

Democratic Ideals Meet Reality:

Developing Locally Owned and Managed
Broadband Networks and ICT Services
in Rural and Remote First Nations
in Quebec and Canada



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First Nations in Canada

- More than 600 First Nation (Indigenous) communities are located across Canada's vast land mass.
- Many are in rural areas far from urban centres and remote places accessible only by air.
- The Canadian Constitution recognizes First Nations peoples as one of the founding nations of Canada.
- The Constitution also recognizes the First Nations' right to self-determination, to negotiate the terms of their relationships with Canada, to establish the governance structures they consider appropriate for their needs, and to determine how they wish to develop their communities.

First Nations in Canada



First Nations in Canada

- However the Canadian government has not lived up to the requirements outlined in its own constitution.
- The Royal Commission on Aboriginal Peoples (1996) found that the historical treaties with First Nations were replaced with policies intending to remove First Nations people from their homelands, suppress First Nations and their governments, undermine their cultures, and stifle their identity.
- Historically First Nations have been using whatever means available to rebuild and revitalize their communities - a constant cycle of having to find and fight for funding to effectively deliver essential services and activities.
- Never enough funding to provide an adequate level of IT infrastructure, applications, training, and ongoing support and maintenance, despite the fact that governments benefit from IT development and require online delivery of reports.

First Nations in Canada

- The United Nations' Declaration on the Rights of Indigenous People passed in September, 2007 with Canada voting against it until finally accepting it in principal in November, 2010
- Over 150 years of forced removal of First Nation children from their homes and communities to attend residential schools that resulted in family and community breakdown (Aboriginal Healing Foundation and Canada's Truth and Reconciliation Commission)
- Poverty and unemployment, especially in small, remote First Nations in the northern regions across Canada affects 80 to 90 percent of the people living in reserves
- The principles of OCAP are an essential component for all developments and initiatives that need to be respected – ownership, control, access and possession of ICT infrastructure, applications and services

AFN and the eCommunity Approach

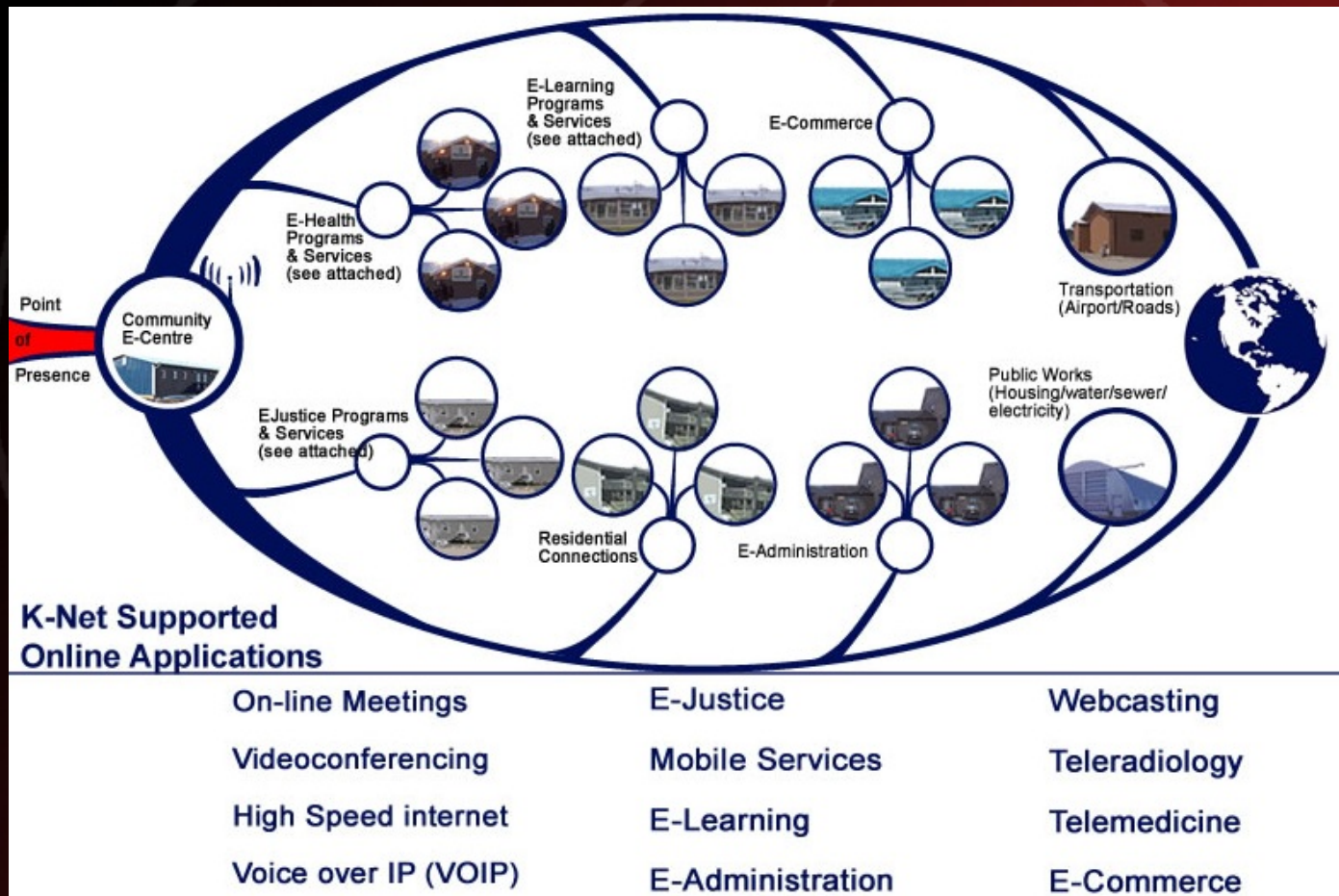
- Although each of the more than 600 First Nations in Canada is unique, there are common sustainable development priorities for all.
- The Assembly of First Nations (AFN), the main political organization representing First Nations in Canada, supports many activity areas central to the sustainable development of First Nations.
- These include: securing lands and resources; building capacity for governance; addressing the legacy of the residential schools; alleviating poverty; increasing health and wellness; providing education and training...
- ...ensuring adequate housing and water supply; maintaining culture and languages; and building relationships with partners who can work with First Nations to reach their goals.
- Community-based / community-driven approach building on existing work that is in and generated by engagement with First Nations.

AFN and the eCommunity Approach



- First Nation leadership through the AFN have passed numerous national resolutions relating to broadband infrastructure.
- In 2010, the AFN published its e-Community ICT model (J. Whiteduck, 2010).
- In this national model, communication infrastructure is part of a broader plan for economic, social, and cultural change based on knowledge and information.

The eCommunity Approach



<http://e-community.knet.ca/>



AFN and the eCommunity Approach

- e-Community builds on a common network model employed by Canadian governments, institutions and companies.
- Themes: First Nations 1) capacity development, 2) connectivity, 3) human resources development, 4) information management, 5) service delivery and partners.
- AFN also proposes that First Nation communities and organizations oversee the public funding required to develop and control the communication infrastructure in their communities.



Broadband Development by and in Remote & Rural First Nations

- In Canada, there is a universal service requirement for telephone service but not for internet service.
- Commercial ISPs are reluctant, slow or refuse to develop infrastructure without significant government investment - very challenging to build the partnerships necessary to develop broadband infrastructure and provide internet services in many remote and rural regions of the country.
- Government policy to support broadband in remote and rural First Nations communities is underdeveloped and uncoordinated among many different departments and program areas.
- Since 1996, a variety of funding initiatives, strategies, and projects have been implemented to support development of broadband infrastructure and increased use of ICT in First Nations communities.

Broadband Development by and in Remote & Rural First Nations



- The program most directly responsible for increasing the use of ICT in remote and rural First Nations is First Nations SchoolNet. Since 2006 the budgets have been reduced and the future of the program is unclear.
- The program provided funding for First Nations SchoolNet regional management organizations (RMOs) across Canada to advance broadband infrastructure and applications in First Nations schools and communities.

Broadband Development by and in Remote & Rural First Nations

- The First Nations SchoolNet RMOs have collectively been responsible for much of the broadband infrastructure development and subsequent use of ICT in remote and rural First Nations.
- Although the program focused on First Nations schools, the infrastructure developed under this program has spread to other applications and uses within communities.



FNEC

The First Nations Education Council (FNEC) is a First Nations organization established to support 22 member communities in Quebec in the domain of education.



The FNEC represents 22 communities from 8 Nations: Abenaki, Algonquin, Atikamekw, Huron, Malecite, Mi'gmaq, Mohawk, Innus

FNEC Mission

To link the force and the efforts of its members, in the field of education, to defend the collective interests and to find solutions that address the issues facing the communities as regards to education

- To represent and support its members
- To support the dialog across the collective
- To intervene politically so that education in indigenous medium concerns the jurisdiction of the First Nations
- To intervene technically so that the rights as regards to education of our members are respected
- To take the necessary measures to make progress and increase the quality of the programs and the educational services of our members.
- To ensure the defense and the advancement of our member's interests
- To support and assist our members concerning other relative authorities concerned.

The federal funding formula for First Nations schools has been untouched for 20 years.

○ For the funding of libraries in our schools

○ For the funding of technology in our schools

○ For the funding of sports and recreation in our schools

? Future
for our children

Would you accept this situation?
The federal government must do its homework!


www.avenir-future.com

COMMISSION DE LA SCOLARISATION DES PREMIERES NATIONS
FIRST NATIONS EDUCATION COMMISSION

EDUCATION IS EVERYONE'S FUTURE

FNEC Also Serves Non-member Communities

As the Regional Management Organization (RMO) for the First Nations Schoolnet program in Quebec, we also serve the Innus Nation located on the North Shore of the St. Lawrence and Labrador.

Wendake 

Betsiamites

Uashat

Maliotenam

Mingan

Natashquan

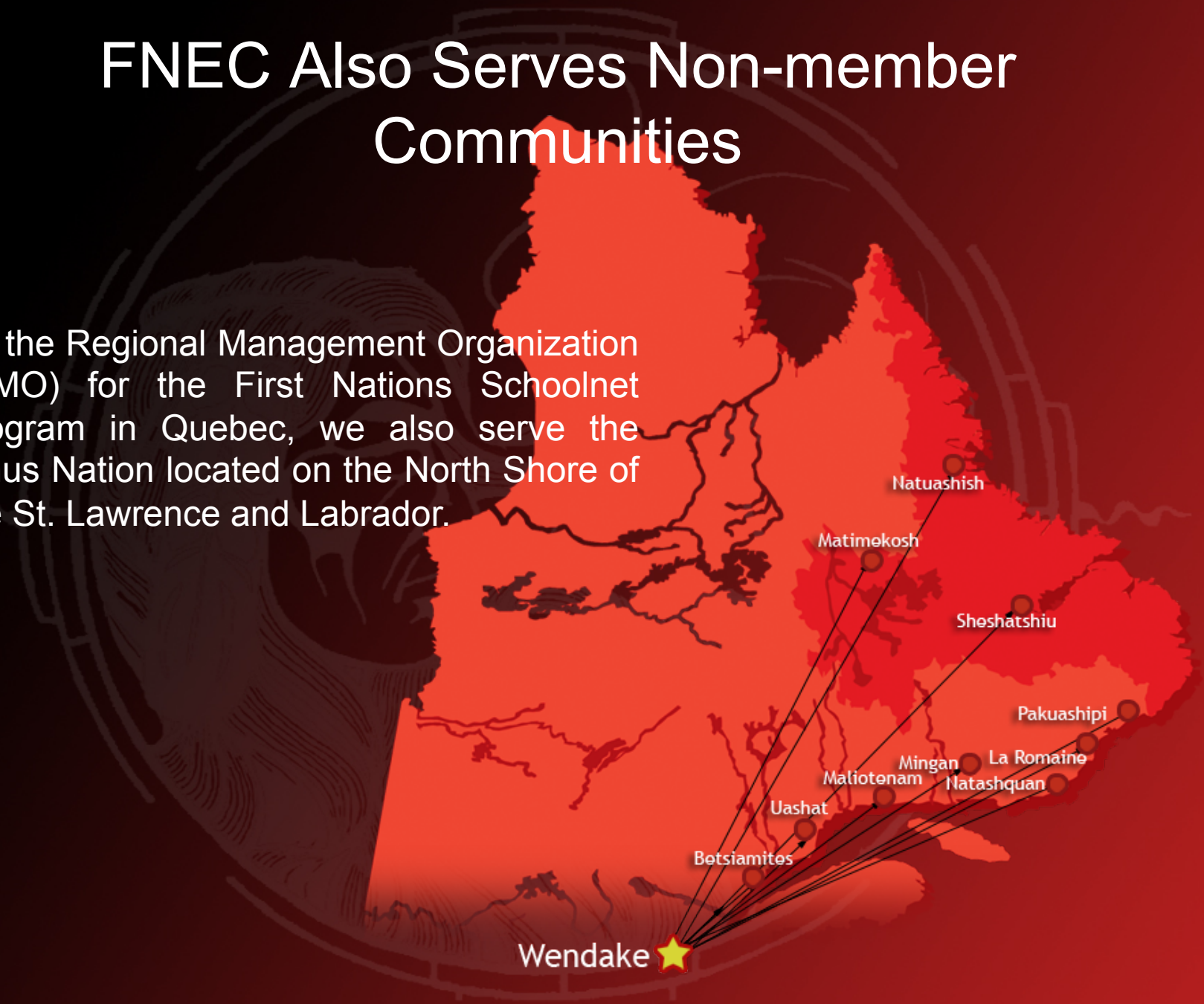
La Romaine

Pakuashipi

Sheshatshiu

Matimekosh

Natuashish



Programs Managed by the FNEC

- New Paths for Education
- Parental Involvement Strategy
- Teacher Recruitment and Retention: Professional Development
- Special Education
- Youth Programs (*Youth Employment, Science and Technology, Career Promotion and Awareness*)
- First Nations SchoolNet
- Aboriginal Languages



FNEC Technology Programs

The objective of the FNEC Technology sector is to promote and engage the use of ICT in schools by cultivating teacher and student exploitation of ICT.



Sample Application: Professional Development

The FNEC have supported the delivery of Professional Development Training, using videoconferencing;

- **Statistics:** 52 skills training workshops between October 2004 to June 2006, representing 130 hours of training offered to a total of 1330 participants.
- Special Education workshops
- Autism workshops



- <http://cepn-fnec.com>

Sample Application: MicroProgramme ICT Accredited Training

Major obstacles to ICT use in schools are:

- Lack of training for teachers
- Lack knowledge and training on how to integrate ICTs.
- Equipment and telecommunications

The FNEC in collaboration with the University of Montreal developed a 15 credit postgraduate program to improve Band School teacher abilities to integrate ICT, which is designed specifically to improve teachers ability to:

- Use technological tools
- Understand how ICT can support learning



In June 2006: 12 teachers graduated from the Microprogramme

In March 2007: a cohort of 6 more teachers started their Program.

In March 2007, 7 of the graduated students pursued their studies in a Master degree in ICT integration.

FNEC: Past Broadband Development

- Selected as the Regional Management Organization for the First Nations Schoolnet Program for the Quebec region in 2003, FNEC begins work in Broadband development.
 - Regional T1 network deployment improvements made into 18 communities.
 - Annual budget: 1.4M (2003-2006), 850,000 \$ (2007-2011)
 - FNEC collaborates with Health Canada to support Health Centre connectivity improvements.



FNEC: Past Broadband Development

- FNEC develops and promotes regional proposal titled Vision 2007 Inforoute a Largeband aiming to secure funding to install Fibre optic connectivity local area networks in 13/22 member communities. Total budget projected 4.5M
- 1.3M in funding is secured in late 2007 to initiate project to initiate project. Project is divided into 2 Phases;
 - Health Canada: 850,000\$
 - First Nations Schoolnet: 350,000\$
 - Community Investment: 102,000\$
 - INAC Regional Office: 48,000 \$



Listuguj Portrait

(Completed January 2008)

COST: \$158,062

- Construction costs: \$71,284
 - Network Equipment: \$74,778
- Annual Recurring Fees:
- Pole Rental: \$1,416
 - Fiber maintenance: \$2,040
 - Internet (10mb): \$16,200
 - Equipment maintenance: \$1,000

TOTAL: \$20,656

P/Sector: \$ 215 monthly

Work Remaining:

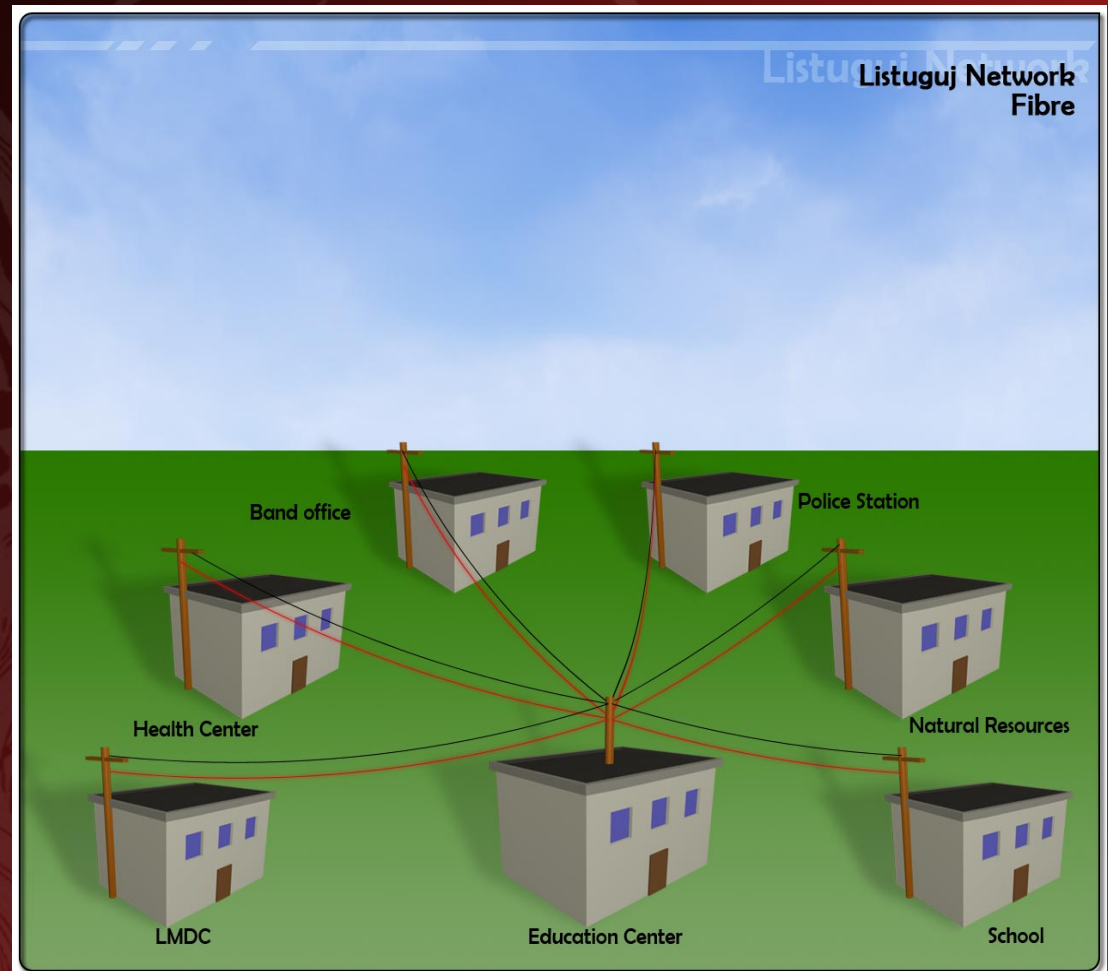
- Transfer network to community

Characteristics of Network;

- 96 strand fibre optic-backbone
- FNEC is manager of network.
- No technician in community

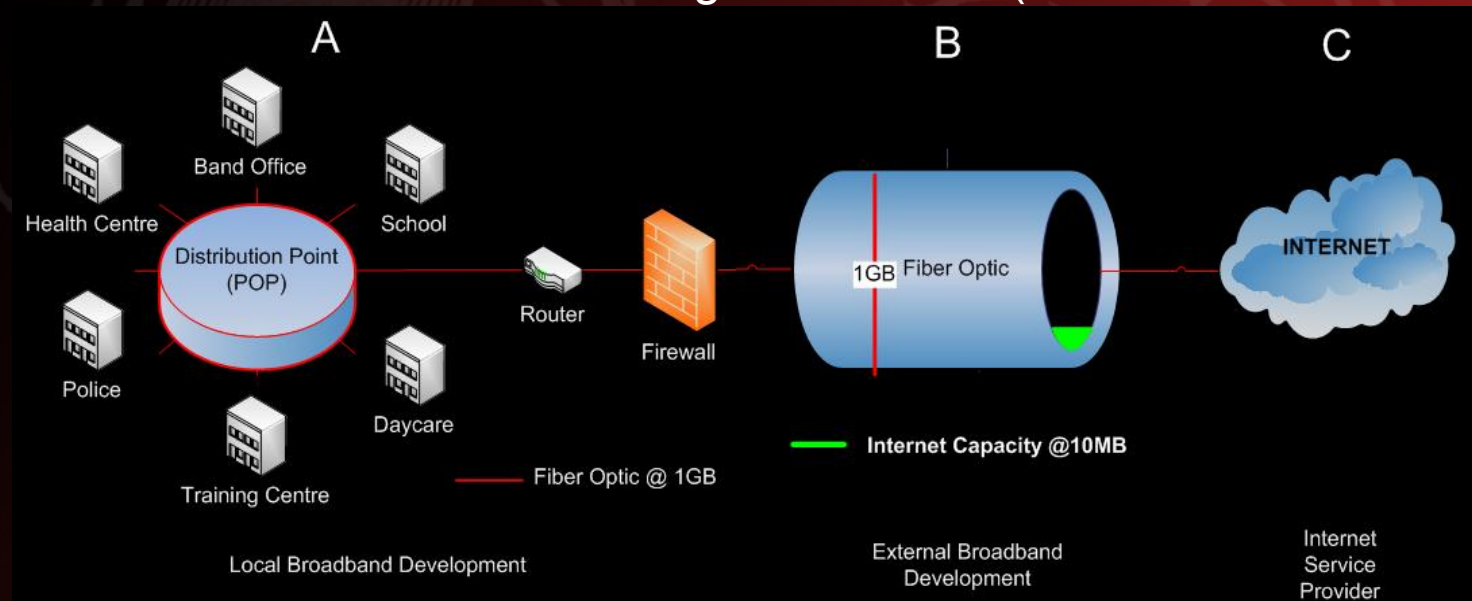
Residential Service:

- Cellular coverage
- DSL partially available in community



FNIF Project

The FNEC developed a comprehensive broadband infrastructure project titled Vision 2007, that is the base document aiming to deploy fibre optic connectivity into 13 member communities including the external (Internet fibre connection).



The FNEC has successfully secured 4.4 Million in financing with the First Nations Infrastructure Fund to complete Phase 2. Over a three year period (until 2013), the FNEC will pursue its strategy to achieve the completion of the Vision 2007 fibre project.

CONFERENCE SERVICES



Multi Point Video/Audio Conferencing

Streaming

Recording

Tools

Videoconferencing

Computer

Audio



QDX 6000



HDX 8002



CMA Client



SoundStation IP 7000



CORE SYSTEMS

Recording

WebStreaming

CMA

Teleconference



VMC 1000



RSS 2000



CMA 5000



BRIDGE



MGC+-100

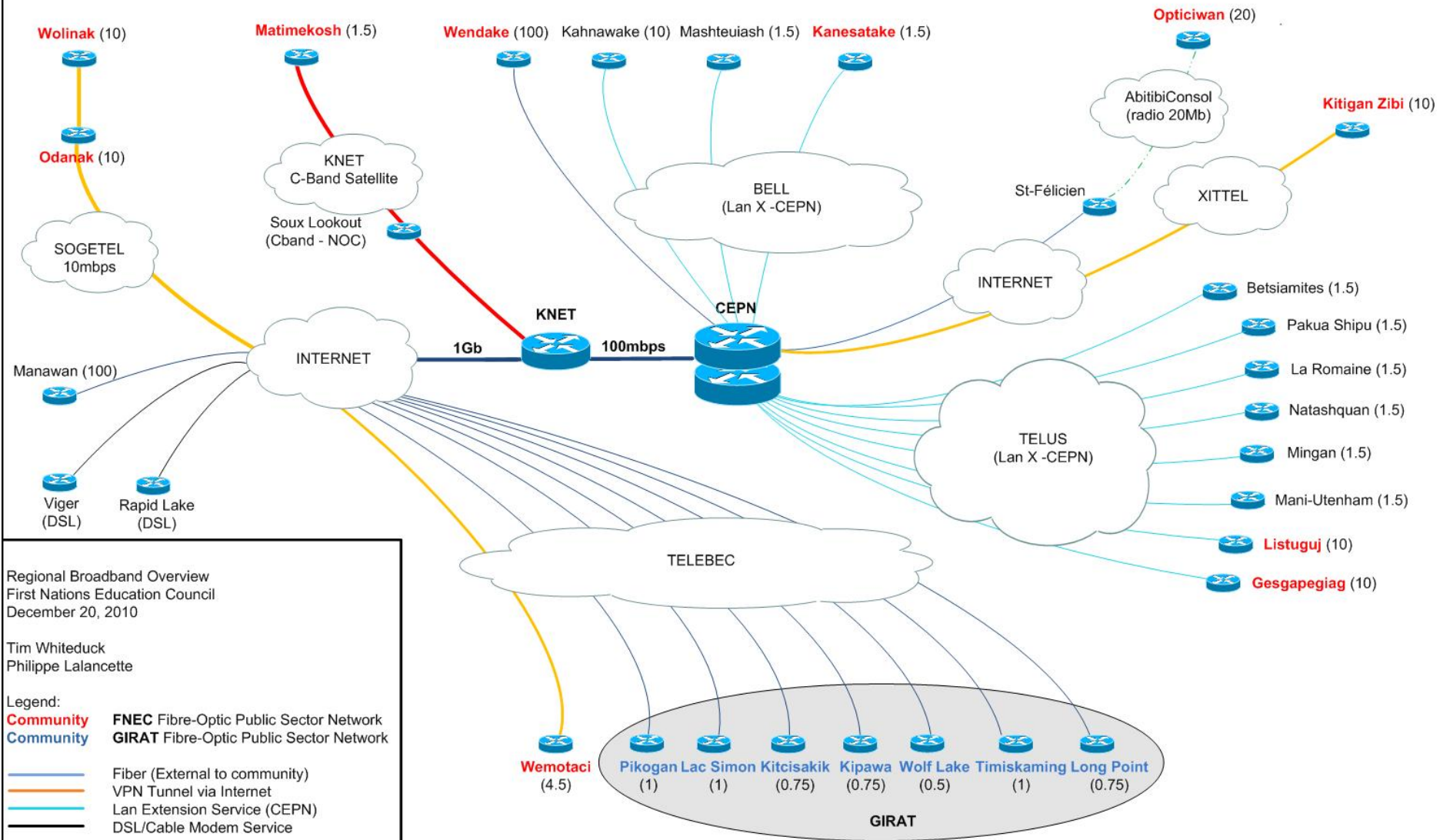


RMX 4000

APRIL 2011

- 90 Systems supported by FNEC.
- ZYROSS reporting tool renewed to capture bridge conferencing statistics.
- Bridge Capacity, Upgrade now offers more HD connections.
- STATS 2011-12: 774 multipoint conferences, 2,300 hours
- 3 webcasts managed;
 - Dadavan , Feb 2012
 - Science Fair , March 2012
 - AFNQL, March 2012

Broadband Regional Portrait



Regional Broadband Overview
 First Nations Education Council
 December 20, 2010

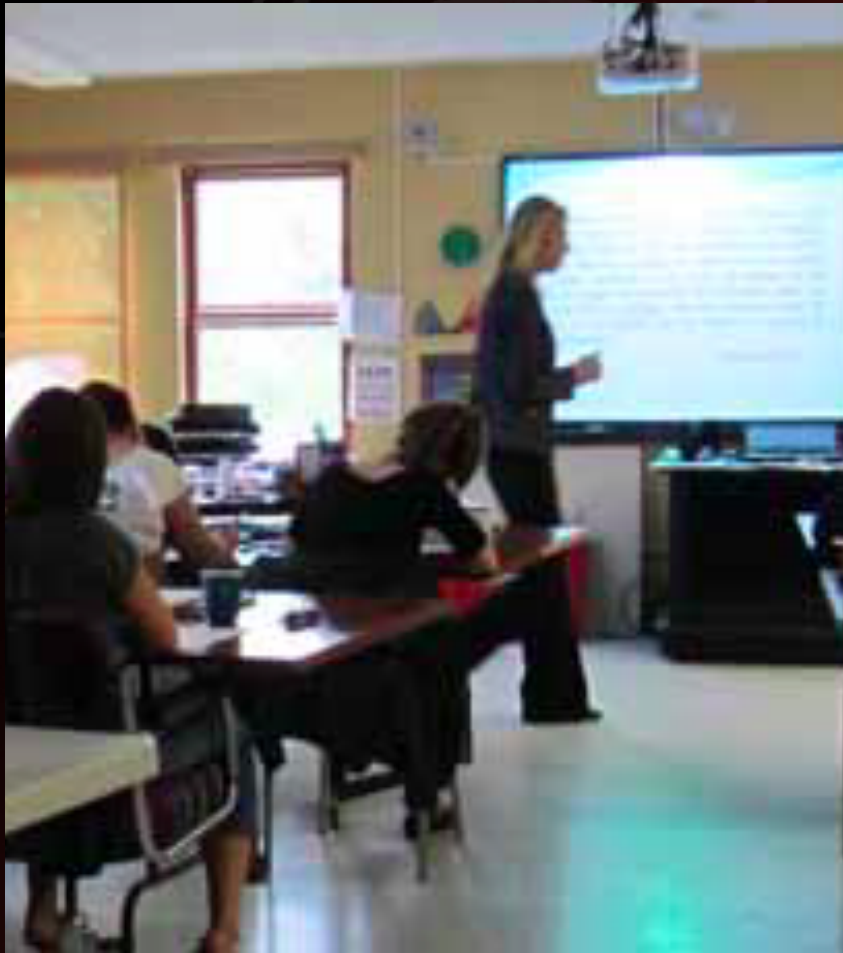
Tim Whiteduck
 Philippe Lalancette

Legend:
Community FNEC Fibre-Optic Public Sector Network
Community GIRAT Fibre-Optic Public Sector Network

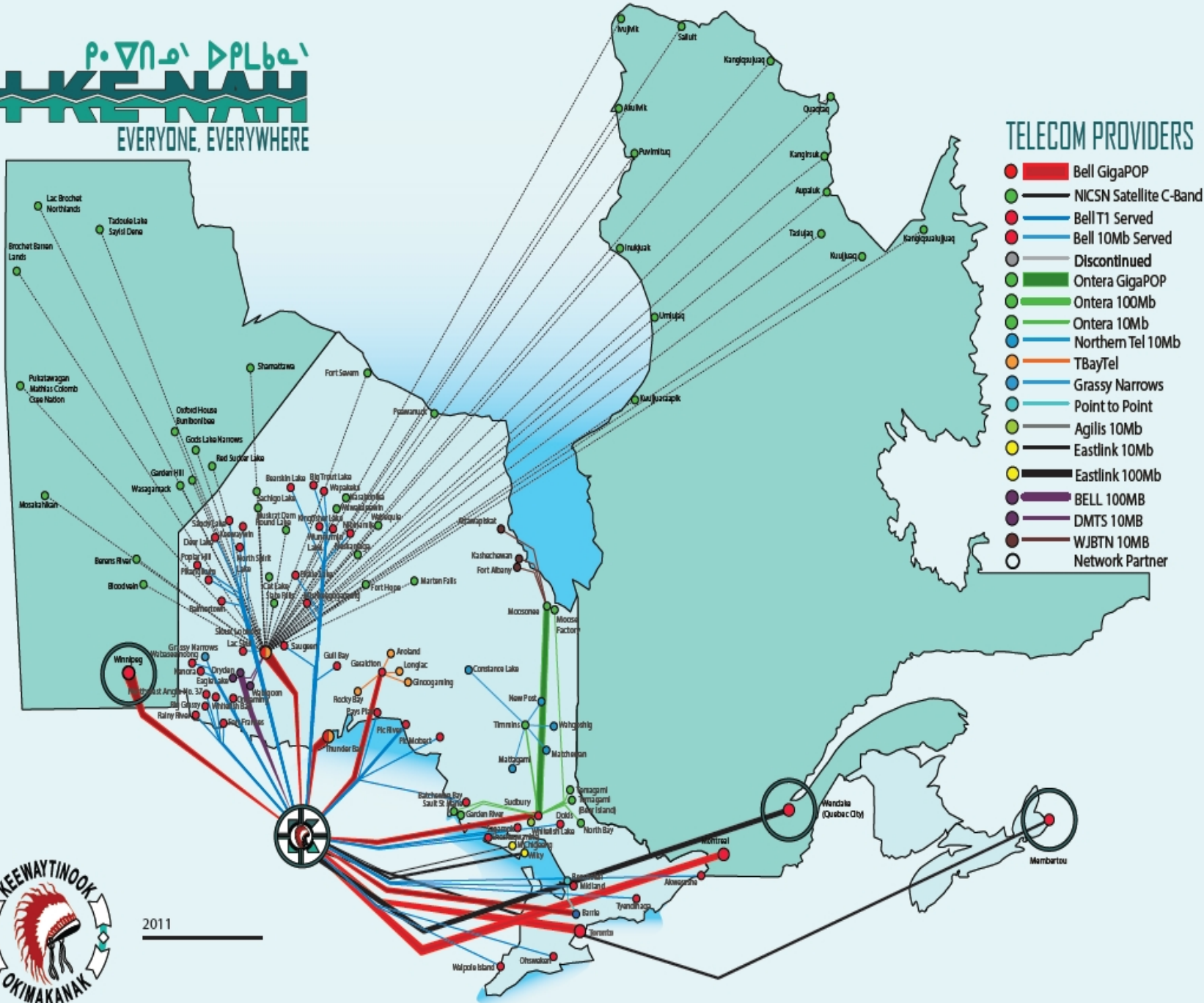
— Fiber (External to community)
 — VPN Tunnel via Internet
 — Lan Extension Service (CEPN)
 — DSL/Cable Modem Service

(1.5) 1.5mbps Internet service to public sector
 (10) 10 mbps Internet service to public sector

Research and Outreach with Communities



- FNEC Technology division research partners:
- Atlantic Canada's First Nation Help Desk, part of the Mi'kmaw Kina'matnewey education organization – <http://fnhelp.com>
- Keewaytinook Okimakanak Tribal Council in northern Ontario – <http://knet.ca>
- The University of New Brunswick – <http://unb.ca>
- Simon Fraser University – <http://sfu.ca>

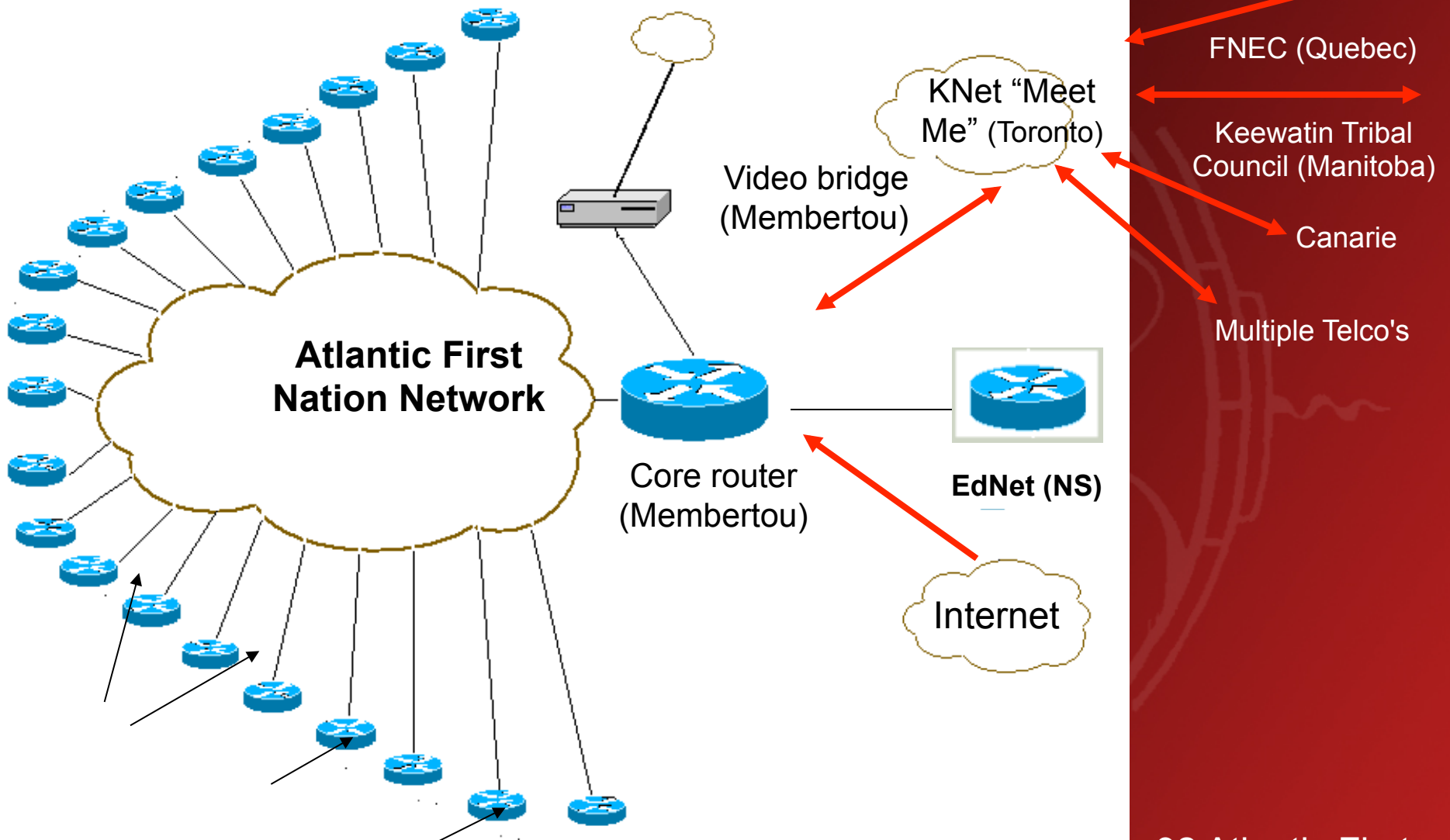


Proud Service of



2011

Atlantic First Nation Network



32 Atlantic First Nation Communities

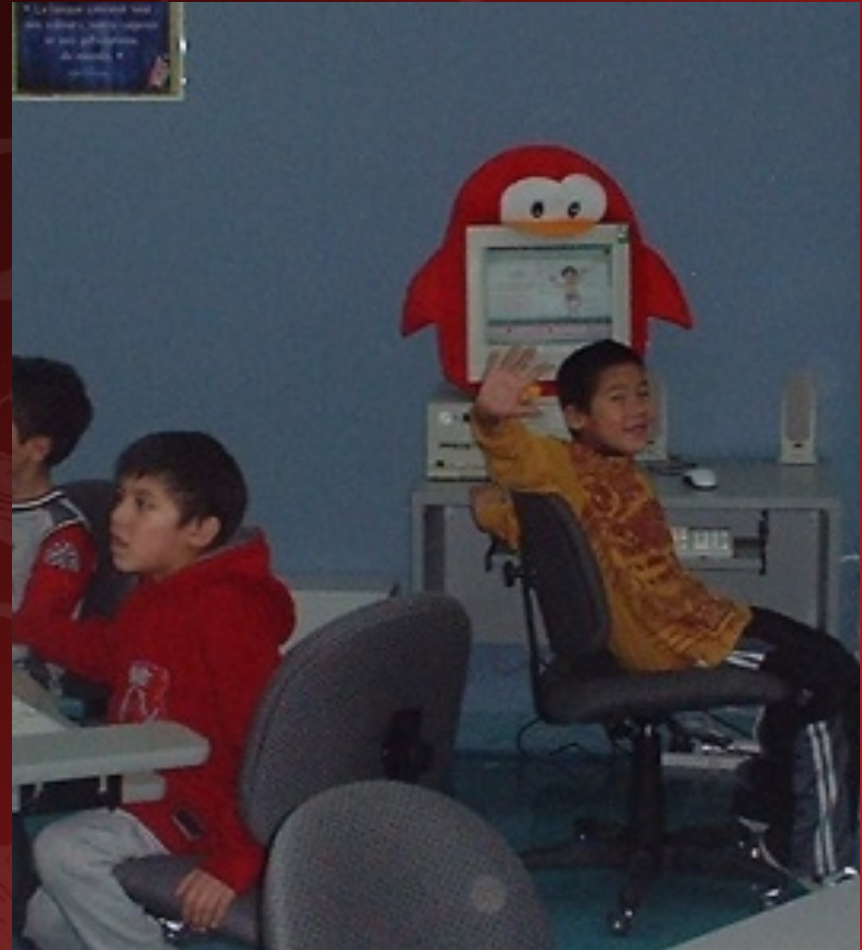
Research and Outreach with Communities

- First Mile Outreach Project: <http://firstmile.ca>
- Website has more than 50 stories and videos from First Nations showcasing their achievements with broadband and ICT
- Putting the 'last-mile' first: Re-framing Broadband Development in First Nations Communities
- A community that puts First Mile concepts into action is working closely with its strategic partners to control and manage its broadband network and infrastructure.



Research and Outreach with Communities

- VideoCom Research (2006-2012)
<http://videocom.firstnation.ca>
- First Nations Innovation Research (2013-2018)
- Funded by Social Sciences and Humanities Research Council of Canada (SSHRC)
- In-kind contributions from the partners
- Community-based research on eCommunity strategies and innovative delivery of services using broadband networks and ICT



Some Recent Publications

- More than 40 publications since 2006 available at:
<http://videocom.firstnation.ca>

[Post-Secondary Distance Education:
Experiences of Elsipogtog First Nation
Community Members](#)

[Broadband-Enabled Community
Services in Kitigan Zibi Anishinabeg First
Nation: Developing an e-Community
Approach](#)

- [Refere](#)
- [Community Resilience and Social Media:
Remote and Rural First Nations
Communities, Social Isolation and
Cultural Preservation](#)



For more information...

WWW.CEPN-FNEC.COM

Email:

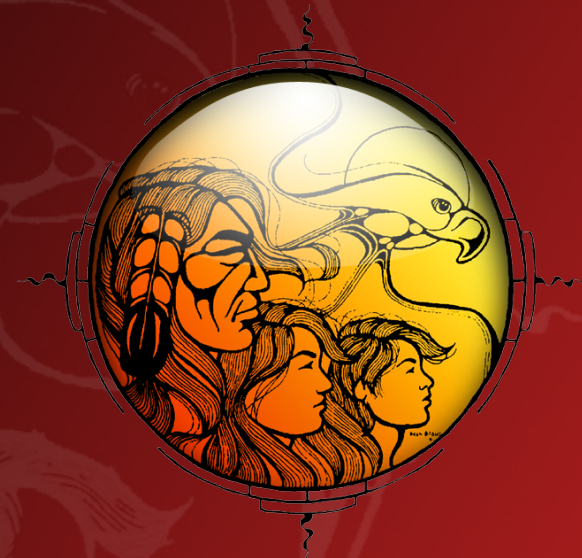
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Thank you!

Questions, comments?