Target Management 3.4
In the Juno Coordinated Release

Slide deck v1 – June 12, 2012

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Spotlight Talking Points

- **TM 3.4 New Features**
    - Mostly a maintenance release (stability, performance)
    - Equinox secure storage support in RSE
    - Encoding control in the Terminal
    - Built against Eclipse 3.7, tested mainly against 4.2; Eclipse 3.8 expected to work
- **API Quality:**
    - Few well-reviewed API additions backed by API Tooling.
    - Fully binary compatible with TM 3.1 / 3.2 / 3.3
- **End-of-Life issues:**
    - Discussion about discontinuing the RSE telnet adapter, but not executed in this release
- **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.
- **Communities:**
    - Contributions going down (4 active committers, 7 contributors - was 13 in 3.3)
        - Reduced bugfix rate, backlog increased, but quality still improved this release
        - TCF / Target Explorer as an RSE replacement for embedded gaining traction
    - Traffic on newsgroup and mailing lists relatively low, but showing steady usage
    - Many adopters at Eclipse (CDT, PDT/RDT, DLTK) other OSS (Yocto) and commercial

Target Management – Introduction

- Major project milestones

    - Project Created – June 2, 2005

    - RSE 1.0 – Nov 12, 2006

    - Yearly Train Release since TM 2.0 (Europa) - 2007

    - Move from DSDP into Tools Toplevel Project – Jan 2011

- Terminal + Remote System Explorer (RSE) remain stable

    - 9 committers (unchanged), 4 active

    - 7 individual contributors – down from 13

- TM 3.4 project size (Terminal + RSE)

    - Constant at 356k LOC (302k non-comment according to Ohloh!)

Target Management vs. RSE

„Data models and frameworks to configure and manage remote systems, their connections, and their services".

- **org.eclipse.tm.core**: Core Components (few dependencies)

  - Terminal Widget and View

  - RAPI wrappers, Jakarta Commons/Net 3rd party library

- **org.eclipse.tm.rse**: A consistent framework and UI for accessing remote compute resources from Eclipse.

- Remote System Explorer (RSE) integrates core components. **TM is the "project", RSE is the "product"**.

TM 3.4 New Features

- 3.4 Plan available at
  http://www.eclipse.org/projects/project-plan.php?projectid=tools.tm

- New Features

  - Equinox secure storage for RSE passwords

  - Encoding control for the Terminal

  - Builds + tests with Maven / Tycho on Hudson

- Plan items that were deferred

  - None

- Exact descriptions of changes and migration docs available from each milestone's build notes

Non-code aspects

- **Unchanged to previous years:**

    - User documentation and tutorials (available on help.eclipse.org)

    - ISV documentation and tutorials

        - Includes Javadoc, Architectural overview and 3 tutorials
        - EclipseCon Tutorials with code, Webinar, Wiki-based FAQ
        - New&Noteworthy / Build Notes with each Milestone

    - Working Example Code

        - Adding a custom subsystem, Adding a custom service, Adding a remote popup menu action, Adding a remote Preference page

    - Externalization and Accessibility guidelines followed, Localization by IBM as well as the Babel project

    - Publications and Conference talks (EclipseCon)

API: 3.4 Status

- During the 3.4 cycle, Eclipse API Tooling was (again) used to ensure

  - Proper split of API and non-API without Leakage; version numbering, Javadoc and @since tags;

  - Without examples & tests: 893 API types / 1288 non-API

  - 3.4 showed that current APIs are maintainable. No new weaknesses added.

- Current API:

  - RSE Core Model - Subsystem / Services / Filters API

    - 5 clients in RSE, plus 2 examples; Well documented, tutorial + examples; Few Unittests

  - Dstore Miners API

    - 4 clients in RSE, additional commercial clients at IBM; Javadoc, No unittests

  - UI Extensions and API (Widgets, menus, pages for remote)

    - Several internal and commercial clients; Javadoc, tutorial + examples; No unittests

  - Persistence Providers

    - 3 clients in RSE, no external clients known; Javadoc; No unittests

- Previous TM / RSE 3.1 / 3.2 / 3.3 releases are binary + workspace compatible

- Official Terminal API still missing

Architectural Issues

- Well-proven extensible subsystem / services concept + Terminal

- Legacy code (especially RSE) still not fully cleaned up

  - Still no clean UI / Non-UI separation and componentization

    - EFS provider very problematic – commercial PHP vendors rolling their own for remote access in newer releases

  - Still some minimal Platform non-API use

    - But validated on Eclipse 4.2

- Need even more Unit Tests (hard to do for UI-heavy parts)

- **Overlaps with other projects** - Many remote access APIs

  - E.g. Remote File Service – 3 APIs: Platform EFS, ECF fileshare, RSE IFileService

  - Disconnected "Remote Development (RDT)" effort at IBM / PTP

  - TCF / Target Explorer as a lightweight re-implementation

Tool Usability

- Seamless access to remote files
    - Edit, Compare, search and move remote files as if they were local
    - Browse remote archives as virtual filesystem
    - Optimized for minimal data transfer (as opposed to EFS)
    - Popular with remote Web page and PHP editing
        - Though commercial PHP vendors move away rolling their own
- Shell and Processes subsystems out of the box, generic framework for vendor-specific subsystems
    - Used by CDT, PTP/RDT, Linuxtools / Yocto and some commercial
- Lightweight embeddable Terminal widget used a lot commercially

End-of-life

- Discussion about discontinuing the RSE Telnet adapter

  - But not executed in this release

Bugzilla

- **Statistics as of 12-Jun-2012**

TM 3.4 Bugs fixed by Target Milestone										TM 3.4 bugs still open				
	3.3.1	M3	M4	M5	M6	M7	RC1	RC2	3.4 Fixed		3.3.x	3.4	---	Future	Total
blocker	1	.	.	.	.	.	.	.	.		.	.	.	0	.
critical	.	.	.	.	.	1	.	.	1		.	.	3	.	.
major	.	1	.	.	1	.	.	.	2		4	.	23	3	30
normal	20	7	9	14	10	10	7	4	81		52	4	240	95	391
minor	1	.	.	1	.	.	.	.	2		8	.	45	54	107
trivial	.	.	.	.	.	.	.	.	.		1	.	8	13	22
enhanc ement	1	.	1	1	.	2	.	.	5		11	2	109	138	260
Total	23	8	10	16	11	13	7	4	92		76	6	428	303	813

- **Currently 92 fixed in 3.4 / 813 open (3.3: 136 fixed / 750 open)**

  - **Fix rate decreased, backlog increased**

  - **Quality still improved over 3.3 (no regressions known)**

- **http://www.eclipse.org/dsdp/tm/development/bug_process.php**

- **Release Exit Criteria: 0 Blocker, Release Test Pass**

Standards

- RFC 959 FTP
  - Also supports RFC 1579 firewall-friendly FTP
  - Supported through Jakarta Commons/Net
  - For details, see http://jakarta.apache.org/commons/net/
- RFC 4251 ssh2
  - Also supports RFC 4252, 4253, 4254, 4256 (KI-authentication)
  - draft-ietf-secsh-filexfer-13 for sftp
  - Supported through com.jcraft.jsch
  - For details, see http://www.jcraft.com/jsch/

UI Usability

- Externalization and Accessibility guidelines followed

  - Keyboard accessibility of all items verified

  - Menu items for special keys

  - Messages marked up properly for screen readers

- All UI-visible Strings are externalized (tested with Babel)

- Externalization mostly through Eclipse NLS mechanism, partially through systemMessages.xml

- Localization IBM (for WebSphere), and Eclipse Babel project

Schedule

- Original Planning document on the Wiki

- Original XML project plan posted Aug-2011

- Low project activity, no frozen milestone builds until M7

Communities

- **Contributors and Committers**
  - 9 committers (4 IBM, 3 Wind River, 1 Montavista, 1 independent)
    - Number constant, but only 4 active committers (IBM, WR, MV)
  - 7 additional contributors: IBM, Wind River, Tubitak, Individual…
    - (was 13 in 3.3 –contributions down)
- **Users**
  - Mailing list and Newsgroup participation stagnating, but occasional posts as well as contributions do show end user adoption
- **Adopters**
  - Many adopters at Eclipse (CDT, PDT/RDT, DLTK) other OSS (Yocto) and commercial
  - Many adopters also contributing, plus several occasionally seen on the newsgroup or mailing list
  - Monthly open conf calls are de facto committer calls – mostly offline communication

IP Issues

As per the Eclipse IP Policy, the project verifies that:

- ... the about files and use licenses are in place as per the Guidelines

- ... all contributions (code, documentation, images, etc) have been committed by individuals who are Members of the Foundation and are abiding by the Eclipse IP Policy (training through Committer HOWTO)

- ... all significant contributions have been reviewed by the Foundation's legal staff – even if written by committers prior to joining Eclipse

- ... third-party libraries, have been documented in the release and reviewed by the Foundation's legal staff

- ... all contribution questionnaires have been completed

- ... the "provider" field of each plug-in is set to "Eclipse TM Project"

- ... the "copyright" field of each plug-in is set to the copyright owner

- …there are no 3rd party logos or fonts to be licensed under the EPL

- See the automated IP Log at http://www.eclipse.org/projects/ip_log.php?projectid=dsdp.tm

Future Plans

- Service Releases with the Juno train

  - TM 3.4.1 and 3.4.2

- Shooting for backward compatibility again next year

  - TM 3.5 release in June 2013 to be backward compatible

- Moving forward on deferred items from the 3.4 plan

  - Bug backlog reduction

  - Performance, Scalability, Usability

Thank You

And please provide feedback…

tm-dev@eclipse.org

http://www.eclipse.org/forums/index.php/f/210/