Eclipse Persistence Services Project – EclipseLink Graduation Review

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Project Overview

- Complete persistence framework that is both comprehensive and universal
- Will run in any Java Environment
  - OSGi, Java EE, Java SE, Spring Framework
- Read and write objects to virtually any type of data source
  - Including Relational Databases, XML and EIS systems
- Standards Based
  - Java Persistence API (JPA): relational databases
  - Java Architecture fore XML Binding (JAXB): XML
  - J2EE Connector Architecture (JCA): EIS
  - Service Data Objects (SDO)
- Currently incubating under RT Project

Project Overview (cont'd)

- Key Contributions
  - Oracle Corp: Initial Code base came from Oracle TopLink (900K LOC)
    - 2 Project Leads + 25 Committers
  - Sun Microsystems: Contributed to initial source contribution
    - 1 committer
  - Other contributors
    - TmaxSoft
    - Adam Bien
    - 60 bugs filed by non-committers
- Milestones
  - Creation Review – May 30th, 2007
  - Initial Source Drop – Aug 23rd, 2007
  - Monthly Milestone builds – M1 Nov 5th, 2007 – M9 June 19th, 2008
  - Graduation Review – June 26th, 2008
- Project home page: http://www.eclipse.org/eclipselink

Project Health

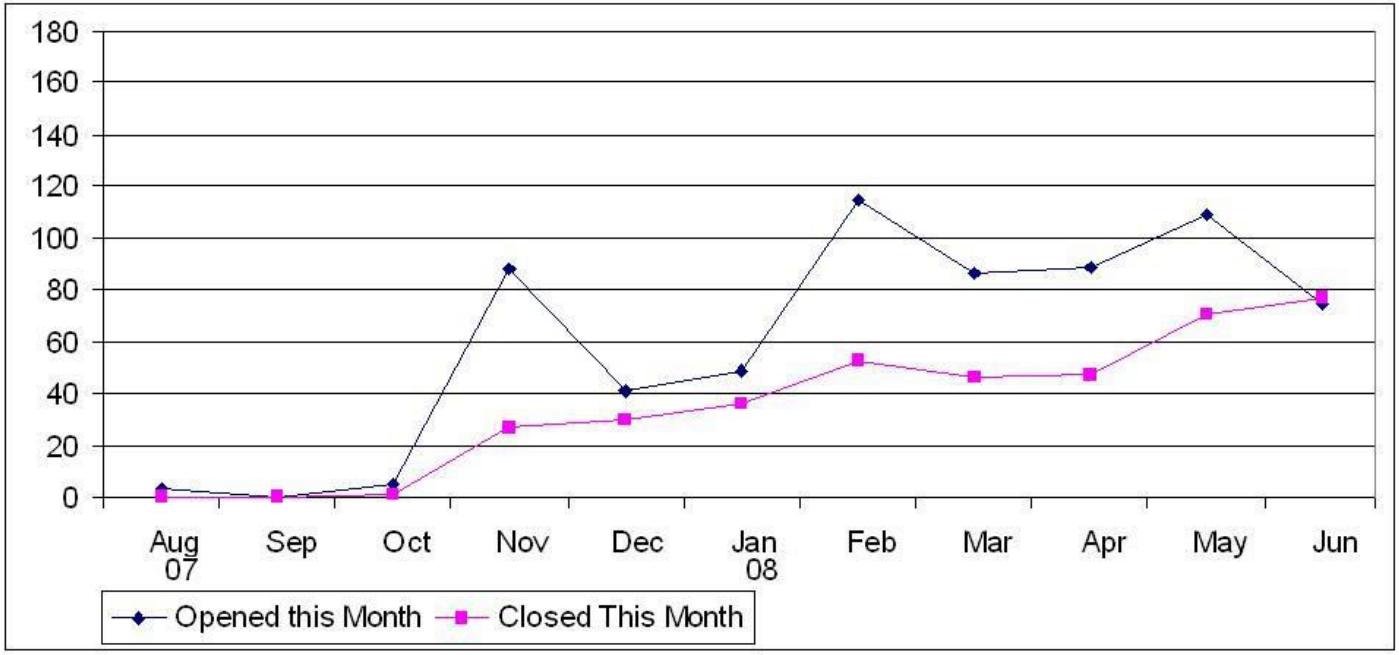
- Active Code Base
  - Average 125 svn commits / month
  - Average 3000 files / month
- Testing
  - JUnit test cases for regression testing
  - Continuous build
    - Run every half hour (if code changes)
    - Compile and Smoke tests
  - 22,500 tests run nightly on Eclipse Foundation servers
- Additional Testing
  - Additional configurations run regularly on Oracle servers
    - Various DBs, Various App Servers

Project Health (cont'd)

- Documentation
  - Full Technical Docs on Wiki
    - http://wiki.eclipse.org/EclipseLink/UserGuide
  - Javadocs hosted online – regenerated every monthly milestone
    - http://www.eclipse.org/eclipselink/api/1.0/index.html
  - Other documentation on wiki
    - Features index
    - FAQ
    - Examples - http://wiki.eclipse.org/EclipseLink/Examples
      - Over 25 How to examples

Project Health (cont'd)

- Bugs
  - 388 bug/enhancements Closed
  - Average 45 bugs closed per month
    - Approximately 55 per month since Jan



Open Source

- Permeable
  - Issue discussions
    - mailing lists (eclipselink-dev and eclipselink-users)
    - Eclipse Bugzilla
  - Weekly Open Project Status Meeting
  - Weekly Bug council
  - All code available through anonymous SVN
  - Architecture described on project Wiki along with feature design docs
- Receptive
  - Bug fixes and features implemented in a timely manner
  - Newsgroup and mailing list question fielded promptly

Open Source (cont'd)

- Intellectual Property
  - All IP (except 3rd Party jars) dual licensed under EPL and EDL
  - All 3rd party dependencies are IP approved
  - IP Log contains all CQs and all fixes from contributors.
    - http://wiki.eclipse.org/EclipseLink/IPLog

Community

- Developers
  - 28 committers
  - Code contributions from individual contributors
- Users
  - Growing community of enterprise development orgs
    - Oracle
    - Sun
    - TmaxSoft
    - SpringSource
  - Eclipse projects
    - EMF Teneo, others?
- Distributions
  - GlassFish, Spring Framework, and Oracle (Future)

Community (cont'd)

- EclipseLink Continues to upgrade on line documentation and website to make adoption easy
  - Updated Wiki Pages
  - Javadocs available online and updated with every milestone
  - Wiki used to facilitate open communication
- Many EclipseLink presentation have been given at conferences and workshops.
  - EclipseWorld, EclipseCon, JavaOne, SpringOne, Oracle OpenWorld, ….
  - http://wiki.eclipse.org/EclipseLink/Presentations
- Many press releases have been written, and dozens of articles and blog entries have mentioned EclipseLink

Features - JPA

- JPA 1.0 compliant implementation
- Java EE, Java SE, Web, Spring, and OSGi
- Any JDBC/SQL compliant database
- Schema generation
- Advanced features
  - Additional Mappings
  - Configurable caching
  - Extensive querying

Features - MOXy

- Supports Object-XML standard - JAXB
  - Provides additional flexibility to allow complete control on how objects are mapped
- Provides complete Object-XML mapping
  - Direct, composite object, composite collection, inheritance, positional, path, transformation ….
  - Allows developers to work with XML as objects
  - Efficiently produce and consume XML
  - Document Preservation
- Rich set of mappings providing complete control and flexibility to map objects to any XSD
- Supports any JAXP compliant parser
  - SAX, DOM, StAX
- Visual Mapping support using Workbench

Features - SDO

- SDO 2.1 Compliant
  - Marshal/Unmarshal objects to/from XML
  - Define Types/Properties programmatically or derive from XSD
  - Generate interfaces that offer JavaBean like access to DataObjects
  - Advanced mapping support for greater flexibility

Features - DBWS

- Simplified and efficient access to relational data through Web Services
- Minimal configuration with development utilities to retrieve metadata and generate/package Web Service
- Developers can fully customize the database access and XML mapping of the data
- Ideal for usage within SOA/SCA

Features - EIS

- Provide persistence support for non-relational data stores using Java EE Connector Architecture (JCA)
- Mapping interaction inputs and outputs to persistent domain model
  - XML mapping leveraging EclipseLink MOXy and ORM mappings
  - Common Client Interface (CCI) mapping
- Visual mapping Workbench support
- Out of the box support for:
  - MQSeries, OracleAQ, Sun JCA, XML Files

API's

- Supported Spec APIs
  - Implements: JPA 1.0, JAXB 2.1, SDO 2.1
  - Integrates with: JDBC, JCA, JAXP, JTA
- Classic API – Derived from Oracle TopLink
  - Extensive API for Persisting Java Objects
  - Numerous applications using this API (Oracle TopLink)
  - Migration tools and strategy
- Workbench
  - Swing GUI tool for design time usage
  - Metadata manipulated visually

Architectural Features

- Basic Architecture built on Product with 10 years of commercial usage
  - Stable and Performant
- Adaptable architecture - easily add/modify features in EclipseLink
  - Database Platform – add/modify support for specific database
  - Server Platform - add/modify support for specific Application Server
  - Events triggered on data store access
  - Policies – most features implemented with pluggable policies
    - Optimistic Locking
    - Caching
    - Object Instantiation
    - and many more

End Of Life Strategy

- 1.0 release
  - No EclipseLink features are being discontinued
- 1.1 release
  - Plan to introduce new fully functional meta data
    - 1.0 supports partial solution.
  - Will begin migration story from old meta data
    - Deprecate meta-data
    - Discontinue in a future release

Roadmap

- EclipseLink 1.0 – July, 2008
  - Delivering the full functionality of the initial contribution (Oracle TopLink)
  - Functionality Summary
    - JPA: 1.0 compliance with advanced ORM capabilities
    - MOXy: JAXB 2.1 functionality (not complete compliance) with advanced mapping capabilities
    - SDO: 2.1 compliance
    - OSGi Bundles for JPA, MOXy, and SDO components
    - Utils: Workbench and migration utilities
    - Examples: How-to's, complete examples, and tutorials
    - Documentation available on Wiki

Roadmap (continued)

- EclipseLink 1.0.1
  - Early September – *planned (1.0 + 8 weeks)*
  - Primarily a maintenance release
- EclipseLink 1.1
  - Early December – *tentative*
  - Features:
    - JPA 2.0 functionality
    - DBWS using JAX-WS
- EclipseLink 2.0
  - Spring 2009 – *tentative* – align with next Eclipse RT release?
  - Features
    - Complete JPA 2.0
    - SDO-DAS

Feedback

- Newsgroup: eclipse.technology.eclipselink
- Mailing lists:
  - eclipselink-dev@eclipse.org
  - Eclipselink-users@eclipse.org
- Eclipse Bugzilla
  - RT
  - Product: EclipseLink