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Media release

Intersect Consortium Selects SGI® for new HPC

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The Intersect consortium has selected SGI to provide new high performance computing (HPC) infrastructure to further research in NSW.

The new supercomputing facility will enable NSW researchers to continue their ground-breaking work in increasingly competitive environments, including research in quantum chemistry, computational chemistry, chemical engineering, climate science, mechanical engineering, bioinformatics and physics. Emerging research in these areas of science requires vast amounts of data storage and massive computing resources. The SGI 30+ Tflop distributed memory cluster will provide a greater than 25-fold increase of compute power and a fivefold increase of disk capacity on the existing system.

"Demand for HPC across Intersect's membership is roughly doubling each year," said Dr Ian Gibson, Intersect CEO. "This is due to a rising awareness of Intersect's HPC facilities as well as the rise in the need for greater computational power to handle bigger research problems across many disciplines." HPC is one element of an integrated portfolio of infrastructure services Intersect offers that includes large-scale research data storage and management. The SGI High Performance Cluster dramatically increases the capabilities supplied to the eResearch community in NSW.

The new research infrastructure is funded through the Australian Research Council's Linkage Infrastructure, Equipment and Facilities (LIEF) scheme. The LIEF grant, led by the University of Sydney's Professor Leo Radom is supplemented by investments from the University of Sydney, UNSW, UTS, Macquarie University, the University of Newcastle, the University of Wollongong, Southern Cross University and the University of New England.

The combined value of the capital investment is greater than $1million. Intersect will provide the on-going hosting facilities, management and support of HPC systems on behalf of the consortium of NSW universities. A rigorous procurement process was led by the University of Sydney.

"The workload on Intersect's facilities covers a broad range of research across many disciplines," said Dr. Gibson, "and this has influenced the choice, design and architecture of the SGI High Performance Cluster."

The new system features 100 cluster nodes with 1600 cores powered by the Intel® Xeon® E5-2600 processor series. It also includes 101TB of usable shared storage delivering 33.3TFlops.

The SGI HPC cluster is comprised of 10 large compute nodes each with dual Intel Xeon E5-2600 8-core processors, 256 GB memory, and 1x2TB SATA drives. System software provided includes SGI Management Center, SGI Performance Suite, PBS Pro Scheduler and SUSE® Linux EnterpriseServer operating system. In addition, there are 88 small compute nodes eachwith dual Intel Xeon E5-2600 8-core processors, 64GB memory, 1x1TB SATA drives. The clusters are connected with QDR InfiniBand® Non-blocking Interconnect technology.

"SGI has had a long relationship with Intersect and the University of Sydney where our support and services expertise is especially valued," said Nick Gorga, general manager, SGI Australia and New Zealand. "The clear upgrade path from Intersect's current system to the increased computational capabilities will accelerate research outcomes in the state."

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