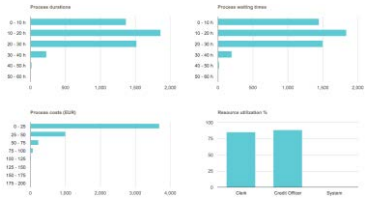
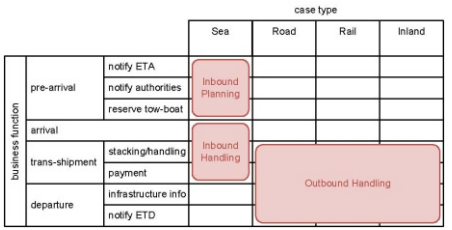
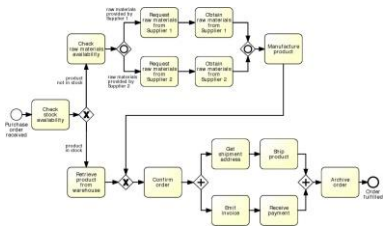
Business Process Management (10)

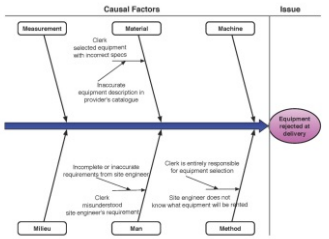
Slides adapted from: Dr. Marlon Dumas

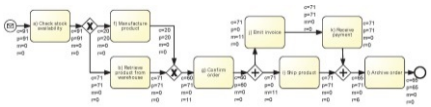
Where are we?











Process identification

Process architecture

Process discovery

As-is process model

Process analysis

Insights on weaknesses and their impact

Process redesign

To-be process model

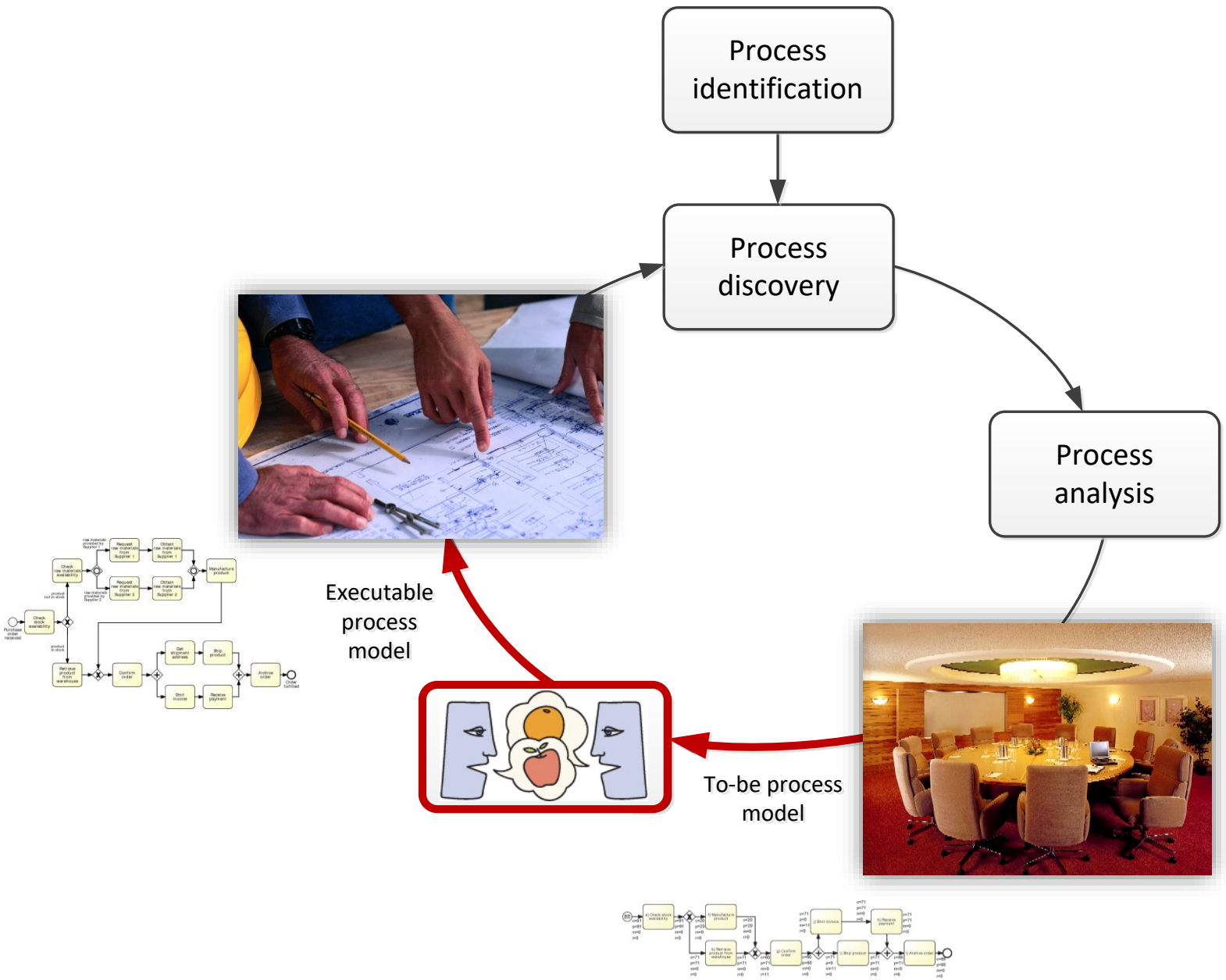
Process implementation

Executable process model

Process monitoring and controlling

Conformance and performance insights

The business-engineering gap…



Bridging the gap: A five-step method

1. Identify the automation boundaries
2. Review manual tasks
3. Complete the process model
4. Adjust task granularity
5. Specify execution properties

Adapted from teaching material of Remco Dijkman, TU/e.

3. Complete the process model

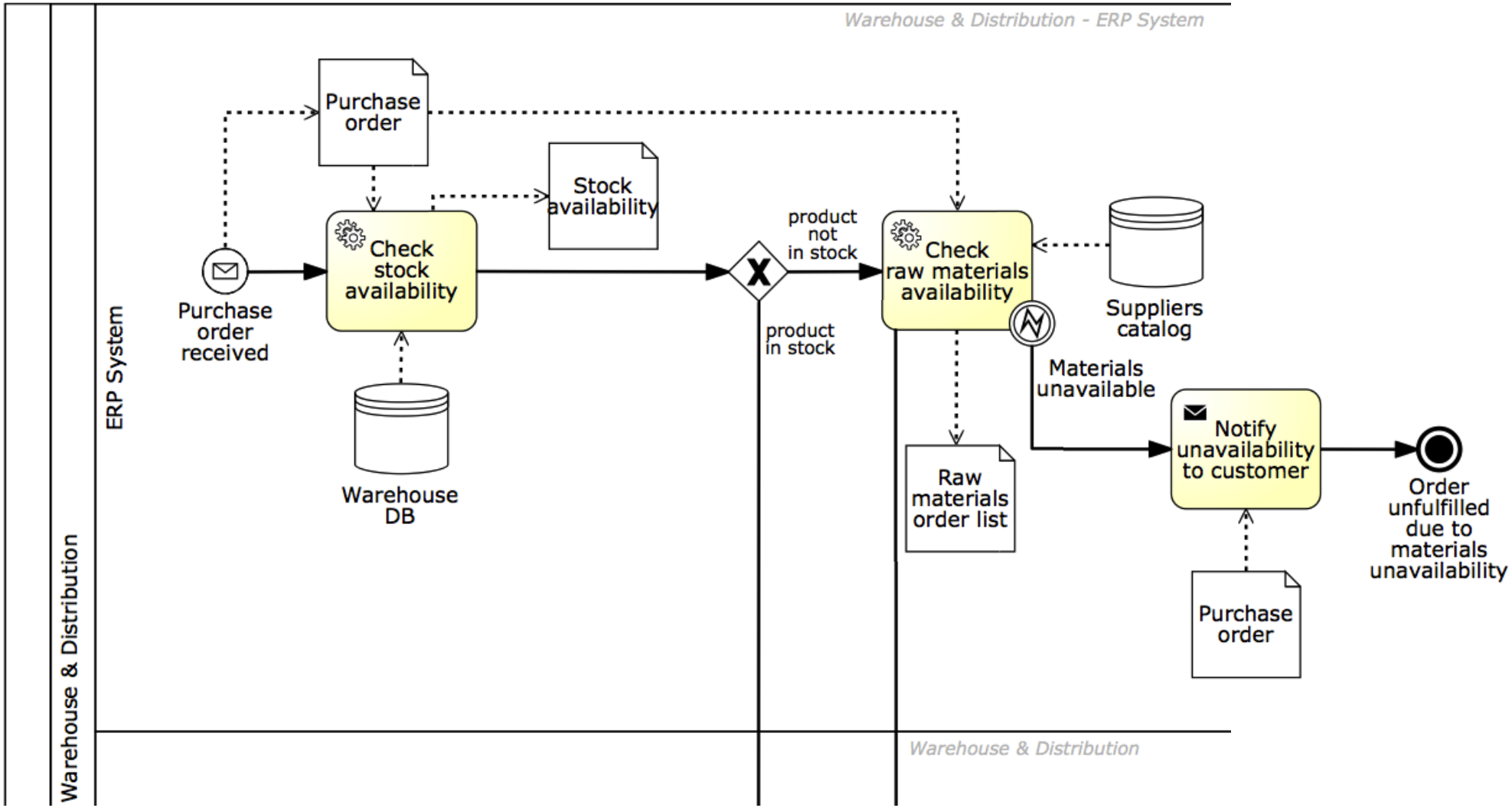
Principle: exceptions are the rule.

- Consider incomplete paths
- Rules of thumb
  - If we send something to another party, what happens if they do not respond? What happens if the response comes late? What happens if they do not respond the way we expect?
  - For each task: Can it go wrong and what happens if it goes wrong?
  - For each external party: Have we captured all messages or queries they might send us?

Principle: no data = no decisions, no tasks handover.

- Specify all (electronic) business objects
- For each task, determine which business objects it creates, reads, updates, delete (CRUD)
- For each decision, determine which objects it needs

In our example…

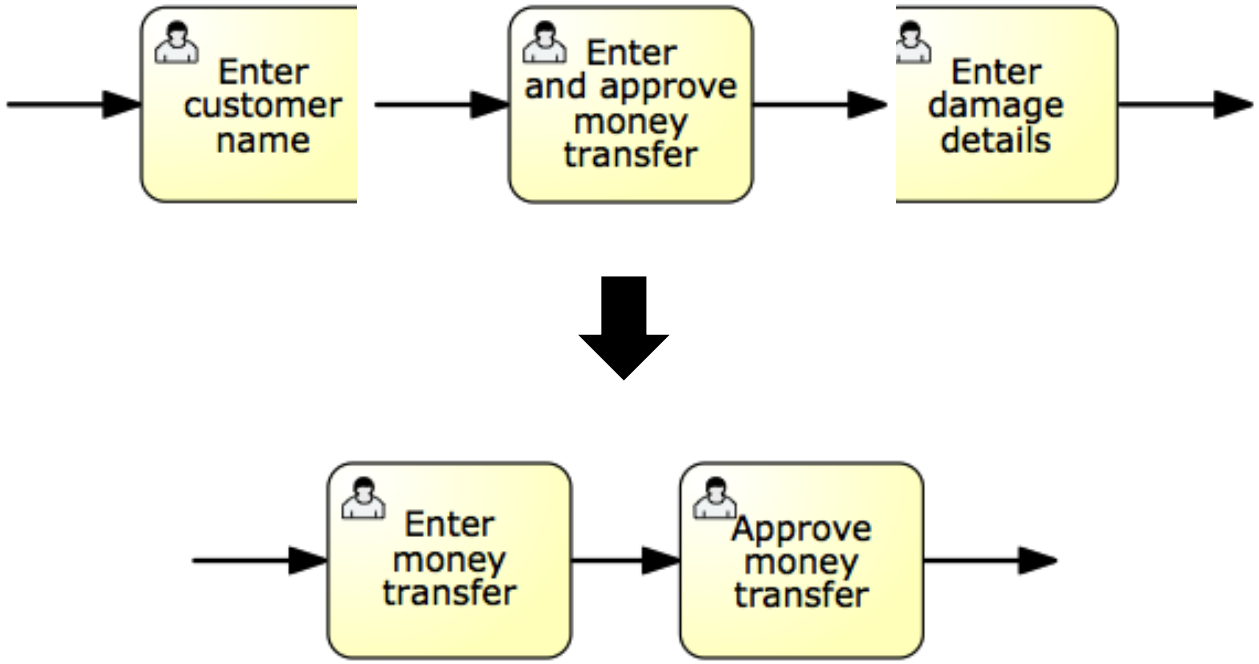


4. Adjust task granularity

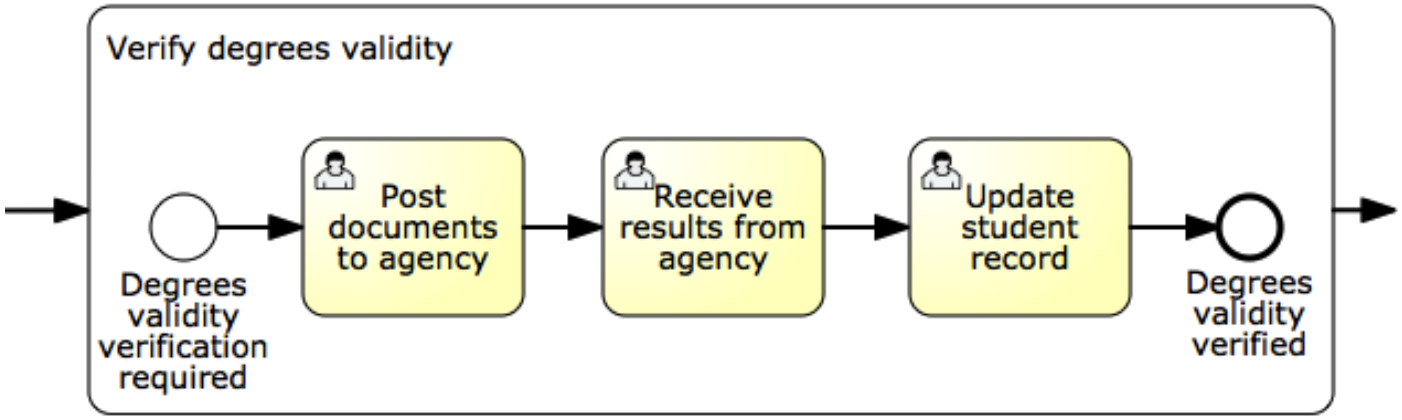
Principle: BPMSs add value if they coordinate handovers of work between resources.

-> Aggregate any two consecutive tasks assigned to the same performer

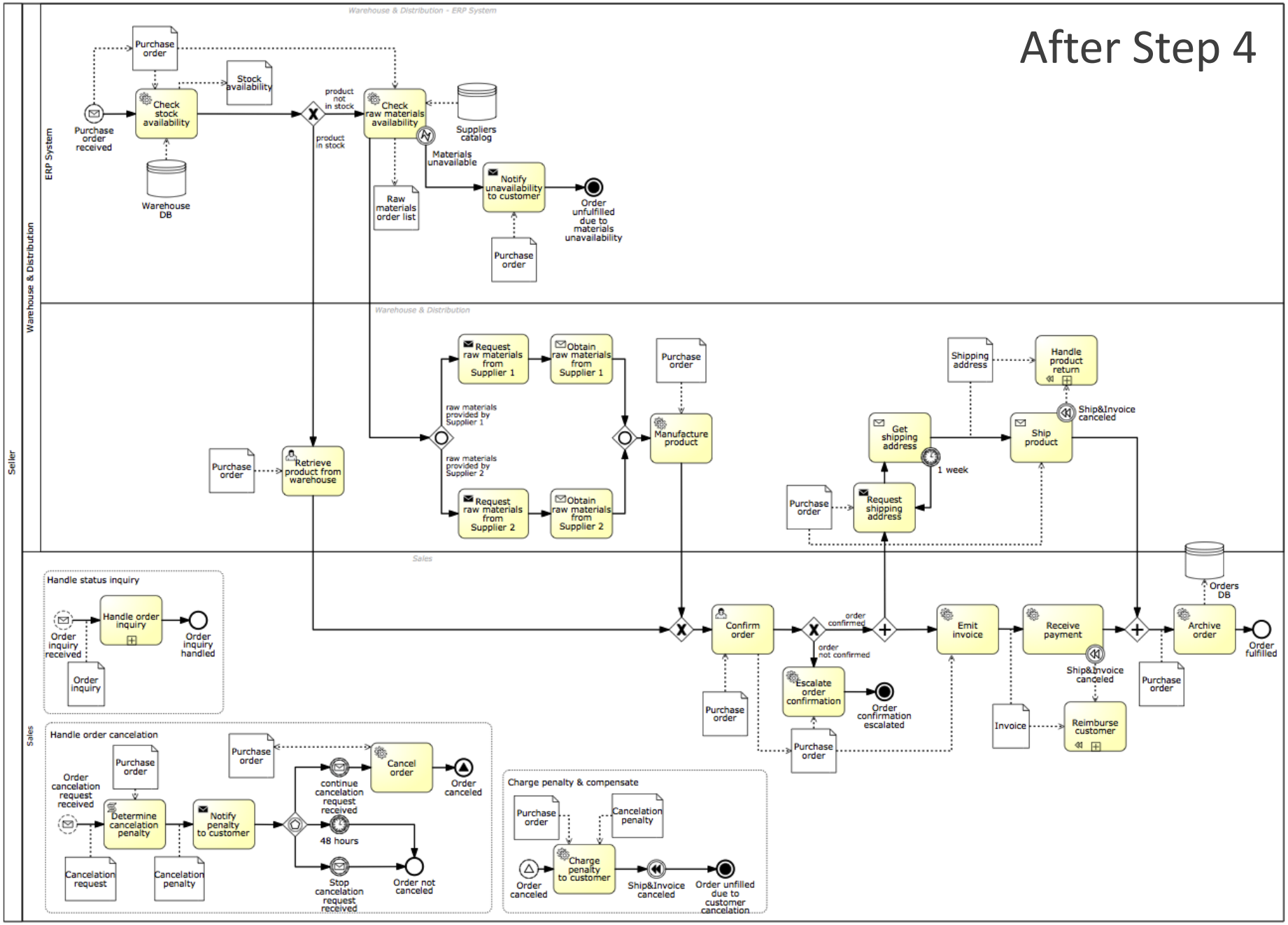
-> Split tasks if they require different performers



An exception to the rule



Our example…


After Step 4
Seller
Warehouse & Distribution
ERP System
Warehouse & Distribution - ERP System
Purchase order
Stock availability
Purchase order received
Check stock availability
Warehouse DB
product not in stock
product in stock
Check raw materials availability
Suppliers catalog
Materials unavailable
Raw materials order list
Notify unavailability to customer
Order unfulfilled due to materials unavailability
Purchase order
Warehouse & Distribution
Request raw materials from Supplier 1
Obtain raw materials from Supplier 1
Purchase order
raw materials provided by Supplier 1
raw materials provided by Supplier 2
Manufacture product
Purchase order
Retrieve product from warehouse
Request raw materials from Supplier 2
Obtain raw materials from Supplier 2
Shipping address
Handle product return
Ship&Invoice canceled
Get shipping address
Ship product
1 week
Purchase order
Request shipping address
Sales
Handle status inquiry
Order inquiry received
Handle order inquiry
Order inquiry handled
Order inquiry
Confirm order
order confirmed
order not confirmed
Escalate order confirmation
Order confirmation escalated
Purchase order
Purchase order
Emit invoice
Receive payment
Ship&Invoice canceled
Invoice
Reimburse customer
Orders DB
Archive order
Purchase order
Order fulfilled
Sales
Handle order cancelation
Order cancelation request received
Purchase order
Determine cancelation penalty
Cancelation request
Cancelation penalty
Notify penalty to customer
Purchase order
continue cancelation request received
Cancel order
Order canceled
48 hours
Stop cancelation request received
Order not canceled
Charge penalty & compensate
Purchase order
Cancelation penalty
Order canceled
Charge penalty to customer
Ship&Invoice canceled
Order unfilled due to customer cancelation

Bridging the gap: one task at a time

1. Identify the automation boundaries
2. Review manual tasks
3. Complete the process model
4. Adjust task granularity
5. Specify execution properties

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-> Process variables, messages, signals, errors

-> Task and event variables and their mappings to process variables

-> Service details

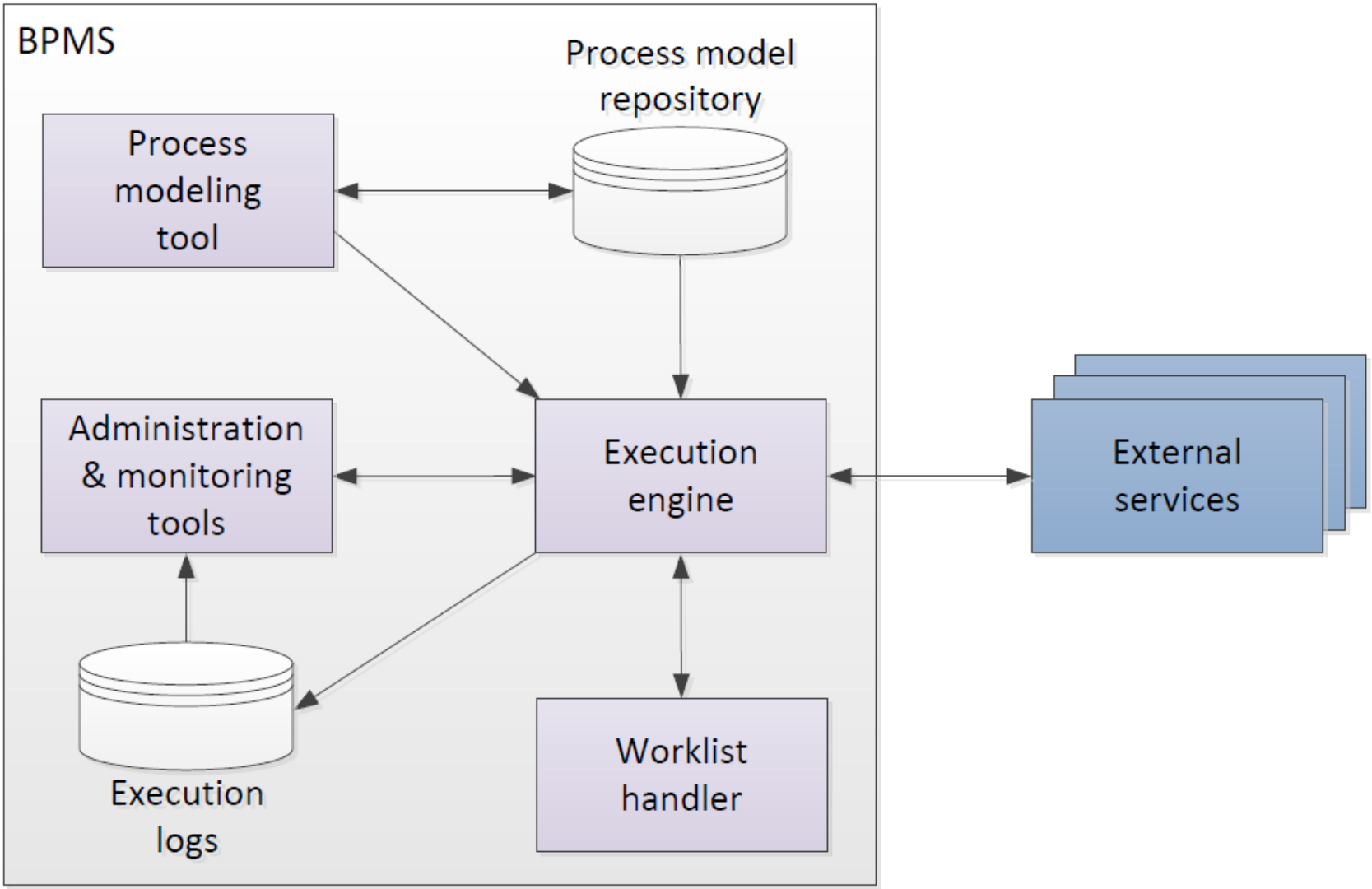
-> Code snippets

-> Participant assignment rules and user interface structure

-> Task, event and sequence flow expressions

-> BPMS-specific: work queues, forms, connectors…

Business Process Management System



Process modeling tool

- To create and modify executable process models (by specifying e
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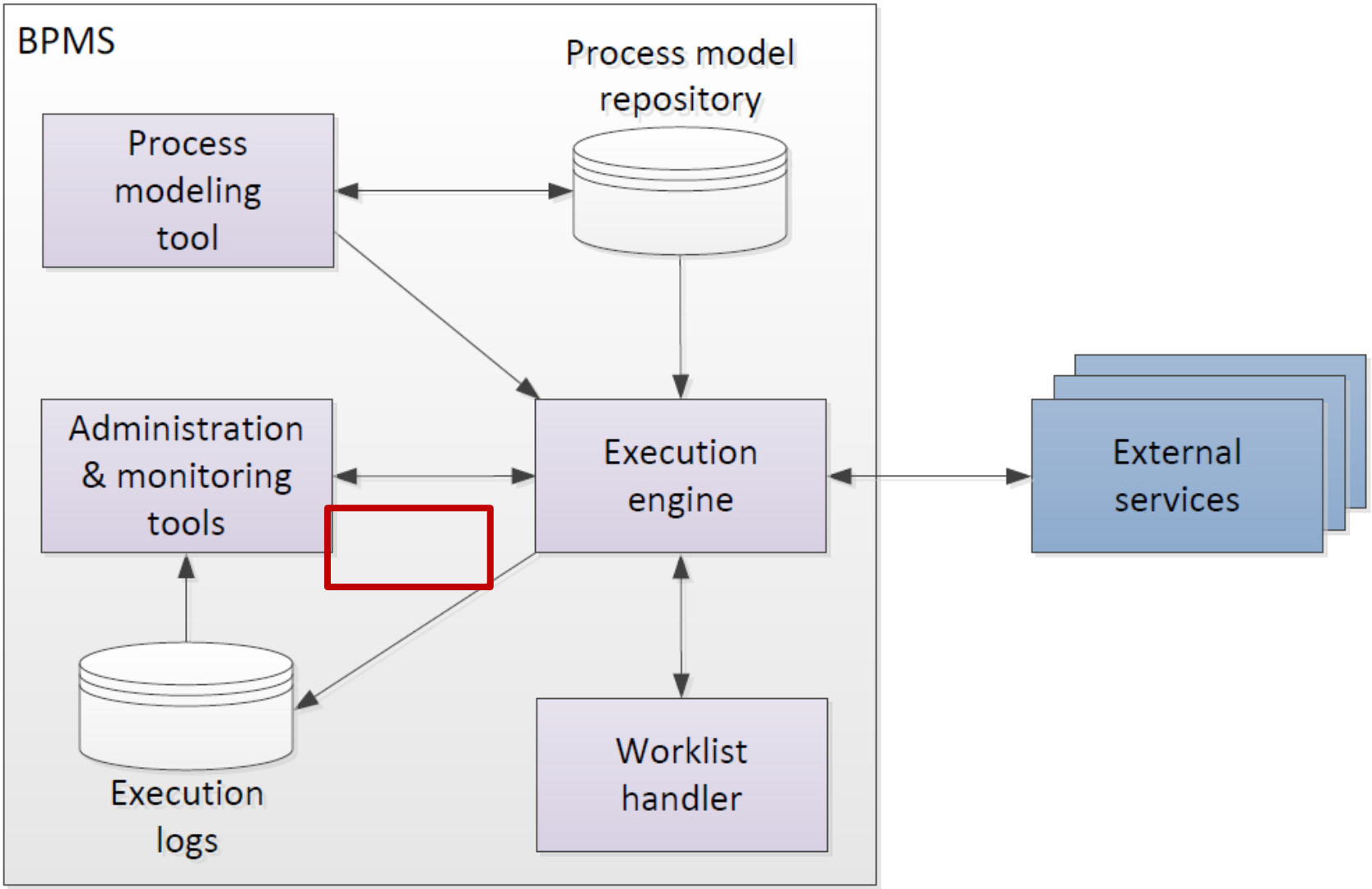
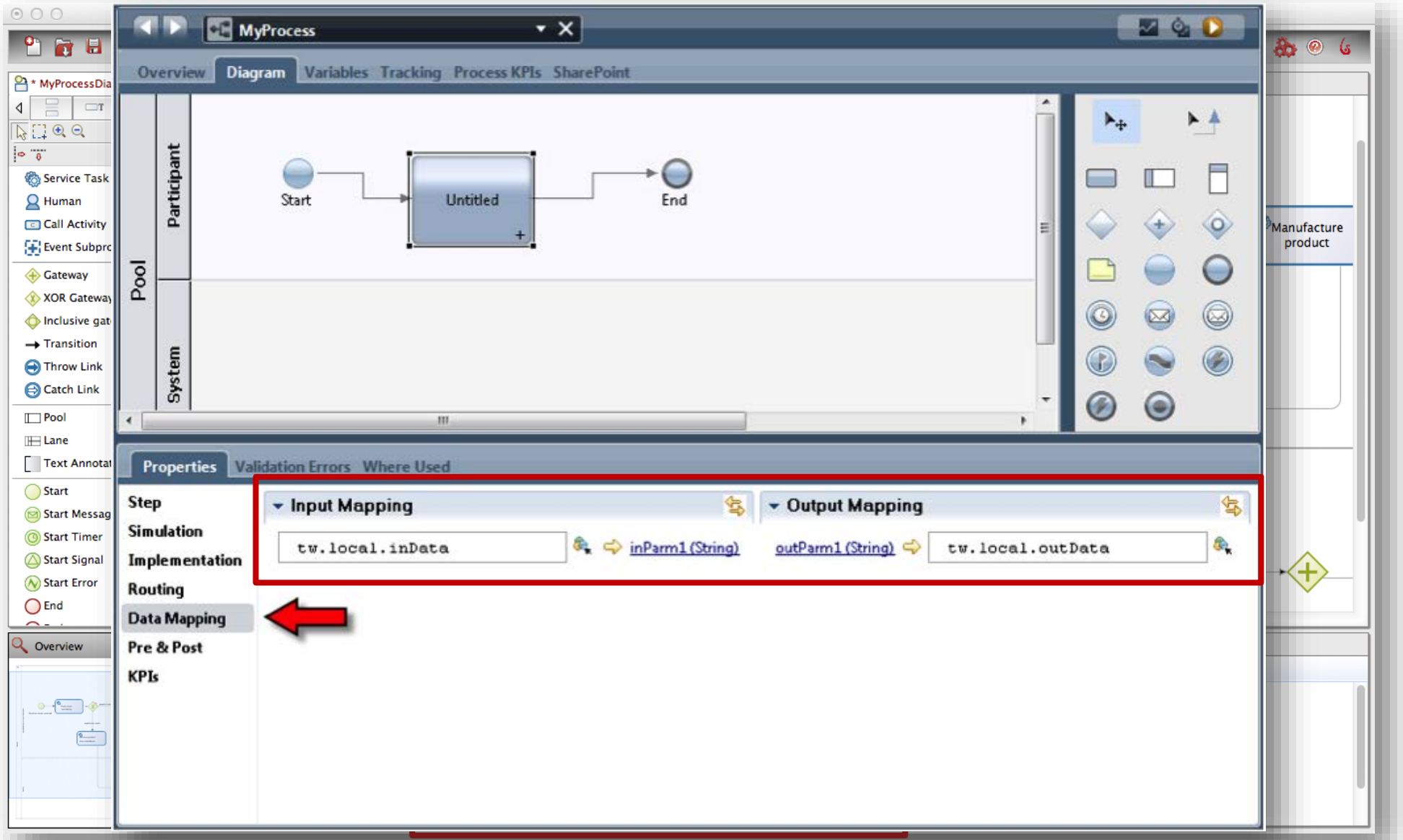


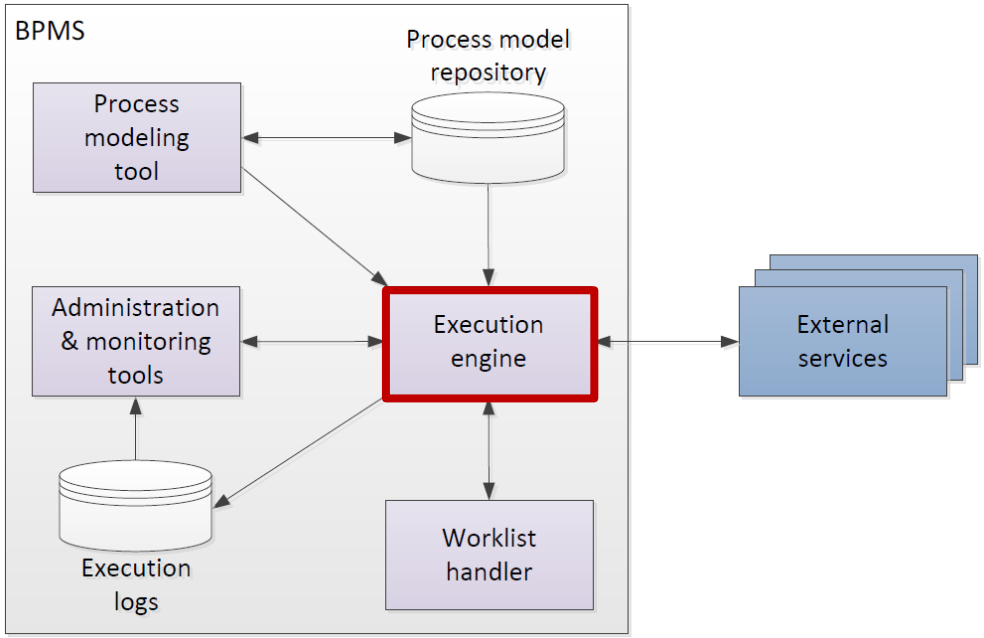
Example process modeling tools



Bonita BPM Business Process Manager

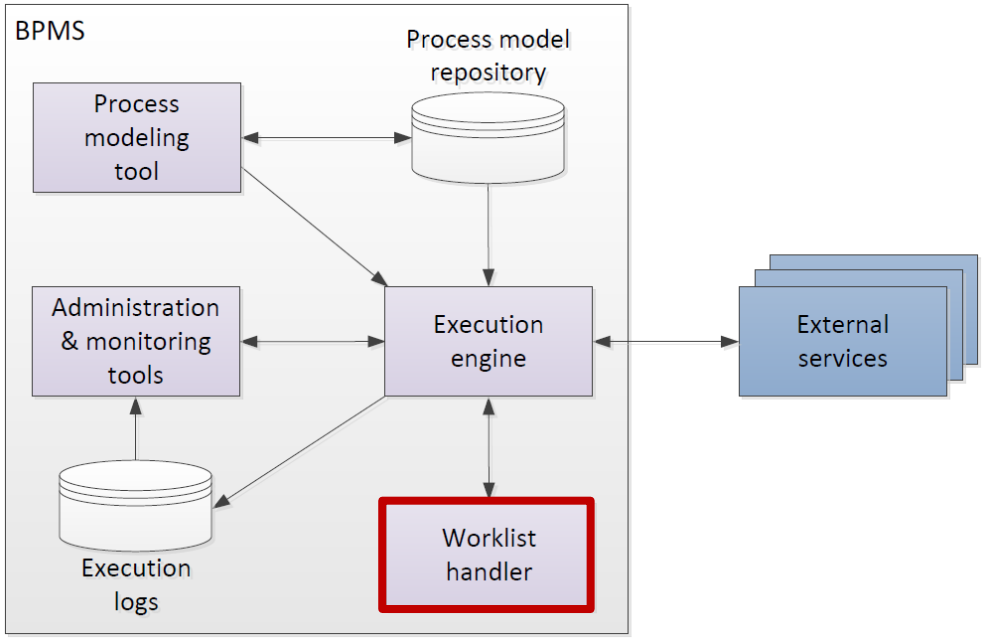
Execution Engine

- Instantiates executable process models (also called “cases”)
- Orchestrates distribution of work items to process participants and software services in order to execute a business process from start to end
- Logs execution data

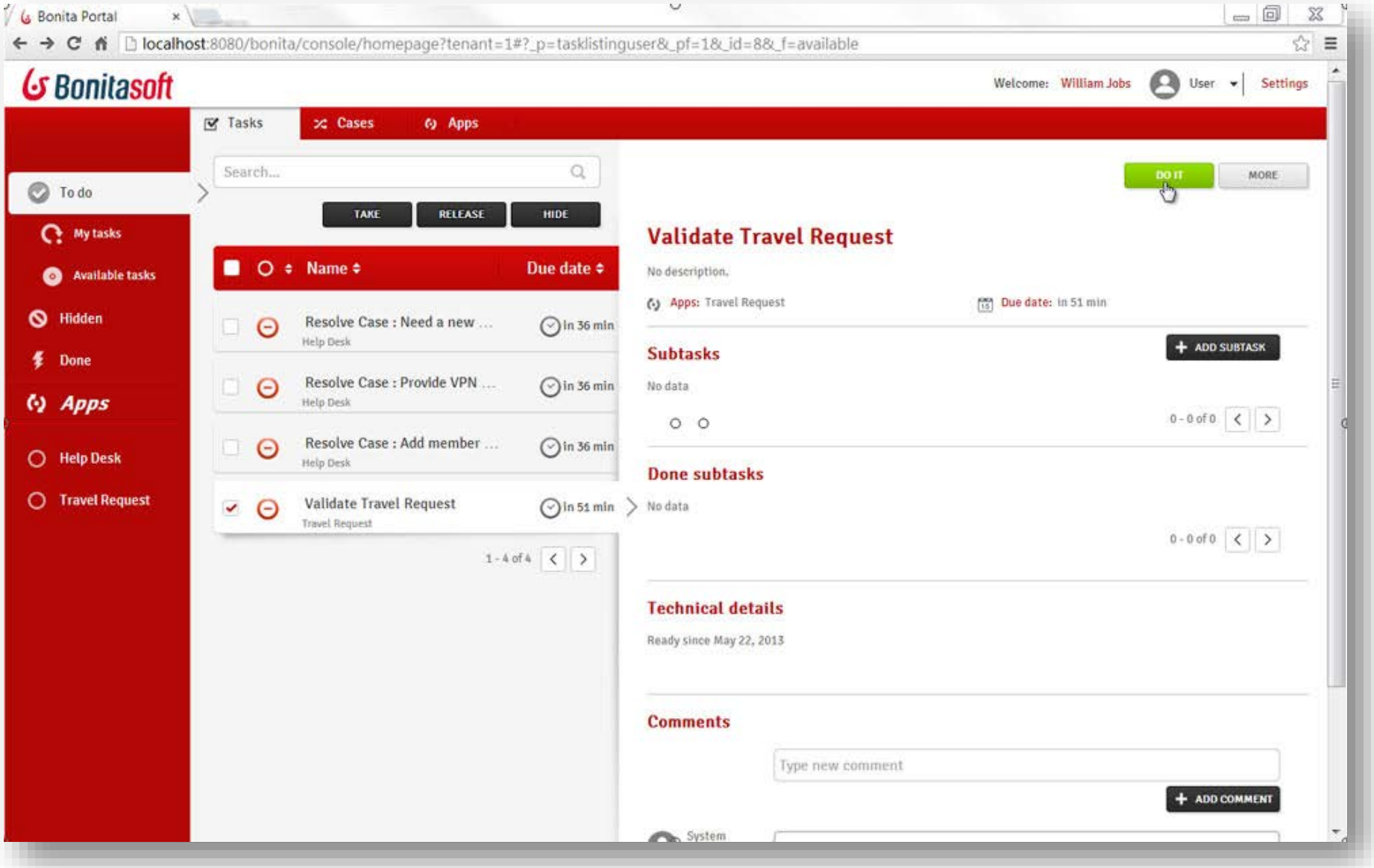


Worklist Handler

- Imagine it as an “inbox”
- Offers work items to process participants and allows participants to commit to these work items
- Handles participants’ work queues and work item priorities
- May provide social network capabilities



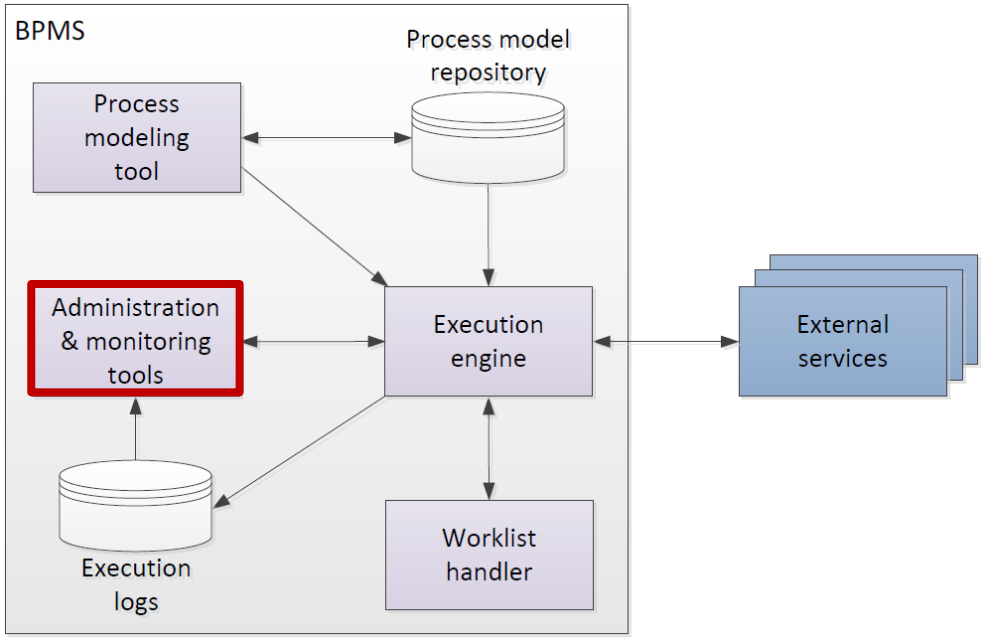
Example worklist handlers



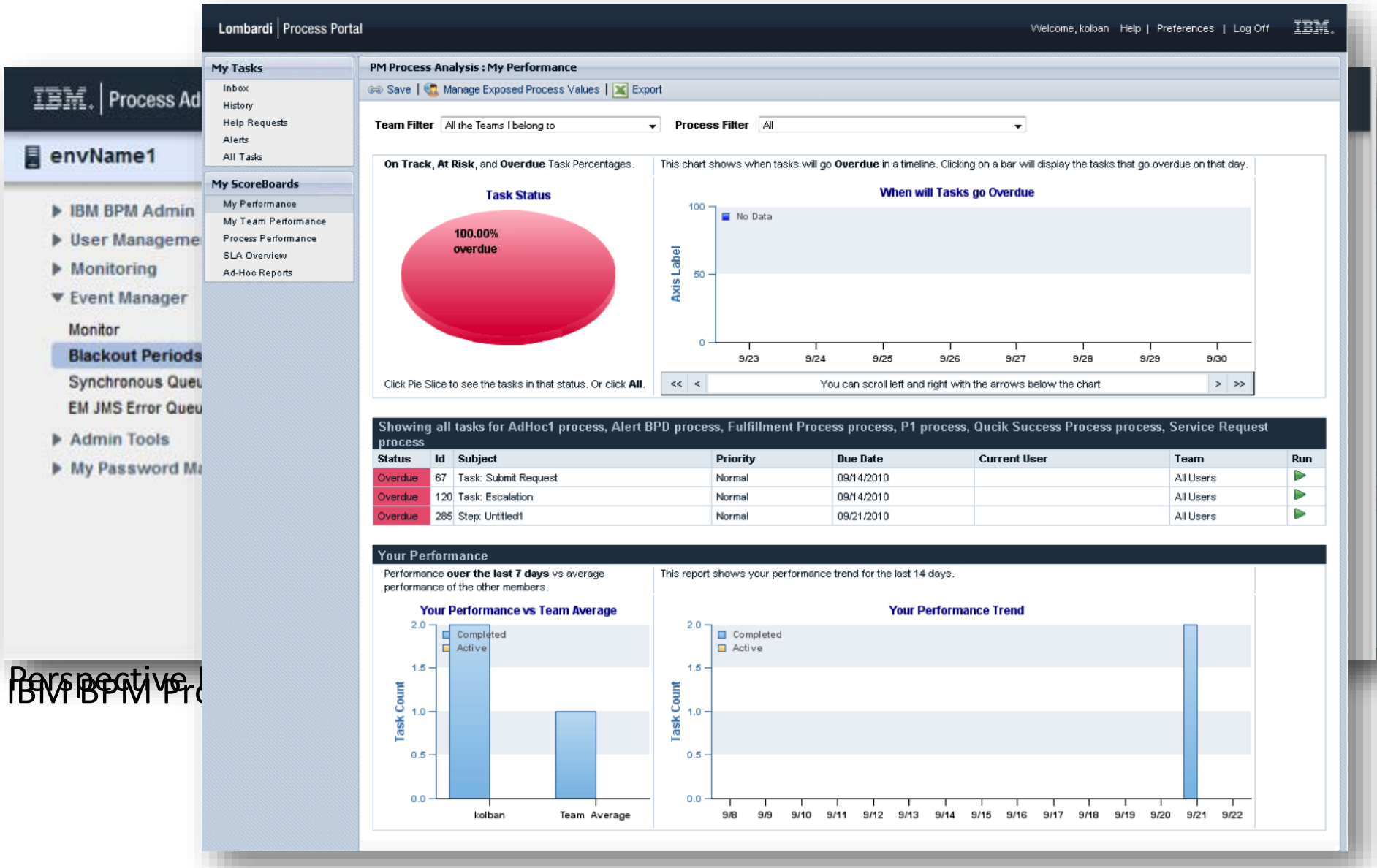
Bonita Soft Bonita Open Solution

Administration & Monitoring Tools

- To manage automation solutions
- To configure access to system components
- To monitor participants availability and performance of process cases



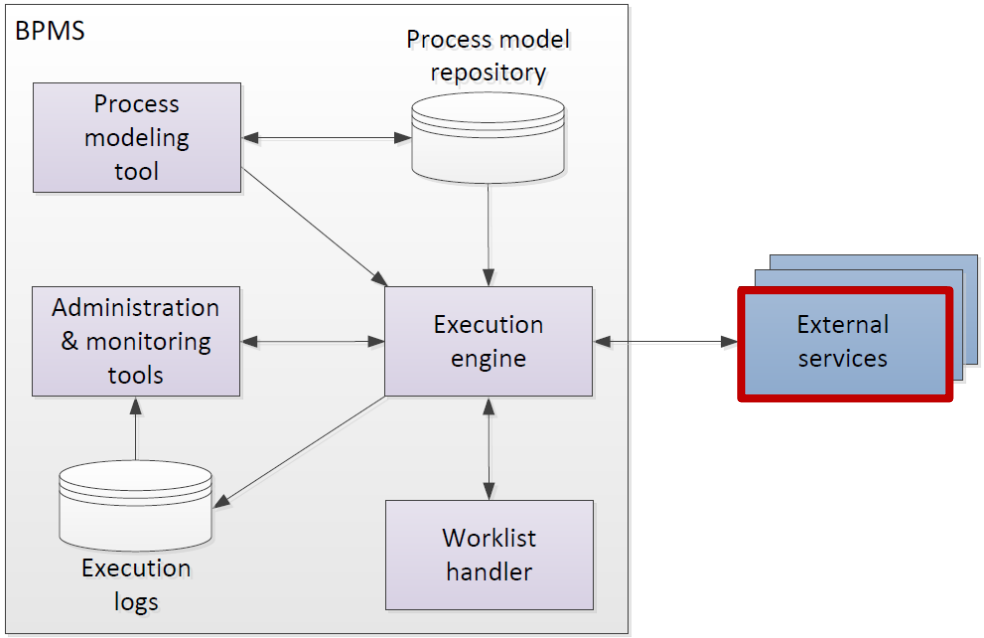
Example monitoring & administration tools



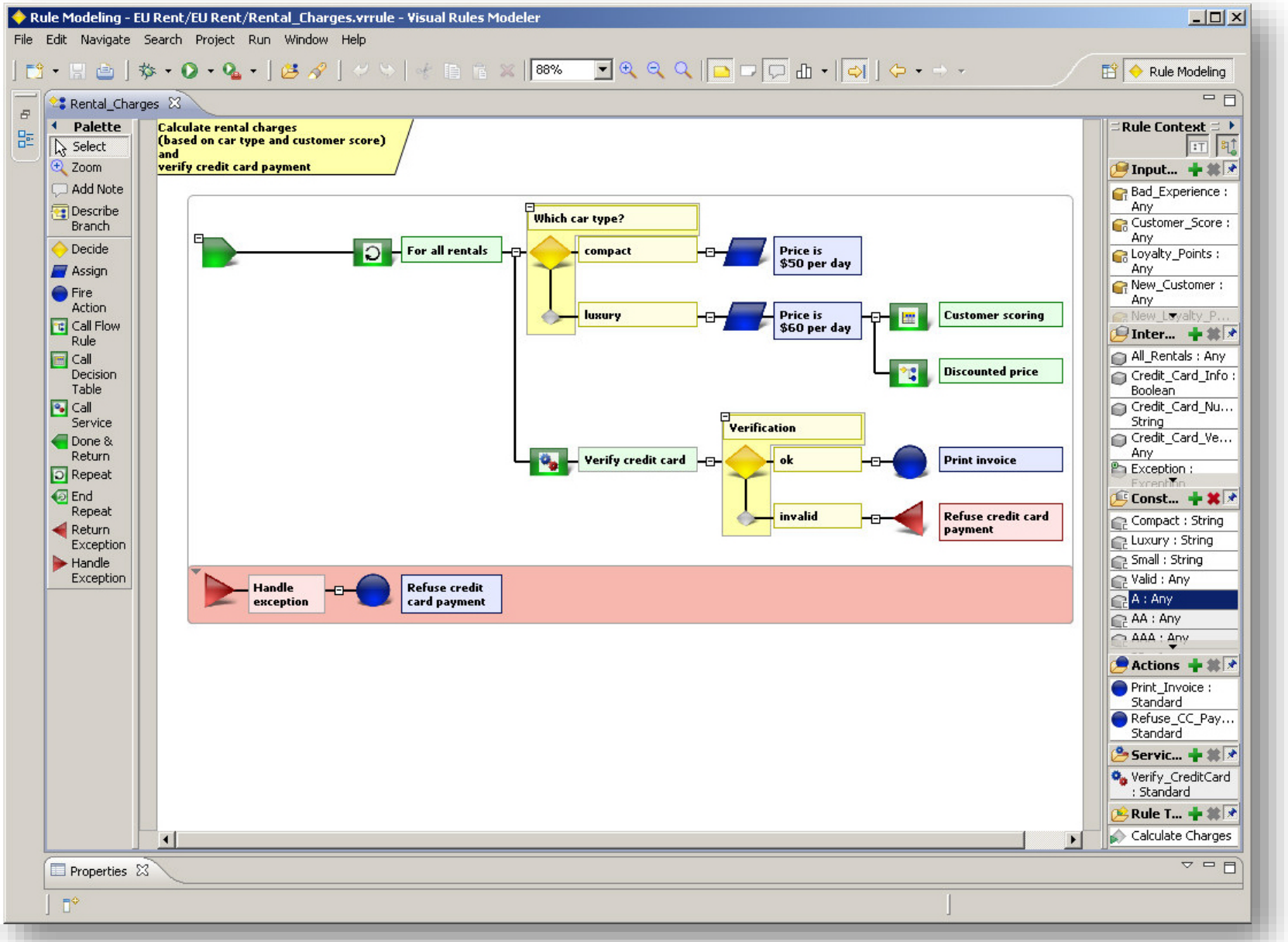
IBM BPM Process Portal

External Services

- Expose a service interface with which the engine can interact
- The engine provides the invoked service with the necessary data it will need to perform the activity for a specific case
- Examples: rules engine, email or Twitter notification, DB connector, CRM connector…



Example external services

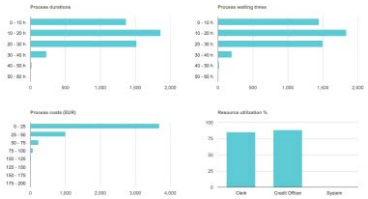


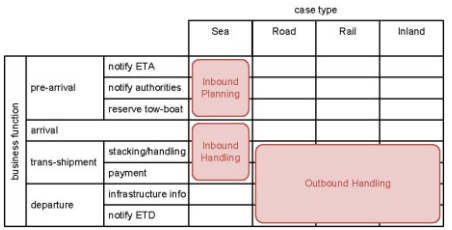
Bosch Visual Rules editor

BPMS Landscape

Big vendors	Other closed-source	Commercial open-source
• IBM BPM • Oracle BPMS • Microsoft BizTalk, Wf • SAP NetWeaver BPM • Software AG webMethods • Pagaystems PegaRULES	• Appian BPMS • BizAgi BPM Suite • Bosch inubit Suite • OpenText BPM • Perceptive BPMONe • Progress Savvion (cloud) • Effektif (cloud)	• Bonita Open Solution • Camunda Fox • Intalio|BPM • JBoss jBPM • Shark • YAWL

The BPM lifecycle





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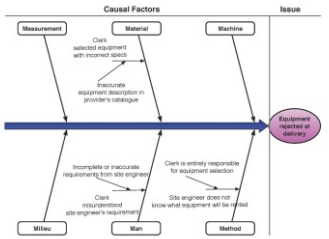

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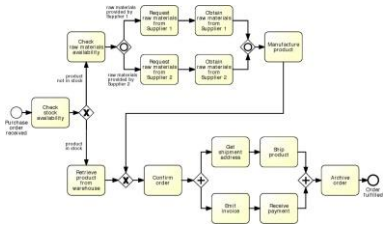

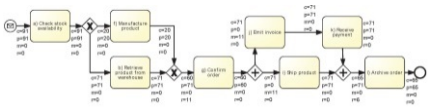

Questions