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MTT/Gitlab CI Open MPI and PMIx/PRRTE testing

ECP WBS 2.3.1.17 /OMPI-X

Epic/Story STPR17-85

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Scope and objectives

- ECP OMPI-X develops a production grade MPI library
- Leverage ECP Gitlab-based CI testing to improve CI coverage of Open MPI using DOE systems such as ALCF
- MTT maintenance and deployment on new systems – OLCF rusher and NERSC Perlmutter

Effective solution for Community and ECP

- ECP Gitlab-based CI useful for certain testing use cases, in particular nightly runs of spack/E4S testing
- ECP Gitlab-based CI useful for testing on resources such as ALCF and LANL testbeds

Impact

- **Improved code quality:** Code does not enter Open MPI code base without PR-based CI testing. Improve support for testing Open MPI/GPU interoperability
- **Improved time to release:** Better code quality in master means faster time to release

Project accomplishment

- MTT based nightly testing of Open MPI main and v5.0.x branches on OLCF crusher using HPE CXI libfabric provider
- Discovered and fixed several serious bugs in the MTT test harness itself in the course of deploying on Crusher and Perlmutter

Deliverables Progress report for milestone [STPR17-85](#). Relevant commits and issues in Github repos

