



parallel tools platform

release 2.0 and beyond...

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New Features (not guaranteed!)

- Runtime
- Debugging
- Remote services
- Scalable Tools Communication Infrastructure (STCI)

New resource manager support

The screenshot displays the Eclipse IDE interface for PTP Runtime. The main window is titled "PTP Runtime - shallow/main.c - Eclipse SDK". The interface is divided into several panels:

- Resource Managers:** Shows a list of resource managers: BGW@Yorktown (Blue Gene), Local Cluster (ORTE) (selected), and PERCS_LL@Poughkeepsie (LL).
- Machines:** Shows the "Local Cluster: greg-watsons-computer.local - Root [32]". It displays a grid of 32 green squares representing nodes. Below this, there are two sub-panels:

Attribute	Value
Name	node2
Node Number	2
Node State	UP

 and "Process Info" showing "job02:2".
- Jobs:** Shows "Local Cluster: default:job02 - Root [5]". It displays a single job "job02" with five green arrows indicating its progress.
- Code Editor:** Displays the source code for "main.c". The code includes a header section with copyright information for the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and a description of the "Shallow water weather model - Distributed Memory Version". It also includes preprocessor directives:


```
#include <math.h>
#include <mpi.h>
#include <stdio.h>
#include "decs.h"
```
- Console:** Shows "No operations to display at this time."

Targeted systems

- OpenRTE (OpenMPI runtime)
- PE/LoadLeveler
- MOAB/PBS (ORNL)
- Blue Gene
- Cell Cluster (RoadRunner)

Other new runtime features

- Improved model to support broader range of systems
- Model and UI scalability enhancements
- New icons showing resource manager, queue and machine state
- Single console view of output from all processes

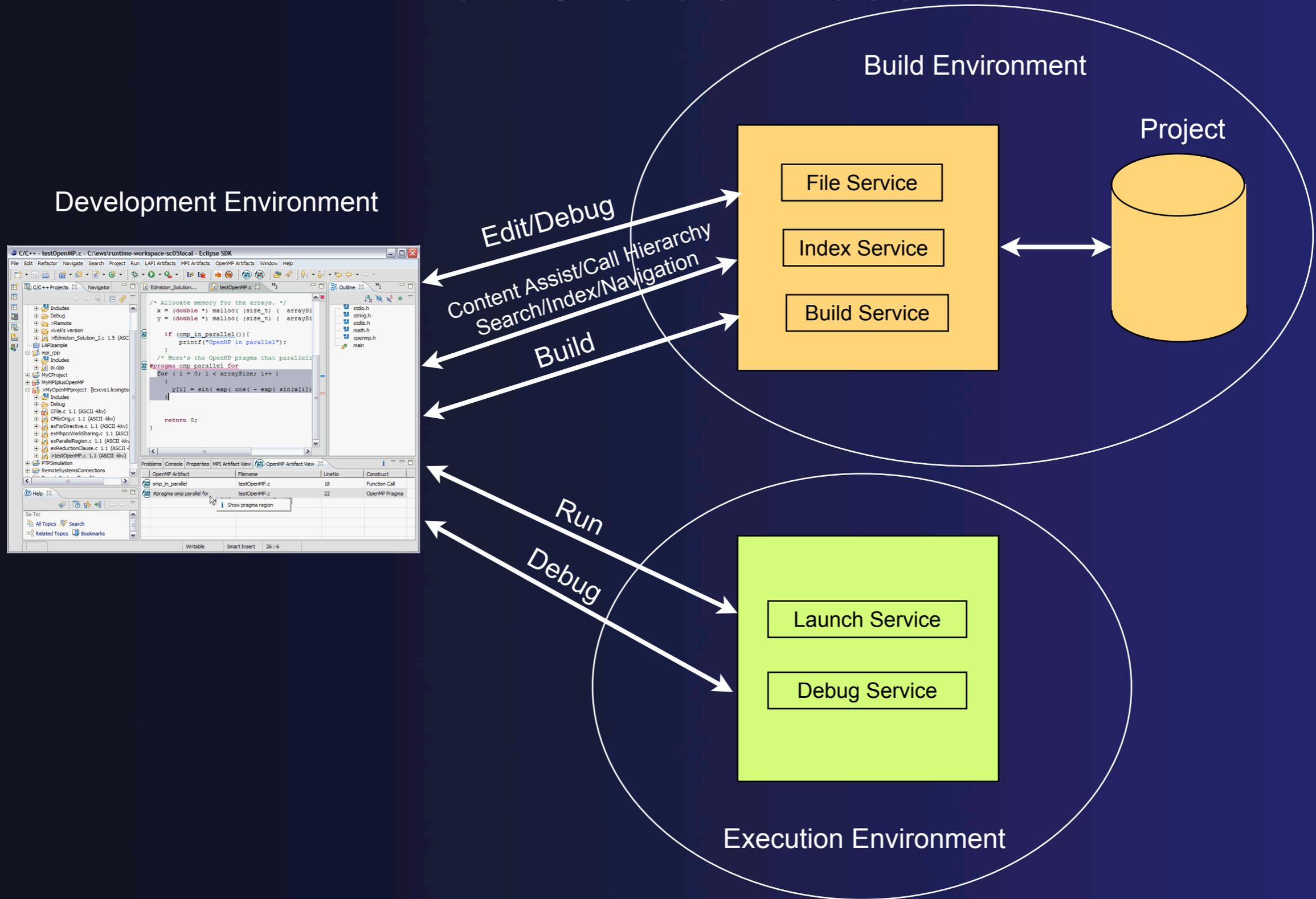
Debugging

- Uses new Eclipse flexible debug hierarchy
- Scalability improvements in UI
- More robust error handling
- Will transition to Scalable Tools Communication Infrastructure (STCI) when it becomes available
- New UI features
 - Support for large numbers of processes/threads
 - Array slice view

Debug targets

- PERCS
- Parallel hybrid debugging on Cell (RoadRunner)
- Blue Gene
- Cray (ORNL)

Remote services



Remote services (cont...)

- Joint project between C/C++ Development Tools (CDT) project and PTP
- PTP 2.0 will be remote enabled for launch, monitoring, debugging
- Adding support to CDT for:
 - Remote file system (projects on remote machines)
 - Remote indexing
 - Remote build services (standard and managed)
 - Remote launch/debug
- Aiming for CDT 5.0 (July 2008)

STCI (<http://stci.wikidot.com>)

- Open source effort to create a scalable infrastructure for tools
- Participants include IBM, ORNL, ANL, Krell, RENCIS, UO, UWisc, UTK
- Three working groups established to complete design by November
- Meetings
 - August 2007 (IBM)
 - October 2007 (ORNL)
 - November 2007 (Reno)

STCI Architecture

