Java Workflow Toolbox (JWT)
Release review: Workflow Editor v0.4

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Introduction

- Java Workflow Toolbox (JWT) is a technology sub-project in Incubation phase
(http://www.eclipse.org/projects/dev_process/incubation-phase.php).

- JWT aims at providing a complete Business Process Management (BPM) tooling platform
  - with a special focus on a unified approach to BPM design, allowing to bridge the gap between BP representation, BP standards, BP engines, BP deployment environments (platforms, Information System, SOA)

- This release covers the first release of the Workflow Editor, currently in development version 0.4.

- These slides conform to the Eclipse Guidelines for a Release review which can be found under
http://www.eclipse.org/projects/dev_process/release-review.php .

Features

- This is the first release of the JWT workflow editor (WE). It supports the modeling of processes / workflows in order to execute them afterwards.
    - The modeled workflow will afterwards be able to be transformed into executable BPEL-code or XPDL-code or something else, and imported from BPMN representation beforehand.

- The WE includes an overview page, several tabs, wizards, etc. to ease the process of modeling a workflow.

- The workflow editor is the basis for further plugins in JWT
    - such as model transformations from the Eclipse STP BPMN editor to JWT, or XPDL codegeneration, or integration in an SOA-type Information System architecture which is currently under development.
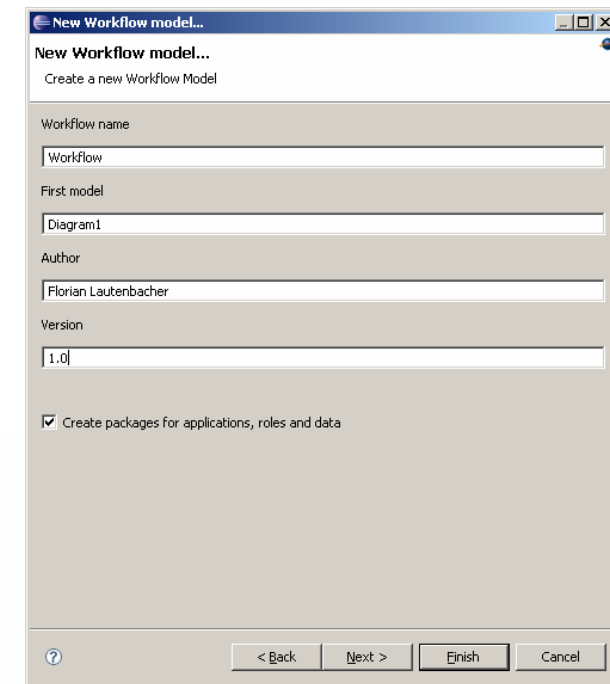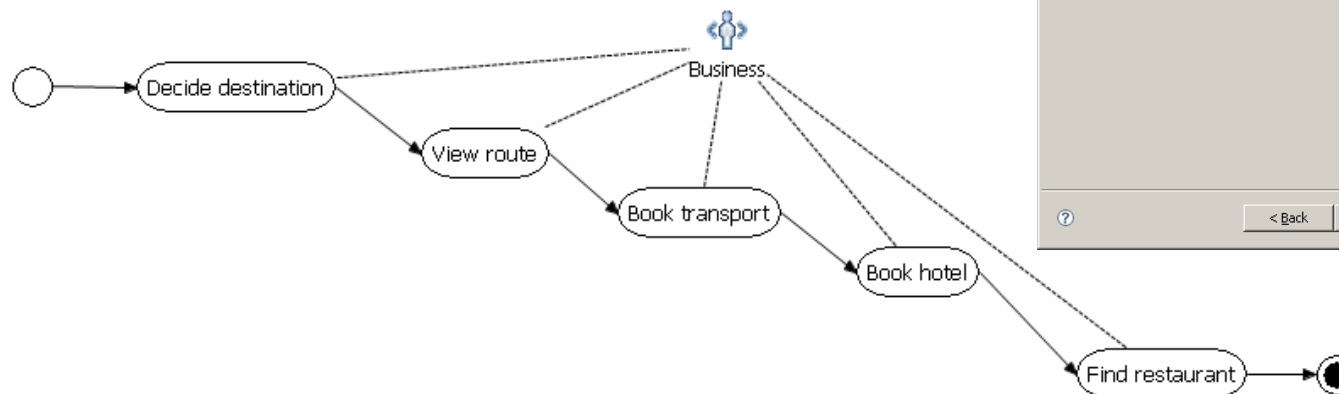
Features: Workflow Editor - Screenshot
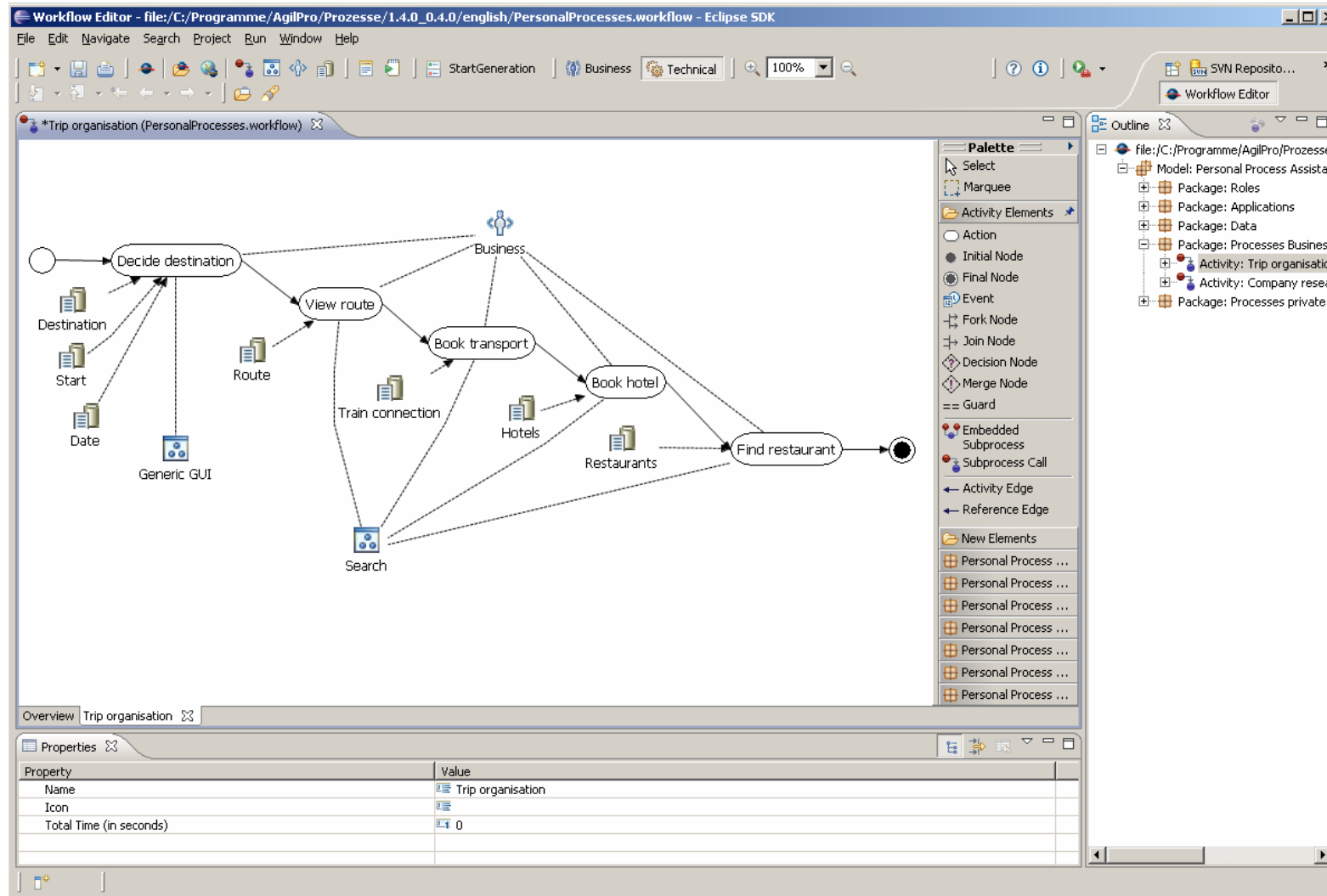
Features: Workflow Editor

- A graphical and tree editor based on EMF and GEF for modeling the workflow / business process of a company in several views.

- The last slide showed the technical and the model below the business view.

- Several wizards available (see right), an own perspective, preferences and an overview page as shown on the next slide.

Features: Workflow Editor - Screenshot

Non-code aspects

- Several documents on the wiki exist that describe the metamodel or the usage of the modeler as well as its relationship to other modeling standards (such as BPMN, XPDL, etc.). Shortly they will be available on the project web site, too.

- Several workflow examples will be shipped together with the workflow editor and will be available on the web site.

- There has been a presentation about JWT at the Eclipse Summit Europe 07 and there will be some talks that describe parts of it at EclipseCon08.

- There have also been some scientific publications that summarized the meta-model, codegeneration or other aspects of JWT or referenced JWT at least: [openBPM06], [ObjSpe07], [DSM07], [SAC08].

- More publications (in Eclipse Magazines) are planned together with the first release.

APIs

- The code conforms to the Eclipse Quality.

- The code has been implemented by committers of the project.

- Several examples have been tested.

- The plugin is in use at several companies since 2007.

- Before contributing it to Eclipse, the tool was available as a project at SourceForge and the last version there was 1.3.0 (until now more than 9,000 downloads, see http://sf.net/projects/agilpro)

Architectural issues

- Several extension points (e.g. menu, model) available that are already used by plugins such as the following:

BPMN transformation	XPDL generation	HTML documentation	BPEL generation	SOA Integration	Simulation / Preview

Java Workflow Tooling

Eclipse Modeling Framework	Graphical Editing Framework

Eclipse Europa Workbench
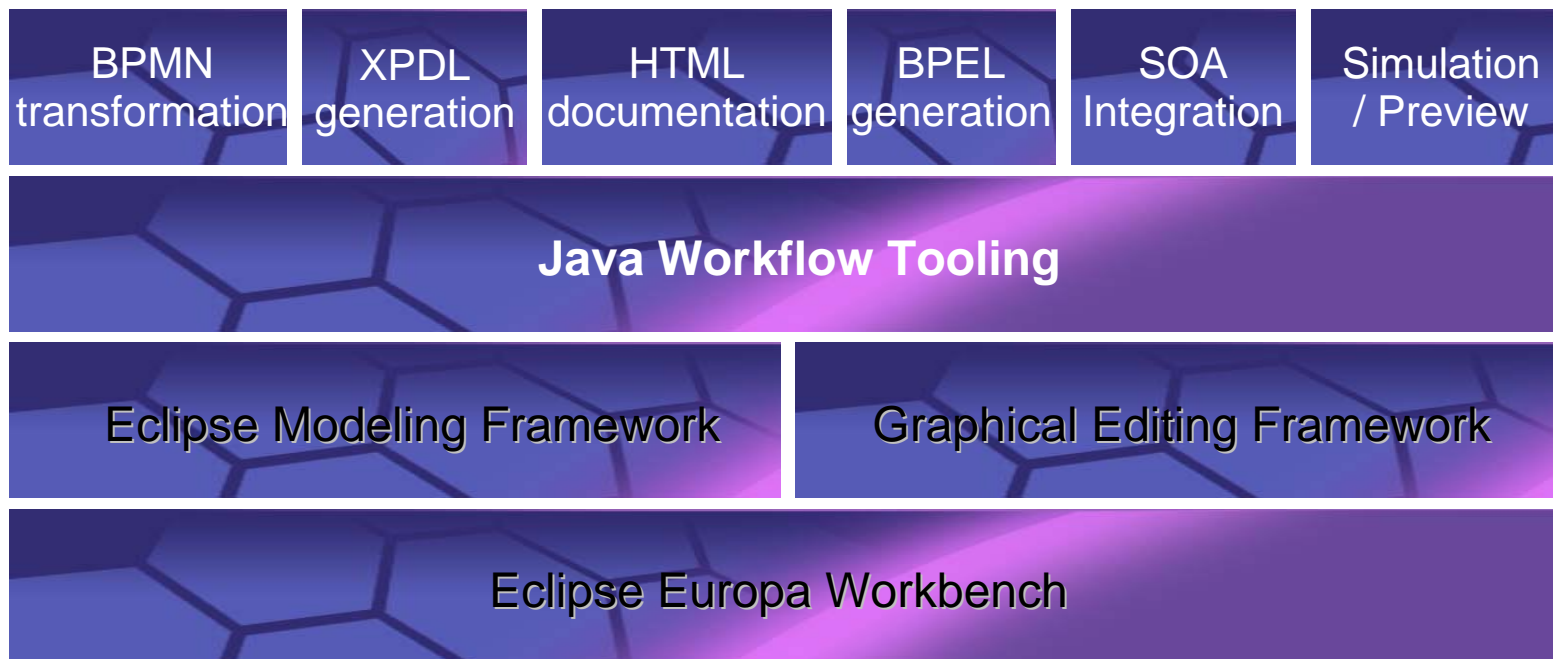
Tool usability

- The WE allows users to model their business processes in order to execute them afterwards. Therefore, several wizards are available to create new process models (e.g. from templates), add specific information such as applications, data, roles, etc.

- Easy integration into Eclipse with an own perspective.

- An overview page shows the most important information at one glance.

- Enables the user to model his process in a graph-based structure (not block-based like BPEL), but nevertheless generate BPEL or XPDL code afterwards (with plugins developed in parallel which are not part of this release).

End-of-Life

- Since this is the first release, there is no feature that is end-of-life'd in this release.

Bugzilla

- There are already 73 closed and fixed bugs for the workflow editor which have been maintained on the Eclipse Bugzilla since the beginning of the JWT project.

- Bugzilla knows currently 26 open bugs where most of them are feature requests for version 0.5.0. No P1 or P2 bugs, only P3 bugs are outstanding.

Standards

- No standard, however, transformations to existing standards such as BPMN, BPEL or XPDL are currently ongoing work or already completed.

- The workflow editor has been implemented on the basis of EMF and GEF. The transformations use the Eclipse BPMN editor as source and target.

- JWT will ensure the executability of workflows on several process engines. Execution on the process engine Bonita is currently tested, an integration with JBoss jBPM is also ongoing work.

- JWT will ensure integration with an Information System's SOA. Integration at runtime with Web Service and SCA standards are currently tested, service registry (ex. UDDI) browsing is planned.

UI Usability

- The modeler supports several languages, currently implemented are German and English.

- Several wizards exist to ease the usage of the workflow editor.

- The Eclipse User Interface Guidelines have been followed.

Schedule

- The project JWT is currently more focused on the editor and transformation part as well as on being a platform for SOA and SCA (together with the current STP projects).

- New components planned (but not yet included : ex. jwt-compatibility, model transformations from BPMN or codegeneration to XPDL), several extensions to the workflow editor already developed (e.g. documentation of the process model in html, several views, etc.) – parts of them are already hosted at the Eclipse CVS.

- Milestones were not met completely since the structure of the project changed in the last months.

- Many administrative issues we didn't know and were now facing postponed the release date, but for the next release we will be better prepared.

Communities

- Active bugzilla by the committers (not by users, since no release available yet)

- Many discussions on the mailing list, inside JWT as well as with partners from the STP projects (STP IM, etc.)

- Newsgroup not used too much.

- Coordination with several OW2 projects, most prominently the partner SCOrWare project, but also others like Bonita or Orchestra.

IP Issues

- The code has been committed by individuals who are either committers of the project themselves or their foundation.

- The contribution questionaire for this initial code contribution has been completed.

- The legal information has been inserted into the source code as described in the Eclipse IP Policy.

- The code has been approved by the EMO-IP-Team under CQ 1936 and CQ 2039 as described on our IP Log (http://wiki.eclipse.org/JWT_IP_Log).

Project Plan - Summary

- The next release is scheduled for August 2008 and from then on a new release is planned at least every half a year. Integration within the yearly release (such as Europa or Ganymede until now) might be achieved in 2009.

- The next release will consist of
  - an updated version of the workflow editor
  - extensions for integrating with an Information System's Service Oriented Architecture (SOA) and especially the SCA technology
  - model transformations and code generation, implementing further a unified approach of BP design and management

Project Plan – Next release – Interoperability

- Almost done :
- Two way BPMN to JWT transformation
  - Ongoing BPMN – JWT mapping study and prototyping; by Obeo, using ATL model transformation technology
- JWT to XPDL transformation
  - Based on existing JWT – XPDL mapping study by Bull and Open Wide, using XSL technology
- BP model & format interoperability framework
  - Extensible (through an extension point) transformation service
  - Methodology as well as functional and unitarian samples to validate transformations

- Planned Work & Under specification :
  - Mapping to the STP Intermediate Metamodel (STP-IM)
  - JWT to BPEL transformation
  - Mapping with other metamodels
  - PVM interoperability

Project Plan – Next release – JWT for SOA

- Almost done :
- Runtime generic BP engine API (as a coarse-grained service)
  - Web Service and SCA (Tuscany and SCOrWare implementations) integration
  - a first implementation of its SPI on top of the Bonita XPDL BPM engine
- Service registry Browsing and Search UI
  - With optional semantic search (thanks to INT)
  - Allows to specify in JWT at development time services to be called within a process' execution, to be chosen in the target SOA platform's service registry

- Planned work :
  - Bridging those devtime and runtime parts
  - Generic service registry API and implementation
  - Process registry

Notes

- The Eclipse development process document and the Guidelines document have been read and approved by the project leads and committers of the JWT project.

Thanks for reading this document!

- Marc Dutoo (Project Lead) - Open Wide, FR
- Florian Lautenbacher (Project Lead) – University of Augsburg, DE
- Miguel Valdez (Technology Advisor) – Bull, FR
- Alain Boulze (Market Advisor) – INRIA / OW2, FR
- Fabrice Dewasmes (Vision Advisor) – Pragma Consult, LU
- Günther Palfinger (Technical Advisor) – eMundo, DE

- Christian Saad, Christian Seitz – University of Augsburg, DE
- Loic Descotte, Guillaume Decarnin, Mickael Istria – Open Wide, FR
- Stephane Drapeau – Obeo, FR
- Samir Tata, Djamel Belaid – INT, FR

- Adrian Moss – INRIA / OW2, FR
- Koen Aers, Tom Baeyens – JBoss corp., BE
- Goulven Le Jeune – Bull, FR
- Tim Stephenson – Tibco, UK
- and many others...

The JWT project team

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