C++ as a service — rapid software development and dynamic interoperability with Python and beyond

Interactive C++: cling and clang-repl

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Status. Clang-Repl

✤ Enabled plugins for clang-repl, tested clad and it just works!

Status. Cling

✤ Continuing to rebase cling on top of llvm13

✤ Worked towards xeus-clad combining clad and xeus-cling conda packages

Status. InterOp

✤ The <u>document</u> is ready. We are looking forward to your feedback.

Plans

✤ Prepare a paper about the work we've completed.

✤ Enable error recovery for advanced C++ code (eg template instantiation)

✤ Accelerate upstreaming clang patches

✤ Automatically differentiate the CUDA kernels (including computation scheduler)

CaaS Open Projects

✤ Patches against clang.git

 ✤ Implement FileManager uncaching

 ✤ Adapt the user of invalidateCache to its new signature

 ✤ Mark the file entry invalid, until reread

 ✤ Propagate cache flags from LookupFile() to FileManager::getFile()

 ✤ Pass the OpenFile flag also to DirectoryLookup

 ✤ Do not load the source file just to get an irrelevant SourceLoc (ROOT-7111)

 ✤ Allow interfaces to operate on in-memory buffers with no source location info [Pratyush Das]

✤ Open projects are tracked in our open projects page.

Next Meetings

- Monthly Meeting — 4th November, 1700 CET/0800 PDT
- Tentative talk schedule:
  - LLDB, Raphael Isemann, Apple, Nov

If you want to share your knowledge/experience with interactive C++ we can include presentations at an upcoming next meeting

Thank you!