Target Management 3.3
In the Indigo Coordinated Release

Slide deck v1 – May 31, 2011

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Spotlight Talking Points

- **TM 3.3 New Features**
  - Mostly a maintenance release (stability, performance) – steady improvements
  - SCP File Subsystem added, FTP stability, 10x SSH performance improvements
  - Terminal ANSI compliance improved

- **API Quality:**
  - Few well-reviewed API additions backed by API Tooling.
  - Fully binary compatible with TM 3.1 / 3.2

- **End-of-Life issues:**
  - Moved from DSDP into Tools TLP; TCF moved into separate project under CDT
  - Discovery component discontinued (after deprecating in 3.2)
  - WinCE subsystem no longer actively developed

- **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:**
  - Constant flow of contributions (9 committers, 13 additional contributors - was 15 in 3.2)
  - 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)

- Move from DSDP into Tools Toplevel Project – Jan 2011

    - TCF moved into separate project under CDT

- Terminal + Remote System Explorer (RSE) remain stable

    - 9 committers (unchanged)

    - 13 individual contributors – slightly down, but more diverse

- TM 3.3 project size (Terminal + RSE)

    - Constant at 356k LOC (small additions, but lost Discovery)

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 3.3 New Features

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

- New Features

  - SCP File Subsystem added

  - Up to 10x Performance improvement for SSH (contributed)

  - FTP stability (IPv6 support through Commons Net 2.2)

  - Terminal ANSI compliance improvements

  - Builds + tests with Athena CBI on Hudson

- Plan items that were deferred

  - Terminal public API

- 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: 3.3 Status

- During the 3.3 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 (3.2: 1093 API / 1568 non-API)

    - Down due to losing TCF and Discovery

  - 3.3 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 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 4.1 / e4

- 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

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

- TCF moved to separate project under CDT

    - But TCF / RSE integration still live and used by Yocto for Linux

- Service Discovery discontinued (after deprecating in 3.2)

- Windows CE subsystem no longer actively maintained (may discontinue in next release)

Bugzilla

- ## Statistics as of 31-May-2011

TM 3.3 Bugs fixed by Target Milestone									TM 3.3 bugs still open				
	3.1.1	M3	M4	M5	M6	M7	RC2	RC3	3.3 Fixed	3.3.1	3.4	---	Future	Total
blocker	.	.	.	.	.	.	.	.	.	.	.	.	.	.
critical	.	.	.	1	.	.	.	.	1	.	.	.	.	.
major	.	1	3	2	1	1	.	1	9	3	.	14	3	20
normal	21	10	11	21	16	23	3	.	105	59	4	198	89	350
minor	1	.	1	4	3	.	1	.	10	8	1	40	53	102
trivial	.	.	.	.	.	.	.	.	.	1	.	7	13	21
enhancement	1	2	2	1	4	1	.	.	11	13	11	103	130	257
Total	23	13	17	29	24	25	4	1	136	84	16	362	288	750

- ## Currently 136 fixed in 3.3 / 750 open (3.2: 183 fixed / 763 open)

  - ### Fix rate decreased, but backlog also increased

  - ### Generally, defects under control

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

- ## Release Exit Criteria: 0 Critical / 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-2010

- Milestone dates were hit date-wise

  - But planned fixes / features often deferred content-wise

Communities

- **Contributors and Committers**

  - 9 committers (4 IBM, 3 Wind River, 1 Mentor Graphics, 1 independent) – was 10 in 3.2 – steady activity, lost committers due to TCF move

  - 13 additional contributors: Freescale, Siemens, Appcelerator, Jboss, Individual… (was 15 in 3.2 – steady flow of contributions)

- **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 Indigo train
  - TM 3.3.1 and 3.3.2
- Shooting for backward compatibility again next year
  - TM 3.4 release in June 2012 to be backward compatible
- Moving forward on deferred items from the 3.3 plan
  - Bug backlog reduction
  - Performance, Scalability, Usability

Thank You

And please provide feedback…

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