

***Object Teams combined review:
Indigo – 2.0 Release – Graduation***



Planned Review Date: June 1-8, 2010

Communication Channel: objectteams-dev@eclipse.org

Submitted by: Stephan Herrmann

Introduction

- The Object Teams Project provides tooling for developing highly modular evolvable software using the language OT/J
 - compiler and runtime for OT/J based on the JDT compiler
 - comprehensive IDE for OT/J based on the JDT
 - extension for executing OT/J code within Equinox
- Self application
 - the Object Teams Development Tooling (OTDT) extensively uses OT/Equinox for its implementation

History

- At objectteams.org

- Start implementation of OT/J 2001
- Start Eclipse-based implementation 2003
- Release OTDT [1.0.0](#) (Eclipse 3.2) 2007
- Release OTDT [1.4.0](#) (Eclipse 3.6M6) 2010

- At Eclipse.org

- Project creation: Jan 2010
- Initial commit to SVN: Apr 2010
- Release [0.7.0 \(Incubation\)](#): Jul 2010
- Joined Indigo at M3: Nov 2010



Version numbers

- During incubation

- Release 0.7.0
- Milestones towards 0.8
 - Up-to 0.8 M7
 - however, no release 0.8 planned, but ...
 - version switch happened between M7 and RC1:

- At graduation

- Release 2.0.0
 - Clearly indicate that this supersedes all previous releases up-to 1.4.0 which have been published from objectteams.org

- After graduation

- Will apply the Eclipse version number rules

At this point all feature and bundle versions are **in sync**.

After 2.0.0 we will increase version numbers **individually** according to actual changes.

Features

- After an essentially feature complete 0.7.0 release, the new release brings these **improvements**:
 - Adopt small languages changes
 - Changes: <http://www.objectteams.org/def/1.3/sB.html#sB.1.3>
 - Additions: <http://www.objectteams.org/def/1.3/sB.html#sB.2.3>
 - Summary of user visible changes since the 0.7.0 release:
 - http://www.eclipse.org/objectteams/pages/new_in_0.7.1.html
 - http://www.eclipse.org/objectteams/pages/new_in_2.0.html
 - Changes are in:
 - Views/Dialogs • Content Assist • Refactoring • Run/Debug
 - Language • API (OT/J reflection)
 - Compiler • Runtime

Non-Code Aspects

- Comprehensive documentation at http://wiki.eclipse.org/Category:Object_Teams
 - Total of 60 wiki pages in 6 categories.
 - User documentation
 - Quick-start, examples, patterns, etc.
 - Developer documentation
 - Runtime parameters, format of byte code attributes, ...
 - Dependencies, implementation strategies, build system, ...
- Documentation/examples shipped with the tool:
 - User guide, incl. language definition etc.
 - updated for current version
 - Auto-installing examples
 - no update was necessary since 0.7.0

APIs

- API of all components are defined and stable
 - Java API
 - Extension Points
- All packages are exported
 - Non-API packages marked as x-internal or x-friends

Architectural Issues

- Architecture has matured over the years
 - Minor re-arrangements during API consolidation
 - OTDT serves as a major show case for OT/J
 - Has been used for examples in several blog posts on OT/J
 - OT/Equinox provides new dimensions of extensibility
- Works with Eclipse 4.1
 - No branching needed to support 3.x and 4.x

Tool Usability

- The OTDT aims at providing the same usability and convenience for OT/J as the JDT does for Java
 - most existing features of the JDT have been extended to work with OT/J, too
 - new features have been developed specifically for OT/J:
 - views & wizards
 - code assist
- The OTDT doesn't expect the user to **know** every detail about Object Teams, but aims at **teaching** the user those bits that might be relevant to her/him.
- Specific quickfixes exist for migrating old OT/J projects

End-of-Life

- No functionality has been end-of-lifed
- This is the first release with strong API promises

Retention Policy

- Final releases (incl. SRs) will be kept indefinitely
- Milestone releases will be kept until the final release
- No promise for unstable versions

Bugzilla

- At time of 0.7.0 release:

- 29 bugs open (all at P3)

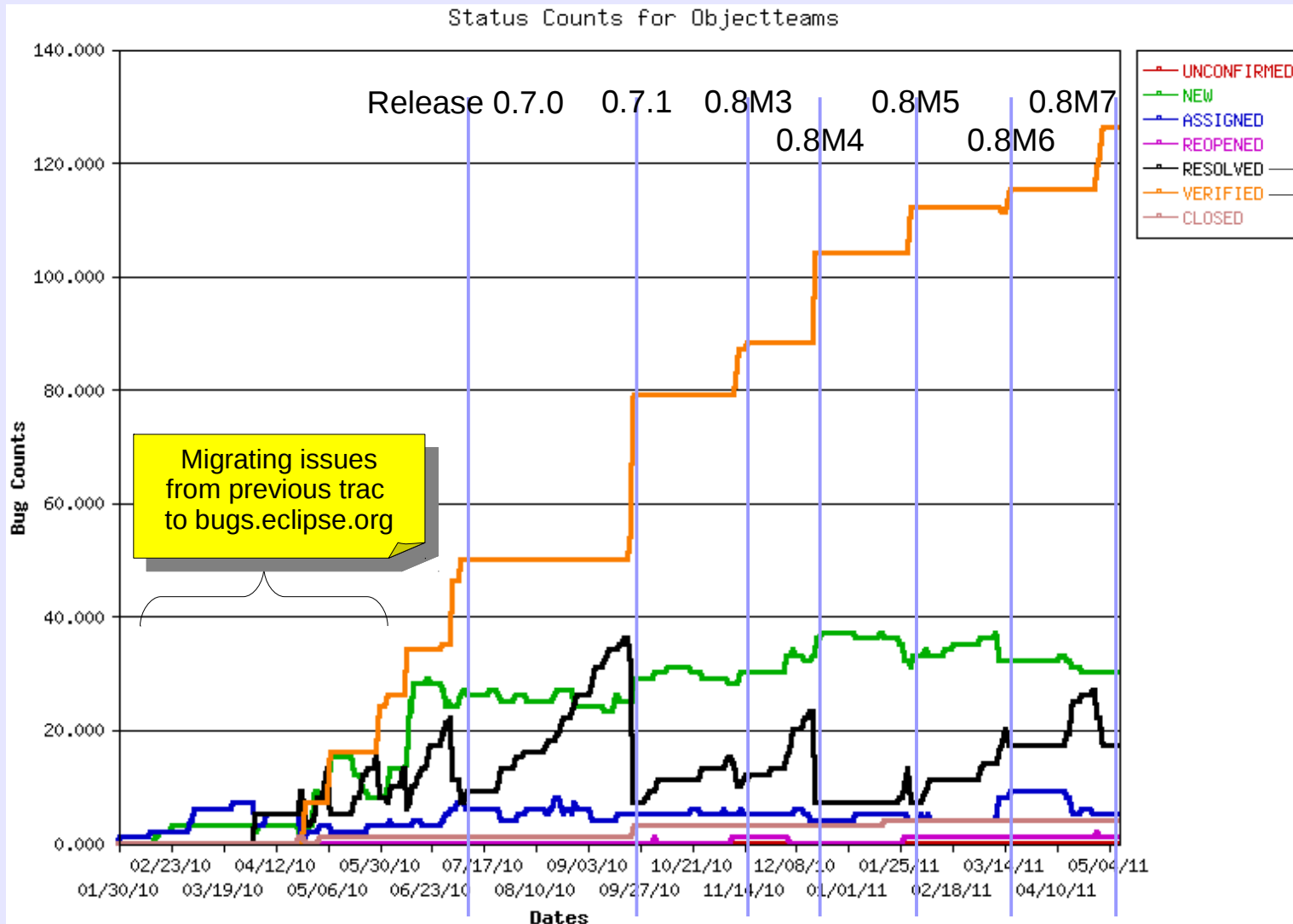
- 13 enhancement
 - 13 normal
 - 3 minor

- “Now” (after RC1 verification):

open real bugs

		Severity						
		critical	major	normal	minor	trivial	enhancement	Total
		.	.	<u>24</u>	<u>2</u>	.	<u>13</u>	<u>39</u>
FIXED		<u>1</u>	<u>4</u>	<u>103</u>	<u>7</u>	<u>1</u>	<u>27</u>	<u>143</u>
WONTFIX		.	.	<u>1</u>	.	.	.	<u>1</u>
DUPLICATE		.	.	<u>1</u>	.	.	<u>1</u>	<u>2</u>
WORKSFORME		.	.	<u>3</u>	<u>1</u>	.	.	<u>4</u>
NOT_ECLIPSE		.	.	<u>1</u>	.	.	.	<u>1</u>
Total		<u>1</u>	<u>4</u>	<u>133</u>	<u>10</u>	<u>1</u>	<u>41</u>	<u>190</u>

Bugs over Time



almost constant
breathing growing

Migrating issues from previous trac to bugs.eclipse.org

Standards

- No standard exists for OT/J, the project provides the only implementation for this technology
 - Language definition (OTJLD) is maintained at objectteams.org.
Version 1.3 will be frozen as the basis for the OTDT 2.0.0
- OT/J is executed on a standard **Java virtual machine**
- OT/Equinox runs on the **Equinox framework** using ...
 - only standard **OSGi** headers in MANIFEST.MF
 - only regular **extensions** in plugin.xml
 - **AdapterHooks** as supported by Equinox
- Installing the OTDT (and any OT/Equinox appl.)
 - using only existing **p2** mechanisms

UI Usability

- UI closely follows the JDT lead
 - Not a new IDE, but a seamless extension of the JDT
- I18N
 - The project participates in Babel
 - Currently language packs suffer from <https://bugs.eclipse.org/344764>
 - No usage of problematic classes from `java.text` etc.

Planning 0.7.0 → 2.0.0

- High Priority: Indigo Participation (see next)
- Medium Priority: bring more contributions
 - OT/JPA (work in progress, not included in release)
 - Runtime Weaver (work in progress, not included in release)
- Continuous attention: bug fixing / RFEs
 - see bugzilla statistics

Indigo Participation

- Object Teams participates in Indigo release train since M3
 - Contributed at +2 for each milestone since
 - Resolved issue regarding our JDT/Core patch
 - Ensure patch is not accidentally installed by user
 - <https://bugs.eclipse.org/330534>
 - Clearly label the patch feature
 - feature name + <https://bugs.eclipse.org/330338>
 - Don't overwrite config settings from other plug-ins
 - <https://bugs.eclipse.org/329784>
 - Exception regarding use of `org.eclipse.jdt` namespace
 - approved by Eclipse PMC in a vote on 2011/01/28
 - Documented usage/adaptation of internals
 - <http://wiki.eclipse.org/OTDT/NonAPI>

Communities

- Developers:
 - One committer still preparing his initial contribution for IP-analysis (*many* dependencies):
 - Olaf Otto for OT/JPA
 - Project lead became a committer for JDT/Core, too.
 - Living the synergy of improving the core and its extension
- Users:
 - Community is not large but very qualified
 - high-detail technical discussions in the Forum
 - qualified suggestions in Bugzilla
 - great feedback at DemoCamps etc.
 - Users of the OTDT are **adopters** of OT/J & OT/Equinox

Communities (cont'd)

- Actively reaching out
 - Forum
 - Questions usually answered the same day, max. delay 5 days.
 - Blog
 - 12 (comprehensive) posts since the 0.7.0 release
 - Eclipse Market Place
 - participate since the EPIC days
 - Conferences
 - Tutorial at EclipseCON'11
 - DemoCamps etc.
 - Jan. '11 Braunschweig (“Stammtisch”)
 - Jun. '11 Dresden & Jena
- Involvement in bugzillas throughout all of eclipse

IP Issues

- The initial contribution had been reviewed and approved by Eclipse legal before 0.7.0
- IP log submitted using the tool
 - http://www.eclipse.org/projects/ip_log.php?projectid=tools.objectteams
- External contributions
 - all CQs approved
 - 6 contributions (mostly test cases) submitted via bugzilla
- Eclipse Software User Agreement
 - version of February 1, 2011
 - applied for all delivered features
- About files and license files are complete and correct.

Credits and Kudos

- Initial Contribution donated by
 - Technische Universität Berlin (5 authors)
 - Fraunhofer FIRST (10 authors)
 - Additional individuals
- Guidance during establishing the project
 - Mentors, EMO, Tools PMC, Eclipse Legal
 - Special thanks to Chris Aniszczyk and Sharon Corbett for excellent feedback with very low latency
- Guidance for resolving the namespace issue
 - OTDT contains a plug-in named `org.eclipse.jdt.core_3.7.0.OTDT_r080_...`
 - Needed to negotiate technical necessities versus Eclipse rules
 - Advice from about everybody from Tools PMC, AC, Equinox team & more

Non-committer contributions

- Bug reports, mostly high quality:
 - 21 directly in bugzilla
 - Special thanks to Jan Marc Hoffmann for 16 excellent bug reports
 - 5 issues originally discussed in the forum, later converted into bugzillas

Planning beyond Indigo

- Maturing the alternative bytecode weaver
 - Result from a student project (finished in 2009, then a few test cases passed)
 - Improved in winter 2010/11, current status:
 - 1804 test cases pass (from 2112 relevant test cases)
 - Will bring more flexibility, still better integration with OSGi
- Bring OT/JPA to Eclipse.org (persistence for OT/J)
 - CQs for essential dependencies, avoid problematic deps.
 - See http://wiki.eclipse.org/OTJPA_dependencies
 - Updating/maturing the existing implementation
- Improve Maven support
- Adopt Java 7
- More code assists, refactoring etc.

Next Releases

Indigo Service Releases

Object Teams shall contribute its 2.1.0 to Juno

Additional Information Regarding Graduation

Compiled along the hints in
http://wiki.eclipse.org/Community_Development_for_Eclipse_Projects

On being two committers

- Stephan Herrmann has two roles
 - JDT/Core committer
 - Lots of opportunities to learn the Eclipse way
 - Guidance by Olivier Thomann and his team
 - Object Teams project lead
 - [Transfer the gained know-how to the Object Teams project](#)
- Dispatch bugs between projects
 - Raise JDT bugs original discovered in an Object Teams context
 - Several new tests and fixes
 - Some white box issues that are only found when working on the code
 - Redirect OT-bugs mistakenly reported against JDT
 - So far only 1 case

Transparency & Publicity

- The Object Teams Project actively uses
 - Wiki: Documentation for users and developers
 - Bugzilla: Discussions about bugs and enhancement requests
 - (evidence to be found in previous slides)
- Project Website
 - Short paragraphs describing benefits w/ links to more in the wiki
 - Standard sub-pages download, documentation etc.
 - Links to project plan and project summary
 - List of recent events
- Project summary is filled with up-to-date info

Community Interaction

- Forum
 - low latency (see above)
- Other lists:
 - participation in, e.g., cross-project-issues-dev@eclipse.org
- Blog
 - registered in planet.eclipse.org
- Bugzilla
 - small backlog of unresolved bugs
 - highly in sync with commits to SVN

Remaining items already covered in previous slides