

# TPTP 4.4 Release Review -- One Quick Foil



## **New and Improved**

- Microsoft Vista support; ARM/JMX/CBE instrumentation now GA
- JVMTI J2SE 5+ profiling enhanced and GA; better integration of JVMPI/JVMTI UI options
- Scalability improvements (test); New Log Analyzer extension points
- Agent controller updated (IAC replaced w/ new AC); Assorted stability/reliability improvements
- Some exciting tech previews (e.g., .NET build to manage); WSDM tooling tech preview to be hosted by COSMOS

## **API quality – Code continues to mature/stabilize**

- APIs are not changing significantly, a few new interfaces
- Internal APIs used – All issues resolved in 4.4 except [126584](#) (agreement w/ PDE team for now)
- Cleared out lots of “old” defects; code base is now more solid w/ more tests.
  - We uncovered more latent opportunities to further improve stability

## **End-of-life issues in this release**

- No APIs (TPTP, Hyades) deprecated in TPTP 4.4
- JVMTI is now the only profiler for J2SE 5+
- Only supported OSes: Windows/Linux... (other previously supported platforms in maintenance mode – help wanted)
- Deprecated a few tech previews (XRay and LineCoverage)

## **IP clearance and licenses in the code**

- Inclusion of 3<sup>rd</sup>-party (non-EPL) components approved by EMO
  - Project Log Updated [http://www.eclipse.org/tptp/home/project\\_info/releaseinfo/TPTP%20Project%20Log.htm](http://www.eclipse.org/tptp/home/project_info/releaseinfo/TPTP%20Project%20Log.htm)
- Outbound license EPL (of course)
- Continue due diligence (Committer Agreements, PMC maintains list of non-EPL components, EMO source scan)

## **Diversity of the committer population & Openness of Community**

- ~45 Committers plus a few Developers from 4 organizations
  - Continuing to recruit additional contributor (organizations and individuals) -- Help wanted
- Open communications/processes
  - 6 TPTP mailing lists and newsgroups
  - Quarterly F2F PMC+PG, Weekly PMC+PG, AG, Project, Component, etc.
  - Open use of Bugzilla to track defects/enhancements; Visibility of nightly builds to community



# Eclipse™ TPTP 4.4 Release Review

June 6, 2007

Eclipse TPTP PMC & Planning Group

# Introduction: TPTP 4.4 Release Review



## ■ Major Milestones

- Current release: 4.4 (June 15) ( part of Europa train)
- Prior releases: 4.3 (Dec'06), 4.2 (June'06), 4.1 (Nov'05), 4.0 (July'05), 3.3 (June'05), 3.2 (Dec'04)
- Next release: 4.5 (March/June '08) (based on EP 3.4)
- Release alignment
- Moved to bi-annual releases starting from 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 4.4 Requirements Process



- The 4.4 enhancement plan has been split into two stages:
  - Stage 1 - a specific set of tech preview and long term efforts that can be identified, sized and approved right away
  - Stage 2 - a longer process, ongoing incremental enhancement requests to existing components
- Common plans for Stage 1 and Stage 2:
  - November 8 – December 1, 2006
    - Determine requirements from community input:
      - New enhancements.
      - Voting against Bugzilla enhancements.
  - December 4 – December 8, 2006
    - Themes and priorities updated for 4.4 by the Requirements Group
- Stage 1 enhancements:
  - PG: estimate resource availability and advice PL (used to calibrate list of enhancements) (Nov 27-Dec 6)
  - AG: Architectural analysis and cost estimates, preliminary priorities (Dec 2-8, 2006)
  - PG: Develop Feature Plan (resource allocation) (Dec 7-13, 2006)
  - Community Review of the Plan (Dec 13-20, 2006)
  - Publish final Plan (Dec 20 2006)
- Stage 2 enhancements:
  - PG: estimate resource availability and advice PL (used to calibrate list of enhancements) (Dec 8 2006)
  - AG: Architectural analysis and cost estimates, preliminary priorities (Dec 11– Dec 29, 2006)
  - PG: Develop Feature Plan (resource allocation) (Jan 2–5, 2007)
  - Community Review of the Plan (Jan 8 –19, 2007)
  - Publish final Plan (Jan 22<sup>nd</sup> 2007)
- December 13, 2006 – December 20, 2006:
  - Community review of TPTP 4.4 draft plan.
- December 20, 2006:
  - Approval and announcement of TPTP 4.4 final plan.

# Features: TPTP 4.4 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. Performance and usability improvements by replacing the Integrated Agent Controller (IAC) with the new Agent Controller.
  - **Simple to Use:** Enhanced UI and simplified user experience by integrating JVMPI and JVMTI profiling options, tutorials, white papers, demonstrations, and usability improvements.
  - **Appealing to Broader Community:** JVMTI profiling support and Monitoring Instrumentation moved to GA in 4.4. Vista support.
  - **Design for Extensibility: Be a Better Platform:** Externalized APIs, defined extension points, improved flexibility and extendable functionality (e.g. Log Analyzer RCP).

# Features: TPTP 4.4 Key Feature Set



- **Platform Project :**
  - Microsoft Vista support
  - Replace Integrated Agent Controller (IAC) with the new Agent Controller
  - JVMTI support moved to GA; better integration of the JVMPi and JVMTI UI options
  - New Log Analyzer extension points
  
- **Test Project:**
  - Scalability improvements for the Test tool.
  
- **Trace Project:**
  - JVMTI profiling views
  - ARM/JMX/CBE instrumentation moved to GA.
  
- **Monitoring Project:**
  - Monitoring Instrumentation tooling moved to GA
  - Build to manage tooling for .NET (tech preview)
  - MOVED TO COSMOS -- WSDM tooling usability improvements (tech preview)

# Features: Responding to the Community



- **Eclipse Integration:**
  - Vista support.
- **Rich Client Platform:**
  - Log Analyzer extension point.
- **Performance improvements:**
  - Replace Integrated Agent Controller (IAC) with the new Agent Controller
  - Test tool performance improvements by using a virtual tree representation in the Test editors.
- **Usability Improvements:**
  - Improved integration of the JVMTI and JVMPI profiling options
  - Improved user experience by replacing IAC with the new AC
  - MOVED TO COSMOS -- WSDM tooling usability improvements (tech preview)
- **Profiler:**
  - JVMTI (JSR 163) support moved to GA.

# Non-Code Aspects: Documentation & Examples

- TPTP 4.4 download includes online documentation
  - Created by professional technical writers
- Tutorial & presentation materials available on [www.eclipse.org/tptp](http://www.eclipse.org/tptp)
  - Current: Eclipse World 2006 & 2005, ST&P 2006 & 2005, EclipseCon 2007, 2006 & 2005, Eclipse Summit 2006
- TPTP 4.4 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 4.4 (last updated for 4.3)
- Continuing incremental improvements/updates to TPTP website and download page
  - [www.eclipse.org/tptp](http://www.eclipse.org/tptp)



# Non-Code Aspects: Communications



- Article Placement
  - [Using TPTP to Automate Functional Testing](#) – Article
    - Govin Varadarajan & Kim Letkeman
- Conferences
  - EclipseCon 2007: 1 long tutorial, 2 short tutorials, 5 long talks, 2 short talks, 2 posters, 2 demos, 1 BO
- Community outreach for 4.4 release
  - Mentoring of COSMOS project
  - Engagement discussions with WindRiver to contribute to TPTP
  - Europa PR campaign
  - News alert on TPTP website
  - Postings on popular Eclipse websites and blogs

# APIs: Status of TPTP 4.4 Content



Name	API Type	Doc Status	Test Cases	# of Clients	Backward Compatible	Maturity
IAC based on new AC	Platform package Provisional	Overview Examples & javadoc	Yes	2	New	High Main stream
Monitoring instrumentation	Platform package provisional	Overview Examples & javadoc	Yes	1	New	High Main stream

## • internal api usage

- [126575](#) – worked with PDE team and this is almost fixed during 4.3; ongoing work for the remaining issues – **fixed in 4.4**
- [126584](#) – worked with PDE team; patch provided on 3.3M2; - **fixed in 4.4**; remaining 2 internal code usage with agreement not to be changed without notification
- [142103](#) – WTP API and extensions required for the profile on server functionality - **fixed in 4.4**
- [162562](#) – fastXPath engine uses internal JDt code – **fixed in 4.4**
- [161932](#) – WSDM tools tech preview (MOVED TO COSMOS) uses a few wst internal classes – **fixed in 4.4**

## • Late in TPTP 4.4 (at I3), during Java Doc updates:

- Discovered an anomaly [179721](#) in our API changes “diff report” that helps us track what and how APIs have changed.
- API changes above are based on project lead feedback rather than automated diff reports.
- We plan to resolve our infrastructure issues around API reporting in 4.4.1

## 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 on 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
  - Continue using TPTP profiler to locate memory leaks and performance problems
- Continued work on tech previews
  - Monitoring Instrumentation and JVMTI 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 4.4
- JVMTI has been moved to GA in 4.4 and will replace JVMPI for applications running on J2SE 5 or higher
- The list of platforms supported by TPTP runtime has dropped to Windows and Linux only.
  - The rest of previous supported platforms will remain in maintenance mode with no enhancement plans until there is a larger community demand backed by committer resources

# Bugzilla Statistics



## Target Milestone

Defects	---	4.2.2	4.3.1	4.4i1	4.4i2	4.4i3	4.4i4	future	Total
NEW	12					1	117	574	692
ASSIGNED							78	332	410
REOPENED							6	22	28
RESOLVED		62	27	246	219	486	78		1118
VERIFIED				6	3	19	2		30
CLOSED		6	5	69	68	160	20		328
Total	12	68	32	321	290	666	301	926	2618

Parallel Development

Bug statistics as of May 29, 2007

- 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 4.4 statistics ( including parallel fix releases )
  - 1476 bugzilla defects resolved in 4.4 – approx 450 more defects than 4.3
    - ~370 defects per iteration ( 421/i1, 290/i2, 663/i3, 100/i4)
  - 54 feature enhancements integrated in 4.4 – 62 in 4.3

# Standards



- Provide exploitation of
  - JMX
  - ARM
  
- Provide a common engine for the use of
  - The above standards
  - JVMTI – to replace JVMPI in J2SE 5 and higher



# Schedule

- Currently In the TPTP 4.4 final iteration leading to GA declaration
  - Release consisted of three 6/7-week development and one 4-week shut-down iterations
  - Every iterations is aligned with Europa +2 Simultaneous Releases

Key Dates	
<b>Jan 1, 2007</b>	Commenced TPTP 4.4 development
<b>Feb 9, 2007</b>	Released TPTP 4.2.2 Callisto Maintenance releases
<b>Feb 19, 2007</b>	Released TPTP 4.3.1 release
<b>Feb 23, 2007</b>	Completed TPTP 4.4 Iteration 1
<b>Apr 6, 2007</b>	Completed TPTP 4.4 Iteration 2
<b>May 15, 2007</b>	Completed TPTP 4.4 Iteration 3 (RC0)
<b>Jun 15, 2007</b>	Target for TPTP 4.4 Iteration 4 Completion (RC)
<b>Jun 29, 2007</b>	Target for TPTP 4.4 GA (Supporting Eclipse Platform 3.3)





# Process

- ~45 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](mailto:tptp-news@eclipse.org)
  - PMC, Groups, coordination, announcements, etc.: [tptp-pmc@eclipse.org](mailto:tptp-pmc@eclipse.org)
  - Separate Committer mailing lists for each TPTP project: [tptp-platform-dev](mailto:tptp-platform-dev), [tptp-testing-tools-dev](mailto:tptp-testing-tools-dev) , [tptp-tracing-profiling-tools-dev](mailto:tptp-tracing-profiling-tools-dev), [tptp-monitoring-tools-dev](mailto: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 2007, planned participation to Eclipse World 2007



# Intellectual Property

- Accepting Contributions (In-Bound Licensing)
  - All new code provided under [Eclipse Public License \(EPL\)](#)
  - Inclusion of 3<sup>rd</sup>-party (non-EPL) components approved by EMO
    - Project Log Updated  
[http://www.eclipse.org/tptp/home/project\\_info/releaseinfo/TPTP%20Project%20Log.htm](http://www.eclipse.org/tptp/home/project_info/releaseinfo/TPTP%20Project%20Log.htm)
- Licensing Contributions (Out-Bound Licensing)
  - TPTP 4.4 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 3<sup>rd</sup>-party (non-EPL) components used by TPTP
  - EMO completed source scan and due diligence to confirm contributions

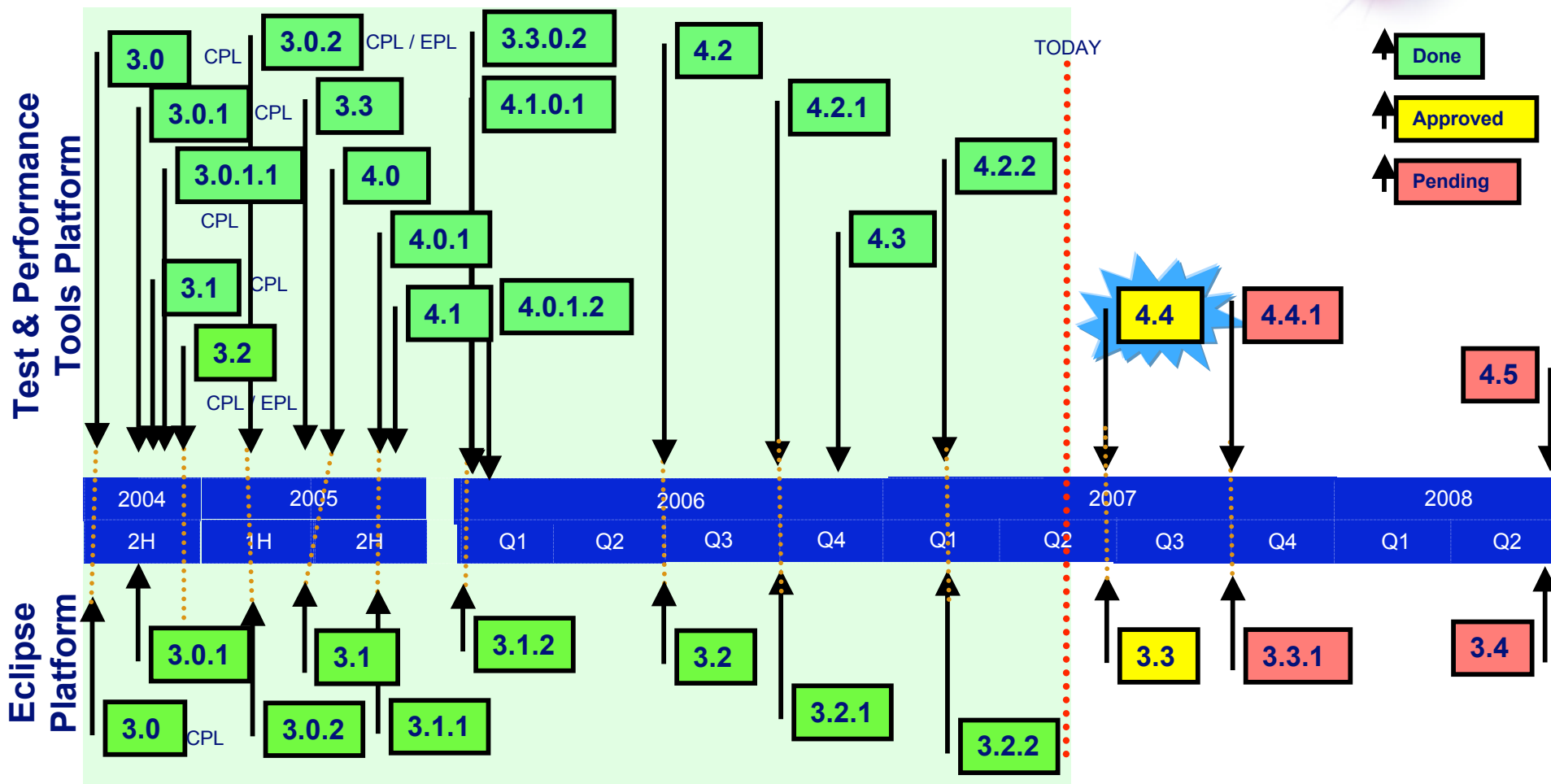
Eclipse Foundation IP Policy: [http://www.eclipse.org/org/documents/Eclipse%20IP%20Policy2003\\_12\\_03%20Final.pdf](http://www.eclipse.org/org/documents/Eclipse%20IP%20Policy2003_12_03%20Final.pdf)

# Project Plan



- TPTP 4.4 scheduled for June 2007
  - Based on Eclipse Platform 3.3
- TPTP 4.4.1 maintenance releases targeted for Sept 2007
  - Aligned with Eclipse Platform 3.3 maintenance release
- Targeting TPTP 4.5 for March/June 2008
  - 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](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](mailto:tptp-pmc@eclipse.org) or individual PMC members at  
<http://www.eclipse.org/tptp/groups/PMC/pmc.html>