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

- Progress on llvm patches:
  - Working on https://reviews.llvm.org/D91524
- We have invited Simeon Ehrig at our Mar meeting to talk about cling's CUDA backend

Status

- Proposed a very limited version of clang-repl following the design of cling: [D96033].
- Early stage technical specification of the language interoperability layer — here.
  - We have not yet made a second revision based on this discussion. Meanwhile, additional comments are welcome.

Next Month Plans

- Investigate executing C++ function using the CUDA backend in cling
- Prepare a third blog post
- Second revision of the interoperability spec

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]
- Infrastructure
  - GitHub PR Code Coverage — see this example.
  - Automatically upload nightlies to a special release tag — see this example.
- Packaging
  - Improve cpt -- fix deb package creation; use python instead of calls to mv, wget, etc.

Next Meetings

- Monthly Meeting — 4th Mar, 1700 CET/0800 PST
  - Simeon Ehrig will talk about cling's CUDA backend

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

Thank you!