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SAN FRANCISCO | APRIL 14-17, 2014

Deep Dive into jBPM6

Kris Verlaenen
jBPM Project Lead, Red Hat

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Overview

- jBPM 6 highlights
- 5 minute demo
- Deep dive into jBPM Execution Server
  - Session mgmt strategies
  - Remote API
  - Repository and deployment
  - Service Tasks

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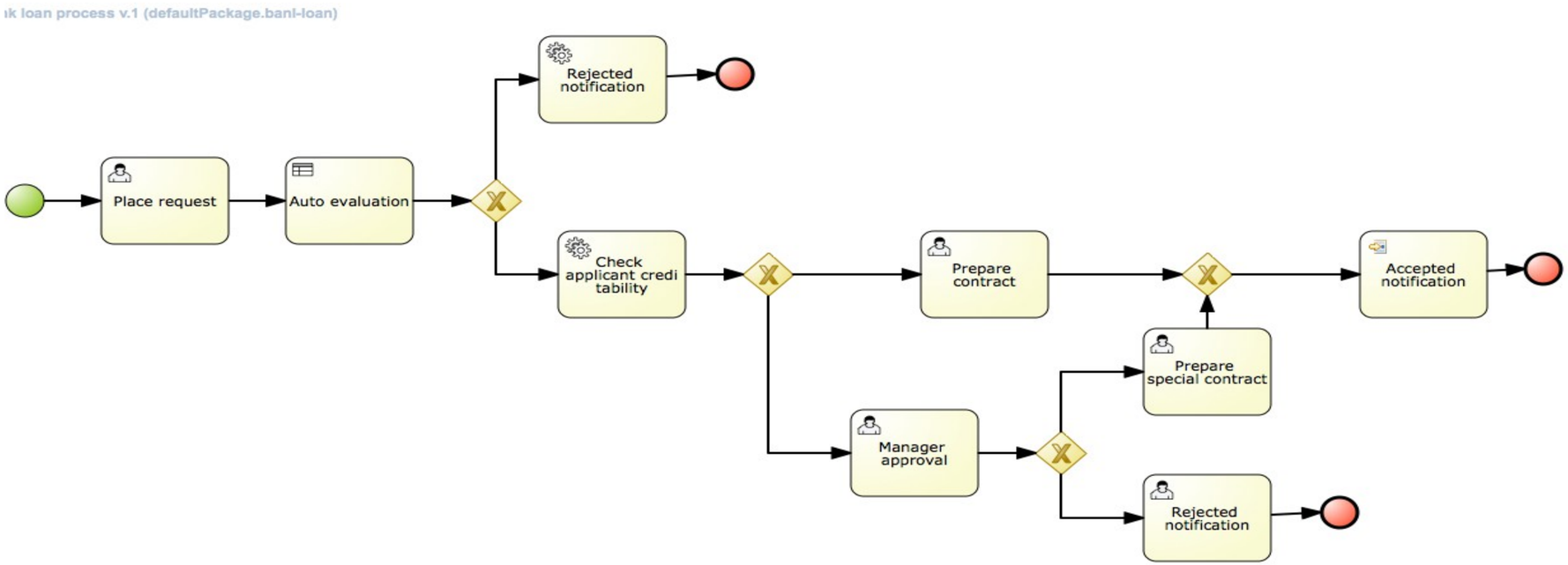
jBPM

- Key characteristics
  - Light-weight process engine (native BPMN 2.0 execution)
  - Standards-based (BPMN 2.0, BPSim, JPA, JTA, etc.)



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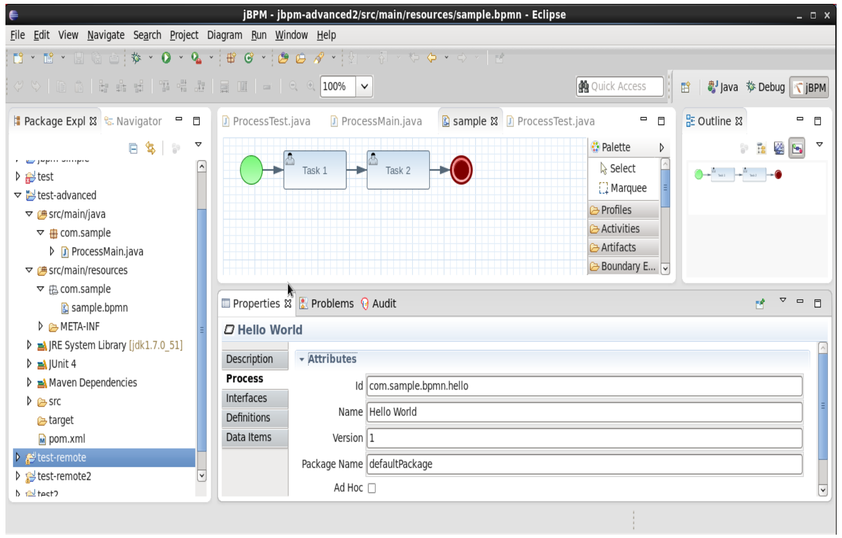
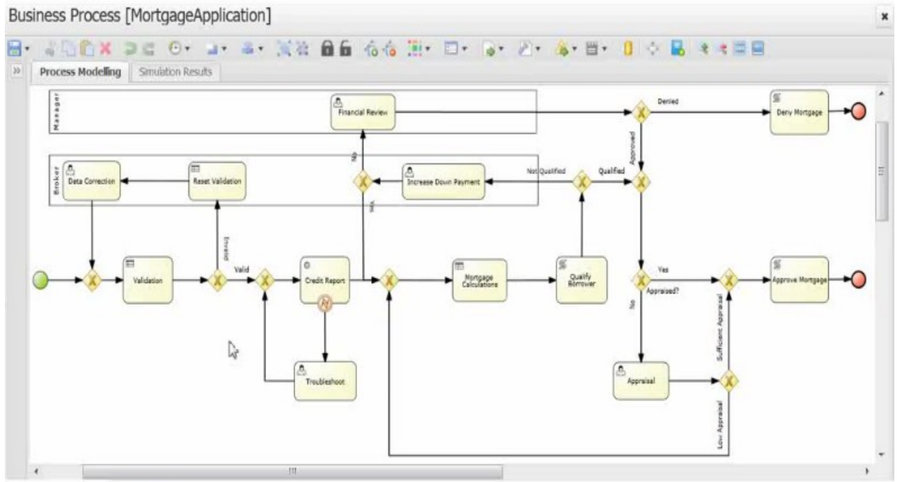
jBPM

- Key characteristics
  - From developers

to business users



- Designer
- Data Modeler
- Form Modeler
- BAM
- Workbench



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jBPM

- Key characteristics
  - From developers to business users

  - From embedded to as a service

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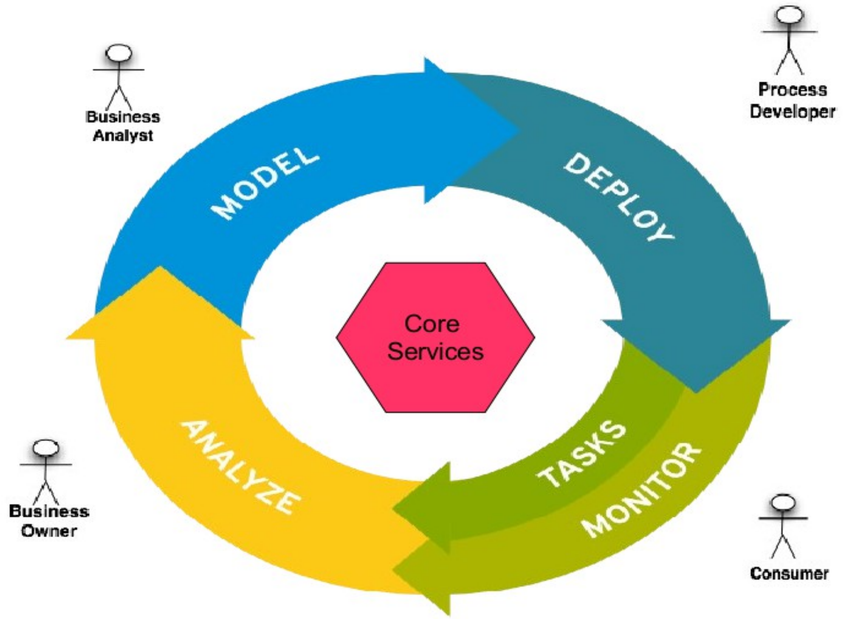
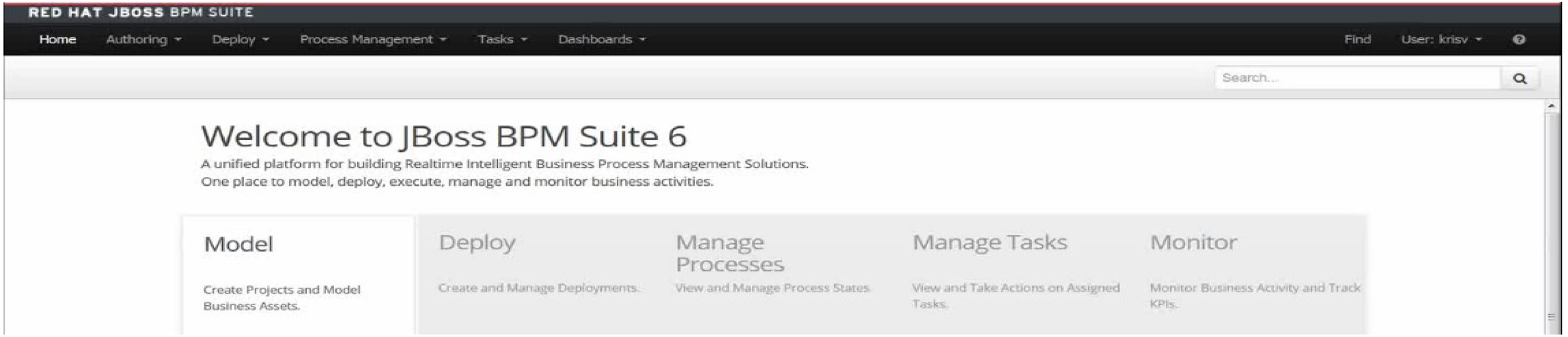
jBPM

- Key characteristics
  - Entire life cycle





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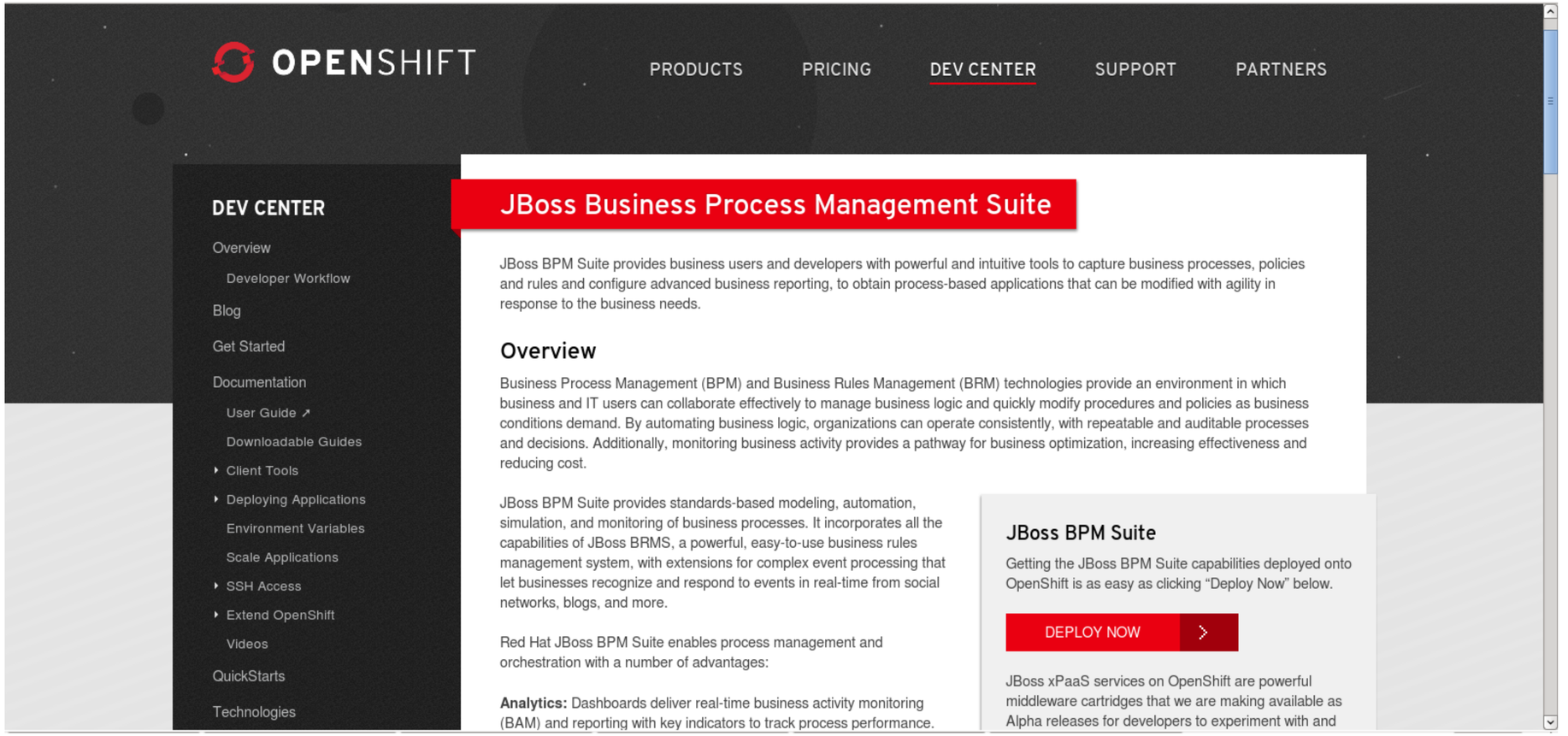
jBPM

- Key characteristics
  - Cloud-ready

bpmPaaS

https://www.openshift.com/developers/jboss-bpms



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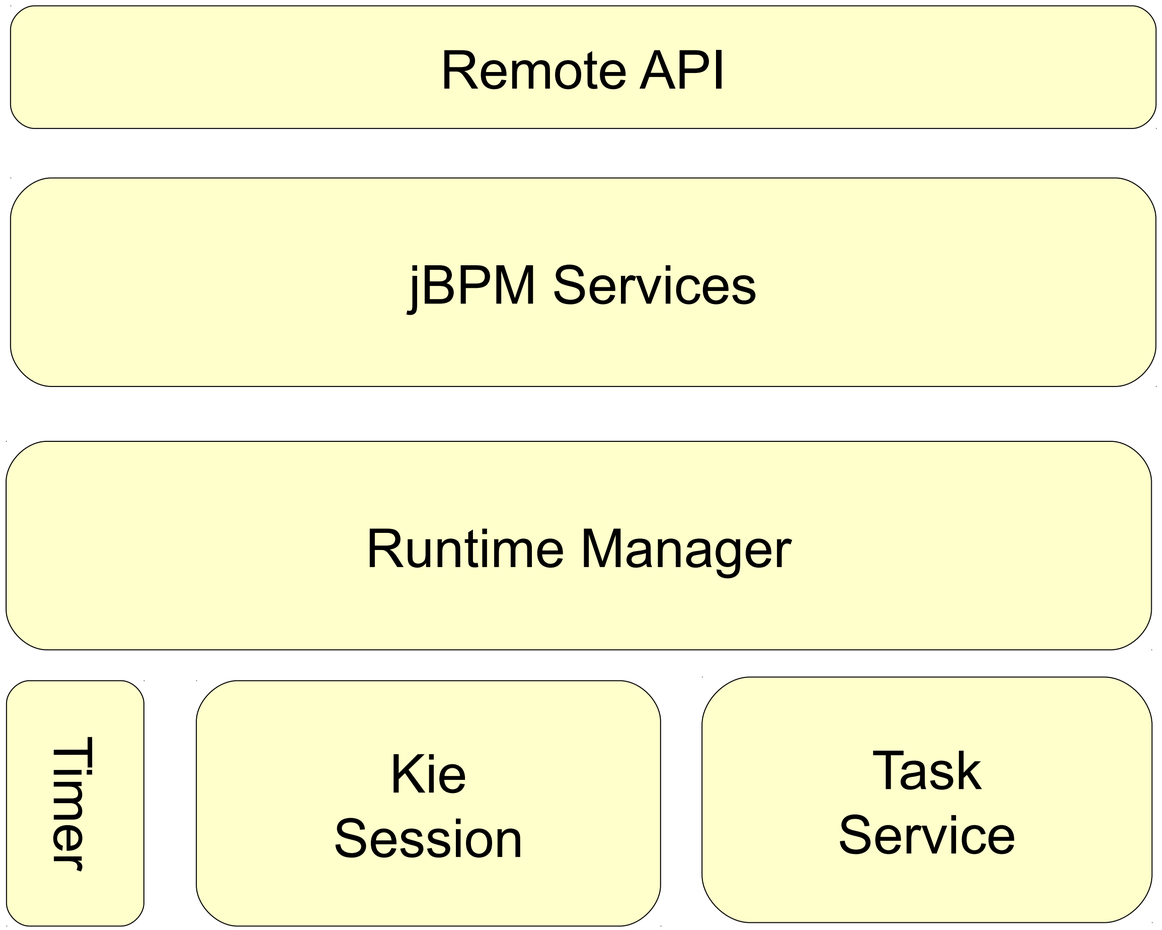
5 MINUTE DEMO

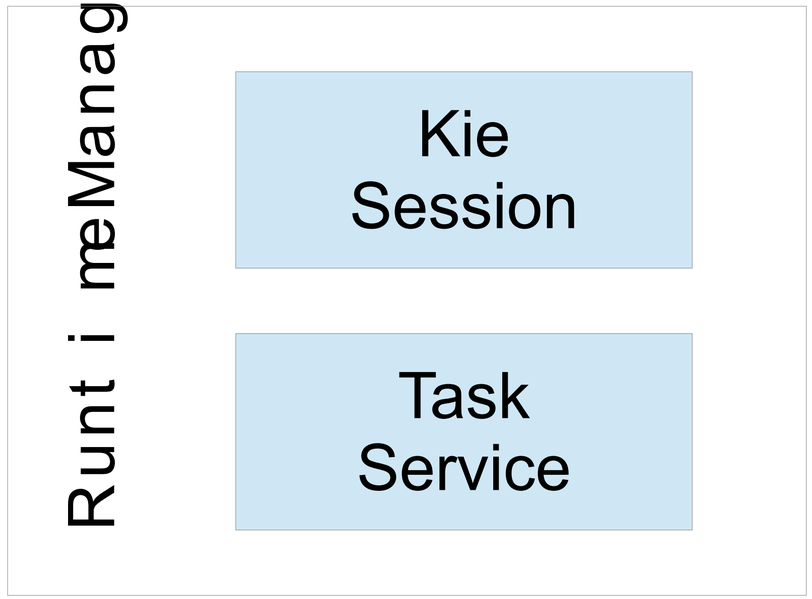
jBPM Execution Server

- KieSession and TaskService
- RuntimeManager
  - Session mgmt strategies
- jBPM Services
  - Deployment, CDI
- Remote API
  - REST, JMS, Java Client



RuntimeManager

- Access to KieSession and TaskService
  - Hides setup complexity
- Manages sessions
  - Singleton session
  - Session per request
  - Session per process instance
- Clustered environment



RuntimeManager Example

```
RuntimeManager manager =
    RuntimeManagerFactory.Factory.get()
        .newPerProcessInstanceRuntimeManager(environment);

RuntimeEngine runtime =
    manager.getRuntimeEngine(
        ProcessInstanceIdContext.get(id));

KieSession ksession = runtime.getKieSession();
// do something here, e.g.
ksession.startProcess("org.jbpm.hello");

TaskService taskService = runtime.getTaskService();
// do more stuff here
```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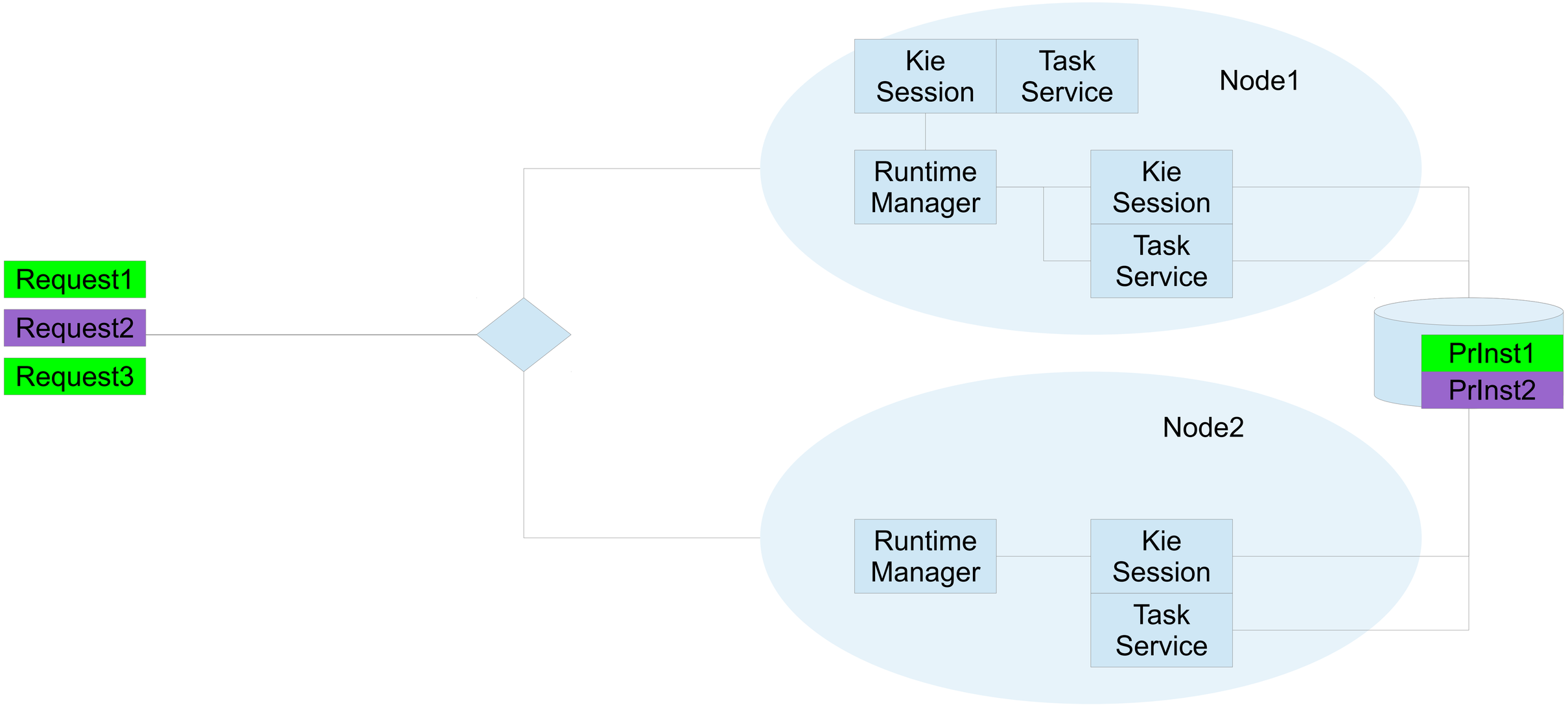
Kie Session
Task Service
Node1
Runtime Manager
Kie Session
Task Service
Request1
Request2
Request3
PrInst1
PrInst2
Node2
Runtime Manager
Kie Session
Task Service

jBPM Execution Server

- Parallelism
- Symmetric
  - Load balancing
  - High availability
- Timer Service using Quartz
- Inject services into your CDI environment

```
@Inject @Singleton RuntimeManager singletonManager;
@Inject TaskService taskService;
```


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Remote API (of Execution Server)

- REST
  - KieSession
  - TaskService
  - Deployments
  - History / audit logs
- JMS
- JAXB + JSON
- Remote Java client (using existing interfaces)

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REST API

```
http://server.address:port/{application-id}/rest/
   runtime
      {id: [a-zA-Z0-9-]+}                 // deploymentId
         process
            {id: [a-zA-Z0-9-]+}
               start                     * start process [POST]
            instance
               {id: \\d}                 * process instance details [GET]
                  signal                 * signal event [POST]
                  abort                  * abort process instance [POST]
         signal
            {id: [a-zA-Z0-9-]+}           * signal event [POST]
         workitem
            {id: \\d}
               complete                  * complete work item [POST]
               abort                     * abort work item [POST]
         execute                         * execute the given command [POST]
   task
      {id: \\d+}                         * task details [GET]
         activate                        * activate task
         claim                           * claim task [POST]
         // etc..
         execute                         * execute the given command [POST]
      query                              * task query
```


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Command Serialization

- JAXB serialization of commands
  - e.g. Start task

```
<command-message>
  <deploymentId>test</deploymentId>
  <ver>1</ver>
  <start-task>
    <taskId>1</taskId>
    <userId>krisv</userId>
  </start-task>
</command-message>
```


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REST Client Example

```
RuntimeEngine runtimeEngine =
    new RemoteRestSessionFactory(
        "org.jbpm:HR:1.0”,
        “http://localhost:8080/jbpm-console",
        AuthenticationType.BASIC, "krisv", "krisv")
            .newRuntimeEngine();

KieSession ksession = runtime.getKieSession();
// do something here, e.g.
ksession.startProcess(“org.jbpm.hello”);

TaskService taskService = runtime.getTaskService();
// do more stuff here
```


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Repository and deployment

- Organization – Repository – Project
- Source control
  - Git
- Deployment
  - kjar: processes, rules, data models, forms, configuration
  - Maven (GAV, dependencies, management)
- Clustered environment
  - Helix and ZooKeeper

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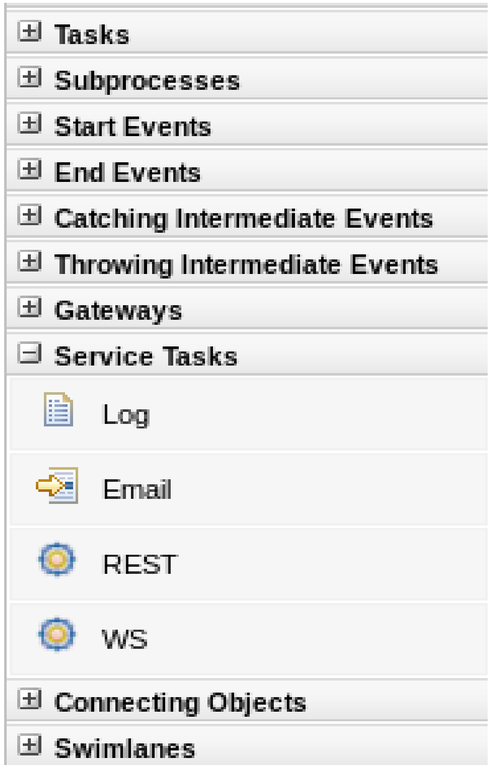
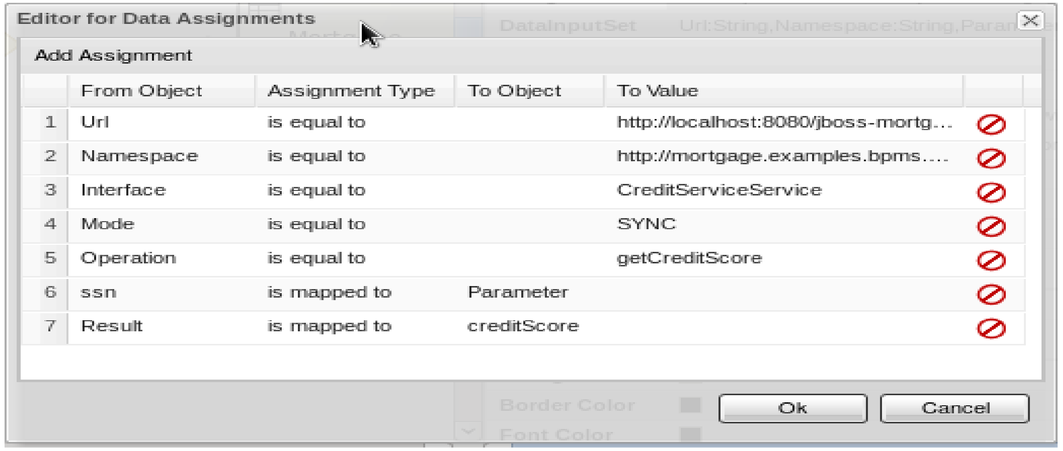
Service Tasks

- New out-of-the-box handlers for
  - WS
  - REST
- jBPM Executor
  - Asynchronous handler using jobs
    - Reusable
    - Fail-safe
    - Retries





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Getting started

- http://www.jboss.org/jbpm
- jBPM v6.0.1.Final
  - jbpm-installer
- Developer copy of JBoss BPM Suite v6.0.1.GA
- OpenShift cartridge

- Contact us !

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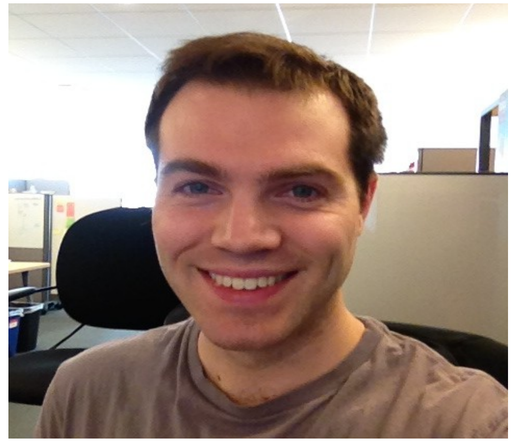
Have your say on User Experience

- Do you have any experience with designing, using or analyzing business rules and processes?
- Do you have any opinions, ideas, complaints, or questions about the BRMS and BPM Suite web tools?
- If the answer is “yes” to either of these, come talk to Joe Sniezek at the **Customer Central** booth (open all day)



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Questions?

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