Simplified BPM Power
In The Hands Of The Developer
Agenda

- Business Process Management
- jBPM Introduction
  - Developer Value
  - Business Value
- Train ticket system
- Roadmap
BPM Business Value

- BPM as a management discipline
  - Not an IT concept
- William Edwards Deming
  - Plan
  - Do
  - Check
  - Act
Assembly Lines

- 1723-1790, Adam Smith: The pin factory
- 1863-1947, Henry Ford: mass production
Government Tax Collection
Library Lending A Book
Selling A Ticket For A Concert
GOOD MORNING

IS A CONTRADICTION IN TERMS
Business Processes

- Business process
  - Organized way of doing things
  - Reach certain goal
- Any company - any product - any service
  - They all have business processes
Business Processes Need To Be Managed

- BUT… doesn’t mean that
  - People are aware
  - They are controlled or guided
  - Everyone is using the same process

- Managing a process requires
  - Everyone knows what to do
  - Enforcement
  - Organizational changes
  - Measuring key performance indicators

- jBPM can help
BPM System Introduction

- BPM System (aka BPM engine or workflow engine)
- Executable business process
  - Diagram
  - <tech-details />
- Deploy, run, collect history
General BPMS Advantages

- Process diagram understandable by business people
- Audit
  - Who did what and when?
- History statistics
  - Where are the bottlenecks?
jBPM Advantages

- Embeds into your application
  - Integrates with your transaction
  - Integrates with your database
  - Integrates with your domain model
- Deploy as
  - Simple library
  - Standalone server
Process Language Flavours

- Business Process Management
- Pageflow
- Orchestrating web services (BPEL)
- Transactional scripts
jPDL

- jBPM’s original process language
- Clean and easy Java integration
- Task management out of the box
- Developers like it
  - Transactional control flow
  - Compact, readable XML
jPDL

- Non technical business analysts like it
  - Diagram decoupled from execution semantics
    - Listeners do not change the diagram
    - Developers can code custom activity
    - Direct connection with Java → Agile
- Free graph modelling
- Boxes and arrows
BPMN 2.0

- New process language next to jPDL
- Standard
- Technical business analysts like it
  - Focus on modelling
  - Precise execution semantics
  - Directly coupled with diagram
- Now in incubation
- Target for in H2 2010
jBPM Technical Perspective

- API for application integration
  - Start new process instances
  - Provide external signals
  - Get task lists
  - Get history
    - Audit
    - Statistics
- Same API for all environments
Processes As Part Of Software Development

Software Project

Java, XML, Buildscripts, Tests, …

Oracle, MySQL, PostgreSQL

jBPM

Your App
A jPDL Process

submit document

try again

give up
A jPDL Process

```xml
<process name="DecisionExpression">

  <start>
    <transition to="evaluate document"/>
  </start>

  <decision name="evaluate document" expr="#{content}">
    <transition name="good" to="submit document"/>
    <transition name="bad" to="try again"/>
    <transition name="ugly" to="give up"/>
  </decision>

  <state name="submit document"/>
  <state name="try again"/>
  <state name="give up"/>

</process>
```
Deployment

- Deploy this process to the jBPM DB
  - `<jbpm-deploy file="target/examples.bar" />`
- Programmatic

jBPM DB Tables
- Deployments
- Runtime state
- History
Start A Process Instance

```java
Configuration cfg = new Configuration();

ProcessEngine processEngine = cfg.buildProcessEngine();

processEngine.getExecutionService().startProcessInstanceByKey("ticketProcess");
```
User clicks button in your webapp

Receive Click → Calc Avg → Receive Message → Invoke A WS

JMS message arrives from some other app
A Process In Your Architecture

User clicks button in your webapp

Receive Click → Calc Avg → Receive Message → Invoke A WS

Transaction

JMS message arrives from some other app
A Process In Your Architecture

User clicks button in your webapp

Transaction

Receive Click → Calc Avg → Receive Message → Invoke A WS

JMS message arrives from some other app

Transaction
Let jBPM Do The TX Juggling

- Extract state management from your code
- Decorate your process with POJO java logic
- Let jBPM deal with
  - Transactions
  - Async messages
  - Timers
The Train Ticket Demo
Taking The Train

WANTS → TRAIN → BUY → SHOW

REQUIRES COINS

NEEDS TICKET
Taking The Train 2.0

• The **Problem**
  • Using coins, ticket machines, conductors, ... sooooo 2008

• The **solution**
Train Ticket jPDL Use Case

1. Ticket request
2. Price Quote
3. Accept

Other Train System (EJB)
Modeling the process

- Business analyst (BA)
  - Weapons: Word, Excel, Browser
  - Eclipse designer is 'a bridge too far'
- jBPM solution
  - Collaboration with Signavio
    - http://www.signavio.com
  - Webbased BPMN editor
    - Stored as a jPDL process
Getting started

• I just know you're excited to give jBPM a try

• You can do it tonight
  • Just before you go to sleep
  • Or in your bed?

• Last demo movie
  • jBPM demo setup in less than a minute!
  • Install server, jBPM, example processes
  • jBPM-console, signavio, ...
Questions?

- http://jbpm.org
- http://processdevelopments.blogspot.com