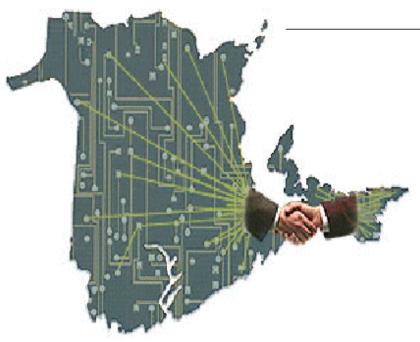
ANNUAL REPORT 2014-2015



NB/PEI EDUCATIONAL COMPUTER NETWORK

Over 40 Years of Inter-Institutional Collaboration

April 1, 2014 - March 31, 2015

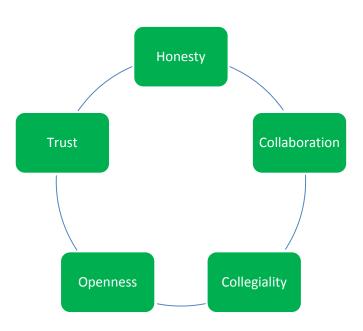
MISSION

To ensure high quality Information and Communication Technology (ICT) services to all member institutions in New Brunswick and Prince Edward Island

VISION

To apply our collective skills and resources to the betterment of the New Brunswick and Prince Edward Island higher education communities through the deployment of state of the art technology while saving money for our provinces and institutions

VALUES



Visit our website at: http://www.nbpei-ecn.ca (English) http://www.rie-nbipe.ca (French)

NEW BRUNSWICK and PRINCE EDWARD ISLAND EDUCATIONAL COMPUTER NETWORK MEMBERS

















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Message from the Chair



On behalf of the NB/PEI Educational Computer Network, I am pleased to present our 2014-2015 Annual Report. The ECN continues to be one of the best examples of inter-institutional collaboration in the post-secondary educational sector in the Maritimes. This document highlights the ECN's activities and accomplishments over the past fiscal year.

I would like to begin by thanking Doug Burton (UPEI) for chairing the Network Committee this past year. I would also like to thank our respective provincial governments, fellow Board and Network Committee members, partners and stakeholders for their continuous support, hard work and dedication.

The ECN made significant strides toward expanding its shared services project during the year with the deployment of federated identity. This is a ground breaking initiative that creates, for the first time in Canada, a truly innovative yet practical shared platform transcending provincial boundaries. ECN members have also been hard at work renewing consortium-level shared service agreements such as internet service, anti-SPAM and anti-virus.

I hope you will enjoy reading the next few pages to find out more about the accomplishments of the ECN this year.

Chair

ECN Board of Directors

Robert M. Campbell

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EXECUTIVE SUMMARY

The NB/PEI Educational Computer Network (ECN), founded in 1970, connects all of the universities and the College of Forest Technology in New Brunswick (NB) and the university and community college in Prince Edward Island (PEI). The primary service provided by the network is connectivity among its members and to the wider world. However, additional benefits are enjoyed by the members in the areas of joint purchasing and licensing, shared support services, professional development, and the delivery of network-based services and information exchange.

This approach has enabled all members to realize the benefits of a high capacity, high speed communications network at a reasonable cost, regardless of size. It also allows the ECN members to take advantage of economies of scale not available to any individual member institution, and ensures that smaller institutions receive the same level of service as larger ones. Finally, member institutions become stronger on the national front by providing a united voice with respect to the collective needs of New Brunswick and Prince Edward Island members.

The Network Committee highlights for 2014-2015:

- On April 4, 2014, the provincial government, CANARIE, and F6 Networks announced investments in a new high-speed, dark-fibre network through New Brunswick as part of the coast-to-coast national research and education network. This is an excellent opportunity for the NB ECN members and their partners to utilize this private fibre within NB to reduce their current reliance on leased services in the northern part of the province. UNB has obtained funding from CANARIE, on behalf of the ECN and its partners, to assist in purchasing the capital equipment required to leverage this opportunity.
- The NB/PEI ECN deployed Federated Identity which is a ground breaking initiative and service which allow its members and users at different institutions to easily and freely login to resources and services provided at other member institutions; previous IT barriers that would include network restrictions and account permissions do not exist anymore and easy access to an open set of resources for all participants are now available, no matter the location. This achievement was recognized nationally when the NB/PEI ECN Shared Services project was announced as one of the finalists for the inaugural CUCCIO Awards.
- Post tropical storm Arthur created significant issues for southern New Brunswick. Multiple
 outages during the storm created a segmentation of the northern ring for a 13 hour period
 on July 5 and 6, 2014. Tree clearing operations also caused a fibre cut between Fredericton
 and Saint John that was located and repaired within hours. Considering the magnitude of the
 disaster as a result of the storm the network was not disrupted for long.
- CANARIE has begun to refer to itself as the Canadian NREN (National Research and Education Network). The NB and PEI ORAN's are going to follow suit by becoming the NB and PEI REN (Research and Education Network). When spelled out, the description is clear and informative. In November 2014 the NBREN celebrated its third anniversary. Since the ECN routed network was migrated to the NBREN infrastructure in November 2011 there has been an immediate increase in capacity and the ability to expand into the future at reasonable cost, all at the same 2003 annual cost.
- ECN members have been jointly issuing RFPs for internet services for several years. A joint RFP for commodity internet services was initiated and closed on March 4, 2014 by ECN members and was awarded to Rogers in New Brunswick and Eastlink for PEI. The ECN provides Internet access to the New Brunswick Community College (NBCC) and Collège Communautaire du Nouveau-Brunswick (CCNB) on a full cost-recovery basis.

- The UNB networking group recommended that the current contract option be extended for one year as Rogers has agreed to reduce the Mbps rate from \$4.00 to \$3.75 for the additional year. This additional year will provide time to align the resources required for the next tendering process.
- Given that the Atlantic Universities and Colleges Technology Conference (AUCTC), the Atlantic region's annual higher education IT conference, was held in October 2014, the Network Committee decided not to hold a Fall Workshop but rather encourage IT Directors and staff to attend the conference. There were a wide variety of relevant and beneficial presentations. Helmut Becker (MTA) was part of the "Sharing a Vision of IT Services....2020" presentation while Janice El-Bayoumi (UNB) presented "Disaster Plan Testing" and Rob Faulkner (UNB) presented "Improving our Call Distribution Service". These sessions along with other relevant topic sessions were followed by Q&A periods which members found informative and valuable.
- As of January 2015 the UNB Data Centre Renovation project had established fixed price
 contracts for a significant portion of the construction work, totaling \$905,599.35. The
 remaining cost items are projections based on the combination of the estimate provided by
 ITS, by the UNB Facilities Management group and pricing IT equipment secured in a newly
 established Contract to Supply. Based on these estimates the total project costs are
 expected to be lower than the initial projection of expenditures.

1. Background

Following a pilot project in the late 1960's, the NB Educational Computer Network was formed in 1970 when the New Brunswick Higher Education Commission, Mount Allison University, I'Université de Moncton, the University of New Brunswick, and St. Thomas University entered into an agreement to share computer processing services. In 1974, the newly formed Maritime Provinces Higher Education Commission (MPHEC) assumed stewardship of the Agreement and in 1975, the University of Prince Edward Island joined as a full member, establishing the NB/PEI ECN. The signing of a five-year agreement, from May 1, 1992 to April 30, 1997, formalized the addition of Holland College as the next member of the group. A subsequent five-year agreement (May 1, 1997 to April 30, 2002) witnessed the addition of the Maritime Forest Ranger School (now the Maritime College of Forest Technology) to the list of member institutions of the ECN.

The latest five-year agreement was signed in April 2012 and covers May 1, 2012 to April 30, 2017. Current members are Mount Allison University, l'Université de Moncton, the University of New Brunswick, St. Thomas University, the University of Prince Edward Island, Holland College, the Maritime College of Forest Technology and the MPHEC.

The ECN is overseen by a Board of Directors, consisting of the Presidents of the member institutions and the Chief Executive Officer of the MPHEC. The overall management and operation of the network and the associated services is the responsibility of a Network Committee consisting of the Senior IT positions from each member institution. The ECN is funded by the Provinces of New Brunswick and Prince Edward Island, through the funding administered by the MPHEC, and is topped-up with some direct funding from the institutions.

In addition to providing connectivity among its members, the New Brunswick portion of the network also connects New Brunswick member institutions to the wider world through a shared connection to the Canadian Advanced Research Network (CANARIE) and through CANARIE to the world. The Prince Edward Island portion of the network also has a direct connection to CANARIE.

2. Governance

Board of Directors

The ECN is administered by a Board of Directors (Board) consisting of the following members:

- 1. The President of Holland College
- 2. The Director of the Maritime College of Forest Technology
- 3. The Chief Executive Officer of the MPHEC
- 4. The President of Mount Allison University
- 5. The President of St. Thomas University
- 6. Le Recteur de l'Université de Moncton
- 7. The President of the University of New Brunswick
- 8. The President of the University of Prince Edward Island

A Chairperson whose term is five years, renewable for a second five-year term, is elected by the Board. Quorum is five members. Decisions must have the unanimous consent of those members voting (with the exception of a vote declaring that the service of a given designated installation is inadequate; in this case, the designated member is ineligible to vote). Approximately two meetings are held each year. The MPHEC performs secretarial duties for the Board and manages the budget.

Network Committee

The NB/PEI Educational Computer Network Committee (Network Committee) consists of one representative nominated by each of the parties of the Agreement. Each party also nominates one alternate representative to the Network Committee. Members of the Network Committee and alternate representatives are appointed for an indefinite period of time or are replaced upon recommendation in writing to the Chairperson of the Board by the party who nominated that representative or alternate. The Chairperson, nominated by the Network Committee, is a non-voting member and is approved by the Board for a maximum of two 2-year terms. The MPHEC representative is the Secretary of the Network Committee. The Network Committee has approximately 5-6 meetings annually. The duties of the Network Committee are listed in Appendix A of the ECN Agreement. The Network Committee must make decisions by a unanimous consent of members voting.

The Network Committee submits, on or before January 15, a recommended Network Plan and Budget to the Vice-President (Finance) of each of the member institutions for confirmation. Once confirmed, the Network Committee submits the Network Plan and Budget to the Board for approval. At the end of the year, the Committee drafts an annual report for approval by the Board showing its performance compared to the Network Plan from the beginning of the fiscal year.

Designated installation

UNB is currently the designated, and the major, installation for the Network. As a designated installation, computer facilities and Information and Communication Technology (ICT) services are provided by UNB to all ECN members as detailed in Appendices 2 and 3 of the ECN Agreement.

3. Meetings

The ECN Network Committee met six times:

April 2, 2014 Université de Moncton, Moncton Campus

June 3, 2014 University of Prince Edward Island, Charlottetown September 26, 2014 Maritime College of Forest Technology, Fredericton

October 29, 2014 AUCTC, Dalhousie University, Truro Campus December 3, 2014 Holland College, Charlottetown Campus

February 4, 2015 Teleconference

A list of the Board and Network Committee members is included in Appendix I. The activities of the ECN are summarized in the next section.

4. Activities of the ECN

4.1 Connectivity

NB REN

The NB Research and Education Network (NBREN) provides network services interconnecting every university and college campus in NB as well as providing connections to CANARIE, the national research and education network. A significant rebuild and expansion of the shared network was completed in 2011 as a result of a partnership between the ECN, NBCC/CCNB and NRC NB. The dual ring resilient network design provides extremely reliable service to the 33 campus facilities around the province at affordable costs due to the R&E partnership agreement.

Post tropical storm Arthur hit New Brunswick on Saturday July 5th, 2014 causing widespread power outages and downed communication lines. The City of Fredericton was hardest hit with power outages affecting 56,000 customers lasting between two hours to ten days. The UNB data centre and network hub was without power for 51 hours, but the data centre backup generator worked flawlessly so no service interruption occurred. The northern network ring was down for 13 hours from Saturday until noon Sunday due to power outages affecting core network equipment in multiple cities and towns. The NBREN fared well as other networks in the province experienced significant outages that took days to repair.

The NBREN was successful in receiving a \$208,000 grant from CANARIE to assist in expanding the use of dark fibre networking in the Province. Dark fibre is a term to describe privately owned fibre optic cable that reduces dependence on carriers and expensive leased services. CANARIE is building a dark fibre network from Montreal to Halifax through New Brunswick and the NBREN will leverage this new facility. This will reduce network costs by more than \$100,000 annually once the large project is completed in the fall of 2015. In addition, a Stats Canada Research Data Centre (RDC) was added at the Université de Moncton and connected back to Ottawa via the NBREN and the CANARIE network in the fall of 2014.

PE REN

Through the PEI Research and Education Network (REN), connections to the CANARIE National Research and Education Network (NREN) are made to the University of Prince Edward Island, Holland College and the provincial Department of Education. Although the PEI ORAN is not directly connected to the NB ORAN, the two provincial high-speed networks are interconnected through the CANARIE NREN. Through the NREN, institutions in PEI have access to international research and education networks as well as services such as CANARIE's Content Delivery Service. The network continues to be extremely reliable with no interruption in service on the Charlottetown to Halifax connection.

Commodity internet services

The contract for the ECN shared internet bandwidth supply with Rogers was extended for anadditional year in February 2015 and will end May 31, 2016. The renewal included a 6.25% price reduction on bandwidth charges. The preparation for the tendering process will begin in January 2016.

Work is continuing on the UNB Data Centre renovation project, which will see completion in the late fall of 2015. The finished facility will have a higher reliability rating, going from 6.5 to 7.5 on the Brunspak Reliability Rating scale. Overall capacity has more than doubled providing enough room for UNB IT needs and ECN IT hosting requirements over the projected design life of ten years.

4.2 Shared Technical Services

Members jointly purchase and deploy anti-SPAM and anti-virus services, managed by UNB. The combination of these two services benefits all ECN institutions by dramatically reducing junk email and preventing many malicious attacks through email and general Internet use by users. Contracts are periodically updated through an RFP process.

<u>Data center consolidation and disaster recovery</u>: The ECN has agreed to contribute one-time funding of up to \$150,000 to the costs of renovating the UNB data center. This strategic investment not only ensures the reliability and continuity of existing ECN shared services but recognizes that, of all the computing facilities in the ECN, UNB's will be the largest and most technically advanced. Once the renovation is complete, UNB will offer data center space to ECN members to house production or disaster recovery/backup systems and servers on a cost-recovery basis.

<u>Communication and collaboration tools</u>: The ECN is in the process of expanding its shared services offerings by installing Sharepoint (a Microsoft software platform used for file sharing and co-editing, document and records management, and community collaboration projects) at a single ECN site. We've recently deployed federated identity, which allows users at different institutions to easily login to resources and services at the other member institutions.

Innovation in action

It cannot be emphasized enough how this project changes old models of deploying IT services at our institutions. For example, it is now possible to contemplate, with assurance of technical feasibility, projects such as a common regional student application system, or a common ERP platform, or a common purchasing portal. Of course the business processes underlying projects like these and many others would be complex, but the elimination of technical barriers at least allows stakeholders to discuss them with a measure of confidence that they can actually be done. Indeed, it's already making life easier for UNB and STU students who use secure Services like Wi-Fi and library e-resources on each other's campuses.

SharePoint designated first shared service

To demonstrate that the vast potential of the project is obtainable, the consortium is establishing a centrally hosted SharePoint service. SharePoint is a collaboration suite of software from Microsoft which, while a fantastic tool, requires considerable IT infrastructure (including servers, data storage, etc.) and support (dedicated staff to manage the system and to build templates, sites, and applications).

SharePoint will be centrally hosted and managed at UNB, but will be paid for by and available to all ECN members; individual members can make SharePoint as simple or elaborate as they wish. For all intents and purposes, SharePoint will appear to end users as serving only their institution—it will be indistinguishable from the traditional, self-hosted system. Pooled resources, high levels of trust and confidence among participants, and a commitment to extending the consortium to provide real shared services makes SharePoint a perfect example of delivering value—regardless of institutional resources and ability to support the system.

4.3 **Joint Purchasing**

As identified in Appendix B of the ECN Agreement, UNB negotiates software licenses on behalf of some, or all, of ECN members. Currently, the software being purchased on a joint basis by ECN members includes: Minitab, Waterloo Maple and Kaspersky anti-virus software. Through joint purchasing, member institutions save thousands of dollars annually due to the volume licensing discounts offered by vendors.

In addition, UNB contracts that were secured with Dell, Lenovo (via OnX) and Apple for PCs, laptops and Macs, will continue into the 2015-16 year, and ECN member institutions can opt to purchase through the UNB contract..

4.4 National representation

In addition to sharing expertise and realizing economies of scale, an added benefit associated with acting as a collective is the ability to influence organizations such as CANARIE and Compute Canada. ECN members from UNB and UPEI represent the interests of the NB and PEI RENs (and thus the consortium as a whole) on the CANARIE Governance and Technical Committees and keep ECN member institutions informed of what is happening on the national front. Recently, the President of UNB became a Board member of CANARIE.

By providing a united voice for the collective needs of the New Brunswick and Prince Edward Island post-secondary institutions, ECN is stronger on the national front. For example, CANARIE recently hosted a gathering of small RENs (those like ECN representing smaller jurisdictions like Nova Scotia, Newfoundland and Labrador, Manitoba, and Saskatchewan); ECN was singled out at this meeting as having the most mature and effective operating model, and planning to help the other small RENs gradually move to a similar model got underway.

Several ECN members are also members of the Canadian University Council of Chief Information Officers (CUCCIO) and keep other ECN members apprised of the activities of that national organization. Periodically the Executive Director of CUCCIO, who is based in Fredericton, is invited to attend ECN Network Committee meetings to provide updates on current activities and discuss future potential collaboration. At the recent 2015 Canadian Higher Education IT (CANHEIT) annual conference, held at UNB in Fredericton, ECN received the inaugural 2015 **CUCCIO Collaboration Award**, recognizing ECN's stable business model, unique governance structure, and innovative projects advancing shared services throughout the region.

4.5 Sharing of information and best practices

Prior to most of the Network Committee meetings, members submit a site report summarizing activities within their organizations. Time is set aside at these meetings for members to ask each other questions as a way of sharing information and following best practices. Email list-servers for the ECN Network Committee and technical staff are managed by UNB.

5. Financial status

A copy of the approved budget and actual expenditures for 2014-2015 (showing a surplus of \$251,630 [NB: \$245,424; PEI: \$6,206 as well as the balance of the ECN committed funds as at March 31, 2015, is included in Appendix III. Once again, for New Brunswick there was significant savings on Internet costs over the year thanks to discounted rates received from the provider. Maintenance costs were also lower than budgeted as some equipment was retired. Finally, the contribution to NB REN was lower than budgeted. In PEI, the amount budgeted for the PE REN was funded from a different source. The funding allotted for the collaborative projects was not fully expended due to the timing of the work in progress of both of the shared service projects.

The ECN's accumulated surplus of \$762,734 (NB: \$676,338; PE: \$86,397) has been carefully and thoughtfully planned; it will be used to fund new initiatives under the consortium's shared services function, as identified in the business plan.

APPENDIX I

Board Members as of March 31, 2015 were:

Institution Representative Mount Allison University Dr. Robert Campbell (Chair) St. Thomas University Ms. Dawn Russell M. Raymond Théberge Université de Moncton Dr. Eddy Campbell University of New Brunswick University of Prince Edward Island Dr. Alaa Abd-El-Aziz Holland College Dr. Brian McMillan Maritime College of Forest Technology Mr. Gerry Redmond Ms. Mireille Duguay **MPHEC**

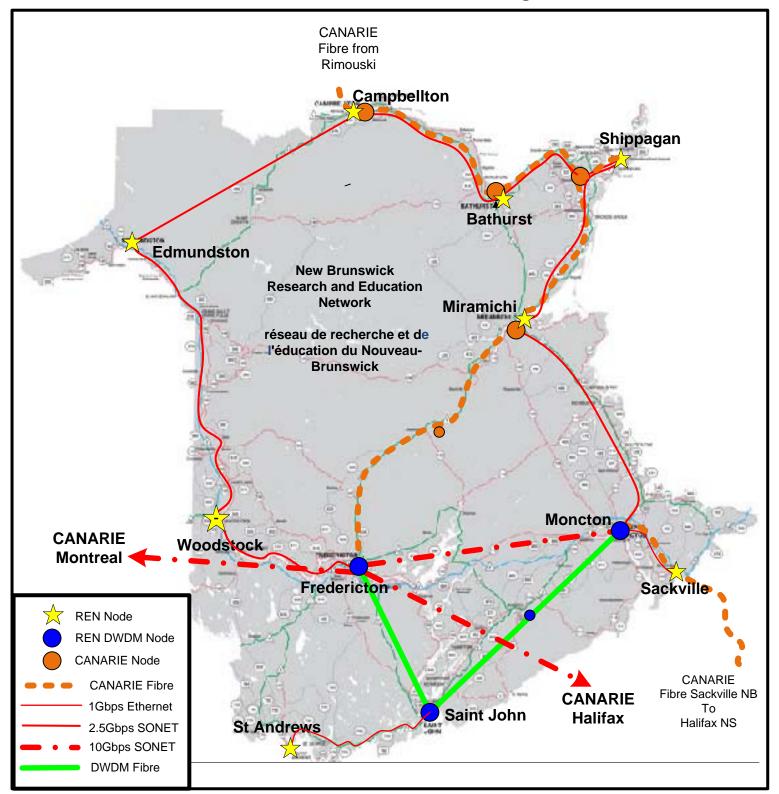
Network Committee Representatives and Alternates as of March 31, 2015 were:

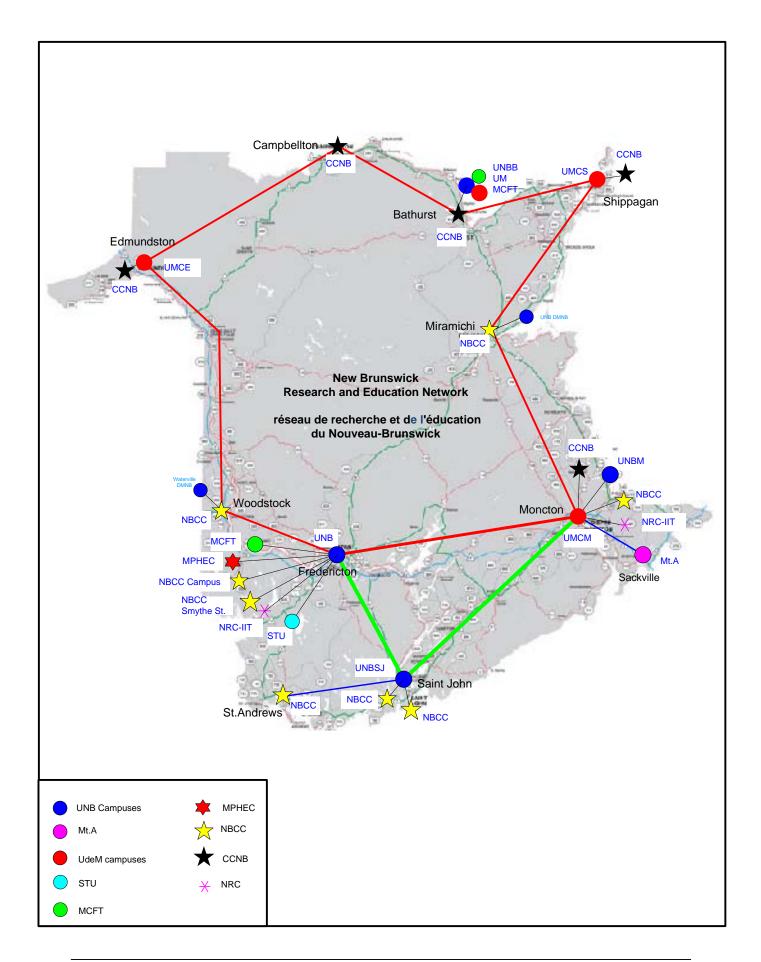
Institution	Representative	Alternate
Mount Allison University St. Thomas University Université de Moncton University of New Brunswick University of Prince Edward Island Holland College Maritime College of Forest Technology	Mr. Helmut Becker Mr. Dan Hurley M. André Lee Mr. Terry Nikkel Mr. Blair Vessey Mr. Richard MacDonald Mr. Jim Bowen	Mr. Peter Crawshaw Mr. Robert Brewer Ms. Rina Robichaud Mr. John Jackson Mr. Doug Burton Mr. Greg Mermuys Mr. Mike Boucher
MPHEC	Ms. Rachael Anderson	vacant

The Chair of the Network Committee was Doug Burton.

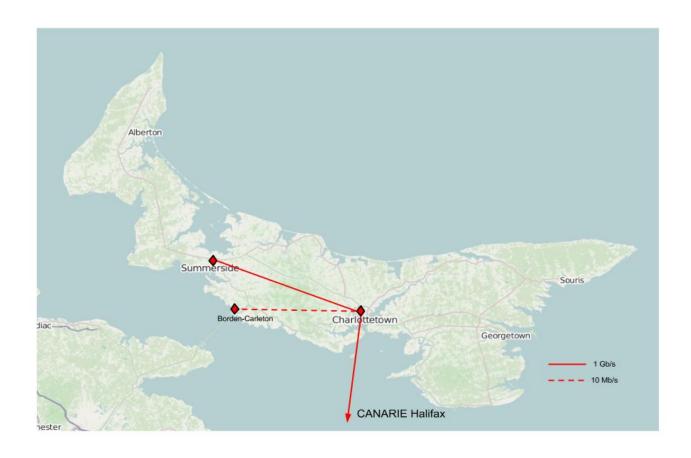
NB REN – Research and Education Network with

New CANARIE Fibre Route through NB





Prince Edward Island Research and Education Network



EDUCATIONAL COMPUTER NETWORK NEW BRUNSWICK AND PRINCE EDWARD ISLAND STATEMENT OF REVENUE AND EXPENDITURES*

PERIOD ENDED: 3/31/2015

Account Description	<u>Budget</u> 2014-2015	<u>Actual</u> 2014-2015
Revenue		
Provincial Transfers	946,548	946,538
Direct Funding from institutions	26,476	26,476
Committed Funds	0.00	0.00
Total Revenue	973,024	973,014
Expenditures		
Network Shared Services		
UNB as the designated installation (service provider)	205,838	205,838
Total Network Shared Services	205,838	205,838
Telecommunications		
PEI Provincial Lines & Internet Access	287,047	257,055
NB Internet Access	150,000	33,633
Advanced Network Connection	24,000	19,000
Total Telecommunications	461,047	309,688
Hardware, software, maintenance		
Hardware	15,000	8,878
Software	118,048	114,402
Maintenance	57,800	49,165
Total Hardware, Software, Maintenance	190,848	172,446
Meetings		
Network Committee	15,778	6,008
Collaborative Projects	99,513	27,403
Total Meetings	115,291	33,411
Total Expenditures	973,024	721,384
Net revenue (net loss)		251,630
NB & PEI Committed Funds Balance as at March 31, 2015:		
Balance, April 1, 2014		511,105
Net revenue (loss) for the year		251,630
Balance, March 31, 2015		762,735

^{*}as per MPHEC audited financial statements

EDUCATIONAL COMPUTER NETWORK NEW BRUNSWICK STATEMENT OF REVENUE AND EXPENDITURES*

PERIOD ENDED: 3/31/2015

Committed Funds 0.00	0,938 0.00 0,938
Committed Funds 0.00	0.00
Committed Funds 0.00	0.00
Expenditures	
Network Shared Services	
	5,546
<u> </u>	5,546
Telecommunications	
	0,000
	3,633
Advanced Network Connection (CA*Net4) 24,000 1	9,000
Total Telecommunications 404,000 25	2,633
Hardware, software, maintenance	
	8,878
	5,145
	7,779
Total Hardware, software, maintenance 153,623 14	1,802
Meetings	
	5,198
·	0,335
Total Meetings 107,778 2	5,533
Total Expenditures 860,948 61	5,514
Net revenue (net loss) 0 24	5,424
NB Committed Funds Balance as at March 31, 2015:	
Balance, April 1, 2014 43	0,914
Net revenue (loss) for the year <u>2</u> 4	15,424
Balance, March 31, 2015 67	6,338

*as per MPHEC audited financial statements

EDUCATIONAL COMPUTER NETWORK PRINCE EDWARD ISLAND STATEMENT OF REVENUE AND EXPENDITURES*

PERIOD ENDED: 3/31/2015

I LINIOD LIND	P.D. 3/31/2013	
Account Description	Budget 2014-2015	Actual 2014-2015
Revenue		
Provincial Transfers	85,600	85,600
Direct HC/UPEI Transfer	26,476	26,476
Committed funds	0	0
Total Revenue	112,076	112,076
Expenditures		
Network Shared Services		
UNB as the designated installation (service provider)	10,291	10,292
Total Network Shared Services	10,291	10,292
Telecommunications		
Provincial Lines & Internet Access	57,047	57,055
Advanced Network Connection	0	0
Total Telecommunications	57,047	57,055
Hardware, software, maintenance		
Hardware	0	0
Software	23,225	19,257
Maintenance	14,000	11,386
Total Hardware, software, maintenance	37,225	30,644
Meetings		
Network Committee	3,000	810
Collaborative Projects	4,513	7,068
Total Meetings	7,513	7,878
Total Expenditures	112,076	105,870
Net revenue (net loss)	0	6,206
PEI Committed Funds Balance as at March 31, 2015	:	
Balance, April 1, 2014		80,191
Net revenue (loss) for the year		6,206
Balance, March 31, 2015		86,397
		·

^{*}as per MPHEC audited financial statements