



Eclipse Test & Performance Tools Platform Project Request for Board Approval

Mike Milinkovich
Eclipse Executive Director

Introduction



- Proposal to Create New Eclipse Top Level Project
- Eclipse Test & Performance Tools Platform Project
 - Mission is to build a generic, extensible, standards-based tool platform upon which software developers can create specialized, differentiated, and interoperable offerings for world class test and performance tools
- Promotion and expansion of current Eclipse Tools Hyades Project

Project Scope



- Extends the family of Eclipse technologies
- Provides open development platform
- Benefits test & performance tools throughout lifecycle
 - e.g., testing, tracing/profiling, tuning, logging, monitoring, analysis, autonomics, administration, etc.
 - But, not development tools such as optimizing compilers
- Supports a spectrum of standalone-through-distributed and embedded-through-enterprise systems
- Delivers exemplary and extensible tools that support development, verification, and use of the platform

Projects



- Hyades Platform Project
 - Provides common subsystems (user interface, EMF models, data collection and communication infrastructure, execution environment) and extension points for leveraging or extending them in solution specific tooling or runtime

- Hyades Test Tools Project
 - Extends the Platform for testing (e.g. test editors, trace/test conversion support), and exemplary extensible tools for specific testing environments. Initially this includes three test environments: JUnit, manual, and URL testing

- Hyades Tracing and Profiling Project
 - Extends the Platform with specific data collection for Java and distributed applications that populate the common trace model, additional language and protocol support is anticipated. There are also viewers and analysis services that draw data from the common trace model.

- Hyades Monitoring Project
 - Extends the Platform for collecting, analyzing, aggregating, and visualizing data that can be captured in the log and statistical models

Amendments to Standard Charter



- Proposed project charter includes various changes to standard template
- All changes comply with Eclipse Bylaws and Development Process
- Changes developed in an open environment with multiple vendors
- Based on experience executing diverse, multi-vendor Hyades project

- Primary changes include:
 - Added mirror of Eclipse Requirements, Architecture & Planning Committees
 - Outward looking requirements processes tied to Eclipse Req'ts processes
 - Resource feasible planning process (plans bind contributors, project lead accountability, comprehensive plans including test, documentation, etc.)
 - Cross-project architecture alignment and strengthening of committer role
 - Misc. minor corrections to align with Bylaws/Development Process finalized after standard charter template defined

Project Values



■ Extension of the Eclipse Value Proposition

- The Eclipse Project has set a high standard for technical excellence, functional innovation and overall extensibility within the universal tool platform domain. We intend to apply these same standards to the test & performance tools platform domain.

■ Vendor Ecosystem

- A major goal of this project is to support a vital application development tools market. Its exemplary functionality will be useful on its own but it will be designed from the start to be extensible so commercial vendors can use what this project delivers as a foundation for their own product innovation and development efficiency.

■ Vendor Neutrality

- Vendor neutrality will be at the core of this project. We aim to encourage Eclipse participation and drive Eclipse market acceptance by strengthening the long-term product value propositions of the widest possible range of application development vendors.

■ Standards-Based Innovation

- This project will deliver an extensible, standards-based tooling foundation on which the widest possible range of vendors can create value-added development products for their customers and end-users. Where standards exist, we will adhere to them. At least, at first, where standards are emerging, we will wait for them to emerge; this can be re-evaluated later according to user needs and contributor availability. Where multiple technologies are widely used for a given functional need, we will attempt to support each, subject only to technical feasibility and our goal of providing the most capable and extensible foundation long term.

■ Agile Development

- Our aim is to incorporate into our planning process the innovations that arise once a project is underway, and the feedback from our user community on our achievements to date. An agile development and planning process, in which progress is incremental, near-term deliverables are focused, and long-term planning is flexible, will be the best way to achieve this.

■ Inclusiveness & Diversity

- We aim to assimilate the best ideas from the largest number of participants representing the needs of the widest range of end-users. So we will encourage organizations across a broad range of technical, market and geographical domains to participate in this project.

Interested Participants*



Organization	# Contributors	Key Areas of Contribution
IBM	52	Project Lead, Architecture, Developers/Committers, Test, Documentation
Intel	12	PMC/Project Lead, Architecture, Developers/Committers, Test, Documentation, Marketing
Scapa Technologies	8	Project Lead, Developers/Committers, Documentation, Communications
SAP	2	Planning, Developers, Documentation
FOKUS	Pending	Pending
Compuware	Pending	Pending

* Efforts continuing to recruit additional contributing and consumer organizations/individuals.

Tentative Roadmap



Release	Date	Key Features
Hyades 3.0	6/30/04	Enhanced/extended data models, Java performance profiling, trace agents, and probe insertion kits, test execution samples, statistics performance data collection, Apache log collection agents, data model editors and viewers
Hyades 3.0.1	9/16/04	Bug fixes
<i>Hyades 3.1*</i>	<i>9/30/04</i>	<i>Additional data collectors, documentation, tutorials, bug fixes, future feature specifications</i>
<i>Hyades 3.2*</i>	<i>12/30/04</i>	<i>Extensive data collection and communication enhancements, trace model enhancements, 64-bit support, Java 1.5, RCP, additional data collectors</i>
<i>Hyades 3.3*</i>	<i>3/30/05</i>	<i>JUnit derivatives support, test management enhancements, static code analysis, cross-model associations, additional data collectors, reliable data transport, C++/.Net trace model support</i>
<i>Hyades 4.0*</i>	<i>6/30/05</i>	<i>U2TP/UML2 adoption, additional data collectors, JVMTI, improved sample tools, UI interface, dynamic deployment/config, team support, generic test execution</i>

* Final features and dates for releases 3.1+ pending resource confirmations and planning finalization.

Summary of Membership-At-Large Feedback



■ Overview

- Proposal distributed 7/14 to Membership-at-Large via eclipse.org for feedback
- PMC designates responded to all feedback offering clarifications, etc.
- Resulted in about 35 newsgroup posts and email messages
- Feedback supportive and positive

■ Contributions

- Various parties expressed interest in leveraging / contributing to the project
- Each request will be pursued further during kick-off and future planning

■ Project Goals and Scope

- Received various requests for scope clarification (e.g., Will this project focus on testing Eclipse itself? (This project won't, but hopefully the platform will))

■ Requirement Requests

- Received various requirements requests (e.g., support for C/C++, static tests, analytical performance evaluation, large-scale hardware testing)
- Some requests already comprehended in future plans; others require continued discussion/evaluation

No Objections to Proposal were indicated from Membership-at-Large



Next Steps

- Board Approval (today?)

- Communication
 - Membership-at-Large (Aug 2)
 - Press Release (Aug 2)
 - Analyst/Editor interviews (on-going)
 - Linux World launch activities (Aug 2-5)

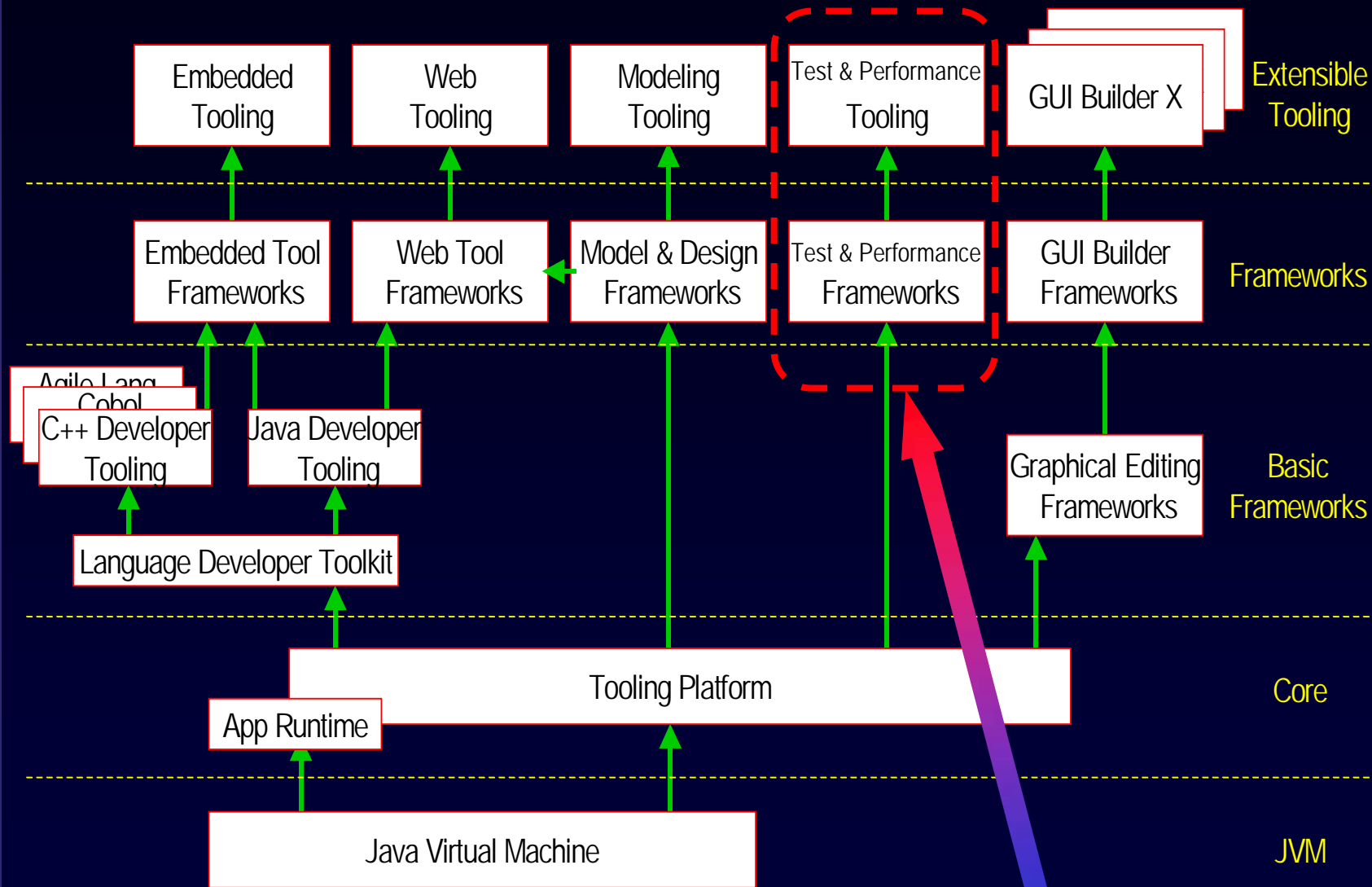
- Formally Establish Project
 - Designate PMC and Committers (Aug)
 - Establish project website (asap)
 - Project kick-off face-to-face (Aug)

- Project planning and execution
 - Ensure timely delivery of Hyades 3.0.1 release (Sept 16)
 - Finalize plans and contributions for future releases



Backup

Eclipse Tooling Architecture: Layers & Subsystems



**Test & Performance Tools
Platform Project Focus**

PMC Designates



- **Tyler Thessin** - Engineering manager for Intel Software Development Products, namely Intel VTune Performance Analyzers, at Intel Corporation. He is responsible for common tools infrastructure for performance analyzers and threading tools. He started with Intel in 1993 working on software development tools then participated in managing several new business opportunities around video conferencing and enterprise hosting and Internet streaming media solutions before returning to managing software performance tools products. Tyler has been leading the creation of this proposal and is offering to lead the PMC and the Hyades Platform project.
- **Mike Norman** - CEO and founder of a specialist load testing software tools vendor known as Scapa Technologies which was founded in 1998 and is based in Edinburgh, Scotland. In 1990, Dr. Norman co-founded the Edinburgh Parallel Computing Centre at the University of Edinburgh where he led the Centre's Research Group. From 1994 to 1999, he founded and ran a specialist IT consultancy and analyst company, Makespan Ltd. Dr. Norman holds a BSc degree in Physiology from the University of London, and both an MSc in Artificial Intelligence and a PhD in Computer Science from the University of Edinburgh. His specialist interest is the scalability and performance of server-based computer systems, an area in which he is the author of dozens of scientific papers. Dr Norman initiated the original Eclipse Hyades project at the Eclipse Board of Stewards in September 2002 and led it through to Version 3.0 in June 2004. During 2004 he worked with a broad range of stakeholders to propose an Eclipse PMC for Test and Performance which would incorporate the Hyades project. Mike is offering to join the project PMC in a coordination and communication role, and as Project Lead for the Hyades Test Tools Project.
- **Harm Sluiman** - Senior development manager for Autonomic Computing tools as well as Rational Test and Performance Tools at the IBM Toronto Lab. He was responsible for database, test, trace and performance tooling in WebSphere Studio. He is an IBM Senior Technical Staff Member, a member of the Canadian Excellence Technical Community, an affiliate of the IBM Academy of Technology, and an initial member of the original Eclipse Hyades project. He has written several articles on test and performance tooling, as well as contributed to several OMG RFPs related to data access, and has been a frequent speaker at conferences. He has been an IBM employee since 1974 starting in the hardware and microcode support area, before spending time in the field before moving to R&D. Prior to working on WebSphere Studio, he was the lead for distributed processing and database tooling for VisualAge for C++. He was a contributor to JSR 47 and JSR 165, and holds many patents in the areas of data model, test tools and performance analysis. Harm is offering to join the project PMC with an architecture role.
- **Serge Lucio** - Senior Product Manager at IBM Rational, focusing on Automated Software Quality products' strategy. Since 2001, he has been leading the creation of the UML 2 Testing Profile at the Object Management Group and driving its adoption in the industry. Prior to that, Serge worked as a consultant, helping organizations improve their test and verification practices for automotive, aerospace and telecom systems. Serge is offering to join the project PMC as Project Lead for the Hyades Tracing and Profiling Tools and Hyades Monitoring Tools projects.

Hyades 3.0 GA – June 2004



■ Description

- An integration framework and extensible core tools for testing, tracing, profiling, logging, and monitoring application systems
- Support for the entire project lifecycle from development and deployment through production

■ Key Capabilities Delivered

- Eclipse Modeling Framework based implementations of data models for trace, log, statistical data, test execution history and tests (including early implementation of OMG U2TP Test Profile standard)
- Extensive Java performance profiling support for local and distributed applications
- Sample test execution engines for JUnit, HTTP URL, and manual testing environments
- Statistical performance data collection agents for Microsoft environments
- Apache log collection agents
- Java trace agents and Java probe insertion kits
- An integrated extensible framework of generic interoperable data model editors and viewers