Using UML Views of J2EE Platform Elements to Improve Developer Productivity
Agenda

Introduction to the Software Development Platform

Focus on Architecture for Design and Construction

UML Visual Editor in WSAD

Demo

Questions
Agenda

- Introduction to the Software Development Platform

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  Questions
The IBM Software Development Platform

- The Software Development Platform
  - **Imperatives** to reduce the risk associated with software
    1. Develop Iteratively
    2. Focus on Architecture
    3. Continuously Ensure Quality
    4. Manage Change and Assets
  - **Eclipse as the Foundation**
    - Life-cycle tools can be extended by partners
    - Customers can tailor solution for their environment
The IBM Software Development Platform

Analyst
- Model, simulate and monitor business processes

Architect
- Model applications and data

Developer
- Visually construct, program, and generate code

Tester
- Design, create, and execute tests

IBM and 3rd Party Servers
- Pervasive and Embedded

Project Manager
- Follow a common process
- Track project status
- Manage requirements

- Manage change and assets
- Manage quality

Microsoft
- Open Standards

IBM Services
- Partners

DB2
Lotus
Tivoli
WebSphere
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Questions
Focus on Architecture

- Use component-based and service-oriented architectures
- Develop rapidly
- Reuse assets

Business applications

Focus on architecture to...

Adapt quickly to changing business needs
Create strategic advantage
Are reliable, scalable and manageable

Design for change
Reduce complexity; work at the right level of abstraction
Ensure architectural integrity and ultimate quality

Business
System
Application
Information
Implementation
The IBM Software Development Platform: Capabilities

- Analyst
- Architect
- Developer
- Tester

- Pervasive and Embedded
- IBM and 3rd Party Servers
- Project Manager

- Software Quality
- Software Configuration Management
- Process & Project Management

TEAM UNIFYING PLATFORM

- Microsoft
- Open Standards
- IBM Services

- DB2
- Lotus
- Tivoli
- WebSphere

Partners

IBM and 3rd Party Servers
Visual Development in WebSphere Studio Application Developer

Model and Develop at the Appropriate Level of Abstraction
IBM Design and Construction Platform

Language Tooling
(J2EE, Web Services, Deployment)

Diagrams & Visualization

MDD Core
(Code Generation, Pattern Engine)

Content
(Pattern Templates)

Common Service
(Reporting, etc...)

Open Source

UML2 Models

Hyades

Team

JDT

CDT

EMF

GEF

Eclipse Core
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Questions
UML Visual Editor: The Problem and a Solution

Problem: J2EE is complex, J2EE applications are a challenge to develop and understand

Solution: Extend WSAD with UML views to assist the J2EE Developer with understanding the artifacts that comprise a J2EE application

WSAD 5.0

WSAD 5.1 UML Visual Editing for EJB and Java

Simplify
“UML Visual Editing for EJB and Java” defined

- An all Java solution providing UML Class Diagrams in WSAD
  - Delivered as a set of plugins
- Supports WAS EJB extensions
- Graphical Editor Framework (GEF) based drawing surface
- Eclipse Modeling Framework (EMF) based
  - It uses EMF models and renders a UML view of them
    - In essence the diagram is simply an alternate view of the code
  - Utilizes the same J2SE and J2EE models that WSAD uses
    - This is what provides for seamless auto-synchronization
  - No semantic duplication
- Stores the diagrams in .dnx files in your project
User Interface Integration

- Drag and drop support
- Diagram outline view
- Auto Navigate to source
- GEF-based drawing
- Context sensitive tool palette
- Right-click enabled menu options
- Right-click enabled menu options
Supplemental Features

- Preference Settings
  - Icon Style (Eclipse or Rose/XDE)
  - Default shape appearance
    - Compartment visibility, color, font, ..
    - Connector style
    - Collection types
    - Diagram fix-up policy after changes
- Online Documentation provides conceptual, task, and reference info
  - Integrated with “Application developer information” content
- Meets US Government Section 508 guidelines for accessibility
  - Visual editing diagramming capabilities are supported via a keyboard
- Available in WSAD, WSADIE, and WSED
- Available for all WebSphere Studio hosted operating environments
  - Windows XP, 2000
  - Linux RedHat 8.0, and Suse 8.1