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For immediate release

First step toward pan-Canadian supercomputing network – top clusters now connected

TORONTO - Two of Canada's most powerful distributed computing environments – WestGrid and SHARCNET - are now connected over a dedicated high speed optical link - the first step towards a pan-Canadian network of High Performance Computing (HPC) facilities.

The new connection was announced today at the annual Ontario Research and Education Summit in Toronto.

Distributed high performance computing is a powerful tool for research and scientific discovery, supporting collaborative research in such areas as human genomics, astrophysics, high energy physics, environmental protection, financial modeling, containment of infectious human and animal diseases and the development of nanotechnologies.

“This is a very exciting project, especially as it can grow to link all of Canada's HPC consortia. It has the potential to significantly enhance the capability of Canadian research which increasingly depends on powerful and accessible HPC,” says SHARCNET Scientific Director Hugh Couchman.

“Cooperation among the consortia is already extremely fruitful but the ability to leverage Canada's first-class national and provincial networks to provide the backbone for a cross-Canada HPC network promises a globally unique research environment.”

"A primary objective of the WestGrid project is to federate diverse and powerful computing resources, with high performance networking being a key requirement," says Rob Simmonds, CTO of WestGrid. "This work advances Canada's ICT infrastructure and is inspired by the emerging needs of globally competitive research."

The link between the two HPC environments was made when Ontario Research and Innovation Optical Network (ORION) engineers completed the installation of a transport level connection between SHARCNET's entry point at the University of Guelph, back to ORION's Optical Exchange at 151 Front Street, in Toronto. That's where CANARIE picks up the circuit and provisions a dedicated "lightpath" to WestGrid's optical infrastructure in Alberta and British Columbia over the CA*net 4 national backbone. Netera Alliance and BCNet provide the provincial network connections in the west.

“Connecting these leading facilities helps leverage the substantial investments that have been made in high performance computing in Canada. This is vitally important for Canadian research and a really significant step towards having a Canada-wide network of these facilities,” said ORION President/CEO Phil Baker.

“CA*net 4 was built with applications like this in mind,” said CANARIE President and CEO Andrew K. Bjerring. “Over time we expect to see more collaborative research projects integrate their computers and other equipment into a single, networked infrastructure through using dedicated connections.”

While this first step does not yet fully integrate WestGrid’s and SHARCNET’s facilities into a unified computing “grid”, the dedicated high bandwidth connection means researchers and scientists working at member institutions can share and transmit massive amounts of data, with virtually no constraints on bandwidth.

Other HPC facilities that may eventually be linked to each other via similar dedicated connections on CA*net 4 and provincial research networks include the newly announced Atlantic Computational Excellence Network (ACEnet), involving several universities in Atlantic Canada, le Réseau québécois de calcul de haute performance (RQCHP), the Consortium Laval-UQAM-McGill and Eastern Quebec for High Performance Computing (CLUMEQ), and the High Performance Computing Virtual Laboratory (HPCVL) in Eastern Ontario, led by Queen’s University.

These networked resources are consistent with the recent C3 Long Range Plan for High Performance Computing in Canada, which has called for investment in a national strategy to expand HPC infrastructure in the country.

SHARCNET - The Shared Hierarchical Academic Research Computing Network is a consortium of universities and colleges operating a network of high-performance computer clusters across south-central Ontario. SHARCNET institutional partners include the University of Western Ontario (lead institute), Brock University, the University of Guelph, Wilfrid Laurier University, McMaster University, The University of Ontario Institute of Technology, the University of Waterloo, the University of Windsor, York University, Fanshawe College and Sheridan College. All these are institutions are currently interconnected using networking connections provided by ORION.

WestGrid - The Western Canada Research Grid is a \$50 million project to provide grid-enabled high performance computing and collaboration infrastructure at institutions across western Canada. These institutions include Simon Fraser University, The Banff Centre, TRIUMF, University of Alberta, University of British Columbia, University of Calgary and University of Lethbridge. Currently these facilities are linked using networks belonging to BCNET, Netera Alliance and CANARIE.

For more details and background information on research and education networks and HPC facilities and resources, visit the following web sites and resources:

www.sharcnet.ca
www.westgrid.ca
www.orion.on.ca
www.canarie.ca

www.bc.net
www.netera.ca
www.c3.ca

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