

Weekly sync minutes

**PLEASE DO NOT SHARE OUTSIDE
BEMAN PROJECT FORUMS**

2024-08-12

- Attendees: Steve Downey, Jeff Garland, Darius Neatu, Bret Brown, Richard Powell, Dietmar Kuhl, Saksham Sharma, Linus Boehm
- Updates
 - David Sankel
 - Received donation for the Beman T-shirts for CppCon
 - Reached out SIMD, inplace_vector, iterator interface, and “boundary conditions on integer operations” authors. Heard back from three and created “help wanted”/“good first issue” [issues](#) on the Beman repository.
 - We already got a volunteer to work on inplace_vector
 - Richard Powell
 - Got 200 stickers for CppCon.
 - Made a Beman T-shirt as a 1 time design. With donation we can do 25-ish shirts. Will make an order and send them directly to the conference. Black is the color I’m thinking for now. Will get in touch with Jeff to send them.
 - Darius Meatu
 - Merged 3 Beman standard PRs.
 - Fixed some issues with Optional26.
 - Working on a PR for CI infra. Have something to review for Steve’s PRs.
 - Steve Downey
 - Have PRs outstanding, but changes are mostly formatting.
 - Have a mailing deadline and a scheduled review for Optional<T> in September.
 - Made a way to extract technical bits from implementation for wording. With wording, newer things are using concepts or requires clauses (instead of constraints). This doesn’t directly impact us.
- Discussion
 - Darius. Build instructions for Optional26
 - There’s an unresolved discourse thread.

Action: Darius, Add to beman standard (build_testing=off for dependencies as well as add_to_all as false)

Action: David, Add documentation about how to add multiple dependencies with tests on (to FAQ).

Action: Steve, will do the iterator interface library and assign the ticket to himself.

Action: Dietmar: Review the Optional26 build instructions to make sure they work and portably so.

- Jeff Garland: Another interesting library for Beman:
<https://open-std.org/JTC1/SC22/WG14/www/docs/n2763.pdf>. I may look into this and report back.
 - It'd be interesting for us to push forward a big int library.
 - Dietmar: some folks want fixed size and others want dynamic size.
 - Jeff: Scoped exit and scoped return facilities would be interesting for C++29. When we've tried to move these into the standard, we found certain things weren't considered.

Action: Jeff will reach out to concat authors and ranges folks.

2024-07-29

- Attendees: Dietmar Kuhl, Darius Neatu, Linus Boehm, David Sankel, Bret Brown, Inbal Levi
- Updates
 - David Sankel
 - [Considering Lit for the Beman project](#)
 - Figured out how to receive international transfers. Dietmar has granted a donation for the T-shirts.
 - Dietmar
 - Execution26 is in the beman org. Still working on verifying PRs trigger a test run.
 - Inbal: There's a [template project](#) with CI for GitHub. Maybe we can use something like that? GitHub CI defines what happens when you make PRs. Docker is for setting up images with a uniform environment. Conan is for dependency version management. Lets not use Docker to reproduce every environment, we can get our users to also test, so we should leave an opening for that. We should provide some images, but also allow local building and running.
 - Darius: Desire to have a portable way to install and run tests. Having issues reproducing issues flagged on CI. Have a private infrastructure for us to test, but this can be distinct to the user experience.

- Bret: Next step: write up CI requirements? Steve suggested pypi system. Prefer repo size small and matrix size large. Okay with taking on some technical debt for now as long as we keep in mind the long term.
- Dietmar: Working with experimental compilers.
- Linus: Compiler explorer has a way to download compilers.
- Inbal: +1 to that.

Action: Darius, write up a CI requirements doc.

Action: Darius, Beman git org permissions.

Action: Inbal/Linus, reach out to Godbolt to see what integration would look like.

- Darius

- Finished 2 PRs for the Beman standard. Had permissions issues, but now it is okay.
- Draft PR for Beman Example has been made applying rules for the standard. Will be adding `std::identity` to the example so it does something.
- Have a WIP PR for updating CI on Optional26.

- Discussion topics

- David Sankel Good topics for new contributors? Lisa's precondition paper.

Simd. Zach's iterator interfaces. Can we get a list of papers?

- Darius: New small libraries, ready before CppCon.
- Bret: From a tooling perspective that one would be interesting.
- Inbal: Which talks do we have about Beman?
 - David's talk on Beman. Dietmar's talk on networking which will involve Beman.
- Bret:
 - Add to FAQ. I want to get involved. How do I start?
 - Have issues curated and marked "Help Wanted". They're curated with outcomes. There can be a mentor attached.
 - Those are the easiest things to start with.
 - Also, getting our tooling better will help out.
- Darius: How hard is it to implement `inplace_vector`?
 - Gonzales and David Stone have implementations.
- Inbal: Supportive of doing first step of reaching out to authors. Could ask them if they'd be willing to be a mentor.
- Ditmar: Also good work is T-shirt sizing proposals that are in scope.

Action: David, reach out on SIMD, `inplace_vector`, Lisa's thing, Zach. Create issues for that.

Action: Inbal, do same for units, poxy, and things in library evolution incubator.

Action: Bret, create an issue for the FAQ on how to get started.

- David Sankel Lit investigation

- Dietmar: Can GTest be used in freestanding mode?
- Inbal: Doctest is supposed to be like GTest, but better. Will find the video and send it out.

2024-07-22

- Attendees: Jeff Garland, Steve Downey, Ben Craig, Dietmar Kuhl, Richard Powell, David Sankel, Saksham Sharma
- Updates
 - Darius (PTO this week):
 - DONE actions:
 - Add FetchContent support in Beman.Optional26.
 - Add BUILD_TESTING support in Beman.Optional26.
 - Fix all build issues on Ubuntu 24.04 issue with latest compilers. Simplify build instructions.
 - WIP actions:
 - WIP PR for BUILD_TESTING support in Beman Standard.
 - WIP local branch for updating Beman.Example to latest Beman Standard. Will push it next week.
 - I changed/created multiple files in Beman.Example. Should I add myself to the copyright list in each file? In Beman.Optional26 we don't do that (no such entries in each file). I think we should have a uniform approach.
 - *General consensus: Lets not put the copyright notices in the files (and remove them where they're at) since the GitHub history will include who has touched a file.*
 - Next actions:
 - Look for a resolution of [Possible high priority topic: short/long term approach for build interface](#).
 - Solving more items in [Build instructions don't work](#) for MAC OS/Windows and older setups. Improve docs with new findings.
 - Steve Downey
 - Jonathan Wakely created a number of issues to Beman.Optional26. Putting in a bunch of fixes to address them. One consequence is that this now builds back to GCC 11.
 - For the next Beman library I do (probably Expected), I'll have a better idea on how to track between the proposal and the implementation.
 - David
 - Confirmed Dietmar is able to create/transfer a repository on beman-project
 - Conducted an in-depth review of lit. Working on a writeup. Preliminary conclusion is that we can get the pertinent benefits of lit without its

- drawbacks (Python venv/clang dependencies, unusual test structure, lack of popularity)
 - Reviewed Darius's PR on BUILD_TESTING support in the Beman standard
- Richard
 - Swag. Showed some prototype sticker layouts and costs. It's about \$0.50 per sticker. Intent to get 200 stickers for CppCon.
 - 22-25 per shirt.
 - Dietmar will payroll 20.
 - Target is CppCon.
 - Action: David to get Dietmar info for transferring funds for the Boost Foundation.
- Discussion topics
 - Ben Craig [is asking](#) whether a freestanding test harness is in scope for the Beman project ([presentation](#))
 - General support for having the reflection library be part of Beman even if compilers that support it aren't generally available.
 - General support for discussing future proposals impacting policies.
 - No pushback on providing the capabilities to test freestanding.
 - Update on Lit ([David Sankel](#))
 - Richard: Like the idea of static_assert messages to get portability.
 - Bret: We need to figure out how to deal with dependencies since we're talking about a common test dependency. We'll want this sooner rather than later and probably won't be submodules. Next steps are for folks to share experiences with dependency solutions.
 - Steve: Compilation failure testing is more expensive than other tests. Maybe separate these tests out? FetchContent can be tagged to github releases so you don't get accidental breakage. Pypi and venv may be reasonable to use.

2024-07-15

- Attendees: Dietmar Kuhl, Steve Downey, Bret Brown, Richard Powell, David Sankel, Jeff Garland, Darius Neatu, Inbal Levi.
- Updates
 - [David Sankel](#) discourse.boost.org has been moved to discourse.beman.org
 - [Jeff Garland](#) 's presentation at the St. Louis WG21 meeting went well and there was a lot of interest.

Some folks expressed concerns about working with the licensing. SIMD and some others were discussing bringing their large projects to Beman. We may need to reach out to follow up.

Next presentation is at CppCon. David's giving that talk. Challenge to the

group is to figure out what we want to add before that talk. More libraries would be great. Zach's iterator interface library would be good. Getting some of the range authors involved would be good. Getting infrastructure and packaging in a good place.

Maybe get some Beman stickers to hand out at CppCon. T-shirts to hand out. Dietmar, Bret, David, and Jeff are attending.

ACTION: Richard: Get stickers printed and see about getting shirts printed. Jeff can do transport. Dietmar will finance.

- ~~Ben Craig is asking whether a freestanding test harness is in scope for the Beman project~~

- Discussion topics

- Dietmar Kuhl. Optional26 build instructions didn't include the submodule update (required for GTest) step.

We're coming up with our ecosystem requirements here. Bret has a PR for the conan workflow and we could potentially make this a "this is what works for now" without bias for future additions (fetch package/VCPkg).

find_package and, if it fails, use fetch package? [This article](#) may be helpful to determine best practice.

ACTION: Darius: Get Optional26 to work with FetchContent & remove submodule thing.

ACTION: Bret/Steve: Get Conan working & look at PR.

ACTION: Darius: Ensure Optional26 build instructions are working properly.

- Darius Neatu. Test by default or opt-in? See [this PR](#) and [this discussion](#).

Should there be a way to build without tests? Yes, generally this is conventional.

Should building with tests be default? Yes

ACTION: Darius: Add BUILD_TESTING=OFF support as a recommendation to the standard (and explain what that means).

ACTION: Darius: Add BUILD_TESTING=OFF support to Optional26.

- Dietmar. How best to develop new beman projects?

What should I use for testing? GTest? Asserts? Libc++ thing? There isn't currently a requirement or recommendation. The Libc++ thing is interesting because it has negative-compilation tests and potentially allows for usage of the tests in the standard libraries.

ACTION: David, ensure Dietmar can have a repo there.

ACTION: Bret, Create documentation for using Beman projects with your code.
ACTION: Dietmar, reach out to Louis to learn more about this test framework to determine if he can use it.

2024-06-17

- Updates
 - David Sankel There's a new @leads contact group on discourse and the leads are now indicated with a group. We could potentially do the same thing for contributors. There's also a google group for now for contributors. When someone is added they automatically get the meeting invites.
 - **Beman.Optional26.** There's been a lot of progress over the last week. Some discussions surround whether to put tests next to source code and examples within src/.
 - Darius may look into Zach's iterator library after the initial implementation.
 - **Community.** We're seeing several well-known C++ developers join in on conversations which is fantastic: Dave Abrahams, Peter Dimov, Robert Ramey, Barry Revzin.
 - Inbal Levi Draft presentation available? It would be good to see it before next Thursday's session. I will ping him.
 - Darius will make a PR for the standard with additional naming rules.
- Discussion topics
 - **Logo.** Saksham [updated the Duck Dragon logo](#) and agreed to assign copyright to the Boost Foundation for usage in the Beman Project.

ACTION: David Sankel to get copyright assignment form ready.

ACTION: Saksham will remove background and crop.

- **Example Project.** Now that we have a standard, it would be good to get the example project up to specification. Anyone interested in helping with this?

ACTION: Darius will take this on.

- **Documentation.** Dietmar: How should we do documentation? What tooling should we use? Ideally this would be in the example.

Darius: Maybe we should also have a standard clang-format file for linting and CI jobs. Do we want to standardize something there?

Inbal: I had a decent experience generating HTML with doxygen recently. It's commonly used.

Dietmar: It would be great to go from doxygen to cppreference somehow.

ACTION: Inbal will ask on Discourse to see if there are other suggestions, but will take a look at getting this going with Doxygen otherwise.

- Decided to cancel next week's meeting given the WG21 meeting.

2024-06-10

- Updates

- Switchover to Google Meet (David Sankel)
- Calendar updates

ACTION: David & Richard to figure out how to integrate his calendar into the Google Workspace we're using for meetings/minutes permissions.

- LWG won't get to everything so LEWG will have to prioritize what goes into C++26.

- Discussion topics

- Merge of beman standard draft (David Sankel)
 - i. <https://github.com/beman-project/beman/pull/18>
- Discussion on Beman library lifetime

Richard: When in three major compilers, then we can consider removing it?

Zach: Two standards past the one we're targeting right now. When we open 29 process, we drop 20 stuff. Important to have an encoded time horizon.

Dietmar: It could remain an experimental place for extensions

Steve: Two-cycle rule of thumb sounds good. Libraries could last longer if more papers get added to them.

2024-06-01

- Updates

- Richard Powell : [Shared calendar](#) of notable events.
- Beman.Optional26 activity. Multiple papers in one repository
- Jeff Garland Will organize an outline of what we'll present in St. Louis. Would like to get the next round of the website up before St. Louis.
- Inbal Levi Provided some feedback on Bret's PR.
- Bret. Looking to sync w/ Jeff Garland for what we want ready for St. Louis.

Inbal Levi It'd be great to see this as a whole group.

Jeff Garland Maybe I'll make a PR somewhere we can all see.

- Discussion topics:

- **Private header dependencies.** David Sankel Propose prefixing these headers or a containing directory with __. They would live in include/Beman/<libname>/. Otherwise, propose merging as is.

IL: Need to make it clear that dependencies are not part of what is being proposed in the paper.

- **Project logo.** Adopt the [dragon duck](#)?
- Preparation for St. Louis

BB: Like the idea of having a backlog of items that folks can work on. See what's been voted into the working draft over the last several meetings?

Will target Conan and FetchContent tooling working by St. Louis

2024-05-27

- **[Beman Standard drafted.](#)** David Sankel . Would be good to merge this.
 - Will give it another week and see if we're ready to merge
 - ACTION: Inbal to send our open questions to lawyer:
 - i. license per GitHub repo, if the distribution is as a single package?
 - ACTION: Inbal to create PR with disclaimer about experimental status of the library
- **Optional upcoming library.** Thought is to put the repo in the Beman org
 - No objections.
- **Make this meeting open to contributors.**
 - No objections
 - ACTION: David to announce on discourse
- **Conan workflow.** (Bret Brown).
 - ACTION: Bret to send note on discourse when ready for broader review.
 - ACTION: All invited to take a look at this
- Round robin of updates
 - ACTION: Richard to build timeline so we can prepare for promotions, etc.