FOR IMMEDIATE RELEASE
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WestGrid’s largest Opteron cluster now in production

(CALGARY, AB) – WestGrid’s newest computer cluster – also Hewlett Packard’s first XC cluster in Canada – is now officially open to the research community.

Based at the University of Calgary, the 256-processor HP Opteron cluster is called Matrix and brings the total CPU count for WestGrid at the university to more than 500. This new system will be valuable to researchers in physics, chemistry, the life sciences, energy and ICT. It will provide the computing power needed to support discoveries in oil and gas, seismic modeling, magnetic resonance imaging and quantum cryptography.

“"The new system provides us with greater capacity to run high performance message passing parallel applications," said Rob Simmonds, Chief Technology Officer with WestGrid. "We are very happy with the performance of the system and with the integration of components provided in the HP XC cluster software."

The new system has dual processor compute nodes with AMD 2.4 GHz Opteron processors. Internode communication is provided by a Voltaire Infiniband interconnect, which enables low-latency (5 microsecond), high bandwidth (up to 10 Gbps) message passing.

WestGrid has approximately 1,000 users from universities and research institutions across Canada. These users can access a broad complement of high-performance computing, storage and visualization resources located in Alberta and BC. The new system will be particularly useful for users with parallel applications that require fast processors and very high performance inter-process communication.

"I have been using Matrix as a beta-tester for a couple of months now, and am very impressed with its performance in running large-scale parallel simulations," said Frans Pretorius, Assistant Professor of Physics at the University of Alberta. “As such, Matrix will be a valuable research tool for myself and, I anticipate, many other members of the WestGrid community."

Matrix is only one aspect of Hewlett Packard’s established relationship with WestGrid and the University of Calgary. It complements an existing 144-processor HP SC45 system. Hewlett Packard is also a key partner in the University’s Grid Research Centre, where researchers are working on various aspects of grid computing.

“We are always eager to work together with WestGrid and the University of Calgary to provide high quality computing resources to researchers across Canada,” says Glenn Bontje, Business Development Manager with Hewlett Packard.
BACKGROUND

Matrix (HP XC Infiniband cluster)

Features include:

- 128 nodes of dual AMD 2.4 GHz Opteron processors
- 2 Gigabytes per node of physical memory
- 4 Terabytes of shared disk storage
- Voltaire Infiniband switched-fabric interconnect
- Hewlett Packard's XC software stack
- Portland Group Compilers

Shared disk storage is provided by an HP StorageWorks Scalable File Share which solves the I/O bottleneck problem typically found on Linux clusters requiring scalable storage. Lustre, a highly-available cluster file system, is used over the Infiniband interconnect to deliver user files and data to applications. For more information, please contact support@westgrid.ca.

WestGrid

WestGrid (Western Canada Research Grid) is a $50 million project to operate grid-enabled high-performance computing and collaboration infrastructure at institutions across western Canada. These resources are provided at no cost to researchers across Canada. The major computing and storage sites are connected using dedicated network lightpaths provided by BCNet in British Columbia (www.bcnet.ca), Netera Alliance in Alberta (www.netera.ca), and CANARIE across Canada (www.canarie.ca). For more information, please visit www.westgrid.ca.

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