding Deployment Information → Specifying Device Changes

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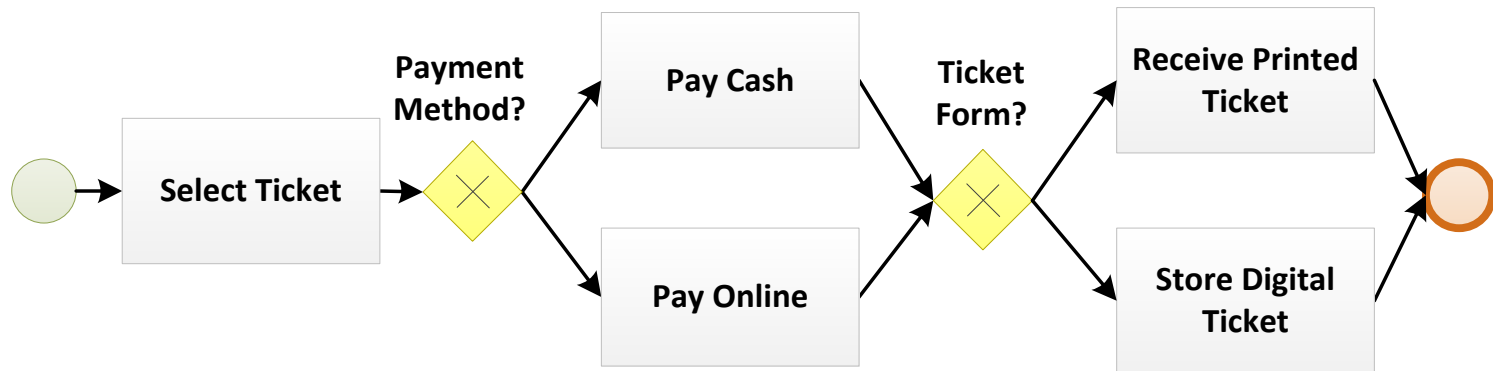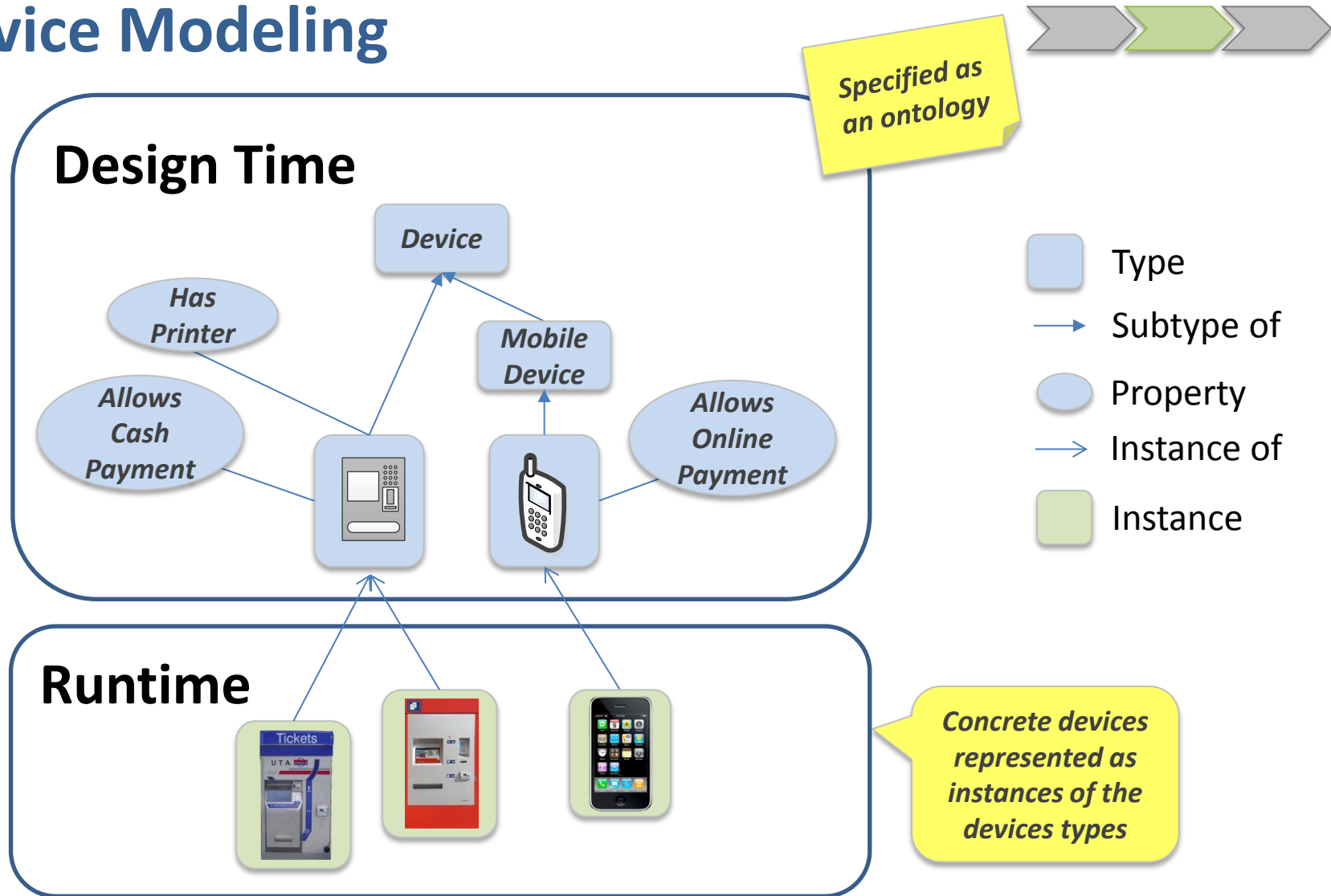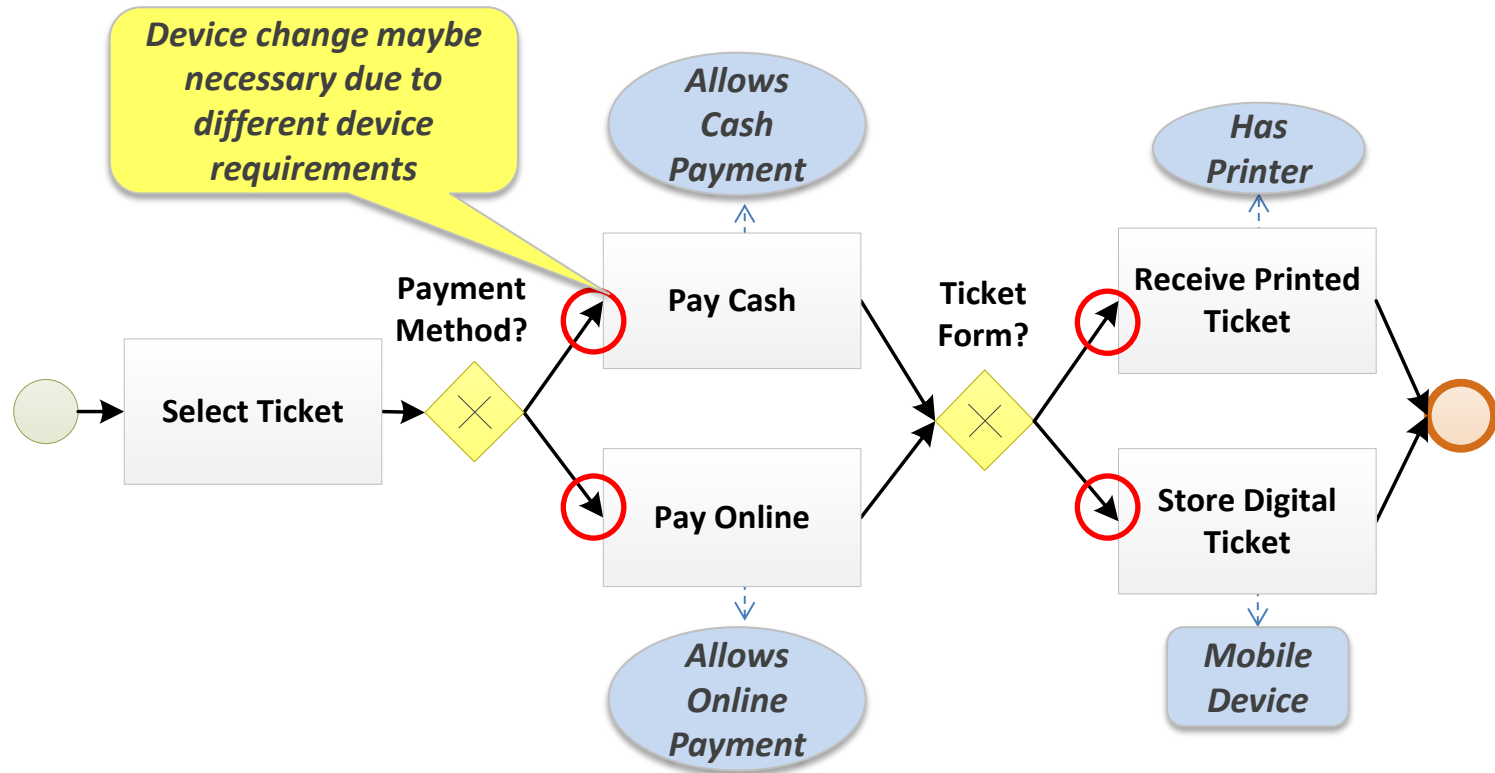
# Creating a Combined Process Model



- Consider all devices while designing the process
- Explictly model tasks offered by different types of devices
→ Specify where certain devices are required

# Device Modeling



Specified as an ontology

**Design Time**

Device

Has Printer

Mobile Device

Allows Cash Payment

Allows Online Payment

Type

→ Subtype of

Property

→ Instance of

Instance

**Runtime**

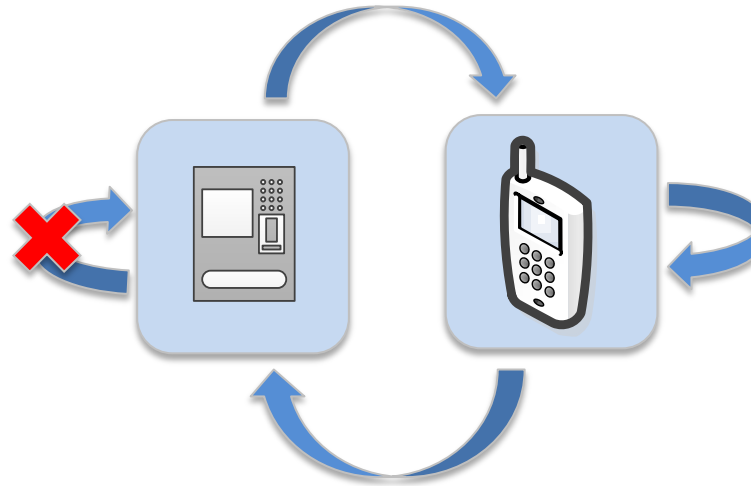Concrete devices represented as instances of the devices types

# Defining Device Requirements



- BPMN extension to link the process model to the device ontology
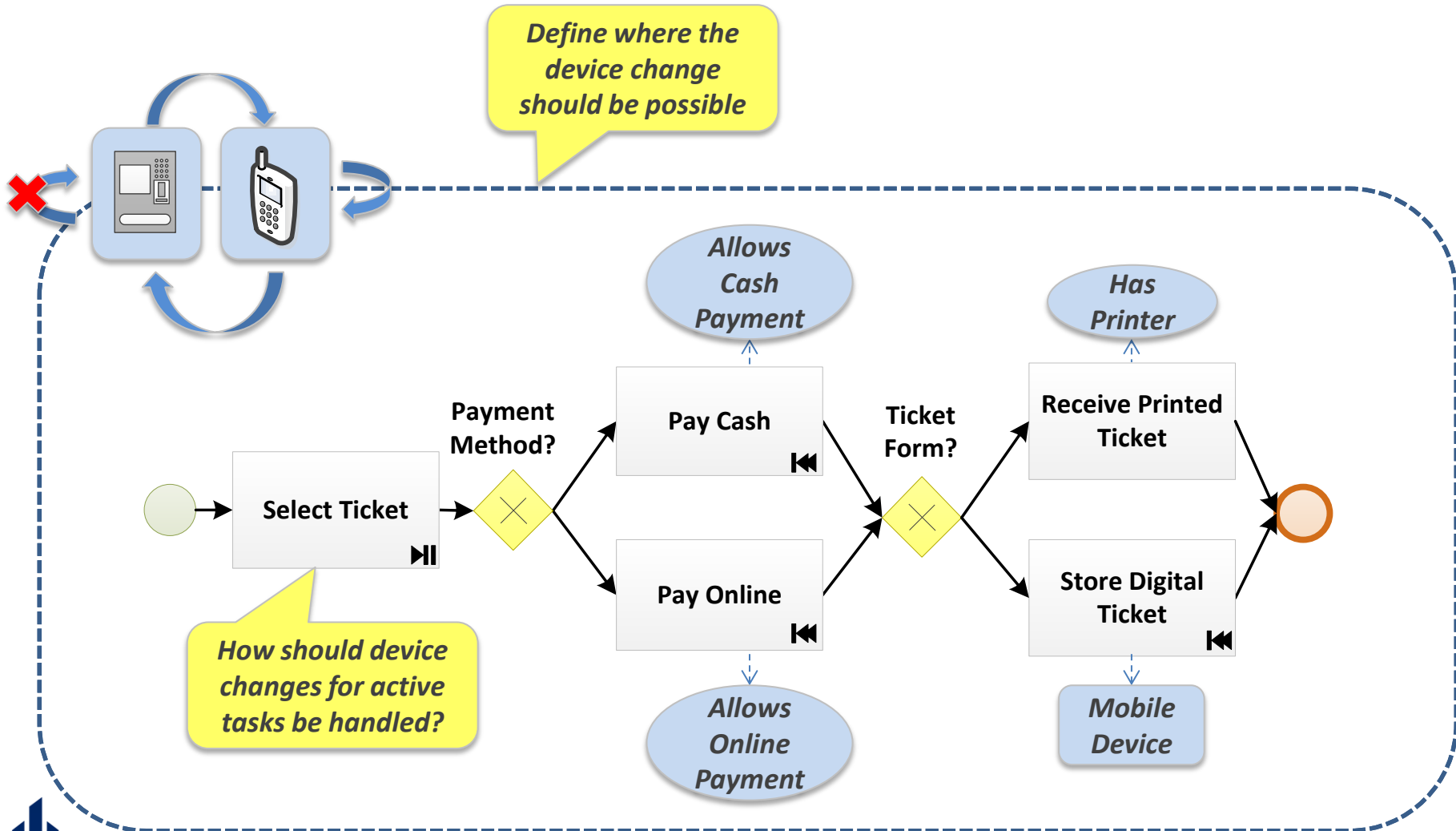- Device requirements are specified as queries on the ontology
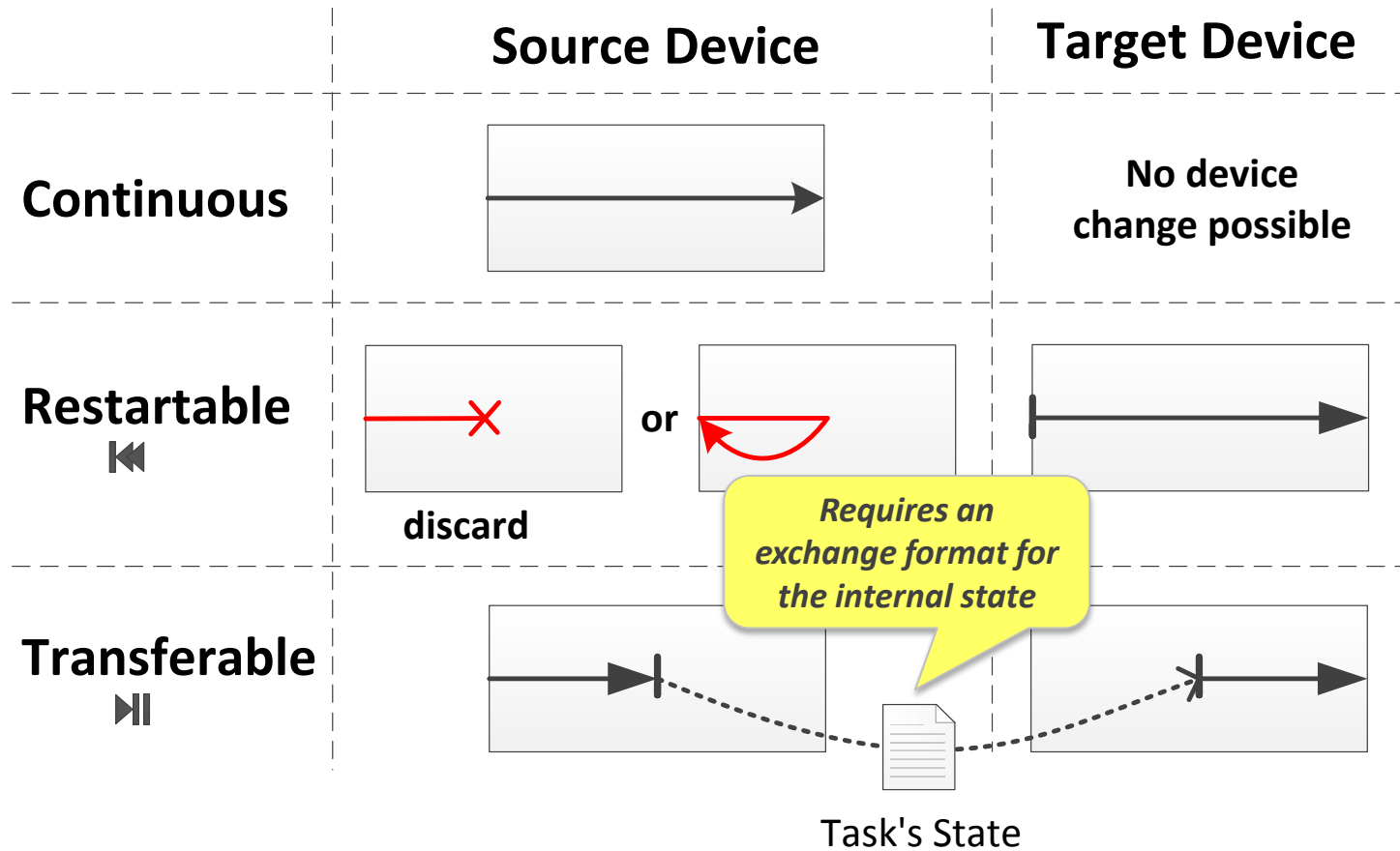
# Specifying Device Changes

- Explictly allow device changes
  - Define source and target devices
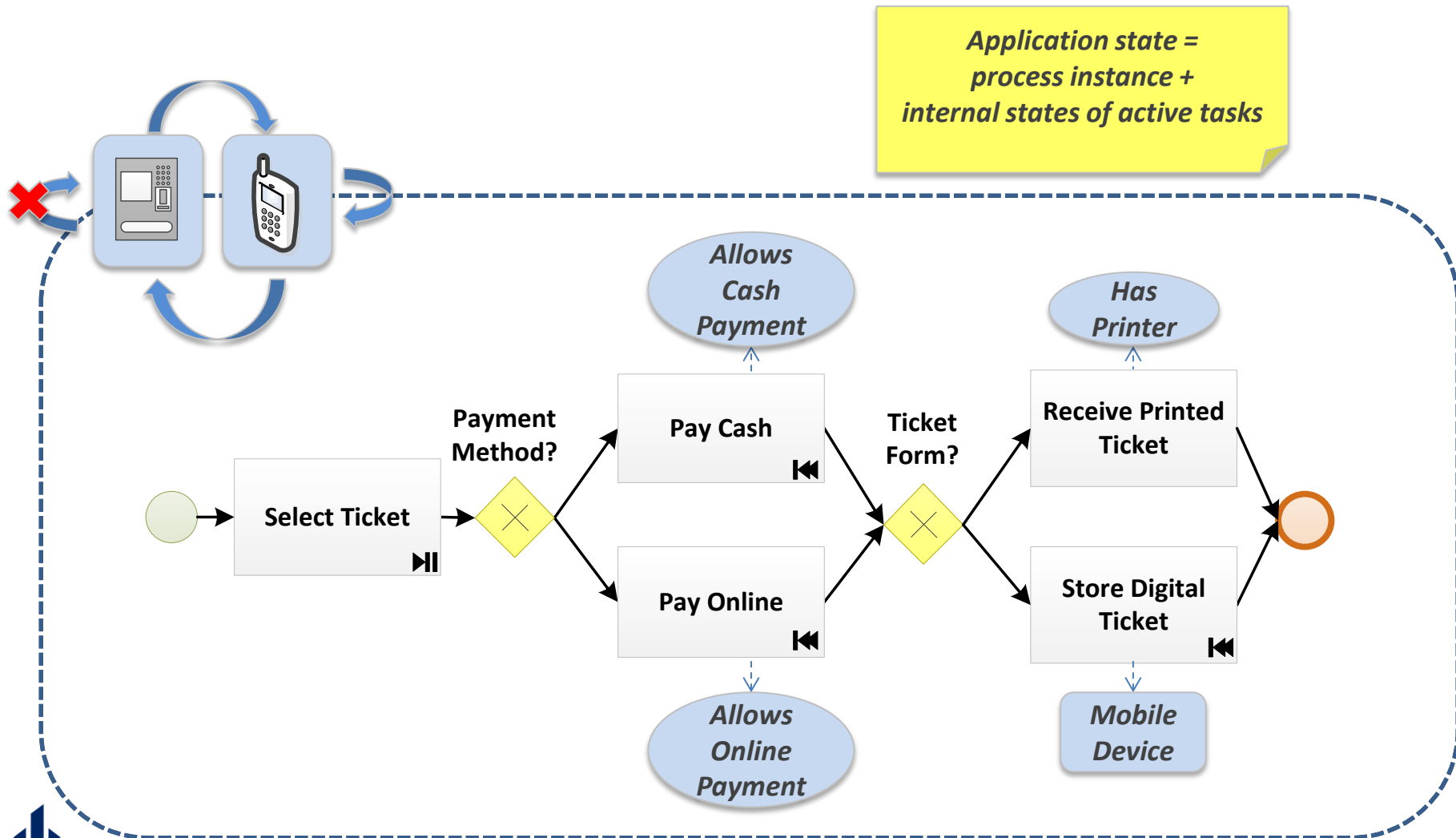  - Allow/forbid a device changes
  - Define a scope for the device change
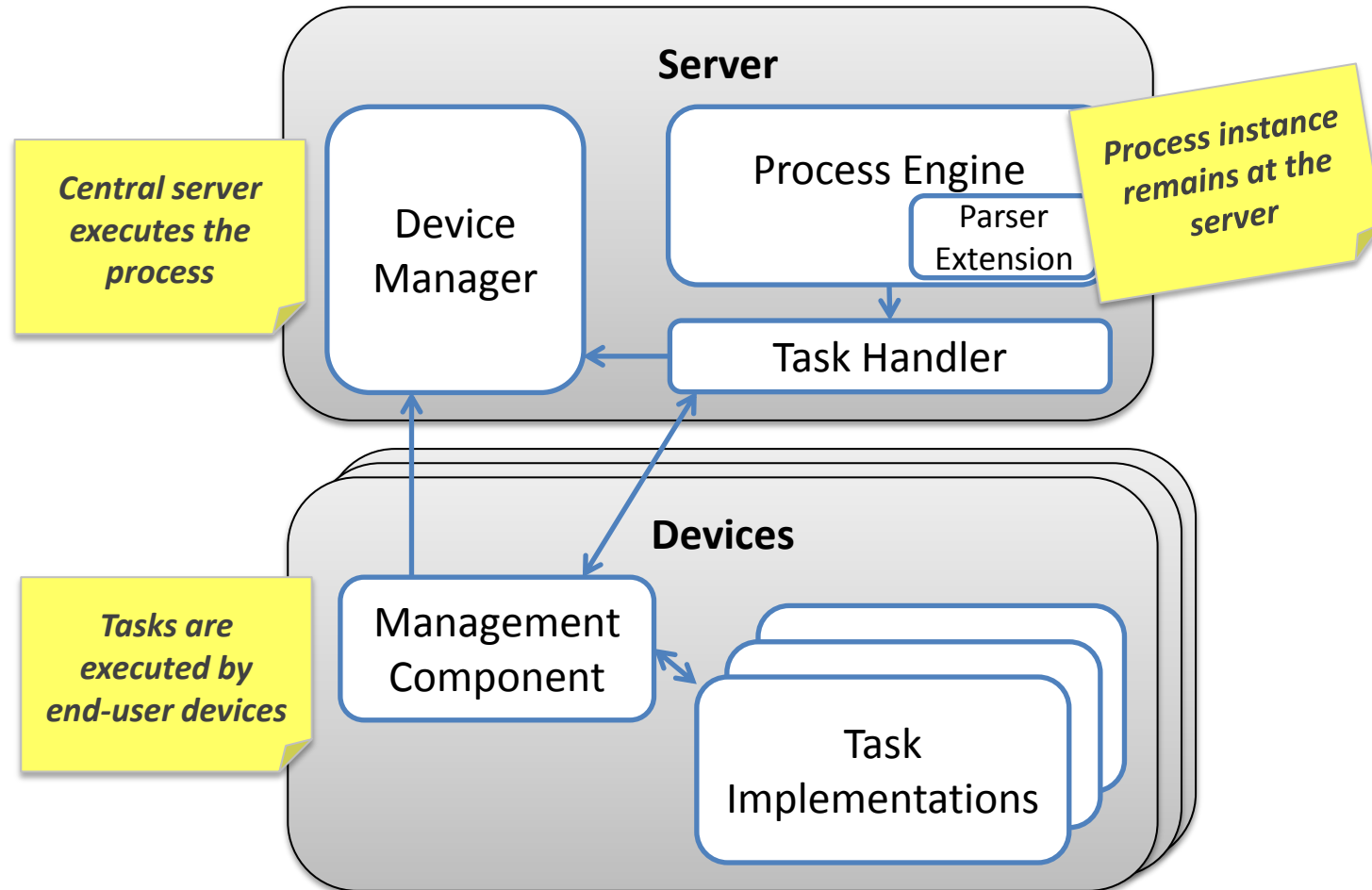
# Specifying Device Changes



*Define where the device change should be possible*

*How should device changes for active tasks be handled?*

# Specifying Device Changes for Tasks
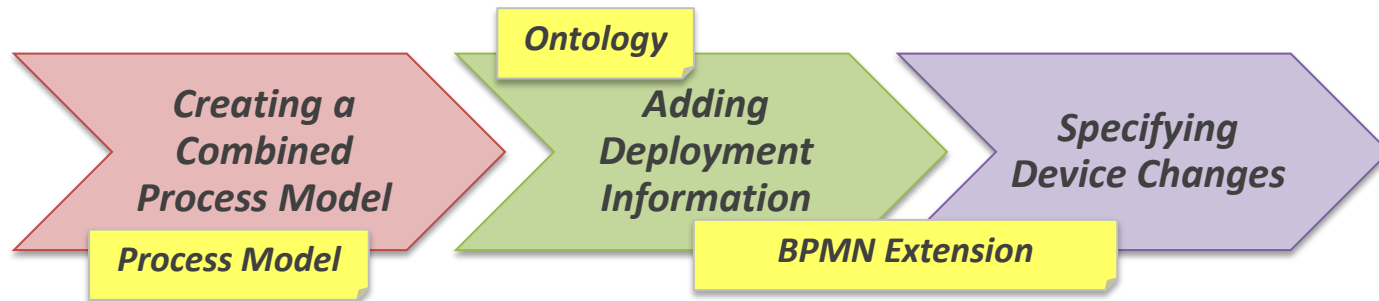


Task's State

# Specifying Device Changes

# Prototype

# Conclusion and Outlook

▪ Enabling device changes for process-driven applications



▪ Prototype to execute the enriched process models

▪ Future Work

– Further improve the specification of device changes

– Approach to develop transferable task