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Deployment of Open MPI on ALCF Sunspot

ECP WBS 2.3.1.17 /OMPI-X

Epic/Story STPR17-122

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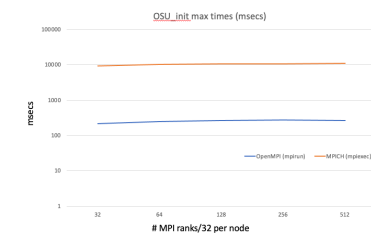
Members ORNL, LANL, LLNL, SNL, UTK

Scope and objectives

- ECP OMPI-X develops a production grade MPI library
- Availability on ALCF Aurora and associated testbed systems
- Performant MPI implementation on ALCF Aurora by using the vendor CXI libfabric provider

Launch time comparison on sunspot

- Order of magnitude faster MPI_Init than MPICH
- High launch overhead due to MPICH not PALS
- Question opened with ALCF consultants



Impact

- **Alternative MPI implementation:** Aurora users will have an alternative MPI than MPICH and vendor implementation
- Alternative launch mechanism (PMIx runtime launcher) for non-MPI applications

Project accomplishment

- Implemented new PRRTe PALS process launcher manager (PLM) and environment setup system (ESS) for Aurora
- Allows for use of vendor libfabric provider (CXI) even with VNI enforcement enabled

Deliverables Progress report for milestone [STPR17-122](#). Relevant commits and issues in Github repos



