



e4 Project 0.9 Release Review

Eclipse Project PMC

Highlights



- 0.9 is a technology preview of interesting work happening in the e4 incubator
- This is not a commercial quality release: no API, lightly tested, no maintenance releases planned
- Includes working implementations of some cool new technology:
 - Model-based user interface: highly configurable
 - Highly decoupled service-based programming model
 - Declarative user interface styling
 - JavaScript modularity and tight integration of bundles and UI elements written in JavaScript
 - Flexible new IDE resource model
- Committer and community diversity:
 - 53 committers, 26 active in past 9 months
 - Organizations: IBM (13), Individuals (3), Innoopract (3), FreeScale, BestSolution, Bedarra, Siemens, Soyatec, Wind River, Architexa (1 each)
 - Geographies: Canada, Germany, Austria, Poland, France
 - Commits: IBM (76%), Soyatec (9%), Individual (7%), FreeScape (5%), Bedarra, BestSolution, Innoopract, Siemens (1% each)



Themes and Plan Items

- **Extensibility**
 - Declarative definition of user interfaces
 - Model-based workbench
 - Skinnable UI
 - Integration of scripting languages
 - Compatibility layer
- **Rich Internet Apps**
 - Advanced animation API in SWT
 - SWT in a Browser
- **Ease of Use**
 - Flexible resources

<http://www.eclipse.org/projects/project-plan.php?projectid=eclipse>

Themes and Plan Items



- Deferred plan items:
 - Advanced animation API in SWT

<http://www.eclipse.org/projects/project-plan.php?projectid=eclipse>

New and Noteworthy



E4 Platform

- Eclipse 3.x compatibility
- Application model and schema
- Photo demo application
- Contacts demo application
- Dependency injection
- Annotations for injection
- Hierarchical context service binding system
- Context lookup strategies
- Toolkit Model for model-based widgets
- Scripting of widget models with JavaScript
- Modeled UI elements embedded in dialogs and wizards
- e4 model viewer
- JavaScript Modularity
- JavaScript-based site manifest editor
- Integration of web UI components in the workbench
- E4 support on Rich Ajax Platform (RAP)

Declarative Styling

- Styling SWT widgets with CSS
- New tab folder look
- Declarative styling with gradients
- Margins for spacing between widgets
- Extensive styling support for CTabFolder
- Modeled UI informs of active state
- Styling support for CTabItem
- Setting button and label alignment with CSS

SWT Browser Edition

- ActionScript development environment
- Incremental Java to ActionScript compiler
- Java to ActionScript execution environment
- SWT Browser Edition examples
- ActionScript theme support

New and Noteworthy



XWT

- Dynamic event handling in XWT
- Custom widget support
- Ability to specify and customize style
- JFace data binding support
- Data binding path expression support
- Debug tracking
- Command support for MenuItem and Button
- Internationalization
- Multiple data binding models
- Widget binding
- Advanced UI mediator wizard

Resources

- Editable linked resource locations
- Project linked resource variables
- Resource groups
- Resource filters
- Drag and drop generation of linked resources
- Linked resource editor
- Create filters during resource creation



Non-Code Aspects

- The 0.9 release contains no formal documentation, but there is extensive documentation on the e4 wiki
- A webcast series on the 0.9 release is planned to help spread the word about e4 technology
- Community is very active
 - Mailing lists and newsgroups have steady activity
 - E4 mailing list: e4-dev@eclipse.org
 - Lots of e4 blog activity:
 - <http://www.planeteclipse.org>
 - Wiki content is extensive and growing
 - <http://wiki.eclipse.org/E4>

Non-Code Aspects



- **Internationalization**
 - The e4 0.9 release has not undergone Internationalization testing
- **Localization**
 - e4 message strings are not localized
- **Accessibility**
 - e4 has not been tested for accessibility

Non-Code Aspects



- Articles, examples, and tutorials
 - e4 whitepaper provides overview of e4 technology:
 - <http://eclipse.org/e4/resources/e4-whitepaper.php>
 - e4 presentations/symposia/tutorials at:
 - EclipseCon 2008, 2009
 - Eclipse Summit Europe 2008
 - Eclipse Application Developer Day 2009
 - Several Eclipse Galileo DemoCamps
 - e4 presentation material available on e4 wiki
 - Two complete e4 example applications: Photo viewer and Contacts application

Platform Quality API



- The e4 0.9 release includes some provisional API, but compatibility with future releases is not planned
- Platform quality API is planned for the next e4 release



Tool Usability

- Mostly relying on Eclipse platform tooling support and EMF tools for models
- Some e4-specific tooling:
 - ActionScript/JavaScript debugging tools
 - XWT graphical design editor
 - Toolkit Model editors
 - e4 model editor

Architectural Issues



- Primary runtime is Java SE 5
- Currently provide one monolithic download, but e4 is in fact highly modular: developers can pick and choose pieces they want to use in their applications

End of Life Issues



- As this is the first release of e4, there are no end of life issues

Bugzilla



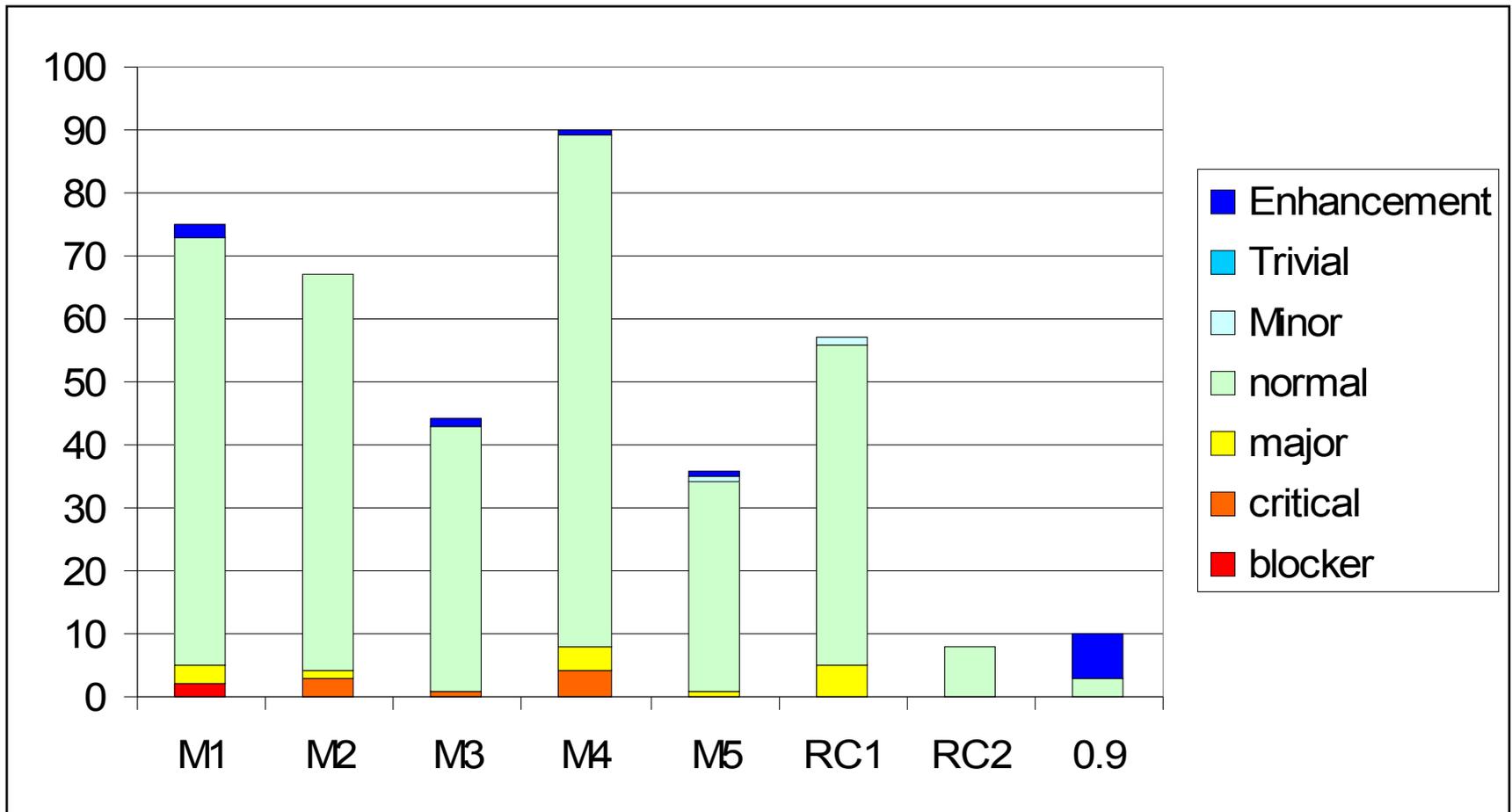
- Since Oct 30, 2008 (creation of e4 in bugzilla)
 - 700 bugs were created or moved to e4 from elsewhere
 - Over 440 were resolved
 - 35 were resolved without changing code
 - invalid, duplicate, worksforme, etc...
- Current state (RC2) is
 - 0 blockers, 1 critical
 - 0 P1, 0 P2

Bug resolution during 0.9



FIXED	M1	M2	M3	M4	M5	RC1	RC2	0.9	Total
blocker	2	0	0	0	0	0	0	0	2
critical	0	3	1	4	0	0	0	0	8
major	3	1	0	4	1	5	0	0	14
normal	68	63	42	81	33	51	8	3	349
Minor	0	0	0	0	1	1	0	0	2
Trivial	0	0	0	0	0	0	0	0	0
Enhancement	2	0	1	1	1	0	0	7	12
Total	75	67	44	90	36	57	8	10	0

Fixed bugs



Schedule



- Milestones every 6 weeks, 6 cycle duration
 - Feature freeze July 12 (M5)
 - Short end-game (two release candidates)
 - http://www.eclipse.org/projects/project-plan.php?projectid=eclipse.e4#release_milestones
- Tracked schedule
 - All milestones delivered as promised
 - An extra milestone was added (M5) in exchange for removing two release candidates (RC3,RC4)
 - Final release date unchanged: July 24, 2009

Process



- The Eclipse project is developed using an open, transparent, and inclusive process
- Teams rely on Bugzilla, mailing lists and newsgroups for input
- Bi-weekly planning calls conducted with **all** e4 contributors welcome
 - http://wiki.eclipse.org/E4/Meeting_Minutes
- Extensive use of e4 wiki for brainstorming, planning, and development notes

Community



- Eclipse team members are active in Bugzilla, newsgroups, and mailing lists
- Blogs started by Eclipse committers are evolving
 - Use blogging infrastructure at Eclipse.org
 - <http://www.planeteclipse.org>
- Some teams are using the eclipse-dev IRC channel
 - `irc.freenode.net#eclipse-dev`
 - `irc://irc.freenode.net/#eclipse-e4`
 - also see: <http://wiki.eclipse.org/index.php/IRC>
- The Eclipse team participates in code camps, conference presentations, and tutorials, including
 - EclipseCon, JavaOne, JavaWorld, JAOO, Eclipse Summit Europe, Eclipse Forum Europe, JAX, JAX Asia
- The Eclipse team interacts with other open source projects, standards bodies, and other projects on eclipse.org, including
 - OSGi, Apache Ant, JLS, WTP, Apache Harmony, GCJ, GTK



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 project log:
 - http://www.eclipse.org/projects/ip_log.php?projectid=eclipse.e4

Project Plan for Eclipse 4.0



- Still in planning stage
- Main focus will be on taking incubating technology in e4 0.9 and making it real platform quality:
 - Robust implementation
 - High quality API
 - Backwards compatibility with Eclipse 3.5
 - Documentation