



Eclipse™ TPTP 4.3 Release Review

December 6, 2006

rev 3

Eclipse TPTP PMC & Planning Group

Introduction: TPTP 4.3 Release Review



■ Major Milestones

- Current release: 4.3 (December 6) (based on EP 3.2)
- Prior releases: 4.2 (June'06) 4.1 (Nov'05), 4.0 (July'05), 3.3 (June'05), 3.2 (Dec'04)
- Next release: 4.4 (June'07) (based on EP 3.3)

■ Release alignment

- Moved to bi-annual releases in 2006 (vs. quarterly releases)
 - TPTP “major” releases aligned with Eclipse “release train”
 - TPTP “minor” releases ~5 months later
 - TPTP maintenance releases aligned w/ Eclipse Platform maintenance releases (and simultaneous maintenance release trains)

Features: TPTP 4.3 Requirements Process



- May 8, 2006 – June 2, 2006:
 - Determine requirements from community input:
 - New enhancements.
 - Voting against Bugzilla enhancements.
 - Determine requirements and resource availability from contributors.
 - Determine requirements from committer/project lead/PMC input.
- May 29, 2006 – June 16, 2006:
 - Project leads communicate component resource availability (June 5, 2006).
 - Lead committers prioritize candidate requirements (June 7, 2006).
 - Project leads consolidate prioritized candidate requirements (June 9, 2006).
 - Analysis and AG review of description documents for candidate requirements (June 5, 2006 – June 15, 2006).
 - PMC/RG review and prioritization of candidate requirements to produce the approved requirements (June 12, 2006 – June 15, 2006).
 - Project leads consolidate project-wide draft plan for PMC/PG review and refinements to produce the approved TPTP 4.3 draft plan (June 16, 2006 – June 22, 2006).
- June 23, 2006 – July 7, 2006:
 - Community review of TPTP 4.3 draft plan.
- July 12, 2006:
 - Approval and announcement of TPTP 4.3 final plan.

Features: TPTP 4.3 Themes



- Adopted Eclipse Themes & Priorities in Q4'04 for TPTP (Hyades) 3.3 onwards
- Planning to adopt updated Eclipse Themes & Priorities for 4.4
- Examples by theme:
 - **Scaling Up:** Support for larger data volumes and processing rates in data collection, user interface and model persistence.
 - **Rich Client Platform:** RCP Log Analyzer and Symptom Editor.
 - **Simple to Use:** Enhanced UI and simplified user experience through improved user documentation, tutorials, white papers, demonstrations, and usability improvements.
 - **Appealing to Broader Community:** JUnit integration with JDT, additional data collection agents and Eclipse community marketing and outreach.
 - **Design for Extensibility: Be a Better Platform:** Externalized APIs, defined extension points, improved flexibility and extendable functionality (e.g. API Recorder).

Features: TPTP 4.3 Key Feature Set



- **Platform Project :**
 - RCP Log Analyzer.
 - RCP Symptom Editor.
 - Java Profiler improvements (heap profiler, thread profiler and performance summary information).
 - New technology Agent Controller for Linux (IA32).
 - Log Analyzer improvements (format-agnostic UI, usability and reusable analysis and correlation services).

- **Test Project:**
 - API Recorder (Technology Preview).
 - JUnit integration with JDT.
 - Automated GUI Recorder object mine.

- **Trace Project:**
 - Improved Execution Statistics views.
 - Improved Trace views abstraction and navigation.
 - Virtualization in Statistics views.
 - ARM Factory extension points.

- **Monitoring Project:**
 - Generic Log Adapter improvements (consumability, usability and sensor/extractor filtering).
 - Improvements of managed resource explorer with JMX agent extensions including promotion to a full TPTP component.
 - WSDM-based managed agent creation tooling.
 - Usability improvements monitoring instrumentation tooling.

Features: Responding to the Community



- **Eclipse Integration:**
 - JUnit integration between TPTP and JDT.
- **Rich Client Platform:**
 - RCP Log Analyzer and Symptom Editor.
- **Automated GUI Recorder:**
 - Object mine to reduce test asset maintenance.
 - Recording RCP applications required internally (e.g. RCP Log Analyzer) and externally but deferred to TPTP 4.4 due to lack of resources.
- **Line Level Code Coverage:**
 - TPTP 4.3 Technology Preview as a requirement of community and consuming products
 - Assessing Emma as a more effective solution.
- **Usability Improvements:**
 - Generic Log Adapter, monitoring instrumentation tooling and Log Analyzer .
- **Profiler:**
 - JVMTI (JSR 163) support (Technology Preview).

Non-Code Aspects: Documentation & Examples

- TPTP 4.3 download includes online documentation
 - Created by professional technical writers
- Tutorial & presentation materials available on www.eclipse.org/tptp
 - Current: Eclipse World 2006 & 2005, ST&P 2006 & 2005, EclipseCon 2006 & 2005, Eclipse Summit 2006
 - Future: EclipseCon 2007
- TPTP 4.3 New&Noteworthy & Screencast (short demo)
 - To be made available via TPTP website
- TPTP Datasheet
 - Introduction to TPTP, outlining benefits to end-users, contributors
 - To be updated for 4.3 (last updated for 4.2)
- Continuing incremental improvements/updates to TPTP website and download page
 - www.eclipse.org/tptp

Non-Code Aspects: Communications



- Article Placement
 - Eclipse Corner – Article
 - [Java Application Profiling using TPTP](#)
Valentina Popescu, last updated July 11, 2006
 - Eclipse Review – Article
 - [The fine art of reverse engineering](#)
Ali Mehregani, Navid Mehregani, Spring 2006
- Conferences
 - EclipseSummit 2006 : 1 long talk, hosted a bistro session
 - EclipseWorld 2006: 1 full day tutorial, 4 presentations
 - EclipseCon 2006: 3 tutorials, 5 long talks, 2 short talks, 3 posters, 2 demos, 1 BOF
 - Software Test & Performance Conference (ST&P) 2006 : 1 presentation
 - International Conference on COTS-Based Software Systems 2006 : 1 presentation
- Community outreach for 4.3 release
 - Mentoring of COSMOS project
 - Engagement discussions with WindRiver to contribute to TPTP
 - Callisto PR campaign
 - News alert on TPTP website
 - Postings on popular Eclipse websites and blogs

APIs: Status of TPTP 4.3 Content



Name	API Type	Doc Status	Test Cases	# of Clients	Backward Compatible	Maturity
Log analysis and correlation services	Platform package provisional	Overview Examples & javadoc	Yes	1, plus TPTP LA Eclipse and LA RCP	New	High Main stream
JVMTI agent	Platform package Provisional	Overview Examples & javadoc	Yes	Under review	New	1 year incubation

• internal api usage

- [126575](#) – worked with PDE team and this is almost fixed during 4.3; ongoing work for the remaining issues (to be fixed in 4.4)
- [126584](#) – worked with PDE team; patch provided on 3.3M2; we'll be clean as soon as we move to this milestone
- [126585](#) – fixed in 4.3
- [142103](#) – WTP API and extensions required for the profile on server functionality; work in progress
- [162562](#) – fastXPath engine uses internal JDT code – work in progress
- [161932](#) – WSDM tools tech preview uses a few wst internal classes – target to be solved in 4.4

All new API typically go through at least 1 release of Provisional status

Two styles of Provisional being applied to new functional areas:

- API is stable and will maintain binary compatibility forward
 - [Platform javadoc Provisional](#) - javadoc with provisional tag, Provide contract description and samples, Risk is implementation reliability
- API is deemed final, but is not 100% guaranteed, however is available for usage
 - [Platform package Provisional](#) - Not part of standard package - requires an explicit download, Provisional package name, Contract and samples provided

Architectural Issues



- Focus in increasing the quality of our test buckets
 - Increased automated test coverage
 - Overall increased number of testcases
 - Testcases created for any defects not caught by the current test bucket
- Increase in self use of TPTP testing and profiling tools
 - Used TPTP Test tools to create tests, run and report results; as a side effect:
 - Invested in improving AGR, and added support for automated test run and stress test frameworks
 - Continued improving JUnit integration between JDT and TPTP
 - Continue using TPTP profiler to locate memory leaks and performance problems
- Continued work on tech previews
 - WSDM and JVMTI tooling to be promoted to GA
 - Line Coverage to be transitioned toward Emma – proposed new incubation function in TPTP
 - XRay stabilized, not planned to be taken forward
- Contribution and commitment to the Orbit project
 - One contributor
 - Using a few of the existing common components and actively looking for any other candidates
- Support and participation to the Europa release process

- Future direction
 - Continue focusing on improving quality and scalability

End-of-Life



- All APIs and features from previous releases of Hyades / TPTP are being preserved in 4.3
- Some of the EMF xmi resource formats have been extended in 4.3, but automatic forward and backward compatibility continues to be in place from TPTP 1.0 onward

Bugzilla Statistics



Target Milestone

Defects	4.2.0.1	4.2.1	4.3i1	4.3i2	4.3i3	4.2.1.1	---	4.4	future	Total
NEW		1			12		11	491	201	716
ASSIGNED							2	264	56	322
REOPENED					2			14	7	23
RESOLVED	1	112	34	208	195	17				567
VERIFIED	1	2		6	15					24
CLOSED	4	135	32	146	119	6				442
Total	6	250	66	360	343	23	13	769	264	2094

Bug statistics as of November 22, 2006

Release Exit Criteria

- No high severity defects & 100% test attempt / pass (95% pass on early iterations)
- Test results posted; All exceptions reviewed before deferral / discharge
- All tests are in CVS as TPTP manual and JUnit tests

TPTP 4.3 stats (including parallel fix releases)

- 1013 defects removed (~337 per iteration, 381/i in 4.2 and 240/i in 4.1)
 - Test bucket increased by 10%, defect backlog ~flat
- 40 feature enhancements integrated (66 in 4.2, 31 in 4.1)

Standards



- Provide exploitation of
 - JMX
 - ARM
 - WSDM
- Provide a common engine for the use of
 - The above standards
 - JVMTI – to replace JVMPI

Schedule



- Underway with TPTP 4.4 requirements gathering and preparing proposals for enhancements
- Release consisted of three 6/7-week development and one 5-week shut-down iterations
- Parallel development of 4.3 with 4.2.1 and 4.2.1.1 maintenance releases

Key Dates	
Aug 04, 2006	Completed TPTP 4.3 Iteration 1*
Sep 29, 2006	Completed TPTP 4.2.1 GA (Supporting Eclipse Platform 3.2.1)
Oct 20, 2006	Completed TPTP 4.3 Iteration 2
Nov 29, 2006	Completed TPTP 4.3 Iteration 3
Dec 05, 2006	Target for TPTP 4.2.1.1 Maintenance Release
Dec 06, 2006	TPTP 4.3 Release Review + Target for TPTP 4.3 GA (Supporting Eclipse Platform 3.2.1)
Feb 16, 2007	Target for TPTP 4.2.2 GA (Supporting Eclipse Platform 3.2.2)
Jun 29, 2007	Target for TPTP 4.4 GA (Supporting Eclipse Platform 3.3)

* "4.3 I1" is for bug fixes only. TPTP 4.2.1 stream was forked after completion of 4.3 I1 and contained additional targeted bug fixes.



Process

- ~45 Active Committers plus a few Developers from 4 organizations
 - Committer elections and removals have followed charter principles
 - Continuing to recruit additional contributor (organizations and individuals)
- Open communications via 6 TPTP mailing lists and newsgroup
 - Project activities communicated via mailing lists for PMC/general, one each for each sub-project, and low-noise news only mailing list.
- Meetings, meeting, meetings – numerous, open, and documented
 - Quarterly F2F PMC+PG, Weekly PMC+PG, AG, Project, Component, etc.
- Open and inclusive release planning and tracking processes
 - Bugzilla used to request and track all defects and enhancements
 - Additional reports (defects, tests, etc.) used to enhance planning / tracking
- All contributions made directly to Eclipse CVS
 - Nightly, stable/iteration, and release builds available to the community

Community



- Open communications via 6 TPTP mailing lists and newsgroup
 - Low-noise news only list: tptp-news@eclipse.org
 - PMC, Groups, coordination, announcements, etc.: tptp-pmc@eclipse.org
 - Separate Committer mailing lists for each TPTP project: tptp-platform-dev, tptp-testing-tools-dev , tptp-tracing-profiling-tools-dev, tptp-monitoring-tools-dev
 - Improved Committer responsiveness to newsgroups
- Open and inclusive release planning and tracking processes
 - Bugzilla used to request and track all defects and enhancements
 - Additional reports (defects, tests, etc) used to enhance planning / tracking
- Coordination/cooperation between other Eclipse projects
 - Platform, BIRT (assigned TPTP Committer to BIRT), WTP, DSDP
- TPTP evangelism and outreach in the market & broader community
 - Continuing to drive adoption across other Eclipse projects and industry
 - Presence at EclipseCon 2006, Eclipse World 2006 & ST&P 2006



Intellectual Property

- Accepting Contributions (In-Bound Licensing)
 - All new code provided under [Eclipse Public License \(EPL\)](#)
 - Inclusion of 3rd-party (non-EPL) components approved by EMO
 - Project Log Updated
http://www.eclipse.org/tptp/home/project_info/releaseinfo/TPTP%20Project%20Log.htm
- Licensing Contributions (Out-Bound Licensing)
 - TPTP 4.3 provided under EPL
 - [about.html](#) / licenses are updated
- Due Diligence and Record Keeping
 - All TPTP Committers completed Committer Agreement & approved by PMC/EMO
 - PMC maintains list of all 3rd-party (non-EPL) components used by TPTP
 - EMO completed source scan and due diligence to confirm contributions

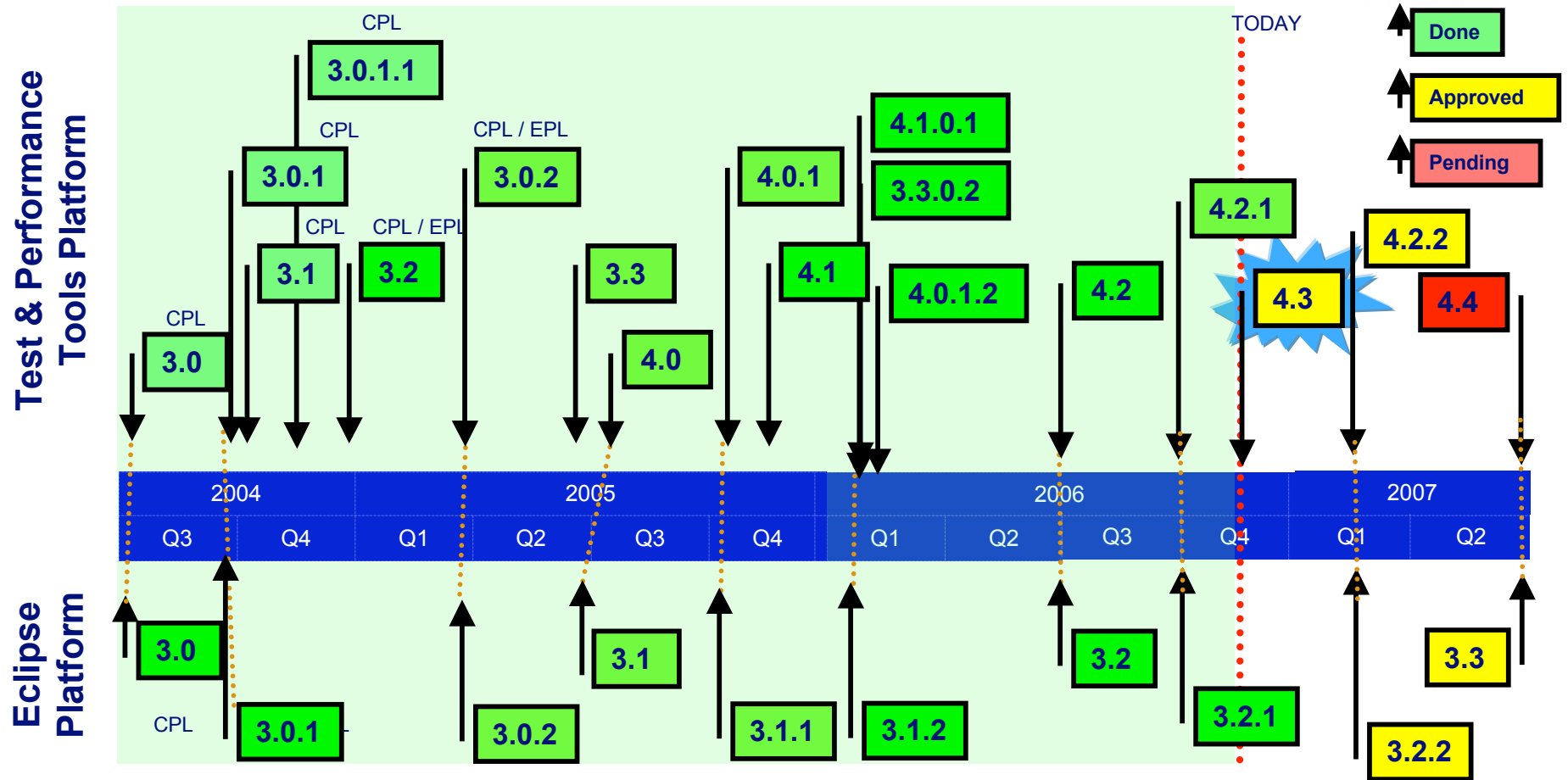
Eclipse Foundation IP Policy: http://www.eclipse.org/org/documents/Eclipse%20IP%20Policy2003_12_03%20Final.pdf

Project Plan



- TPTP 4.3 scheduled for Dec 6, 2006
 - Based on Eclipse Platform 3.2
- TPTP 4.2.1.1 maintenance release scheduled for Dec 5, 2006
- TPTP 4.2.2 maintenance release targeted for Feb 2007
 - Aligned with Eclipse Platform 3.2.2 maintenance release
- Targeting TPTP 4.4 for Jun 2007
 - Expecting to finalize plan Jan 2006 & commence development Dec 2006
 - Aligning with Eclipse “release train”

Project Plan: TPTP Roadmap



- TPTP 3.x, 4.[0|1].x and 4.[2|3].x releases are based on Eclipse Platform 3.0.x, 3.1.x and 3.2.x respectively
- CPL / EPL notations refer to the license(s) under which the release will be made; TPTP 3.3 and EP 3.1 and later are EPL only

Thanks and...



Feedback, Feedback, Feedback!

- **Please provide us with your feedback, requirements, issues**
- **Submit enhancement requests / defects in Bugzilla**
https://bugs.eclipse.org/bugs/enter_bug.cgi?product=TPTP
- **Submit questions / issues in the TPTP Newsgroup:**
<news://news.eclipse.org/eclipse.tptp>
- **Engage with the PMC to contribute:**
tptp-pmc@eclipse.org or individual PMC members at
<http://www.eclipse.org/tptp/groups/PMC/pmc.html>