

Math Special Interest Group

February 26, 2025

Agenda

- Enabling oneMath on aarch64 CPUs - Augustin Degomme (SiPearl)
- Updates from last meeting - Sarah Knepper
 - oneMath Specification
 - oneMath Open Source Project

oneMath Specification

Recent updates:

- Renamed from oneMKL to oneMath (RFC #[580](#), change in #[596](#))
- oneAPI spec v. 1.4-rev 1 released ([list of changes](#))
- [RNG] Geometric distribution added to device API (#[604](#))
- [DFT] Type-safety-motivated changes, other corrections (#[593](#))
- [sparse] Add sorted_by_rows property (#[583](#))
- [LAPACK] Const-qualified USM pointers for input matrices in LAPACK APIs (#[599](#))

Open PRs:

- #[612](#): [RNG] Update supported types for Discrete Uniform [(u)int8, (u)int16]

oneMath Open Source Project

- Renamed from oneMKL interfaces to oneMath (RFC #[564](#), change in [#602](#))
- Repository moved to uxfoundation GitHub org from oneapi-src
- ARM performance backends added/in progress for BLAS ([#629](#)), LAPACK ([#633](#)), RNG ([#634](#))
- [sparse] Support for cuSPARSE ([#527](#)) and rocSPARSE backends ([#544](#))
- [RNG] Geometric distribution added to device API ([#622](#))
- Various fixes and improvements

Resources

- Unified Acceleration Foundation: <https://uxlfoundation.org/>
- GitHub for UXL Foundation: <https://github.com/uxlfoundation/foundation>
- Latest release of oneMath Spec (currently 1.4): <https://oneapi-spec.uxlfoundation.org/specifications/oneapi/latest/elements/onemath/source/>
- GitHub for oneAPI Spec: <https://github.com/uxlfoundation/oneAPI-spec>
- GitHub for oneMath open source project (currently BLAS, RNG, LAPACK, DFT, and sparse BLAS domains): <https://github.com/uxlfoundation/oneMath>
- [UXL Foundation Slack](#) [#sig-math](#) [#onemath](#) channels