PAWSEY EXPANDS GPU CAPABILITY WITH NEW TOPAZ CLUSTER FROM XENON

Pawsey Supercomputing Centre in Perth selects XENON to deliver a new Linux based GPU cluster, named Topaz. This new cluster is the latest addition to Pawsey in their on-going program of expanding capabilities and delivering the latest technology to researchers. This refresh expands the capacity at Pawsey to meet the growing demands for GPU based processing. It provides the infrastructure for Pawsey researchers to continue to develop their skills on the latest GPU technology. This new cluster is complementary to the existing Zeus cluster, with Topaz providing researchers with enhanced visualisation and GPU compute capabilities and increased batch processing speeds.

The new Topaz cluster includes the latest generation GPU and InfiniBand fabric to accelerate researchers' work, in areas such as computational workloads, AI & machine learning, data analytics and data visualisation. Topaz consists of 42 nodes: 20 nodes are for remote visualisation and include the state-of-the-art NVIDIA® Quadro RTX™ GPU's, and 22 nodes are tuned for compute workloads and include dual NVIDIA® Tesla® V100 Tensor core GPU's with 7 teraflops of double precision performance

and more than 100 teraflops of deep learning performance per card. Across all the nodes, CPU workload is handled by dual Intel Cascade Lake® processors. The theoretical double precision peak computational performance of Topaz exceeds 350 teraflops. Mellanox ConnectX-6 HDR InfiniBand at 200Gb/s optimises the dataflow between the nodes and ensures researchers extract maximum performance from Topaz.

XENON designed, delivered and installed the new system. XENON pre-builds and extensively bench tests all customers' HPC systems in their R&D facility in Melbourne, ensuring smooth delivery on-site with no issues. Topaz has been undergoing final configuration and testing with the assistance of a group of Pawsey researchers. Topaz went into full production as of early March 2020 and is available to projects with an active allocation on Magnus or Zeus supercomputer systems.

The latest state of the art CPU, GPU and InfiniBand fabric have delivered high performance, in a cluster, that will serve Pawsey researchers well into the future.

▲ Talk to a Solutions Architect

About Pawsey Supercomputing Centre
The Pawsey Supercomputing Centre is a world-class high-performance computing facility accelerating scientific discoveries for Australia's researchers. Pawsey serves more than 1,800 active researchers from across Australia achieving unprecedented results, in domains such as radio astronomy, energy and resources, engineering, bioinformatics and health sciences. Learn more at www.pawsey.org.au.

About XENON
XENON has over twenty five years experience in designing and deploying supercomputers, HPC clusters, and GPU based clusters. XENON also provides managed services for high performance computing environments, offering end-to-end, silicon to end user support. Learn more about XENON.