SAND2023-11769PE

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TRILINOS FRAMEWORK UPDATES

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Trilinos User-Developer Group Meeting 11/02/2023

FY23 ACCOMPLISHMENTS

- C++17 / new compiler + MPI toolchains across testing infrastructure
- LLVM AddressSanitizer instrumented build
- Deprecated 7 Trilinos packages and removed from repository
- Added ccache tooling to accelerate PR builds
- Expanded warning flags across PR builds (e.g. shadowing)
- Added nightly Clang + OpenMP build
- Added nightly C++20 build
- Turned off Epetra and other packages in CUDA PR build to prepare for FY24 deprecation
- Lots of exploratory work related to Spack and containers (e.g. nightly container build enables testing OneAPI 2023.1.0)
- Accommodated upgrade of Autotester (separate product from SEMS team)
- Added nightly Kokkos/KokkosKernels develop -> Trilinos develop build/test

FY24 PLANS

- Promote C++20 build to PR status (ensuring readiness for next standard advancement)
- Enhance support for Spack package.py from internal Trilinos developers
- Add at least one spack-based PR build
- Migrate from SEMS Autotester to GitHub Actions for CI/PR builds
  - Will also involve moving from SEMS TPL environment modules to containerized environments
- Add testing for CompSim and RAMSES configurations of Trilinos
- Stretch goal: Use Spack to manage configurations of Trilinos for PR testing (as opposed to current GenConfig system)
- Add advanced hardware builds as hardware becomes available (hopeful to have AMD GPU hardware FY24)