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**LEARN. NETWORK.
EXPERIENCE OPEN SOURCE.**



BPM using jBPM and Beyond

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JBPM Project Lead, Red Hat

06.28.12

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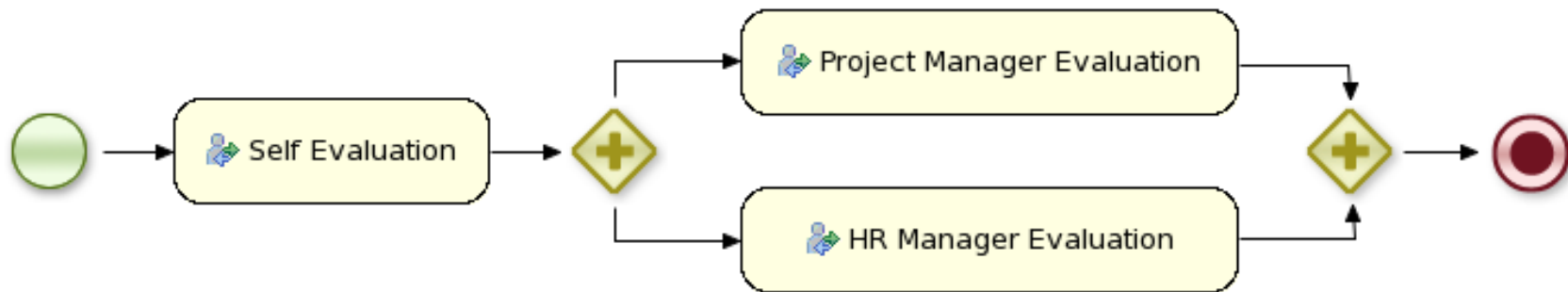
Overview

- What is (j)BPM?
- Demo
- Key Characteristics
 - BPMN2
 - Persistence / Transactions
 - Domain-specific processes
 - Adaptive processes
- Roadmap



What is BPM?

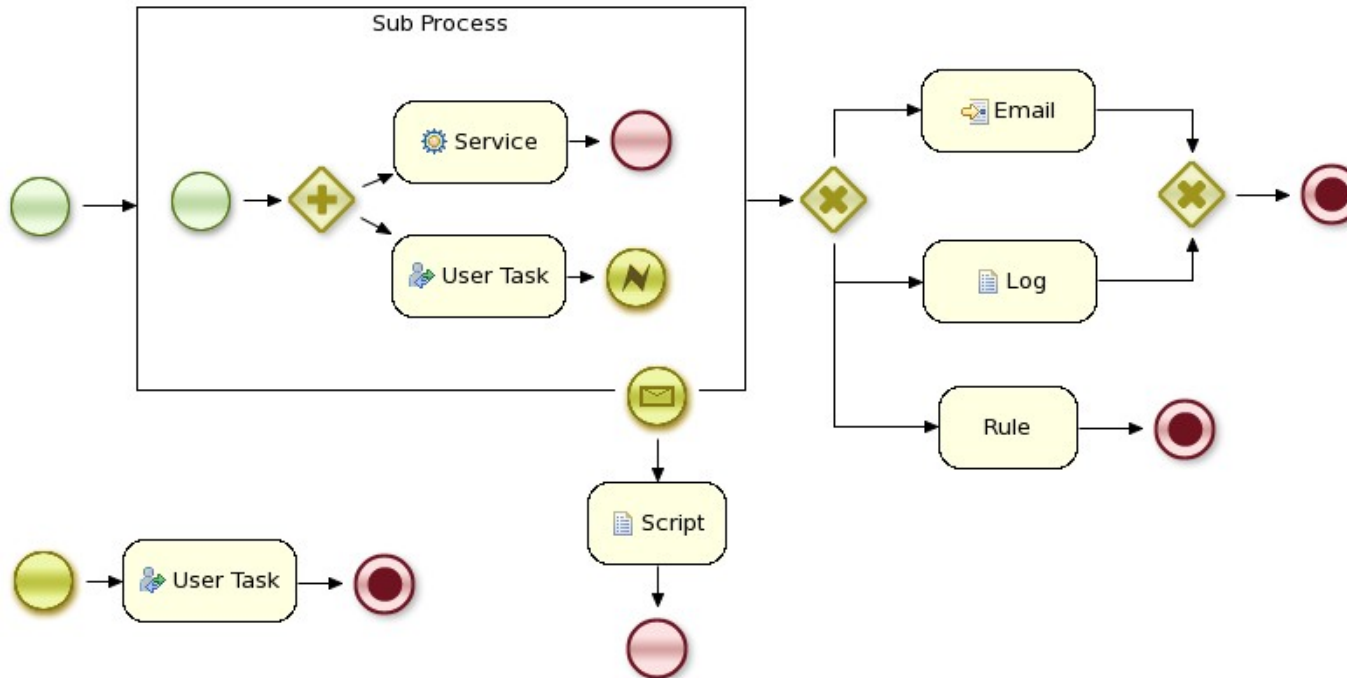
Business Process Management



A ***business process*** is a process that describes the order in which a series of steps need to be executed, using a flow chart.



Why BPM?



- Visibility
- Monitoring
- Higher-level
- Continuous improvement
- Speed of development
- Increased agility

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jBPM Project Vision

- (Executable) business processes
 - light-weight, native BPMN2 engine
 - from embedded to as a service
- Entire life cycle
- Both developers and business users
- Advanced, adaptive processes

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Life Cycle

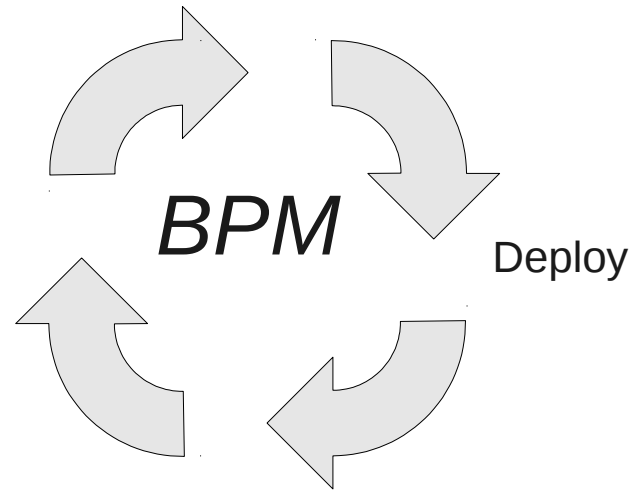
Business Analyst

Model

Developer

System Administrator

Monitor



Deploy

Execute

End User

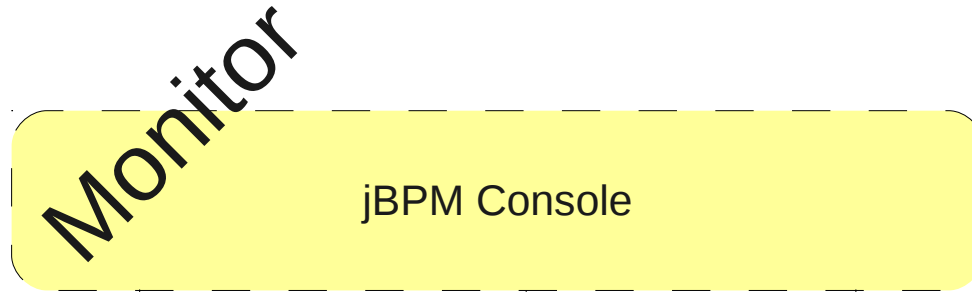
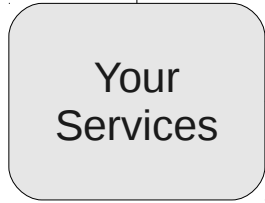
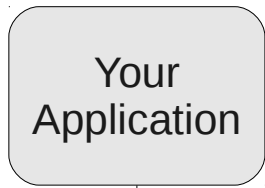
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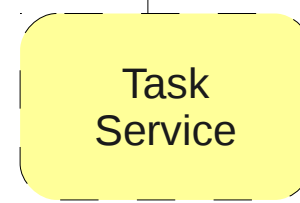
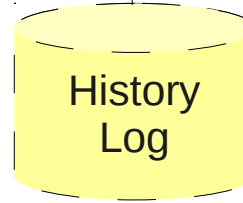
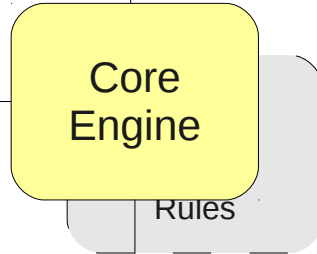
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End User

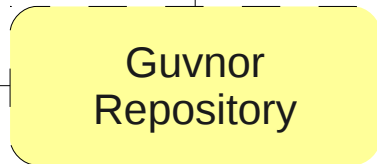


Execute

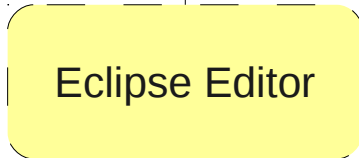


Core Services

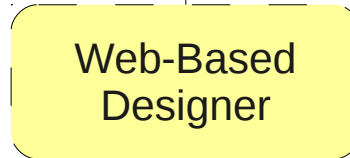
Deploy



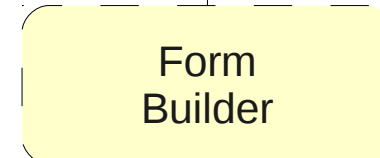
Model



Developer



Business Analyst



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Demo

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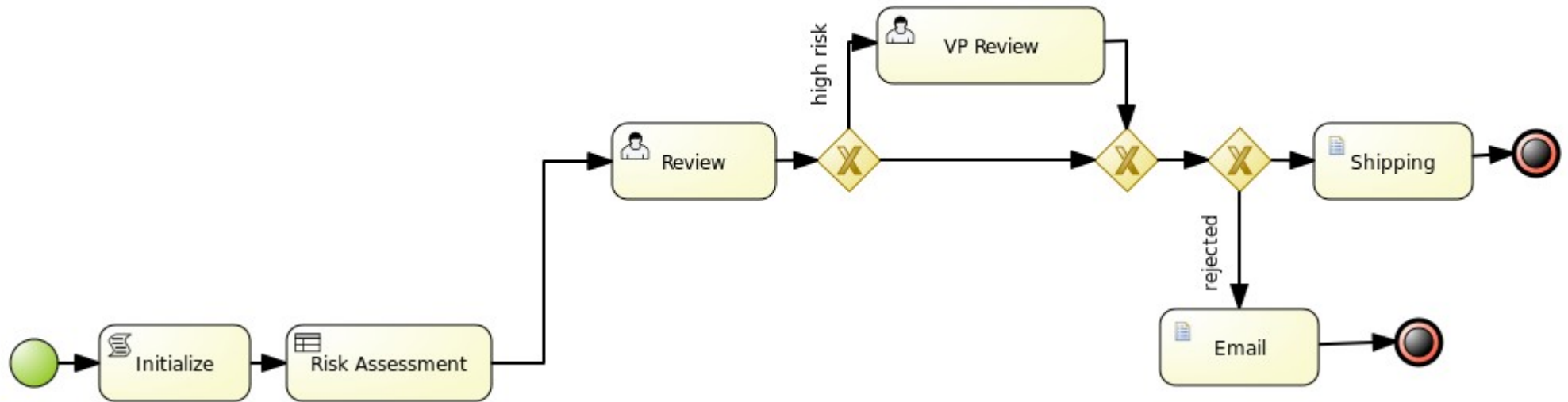
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JBossWorld Keynote Demo



 jbossworld (org.jboss.jbw2012.keynote)



Decision table

#	Description	amount greater than or equal to	amount less than	high risk
1	Low risk	0	500	<input type="checkbox"/>
2	High risk	500		<input checked="" type="checkbox"/>

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Account Information:

Unique ID: New User
Name:

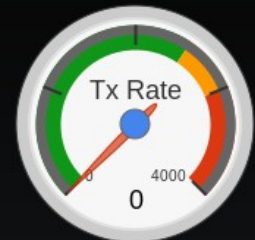
Team:

East West

Register

Grand Totals

Name	Score
[blurred]	\$9,199.82
[blurred]	\$7,618.83
[blurred]	\$7,549.89
[blurred]	\$5,949.90
[blurred]	\$5,699.88
[blurred]	\$5,510.81
[blurred]	\$5,468.90
[blurred]	\$5,249.91
[blurred]	\$4,518.90
[blurred]	\$4,318.92



52

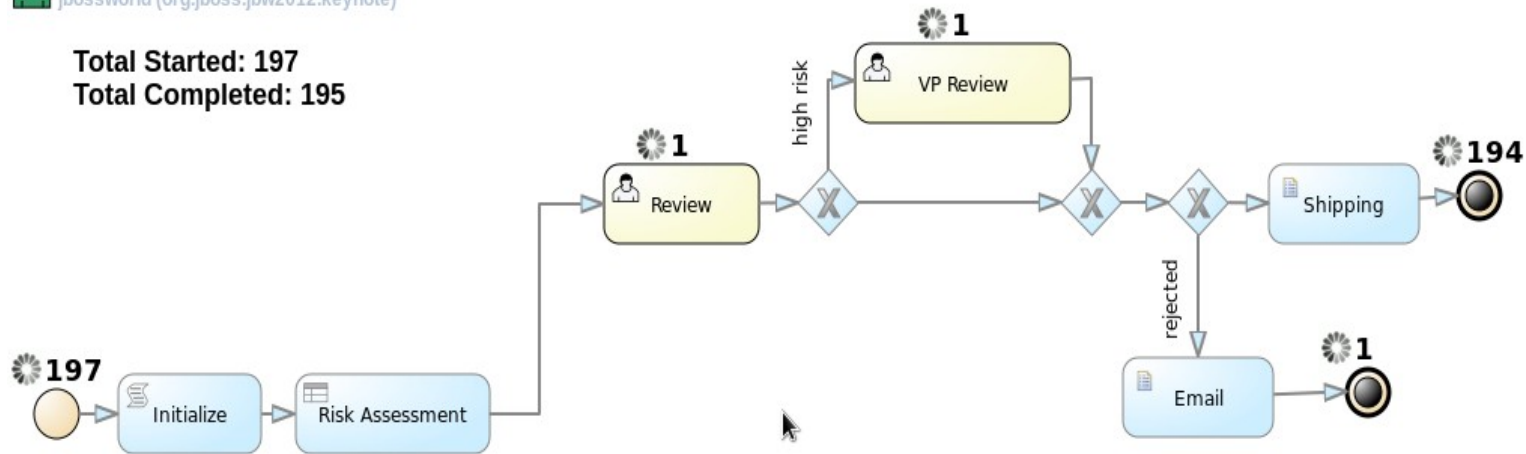
Sales People

\$102,384.57

Total Order

jbossworld (org.jboss.jbw2012.keynote)

Total Started: 197
Total Completed: 195



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JBossWorld Keynote Demo

- BRMS 5.3
- JBossAS7 / EAP6
- OpenShift

- Hibernate4 / JPA2 with in memory H2 DB
- User transaction
- Local task service

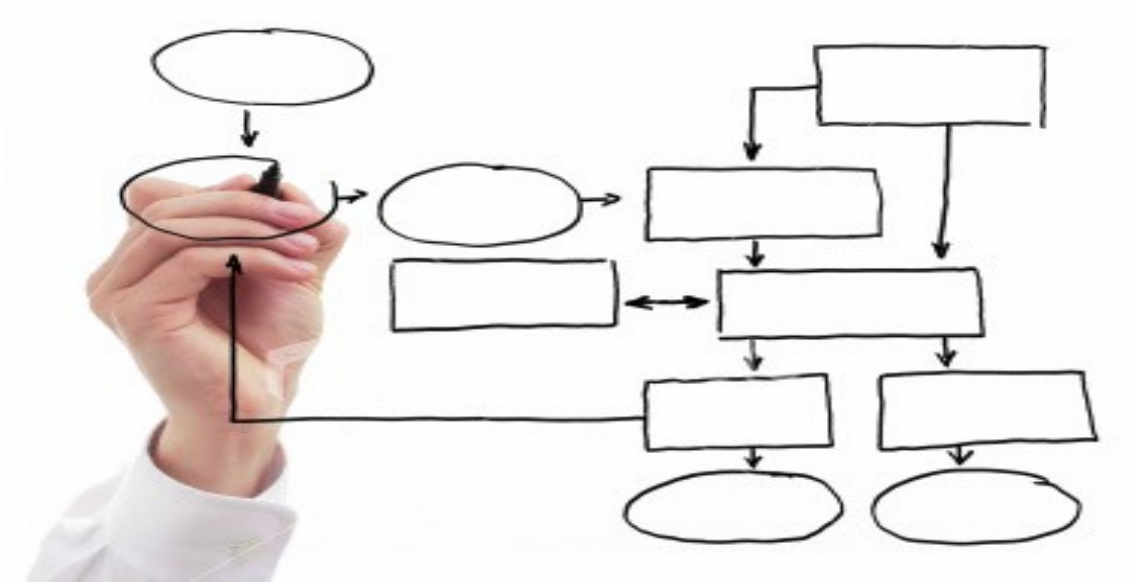
Video + source
available soon!

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BPMN 2.0 as the new standard

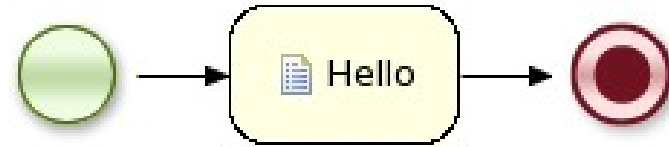
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BPMN 2.0



- **OMG specification**
 - Model
 - Notation
 - Execution semantics

```
<definitions ... >
  <process id="com.sample.bpmn.hello" name="Hello World" >
    <startEvent id="_1" name="StartProcess" />
    <sequenceFlow sourceRef="_1" targetRef="_2" />
    <scriptTask id="_2" name="Hello" >
      <script>System.out.println("Hello World");</script>
    </scriptTask>
    <sequenceFlow sourceRef="_2" targetRef="_3" />
    <endEvent id="_3" name="EndProcess" />
  </process>
</definitions>
```

- Understandable by all business users
- Process, collaboration, choreography
- Extensible

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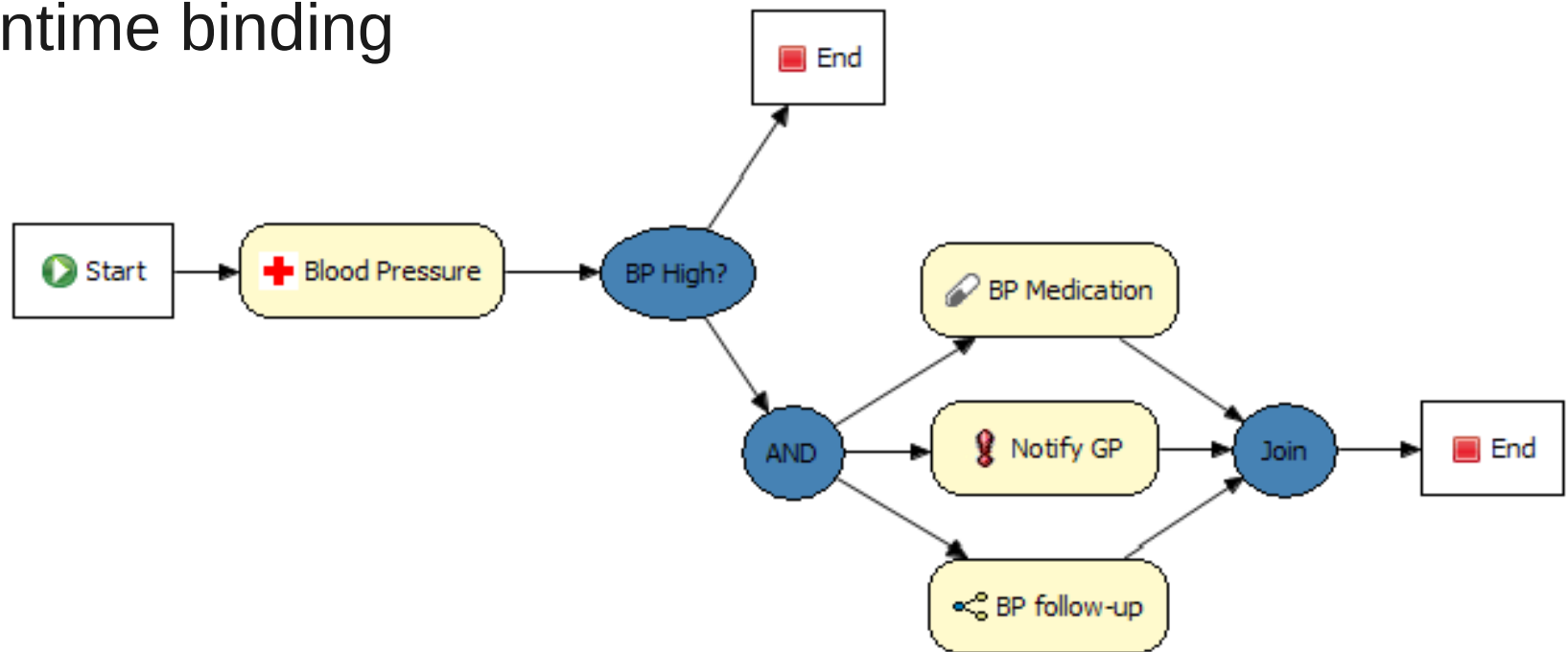
Persistence and Transactions

- Persistence (JPA, pluggable)
 - Runtime persistence
 - History logging
 - Hibernate 3.x / JPA1, Hibernate 4.x / JPA2
- Transactions (JTA, pluggable)
 - Command-scoped
 - User-defined



Domain-specific Processes

- Extend palette with domain-specific, declarative service nodes
 - define input / output parameters
 - runtime binding



Domain-specific Processes

- Why?
 - Domain-specific
 - Declarative
 - High-level
 - Context-defined
- Other examples
 - Human task
 - Java method
 - WS, Rest
 - Email, Twitter
 - FTP, RSS, Jabber
 - Finder, Exec, Archive
 - Google Calendar
 - *YOUR SERVICES !*

Repository !

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Service Repository

The screenshot displays the Eclipse IDE interface with several windows open:

- Import services:** A dialog box with the URL `F:\jbpm-service-repository`. The left pane shows a tree view of services including Communication (Jabber, Email, Twitter), Data, File System, Google, Java, Other, and Service. The right pane has "Get" and "Import" buttons.
- Project Explorer:** Shows a project named "twitter" with folders for `src/main/java` (containing `com.sample`) and `src/main/resources` (containing `ProcessTest.java` and `sample.bpmn`). It also lists "JRE System Library [jdk1.6.0...]" and "JBPM Library".
- Properties View:** Shows details for the selected "Twitter" service, including a description "A service for twitter messages," and a "Parameters" section with a table:

Message	String	The messa
- Diagram View:** Shows a BPMN diagram for `sample.bpmn` with a "Twitter" task between a start event and an end event.
- Custom Work Editor:** A dialog box for editing the task, with "Name: Twitter" and "Message: #{name} is trying out the #jbpm twitter demo!".

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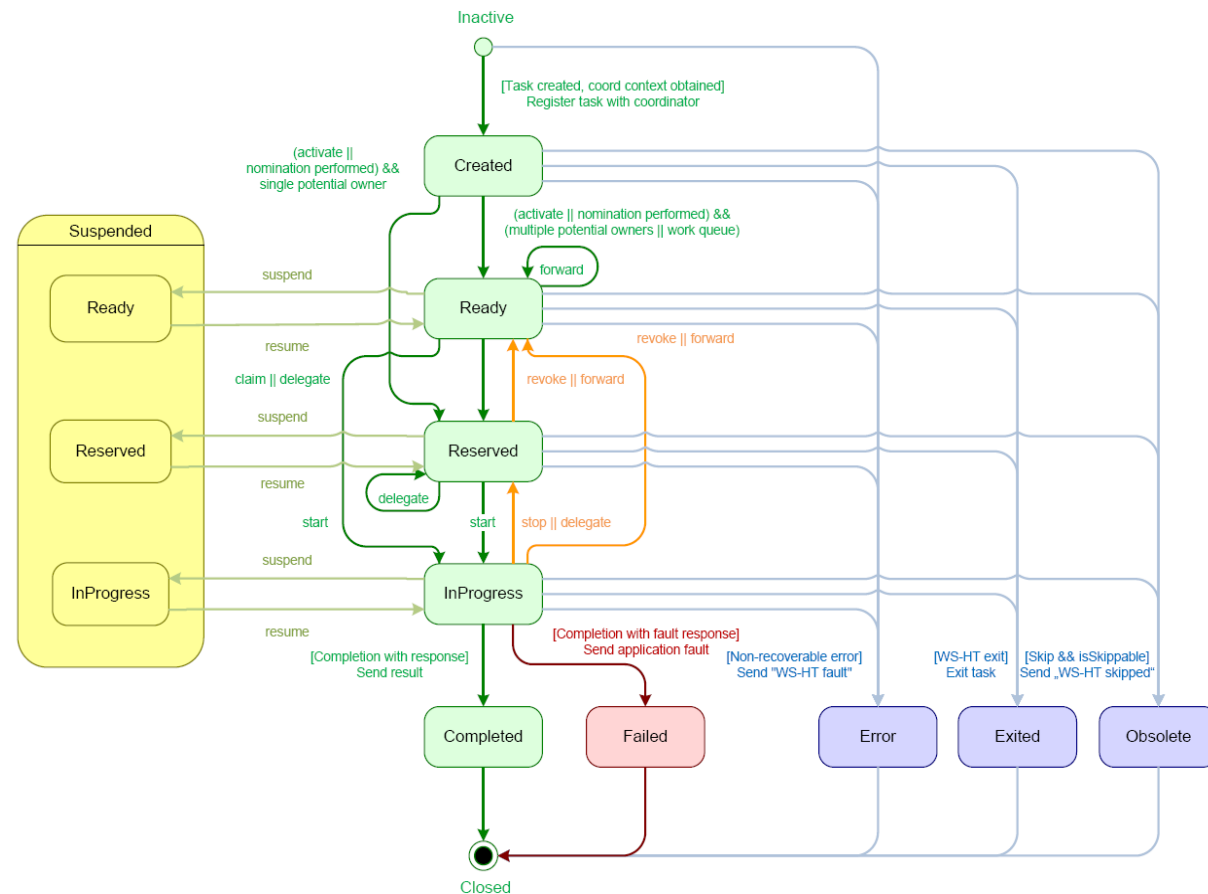
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Human task service

- Based on WS-HT
- User(s) and/or group(s)
- Local, HornetQ
- I18N, calendar, escalation, rule-based, etc.



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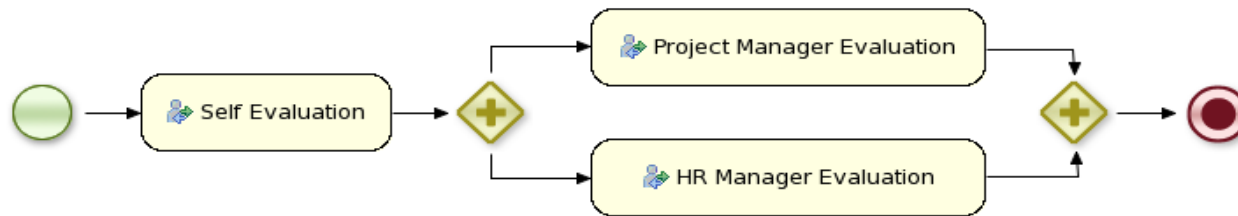
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Ready for the future?

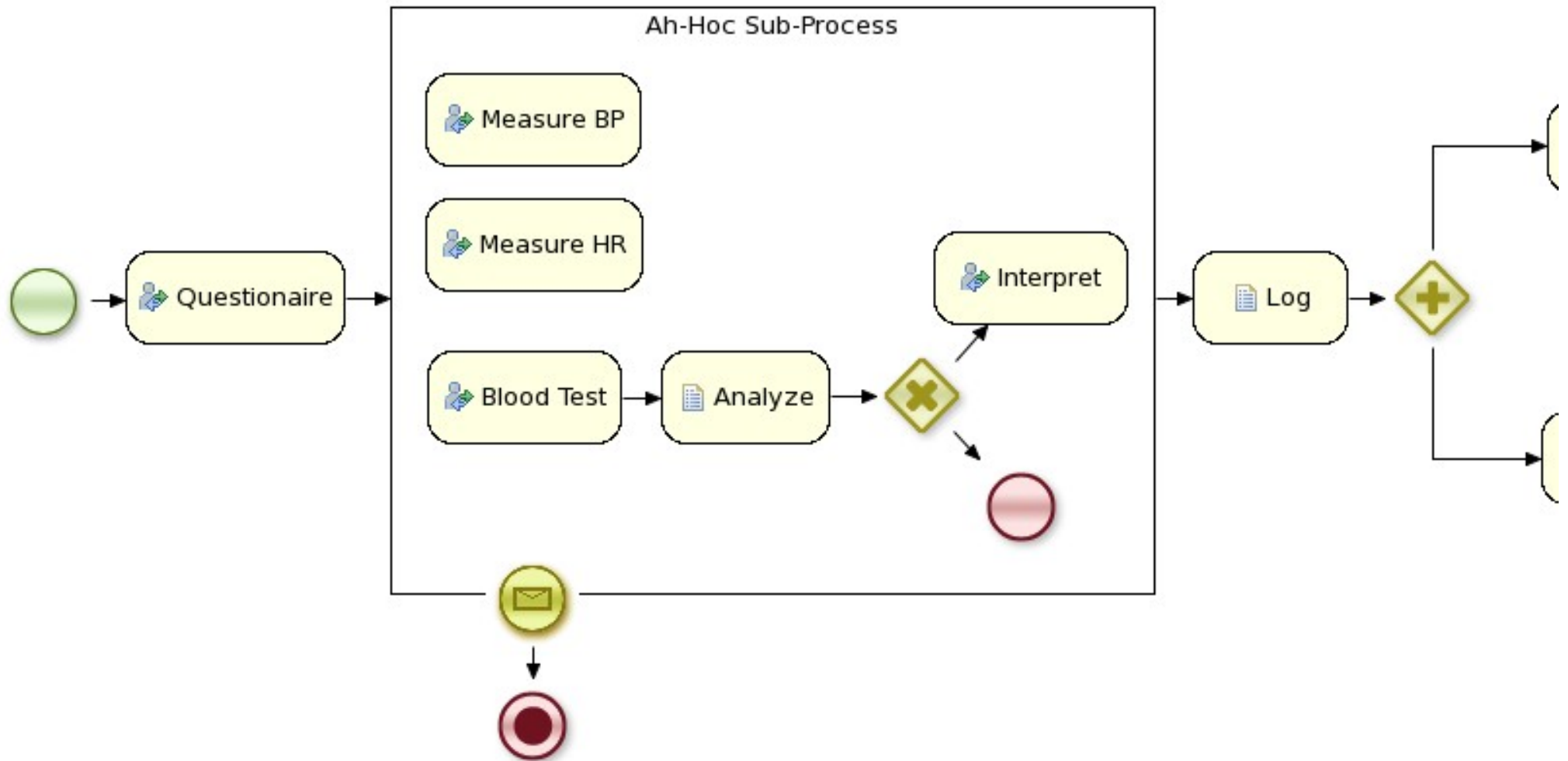
Traditional BPM systems have problems with change, complexity, flexibility, data-intensive applications, etc.



- Adaptive Case Management (ACM)
- Unstructured, non-linear or flexible processes
- Event-driven BPM (edBPM)



Example: Clinical DSS

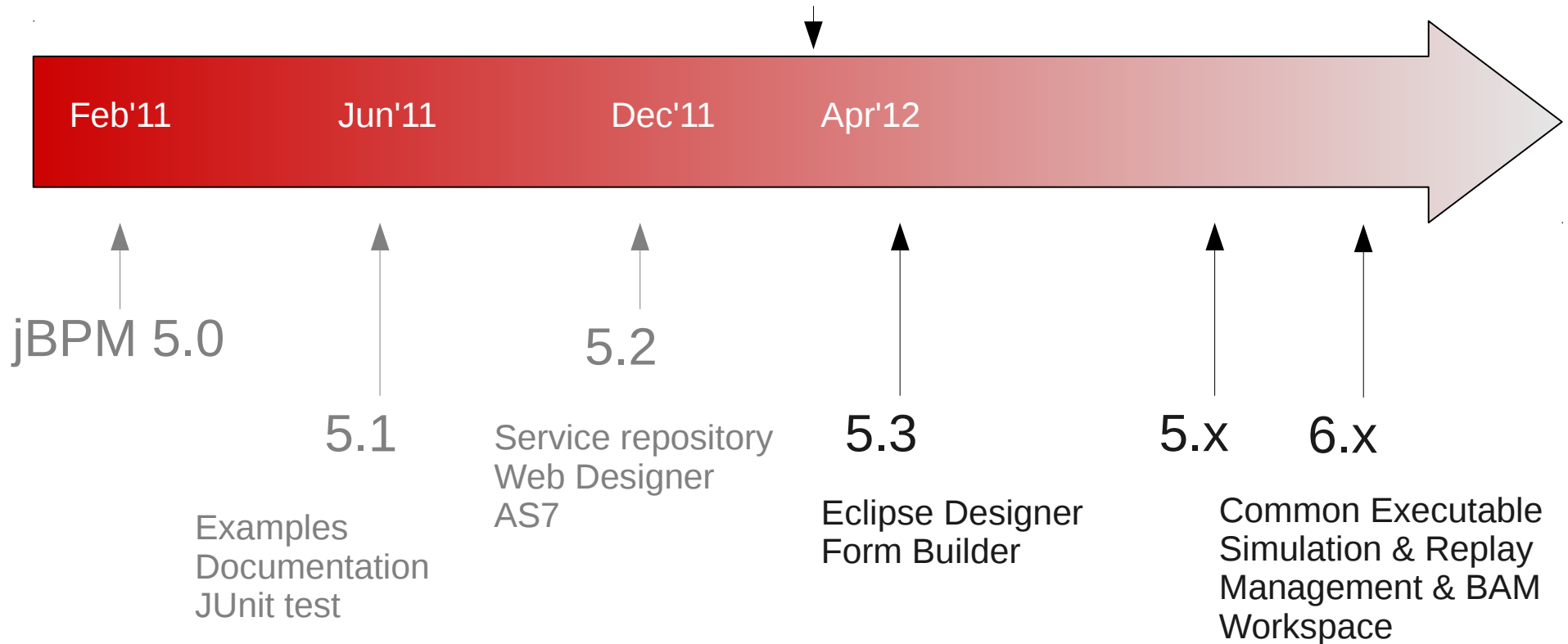


Combining Processes, Rules and Events

- Integration
 - From loose coupling
 - To advanced integration
- Unification
 - Processes and (event) rules are different types of business knowledge assets
 - Tooling (IDE, repository, management)



Roadmap



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Form Builder

- Generate form for process / task
- Graphically design process (D&D)
- Triggers, validation
- Integrated into Guvnor

Task: startProcess

Outputs:

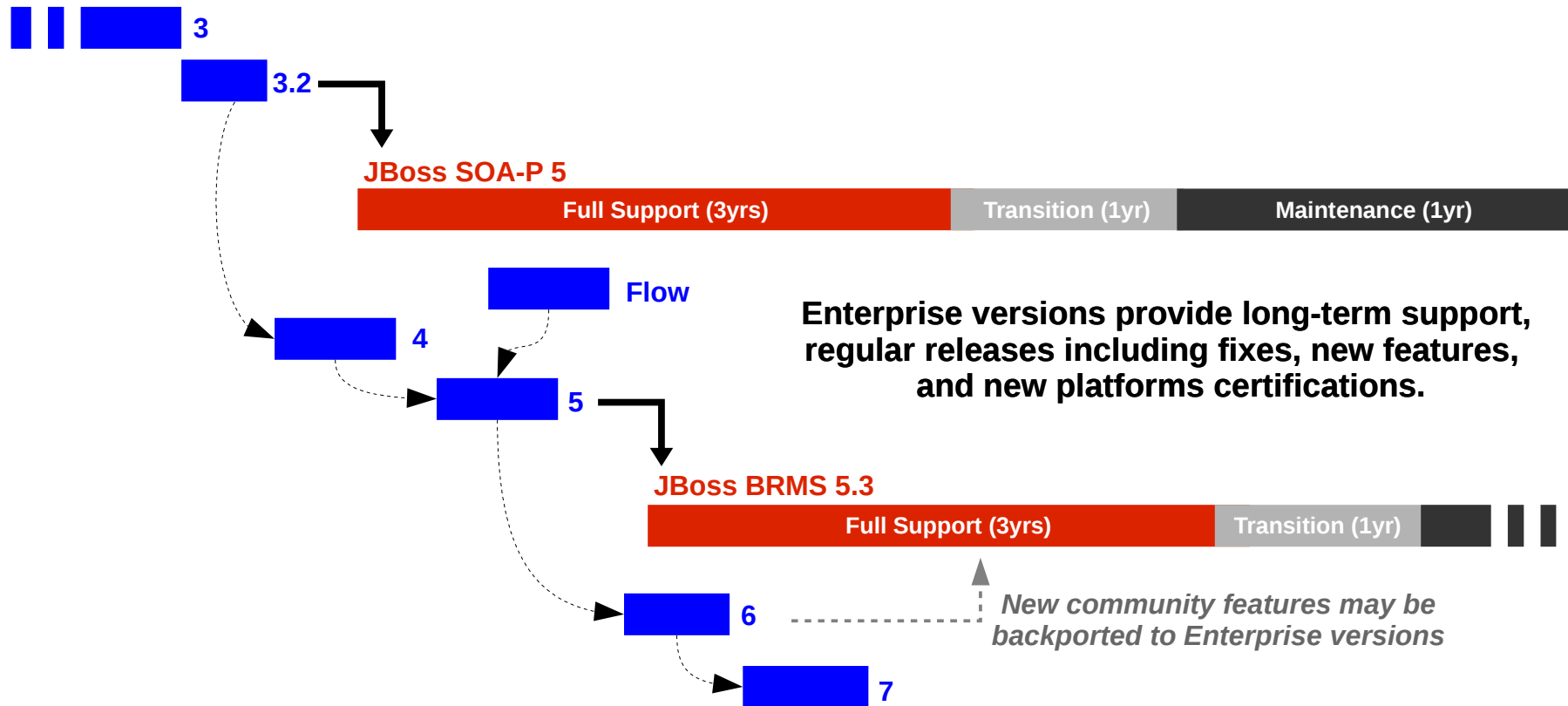
userid	<input type="text"/>
date	<input type="text"/>
comment	<input type="text"/>
result	<input type="text"/>

Complete



JBoss Enterprise Product Delivery Model

Example: jBPM Community and Enterprise Product



While **community projects** continue to rapidly evolve, **enterprise middleware products** focus on long term stability.

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JBoss Enterprise BRMS *BOF*

Thursday June 28th 3

3:40 – 4:40 pm

Room 305

Hynes Convention Centre

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Drools & jBPM

All Day Drop in Centre

Friday June 29th
Room 105
Hynes Convention Centre

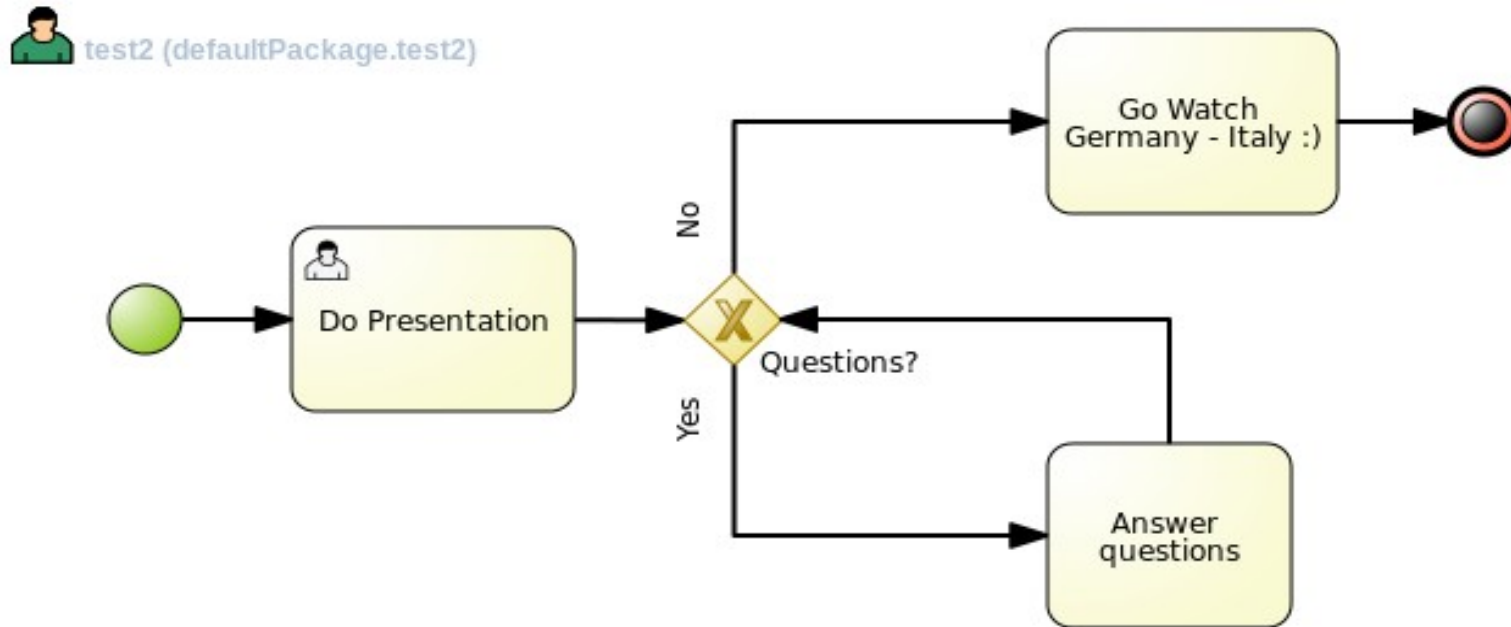
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Questions?



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