parallel tools platform

sc11 user group meeting

Outline

- Overview of PTP

- PTP Status

- Development Activities

- Questions/Comments/Feedback

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Overview

- ## The Parallel Tools Platform aims to provide
  - A highly integrated environment specifically designed for parallel application development
  - Based on Eclipse

- ## Features include:
  - A workbench that supports a wide range of parallel architectures and runtime systems
  - A scalable parallel debugger
  - Parallel programming tools for MPI and OpenMP
  - Remote development tools
  - Multiple languages, including C, C++ and Fortran
  - Support for the integration of other parallel tools

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Development Lifecycle

Coding & Static Analysis
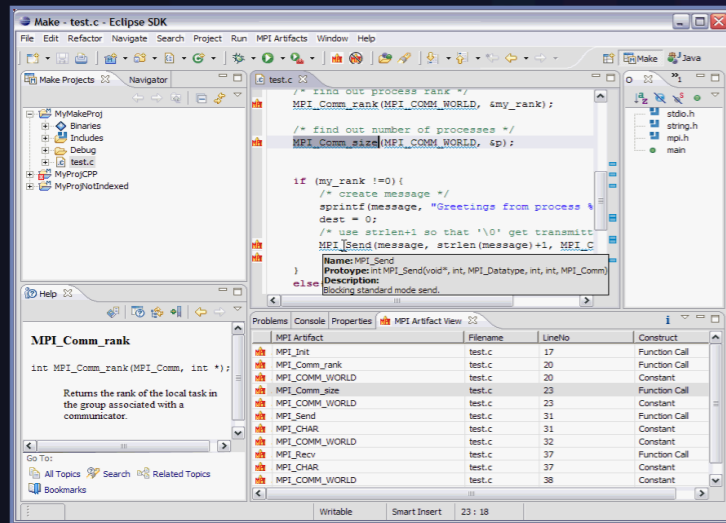
Launching & Monitoring
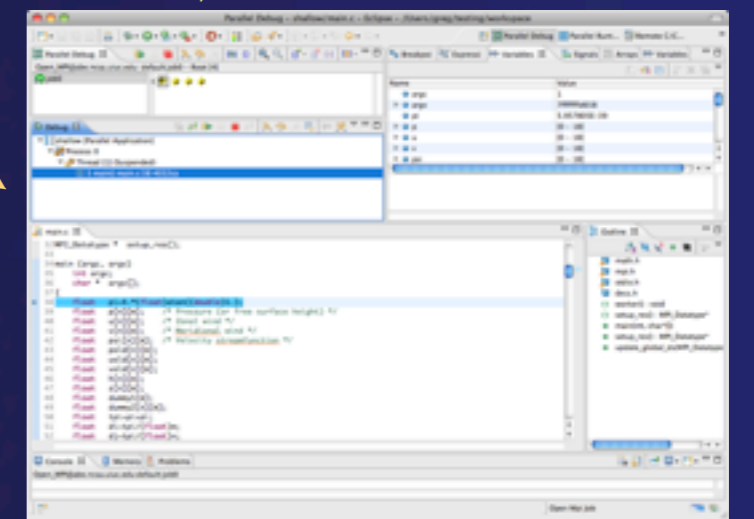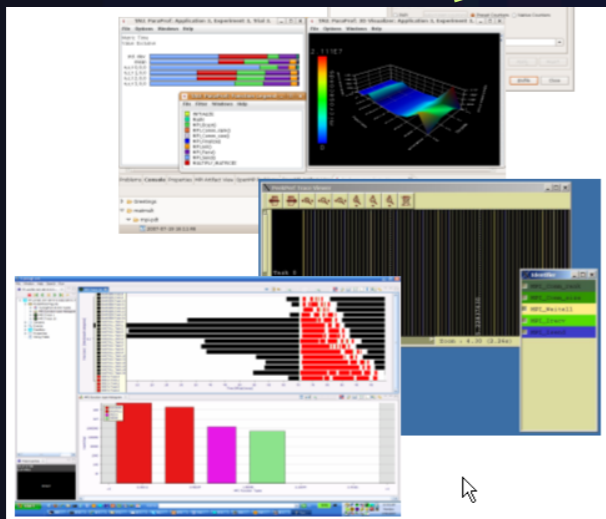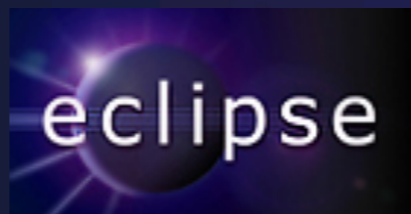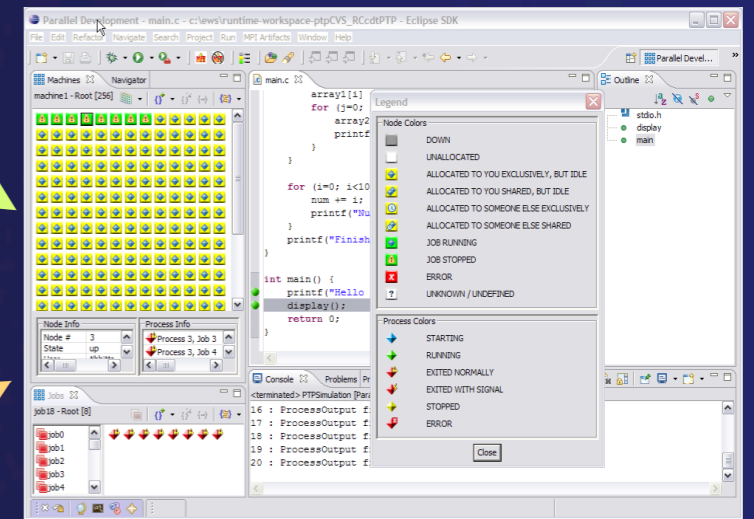
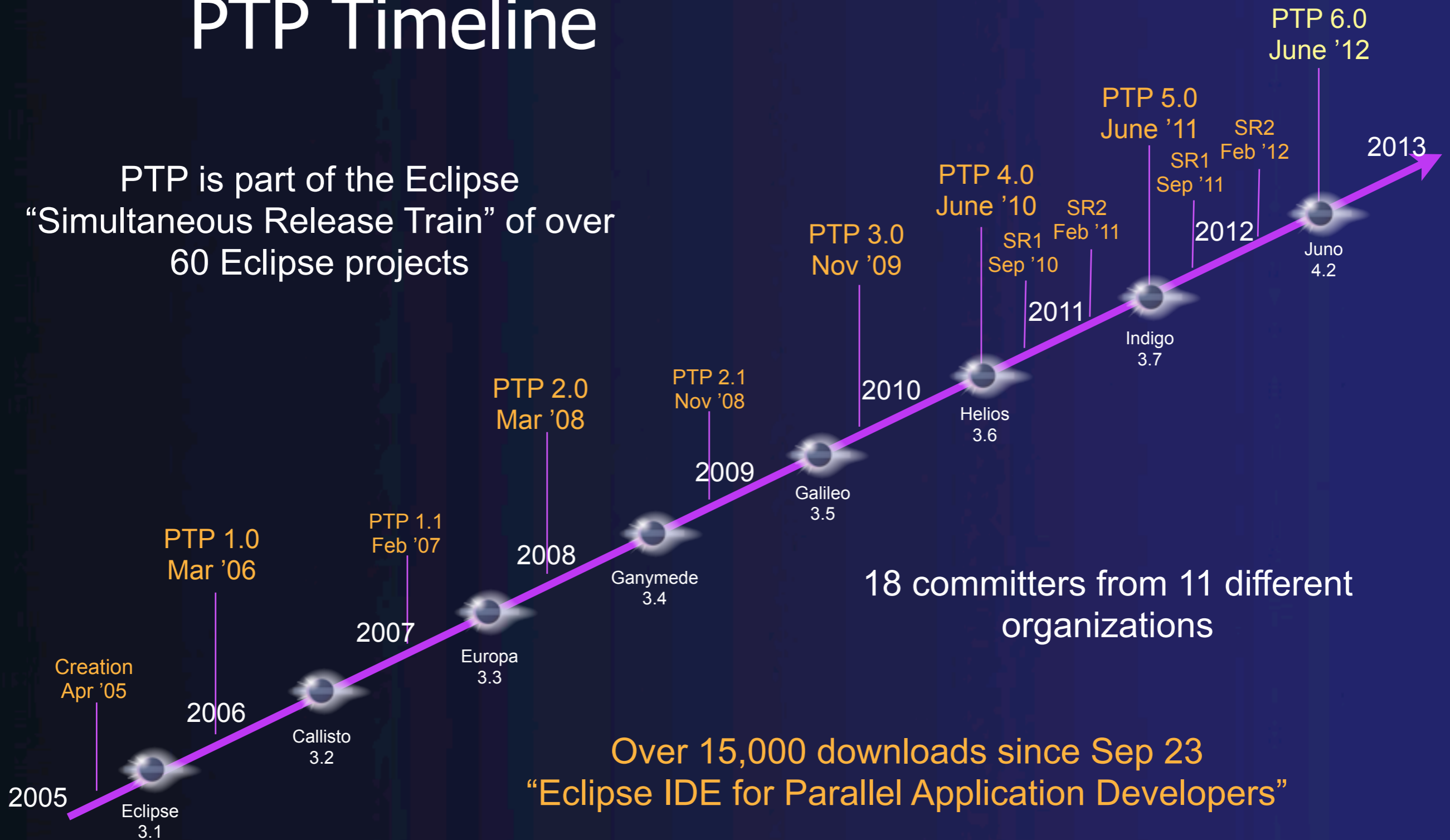**Performance and Dynamic Analysis**

Debugging

Contributors/Collaborators

- IBM (Core, PLDT, Scaling)
- U. Oregon (TAU)
- NCSA (PBS, HPC Workbench)
- U. Utah (GEM)
- U. Florida (PPW)
- JSC (UI Scaling)
- LANL (Core Scaling)
- ORNL/UTK (PBS, Sync)
- Monash U. (Debugging)

PTP Timeline

PTP is part of the Eclipse
"Simultaneous Release Train" of over
60 Eclipse projects

18 committers from 11 different
organizations

Over 15,000 downloads since Sep 23
"Eclipse IDE for Parallel Application Developers"

PTP 6.0
June '12

PTP 5.0
June '11

SR2
Feb '12

SR1
Sep '11

2013

PTP 4.0
June '10

SR2
Feb '11

2012

PTP 3.0
Nov '09

SR1
Sep '10

Juno
4.2

2011

Indigo
3.7

PTP 2.1
Nov '08

2010

Helios
3.6

PTP 2.0
Mar '08

2009

Galileo
3.5

PTP 1.1
Feb '07

2008

Ganymede
3.4

PTP 1.0
Mar '06

2007

Europa
3.3

Creation
Apr '05

2006

Callisto
3.2

2005

Eclipse
3.1

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Year in Review

- PTP 4.0 Helios release

  – SR2 February 2011

- PTP 5.0 Indigo release

  – GA June 2011

  – SR1 September 2011

- EclipseCon '11

- Virtual School for Computational Science and Engineering tutorial

- TeraGrid '11 tutorial and BOF

- W-HPC user group meeting

- Monthly user group meetings

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Future Releases

- ## PTP 5.0 service releases
  - – SR2 February 2012

- ## Next major release will be Juno in June 2012
  - – PTP 6.0/Photran 8.0
  - – Juno will be based on Eclipse 4.2

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What's coming in PTP 6.0

- Updated Eclipse support (Eclipse 4.2/CDT 9.0)
- Core and UI scalability improvements
- Usability improvements
- Improvements to synchronized project support
- Resource managers, resource managers, resource managers...

Eclipse 4.x/e4

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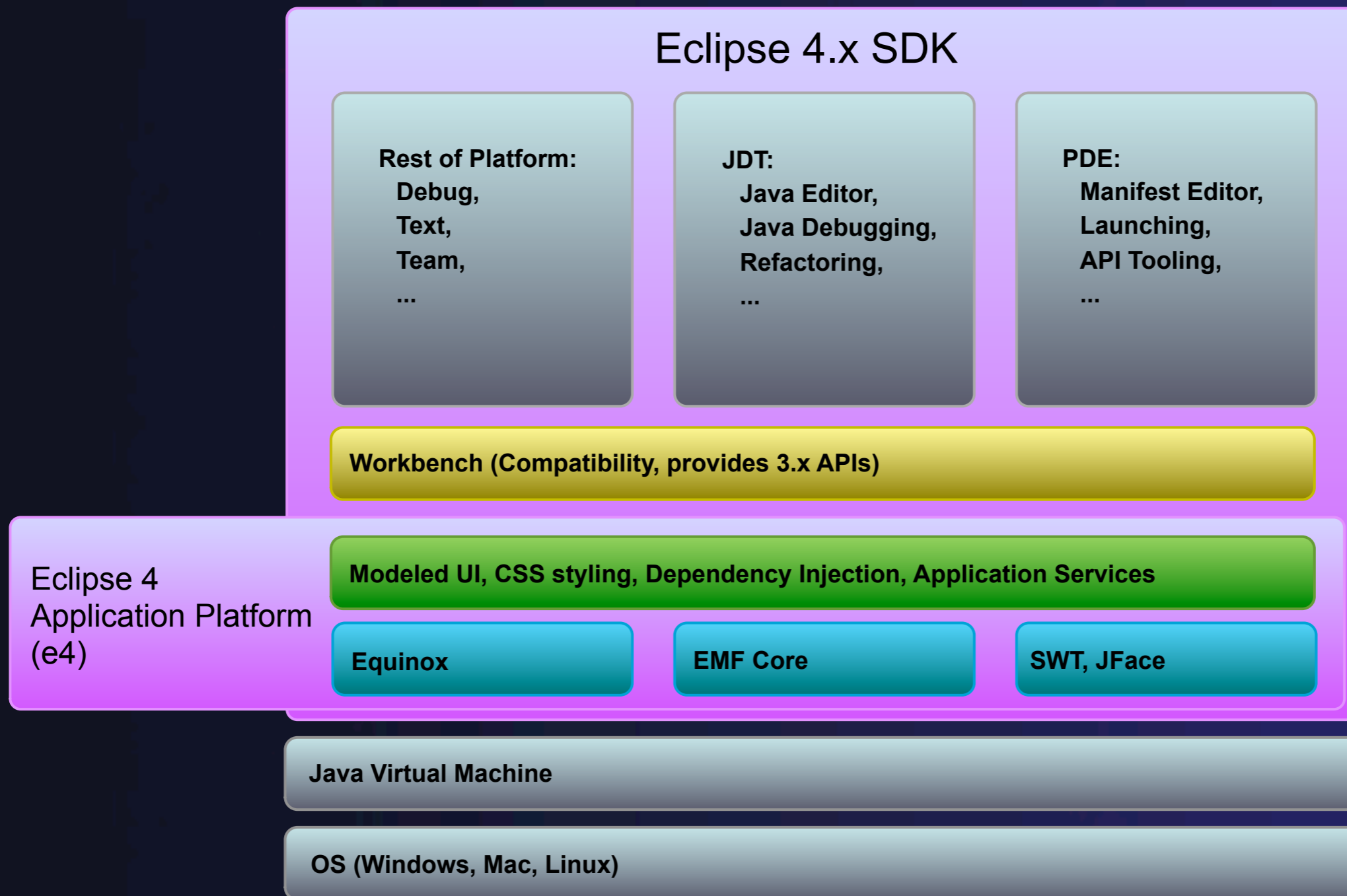
Why e4?

- Fix issues in 3.x that limit use

  - More flexible resource model

- Make it easier to build and deploy plug-ins

  - Non-Java plugins (initially JavaScript)

  - Scripting

  - Eclipse Application Model (well defined set of services)

- Improve styling capabilities (DOM, CSS)

  - Separate appearance from content

  - Allow look of Eclipse to be changed

- Bring Eclipse to the web

  - Eclipse in a browser

Development Activities

- Wolfgang Frings, Jülich
- Roland Schulz, ORNL
- Simon Wail, IBM

Q & A

- What other improvements would you like to see?
- How can we grow the project?
- How can we secure more funding?