SCA Tools project Creation Review

July 23 2008

Contents

- In a nutshell
- Goals and scope
- Architecture
- Code contribution
- Committers
- Contributors
- Interested parties
- Eclipse synergies
- Roadmap
- More information

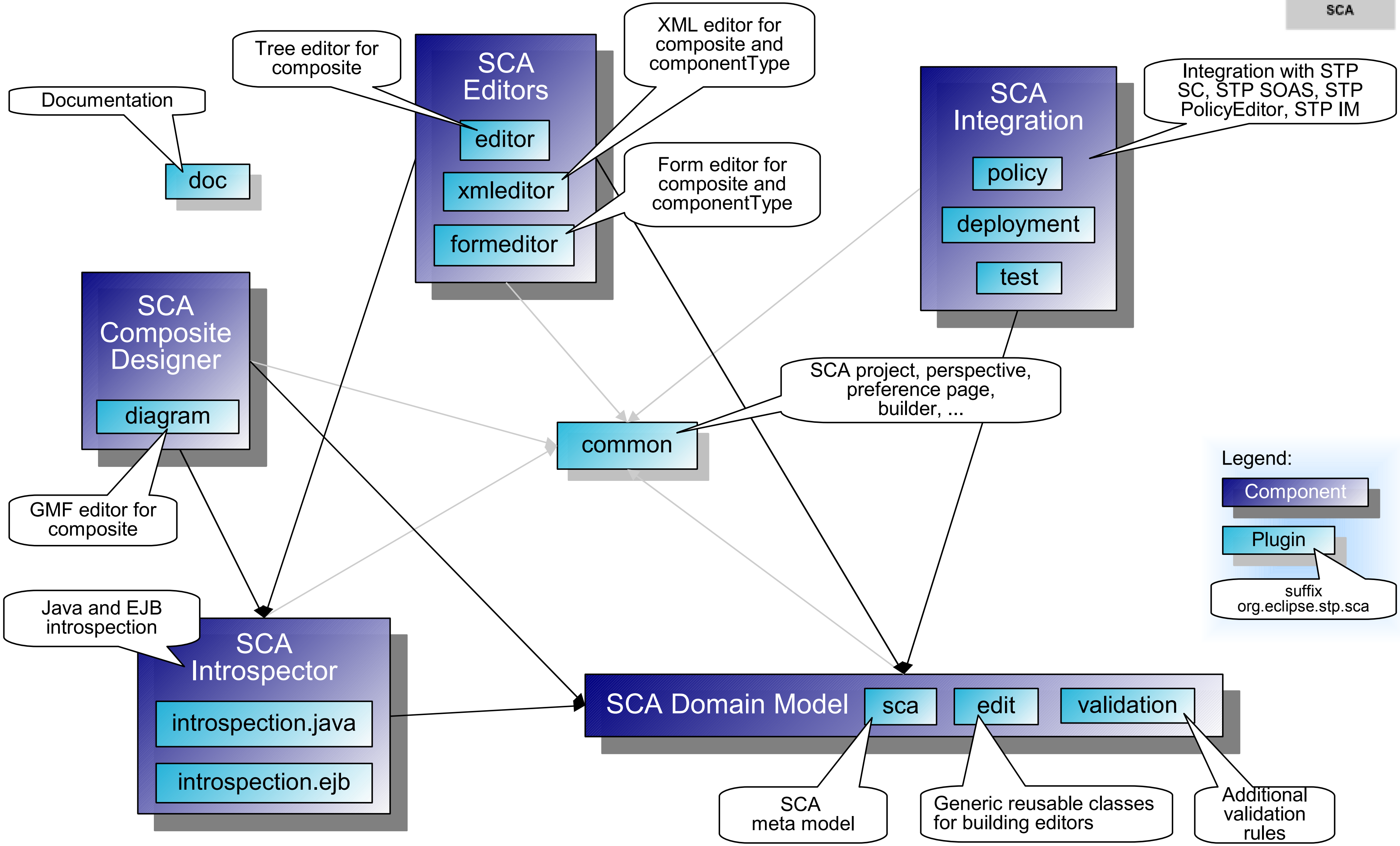
In a nutshell

- SCA Tools project is a set of tools for the Service Component Architecture (SCA) set of standards proposed by the Open SOA consortium
- The aim is to transform the existing STP SCA 1.0.0 component (released in Ganymede) in project
- SCA Tools will be a sub-project under the top level project Eclipse SOA Tools Platform (STP)
- It has a number of contributors and interested parties from diverse organisations
- No conflicts with other Eclipse projects have been identified

Goals and scope

- The purpose of the Eclipse SCA Tools project is to
  - Develop a set of tools to help developers of SCA applications
  - Link these SCA tools with existing Eclipse tools that can fit some aspects of the SCA specifications like the components STP Policy Editor, STP SOAS and STP Service Creation
- The SCA Tools project will focus on tools covering the SCA specifications
  - SCA ecore meta model corresponding to the XSD scheme proposed by the Open SOA consortium (and then by OASIS)
  - Ecore meta models of additional implementations, interfaces, and bindings defined by the SCA runtime implementations Tuscany, Frascati, and Fabric3
  - Editors (XML, form, graphical) helping developers to construct SCA assembly files
  - Introspective tools that analyse existing code to complete the SCA model according to SCA annotations found in the code
  - Bridge with the STP tools: STP Policy editor, STP/SC and STP/SOAS (test & deployment)

Architecture


Documentation
doc
Tree editor for composite
SCA Editors
editor
xmleditor
formeditor
XML editor for composite and componentType
Form editor for composite and componentType
SCA Integration
policy
deployment
test
Integration with STP SC, STP SOAS, STP PolicyEditor, STP IM
SCA Composite Designer
diagram
GMF editor for composite
common
SCA project, perspective, preference page, builder, ...
Legend:
Component
Plugin
suffix org.eclipse.stp.sca
Java and EJB introspection
SCA Introspector
introspection.java
introspection.ejb
SCA Domain Model
sca
edit
validation
SCA meta model
Generic reusable classes for building editors
Additional validation rules

SCA Domain Model (component)

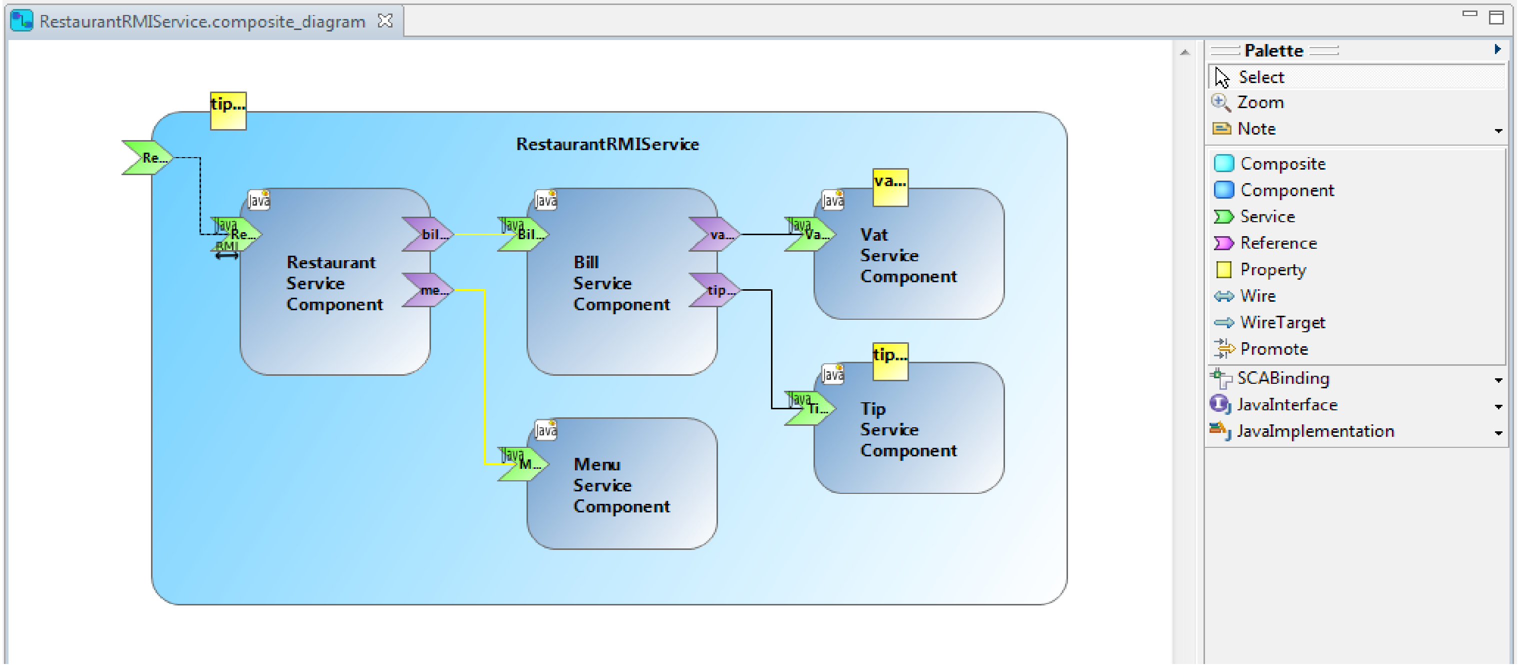
- Contains the EMF meta model based on the SCA specifications version 1.0 proposed by the Open SOA consortium
- Contains also additional validation rules that appear in the SCA specifications document (SCA Assembly Model V1.00) and that are not checked by the EMF meta model implementation
- Can be use in an Eclipse environment or standalone
- Can be extended

SCA Integration (component)

- This component will contain all plugins that bridge other STP tools in relation with SCA
  - STP Policy Editor
  - STP Service Creation
  - STP SOA System

SCA Composite Designer (component)

- Graphical editor (GMF) to construct SCA assembly files
- Complies with Open SOA specifications 1.0
- Can be extended
  - Supports Tuscany, Frascati and Fabric3 elements
  - Works with Tuscany, Frascati and Fabric3 runtimes



SCA Editors (component): XML editor

- Customize the WTP XML editor for *.composite files
  - Inherited features (syntax highlighting, formatting...)
  - Auto-completion for element and attribute names
    - Using the basis XSD files of the SCA specification
    - Using additional sources (e.g. for Tuscany specific implementations – hard-coded for instance)
  - Auto-completion for attribute values
    - Promotes attributes, wires sources and targets, includes names...
    - Takes into account composite inclusions to elaborate proposals
  - Enhanced outline view, reusing SCA icons of the SCA Designer
  - Used to edit also *.componentType files
  - A preference page to define additional bindings, implementations and interfaces which are not in the basis XSD files

SCA Editors (component): Form editor

- A Web Form interface to edit *.composite files
  - An intermediate editor between the XML editor and the SCA Composite Designer
  - Based on Eclipse forms to provide a Web Form editing interface
    - Reuse of the SCA Composite Designer icons
    - Benefits from Eclipse forms to display error markers
  - One concept => One page
    - Overview, Components, Services, References, Wires, Properties, Includes
    - Source page: XML editor for *.composite files
    - Organization easy to understand and to memorize
  - Model sharing between the source page and the other pages
    - XML model
    - Perfect coherence in page switching, selection changes and the outline view
  - Uses tables with Add / Remove buttons
    - Filtering and reordering actions
    - Most adapted to composites having an important number of elements

Code contribution

- The existing Eclipse STP/SCA component will be the initial code
- A large part of this code was implemented in the scope of the SCOrWare project funded by the French Research National Agency (ANR)

Committers

- Stéphane Drapeau (project lead)
  - Stéphane received a PhD in computer science from the Grenoble Institute of Technology (INPG, France). From 2004 to the beginning of 2007 he was partner and R&D engineer in the UbiStorage Company that proposes a peer-to-peer based solution to store data safely. He was in charge of the design and development of the storage service. Since April 2007, Stéphane is R&D engineer at Obeo Company. He works on the SCOrWare project (funded by the French National Research Agency), which aims to provide a free software implementation of the recent SCA specifications through the component-based world of OW2.
- Etienne Juliot
  - Etienne is one the funder of Obeo company focus on Model Driven tools. He actively contribute to Acceleo, an OpenSource code generator based on Eclipse, and to Agility (a reverse engineering platform built on the top of GMF, EMF and Acceleo). Etienne has over 7 years of software architecture experience on J2EE frameworks, MDA approach, and Eclipse technologies.
- Vincent Zurczak
  - Vincent has a Master degree in Software Engineering from the University Joseph Fourier of Grenoble, France. He is currently working as an R&D engineer for EBM WebSourcing. Vincent is in charge of developing Eclipse tooling for SCA and PEtALS. He is very interested in contributing to projects that ease the development of distributed applications, focusing on usability and practical aspects.

Contributors

- Mark Walker (Avaya) - introspection
- Norihiro Kubo (IONA)
- Maxime Porhel (Obeo)

Interested parties

- At this time, the following persons, companies and projects have expressed their interest to see the creation of the SCA Tools project
  - Apache Tuscany project
  - Jim Marino – Fabric3 project
  - Gaël Blondelle – EBM Websourcing
  - Naci Dai – WTP PMC member, Eteration
  - Alain Boulze – INRIA
  - Adrian Mos – INRIA
  - Oisin Hurley – STP project lead, IONA
  - Florian Lautenbacher – JWT project lead
  - Obeo
  - Marc Dutoo – JWT project lead, OpenWide
  - OW2/SCOrWare project
  - Dimitar Dimitrov – SAP

Eclipse synergies

- The SCA Tools project will be built on top of the Eclipse Platform and will have relationship with other Eclipse projects
  - STP
    - STP Policy Editor component will be used to implement SCA policies
    - Service Creation component will be used to introspect and to annotate Java code
    - STP SOA System component will be used to package and deploy SCA applications to runtime containers
    - Intermediate Model component planned to work on transformations between the IM and the SCA Domain Model
  - EMF project is used to generate the SCA Domain Model
  - EMF Validation Framework is used to implement the additional validation rules
  - GMF project is used to generate the SCA Composite Designer
  - M2M project will be used to implement transformations between SCA models and IM models

Roadmap

- June 2008: SCA Tools 1.0.0 (Ganymede)
- December 2008: SCA Tools 1.1.0
  - SCA Meta Model: full support of the additional validation rules, extensibility
  - SCA Composite Designer: support of Frascati SCA elements, extensibility
  - SCA Composite Form editor
  - SCA Composite XML Editor: completion on service, reference, and enhanced outline
  - Integration with the STP Policy Editor, STP Service Creation and STP SOA System components
- March 2009: SCA Tools 1.2.0
  - SCA Meta Model: support of SCA specifications that should be published in December 2008 by OASIS
  - SCA Composite Designer: update with the new meta model
  - SCA Composite Editors: update with the new meta model
  - SCA Introspector: support of POJO and EJB introspection

More information

- SCA website
  - http://www.eclipse.org/stp/sca/index.php
- SCA wiki
  - http://wiki.eclipse.org/STP/SCA_Component
- Declaration for the SCA Tools Project
  - http://www.eclipse.org/proposals/sca-tools
- SCA newsgroup
  - news://news.eclipse.org/eclipse.stp.sca-tools
  - Starting point for questions
- SCA Bugzilla
  - Review and create Bugzilla entries
- SCA SVN repository
  - http://dev.eclipse.org/viewsvn/index.cgi/org.eclipse.stp.sca/trunk/?root=STP_SVN
- Presentation at EclipseCon 2008
  - http://www.eclipsecon.org/2008/?page=sub/&id=206
- Tutorial
  - http://wiki.eclipse.org/STP/SCA_Component/SCA_First_Steps_With_Composite_

Thank you!