Evaluating functionality and performance of IBM Power8+ systems

Achievement: First evaluation of the IBM Power8+ system performance for HPC applications

Significance and Impact: In preparation for Oak Ridge National Laboratories next generation supercomputer, Summit, IBM deployed two Power8+ based early access systems at the Oak Ridge Leadership Computing Facility (OLCF). The requirements for acceptance are explained and the tests used to validate the system are explained.

Research Details:

- Documenting the hardware specification and software environment for the summit-dev early access platform.
- Documenting the various tests and applications used in evaluating the performance of the platform

Sponsor/Facility: Work supported by OLCF.

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Overview: In preparation for Summit, Oak Ridge National Laboratory's next generation supercomputer, two IBM Power-based systems were deployed in late 2016 at the Oak Ridge Leadership Computing Facility (OLCF). This work presents a detailed description of the acceptance of the first IBM Power-based early access systems installed at the OLCF. The two systems, Summitdev and Tundra, contain IBM Power8+ processors with NVIDIA Pascal GPUs and were acquired to provide researchers with a platform to optimize codes for the Power architecture. In addition, this work presents early functional and performance results obtained on Summitdev with the latest software stack available.