Modeling and Monitoring Business Processes with Mangrove, BPMN2 Editor and Stardust

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EclipseCon
San Francisco
3/18/2014
11:15-11:50 am
SOA Projects Collaboration

- Mangrove
  - Domain Model
  - BPMN2 Model
  - BPMN2 Modeler
- Process Engine
  - Stardust
  - Mobile Client
  - Process Portal
  - Winery

Connections:
- Mangrove -> BPMN2 Model
- BPMN2 Modeler -> BPMN2 Model
- Mangrove -> Stardust
- Mangrove -> Process Engine
- Winery

Read/write, generate, monitoring, facilitate deployment.
Mangrove
Mangrove Reminder

- **Bridge**: Integrates design and runtime artefacts created or used in Eclipse SOA
- **Common metamodel** (Mangrove Core) and **transformation plugins** enable partial transport of essential information between tools
- Mangrove Core contains **elements related to processes** as well as SOA services
New in Mangrove: Monitoring

Stardust Environment

Client Side Agent

Abstract Server-Side Agent

Stardust BPMS Agent
Monitoring Process View

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>User executing the process</td>
<td>motu</td>
</tr>
<tr>
<td>The duration of the last execution was</td>
<td>7350ms</td>
</tr>
<tr>
<td>The average execution time for the activity is:</td>
<td>13777ms</td>
</tr>
</tbody>
</table>

Activities executed by last instance:
- InitiateTimesheet
- FillTimeSheet
- CheckTimeSheet
- TimeSheetApproval

Execution History for TimeSheetBP_1
Monitoring Activity View

Activity Name: CheckTimeSheet
Process: TimeSheetBP_1 | ID: 11

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>User executing the activity:</td>
<td>motu</td>
</tr>
<tr>
<td>Role executing the activity:</td>
<td>Area Manager</td>
</tr>
<tr>
<td>The duration of the last execution was:</td>
<td>21ms</td>
</tr>
<tr>
<td>The average execution time for the activity is:</td>
<td>21ms</td>
</tr>
</tbody>
</table>

Execution History for CheckTimeSheet

- **Execution Time (ms)**: 20, 22, 24, 26, 28, 30
- **Execution instance**: 0, 1, 2, 3, 4, 5, 6
BPMN2 Modeler
Project Overview

- **Sponsored by Red Hat**
- **BPMN2 Compliance**: Full support with Eclipse BPMN2 metamodel project
- **Graphiti-based**: Eclipse Graphiti 0.10.x
- **Extensible**:
  - Model & UI
  - Plug-in API (extension points) and configuration files
Demo
Stardust
Stardust

- Industry-proven, mature Business Process Management Suite
  Infinity Process Platform under Eclipse Public License
  - Workflow
  - System Integration
  - Document Management
- More than 1,600 production deployments worldwide
  - > 10,000 users (Commerzbank, former Dresdner Bank)
  - > 1,000,000 processes/day (CSS Insurance, SWIFT)
  - > 300,000 documents/day (VAR Japan)
  - Benchmarks exist with > 10,000 processes per second.
- Largest BPMS in the industry (2.5M LOC, 726 person years)
  - Bonitasoft (2M LOC, 589 person years)
  - jBPM (738k LOC, 200 person years)
Browser-based Modeling

Normalized Services based on Web/REST Services, DB, File, Message Queues and Data Models are provided and maintained for all SunGard Systems.

Services and Data Models can be reused for Client Processes.

UI Mashup

Use of Data Models
Browser/Mobile Portal

- Worklists
- UI Mashups
- Document Management
- Reporting
- Administration

- Device-independent
- GPS, Camera, Call API used
Winery
OASIS TOSCA

Topology and Orchestration Specification for Cloud Applications

- Automation of Deployment and Management
- Portability
- Interoperability
- Vendor-neutral ecosystem
- 100+ participants from 40+ companies
TOSCA Overview

Service Structure

- OnlineBookstore (WAR)
  - hostedOn
    - WebServer (Tomcat)
    - OperatingSystem (Ubuntu 12.04 LTS)
    - EC2 VirtualServer (AWS EC2 Server)

Orchestration for Deployment & Management

1. Start VM
2. Install Tomcat
Using Workflows to deploy an Application
Creation and modeling of TOSCA applications, including graphical modeling of topologies and management plans. Exported as Cloud Service Archive (CSAR) for TOSCA runtime.
Creation and modeling of TOSCA applications, including graphical modeling of topologies and management plans. Exported as Cloud Service Archive (CSAR) for TOSCA runtime.
Contacts/Resources

- Mangrove
  - www.eclipse.org/mangrove
  - Adrian Mos (adrian.mos@xrce.xerox.com)

- BPMN2 Editor
  - www.eclipse.org/bpmn2-modeler
  - Bob Brodt (bbrodt@redhat.com)

- Stardust
  - www.eclipse.org/stardust
  - Marc Gille (marc.gille@sungard.com)

- Winery
  - www.eclipse.org/winery
  - www.demo.opentosca.org
  - Oliver Kopp (kopp.dev@gmail.com)