# Canada and California Forge Strategic Innovation Partnership Involving Calit2

Vancouver, British Columbia, Canada, June 22, 2006 — Officials from the University of British Columbia and the University of California have announced that a growing partnership between California and Canadian research leaders has resulted in the completion of a new ultra-high bandwidth connection between Canada's national research and education network and the California state education network. The partnership has also defined four areas of research collaboration for further investigation.

**This partnership is establishing a new ultra-high bandwidth connection between Canada's national research network, run by CANARIE, and CENIC.**

The second Canada-California Strategic Innovation Partnership Summit was held on June 11-12 and was attended by over 150 representatives of universities, government departments and the private sector from the two jurisdictions. The first summit was held five months ago in Los Angeles. The initiative has been led by a bilateral steering committee consisting of nine Vice-Presidents from Canadian and California universities.

"This unique discussion started only last January," said Dr. John Hepburn, Vice-President Research at the University of British Columbia and host of the summit, "but it has already led to important achievements. I'm extraordinarily impressed with how far we've come so quickly."

"It is also important to recognize," added Dr. Roberto Peccei, Vice Chancellor for Research at the University of California Los Angeles, "that the next steps will involve more working scientists to refine the ideas that have been defined by the working groups at this summit. We have identified areas where our facilities and expertise are highly complementary, and we need to keep working to identify specific opportunities where we can collaborate to address some of the big issues of the day."

The four areas of potential collaboration that the summit focused on are: Stem Cell and Regenerative Medicine; Infectious Diseases; Nanotechnology, and; Advanced Transportation and Energy. Three overarching issues were also addressed: Information Technology and Broadband; Highly Qualified Human Resources, and; Venture Capital.

The shared vision behind the strategic partnership was articulated in keynote addresses by Dr. Robert Dynes, President of the University of California, himself a Canadian, and Dr. Arthur Carty, National Science Advisor in Ottawa. In their addresses they emphasized the global nature of research challenges and the need for universities the world over to find innovative ways to work together and with the private sector.

"The nature of research and the role of universities in society have both changed substantially over recent decades," said Dr. Dynes. "Collaborative partnerships and problem-oriented research undertakings of the sort that we have been discussing during these two summits are the way of the future for all of us."

The most specific challenge to the participants arising from the January summit was to establish a new ultra-high bandwidth connection between Canada 's national research network, run by CANARIE, and CENIC, the California state education network that provides services to all the campuses of the University of California, USC, Stanford, and Caltech, as well as those of the California State University. These new optical connections are not shared like the traditional Internet, but rather can deliver one or 10 gigabits/sec to an individual researcher. The new "optical overlay" to today's shared Internet provides a novel infrastructure seen as vital to the collaborative efforts being discussed at the summit.

The first proof-of-principle demonstration of the CANARIE/CENIC interconnection was successfully carried out last week.

When completed, this Canadian – California "superhighway" for data will permit individual research projects to have dedicated capacity to support enormous streams of data transfer that would overwhelm a conventional shared network like the Internet.

The two institutions that were connected in last week's test were Canada 's Communications Research Centre (CRC) in Ottawa and the UC San Diego's division of the California Institute for Telecommunications and Information Technology (Calit2). This test was the first step toward CRC becoming the first Canadian partner of the U.S. National Science Foundation's "OptIPuter (http://www.optiputer.net/) " computer science research project.

Both CRC and Calit2 will terminate their new gigabit optical channel with an OptIPortal, a high resolution tiled display wall, driven by a graphics cluster build from commodity PCs. The large size and high resolution of such an environment supports collaborative interaction among the participants at both ends of the connection, whether the images being shared are large-scale datasets or high definition TV streams. The interactive "collaboratory" formed between Calit2 and CRC would not be possible without the new optical network. It also uses a new network management capability, developed as part of a CANARIE research program, called "User Controlled LightPath," or UCLP, to establish the connection.

The interest of CRC in collaborating with Calit2 on the OptIPuter project was based partly on its own mission to explore innovative broadband applications, in particular those using UCLP. It was also based on the interest of researchers at Carleton University's Immersive Multimedia Studio with whom they have partnered to develop an application focusing on collaborative architectural design.

Other applications of the new network that were discussed at the summit included collaboration between brain imaging researchers at McGill's Neurological Institute and colleagues at UCSD's National Center for Microscopy and Imaging Research, the participation of researchers at Ryerson University in Toronto in the Calit2 CineGrid project that involves the live streaming of next-generation digital cinema, and the HP Labs data centre project at the University of Calgary.

Participants at the summit saw these initial projects as important demonstrations of how research collaboration in the other areas discussed at the summit, such as nanotechnology, infectious diseases, and stem cell research, can be enabled by new networking and information technologies.

To read this release in French, visit http://www.publicaffairs.ubc.ca/ubcnews (http://www.publicaffairs.ubc.ca/ubcnews)

**BACKGROUNDER**

**About CANARIE and CA*net 4**
CANARIE is Canada 's advanced Internet organization, a not-for-profit corporation funded by Industry Canada to facilitate the development and use of next-generation research networks and the applications and services that run on them. CANARIE promotes collaboration among key sectors and partners with innovators around the world, and in so doing stimulates innovation and growth and helps to deliver social, cultural, and economic benefits to all Canadians. CA*net 4, Canada 's national research and education network, is developed and operated by CANARIE. CANARIE positions Canada as the global leader in advanced networking, and is supported by its members, project partners, and the Government of Canada. For more information, visit www.canarie.ca (http://www.canarie.ca/)

**About Calit2**
The California Institute for Telecommunications and Information Technology, a partnership between UC San Diego and UC Irvine, houses more than 1,000 researchers organized around more than 50 projects on the future of telecommunications and information technology and how these technologies will transform a range of applications important tothe economy and citizens' quality of life. www.calit2.net (http://www.calit2.net/)

**About CRC**
The Communications Research Centre Canada (CRC), an agency of Industry Canada, is the Canadian government's primary laboratory for research and development (R&D) in advanced telecommunications. Their R&D is used for public policy purposes and to strengthen the Canadian economy through technology and knowledge transfer. CRC specializes in taking an interdisciplinary approach to longer-term R&D in wireless systems, radio fundamentals, communication networks, photonics and interactive multimedia. Further details about CRC are available at www.crc.ca (http://www.crc.ca/)

**About CENIC**
California 's education and research communities leverage their networking resources under the umbrella of a nonprofit corporation known as CENIC, the Corporation for Education Network Initiatives in California, in order to obtain cost-effective, high-bandwidth networking to support their missions and answer the needs of their faculty, staff, and students. CENIC designs, implements, and operates CalREN, the California Research and Education Network, a high-bandwidth, high-capacity Internet network specially designed to meet the unique requirements of these communities, and to which the vast majority of the state's K-20 educational institutions are connected. In order to facilitate collaboration in education and research, CENIC also provides connectivity to non-California institutions and industry research organizations with which CENIC's Associate researchers and educators are engaged. CENIC is governed by its member institutions. Representatives from these institutions also donate expertise through their participation in various committees designed to ensure that CENIC is managed effectively and efficiently, and to support the continued evolution of the network as technology advances. To learn more, visit www.cenic.org (http://www.cenic.org/)

**About the University of British Columbia**
The University of British Columbia is one of Canada 's largest and most prestigious public research and teaching institutions. Located in the Pacific Rim gateway of Vancouver, one of the world's great cities, and in the Interior city of

Kelowna, UBC is a global centre of research and learning. It offers more than 45,000 students a range of innovative undergraduate, graduate and professional programs in the arts, sciences, medicine, law, commerce and other faculties.

UBC is consistently ranked among the world's 40 best universities, one of only two Canadian universities in this category. It is ranked within the top 10 North American universities, and first among Canadian universities, in terms of the number of U.S. life sciences patents and the quality of activity generated from those patents, including spin-off company creation. Learn more at www.ubc.ca (http://www.ubc.ca/)

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