



NB PEI Educational Computer Network

Supporting higher education in Atlantic Canada for over 45 years

ANNUAL REPORT 2018-2019

April 1, 2018 - March 31, 2019

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

Honesty

Collaboration

Collegiality

Openness

Trust

Visit our website at:

<http://www.nbpei-ecn.ca> (English)

<http://rie-nbipe.ca> (French)

NEW BRUNSWICK and PRINCE EDWARD ISLAND EDUCATIONAL COMPUTER NETWORK MEMBERS



COLLÈGE COMMUNAUTAIRE DU NOUVEAU-BRUNSWICK

725 College Street P.O. Box 266
Bathurst, New Brunswick E2A 3Z2

Tel.: (506) 547-2063
Fax: (506) 547-2741
www.ccnb.ca



HOLLAND COLLEGE

140 Weymouth Street
Charlottetown, Prince Edward Island C1A 4Z1

Tel.: (800) 446-5265
Fax: (902) 629-4239
www.hollandcollege.com



MARITIME COLLEGE OF FOREST TECHNOLOGY

1350 Regent Street
Fredericton, New Brunswick E3C 2G6

Tel.: (506) 458-0199
Fax: (506) 458-0652
www.mcft.ca



MARITIME PROVINCES HIGHER EDUCATION COMMISSION

82 Westmorland, Suite 401
P.O. Box 6000
Fredericton, New Brunswick E3B 5H1

Tel.: (506) 453-2844
Fax: (506) 453-2106
www.mphec.ca



NEW BRUNSWICK COMMUNITY COLLEGE

284 Smythe Street
Fredericton, New Brunswick E3B 3C9

Tel.: (506) 462-5012
Fax: (506) 462-5008
www.nbcc.ca



MOUNT ALLISON UNIVERSITY

155 Main Street
Sackville, New Brunswick E4L 1B5

Tel.: (506) 364-2300
Fax: (506) 364-2299
www.mta.ca



ST. THOMAS UNIVERSITY

51 Dineen Drive
Fredericton, New Brunswick E3B 5G3

Tel.: (506) 452-0640
Fax: (506) 450-9615
www.stu.ca



UNIVERSITÉ DE MONCTON

18 Antonine-Maillet Avenue
Moncton, New Brunswick E1A 3E9

Tel.: (506) 858-4113
Fax: (506) 858-4544
www.umoncton.ca



UNIVERSITY OF NEW BRUNSWICK

P.O. Box 4400
Fredericton, New Brunswick E3B 5A3

Tel.: (506) 453-4573
Fax: (506) 453-5016
www.unb.ca



UNIVERSITY OF PRINCE EDWARD ISLAND

550 University Avenue
Charlottetown, Prince Edward Island C1A 4P3

Tel.: (902) 566-0400
Fax: (902) 566-0420
www.upei.ca

Message from the Chair



On behalf of the NB/PEI Educational Computer Network, I am pleased to present our 2018-2019 Annual Report. The ECN has an outstanding track record of effective collaboration for the benefits of its members and continues to lead in Network and Communication Technology. This document highlights the ECN's activities and accomplishments over the past fiscal year.

I would like to begin by thanking Scott Chamberlain (UNB Fredericton) 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, which has made this network such a success for almost 50 years.

The NB/PEI ECN underwent a Cyber Security Assessment process during the year that resulted in an ECN-wide recommended remediation action list to guide the group in the process of addressing issues relating to security for our institutions. Initiatives like this and the SIEM (Security Incident Event Management System) - that the ECN is partnering in with CANARIE - are key strategic priorities to address the protection of our network as identified by the ECN.

As you read the pages ahead, you will find out more about the accomplishments of the ECN this year and I hope that you will be impressed with the significant return on our collaborative investment.

Marilyn Luscombe

A handwritten signature in black ink that reads "Marilyn Luscombe".

Chair, ECN Board of Directors

Table of Contents

Overview	1
More about ECN.....	1
ECN highlights for 2018-2019 include:	2
Governance (Board of Directors)	4
Network Committee	4
Designated installation	5
Meetings	5
Strategy	5
Communication and collaboration tools	5
Consortium Security.....	6
Network sustainability and improvement	6
Financial operations.....	6
Appendices.....	8
Appendix I: Members, Representatives, Alternates, and Chair	8
The Board members.....	8
The Network Committee Representatives and Alternates.....	8
The Chair of the Network Committee.....	8
The Network Sustainability Team	9
The ECN Communication Team	9
The Firewall Change Management Team	9
Appendix II: Research and Education Networks (REN).....	11
New Brunswick Research and Education Network.....	11
Prince Edward Island Research and Education Network.....	13
Appendix III: ECN Service Areas / Projects	14
Appendix IV: Statements of Revenue and Expenditures	15

Overview

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

This approach has enabled all ECN members to realize the benefits of a high capacity, high speed data communications network at a reasonable cost, regardless of size. It also allows members to take advantage of economies of scale not available to individual member institutions, and ensures that smaller institutions receive the same level of service as larger ones. In fact, ECN reduced IT costs for members and thus funders including the provinces, an annual average of \$1.3M over the past five years which is a 100% return on investment. In the last two years, the yearly savings have been even more, at \$1.5M. Through economies of scale, and with expertise contributed by all, ECN members pay less for many software applications, connections to commercial internet services, and equipment, than they could independently. Finally, members become stronger on the national front by providing a united voice with respect to the collective needs of New Brunswick and Prince Edward Island research and education sector.

ECN is one of the oldest yet most innovative of the higher education IT consortia across Canada. ECN members benefit from a strong governance and management model, and a reasonably secure budget that ensures continuity and flexibility. ECN's collaborative and collegial culture firmly supports its many accomplishments.

More about ECN

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, l'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 current five-year agreement (January 1, 2017 to March 31, 2022) witnessed the addition of the

Collège communautaire de Nouveau Brunswick (CCNB) and the New Brunswick Community College (NBCC) to the list of member institutions.

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 some of 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. ECN has been highly successful in attracting capital investment from the federal and provincial governments, with over \$600k contributed to the development and expansion of the NB research and education communications network over the last three years. Inestimable value from collaboration, cooperation, and highly professional relationships among the members has contributed greatly to ECN's reputation across Canada as having one of the best governance, management, and operating models among similar organizations.

ECN highlights for 2018-2019 include:

- The NB/PEI Educational Computer Network (ECN) continued to successfully provide connectivity among its members and to the wider world, just as it has for the past 47 years.
- The ECN released a new three-year Strategic Plan for 2018-2021.
- The Communications Team continued to circulate, promote and provide updates on ECN successes by using the website as a communication tool. A press release on "Return on Investment" took place on November 8, 2018 providing information to our stakeholders, governments and the general public on our cost efficiencies.
- The ECN implemented a Change Advisory Board (CAB) as a result of the Firewall Project to manage and implement changes using standardized methods and procedures to ensure prompt and efficient handling of changes to the ECN Firewalls.
- The ECN implemented a Network Sustainability Team to focus on ensuring the continued sustainability of the provincial networks and to develop options for continual improvement of network redundancy, resiliency, and performance.
- The Cyber Security project was completed in 2018-19 which provided members with both a Network and Threat Risk Assessments performed by BulletProof. The project enabled the ECN to assess the process, methodology used, review the results and findings to produce an ECN wide recommended remediation action list to address issues moving forward.

- The ECN is partnering with CANARIE in a Security Information and Event Management (SIEM) solution. The New Brunswick Research and Education Network (REN) has filled the staff position to manage the implementation of the SIEM tool. CANARIE announced that Bell will be the technology provider implementing Fortinet. Equipment evaluations and purchasing took place prior to March 31, 2019. The roll out will begin in 2019-20 at the RAN level with an opportunity later for a pilot phase at the institutional level which is expected to include one or more of the ECN member sites who are research intensive.
- Upgrades to firewall equipment at UPEI and Holland College allowed the retirement of old network gear and provided better visibility to the CANARIE network, thus increasing the traffic sent through the CANARIE connections.
- Network diversity on the NB side has allowed traffic to continue to flow in spite of link failures and planned outages.
- The 2018 technical workshop was held in November with over 75 participants. The purpose of the workshop was to increase collaboration between ECN members, share best practices, tips and lessons, identify potential training needs and to provide insight into the strategic vision for the collaborative platform SharePoint/ Office365.
- The ECN SharePoint files were successfully migrated to the new Office365 site. All members are able to login to the site using their own credentials.
- An RFP was issued to select an Internet Service Provider to replace the current contract that expires on May 30th 2019. The evaluation team identified and recommended a three-year contract, selecting Eastlink for UPEI, Holland College and ECN Moncton and continuing with Bell Aliant for ECN Fredericton.
- In 2020 the ECN will celebrate its 50th anniversary and in recognition of this milestone, a one-time event/conference is being planned with two components, one to be called ECN50RIÉ and the other AtlanticNet 2020. The organization of these events are in the early stages and the event will be held at the Delta Hotel in Moncton, NB between May 12 – 14th, 2020.

Governance (Board of Directors)

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

- The President of Holland College
- The Executive Director of the Maritime College of Forest Technology
- The Chief Executive Officer of the MPHEC
- The President of Mount Allison University
- The President of St. Thomas University
- Le recteur de l'Université de Moncton
- The President of the University of New Brunswick
- The President of the University of Prince Edward Island
- The President and CEO of the New Brunswick Community College
- La présidente-directrice générale du Collège communautaire du Nouveau-Brunswick

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

Network Committee

The NB/PEI Educational Computer Network Committee (Network Committee) includes one voting representative nominated by each of the parties of the Agreement as well as a voting member who represents the Network Operations. An alternate representative to the Network Committee is also appointed. Members and alternates are appointed for an indefinite period or are replaced upon recommendation in writing to the Chairperson of the Board. The Chairperson of the Network Committee is nominated by the Network Committee, and is non-voting, 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 meets 5-6 times annually. The duties of the Network Committee are listed in Appendix A of the ECN Agreement. The Network Committee makes decisions by 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 the designated, and the major, installation for the Network. Computing facilities and Information and Communication Technology (ICT) services are provided by UNB to all ECN members as detailed in Appendices B and C of the ECN Agreement.

Meetings

The ECN Network Committee met six times in 2017-2018:

- June 4, 2018 St. Francis Xavier University, Antigonish, NS (AUCTC)
- July 18, 2018 Collège communautaire du Nouveau-Brunswick, Bathurst, NB
- September 25, 2018 Holland College, Charlottetown, PEI
- November 7, 2018 University of New Brunswick, Saint John, NB
- January 16, 2019 Skype Conference
- March 13, 2019 Mount Allison University, Sackville, NB

A list of the Board and Network Committee members is included in Appendix I.

Appendix II includes:

A New Brunswick map displaying the physical network connections and their relative bandwidth as well as CANARIE links. The red and blue lines are leased carrier services while the green lines are owned fibre optic links. Shared Internet connections are located in Fredericton and Moncton.

A New Brunswick map displaying the connected campuses of the partner institutions; there are a total of 36 campuses connected in 15 cities, towns, and villages.

The Prince Edward Island map shows the connected locations and the CANARIE link.

Strategy

The key shared service of the ECN is connecting member institutions via a high-speed, high-capacity research and education network. Members also jointly purchase and deploy IT products and services, with anti-virus, SharePoint, firewalls, and anti-spam software being recent examples of successful collaborations.

Building on recent successes such as our Firewall Build and our Cyber Security Assessments, ECN is updating its strategic plan to focus on the following areas:

Communication and collaboration tools: The ECN continues to expand the use of SharePoint (a Microsoft software platform used for file sharing and co-editing, document and records management, and collaboration projects), emphasizing migration to SharePoint Online, an

application offered through Office365. Support by a dedicated employee at UNB will continue to be accessible for all member institutions. Further deployment of services offered through other Office365 applications that will benefit the consortia will continue, for example, VOIP telephony.

Consortium Security: Security issues identified through the joint external threat risk assessment last year will continue to occupy the ECN. In addition to addressing the everyday threats all members deal with, ECN will support policy development at member institutions to provide the essential framework upon which successful security strategies are built. We will also continue to add tools and services to expand the security toolkit available to ECN members, including third party patching, network monitoring, and disaster recovery. Addressing the potential threats, both internal and external against the network, our equipment and our data. The national security incident and event management (SIEM) project led by CANARIE is well underway; ECN is one of the early adopters of this initiative, and will continue to enhance consortium security capabilities and competencies as the project matures and expands.

Network sustainability and improvement: To ensure the network continues to perform efficiently and economically in a time of increasing demand by members and their use of cloud based solutions, the ECN is focusing on network development, extending it where needed, while building in resiliency and redundancy wherever possible. Equipment renewal is a challenge, and ECN will thoughtfully yet creatively manage its resources to ensure future reliability, stability, and capacity. Finally, with critical optic fibre cable agreements coming up for renewal in 2021, planning is underway to ensure the network remains stable and sustainable for the following decade.

A table of strategic objectives is in Appendix III.

Financial operations

A copy of the approved budget vs actual expenditures for 2018-2019 (showing a deficit of \$193,212 (NB: -\$202,860); PEI: \$9,648) as well as the balance of the ECN committed funds as of March 31, 2019 is included in Appendix IV. New Brunswick's deficit was projected and is the result of two of the collaborative projects being completed during the year and entirely expended in 2018-19. The two projects consisted of the Firewall and Cyber Security Initiatives. The significant savings in the Network operation costs helped to offset the deficit. There were no hardware expenditures. Software was higher with the addition of VMWare. The CAF membership, maintenance and meeting expenses remain relatively stable as forecasted. The SIEM (Security Incident Event Management) initiative is under budget due to the timing of the project and although the coordinator of the project was hired and in place, the procurement of the SIEM tool itself was delayed. Meeting costs were slightly over budget on the NB side due to the creation of the Network Sustainability Team who held one face to face meeting and is expected to meet at least once a year going forward. The ECN Fall Workshop also saw significant numbers in attendance from all member institutions. In PEI, a surplus was realized due to the saving in maintenance with the retiring of some router equipment no longer needed. Most PEI budget line

items fell in line with what was proposed although both the collaborative project and meetings were less than the budgeted expectation. The ECN's accumulated surplus of \$1,280,733 (NB: \$1,209,612; PE: \$71,121) will be used to fund initiatives such as the Third Party Patching, Network maintenance and Disaster Recovery, if necessary, as identified in the strategic plan.

Appendices

Appendix I: Members, Representatives, Alternates, and Chair

The Board members as of March 31, 2019 were:

<u>Institution</u>	<u>Representative</u>
• Mount Allison University	Dr. Jean-Paul Boudreau
• St. Thomas University	Ms. Dawn Russell
• Université de Moncton	M. Jacques Paul Couturier
• University of New Brunswick	Dr. Eddy Campbell
• University of Prince Edward Island	Dr. Alaa Abd-El-Aziz
• Holland College	Dr. Alexander MacDonald
• Maritime College of Forest Technology	Mr. Tim Marshall
• Maritime Provinces Higher Education Commission	Ms. Catherine Stewart (Interim CEO)
• Collège communautaire du Nouveau-Brunswick	M. Roger Doucet (Interim)
• New Brunswick Community College	Ms. Marilyn Luscombe (Chair)

The Network Committee Representatives and Alternates as of March 31, 2019 were:

<u>Institution</u>	<u>Representative</u>	<u>Alternate</u>
• Mount Allison University	Mr. John Gillis	Mr. Peter Crawshaw
• St. Thomas University	Mr. Dan Crabbe	Mr. Robert Brewer
• Université de Moncton	M. André Lee	Mr. Jocelyn Nadeau
• University of New Brunswick	Mr. Terry Nikkel	Mr. David Totton
• New Brunswick Network	Mr. Peter Jacobs	Mr. John Jackson
• University of Prince Edward Island	Mr. Dana Sanderson	Mr. Blair Vessey
• Holland College	Mr. Richard MacDonald	Mr. Greg Mermuys
• Maritime College of Forest Technology	Mr. Jim Bowen	Mr. Mike Boucher
• Maritime Provinces Higher Education Commission	Ms. Rachael Anderson	Mr. Scott Stonehouse
• Collège communautaire du Nouveau-Brunswick	Mr. Tony Roy	Mr. Marc-André Arseneau
• New Brunswick Community College	Mr. Darren Rose	Mr. Edgar Lazar

The Chair of the Network Committee was Scott Chamberlain.

The Network Sustainability Team as of March 31, 2019 were:

<u>Institution</u>	<u>Representative</u>
• Mount Allison University	Mr. Peter Crawshaw
• St. Thomas University	Mr. Tim O'Brien
• Université de Moncton	M. Philippe Boudreau
• University of New Brunswick	Ms. Ying Zhang
• New Brunswick Network	Mr. Peter Jacobs
• University of Prince Edward Island	Mr. Doug Burton
• Holland College	Mr. Greg Mermuys
• Collège communautaire du Nouveau-Brunswick	M. Marc-Andre Arseneau
• New Brunswick Community College	Mr. Edgar Lazar

The ECN Communication Team as of March 31, 2019 were:

<u>Institution</u>	<u>Representative</u>
• St. Thomas University	Ms. Andrea Hanson
• University of Prince Edward Island	Mr. Dana Sanderson
• University of New Brunswick	Mr. Scott Chamberlain

The Firewall Change Management Team as of March 31, 2019 were:

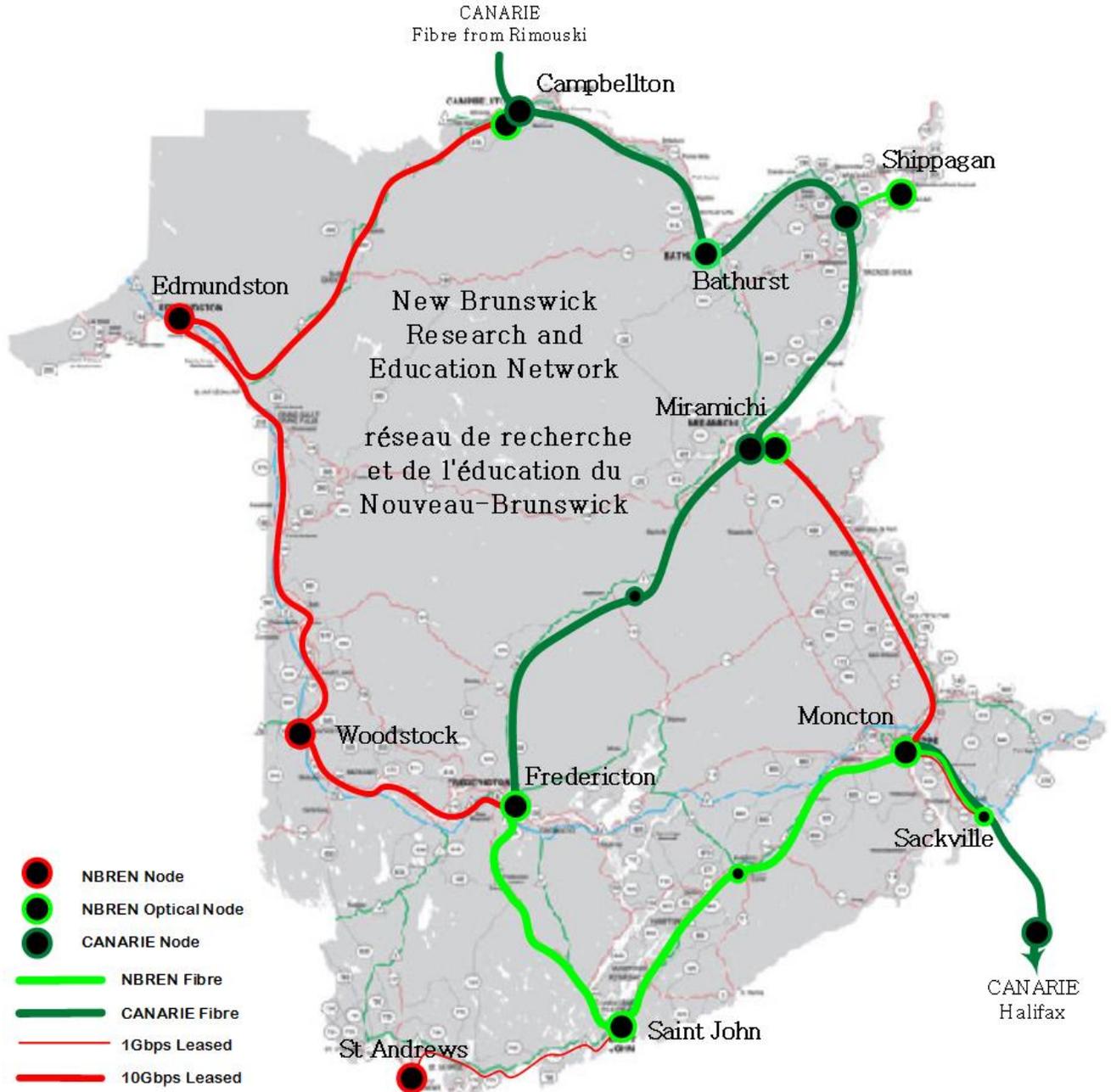
<u>Institution</u>	<u>Representative</u>
• Mount Allison University	Mr. Peter Crawshaw
• St. Thomas University	Mr. Rob Brewer
• St. Thomas University	Mr. Tim O'Brien
• Université de Moncton	M. Daniel Poirier
• Université de Moncton	M. Denis Richard
• Université de Moncton	M. Denis Pelletier
• Université de Moncton	M. Jocelyn Nadeau
• Université de Moncton	Mr. Brahim Benahmed
• Université de Moncton	M. Luc Bosse
• University of New Brunswick	Mr. John Debique
• University of New Brunswick	Ms. Ying Zhang
• University of New Brunswick	Mr. Stephen Gamblin
• University of New Brunswick	Mr. Peter Jacobs
• University of New Brunswick	Mr. Jonathan MacAdam
• University of Prince Edward Island	Mr. Walter Pirch
• Holland College	Mr. Greg Mermuys

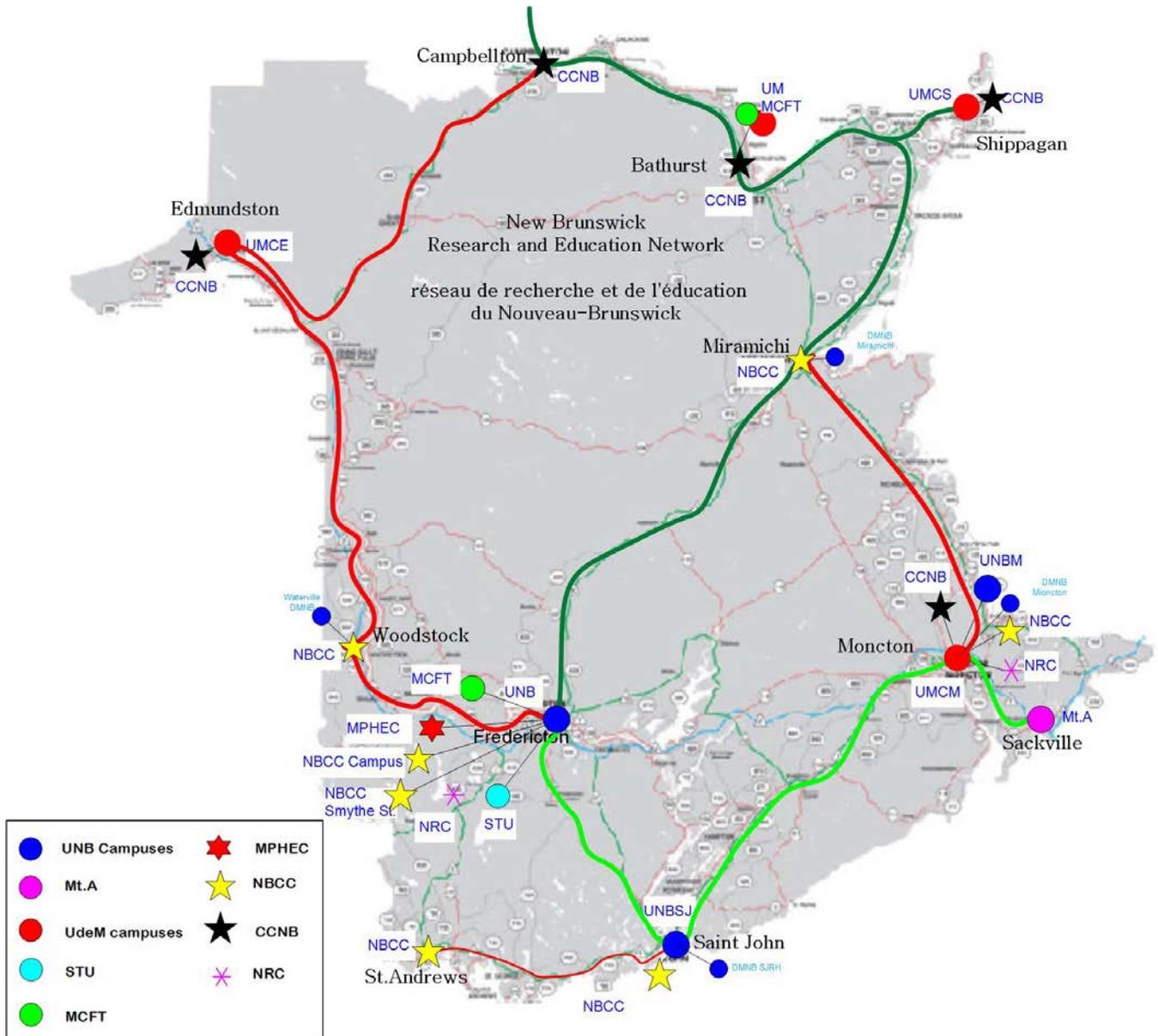
- Maritime College of Forest Technology Mr. Bob Ross
- Maritime Provinces Higher Education Mr. Scott Stonehouse
Commission
- Collège communautaire du Nouveau-Brunswick M. Tony Roy
- Collège communautaire du Nouveau-Brunswick M. Eric Bellefleur
- Collège communautaire du Nouveau-Brunswick M. Denis Landry
- Collège communautaire du Nouveau-Brunswick M. Marc-André Arseneau
- New Brunswick Community College Mr. Edgar Lazar
- New Brunswick Community College Mr. Georges Leblanc
- New Brunswick Community College Mr. Jamie Coughlan

Appendix II:

Research and Education Networks (REN)

New Brunswick Research and Education Network





Prince Edward Island Research and Education Network



Appendix III:

ECN Service Areas / Projects

	Objectives 2017-2018	Objectives 2018-2019	Objectives 2019-2020
Connectivity	<ul style="list-style-type: none"> Improve bandwidth in southern NB Internet services RFP Review Campus Connect with Firewalls/Fortinet 	<ul style="list-style-type: none"> Network redundancy to NBCC St. Andrews 100Gbps upgrades between Fredericton, Saint John and Moncton 	<ul style="list-style-type: none"> Review network sustainability committee
Shared Services	<ul style="list-style-type: none"> Analysis of Office365 tools SharePoint opportunities Cybersecurity projects: SIEM, user education and awareness 	<ul style="list-style-type: none"> Begin migration of SharePoint sites to SharePoint online SIEM project with CANARIE 	<ul style="list-style-type: none"> Continue SharePoint Online/Teams migration Complete SIEM Phase 1a
Joint Purchasing	<ul style="list-style-type: none"> Anti-Spam contract renewal (expires: Sept 2018) 	<ul style="list-style-type: none"> Review and recommend tools for Cyber Security 	<ul style="list-style-type: none"> Acquire and deploy Cyber Security tools
Professional Development	<ul style="list-style-type: none"> AUCTC ECN Workshop 	<ul style="list-style-type: none"> AUCTC ECN Workshop 	<ul style="list-style-type: none"> AUCTC ECN Workshop Atlantic Net 2020/ECN 50th
National Representation and Sharing of Information and Best Practices	<ul style="list-style-type: none"> NREN GC CIO Advisory Committee 	<ul style="list-style-type: none"> NREN GC CIO Advisory Committee 	<ul style="list-style-type: none"> NREN GC CIO Advisory Committee
Organizational	<ul style="list-style-type: none"> Implement Communications Plan 	<ul style="list-style-type: none"> Communications Plan 	<ul style="list-style-type: none"> Update Communications Plan Update ROI calculation

Appendix IV:**Statements of Revenue and Expenditures**

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

Account Description	PERIOD ENDED: 3/31/2019	Budget 2018-2019	Actual 2018-2019
Revenue			
Provincial Transfers		946,538	946,538
Direct Funding from institutions		354,476	354,476
External fees for service		101,810	0
Committed funds		177,629	0
Total Revenue		1,580,453	1,301,014
Expenditures			
Network Shared Services			
UNB as the designated installation (service provider)		219,535	219,535
Total Network Shared Services		219,535	219,535
Telecommunications			
PEI Provincial Lines & Internet Access		57,047	57,047
NB Internet Access		60,000	61,827
Total Telecommunications		117,047	118,874
Hardware, software, maintenance			
Hardware		20,000	0
Software		62,385	74,334
CAF Maintenance		23,000	22,900
Maintenance		40,000	40,028
Total Hardware, Software, Maintenance		145,385	137,262
Meetings and Collaboration			
Network Committee		25,000	24,669
Collaborative Projects		410,953	521,116
RAN contributions to SIEM Initiative		84,023	22,802
ECN SharePoint Services		65,000	63,600
Total Meetings and Collaboration		584,976	632,187
NBREN and GigaPOP			
NBREN CORE		421,300	361,367
NBREN Additional Connections		33,810	25,000
NB GigaPOP Services		58,400	0
Total NBREN and GigaPOP		513,510	386,367
Total Expenditures		1,580,453	1,494,226
Net revenue (net loss)		0	-193,212
NB & PEI Committed Funds Balance as at March 31, 2019:			
Balance, April 1, 2018			1,473,945
Net revenue (loss) for the year			-193,212
Balance, March 31, 2019			1,280,733

*as per MPHEC audited financial statements

**EDUCATIONAL COMPUTER NETWORK
NEW BRUNSWICK
STATEMENT OF REVENUE AND EXPENDITURES***

PERIOD ENDED: 3/31/2019

Account Description	Budget 2018-2019	Actual 2018-2019
Revenue		
Provincial Transfers	860,938	860,938
Direct contributions	328,000	328,000
External Fees for Service	101,810	0
Committed Funds	177,629	0
Total Revenue	<u>1,468,377</u>	<u>1,188,938</u>
Expenditures		
Network Shared Services		
UNB as the designated installation (service provider)	208,559	208,559
Total Network Shared Services	<u>208,559</u>	<u>208,559</u>
Telecommunications		
Internet Access	60,000	61,827
Total Telecommunications	<u>60,000</u>	<u>61,827</u>
Hardware, software, maintenance		
Hardware	20,000	0
Software	49,285	61,132
CAF membership	18,000	17,900
Maintenance	30,000	31,259
Total Hardware, software, maintenance	<u>117,285</u>	<u>110,291</u>
Meetings and Collaboration		
Network Committee	20,000	21,513
Collaborative Projects	400,000	516,839
RAN contribution to SIEM initiative	84,023	22,802
Shared Services	65,000	63,000
Total Meetings and Collaboration	<u>569,023</u>	<u>624,754</u>
NBREN and GigaPOP		
NBREN CORE	421,300	386,367
NBREN Additional Connections	33,810	0
NB GigaPOP Services	58,400	0
Total NBREN and GigaPOP	<u>513,510</u>	<u>386,367</u>
Total Expenditures	<u>1,468,377</u>	<u>1,391,798</u>
Net revenue (net loss)	<u>0</u>	<u>-202,860</u>
NB Committed Funds Balance as at March 31, 2019:		
Balance, April 1, 2018		1,412,472
Net revenue (loss) for the year		-202,860
Balance, March 31, 2019		<u>1,209,612</u>

*as per MPHEC audited financial statements

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

PERIOD ENDED: 3/31/2019

Account Description	Budget 2018-2019	Actual 2018-2019
Revenue		
Provincial Transfers	85,600	85,600
Direct HC/UPEI Transfer	26,476	26,476
Total Revenue	112,076	112,076
Expenditures		
Network Shared Services		
UNB as the designated installation (service provider)	10,976	10,977
Total Network Shared Services	10,976	10,977
Telecommunications		
Provincial Lines & Internet Access	57,047	57,047
Total Telecommunications	57,047	57,047
Hardware, software, maintenance		
Hardware	0	0
Software	13,100	13,202
CAF Maintenance	5,000	5,000
Maintenance	10,000	8,769
Total Hardware, software, maintenance	28,100	26,971
Meetings and Collaboration		
Network Committee	5,000	3,156
Collaborative Projects	10,953	4,277
Total Meetings and Collaboration	15,953	7,433
Total Expenditures	112,076	102,428
Net revenue (net loss)	0	9,648
PEI Committed Funds Balance as at March 31, 2019:		
Balance, April 1, 2018		61,473
Net revenue (loss) for the year		9,648
Balance, March 31, 2019		71,121

*as per MPHEC audited financial statements