Creation Review
Introduction

- EJB 3.0 is the next revision of the Enterprise Java Beans specification. One of the most significant changes in EJB 3.0 is the introduction of a standard O/R mapping specification and the move to POJO based persistence.

  One of the principal goals of EJB 3.0 is:
  
  “Simplification of object persistence by the definition of a light-weight object/relational mapping facility based on the direct use of Java classes rather than persistent components.”

  *JSR 220: Enterprise JavaBeans™, Version 3.0*
  
  EJB 3.0 Simplified API

- Why an Eclipse EJB 3.0 O/R Mapping Project?
  
  - To make light-weight EJB 3.0 persistence available to the large number of Java developers using Eclipse.
Goals

- Support for the definition, editing, and deployment of Object-Relational (O/R) mappings for EJB 3.0 Entity Beans (JSR 220).
- Simplify mapping definition and editing through:
  - creation and automated mapping wizards
  - intelligent mapping assistance
  - dynamic problem identification
- Exemplary tools and frameworks for EJB 3.0 mapping
- Extensibility so vendors and open source projects can provide specific support for their EJB 3.0 runtimes
Project Principals

- Leveraging Eclipse Ecosystem
- Vendor Neutrality
  - targeting the EJB 3.0 reference implementation
- Extensibility
  - a platform for building enhanced O/R mapping tools
- Agility
  - incremental and iterative development tracking the evolving specification
- Standards Compliance
  - JSR 220: Enterprise Java™ Beans
- Inclusiveness
  - open multi-party development team
Scope Overview

- Scope is limited to support for the O/R mapping model defined by JSR 220: Enterprise Java Beans 3.0
  - Vendor extensions will be supported but not implemented as part of the project
Scope Details

- JSR 220 support for mapping Objects to Relational databases
  - Annotation and XML specification of Object/Relational mappings
  - JSR 220 deployment artifact creation and editing support
- Automation/Generation Functionality
  - Generation of Entity Beans from table definitions (bottom up)
  - Generation of table definitions from Entity Beans (top down)
  - “Automap” between existing Java classes and tables (meet in the middle)
- Developer Productivity Support
  - Coding assistance for annotation parameters (e.g., valid table/column names)
  - Mapping assistance and validation through dynamic problem reporting
  - Visual EJBQL Builder
  - Ability to keep mappings and EJBQL queries in sync with Java class and Table definitions in the face of refactoring
Out of Scope

- EJB Session Beans
- EJB Message Beans
- EJB 3.0 runtime
  - Project will target the EJB 3.0 Reference Implementation
  - Vendors will test with their EJB 3.0 runtimes to ensure tooling is compatible
- Other mapping technologies are out of scope
  - E.g., JSR 222 Java Architecture for XML Binding
Relationship to Other Projects

- The EJB 3.0 O/R Project will interact with and leverage, at a minimum, the following Eclipse Projects:
  - JDT (Java Development Tools) Core, UI
  - DTP (Data Tools Project)
  - WTP/JST (j2ee Standard Tools) J2EE Core Model
- EJB 3.0 Reference Implementation
  - The EJB 3.0 RI will be open source under Sun’s CDDL license (Project Glass Fish).
Current Status

- Proof of concept demonstrated at JavaOne provides:
  - Entity Creation Wizard
  - O/R mapping annotation editing in both Java source files and through property editors (synchronized with source code).
    - @Entity
    - @Table
    - @Basic

- Current work includes:
  - EMF model construction for persistent Entities
  - Integration of existing views with the EMF model
  - Investigation into DTP integration
  - Investigation into WTP integration
Initial Participants

Participants with committed resources:

- Oracle*
- SolarMetric*
- JBoss*

* Member of the JSR 220 Enterprise Java™ Bean Expert Group
Initial Team

- **Project Lead**
  - Neil Hauge—Oracle

- **Committers**
  - Brian Vosburgh—Oracle
  - Karen Moore—Oracle
  - Marc Prud’hommeaux—SolarMetric
  - Max Rydahl Andersen—JBoss
  - Paul Fullbright—Oracle
  - Tran Le—Oracle

- **Developers**
  - Greg Campbell—SolarMetric
  - Marshall Culpepper—JBoss
  - Shaun Smith—Oracle
Milestone 1 – Integrated EJB 3.0 Entity source annotation by rich UI (Prototype)

- Ability to define an Entity and its properties with the plug-in UI, via annotation
- Ability to define an Entity’s Table and its properties with the plug-in UI via annotation
- Ability to define a Basic Mapping with the plug-in UI via annotation

Milestone 2 – Modeling, XML Descriptor management and deployment

- Basic EMF model for EJB 3 Entities
- Ability to annotate Entities and manage the XML Descriptor file for Entity definition

Milestone 3 – DTP integration, extended mapping support, Entity generation from tables

- Integrate with DTP for off-line schema support
- Ability to define Reference Mappings
- Basic Entity generation from table support

Milestone 4 – Complete mapping support, Named Query support
Questions?