

Algoma U connects to ORION

First in Canada to offer MSc in computer gaming

Hooking up to ORION has enabled a northern Ontario university college to become the exclusive North American host site of an internationally renowned Master's program in computer gaming.

Sault Ste. Marie's Algoma University College is plugging into the global grid of advanced research and education networks by connecting to ORION, recently joining the list of Ontario postsecondary institutions enjoying enhanced distance learning capabilities and increased access to global collaboration opportunities.

The collaborative program sees Algoma U students in Sault Ste. Marie participate remotely in classes taking place in Scotland over an advanced videoconferencing system supported by connections over ORION, CANARIE and JANET (the U.K. national R&E backbone). The University of Abertay Dundee's (UAD) computer arts division is internationally renowned and was the first in the world to offer a Master of Science degree in Computer Games Technology (CGT). Teaming up with UAD, Algoma U is the first North American university to offer this unique program.

In the 12-month MSc CGT program, students study game design and development, programming for the Xbox and PC, console games programming, and artificial intelligence for games, among other topics.

Students who successfully complete the program will graduate with an internationally recognized degree from UAD. Lectures and instruction are mainly provided interactively by the professors in Scotland over videoconference, with a CGT academic coordinator (a graduate of the UAD program) on the Algoma U campus available for project and technical assistance.

"Graduates with specialized training are needed as popularity in gaming continues to grow," said Danny Reid, Divisional Director of Information Technology Services at Algoma U and program coordinator of MSc CGT. Approximately four to five years in the works, this collaboration was spearheaded by Algoma U from the recognition of the need in the Canadian academic environment for a hands-on, comprehensive degree program in computer gaming. "This program is a

way for Algoma U to distinguish itself as the leading institution offering degree training in the field."

A special onsite Game Technology Lab is equipped with the latest game technology, with cutting-edge development software including the Microsoft Visual C++ system, 3D modeling, photo editing, and music editing software with piano keyboards and supporting media libraries; several gaming platforms; console development kits; and a large format entertainment centre with the room wired for Dolby 5.1 Surround Sound.



Algoma U student in a live computer gaming learning session with instructors overseas, over an ORION network link.

In its first year of being offered at Algoma, the CGT program has just six students – four Canadian (two from the local area) and two international (one from India and one from Brazil) – and will expand to a maximum of 30 students per year as the program grows and gains awareness. In just the third month of study, student feedback has been positive, especially with the quality that the ultra high-bandwidth of advanced networks provides.

"We have been impressed by the high quality of the videoconference connections to Scotland over the R&E networks, including ORION," said Reid. "There haven't been any breaks or disruptions as there would normally be videoconferencing over regular Internet, which is important for the students' concentration. It's as though we're interacting with people who are in the classroom next door." "ORION has also enabled us, through its VLAN service, to increase our Internet bandwidth tenfold for students and faculty," continued Reid.

Algoma University College will also use ORION to expand its distance learning delivery across the northern Ontario region through its connection to Contact North/Contact Nord.

Currently an affiliate college of Laurentian University, Algoma U is on the path towards becoming Ontario's 20th independent university. The Ontario government recently announced its intention to introduce legislation to establish Algoma as an independent university, offering a wider array of degree programs, improving teaching and research capacity.

ORION backbone traffic grows over 600 %. Read more on page 2.

ORION traffic grows over 600% - more institutions collaborating over the network

Use of the ORION network by Ontario's research and education community is expanding exponentially, growing by over 600 per cent over the last two years, reported **Sam Mokbel**, Senior Director of Engineering and Network Operations, at ORION's Nov. 13 Technical Workshop in Toronto.

Nearly 50 IT directors, network managers and IT staff attended the day-long workshop hosted by Ryerson University, with another 50 attendees tuning in to a live video stream.

More institutions are sharing data and collaborating over the network, said Mokbel, pointing out that total backbone traffic on the network now exceeds five Gbps, a six-fold increase from the total 825 Mbps in network traffic in 2005, making ORION one of the largest and fastest-growing research and education networks.

Intra-ORION traffic now exceeds 18 per cent of total traffic, up from seven per cent in 2005. "This is a sign that our members are collaborating more and more with each other," he said. ORION institutions are also benefiting from ORION's peering agreements with commercial carriers and Internet service providers, able to offload from 15 to 50 per cent of their Internet traffic over to their ORION R&E connection.

Keynote speaker **Yves Poppe**, Director of Business Development and IP Services at VSNL International/Teleglobe, kicked off the Tech Workshop's afternoon program with a lively discussion on "Hyperconnectivity".

He touched on the massive growth of wireless and IP devices worldwide, predicting that 12 billion networkable devices will be in place by the year 2012. He emphasized the importance of preparing for the deployment of the new IPv6 protocol, noting that the world will run out of IPv4 addresses within the next three years.

CANARIE Chief Technology Officer, **René Hatem**, provided the audience with an update on national projects, applications and future plans for the CANARIE network. **Ken Woo**, Chair of GTAnet and Assistant Director of Communication Services at Ryerson, gave a brief talk on the status of GTAnet.

The workshop included updates from ORION's engineering team, led by **Nadeem Junejo**, Manager of Network Technologies, who pre-



sented a status report on ORION's deployment of MPLS and QoS, as well as background information on the new IPv6 Internet Protocol. **Sajib Chughtai**, IP Network Engineer, touched on multicasting and MRTG traffic graphs. **Emmanuel Lebel**, Network Operations Engineer, elaborated on WDM technologies.

New applications were hot topics. Participants received a first-hand report on Lakehead University's deployment of Google Apps from Network Administrator **Andrew Brigham**. **Trevor Hanekamp**, Senior Telecom Analyst at Sheridan Institute, presented on efforts to create a provincial videoconference network. **Gary Molenkamp**, Network Administrator, spoke about new projects and developments at SHARCNET. ORION's Director of Public Affairs, **André Quenneville** gave an update on ORION's partnership with the Open Student Television Network (OSTN).

VSNL International/Teleglobe and CANARIE sponsored the workshop. GTAnet and Ryerson University hosted the event.

OSTN moves to new platform

Fans of the new Open Student Television Network (OSTN) will have noticed a dramatic improvement in the quality of IP video transmission lately, after the global student IPTV channel migrated to a new multi-cast video distribution platform.



Students and staff at ORION institutions that are multicast-enabled are able to view the live streams from OSTN as well as other free channels, including NASA TV, and the newly launched OSTN News Channel.

A new video-on-demand service has also been introduced. Ontario institutions are invited to submit programming to the new chan-

nel, a not-for-profit organization in the United States and a growing global footprint.

"Taste", a popular cooking show produced by Loyalist College students in Peterborough, is already part of the OSTN's regular programming. Institutions that wish to carry the channels on campus can also convert the streams for viewing on legacy campus cable systems. Learn more at the ORION Student TV portal at www.orion.on.ca/ostn.html.

ORION Research and Discovery News

The ORION Research and Discovery News provides news and information of interest to users of the Ontario Research and Innovation Optical Network and to the worldwide research and education community. ORION is an advanced high-speed fibre optic network that connects research and education institutions to each other and to colleagues around the world. ORION is owned and operated by the Optical Regional Advanced Network of Ontario (ORANO). Visit our web site www.orion.on.ca or write the Editor at info@orion.on.ca. Subscribe at www.orion.on.ca/newsletter/subscribe.html.

OCAD and TELUS partner to offer industrial design course

Third-year students taking Industrial Design at the Ontario College of Art & Design (OCAD) will start shaping Canada's booming wireless industry with an innovative new design course. The OCAD/TELUS Handset Project, part of the curriculum of OCAD's Industrial Design program course, Emerging Technologies, will teach students how to design handsets for wireless phones that will meet the future needs of Canadian mobile users. A first for both OCAD and TELUS, this collaboration will draw upon the students' and the university's vast design experience, while educating about the intricacies of wireless device design. The most innovative and functional design will be considered by TELUS for further development and possible commercialization in the mass market. Third-year students in Industrial Design will work together in small teams with frequent mentorship from TELUS team members. The student demonstrating the strongest abilities will be offered a four-month summer internship with TELUS. Through the co-op term, the student will gain hands-on experience, working side-by-side with the product development team. To learn more, visit http://www.ocad.ca/about_ocad/news_events/news_releases/OCAD_Telus.htm.

Ryerson site helps kick off International Polar Year series

Ryerson University was among the several global sites kicking off a series of International Polar Year videoconference events, designed to raise awareness of the impact of climate change. The Oct. 19 event took participants in a live interactive videoconference and guided virtual tour of Earth's polar regions. Walter Staveloz, Director of International Relations for the Association of Science-Technology Centres (ASTC), presented live from Ryerson over the ORION network, linking students and scientists in the U.S. and Western Europe with polar researchers, including scientists at NASA's Goddard Space Flight Centre. The event was part of the International Action on Global Warming (IGLO) project, an international organization of science centres and museums dedicated to furthering public understanding of climate science. The conference kicked off a series of live videoconference events over Internet2 and research and education networks over the next three years. The impact of climate change is among the themes to be explored at the ASTC's Fifth Science Centre World Congress, hosted by the Ontario Science Centre, in Toronto June 15-20, 2008. Learn more at www.astc.org.

New supercomputer at TRIUMF aids researchers

A new Canadian-built supercomputer will aid researchers from a consortium of Canadian universities in their search for an elusive subatomic particle, which could radically alter our understanding of physics. The new IBM System Cluster 1350 supercomputer, launched recently at TRIUMF, Canada's national laboratory for subatomic physics, is the latest addition to the project's international grid of high-performance computing centres. It will help researchers analyze reams of data generated by the world's largest nuclear collider, located at the European Centre for Nuclear Research (CERN) in Geneva. A team of 70 Canadian researchers are working on an experiment dubbed ATLAS, which aims to uncover the mysteries of the Higgs boson particle. Involving nearly 2,000 researchers worldwide, they believe the Higgs particle is the last missing piece in the standard model of particle physics and could explain the origin of mass. For more information, visit <http://www.atlas-canada.ca>.

Laurentian's library offers electronic delivery service

Laurentian University's J.N. Desmarais Library becomes the first library in Ontario to offer users a paperless delivery service for single copies of articles and book chapters. The free electronic document delivery means that articles can be emailed to the address associated with their interlibrary loan (ILL) account. Ashley Thomson, coordinator of the ILL service at Laurentian University, said that the library has introduced the program to expedite delivery of eligible ILL documents. "Laurentian has a prominent distance education program," he said. "This initiative will be particularly appreciated by Laurentian students who do not have [physical] access to the library." Furthermore, the program will reduce the impact on the environment associated with printing thousands of pages per month.

Ontario cancer researchers link to World Community Grid

An Ontario research team led by Dr. Igor Jurisica at the Ontario Cancer Institute (OCI) and scientists at Princess Margaret Hospital and the University

Health Network are the first from Canada to use the World Community Grid, a network of PCs and laptops with the power equivalent to one of the globe's top five fastest supercomputers. The team will use World Community Grid to analyze the results of experiments on proteins using data collected by scientists at the Hauptman-Woodward Medical Research Institute in Buffalo, N.Y. This analysis would take conventional computer systems 162 years to complete. However, using World Community Grid, Dr. Jurisica anticipates the analysis could be finished in one to two years. It will provide researchers with a better way to study how proteins function, insight that could lead to the development of more effective cancer-fighting drugs. To learn more, visit <http://www.gridtoday.com/grid/1877579.html>.

New global K20 social networking site

Muse is a new social networking tool that makes it easier for the variety of K20 community groups around the world to discover and connect with each other surrounding the use of advanced network-enabled teaching and learning resources and applications. Launched jointly by the Internet2 K20 Initiative and MAGPI, the goal of Muse is to allow users to quickly discover collaborators and projects, easily communicate with other community members, and to find inspiration to develop new and exciting projects using advanced R&E networks. Once an account is set up, users can search for people, projects and organizations as well as post new projects, opportunities, news and resources. Go to <http://k20.internet2.edu> to create your account.

Megaconference IX archives sessions; Megaconference Jr. 2008

Several Ontario institutions took part in joining participants from around the world for another successful Megaconference on November 8. Archived sessions of this global videoconferencing event can be viewed at <http://commons.vcg.our.net/megaconference>. Don't miss Megaconference Jr. 2008, a videoconferencing event for elementary and secondary schools around the world, which is scheduled for February 21, 2008. Proposals are currently being accepted. For more information, visit www.megaconferencejr.org.

FutureFlick Contest offers \$5K in prizes

A reminder to all students in Ontario K-12 schools, colleges and universities to submit their digital short films for the ORION FutureFlick Contest. Students are asked to tell us their vision of student life in the year 2020 through the medium of digital film. Teachers and faculty: spread the word and get your students involved! Submissions will be received up until January 31, 2008 at midnight. Learn more at www.orion.on.ca/futureflick.

MaRS Landing launches online directory

MaRS Landing launches an online, Ontario-based Functional Food & Natural Health Product (FFNHP) Sector Directory. This searchable FFNHP Directory will facilitate communication among FFNHP sector members and stakeholders as well as showcase and increase awareness of this emerging sector's capacity. The FFNHP Directory connects agriculture, food and human health organizations, an essential step in facilitating the commercialization of innovation in agriculture and food sectors in Ontario. For more information, visit www.marslanding.ca.

People News

After 12 ½ years, Chief Technology Officer **René Hatem** leaves CANARIE to establish an Ottawa-based company offering dark fibre to organizations. The Canadian Institutes of Health Research (CIHR) has named **Dr. Pierre Chartrand** as Acting President, effective this month. Currently the Vice President of Research at CIHR, Dr. Chartrand succeeds **Dr. Alan Bernstein**, who left the CIHR at the end of October. The Board of Directors of Perimeter Institute for Theoretical Physics (PI) recently announced the appointment of **Dr. Robert Myers** to the position of Interim Scientific Director, effective immediately. With **Janice Hayes'** departure as Executive Director, **Andre Paradis** has been named Director of Operations at the Ontario Bibliocentre. This month, **Lynn Sutherland** joins Cybera Inc. (formerly Netera Alliance, Alberta's R&E network) as President and CEO. **Jim Slotta**, associate professor and Canada Research Chair at OISE, is the new director of KMDI's Collaborative Program and the Deputy Director of the Institute.