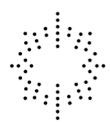


Innovating on the world's powerful new utility.







It's as critical as light and heat for business. Access to it has been called a basic human right by the United Nations. It's as powerful as the railway in nation building. Think of it as the shared anatomy of the Internet.

[E-INFRASTRUCTURE]

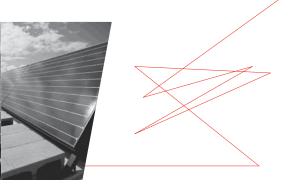
Cybera is the only not-for-profit organization in Alberta responsible for ensuring advanced and efficient e-infrastructure. This is the publicly funded system of high-speed networks and computers critical to Alberta's innovation ecosystem.





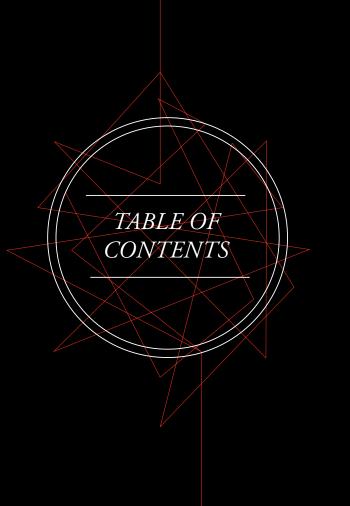












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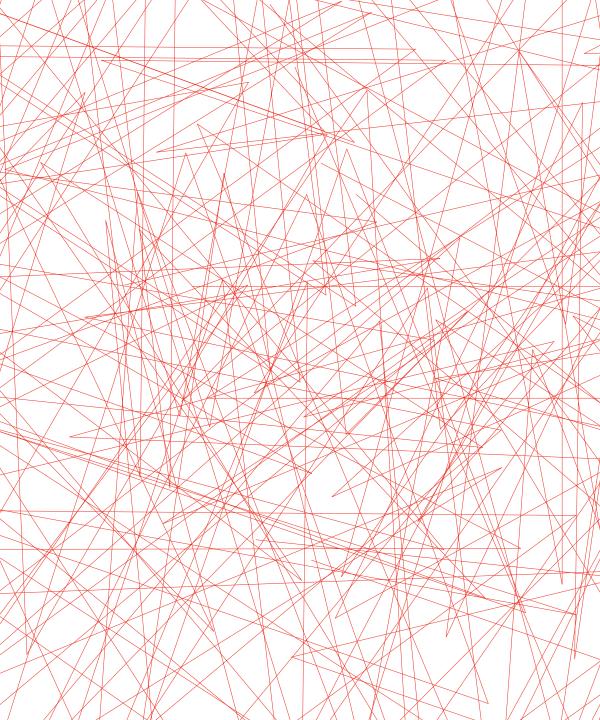
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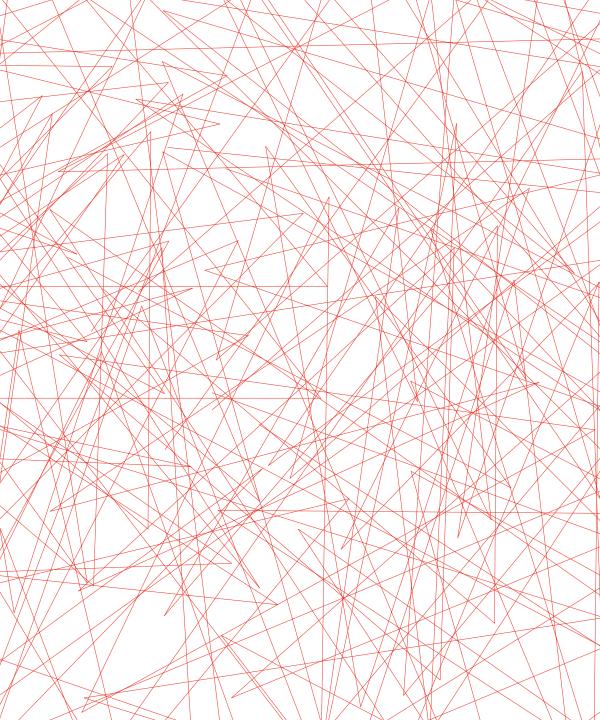
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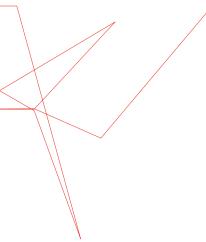
A LOT OF WHAT WE
HAVE BEEN DOING
OVER THE PAST 20
YEARS WAS, QUITE
LITERALLY, GROUNDBREAKING WORK.







ROBIN WINSOR Cybera president + CEC



For Cybera, this means its role is maturing as well. Cybera has been protecting the public interest through the provision of the high-speed research network in Alberta for over 20 years. Now, as the Internet becomes a staple, Cybera is applying its networking expertise and public sector support role to make sure we are putting it to use for the betterment of Alberta's economy and culture.

What exactly does that involve?

First, the provision of Alberta's research network is at the heart of what we do.

Second, we are creating "above the network" projects – creating efficiencies for the education sector through a province-wide buying group, piloting new education delivery systems, and helping scientists, engineers and entrepreneurs use the network as a showroom for discoveries.

Finally, we are active in the communities driving Alberta's culture of creativity and technology. We live and breathe innovation everyday in the world of advanced technology, and we are devoted to sharing that expertise.

WHAT IS YOUR VISION FOR BROADBAND NETWORKING IN ALBERTA AND CYBERA'S ROLE IN IT?

In 2011, the United Nations described access to the Internet as a basic human right. Yet 30 years ago, this technology did not even exist. The transformational impact of networking technology is simply mind-boggling.

Because the transformation has been so rapid, we are just now coming to grips with the Internet as a ubiquitous part of society. What that means for Alberta, and elsewhere, is a maturing of the way this technology is perceived in the public sphere. It is taking on the characteristics of a utility – available to everyone, and delivered and governed with the public interest in mind.

HOW DOES CYBERA'S PROGRESS RELATE TO WHAT THE PRIVATE SECTOR IS DOING?

As the landscape changes, and the idea of the Internet as a utility starts to take root, we are constantly discussing and negotiating where our role ends and the private sector roles begins. That is simply the reality of operating a publicly funded high-speed network, as an engine for innovation, in a complex networking milieu.

We are mindful of our public mandate to stimulate innovation in both the public and private sector and, with this in mind, have four interfaces with the private sector.

First, we work alongside Internet Service Providers in meeting the needs of Alberta's research institutions. Only non-commercial traffic is allowed to travel on our research network, CyberaNet. So, for example, university traffic will flow over CyberaNet if it is going to another destination on the global system of research networks. If it is not, it will be routed via a commercial Internet Service Provider.

We also purchase Internet services from the private sector, on behalf of Cybera members who join the Internet Buying Group. This is a way that we help the Alberta public sector be more efficient with the Internet, and that is innovative too.

We work with private companies on pilot projects. In this way, we can help companies gain expertise in certain areas or develop new products and services. All of these pilot projects are required to be non-commercial (that is, they are not yet generating revenue).

And, lastly, we work in support of Alberta's companies overall by acting as a neutral agent that can bring a more competitive environment for business in Alberta, through, for example, the creation of a Calgary Internet Exchange. In all of our work, we act without privilege or partiality to any one person or company.

WHAT IS THE CONNECTION BETWEEN CYBERA'S NETWORK SERVICES AND ITS WORK TO STIMULATE INNOVATION?

A huge part of helping people to innovate is making sure they have an outlet for those innovations, and that means having a customer base and realistic expectation of getting to customers. Nowadays, like railways and roads, the Internet is one way to move goods to the consumer.

Cybera used to solely focus on academic research and related high-speed networking and supercomputer needs. We are now reaching out to assist people making discoveries in other walks of life as well.

Cybera's very high-speed network is available to Alberta innova-

HAS NOT CHANGED – TO KEEP ALBERTA INSTITUTIONS ON THE INTERNATIONAL FOREFRONT WHEN IT COMES TO E-INFRASTRUCTURE

tors as a showroom for new ways of doing things, or for testing new Internet products and services. In this way, the path between idea and marketplace can be shortened. The same kind of prototyping environment is being developed for innovators who need access to a cloud.

CYBERA HAS A REPUTATION AS A TECHNICAL SWAT TEAM OF SORTS. HOW HAS THIS COME ABOUT?

There is a culture at Cybera that mixes technical expertise and an interest in the public good. That may sound cliché but it means we have ended up with a powerful technical team that is also a guardian of the best interests of Alberta.

This is important, because the work we do is well beyond the

reach (or interest!) of an average person – yet every Albertan is dependent on it. Cybera staff members like to work on the frontiers of technology and, to a person, we are mindful that our work is intended to improve the lives of Albertans.

AMIDST THE MOVE TOWARD GREATER FOCUS ON ECONOMIC STIMULATION ON TOP OF NETWORK SERVICES, HOW IS CYBERA MEETING THE NEEDS OF ITS FOUNDING STAKEHOLDERS, ALBERTA POST-SECONDARY INSTITUTIONS?

The core of what we do is build and operate Alberta's research network and that has not changed. Like all research network organizations across the country and around the world, we have gotten better at providing these services. A lot of what we were doing over the past 20 years was, quite literally, groundbreaking work.

Now, the system of high-speed networks and supercomputers for Alberta universities is in top shape. It is very competitive by world standards. We work closely with CANARIE, Compute Canada and WestGrid to keep it evergreen and excellent.

Our attention now encompasses strategic new projects and initiatives. For example, we are working with the University of Alberta to pilot, along with Athabasca University and NAIT, a cloud-based learning management system. We are working with the University of Calgary to attract a data centre for what some are saying is the world's largest science initiative, the Square Kilometre Array.

As needs change, so do we, but our core purpose has not changed – to keep Alberta institutions on the international forefront when it comes to e-infrastructure.

THIS PAST YEAR TWO NEW PROGRAMS WERE DEVELOPED FOR THE K-12 SECTOR: WHY DID YOU REACH OUT HERE?

It was a natural extension to the work we were doing to create Internet efficiencies in the post-secondary education sector.

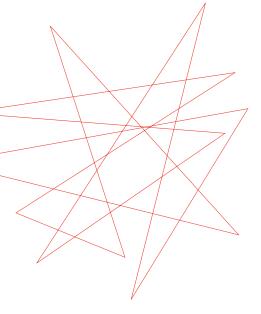
Our high-speed network is directly connected to Internet Exchanges in Toronto, Seattle and New York. These exchanges have been created over time to make the global Internet more efficient. We decided to bring that efficiency to Alberta universities, as it is part of the work that we do for them. That is the Peering Service we started.

We learned in the process that Alberta school districts were paying higher than average prices for their Internet services. We now offer the Peering Service to school districts, and we started an Internet Buying Group to pool the Internet needs of Cybera members for greater efficiency.

THERE HAS BEEN SOME FISCAL UNCERTAINTY THIS PAST YEAR DUE TO A NEW FEDERAL BUDGET AND A NEW PROVINCIAL GOVERNMENT. HOW HAS THIS AFFECTED CYBERA?

On the federal side, our national counterpart CANARIE was up for funding renewal, and so a number of their programs were put on hold until the new commitment was confirmed. This meant that Cybera was also on hold for these projects. In the summer, another three years of funding was confirmed for CANARIE, for approximately the same levels as in the past. We will be working with them to activate new projects, and will build on the strong working relationship we already have.

We were also up for funding renewal this year. With the change in provincial government, Cybera was renewed for one year, and asked to consult with stakeholders on a new three-year strategy. The timing is appropriate and well aligned with Cybera's mandate to lead and adapt to the rapidly changing technology landscape. The new strategy will be complete at the end of 2012.



The period of change has made us think about how we maintain core network services and add value to the innovation ecosystem in Alberta in a way that only we can do. We are exploring specific ways to increase the level of activity and impact through network services, above-the-network pilot projects and sector stimulation.

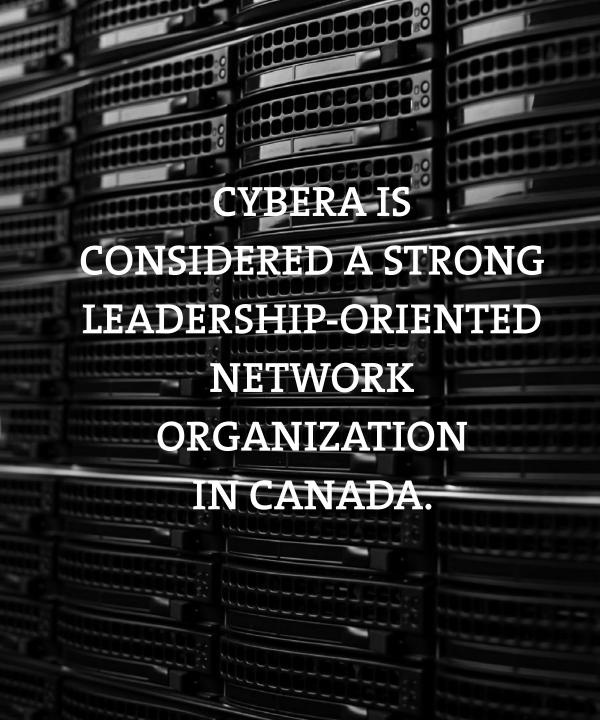
HOW DOES CYBERA WORK WITH ITS COUNTER-PARTS IN OTHER PROVINCES IN CANADA?

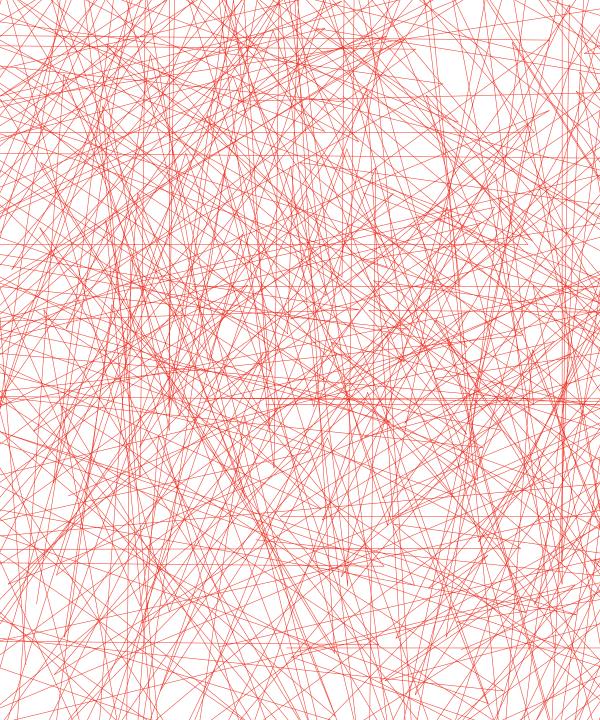
Every province has an Optical Regional Advanced Network (ORAN) somewhat like Cybera. We are often told that Cybera is considered a strong leadership-oriented network organization in Canada.

Our staff members are involved in advanced projects. We have been building expertise and capacity in Alberta through above-the network pilot projects developing cloud services, big data services, and inter-institutional initiatives. This experience begets expertise, which in turn allows us to share expertise with others in province and across the country in a leadership role.

HOW DOES CYBERA WORK WITH THE NATIONAL NETWORK ORGANIZATION, CANARIE?

We see ourselves as being part of the national fabric that CANARIE represents. On a functional level, we work very well as part of a whole. On a strategic level, over the next two years, we have indicated an interest in working with CANARIE and the other regional network organizations to examine the system and relationships. We must be vigilant in looking for ways to be more innovative and efficient by coordinating across jurisdictions. There is perhaps no more important role than this for networking organizations.







STRATEGIC GOAL #1

Keep Alberta's R&E network on the technology forefront



In August 2011, the Peering Service was launched. Nine member institutions were connected to the Peering Service by March 31, 2012.

IPv6 addresses from the American Registry for Internet Numbers to help Albertans when they are ready to start testing or deploying IPv6 in their own institutions.



In the first full year of operation, the peering service provided an additional 1 PB (petabyte) of traffic capacity. This amount of data is equivalent to 207,000 DVDs or 13 years of steadily streaming HDTV.

Black Gold Regional Schools
Chinook's Edge School Division
Wolf Creek Public Schools
Medicine Hat School District
Lethbridge School District
University of Alberta
University of Lethbridge
The Banff Centre

Athabasca University



Cybera's network core has been IPv6-enabled since 2004. This year, Cybera updated internal servers, firewalls and its wireless system to be IPv6 enabled. We also obtained a septillion of

NETWORK EQUIPMENT UPGRADE

After the major equipment upgrade in both Calgary and Edmonton in 2010-11, Cybera focused on developing network services and minor improvements. New Juniper MX480 routers were installed in both Calgary

and Edmonton. The eight new logical routers run over two physical routers making network engineering more complex but also much more flexible.

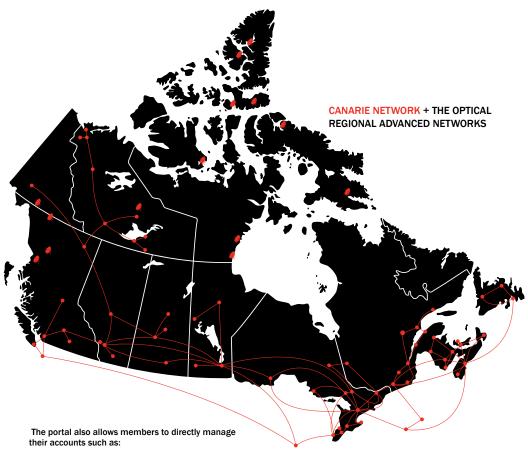
The total number of users at Cybera member institutions whose traffic is flowing over CyberaNet is 497,000.



A new network management system was deployed this year to track members' connections, collect usage data and monitor network problems. The portal provides real-time data for members. Members can view traffic graphs for:

CyberaNet high-speed research and education network Peering traffic

Transit flowing to Internet Buying Group members



Change administrative, billing and technical contacts

View and download copies of contracts with Cybera

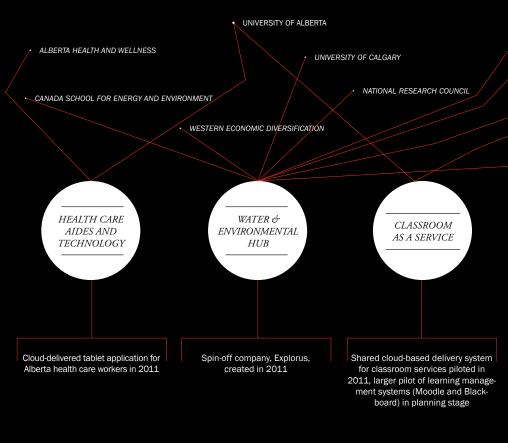
Generate billing reports monthly for members of the Internet

Buying Group

View an incident report for any problems on the network, such as down time or Border Gateway Protocol resets

STRATEGIC GOAL #2

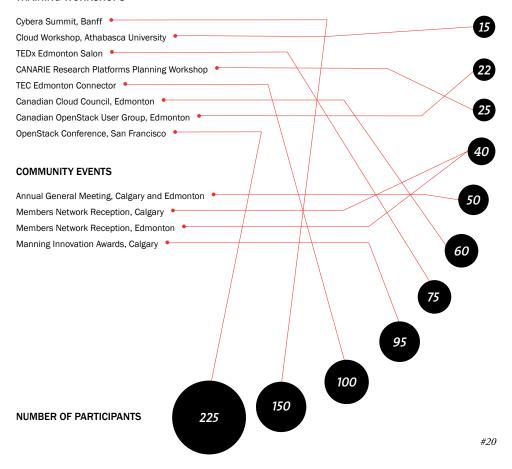
Leverage the inter-institutional nature of Cybera's Internet infrastructure to improve efficiency and pilot collaborative above-the-network projects.

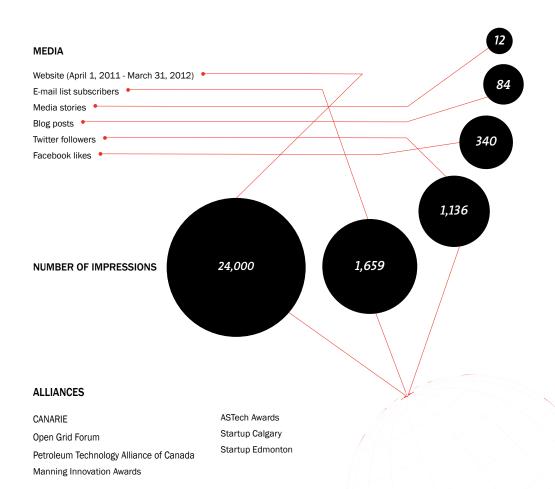


STRATEGIC GOAL #3

Champion and support Alberta expertise in Internet-related areas, from start-ups and industry to the education sector.

TRAINING WORKSHOPS





REVIEW OF THE STRATEGIC ENVIRONMENT

THIS IS A CRITICAL TIME FOR ORGANIZATIONS LIKE CYBERA.

THE NEED FOR UNBIASED EXPERTS WHO ARE STEWARDS OF SOCIETY'S SHARED CYBERINFRASTRUCTURE COULD NOT BE GREATER. WE NEED TO DETERMINE HOW BEST TO BUILD AND EXECUTE THESE PARTNERSHIPS IN DIFFERENT PARTS OF THE WORLD. EVERY AREA HAS DISTINCT NEEDS.

- BILL APPELBE, CHAIR, CYBERA INTERNATIONAL STRATEGIC ADVISORY COMMITTEE, AND CEO, VICTORIAN PARTNERSHIP FOR ADVANCED COMPUTING, AUSTRALIA

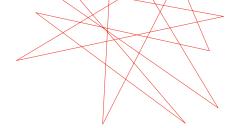
CYCLES + SENSITIVITIES

The opportunities and challenges for Cybera in Alberta are specific, yet entwined with the future of associated networks such as SuperNet and CANARIE. The funding and mandate of these organizations can have substantial implications for Cybera's optimal strategic direction.

Cybera's strategic direction is developed with awareness of the cycles and sensitivities in the evolving landscape for research network organizations.

INTERNATIONAL DIRECTIONS IN SHARED INFRASTRUCTURE FOR RESEARCH AND EDUCATION

The United States, Europe and Australia provide various models for research network organizations like Cybera. Successes and failures in these jurisdictions can influence Cybera's decisions. The United States is our closest neighbour and will continue to be the world leader for the foreseeable future in developing cyberinfrastructure.



Canada's research and industry innovation is largely going to be driven by trends in the United States. Cybera may want to strengthen its involvement, alongside CANARIE, with US networks and cyberinfrastructure organizations to (i) offer optimal services for the research and education community and (ii) develop Albertabased expertise that is competitive by international standards.

Cybera's reputation among international leaders in cloud computing is "very good."

NATIONAL PARTNERSHIP WITH CANARIE

In the 2012 federal budget, CANARIE, Canada's advanced research and innovation network, received three years of funding, with a cost-recovery component.

As CANARIE develops its long-term plans, Cybera will work closely to adapt its strategic position and alliance with CANARIE to achieve maximum impact and benefit for both Alberta and Canada. Expanded or emerging roles for Cybera in the national fabric are considered in relation to Alberta's specific needs.

PROVINCIAL PARTNERSHIP WITH SUPERNET

Cybera collaborates with the network management company for the SuperNet, Axia, to build and manage the shared infrastructure for education and research in Alberta.

As opportunities arise for the education sector to find greater efficiencies through pooling of resources and shared services, a clear relationship and open collaboration will be developed. There also may be middleware and mobile service prototypes that would be ideal to develop jointly, engaging the public and private sector and both SuperNet and CyberaNet.

PROVINCIAL FUNDING ENVIRONMENT

Cybera has just completed a five-year cycle of funding amidst a rapidly evolving technology landscape. To take stock of the current landscape and refocus on emerging needs, Cybera is undertaking a six-month review of stakeholder requirements prior to submitting a new three-year funding request to the provincial government. The review is informed by an international environmental scan to understand the strategies that might be most effective to optimizing impact and results for an organization like Cybera.

According to an external consultant's report, Cybera is perceived as one of the leading research networks in Canada because of its past successes. It is well regarded for meeting the real needs of the research and education community while creating a climate for ingenuity based on the Internet and related technologies. The current strategic planning process will ensure that value continues to be added for stakeholders in a measurable and focused way.

REVIEW OF THE MARKET ENVIRONMENT

AS UNBIASED EXPERTS BUILDING ALBERTA'S SHARED INTERNET RESOURCES, CYBERA CREATES A PROTECTED PROVING GROUND THAT IS ESSENTIAL – WHETHER FOR A NEW SCIENCE EXPERIMENT WITH BIG DATA, A NEW INTERNET BUYING COLLECTIVE FOR SCHOOL DISTRICTS, OR TESTING A NEW CLOUD-BASED BUSINESS.

- SEAMUS O'SHEA, CHAIR, CYBERA BOARD OF DIRECTORS PROVOST EMERITUS, UNIVERSITY OF LETHBRIDGE

DRIVERS FOR GROWTH

As Cybera shapes the Alberta environment for Internet-based ingenuity, it takes into consideration emerging needs and technologies in this landscape in general. The primary drivers of Cybera's growth encompass the triumvirate of educational, research and innovation needs.

DEALING WITH BIG DATA

The quantity of research data is several orders of magnitude greater than a decade ago, and increasing at an exponential pace. Moving large data sets across networks is not an easy undertaking and requires a whole suite of specialized network and middleware tools to accomplish the task. Research network organizations have realized that having high-speed networks and high-volume compute power is not sufficient. Researchers also require access to expertise. Part of Cybera's role in the research environment is to coordinate and consult on large-scale projects.

SMALL- AND MID-SIZED SCIENCE ON THE CLOUD

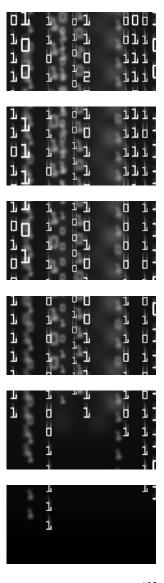
Although much attention is now paid to big science and big data, in Canada the research and private sector community is largely dominated by what could be called small or medium volumes of data. They have more modest computation requirements, which have typically been addressed by the purchase of a small computing cluster as part of a research grant. Each one is dedicated to a single application or researcher. The aggregate demand and cost of such systems over thousands of research funding grants is causing concern to funding councils. These "closet clusters" could be replaced by cloud services. Cybera is piloting the use of cloud computing for smaller research projects in Alberta.

EDUCATION EFFICIENCIES

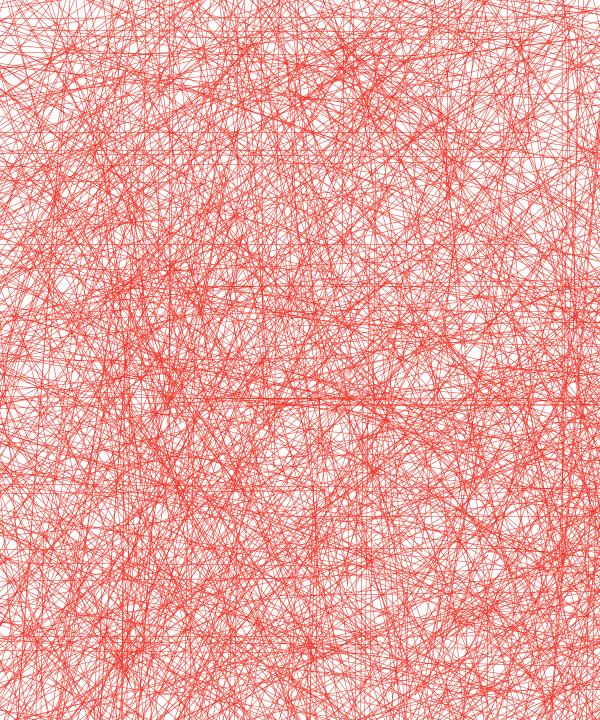
Research organizations like Cybera are also under pressure to explore and prototype shared resources in the education sector. Although most cyberinfrastructure development has been focused on the research community, it is having a profound impact on education. Classroom management systems such as Moodle and Blackboard are being moved to the cloud, and libraries are looking at cloud-based resources in some pilot tests in the United Kingdom. Cybera is working with several post-secondary institutions to pilot a "learning management system on the cloud" project. It is also working with school districts across the province to aggregate internet traffic to increase efficiency in this sector.

UTILITY FOR ENTREPRENEURIAL INITIATIVES

Access to high-speed networks and low-cost computing is needed by innovators working at the earliest stages of the invention cycle, regardless of whether they are located in universities, health organizations, schools, companies, start-ups, or other entrepreneurial terrain. Research network organizations such as CANARIE and Cybera have a larger "industry" innovation mandate where there is direct participation by industry in pilots and programs, and where funders expect to see industrial benefit. Cybera is planning to pilot a network showroom to support Alberta start-ups.









TWO NEW NETWORK SERVICES

IN 2011-12, CYBERA
UPGRADED THE HIGHSPEED RESEARCH NETWORK AND ROLLED OUT
TWO NEW NETWORK
SERVICES TO MEMBERS.



PEERING SERVICE

In August 2011, Cybera began to offer to members who were already connected to CyberaNet a more direct Internet connection to sites such as Google, Microsoft, YouTube, Akamai Technologies and Facebook. The direct connection is made possible through established peering connections with the Seattle Internet Exchange (SIX), the Toronto Internet Exchange (Torix) and the New York International Internet Exchange (NYIIX). When traffic is peered, there is no cost associated with sending or receiving information to and from these content sources. In 2011-12, nine Cybera members subscribed to this Internet service. The connected members have increased the capacity for commercial transit, on average, by 60 percent.

INTERNET BUYING GROUP

An Internet Buying Group was created in 2011-12 in response to requests from members of Alberta's research and education communities to increase the efficiency of Internet delivery in these sectors. Members of this group have their traffic aggregated and passed directly by Cybera to a commercial Internet Service Provider. In January 2012, a Request for Proposals was issued to Internet Service Providers to carry the group's traffic. Seven companies responded to the RFP and the two successful bidders were awarded a contract to provide redundant service to the group starting in spring of 2012. The bulk buy provides Internet services to the group members at a reduced cost.







ABOVE THE NETWORK PILOT PROJECTS

MADE-IN-ALBERTA CLOUD

Cybera has started to build a "made in Alberta" cloud to achieve four strategic goals: (1) to build the experience within the province with cloud computing so it can be shared with an expanding community of users, especially in small- and medium-sized businesses (2) to have a testbed and showroom for Alberta organizations developing cloud-based technologies that are not yet ready for commercial use or would be impractical to test at commercial rates (3) to give researchers access to computing resources as they are ramping up their high performance computing work, and (4) to develop a prototype community cloud for use by the not-for-profit sector. The first stage of this cloud was built in Alberta in 2011-12 and was tested through three programs: an education initiative, a health initiative, and an industry initiative, each described below.

COMPUTER LAB ON THE CLOUD

For the first time this past year, Alberta students were taking a course where, instead of going to a physical computer lab, they could use an online lab. No more rows of workstations. The programs and software they needed were hosted on an Alberta cloud, and they could get access to them from their personal computers. For students, it is a lot more convenient. But the greatest impact will be on the institution's budget. Using a cloud environment rather than individual workstations means that the resources are centralized. It is entirely flexible, scalable and upgradable, since the applications don't live on any individual computer. Many post-secondary institutions and K-12 school districts in Alberta may want to use the same centralized computing resources as the system scales up.

HELPING HEALTH CARE AIDES IN THEIR EVERYDAY WORK

Think about the risks in everyday work for health care aides: considerable travel, risking weather and road conditions; visiting patients in their homes, which may be isolated; and coping with the emotional stress of patients who are ill. Add to that the need to communicate with the patient, find his or her records, draw on other critical medical information, and make decisions about ongoing care and scheduling, often remotely. It's a care context that could greatly benefit from mobile applications and technologies to reduce some of these challenges. Cybera provided the cloud to host three major components of the technology system that a group of researchers from the University of Alberta set out to test, funded by Alberta Health and Wellness. Lead researcher Dr. Eleni Stroulia and a team of six collaborators are now publishing their findings and moving to the next stage of

testing and prototyping an application for tablets that allow health care aides to check in digitally with a patient's health care team to discuss care.

A DIGITAL SANDBOX FOR HIGH-TECH ENTREPRENEURS

From April 2011 to March 2012, CANARIE piloted the Digital Accelerator for Innovation and Research (DAIR) program, partnering with Cybera and Compute Canada to provide the research computing and data storage services. This testbed for small- and medium-sized ICT companies helped 41 companies to do online product design, testing and demonstration of innovative applications, products and services, especially for large-scale. Seven of the funded projects were in Alberta. Two of the companies launched new products by March 31, 2012. The companies needed digital infrastructure to test these ideas, so they were able to use a dedicated portion of the CANARIE highspeed, high-capacity network. Cybera and Compute Canada also provided cloud-based computing for both the companies and collaborators. This nearly \$1.1 million project was funded by CANARIE with additional contributions from HydroQuebec, Université de Sherbrooke and the University of Alberta. The project and Cybera's role in it have been renewed for three years.













FOR THE FIRST TIME THIS PAST YEAR, ALBERTA STUDENTS
WERE TAKING A COURSE WHERE, INSTEAD OF GOING TO
A PHYSICAL COMPUTER LAB, THEY COULD USE AN ONLINE
LAB. NO MORE ROWS OF WORKSTATIONS.

TALENT + AWARENESS

SUMMIT

Cybera's annual fall event attracted more than 150 technology trailblazers for three days of discussion and networking on "Data For All: Opening Up the Cloud." The event brought Alberta high-profile keynote speakers including: Tim Wu, best-selling author of *The Master Switch*; law professor and syndicated columnist Michael Geist; and CEO of Nebula and former Chief Technology Officer at NASA, Chris Kemp.

TRAINING

Over 24 presentations and workshops were delivered by Cybera staff this year at conferences and standalone workshops. Cybera also created Canada's first cloud computing user group, and is considered to be an international leader in open source cloud technologies through its role as the only Canadian test bed for a global first cloud project.

AWARDS

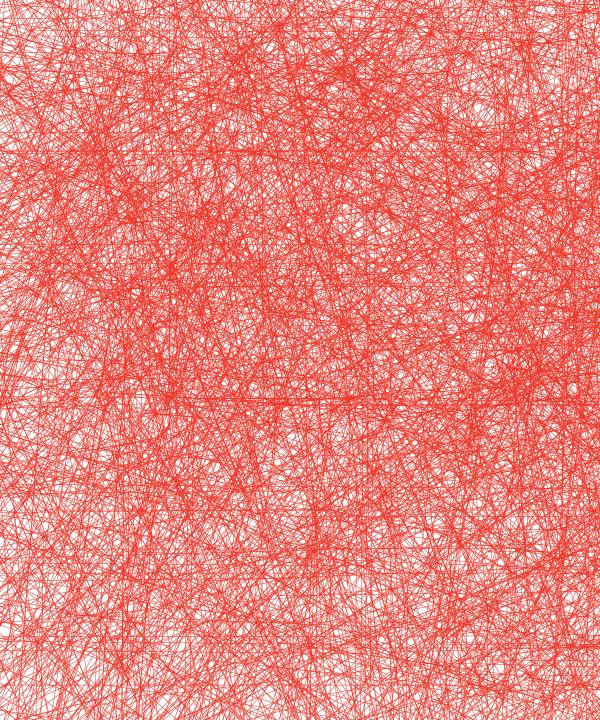
Cybera is host and primary sponsor of the Manning Innovation Awards in southern Alberta. The largest number of nominees in the history of the awards were from southern Alberta this year. They were recognized at an event celebrating innovation luminaries, including figures such as Dr. Marvin Fritzler and Dr. John Remmers to start-up successes DJ Sures and Michael Loh.

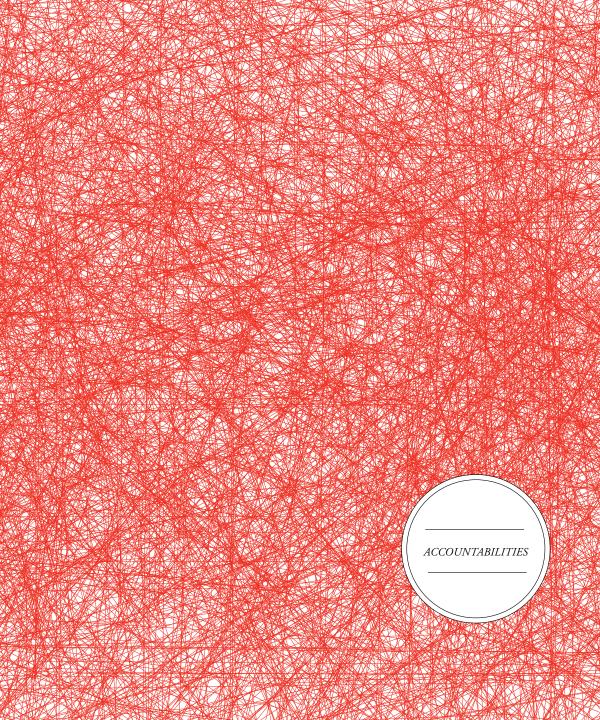
START UPS

Cybera is supporting both Calgary and Edmonton start-up associations through 2011-12 sponsorships and is exploring the connection of incubator spaces to CyberaNet.

Cybera also has an active social media presence and writes and coordinates two specialized blogs.





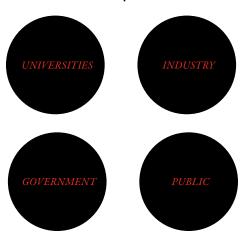


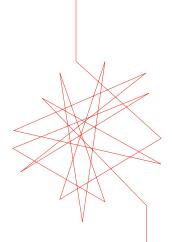
BOARD OF DIRECTORS

The Board of Directors held four meetings in 2011-2012. The board includes representatives from the communities that make up Cybera's membership, including research, education and the ICT technology sector. Membership of the board has been very stable over the past decade. A series of changes is anticipated for the coming year due to retirements, position changes, and the need to update the board profile to reflect the membership.

The Board is also currently reviewing and updating its committee secretarial support, membership structure and by-laws in this period of transition.

The board includes representatives from:





MEMBERS

















1 SEAMUS O'SHEA (Chair)

Former Vice-President and Provost of the University of Lethbridge and Co-Chair of the taskforce implementing ApplyAlberta, the province's online post-secondary application system

2 ANDREW BJERRING

Former CANARIE President and CEO for 15 years and a member of the advisory panel for the Alberta Research Capacity Program

3 TREVOR DAVIS

Associate Vice-President of Research at Mount Royal University

4 RAINER IRASCHKO

Vice-President Research of TRLabs and has been a principal in numerous startups both in Canada and Silicon Valley (term ended April 2012)

5 JONATHAN SCHAEFFER

Dean of Science at the University of Alberta and iCORE Chair in High Performance Artificial Intelligence Systems

6 PETER SINGENDONK

Director, Strategic and Technical Operations at Cisco Canada

7 BRIAN UNGER

Executive Director of the Grid Research Centre at the University of Calgary, the founding President of Netera Alliance (now Cybera)

8 ROBIN WINSOR (Observer)

President and Chief Executive Officer of Cybera

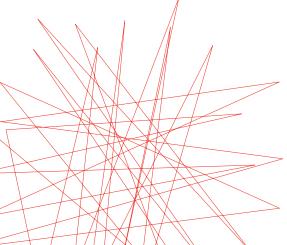
INTERNATIONAL STRATEGIC ADVISORY COMMITTEE (ISAC)

This advisory council to Cybera is made up of international experts in cyberinfrastructure from academia and industry. This committee met during the reporting period for one face-to-face meeting on October 5, 2011 in Banff. The Committee used this time to review Cybera's current projects and to provide a list of recommendations for the management team. The recommendations and subsequent actions were:

- Provide access to infrastructure clouds, understood as not just building a cloud in Alberta, but as a "cloud fabric" facilitating the use of other clouds in a seamless fashion so that storage and computation can move between private, community and commercial clouds based on need. CLOUD FABRIC IN DEVELOPMENT.
- Cybera needs to raise the level of its technology and marketing expertise. A significant proportion of Cybera's staff should be professional technologists (re-profiling of Cybera's staff may be needed). Full time marketing skills should include client needs assessment, client relationship management and processes, business development, and partnership development. NEW VP, STRATEGIC COMMUNICATIONS. HIRED.

- A successful large project with a flagship client is needed that demonstrates Cybera is a leader in the provision of a service within the cyberinfrastructure spectrum. IN PROGRESS WITH INTER-INSTITUTIONAL LEARNING MANAGEMENT SYSTEM ON THE CLOUD PROJECT.
- Develop strategic partnerships with organizations that have deep complementary IT expertise to leverage Cybera into larger flagship projects. SQUARE KILOMETRE ARRAY PROJECT SUPPORT IN DEVELOPMENT.
- Cybera should consider refocusing, or adding to, its educational efforts through workshops and short courses targeting industry, with the goal of both providing a service to the Alberta community as well as to help further develop their network of contacts and client base. IN-PERSON AND ONLINE TRAINING RESOURCE IN DEVELOPMENT.
- In future meetings ISAC needs a written document that includes a financial overview, more detailed information about the Cybera operations, the status of the projects, as well as, what actions have been taken as a result of ISAC recommendations. WILL BE IN DEVELOPMENT FOR ANNUAL MEETING IN 2012.

The Cybera Board of Directors moved to elect Bill Appelbe as Chair of ISAC, and Richard Fujimoto as Vice Chair beginning January 1, 2012.



ISAC MEMBERS

BILL APPELBE is Chief Executive Officer and Chief Scientist of Victorian Partnership for Advanced Computing (VPAC), an Australian state-based research service provider. He has held academic positions at UC San Diego and Georgia Tech.

RICHARD FUJIMOTO is Regents' Professor and founding Chair of the Computational Science and Engineering Division at the Georgia Institute of Technology and author of three books and several award-winning articles on parallel and distributed simulation.

KATE KEAHEY is a Scientist in the Distributed Systems Lab at Argonne National Laboratory and a Fellow at the Computation Institute at the University of Chicago, where she created and leads a well-known open source project supporting a science-driven cloud ecosystem.

ALEXANDER REINEFELD is the Head of the Computer Science Department at Zuse Institute Berlin and a Professor at the Humboldt University of Berlin. He co-founded the North German Supercomputing Alliance, the European Grid Forum, the Global Grid Forum, and the German e-science initiative D-Grid.

DEBASHIS SAHA is the Director of Kernel Systems Engineering at eBay and the holder of several patents and publications related to computer systems and very large-scale integration design.

ROB SIMMONDS is the Director of Research at the Grid Research Centre at the University of Calgary and the Chief Technology Officer for WestGrid, which provides high performance computing, storage, and collaboration facilities at universities across western Canada.

GREGOR VON LASZEWSKI is Director of the Service Oriented Science and Grids Laboratory in the Center for Advancing the Study of Cyberinfrastructure at Rochester Technical University and is a specialist in making green IT, grid, and cloud computing more accessible for scientists.

NANCY WILKINS-DIEHR is the Area Director for the TeraGrid Science Gateways program San Diego Supercomputing Center. She has held engineering positions with General Dynamics and General Atomics.

BRIAN UNGER is the Executive Director of the Grid Research Centre at the University of Calgary and Special Advisor for the joint Cambodia-Canada project in Informatics for Rural Empowerment and Community Health. He was founding President of the Alberta Informatics Circle of Research Excellence (iCORE), Netera Alliance (now Cybera), and Jade Simulations.

CYBERA 2011-2012 ANNUAL REPORT // ACCOUNTABILITIES

CYBERA MEMBERS

Cybera's members are the users and collaborators building Alberta's research and education network and are involved in piloting abovethe-network services.

Membership increased by almost 60 percent in 2011-12, with 10 new members joining, bringing the total to 34. Most of the new members are school districts and education organizations interested in the new network services offered.

The core of the membership reflects the longstanding alliance of Alberta major research institutions and technology leaders.

The most turnover in membership is seen in the small technology companies who join Cybera to take part in a pilot project. Once the pilot is complete, the membership is no longer required. One of Cybera's three-year strategic goals is to provide enduring membership benefits to the expanding community of small and medium-sized companies, so that this community can be active in the ongoing cross-pollination of ideas and resources



























































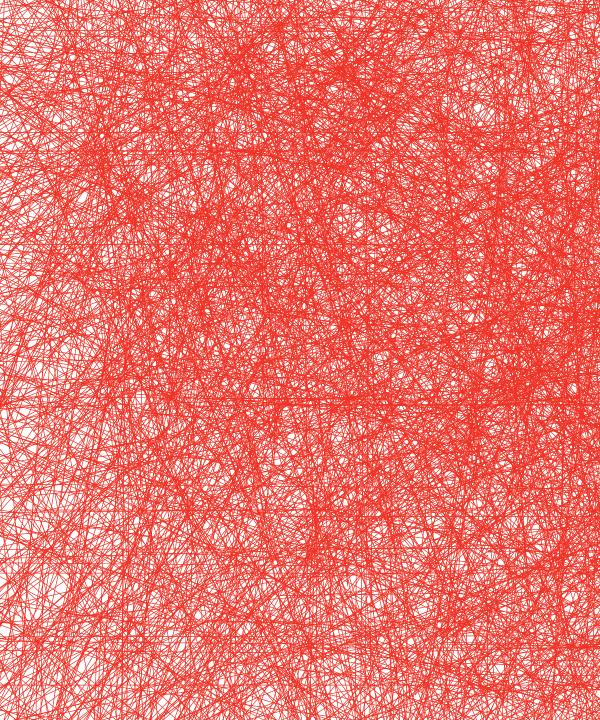


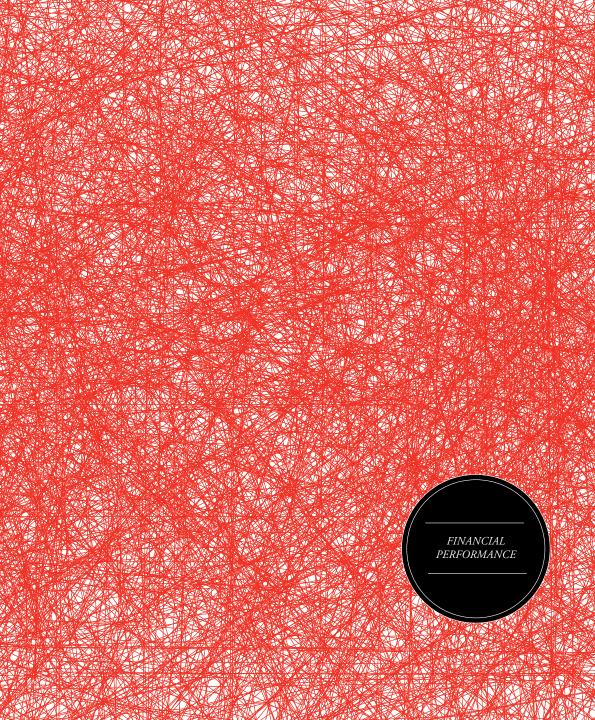












INDEPENDENT AUDITOR'S REPORT year ended March 31, 2012

To the Board of Directors of Cybera Inc.

We have audited the accompanying financial statements of Cybera Inc., which comprise the statement of financial position as at March 31, 2012, the statements of operations, changes in net assets and cash flows for the year then ended, and notes, comprising a summary of significant accounting policies and other explanatory information.

MANAGEMENT'S RESPONSIBILITY FOR THE FINANCIAL STATEMENTS

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian generally accepted accounting principles, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

AUDITOR'S RESPONSIBILITY

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with the ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis of our audit opinion.

OPINION

In our opinion, the financial statements present fairly, in all material respects, the financial position of Cybera Inc. as at March 31, 2012, and its results of operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.



Statement of Financial Position

March 31, 2012, with comparative figures for 2011

	2012	201
ASSETS		
Current assets:		
Cash and cash equivalents	\$97,475	\$514,812
Accounts receivable (note 3)	1,132,233	2,056,45
Investments (note 4)	862,702	
Goods and services tax receivable	10,837	49,253
Prepaid expenses	42,056	21,44
	2,145,303	2,641,957
Property and equipments (note 5)	322,343	66,468
	\$2,467,646	\$2,708,425
LIABILITIES AND NET ASSETS Current liabilities: Accounts payable and accrued liabilities (note 3) Deferred revenue	t liabilities: ts payable and accrued liabilities (note 3) \$916,964	\$1,351,920 500,000
	1,474,680	1,851,920
Net assets (note 6)	992,966	856,505
Economic dependence (note 7)		
	\$2,467,646	\$2,708,425

See accompanying notes to financial statements.

Approved by the Board:

Director: P. Signaluk Director: Saemus Folia

Statement of Operations March 31, 2012, with comparative figures for 2011

	2012	201
REVENUE		
Project	\$3,071,818	\$3,890,53
Grant	2,000,000	2,120,00
Membership	65,206	76,50
Interest	17,739	5,17
Other	41,330	18
	5,196,093	6,092,39
EXPENSES		
EXPENSES Project	3,105,010	3,877,43
Project Infrastructure	3,105,010 601,572	761,68
Project Infrastructure General and administrative	601,572 566,500	761,68 594,54
Project Infrastructure General and administrative Project and partnership development	601,572 566,500 396,745	761,68 594,54 321,58
Project Infrastructure General and administrative Project and partnership development Marketing and communications	601,572 566,500 396,745 346,560	761,68 594,54 321,58 284,81
Project Infrastructure General and administrative Project and partnership development	601,572 566,500 396,745	761,68 594,54 321,58
Project Infrastructure General and administrative Project and partnership development Marketing and communications	601,572 566,500 396,745 346,560	761,6 594,5 321,5 284,8

See accompanying notes to financial statements.

Statement of Change in Net Assets March 31, 2012, with comparative figures for 2011

	2012	2011
Net assets, beginning of year	\$856,505	\$615,529
Excess of revenue over expenses	136,461	240,976
Net assets, end of year	\$992,966	\$856,505

See accompanying notes to financial statements

Statement of Cash Flows

March 31, 2012, with comparative figures for 2011

	2012	201
CASH PROVIDED BY (USED IN)		
Operations:		
Excess of revenue over expenses	\$136,461	\$240,97
Add item not affecting cash:	ψ130,401	Ψ2-10,77
Depreciation	43,245	11,36
	179,706	252,33
Change in non-cash working capital:		
Accounts receivable	924,218	(821,169
Goods and services tax receivable	38,416	(24,272
Prepaid expenses	(20,615)	(3,901
Accounts payable and accrued liabilities	(434,956)	590,18
Deferred revenue	57,716	(121,000
	744,485	(127,823
Investments:		
Expenditures on property and equipment	(299,120)	(77,830
Purchase of investments	(862,702)	
	(1,161,822)	(127,823
Decrease in cash and cash equivalents	(417,337)	(206,653
Cash and cash equivalents, beginning of year	514,812	720,465
Cash and cash equivalents end of year	\$97,475	514,81
Supplemental cash flow information:		
Interest received	\$17,739	\$5,177

See accompanying notes to financial statements

NOTES TO FINANCIAL STATEMENTS year ended March 31, 2012

GENERAL

Cybera Inc. ("Cybera") was incorporated on January 12, 1994 under Part II of The Canada Corporations Act as a corporation without share capital as WurcNet Inc. In 1999 changed its name to Netera Alliance Inc. and in 2007 changed its name to Cybera Inc.

Cybera is an Alberta-based, not-for-profit alliance that manages large-scale inter-institutional information and communication technology projects, including research networks, high performance and computing resources, digital content projects and collaboration facilities.

The objectives of Cybera are to provide information and communications infrastructure, project management, advocacy and technical expertise to leverage the resources, skills, and services of its members, without preference or partiality to any individual member.

As a not-for-profit organization, the income of Cybera is not subject to tax under paragraph 149(1)(I) of the Income Tax Act (Canada).

1. Significant accounting policies:

These financial statements have been prepared in accordance with Canadian generally accepted accounting principles. Significant accounting policies are summarized below:

(a) Revenue:

Revenue from membership dues is recognized evenly over the term of the membership.

Project revenue, which is comprised of contributions towards project costs, is recognized using the deferral method. Under this method, restricted contributions are recognized as revenue when the related project costs are incurred. Restricted contributions received in a period before the related expenses are incurred are accumulated as deferred revenue. Unrestricted contributions are recognized as revenue when received or receivable.

Grant revenue, which is comprised of contributions towards project costs, is recognized using the deferral method. Under this method, restricted contributions are recognized as revenue when the related project costs are incurred. Restricted contributions received in a period before the related expenses are incurred are accumulated as deferred revenue. Unrestricted contributions are recognized as revenue when received or receivable.

Interest income is recognized when earned.

(b) Project expenses:

As part of the development of applications for high speed networks, Cybera provides funding for certain research and development projects. Cybera charges costs incurred on these projects to operations as incurred. Typically, Cybera does not retain ownership rights in the results of these projects, rather, these rights reside with the project participants on a basis defined in the respective project agreements.

1. Significant accounting policies (continued):

(c) Cash and cash equivalents:

Cybera considers deposits in banks, certificates of deposit and short-term investments with original maturities of three months or less as cash and cash equivalents.

(d) Investments:

Cybera measures its investments at cost plus accrued interest in accordance with Canadian generally accepted accounting principles; earnings from such investments are recognized only to the extent received or receivable. Cybera measures those invest ments at cost that are not subject to significant influence, control or joint control. Investments are comprised of term deposits held at accredited financial institutions.

(e) Property and equipment:

Property and equipment is recorded at cost. Depreciation of property and equipment is provided using straight-line method at a rate of one-third of cost per year.

(f) Donations of services:

Cybera receives from its members and others, donations of professional time, services and office support. The value of these donations is not included in these financial statements as the related fair value cannot be reasonably determined.

(g) Foreign currency:

All foreign currency denominated assets and liabilities are translated into Canadian dollars at the rate of exchange in effect on the date of the Statement of Financial Position. Transactions that occur in a foreign currency are translated into Canadian dollars at the rate of exchange in effect when realized.

(h) Use of estimates:

The preparation of the financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the dates of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Significant estimates include the valuation of accounts receivable, estimated life of property and equipment, and accrued liabilities. Actual results could differ from those estimates.

1. Significant accounting policies (continued):

(i) Financial instruments:

All financial instruments are recognized at fair value upon initial recognition. Cybera has classified each financial instrument into the following categories; held for trading financial assets and liabilities, loans or receivables, held to maturity investments, available for sale financial assets, and other financial liabilities. Subsequent measurement of the financial instruments is based on their classification. Unrealized gains and losses on held for trading financial instruments are recognized in earnings. Gains and losses on available for sale financial assets are recognized in changes in net assets and transferred to earnings when the asset is derecognized. The other categories of financial instruments are recognized at amortized cost using the effective interest rate method.

Upon adoption of the standards, Cybera has classified cash and cash equivalents as held for trading, investments as held to maturity, accounts receivable as loans and receivables, and accounts payable and accrued liabilities as other liabilities.

2. Future accounting pronouncements:

In December 2010, the Accounting Standards Board ("AcSB") released the accounting standards impacting the future financial reporting framework for not-for-profit organizations. The AcSB proposes that not-for-profit organizations select one of the two following alternatives for financial reporting:

- Accounting Standards for Not-for-Profit Organizations (Part III of the CICA Handbook), or
- International Financial Reporting Standards

These available standards are applicable to fiscal years beginning on or after January 1, 2012. Cybera has determined that it will adopt Accounting Standards for Not-for-Profit Organizations along with Accounting Standards for Private Enterprises for the fiscal year beginning April 1, 2012. The impact of the adoption of those standards is currently being assessed and is not determinable at this time.

3. WestGrid and CANARIE projects:

The March 31, 2012 year-end balances include accounts receivable of \$884,952 (2011- \$2,039,069) and accounts payable and accrued liabilities of \$807,671 (2011- \$798,532) where claims were made on behalf of all participants with total revenue booked as a receivable and participant invoices booked as payables.

4. Investments:

As at March 31, 2012	Principal	Principal + interest
Non-revolving term deopsit, bearing interest		
at 1.95% per annum due April 29, 2012	\$600,000	\$608,992
Non-revolving term deposit bearing interest		
at 2.25% per annum, due August 3, 2012	250,000	253,710
	\$850,000	\$862,702

5. Property and equipment:

			2012	2011
Computer equipment	Cost	Accumulated depreciation	Net book value	Net book value
	\$393,422	\$71,079	\$322,343	\$66,468

6. Net assets:

In the event of the dissolution or winding-up of Cybera, all of its remaining assets, after payment of its liabilities, would be distributed to other not-for-profit organizations.

7. Economic dependence and Government assistance:

Cybera's future operations are dependent on continued funding from the Alberta Government.

Cybera periodically applies for financial assistance under available government incentive programs. Government assistance relating to research and development expenditures is recorded as a reduction of current year expense when the related expenditures are incurred.

8. Related party transactions:

During the year, in the ordinary course of business, \$nil (2011-\$1,000) of membership dues was received from a company in which the CFO has significant influence. These transactions are in the normal course of operation and are measured at the exchange amount of consideration established and agreed to by the related parties.

9. Financial instruments:

Fair value of financial assets and financial liabilities: Financial instruments include cash and cash equivalents, investments, accounts receivable and accounts payable and accrued liabilities. The fair value of these financial instruments approximates their carrying value due to their short term nature.

Credit risk:

Accounts receivable are subject to minimal credit risk as the majority of the receivables are from government-sponsored institutions.

Foreign currency risk:

Foreign currency exposure arises from the holding of a U.S. bank account and transactions with foreign companies. Cash held in foreign currencies as at March 31, 2012 and 2011 was minimal.

Interest rate risk:

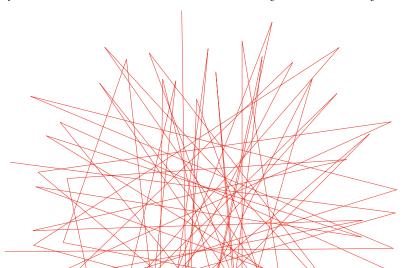
Interest rate risk arises from the holdings of fixed income securities. As interest rates fluctuate, the fair value of these securities will be impacted.

10. Capital management:

Cybera defines its capital as the amounts included in its Net Asset balances. Cybera's objective when managing its capital is to maintain a primary emphasis on preservation and security of capital and a secondary emphasis on inflation adjusted returns so that it can continue to provide services.

11. Subsequent event:

On April 2, 2012 \$2,000,000 was received from the Alberta Government relating to fiscal 2012-2013 funding.







ENVIRONMENTAL RESPONSIBILITY

Cybera is a forward-thinking and environmentally conscientious agency, promoting green efforts in everyday business practices. Cybera takes pride in its green mandate. We are constantly evaluating the way we work and looking for innovative ways to reduce our carbon footprint.

REDUCING TRAVEL:

100 percent of 24 workstations (50 percent laptops) are enabled with Skype and iChat.

100 percent of staff members use Skype or iChat.

Staff travel reduced in 2011-12 by 36 percent through the use of video conference.

1/3 of all employees work from home 1-2 days a week.

RECYCLING:

One recycling receptacle for every 15 staff members, includes glass, paper, plastic, metal trash and manufacturing waste bins.

REDUCING ENERGY USE:

10 percent reduction in paper use over past year.

15 percent reduction in energy over last year.

13 computing servers reduced to two new, energy-efficient servers.

50 percent reduction in air conditioning required for new server room.

Thermostats and lights are on timers.



Cybera president Robin Winsor and CANARIE president Jim Roche at the GreenStar node in Reykjavik, Iceland

BUILDING GREEN ENERGY INFRASTRUCTURE FOR ICT

As part of the GreenStar Network, Cybera manages a computing centre that runs on solar energy. The results collected from this centre, and four others in Canada that run on wind, sun or water energy, have informed a new set of guidelines recently published on how green ICT projects can measure effectiveness. The GreenStar project is international in scope and involves:

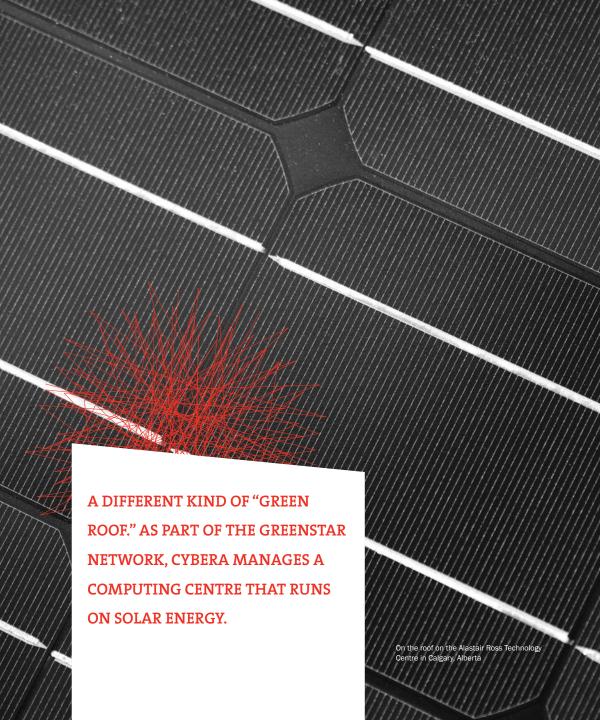
Around 50 users

11 published papers

14 partners

8 international partnerships

The GreenStar Network project, funded by CANARIE, has been inspired by a number of projects over the world, for example, GreenLight at the University of California San Diego, NYSERDA at Clarkson University, European FP7 Mantychore. It is followed up by the successful launch of the Green Sustainable Telco Cloud project in Canada, led by École de Technologie Superieure and strongly supported by Ericsson.



PLANNING FOR 2013 - 2016

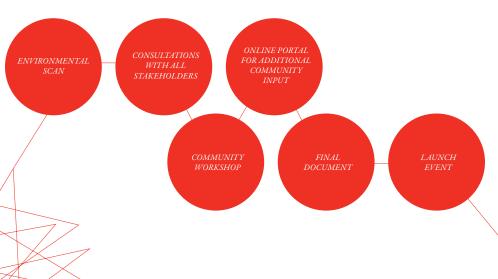
Cybera has just completed a successful five-year business cycle, evolving from a research network operator to a multidimensional network services organization.

NOW, WE'RE HEADING INTO A NEW PERIOD OF GROWTH AND IMPACT.

With clearly defined goals, Cybera will strengthen its impact in Alberta and beyond.

PROCESS

The Cybera strategic planning process will engage clients, collaborators and funders in the process of identifying goals and making decisions about the allocation of resources, between May and December 2012. The process will include, but not be limited to:



PARTICIPANTS

The consultations will involve both decision-makers and users, among the Cybera membership and current and potential stakeholders:

University senior administration

University researchers and educators

K-12 school districts

Start-up organizations

Industry users and partners

Internet Service Providers

Collaborators

National partner organizations: CANARIE, WestGrid and Compute Canada

Other ORANS

Industry members

SuperNet

Government:

Alberta Enterprise and Advanced Education

Alberta Education

Service Alberta

Alberta Innovates







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