

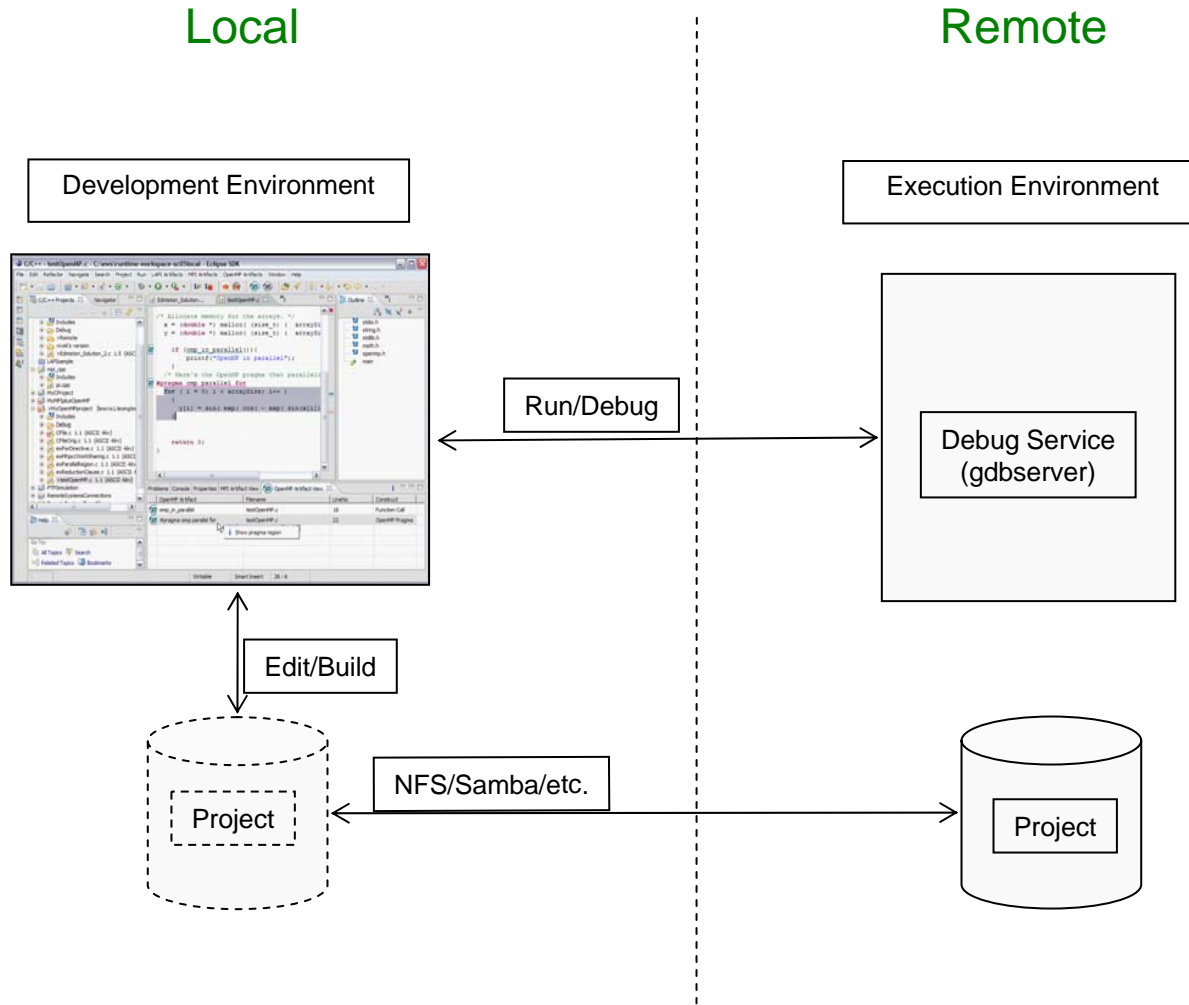
Enabling Remote Development With CDT and PTP

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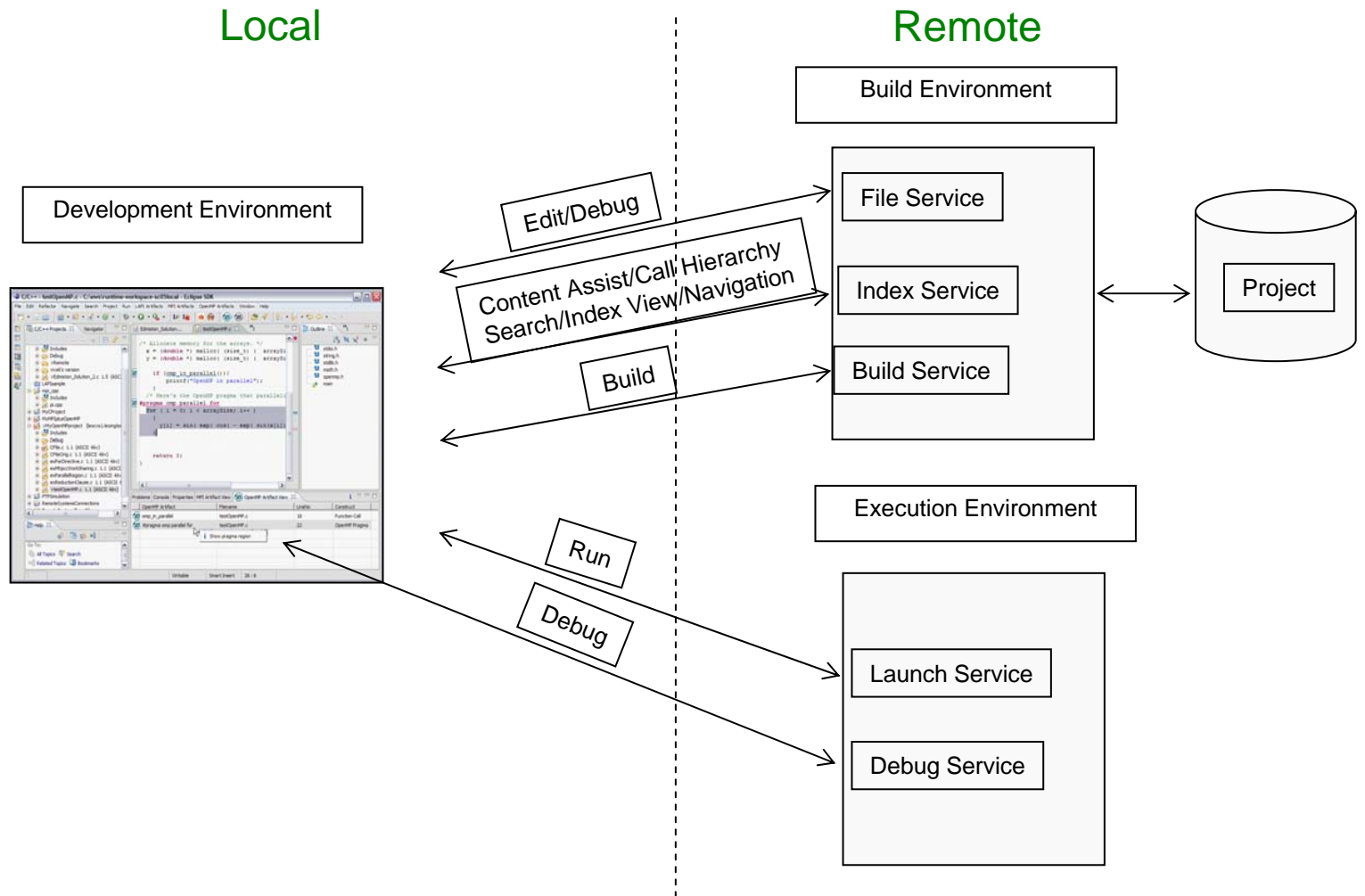
Why Remote Development?

- Cross-compilers are not always available
- Target architecture can be completely different from local (e.g. mainframe/supercomputer)
- Remote system may have specialized libraries or frameworks that are not available locally
- Build process may be very complicated and compute intensive
- Performance penalty for using network file system to access source can be prohibitive

What's Possible Now?



Proposed Remote Development Environment



Requirements for RDE

- Goal: provide a seamless and transparent remote development environment
- Abstraction layers so that key services can be provided locally or remotely
 - ◆ EFS for file services
 - ◆ Remote search/index service to support efficient content assist, call hierarchy, search, index view, navigation, etc.
 - ◆ Remote build service to support environments where cross-compiling is not desired/practical
 - ◆ Remote launch service to support running on a variety of architectures
 - ◆ Remote debug service to support non-gdbserver debug environments
- Local service implementations to preserve status quo
- Reference implementations against remote service provider (e.g. RSE)

Current work items

- Modify CDT to support EFS
 - ◆ Much of existing CDT depends on local filesystem
 - ◆ Currently being refactored to use EFS
- Remote search/indexing
 - ◆ Prototype remote indexing framework available
 - ◆ Some changes still needed in CDT to allow code-reuse of views
 - ◆ Remote back-ends for index based services
- Remote build
 - ◆ Remote version of standard make builder will be created
 - ◆ Remote service for build providing scanner discovery
 - ◆ Remote version of managed builder later

Current work items (cont...)

- Remote launch
 - ◆ Will utilize PTP remote services for launching
 - ◆ Launch via RSE or using PTP resource managers (for parallel)
- Remote debug
 - ◆ Already supported in CDT using gdbserver
 - ◆ PTP will provide remote debugging services for parallel applications

Remote Development Tools Project?

- IBM and HP have been holding discussions about proposing a Remote Development Tools project (RDT)
- Charter would be to handle remote development tools frameworks and solutions for various languages
 - ◆ New home for RSE?
 - ◆ Plan to collaborate on remote development tools reference implementation for C/C++ using CDT and RSE
 - ◆ Remote tools for Fortran?
 - ◆ Remote tools for Java?
 - ◆ Other languages?
- Currently trying to gather momentum leading up to a project proposal at Eclipse.org

More Information

- PTP Wiki: <http://wiki.eclipse.org/PTP/planning/remote>
- Mailing lists: ptp-dev@eclipse.org, cdt-dev@eclipse.org
- PTP BOF tonight
- CDT BOF Wed night