



parallel tools platform

<http://eclipse.org/ptp>

Improving the Eclipse Parallel Tools Platform to Create an Effective Workbench for High Performance Computing

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SC12 Eclipse PTP Birds of a Feather

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Outline

- ★ Overview of WHPC: NSF-funded SI2-SSI project to produce a productive and accessible development workbench using Eclipse PTP
 - ★ Determining Requirements, Ensuring Impact
 - ★ Improvements to Eclipse PTP
- ★ Community Engagement Opportunities
 - ★ Science Stories
 - ★ Monthly User Meetings
 - ★ Annual User/Developer Meetings
 - ★ User Advisory Board

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Why WHPC?

- ★ Stable, portable platform for tool development
 - ★ Focus on tool functionality, manage rapid evolution of HPC platforms
 - ★ Encourage consistent tool look and feel
 - ★ Support for HPC application development practices
 - ★ Edit, build, test, debug, maintain, for maximum developer productivity
 - ★ Remote development, batch execution mandatory
 - ★ Track, store, search, browse code artifact provenance
 - ★ Share tool functionality through an integration framework
 - ★ Maintain tool identity
 - ★ Provides for independent tool development pathways and funding

Why Parallel Tools Platform?

- ✦ High potential to meet needs of a WHPC.
- ✦ Target next generation of HPC developers growing up with IDEs (Eclipse, Visual Studio, ...)
- ✦ For PTP to become a WHPC need to:
 - ✦ Cultivate community of users
 - ✦ Make substantial improvements to PTP around two themes:
 - ✦ Improving usability
 - ✦ Improving productivity

Requirements and Impact

- ✦ Application-centric approach
 - ✦ Use real application codes, with PTP, on production computational resources
 - ✦ Identify specific goals to accomplish with each application
 - ✦ Use Eclipse PTP to accomplish the goals
 - ✦ Identify shortcomings in Eclipse PTP that need to be rectified for Eclipse PTP to be effective with that application workplan
 - ✦ This is part of our project team's responsibility
 - ✦ Work with application community and learn from their experience with Eclipse PTP

Requirements and Impact (2)

- ★ Application-centric approach
 - ★ Work with application community and learn from their experience with Eclipse PTP
 - ★ Bridge to TeraGrid and (now) XSEDE Advanced User Support
 - ★ Work with targeted organizations to assist with adoption of PTP
 - ★ Monthly user calls
 - ★ Annual user group meeting
 - ★ Hands on tutorials
 - ★ Conference Birds of a Feather

Improvements

- ✦ Work within Eclipse release cycle
 - ✦ Major (API-breaking) improvements with coordinated June release
 - ✦ Last major release Eclipse 4.2 "Juno" released June 27, 2012
 - ✦ Minor enhancements and bug-fixes with two coordinated service releases in September and February
 - ✦ Eclipse 4.2 SR1 released Sept 28, 2012
- ✦ Foci of improvements
 - ✦ Improve usability
 - ✦ Improve productivity

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Community Engagement Opportunities

★ Science Stories

- ★ Has the Parallel Tools Platform helped you achieve new science? (and if so, how?)
- ★ What can we do to improve PTP to help you achieve your science goals?
- ★ What can we do to help you use PTP more effectively to achieve your science goals?
- ★ All achievements welcome/needed!

Community Engagement Opportunities

- ✦ Monthly User Meetings
 - ✦ 1 hour, short web presentation and discussion
 - ✦ http://wiki.eclipse.org/PTP/PTP_User_Meetings
 - ✦ Would like your input on what you would like to discuss!
- ✦ Annual User/Developer Meeting
 - ✦ 2-3 day face to face meeting/workshop
 - ✦ User meeting followed by developer meeting
 - ✦ Last workshop: Sept 2012, Chicago, IL
 - ✦ http://wiki.eclipse.org/PTP/workshops/September_2012

Community Development Opportunities

- ★ User Advisory Board
 - ★ Interest expressed in forming a formal User Advisory Board
 - ★ Meet (by phone, most likely) quarterly
 - ★ Consider set of questions, request recommendations to guide development
 - ★ Formal process for gathering input, advice for future PTP releases
 - ★ Interest in participating in this activity?

Getting Involved

- ★ See <http://eclipse.org/ptp>
- ★ Read the developer documentation on the wiki
- ★ Join the mailing lists
- ★ Attend the monthly developer meetings
 - ★ Conf Call Monthly: Second Tuesday, 1:00 pm ET
 - ★ Details on the PTP wiki
- ★ Attend the monthly user meetings
 - ★ Teleconference Monthly
 - ★ Each 4th Wednesday, 2:00 pm ET
 - ★ Details on the PTP wiki

PTP will only succeed with your participation!