Siena Demo

Siena: A tool that supports
- Design of artifact schema using a GUI (based on PowerPoint)
- Transformation of the artifact schema from PowerPoint into XML
- Direct deployment and execution of the artifact schema

The Demo: Simplified Book Seller Example
- Describe an artifact schema
- Describe the transformation and deployment step
- Execute the artifact schema
- Modify the artifact schema, and execute again
Siena Usage Overview

Artifact-Centric Workflow Creation

Workflow Schema Analysis

Catalog of REST and WSDL External Services

Artifact-Centric Workflow Schema

Verification, Validation And Simulation (Petri Net)

Debugging

Artifact-Centric Workflow Schema

Siena Runtime Container

Info

Lifecycle

Artifact Repositories

Artifacts

External Services
Siena Core Concept: The Artifact

Siena Artifact

Exposed Services
- WSDL and REST

Information Model

Lifecycle

External Service
- WSDL and REST

Business Roles

Business Policies

Security

Business Metrics
Artifact Schema Creation

(Artifact Information Model and Lifecycle Model)

Exposed Service

External Service

Template Slides

Siena Toolbar

Siena Component Menu

Siena Primative Menu

Context Menu

PowerPoint Add-in Toolbars and Menus for Siena
Live Demo Part 1 Artifact Schema Walkthrough

- **Book Seller Example**
  - **Artifacts**
    - **Book Order**
      - Review attributes
      - Review Lifecycle
      - Review Exposed Services
    - **Shipment** (Multiple Shipments per Book Order)
      - Review attribute
      - Review Lifecycle
      - Review Exposed Services
  - **External Services**
    - Book Bundling Service
    - Credit Score *(We will add this in the demo)*
    - Email

Communicating state machines
Demo Part 2: Transformation from PPT to XML and XSDs

- **Siena Meta-Model as XSD**
- **Artifact Schema as XML**
- **Service I/O XSDs**
- **Artifact XSDs**
- **Siena (Application) XML**
  - **External Services**
  - **Artifact**
    - **Information Model**
    - **Lifecycle Model**
    - …
- **Deployment Zip File**
Demo Part 2: Deploy and Execute Using Siena Administrator Test Harness

Artifact Schema and Repositories

Deployment Zip File

Administrator Test Harness
Deploy the zipped model
Access to
- List of all artifacts
- Attribute values of a given artifact including state

Ability to
- Perform manual task from a given state
- Choose next transition from state

Siena Execution Engine

External Services
Live Demo Part 2

- Transform the Artifact Schema from PowerPoint
- Deploy the Artifact Schema using the Administrator Test Harness
- Execute the Artifact Schema using the Administrator Test Harness
Live Demo Part 3

- **Modify Artifact Schema**
  - **Add Payment Feature**
    - Add Complex Type to hold Payment details
    - Add “paymentDetails” attribute to Book Order Data model
    - Add Service for Submitting Payment Details
    - Assign new payment details to Book Order
  - **Add Credit Check Feature**
    - Add “creditScore” Data Model attribute to Artifact data model.
    - Add GetCreditScore external service from Catalog
    - Choreograph GetCreditScore into SubmitOrder Service
    - Add Exit Conditions on Submitted State
      - 1st condition to auto approve Book Order if creditScore \( \geq 600 \)
      - 2nd condition to determine the need for manual approval if creditScore < 600
Backup Slides
Siena Architecture

- **Administration Services** (Deployment and Admin)
- **UI Services** (Test and Execution JSPs / Servlets)
- **Performance Services** (BAM)
- **Behavior Services** (bpel, statemachine)
- **Information Services** (Tuscany, DAS, SDO)
- **Model Access Services** (XML model parser)

**Siena Portal and Runtime Container**
(Siena Container Services)
Siena Schema
Composite Application

CompositeApplication

- attributes

- cComposite

- cExternalService

- cEventModel

- cSecurityModel

- cComponent

- cProvidedService

- cInformationModel

- cBehaviorModel

- cFlowModel

- cLifecycleModel

- cAccessControlModel
Siena Administration Console With Monitoring

Composite Application Navigator

Metrics and Monitoring