



Equinox Project 3.7 Release Review

Equinox Project Leadership

Highlights

- 3.7 new features:
 - Implement the new R4.3 Core Framework OSGi specification
 - Implement selected new R4.3 Compendium specifications
 - Coordinator, EventAdmin, MetaType
 - Unified eclipse logging
 - p2 performance improvements
 - Several enhancements to the p2 director application
 - Support in p2 for export/import of software from/to an installation
- API quality:
 - High. No breaking changes to Equinox API
 - Binary compatible for compliant plug-ins
 - New API: 7 types, 40 methods, 0 constructors, 9 fields
 - Deprecated API: 0 types, 10 methods, 4 constructors, 0 fields
- IP Clearance and Licenses:
 - All licenses and about files are in place as per the Eclipse Development Process, the Due Diligence Process was followed for all contributions
- Community and Committer Diversity:
 - 41 committers, 22 active in past 9 months
 - Organizations: IBM, EclipseSource, Cloudsmith, Individuals, Prosyst, Sonatype, compeople AG, WeigleWilczek GmbH, Tasktop, Vmware, SAP, Intel, Wind River
 - Consumed by all other Eclipse projects

Themes and Plan Items

- **Scalability**
 - Performance improvements in p2
- **Robustness**
 - Better support for multi-user shared install
- **Consumability**
 - Unify eclipse logging APIs
- **The Future**
 - OSGi standards participation

http://www.eclipse.org/projects/project-plan.php?planurl=http://www.eclipse.org/equinox/planning/equinox_indigo_plan.xml

Deferred 3.7 Plan Items

- None

New and Noteworthy

- OSGi R4.3 Core Framework implementation
 - _ Updated OSGi API including use of generic signatures
 - _ Generic Capabilities and Requirements for bundles
 - _ Bundle Wiring Implementation provides a much richer model of the wiring relationship between bundles
 - _ Implementation of the new framework hooks which includes Bundle, Resolver and Weaving Hooks
- Update OSGi R4.3 Compendium services
 - _ New Coordinator service implementation
 - _ Updated Event Admin service implementation
 - _ Updated Metadata service implementation
- Unified Eclipse logging APIs to aggregate through the Equinox Extended OSGi Log Service
 - _ Core Equinox Framework now provides the Equinox Extended OSGi Log Service
- Enhancements for p2
 - _ Reduced memory usage when loading p2 repos
 - _ More metadata customizations in p2 for setting -vm arguments and config.ini settings
 - _ Support in the p2 director application to label install operations
 - _ Support in p2 director application to download artifacts without installing them
 - _ Support in p2 for export/import of software from/to an installation

3.7 Plug-in Changes from 3.6

Added Plug-ins (8)

- org.eclipse.equinox.coordinator
- org.eclipse.equinox.launcher.gtk.aix.ppc64
- org.eclipse.equinox.launcher.gtk.aix.ppc
- org.eclipse.equinox.launcher.gtk.hpux.ia64
- org.eclipse.equinox.p2.publisher.eclipse
- org.eclipse.equinox.p2.transport.ecf
- org.eclipse.equinox.p2.ui.importexport
- org.eclipse.equinox.security.win32.x86

Removed Plug-ins (6)

- org.eclipse.equinox.launcher.gtk.linux.ppc
- org.eclipse.equinox.launcher.motif.aix.ppc
- org.eclipse.equinox.launcher.motif.hpux.ia64
- org.eclipse.equinox.launcher.motif.linux.x86
- org.eclipse.equinox.launcher.motif.solaris.sparc
- org.eclipse.equinox.p2.metadata.generator

Non-Code Aspects

- The 3.7 release will contain updated User and ISV documentation
- Community is very active
 - Mailing lists and newsgroups have steady activity
 - Equinox-dev@eclipse.org, p2-dev@eclipse.org
 - Blogs dedicated to Eclipse are active e.g.
 - <http://www.planeteclipse.org>
 - Wiki content is growing
 - <http://wiki.eclipse.org/Equinox>
 - <http://wiki.eclipse.org/Equinox/p2>

Non-Code Aspects

- **Internationalization**
 - Latin1 and Latin2 locales are supported in all operating environments
 - DBCS locales are supported on all platforms
 - GB18030-1 Chinese codepage standard is supported on Windows, Linux GTK and Mac.
- **Localization**
 - Tested for Localization and participating in Babel Project
- **Accessibility**
 - Tested for accessibility, but Equinox has minimal GUI code

Non-Code Aspects

- **Articles, examples, and tutorials**
 - Numerous Webinars and Podcasts
 - Library of demo code in Equinox incubator
 - Tutorials given at EclipseCon and other conferences
 - New project named Toast in the Examples project demonstrating the various runtime technologies at Eclipse.

Platform Quality API

- API quality is a collaborative effort that involves the experience of the developers working on the Equinox project, and feedback from consumers.
- API changes and proposed API additions are often broadcast to mailing lists to raise awareness of the changes and encourage discussion and feedback.
- API changes between 3.6 and 3.7 are checked automatically by API tooling integrated into integration build process.
- No breaking API changes in 3.7
- The PMC is comfortable supporting the API that is in the Equinox project 3.7

Tool Usability

- As part of the Runtime project, tooling falls outside the Equinox project mandate
- Some developer tools such as console, command line tools provided
- Work closely with the PDE project which provides tooling for Equinox

Architectural Issues

- Primary runtime is still a 1.4 JRE. Complementary functionalities on Java SE 5 (JUnit4, APT 5) and Java SE 6 (APT 6, compiler API)
- Many core Equinox bundles use the OSGi minimum 1.2 profile
- Many Equinox bundles use Java SE 5 syntax (generics etc.) but are down compiled to support J2SE 1.4 and the OSGi minimum 1.2 profile
- 8 new bundles, 6 removed bundles

End of Life Issues

- When evolving API the Equinox Project will, whenever possible, deprecate the affected API methods and continue to keep them operational.
- Exceptions to this rule are in the 3.7 migration guide.

Bugzilla

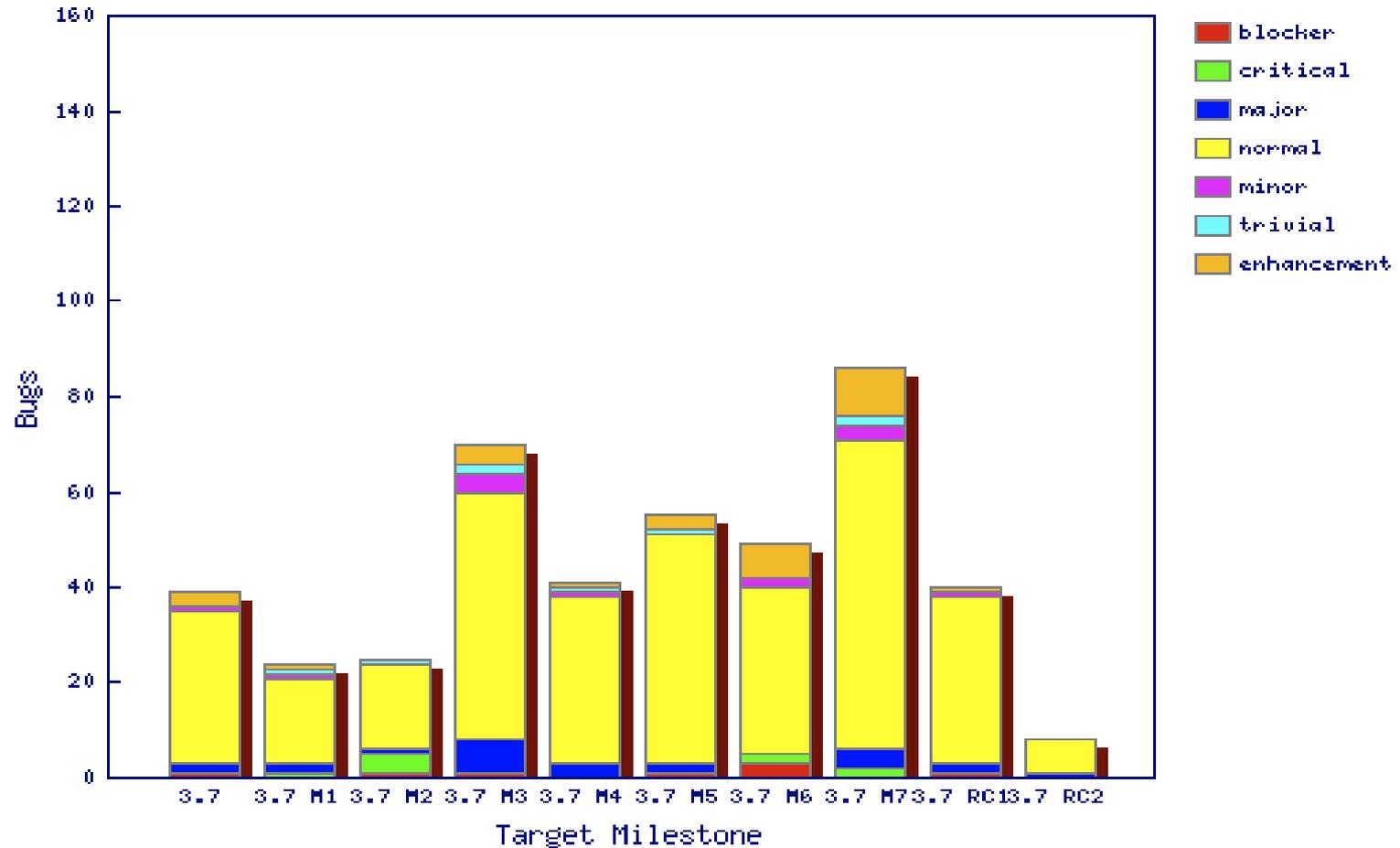
- Between June 24, 2010 and May 18, 2010 (RC2)
 - More than 1000 reports were created
 - Over 750 were resolved
 - Over 250 were resolved without changing code
 - invalid, duplicate, worksforme, etc...
 - Over 65 were backported to 3.5.x maintenance
- Current state (RC3) is
 - 1 blockers, 28 critical

Bug resolution during 3.7

		Target Milestone										
		3.7	3.7 M1	3.7 M2	3.7 M3	3.7 M4	3.7 M5	3.7 M6	3.7 M7	3.7 RC1	3.7 RC2	Total
Severity	blocker	<u>1</u>	.	<u>1</u>	<u>1</u>	.	<u>1</u>	<u>3</u>	.	<u>1</u>	.	<u>8</u>
	critical	.	<u>1</u>	<u>4</u>	.	.	.	<u>2</u>	<u>2</u>	.	.	<u>9</u>
	major	<u>2</u>	<u>2</u>	<u>1</u>	<u>7</u>	<u>3</u>	<u>2</u>	.	<u>4</u>	<u>2</u>	<u>1</u>	<u>24</u>
	normal	<u>32</u>	<u>18</u>	<u>18</u>	<u>52</u>	<u>35</u>	<u>48</u>	<u>35</u>	<u>65</u>	<u>35</u>	<u>7</u>	<u>345</u>
	minor	<u>1</u>	<u>1</u>	.	<u>4</u>	<u>1</u>	.	<u>2</u>	<u>3</u>	<u>1</u>	.	<u>13</u>
	trivial	.	<u>1</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>1</u>	.	<u>2</u>	.	.	<u>8</u>
	enhancement	<u>3</u>	<u>1</u>	.	<u>4</u>	<u>1</u>	<u>3</u>	<u>7</u>	<u>10</u>	<u>1</u>	.	<u>30</u>
	Total	<u>39</u>	<u>24</u>	<u>25</u>	<u>70</u>	<u>41</u>	<u>55</u>	<u>49</u>	<u>86</u>	<u>40</u>	<u>8</u>	<u>437</u>

Resolved bugs

including fixed, invalid, ...



Standards

- OSGi
 - Service Platform Core Specification, Release 4.3
 - Elements of the OSGi Service Platform Service Compendium, Release 4.2 and Release 4.3
 - Continued development of the next OSGi Specification (tentatively called Release 4.4) is going on. Currently planned for 3.8 Equinox release.

UI Usability

- Strings are externalized to support translation into other languages.
- Extensive use of mnemonics and shortcut keys in the user interface enhances usability.
- Full Bidirectional support (mirroring) on Windows and Linux GTK, bidirectional text on Mac OS X
- Accessibility support for Windows, Linux GTK and Mac OS X
- We are not aware of any non-compliance with accessibility standards in the user interface

Schedule

- **Milestones every 6 weeks, 6 cycle duration**
 - API frozen on March 11 (M6), Feature freeze April 29 (M7)
 - http://www.eclipse.org/projects/project-plan.php?planurl=http://www.eclipse.org/equinox/planning/equinox_indigo_plan.xml#release_milestones
- **Tracked schedule**
 - All milestones delivered as promised
- **End game (release candidate) milestones for 4 cycles**
 - Duration reduced from 2-week to 1-week cycles at RC2 milestone
 - No new features or API allowed without proper approvals
 - Development to end on June 2, 2010
 - Increasingly stringent approval, checking, and change notification requirements in this stage
 - http://www.eclipse.org/eclipse/development/plans/freeze_plan_3_7.php

Process

- The Equinox project is developed using an open, transparent, and inclusive process
- Teams rely on Bugzilla, mailing lists and newsgroups for input
- Weekly planning calls conducted with the component leads
 - Meeting minutes posted on the Equinox wiki page
- Component teams have publicly available milestone plans on the wiki

Community

- Equinox team members are active in Bugzilla, newsgroups, and mailing lists
- Blogs started by Equinox committers are active
 - <http://www.planeteclipse.org>
- Some teams are using the equinox-dev IRC channel
 - `irc://irc.freenode.net/#equinox-dev`
 - also see: <http://wiki.eclipse.org/index.php/IRC>
- The Equinox team participates in code camps, conference presentations, and tutorials, including
 - EclipseCon, JavaOne, JavaWorld, JAOO, Eclipse Summit Europe, Eclipse Forum Europe, JAX, JAX Asia
- The Equinox team interacts with other open source projects, standards bodies, and other projects on eclipse.org, including
 - OSGi, Apache, JCP

IP Issues

- All significant and third party contributions have been reviewed and approved by Eclipse legal.
- About files and license files are complete and correct.
- Draft IP log:
 - http://www.eclipse.org/projects/ip_log.php?projectid=rt.equinox

Project Plan for Equinox 3.8

- Still in planning stage