



*Equinox Security Bundles
- Graduation Review*

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Outline



- Overview
- Functionality
- Source Control & Packaging
- Development Process
- Community & Support
- Proposed Committers
- Intellectual Property
- Future Directions

Overview



- From the incubator website:

“To ensure Eclipse is a secure runtime, enabling users and administrators to confidently work with the Eclipse client in environments where not all users and/or code sources are friendly. Providing integrated security functionality will allow Eclipse applications to protect their data, to authenticate and authorize valid users, and to protect against potentially malicious code packaged and distributed as plug-ins.”

“This will be done by enabling Java's standard security mechanisms within the Eclipse platform, defining new functionality where there are gaps in the available standard interfaces. Using Java's core standard interfaces will enable wider integration with code available throughout the Java community.”

Functionality



- User Authentication: the ability to 'log in' to the platform, built upon the JAAS framework in the JRE.
- Secure Storage: a mechanism to store sensitive data (e.g.: passwords) in an encrypted repository, built upon the JCE framework in the JRE
- Signer-based Code Authorization: UI and supplementary interfaces for identifying and authorizing OSGi bundles based on code signer identity.
- Certificate Management: UI and supplementary interfaces for managing the certificates and keys available to the platform.



Source Code & Packaging

- Code is located at `equinox-incubator/security/updated`
- 4 Bundles are to be contributed to the mainline:
 - `org.eclipse.equinox.security`
 - `org.eclipse.equinox.security.ui`
 - `org.eclipse.equinox.security.win32.x86`
 - `org.eclipse.equinox.security.tests`

Development Resources



- Code has been in development as a subproject of the Equinox Incubator for the duration of the 3.4 release. Details:
 - Website at <http://www.eclipse.org/equinox/incubator/security>
 - Wiki at <http://wiki.eclipse.org/Category:Security>
 - Bugs on Eclipse Bugzilla, prefaced with “[sec]”.
 - Mailing list used is equinox-dev
 - Newsgroup used is eclipse.technology.equinox

Community & Support



- Lotus Developers – Matt Flaherty and Eric W Li
 - Implemented initial contribution, saw code through Incubation
 - Full-time employees backed by Lotus tasked with bringing security to Eclipse
- Jay Rosenthal
 - Former IBM employee, intends to continue contributing
- Equinox Team – esp. Thomas Watson and Oleg Besedin
 - Assisted with graduation process and changes in OSGI

Proposed Committers



- Matt Flaherty (mflaherty)
 - Matt is the lead for the Equinox security team, and is responsible for launching the security initiative with a seed of code from the Lotus division of IBM. He has been an integral part of the Lotus Notes and Domino security teams for almost 10 years, most recently defining the security integration points as Notes was parented over Eclipse. His intention is to continue to work full-time on Eclipse security, helping to bring it to a level of usability and deployability that is expected by Notes' customers.
- Eric W Li (eli)
 - Eric has been working on Eclipse based security for Notes since he joined IBM several years ago. He has helped implement much of the initial contribution from Lotus, as well as several internal Java security features. He has been a big part of the hardening of SWORD4J, an IBM tool for scanning and assessing permission problems with Java code. This will become very important as the Eclipse codebase is security-enabled.
- Oleg Besedin (obesedin)
 - Oleg is a core member of the Equinox team and has been integral in seeing that the initial code from Lotus is refactored to meet more general RCP needs. He is responsible for the secure storage service that was recently built in the incubator.
- Jay Rosenthal (jrosenthal)
 - Jay also has over 10 years of Lotus Notes experience, with the last several being involved in Notes and Eclipse integration. Although he has left IBM, he is still interested in lending his hand where possible – especially in the area of security UI.

Intellectual Property



- IP Log at:
 - http://www.eclipse.org/equinox/incubator/security/documents/iplog_1.0.html
- Relevant CQs:
 - Initial Lotus contribution:
 - http://dev.eclipse.org/ipzilla/show_bug.cgi?id=1549
 - Incubated bundles
 - http://dev.eclipse.org/ipzilla/show_bug.cgi?id=2015
 - http://dev.eclipse.org/ipzilla/show_bug.cgi?id=2016
 - http://dev.eclipse.org/ipzilla/show_bug.cgi?id=2017
 - http://dev.eclipse.org/ipzilla/show_bug.cgi?id=2022

Future Directions



- Broader integration with other projects, including the Eclipse Communication Framework, Provisioning & Higgins
 - Protocol specific Certificate Management (e.g.: SSL for ECF)
 - Secure storage of Credentials (Higgins)
 - Deeper signed code support (P2)
- Support for fine-grained Java2 permissions, including end user UI, management interfaces and developer tooling (permission analysis, etc)
- Secure Storage support for additional platforms
- ...