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JBPM – A case study

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“Exlibris”

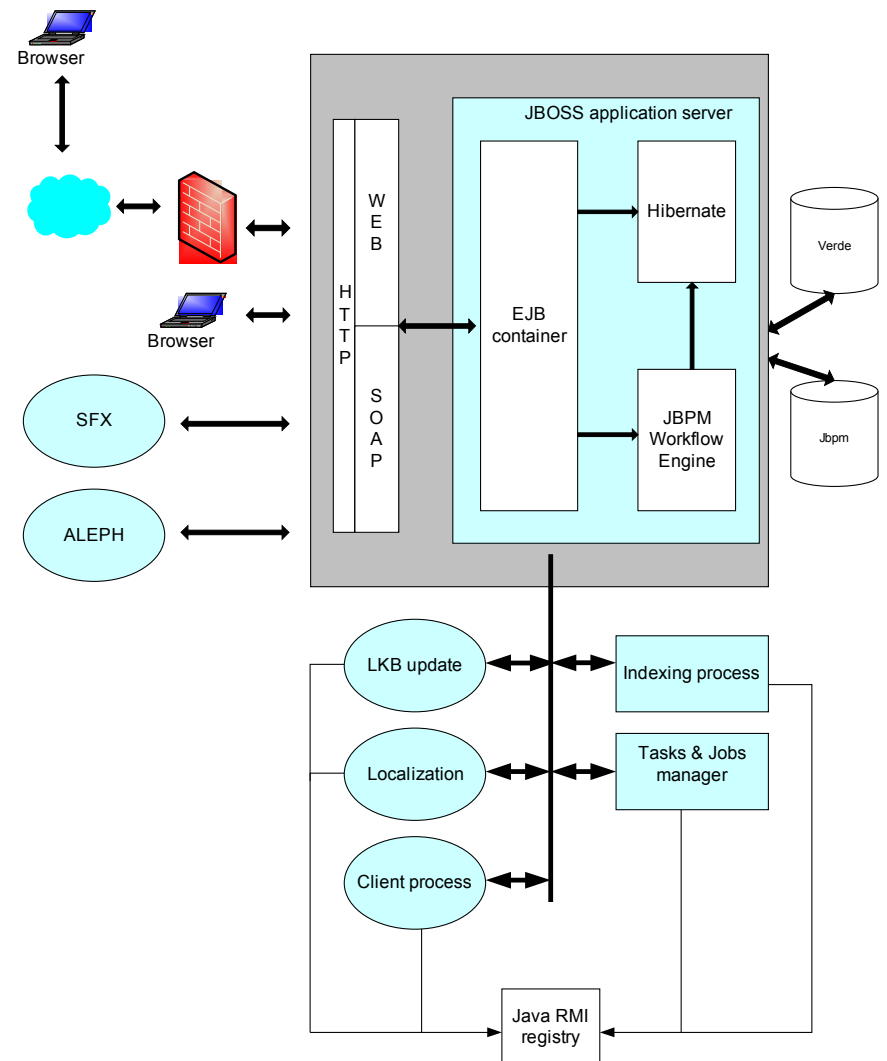
Introduction

- ▶ Verde architecture
- ▶ Verde challenges



Verde Architecture

- ▶ JDK 1.4.2
- ▶ JBOSS AS 3.2.8
- ▶ Hibernate 3.0
- ▶ Axis 1.2
- ▶ jBPM 3.0.1
- ▶ Oracle 9 with CTX



Verde challenges

- ▶ Tasks Configuration
- ▶ Display task in UI
- ▶ Assign tasks to users
- ▶ Workflow progress (Transition from task to task)
- ▶ Deactivate tasks
- ▶ Current location in workflow



Tasks Configuration

- ▶ Why table based configuration?
 - » Can easily be accessed by users
 - » No need to redeploy
 - » Easy to make decisions before addressing a workflow



Display Task In UI

- ▶ Tasks are performed by people
- ▶ Tasks information is configurable:
 - » Task description
 - » Users roles
 - » Link to Verde admin screens
 - » Link to other systems
 - » Email addresses to receive task events
 - » Each variable has type that is used when generating the screen

Next: screenshots

This is how it looks

L-1: License Workflow > Is this the first e-product from this vendor?

Description

Actions

Determine if this is the first product that has been ordered from this vendor, by linking to the e-product and viewing other products in the interface list.

Link to: e-Product

First e-Product Not the first e-Product

Comments

New comment:

[Add new comment](#)

Description

Transition

Saved in task context

JBPM view

```

<task-node name="First product from this vendor ?">
  <task name="LWP_L-1_First_Product_Vendor">
    <!-- Assign user to this task -->
    <assignment class="com.exlibris.verde.bpm.jbpm.assign.VerdeAssignmentHandler" />
    <event type="task-create">
      <action class="com.exlibris.verde.bpm.jbpm.action.base.InitialTaskAction" />
    </event>
    <event type="task-end">
      <action class="com.exlibris.verde.bpm.jbpm.action.base.FinishTaskAction" />
    </event>
  </task>
  <transition name="LWP_firstProduct" to="Create Verde License"/>
  <transition name="LWP_notFirstProduct" to="Can eProduct be added to existing license ?"/>
</task-node>

```

	VARCODE	VARVALUE	VARTYPE	VARSEQUENCE
ndor	role	SELECTOR	1	1
ndor	label	Is this the first e-product from this vendor?	1	2
ndor	description	Determine if this is the first product that has been ordered...	1	3
ndor	verdeLink	e-Product	2	4
ndor	distributionEnd	(null)	1	5
ndor	distributionStart	(null)	1	6
ndor	distributionExpire	(null)	1	7

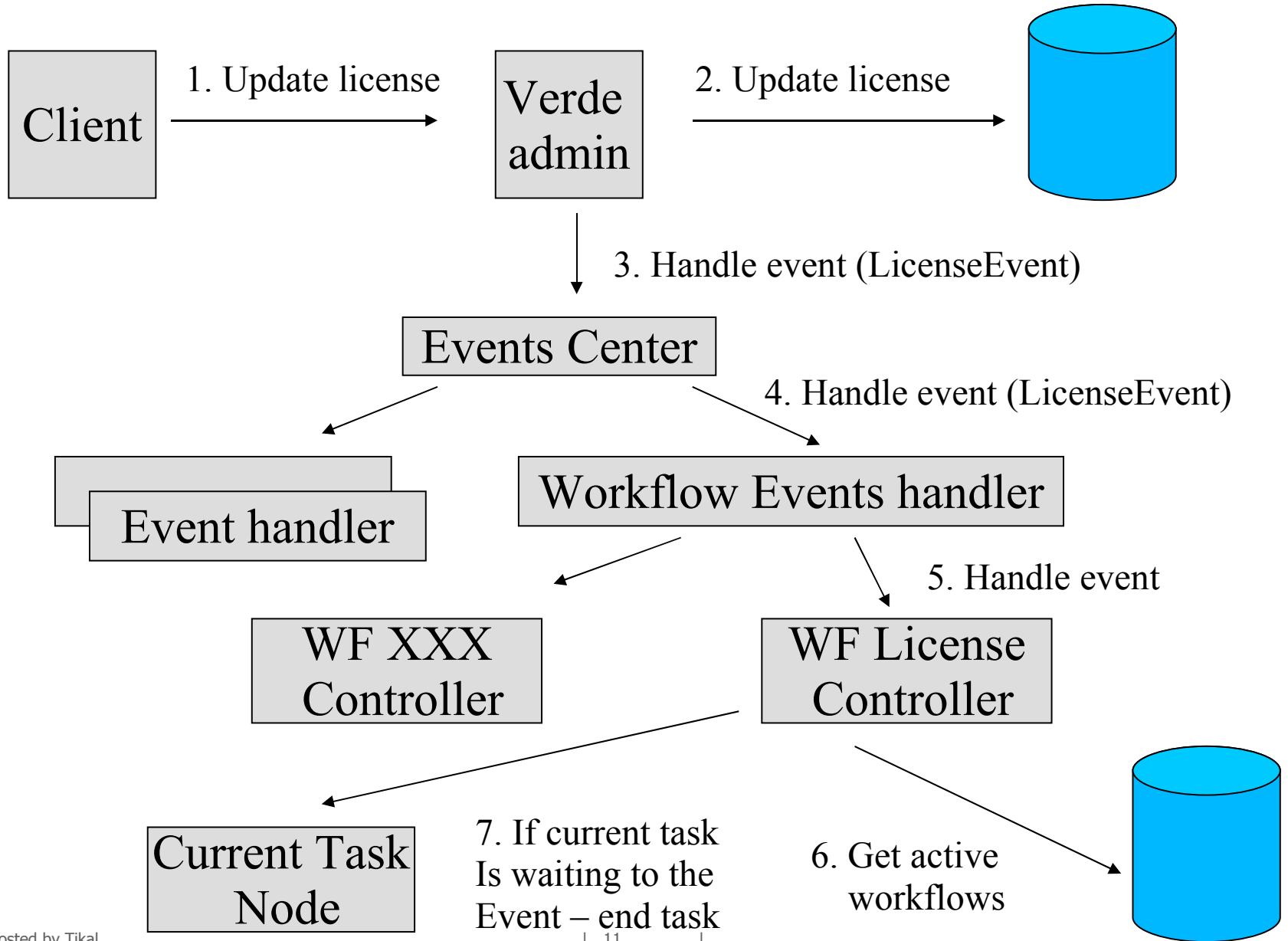
Assign Tasks To Users

- ▶ We want to make sure that users will perform tasks according to their skills
 - » Automatic assignment based on user roles
 - » Manually assignment by administrators
- ▶ List of users is not fixed inside the workflow
- ▶ Users roles are configurable
 - » Appropriate users are calculated each time the task starts
 - » Only one user can perform a task

Transition between tasks (1)

- ▶ Transition is defined inside JBPM process definition
- ▶ Transitions are done when all tasks inside a task node were finished
- ▶ Two events in Verde can end a task node and cause a transition:
 - » Tasks that are waiting for user decision, usually yes/no like decision
 - » Tasks that are waiting that a certain Event to happen in Verde admin

Transition Between Tasks (2)



Transition Between Tasks (3)

- ▶ How task waits to certain event?
 - » Using custom events inside Task entity

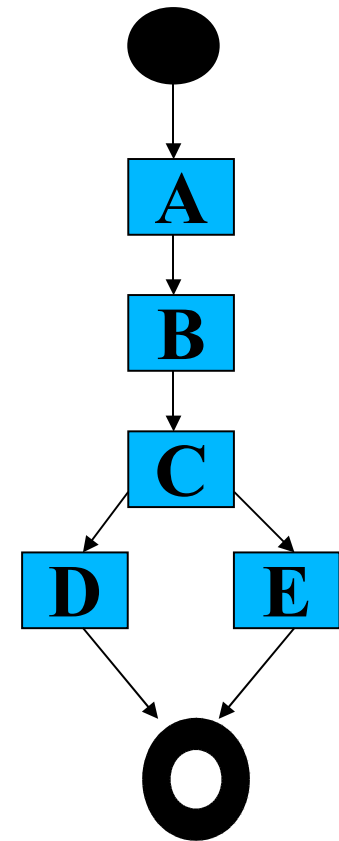
```
<event type="task-create">
  <action class="com.exlibris.verde.bpm.jbpm.action.base.InitialTaskAction" />
  <!-- Check if license was already created -->
  <action class="com.exlibris.verde.bpm.jbpm.action.LicenseCreatedAction" />
</event>
<!-- Event that is received from verde everytime that we create a license and this task is open -->
<event type="VERDE_ATTACH_LICENSE">
  <!-- The action will compare the initial licenses with the actual license
       If there is a new one and the status is NEW then finish task and put new license in the context -->
  <action class="com.exlibris.verde.bpm.jbpm.action.LicenseCreatedAction" />
</event>
<event type="task-end">
  <action class="com.exlibris.verde.bpm.jbpm.action.base.FinishTaskAction" />
</event>
```

Deactivate Tasks

- ▶ Give users the ability to skip tasks

There are risks!

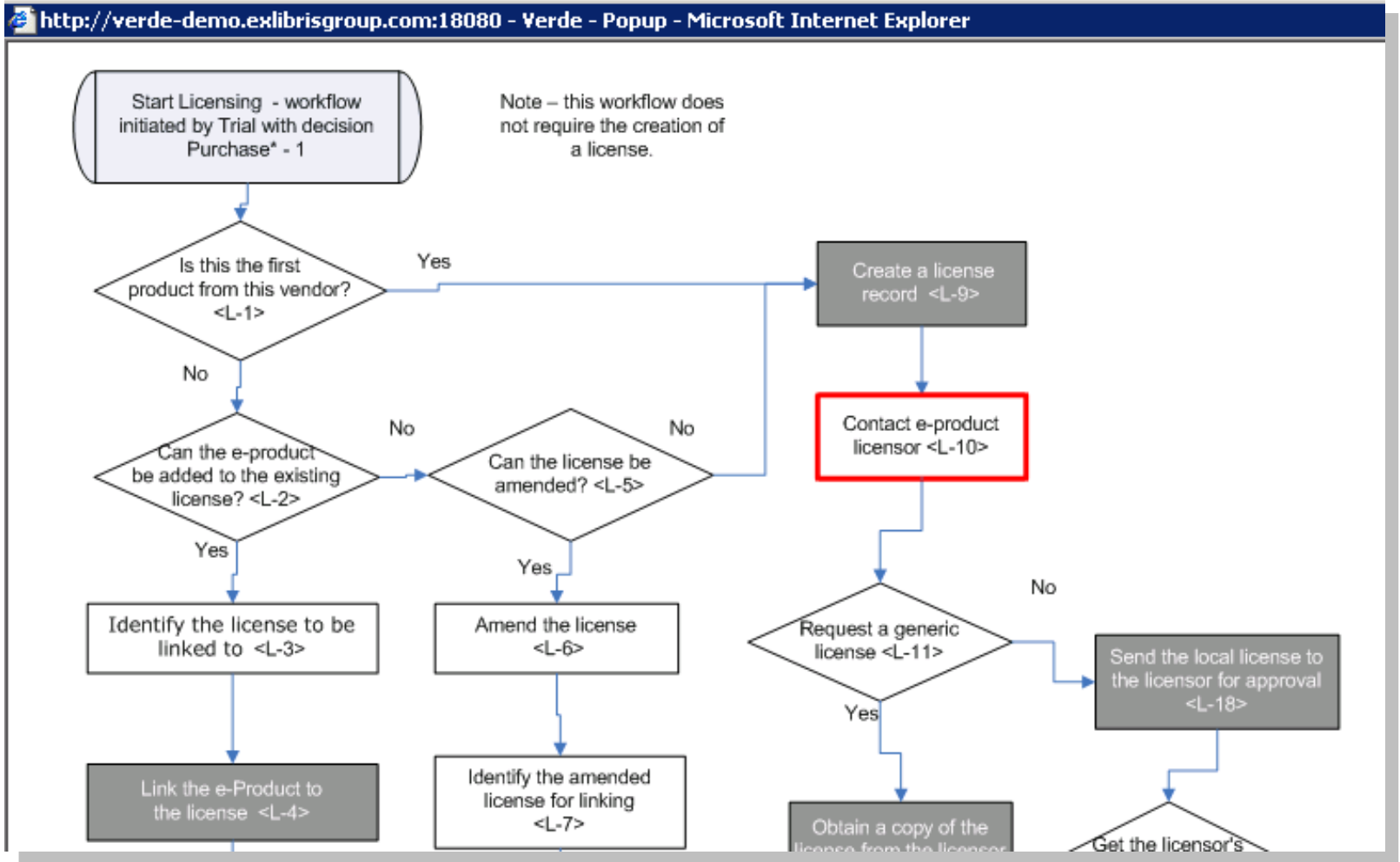
- ▶ Only single transition tasks can be skipped
- ▶ Special handler is called when Task is starting to relate to its activity



Current Location

- ▶ Give a visual glance on where we are in the workflow
- ▶ Dynamic diagram was too hard to implement
- ▶ Compromise: Gif for each Task
 - » Based on workflow documentation
 - » Gif name = process_name.task_name (a unique path)
 - » Each Gif has a task node painted in Red
 - » Appropriate gif according to active Task

Next: screenshots





Questions

Personal Observations

- ▶ JBPM is good for software BPM but less for workflows
 - » No infrastructure to display users tasks in a friendly way
 - » Lack of users management functionality (assignment, retrieval)
- ▶ Yung product
- ▶ Good potential
 - » Easy to understand
 - » Good documentation
 - » Generic framework, many hooks available
 - » Today, part of JBOSS



Thank you