

# OW2 Scarbo

Going BPM on SCA

OW2 Conference - Marc Dutoo – April '09

### Open Wide

- Open Source Solution Integrator, ~ 90 employees (Paris, Lyon)
- Portal – ECM - BI
- On the (Open Source) R&D side :
  - ▶ Eclipse (JWT - Java Workflow Tooling, STP), OW2 (Scarbo, Bonita, FraSCAti, PEtALS), ESB Initiative, Nosica...
  - ▶ Public funded research projects, industrial (Talend, EBM WebSourcing, Bull, Obeo) and academic partners (INRIA, INT)

### Marc Dutoo

- Open Source Architect at Open Wide since 2006
  - ▶ SOA, BPM, ECM expert
  - ▶ Consulting, projects, research, training...
  - ▶ Head of Open Wide R&D Dept

## OW2 Scarbo : Business Processes for SCA

- Putting your SOA to good use thanks to Business Processes, in a technology-agnostic manner

### Plan

- BPs to exploit SOA Agility
- SCA and BPs, orchestration, workflows...
- Scarbo in a few words
- Architecture
- Demonstration

## SCA track : And now what ?

### We've already seen SCA...

- Infrastructure, both native and ESB integrated
- Tooling
- Deployment, management, methodology...

### Now we're going higher : at the business level

- Because if (SCA-defined) SOA provides flexibility, it is for the sake of better answering business needs !
- Answering them first implies analysing and defining their processes / activities / task list / ... that's Business Process Management !

## Business Process Management, SOA

### BPM

- Brings : top-down design (business representation) and implementation, task management and service orchestration
- Issues : « BPM Babel tower » (paradigms, standards, implementations, tools), coupled with the Information System

### SOA

- Brings : managed loose coupling ; SCA as technology-agnostic standard for defining SOA
- Issues : too complex and technical for business users

### Business processes are about « doing things » in a well-defined manner

- Looking at it from the business user's perspective, it is him interacting with integrated business applications : that's workflows !
  - i.e. oriented graph of tasks and human interactions, outside of SOA and SCA, therefore complementary
- Looking at it from the SOA perspective, it is about calling (these business application's) business services : that's orchestration !
  - And SCA makes for a standard, technology-agnostic way of decoupling the BP layer and the SOA layer
  - NB. There are many ways of orchestrating services, down to the infrastructure level : BPEL, script, Java, including SCA impls.

## Business Process Management and SOA

### BPM empowers SOA

- Business process representations hides the complexity of SOA to business users
- Thanks to top-down tooling, task management and service orchestration, BPM is the ultimate swiss knife for SOAs

### SOA protects BPM

- Against Information System evolutions, thanks to SOA governance
- And protects the Information System against heavy coupling from BPM, thanks to SOA acting as a « protective shell » over the Information System

### Still remains the BPM Babel tower issue...

### Eclipse JWT (Java Workflow Tooling)

- By Open Wide, the University of Augsburg, Bull, jBoss, Obeo...
- Since 2006, distributed in the upcoming Eclipse 3.5 (Galileo)
- Workflow Editor : customisable views, extensible model (EMF Aspects)
- Transformations : compatibility with BP formats (BPMN), export to executable languages (XPDL)

### The Process Virtual Machine

- Business process engine framework by jBoss & Bull
- Can support any BP language, semantics and transversal features through plugins ; basis for jBPM & Nova Bonita

## Introducing OW2 Scarbo

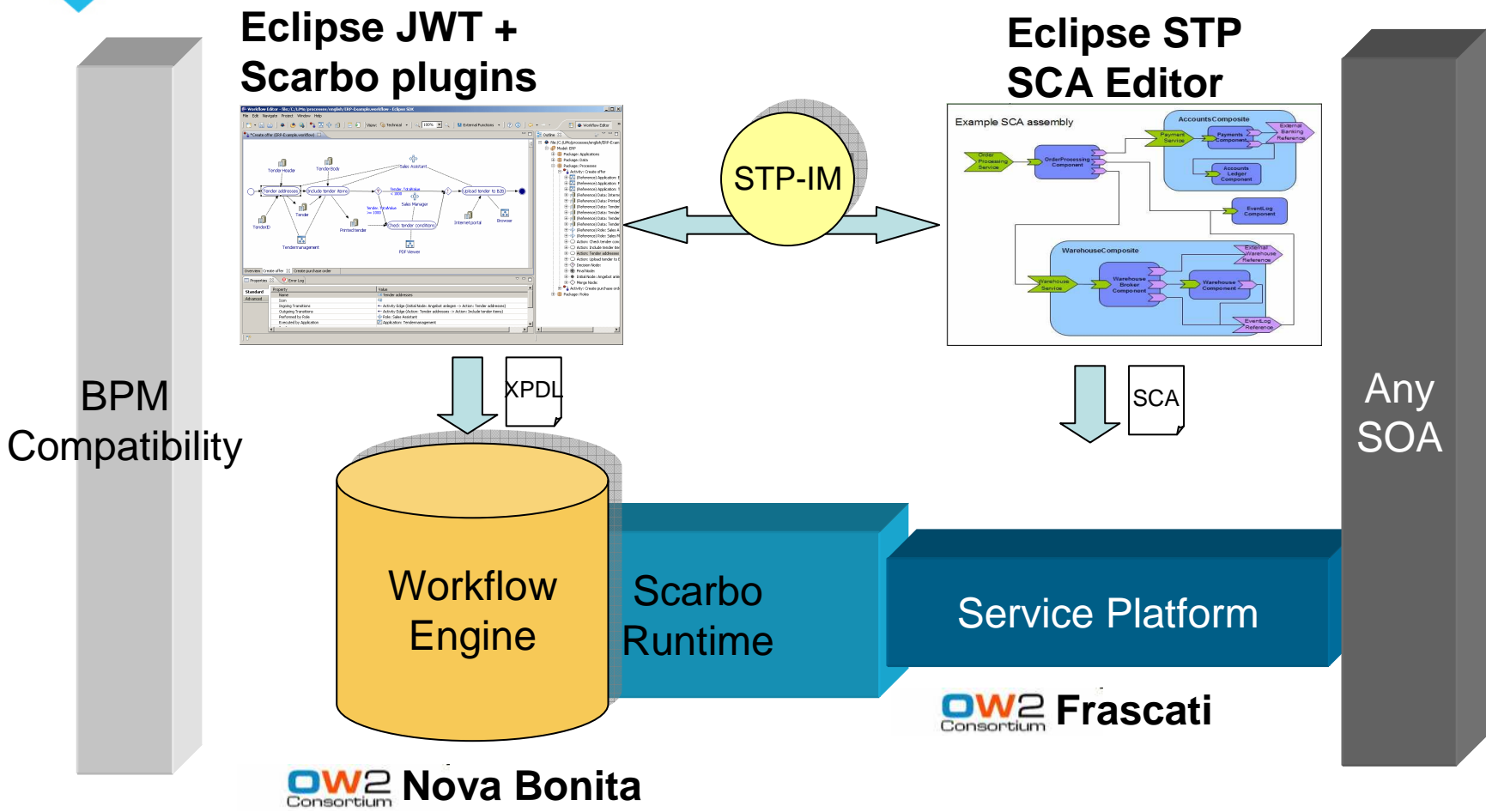
### What is OW2 Scarbo ?

- An open, SOA ready, SCA powered BPM solution built on OW2 and Eclipse
  - ▶ implements the « JWT for SOA » vision on top of OW2 components

### What can Scarbo do for you ?

- Scarbo lets you design, implement and execute business processes on top of your service-oriented architecture
- In a technology-agnostic manner !
  - ▶ Thanks to the JWT ecosystem on the BPM side
  - ▶ And to SCA / FraSCAti on the SOA side

# Scarbo – the big picture



### Design : in Workflow Editor and its Scarbo extensions,

- Draft processes in the JWT high-level business view, or import from a compatible representation format (BPMN...)
- Design tasks calling WS, RMI or SCA services in the JWT technical view
  - ▶ WSDL introspection, parameter mapping, SCA file drag and drop...
- Develop
  - ▶ interactively in the SOA space with other STP-IM integrated editors
  - ▶ with other JWT-compatible editors
- Use semantic service annotation and resolution to create business process templates that are independent of the deployment context

### Deployment

- Export to a Nova-Bonita deployable, all-included process archive

### Runtime

- Let FraSCAti execute your designed service calls : WS (by CXF), RMI...
- Monitor the state of the Nova Bonita workflow engine using the Process execution monitoring JWT WAM plugin
- Use the Nova Bonita web console to do tasks, fill process information or manage business processes
- Let your applications call the SCA-exposed WorkflowService to manage business processes programmatically

## And more !

- Tutorial, documentation, demonstrators
- Compatible JWT and STP developments...
  - ▶ JWT : BPEL generation through AgilPro
  - ▶ STP : STP-IM generation to BPEL and JBI through Spagic
- Scripting
- Flexible databinding
- Complex types
- Workflow events

## Architecture of « JWT for SOA » vision

### JWT Workflow Editor, model, transformations plugins

- & Metamodel extension packaging and runtime access

### JWT Runtime - Task Engine Framework API

- Engine API – decouples from the BPM engine
- Service API – decouples from the service engine
- ProcessModel API – decouples from the BP format
- Utils

### JWT Runtime – Workflow Administration API

### Scarbo architecture

- an implementation of the JWT Runtime Task Engine Framework's Engine API on top of the OW2 Nova Bonita workflow engine
- an implementation of the JWT Runtime Task Engine Framework's Service API on top of OW2 Frascati.
  - ▶ From there, there are many ways Scarbo can work with other service platforms, be it through simple web services, SCA services, or even other JWT TEF implementations
- a portable integration of the OW2 Frascati open SCA implementation in the OW2 Nova Bonita workflow engine
  - ▶ comprising flexible SCA definition generation

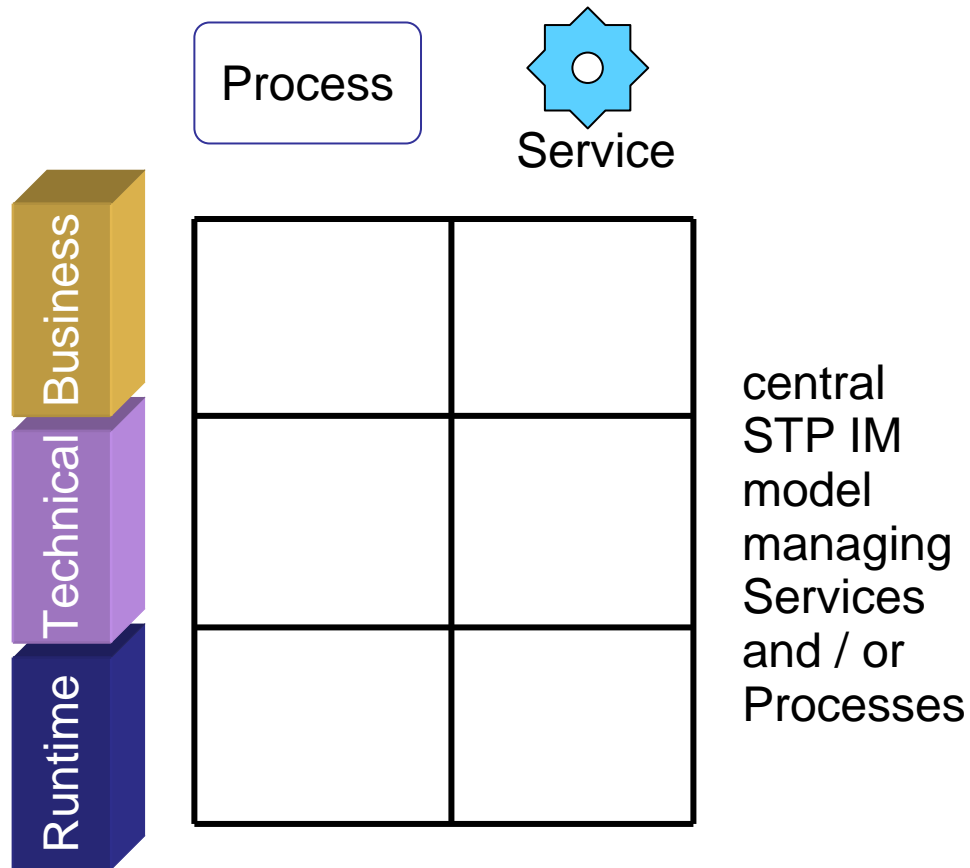
## Buying a book : a process that

- Checks the ISBN (book id) using WS
- Checks the credit card using WS
- Finds the book at Amazon's
- Fills your cart and lets you pay

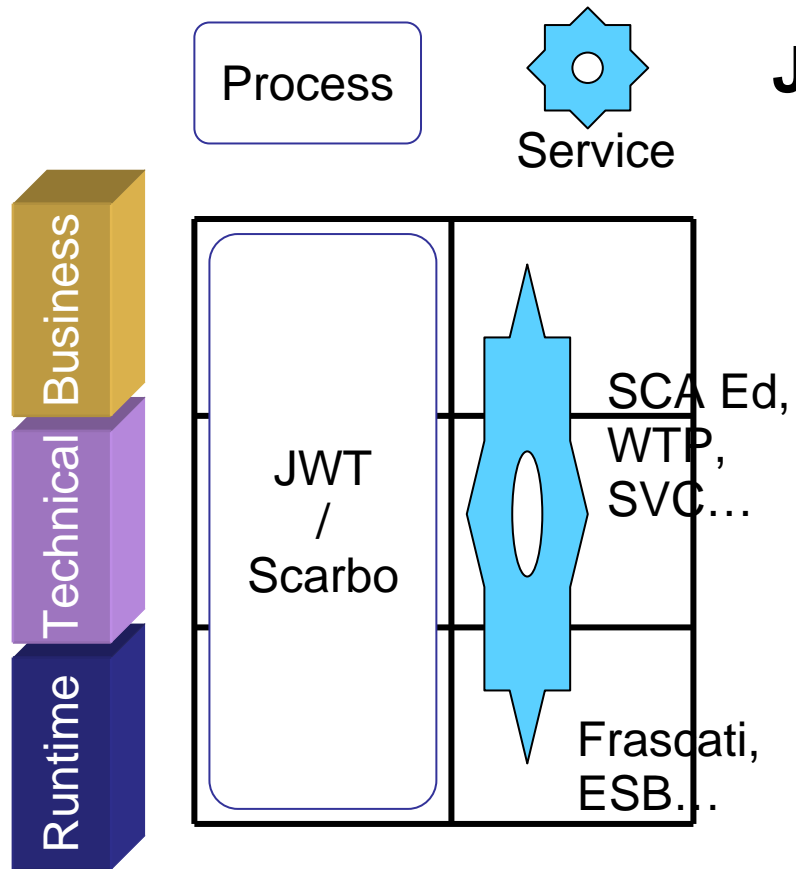
## Also available at

- <http://scarbo.ow2.org>

## SOA-aware BPM tooling with STP IM - introduction



SOA-aware BPM tooling with STP IM - use case



## JWT Workflows on top of STP-IM managed services

- Services are designed (by SCA Ed...) and published to STP IM
- JWT designs and implements processes calling them
- Changes in service design are propagated to JWT through STP IM

## SOA-aware BPM tooling with STP IM - use case with SCA Ed.

- A central STP IM model is used by SOA tools
- SCA Editor
  - ▶ Designs and assembles services in SCA composites
  - ▶ Syncs with STP IM model to publish in it those services
- JWT WE
  - ▶ syncs to create corresponding services applications
  - ▶ Uses them to design processes calling them
- Later
  - ▶ SCA Ed. Publishes changes in service design
  - ▶ JWT WE syncs its service applications, new ones are created, deleted ones are flagged by warnings

## Scarbo Events

- ICT '08 : prototype
- OW2 TechDays : introduction
- Eclipse Con 2009 : demonstration
- OW2 Conference 2009 : presentation

## More Scarbo Roadmap

- Submitted in January, approved in March 2009
- 0.9 : April 1st
- 1.0 : April 30th

## A presentation of OW2 Scarbo

- Technology-agnostic BPM for SOA, thanks to JWT, PVM and SCA
- Brand new but already ready to use !

## Featured

- OW2 Scarbo <http://scarbo.ow2.org>
- OW2 NovaBonita <http://bonita.ow2.org>
- OW2 Frascati <http://frascati.ow2.org>
- Eclipse Java Workflow Tooling <http://www.eclipse.org/jwt>
- Eclipse SOA Tools Project <http://www.eclipse.org/stp>

## About Scarbo

### Team

- ▶ Open Wide : Mickaël Istria, Guillaume Decarnin, Marc Dutoo
- ▶ Also contributions and help from INT, Obeo, EBM WebSourcing

### Sponsors

- ▶ Agence Nationale de la Recherche (SCORWare project)

### Website

- ▶ <http://scarbo.ow2.org>



## Thanks for our attention !

### Questions ?

Contact : [marc.dutoo@openwide.fr](mailto:marc.dutoo@openwide.fr)