

**Speaking Notes**  
**Guy Bujold, President and CEO CANARIE**  
**Wednesday, October 14, 2009**  
**National Cybera-CANARIE Summit 09**

Bonsoir. Good evening. My name is Guy Bujold and I'm the President and CEO of CANARIE, Canada's Advanced Research and Innovation Network.

On behalf of CANARIE, Cybera and our other Summit partners and valued sponsors, it is my great pleasure to once again welcome you to the 2009 Cybera-CANARIE Summit—and to CANARIE's National Research Exhibition.

I would like to extend a particularly warm welcome to our many distinguished international guests who have travelled a great distance to join us and contribute to what I am sure will be a very productive Summit. I am delighted to welcome you again to Canada, and to Banff. We hope you are enjoying our country so far, particularly this truly stunning Alberta backdrop.

We are proud to have in our company tonight representatives from 6 continents and over 28 countries, including colleagues from Australia, Brazil, China, and numerous European countries. You are all essential partners in the global innovation community: a growing and maturing community that allows bright minds to push the frontiers of discovery and science. While many great things have already been achieved by working together, so much more is possible through more collaboration.

I would like to thank all of you for taking the time to share your ideas, expertise and innovations with us, and for exploring new opportunities to work together –to achieve more. Collaboration is truly a timely theme. It is at the heart of this Summit, and of the way that we at CANARIE see the future unfolding.

Advanced networks and cyber-infrastructure are key to unlocking solutions to many of the great challenges facing the planet. As we have heard from the experts assembled here this week, the application of these technologies creates the potential to attain important goals, like slowing the rate of climate change, addressing the spread of pandemic and infectious diseases, unlocking the mysteries of our universe, and so much more.

As we emerge from perhaps the greatest global economic crises in modern history, we need new ways to fuel innovation and stimulate our economy. Research underpinned by advanced networking technologies is changing the way we work, play and live. It is increasingly interdisciplinary and it is global. Ann Doyle, the Senior Program Manager of Arts and Humanities at Internet2 expressed it quite succinctly at the Internet2 meeting in San Antonio last week. She said: “The lone researcher is obsolete”.

Advanced networks are enabling research that stimulates innovation beyond traditional boundaries. They cross disciplines from engineering to physics, to the arts and humanities, and an equally broad range of industrial sectors. The companies that are represented here tonight are just a small sample of those that are participating in, and benefitting from cyber-infrastructure including advanced networking technologies.

As you look around at the projects displayed this evening, you will see concretely some of the ways that cyber infrastructure is helping to transform research...and the future.

Researchers are putting these new technologies to work in new ways, allowing them to deliver results that are critical to our economic and social well-being. These basic and applied research outcomes contribute to the development of new methodologies, products and services that will make our companies more productive, innovative and competitive.

But the development of an entrepreneurial advantage is just one part of the advanced networking value proposition. These technologies are also supporting the creation of equally critical people and knowledge advantages in this country. The pursuit of these three key advantages, which are supported by significant public investments, will result in an overall economic advantage for Canada and other countries that pursue them.

Our future depends on highly skilled people who will discover new things, commercialize ideas, build companies, shape policy, and train the minds of the future. And they in turn will depend on readily available and reliable advanced networks. This national science and technology infrastructure is essential to develop our own research talent, and to attract and retain other talent from around the world.

We are enabling ever growing numbers of talented individuals to work together in more productive and efficient ways than ever before. We help researchers to focus on research, allowing them to exchange and analyze data more quickly and efficiently than ever before. They are building new repositories of knowledge to be shared and exploited by the community within a new culture for research and business.

Research is moving from the empirical (where predictions or hypotheses emerge from a series of *experiments* in a laboratory over a period of time) to distributed data-driven research (where predictions and hypotheses are mined or extracted from very large volumes of information following computation, and analysis that

relies on advanced networking technologies). This opens up a world of possibilities for those of us gathered here tonight—and the many stakeholders we serve.

It is clear that advanced networking creates a wealth of opportunities. But seizing these opportunities takes vision. It takes leadership. And it takes action. In Canada, CANARIE is proud to respond to the call for leadership together with our many partners, from the regions, across Canada and around the world. A network is far more than technology—it's human capital, ingenuity and passion. One only has to look around this room tonight to get a sense of these attributes and to understand the real power of this people network.

CANARIE is a part of this global community. With a focus on Canada's innovation objectives, we work closely with the 12 provincial/territorial Optical Regional Advanced Networks to deliver the advanced networking capability that keeps Canada at the leading-edge of research in many fields, and allows our researchers to lead and participate in big science projects.

With funding from the Government of Canada, CANARIE and its delivery partners connect more than 39,000 researchers and scholars, located at some 200 Canadian universities and colleges, research hospitals, institutes and government labs, with peers across Canada and around the world.

CANARIE currently connects to 100 peer networks in 80 countries to support collaborations that stimulate research, and innovation.

One of the ways in which CANARIE is supporting the participation of Canadian researchers is through the CANARIE Lightpath Program. By providing end-to-end lightpaths, we've made it possible for an organization like TRIUMF, to be designated as a Tier 1 site for the ATLAS Experiment at CERN. The connection that the CANARIE network affords, along with significant investments in related infrastructure and operational activities, has helped to increase the profile of

TRIUMF on the international stage. It has also helped to reinforce Canada's ability to contribute to large scale, global science projects like the Thirty Meter Telescope and the Square Kilometre Array for radio astronomy.

Building on a 15-year track record of innovation, CANARIE helps achieve synergies between the various elements of the research ecosystem by connecting researchers and resources across the country, and enabling them to *do more together*. This helps Canada to obtain more value from innovation investments made through the Canada Foundation for Innovation, Canadian granting councils and other federal and provincial innovation agencies.

CANARIE is proud to work with many regional and national partners across the country to drive innovation.

CANARIE also partners with international networks and organizations, such as Internet2, National LambdaRail, NORDUnet, and GLIF and DANTE/GÉANT to create a globally connected world.

But we all know that there's more to it than the network. That is why CANARIE also supports the development of new applications and approaches that help researchers exploit the value of the network. Our goal tonight is to showcase how we're doing this and to share some of the early, but very promising results.

The Network Enabled Platform, or NEP, program is an important instrument to leverage the power of CANARIE's advanced network. It supports the creation of the middleware tools and related platform technologies used by virtual organizations and interested communities to support their research activities.

We are proud to feature the first 10 projects supported through the first \$15 million-dollar round of the Network-Enabled Platforms program. The multi-disciplinary, and multi-site teams that have been created to undertake each of the NEP projects have developed new methodologies, instrumentation and

software to help researchers assess, manage and share information, and collaborate more effectively.

I encourage you to take a moment this evening to chat with the project representatives. You will see how, for example, multi-disciplinary teams are extracting and manipulating information from scientific instruments on the ocean floor to better understand marine ecosystems and ocean life, and to predict and more effectively respond to storms, tsunamis and underwater volcanic eruptions. Learn how, at the University of Victoria, ecology specialists with the Service-Oriented Scientific Grid Computing Forest Observation project, have developed new tools to manage and disseminate large volumes of satellite-based earth observation data, helping to support the sustainable development of Canadian forests.

Learn how, through the Canadian Brain Imaging Research Network (C-BRAIN) project, led by the Montreal Neurological Institute at McGill, neurologists and their collaborators are gathering, sharing and analyzing information about the human brain, and increasing our understanding of brain development and neurological diseases such as Alzheimer's and Parkinson's Disease.

The Health Services Virtual organization project led by Lakehead University in Thunder Bay Ontario is helping professors, clinicians and entrepreneurs create a research platform that enables the development and delivery of shared ICT-based health services and medical training opportunities.

From the depths of our oceans to the inner workings of the brain, ALL of the projects on display here tonight represent the EVOLUTION of what cyber-infrastructure, including advanced network technologies, can facilitate in the research world.

The results from the first round of NEP projects have been so encouraging, that CANARIE decided to announce a second round investment of \$12 million for more NEP projects. CANARIE received over 90 expressions of interest for NEP-2. And as you may have seen in the press release issued earlier this week we have selected 9 projects for funding. These projects will benefit from the lessons learned by round one participants. We have no doubt that the winning projects will once again help to reinforce Canada's position as a leader in advanced research.

We have also recently launched a \$3 million call for proposals under a new Green IT Pilot. The goal of these pilots will be to fuel the development of advanced computing and networking technologies that reduce carbon and greenhouse gas emissions from the world's ICT infrastructure. The pilot projects will enable collaboration on promising green IT solutions that will hopefully help to slow the rate of global warming.

Our aim is to facilitate national and international collaborative research projects that demonstrate the technical feasibility of relocating computers and other cyber infrastructure to zero-carbon data centres that are connected by optical networks, and powered by renewable energy sources such as the sun or the wind.

The projects will also look at the business case for providing carbon offsets or related services to university researchers and IT personnel who reduce their carbon footprint by relocating computers and instrumentation to zero-carbon data centres.

CANARIE will soon be announcing the winners of this pilot project.

The results of these projects will hopefully influence the development of 'Canadian-designed' green ICT approaches, products and services creating new opportunities for Canadian researchers and their collaborators around the world. It should also help Canadian businesses to capitalize on emerging opportunities

in Green ICT, a global market that is expected to reach over \$600 billion US by 2013.

CANARIE is proud to manage Canada's research and innovation network and to be working with its regional, national and global partners to enable scientific discovery that is revolutionizing our world.

Summit 09 provides us with an opportunity to demonstrate what we have achieved to date, and to identify and explore other tremendous opportunities ahead. I hope you will take this opportunity to share information, exchange ideas and explore potential collaborations that build on complementary strengths. Partnerships are powerful; partnerships are essential to advance innovation...in every scientific discipline, industrial sector and corner of the world: partnerships require support. CANARIE wishes to remain a steadfast partner to advance both the research and education agenda.

In conclusion, I would like to thank the Government of Canada for their continued support of CANARIE and Canada's advanced networking community. I would also like to commend Cybera for their strong leadership on the Summit, and the many organizations that have contributed to the program. These include OGF, IEEE, Westgrid and the Association for Computing Machinery.

I would also like to extend sincere thanks to our sponsors including IBM, Juniper, DataDirect Networks, EnMax Envision, iCORE, and the many other academic, not-for profit and media partners. Your generous contributions were essential to the success of this event.

Thank you for joining us this evening, and for continuing to explore the exciting opportunities that lie ahead.

We look forward to working with you to continually expand our advanced networking capability, to bridge more scientists, resources and expertise; and to

accelerate innovation to deliver economic and social benefits to people around the world.