

Annual Report

Serving the education community for over 20 years...

2018-2019



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Letter From the Minister

Her Honour the Honourable Janice C. Filmon, C.M., O.M.
Lieutenant Governor of Manitoba
Room 235, Legislative Building
Winnipeg, MB R3C 0V8

Your Honour:

It is my privilege to present the Annual Report of the Manitoba Education, Research and Learning Information Networks (MERLIN) for the operational year ended March 31, 2019.

Respectfully submitted,

Original Signed by
Honourable Scott Fielding

Letter From the Deputy Minister

The Honourable Scott Fielding
Minister of Finance
Room 103, Legislative Building
Winnipeg, Manitoba R3C 0V8

Dear Minister Fielding:

I am pleased to submit for your consideration the Annual Report of the Manitoba Education, Research and Learning Information Networks (MERLIN) for the year ended March 31, 2019.

MERLIN's Information Technology (IT) services include consulting and technical training, provincial licensing and purchasing, Internet access, hosting and network security services. More than 200,000 students and educators use MERLIN as their Internet gateway. MERLIN's approach in service delivery is to provide, facilitate and negotiate the best pricing for the education community in Manitoba. These services lend to economies of scale and consistency in provincial IT standards for school divisions and post-secondary institutions.

MERLIN's Partner Programs also translates into cost savings and other benefits for the education community by bundling multiple services together and leveraging the purchasing power of all the educational organizations in Manitoba. Other benefits include the application of best practices, enhanced license compliancy, increased collaborative opportunities, technical and training support.

The Agency is committed to listening to the education community and key stakeholders in providing the best possible technology solution to overcome barriers and to meet the rapidly changing IT needs of Manitoba learners. This collaboration with clients and key stakeholders provides MERLIN with many opportunities for success.

I would like to take this opportunity to thank all staff for their dedication and effort that have contributed to MERLIN having a successful year.

Respectfully submitted,

Original Signed by
Scott Sinclair

Message From the Chief Operating Officer

On behalf of staff, I am pleased to report the achievements of Manitoba Education, Research and Learning Information Networks (MERLIN) for the year ended March 31, 2019.

During the course of this past fiscal year, we have had the pleasure of providing technology services to almost every educational organization in the Province of Manitoba including K-12 schools, First Nations schools, colleges and universities. Roughly one quarter of the population of the Province of Manitoba relies on MERLIN's services to access the Internet and cloud services in their daily lives as they attend schools, colleges and universities.

For the first time in MERLIN's 24 year history, MERLIN is completely self sufficient. We no longer receive any funding from the provincial government. This is a significant achievement for an organization that is not mandated to be used by our clients in the education sector. They have the autonomy to choose any organization or company that they want to, and overwhelmingly they have chosen to work with MERLIN.

We are well on our way to renewing the MERLIN K-12 Partner Program (bundling multiple IT services package) for another three years. For the past thirteen years, the Partner Program has provided high quality services and benefits to school divisions and independent schools at savings of up to 80% compared to the next best alternative. A customized Partner Program is also available to post-secondary institutions.

In Manitoba, MERLIN is the gateway organization for K-12 school connectivity to Manitoba's Regional Advanced Research and Education Network (MRnet) and CANARIE, covering approximately 700 schools. Due to the collaboration of K-12 and post secondary institutions that use MERLIN's service, MERLIN is consistently one of the top three largest users of CANARIE's Content Delivery Service (CDS) in all of Canada! CANARIE provides high-speed access to popular Internet based resources and content providers such as Microsoft, Google, Amazon and others via the CDS. This network is not available to private sector or government departments making this an exclusive offering to education.

As security and privacy become greater concerns for our partners in protecting students in the classroom, MERLIN continues to expand our security services to meet the needs to the education community. Infrastructure as a service (IAAS) is now officially part of MERLIN's service offerings after the success of several pilot projects. The hosting of virtual servers and storage provide benefits including infrastructure and licensing cost-savings and cost efficiencies with redundancy and fault tolerance.

We have seen an increase demand for technical training and as a result, we have provided and brokered more training opportunities for both schools and post-secondary institutions in the past year. This technical training helps the education community sustain operations and enhance their own technology infrastructures. MERLIN also continues to facilitate a provincial technicians group to foster collaboration, information sharing and informal technical training at quarterly events for the past three consecutive years. It is a forum to share experiences and technical knowledge.

Finally, I would like to thank the many individuals in the education community who have supported our endeavours over the past year. Your comments, suggestions and ideas have created a collaborative environment which supports your technology needs today and into the future in teaching and training students. I also want to thank our professional and dedicated staff that have contributed to MERLIN's success. It has been my privilege to be a part of the amazing team of professionals that make up the MERLIN family for another year.

Original Signed by
Kiley Bender
A/Chief Operating Officer

Agency Profile

Background

Manitoba Education, Research and Learning Information Networks (MERLIN) was established in 1995 as a special operating agency with the Department of Education and Training. It was formed as a facilitating body to coordinate the delivery of technology services to the education community across Manitoba.

Mission • To support the use of technology in improving educational services to learners.

Mandate

- Provide services that support educational institutions in the application of technology tools to enhance and expand program delivery; and
- Provide direction and management in the educational use of networks, acting as a broker of services to meet client needs.

Services • The services provided are allocated into the following sections:

SERVICES	Schools	Dept. of Education, and Training	Post-Secondary Institutions	Other Depts./ Agencies
Partner Programs	X		X	
Consulting	X	X	X	
Provincial Licensing and Purchasing	X	X (MSD)*	X	
Shared Services - all hosting and ISP costs for the provision of services outside the Partner Programs. ex:	X	X X (MSD)*	X	X
• Web based applications				
• Email list server				
• Hosting virtual servers and storage				
• Hosting managed firewall				
Technical Training Services	X		X	
General Support for the education community	X	X (MSD)	X	

* Manitoba School for the Deaf



Partner Programs:

The Partner Programs includes a collection of commonly used services such as software licensing, Internet bandwidth, monitoring and reporting of Internet traffic, access to high-speed direct connect services, spyware filtering for web traffic, web content filtering, anti-spam/anti-virus scanning, hosting and consulting. This Program translates into major cost savings and other benefits for schools in Manitoba. A customized Partner Program is also available to post-secondary institutions.

Provincial Licensing and Purchasing:

Licensing and purchasing on a province-wide basis helps ensure consistency in hardware and software products and provides economies of scale for school divisions and post-secondary institutions.

- Purchase advice and assistance for hardware including routers, switches and firewalls
- Negotiation of software licensing agreements and hardware discounts
- Advice on licensing and purchasing of software

Consulting:

This service includes per diem consulting, project consulting and support contracts.

- Design and implementation of LAN and WAN, directory services and server infrastructures
- Advice on the selection of technical equipment and services
- Support for the installation and maintenance of workstations
- Advice on technologies that support distance education delivery
- Network systems management
- Security services (VPN, WAN, etc.)
- Review of school divisions' existing technology plans

Internet Access:

Schools connecting to MERLIN have access to a high-speed commercial Internet connection and a direct path to MRnet and CANARIE. It connects to global Research and Education networks, content delivery providers and the Manitoba Internet Exchange. Full IPv6 support is available.

Hosting:

MERLIN collaborates with groups of educational organizations to offer hosting of shared applications or other services. MERLIN offers an array of IT hosting services saving school divisions and post-secondary institutions costs in server hardware, software, upgrades and staff resources. This includes:

- Web and Internet domain name hosting
- Exchange email for school staff
- SharePoint for school staff
- Hosted Skype for Business for school staff
- Managed firewall service
- Infrastructure as a Service (IAAS)
- Various applications including Student Records SRB and PowerSchool
- Data Back-up - remotely backs up server data to MERLIN's data centre
- Web server and maintenance of the Department of Education and Training's web page
- Hosting of the Manitoba Education Library systems in English (MEL) and French (DREF)
- Email list server

Security:

Analyze risks and deploy countermeasures to reduce exposure to network based threats. Included are:

- Anti-virus/anti-spam email filtering service
- Web content filtering
- Intrusion Prevention System (IPS)
- Distributed Denial of Service (DDoS) Mitigation
- Network Security Reviews
- Next Generation Firewall
- Curated Threat Intelligence

Technical Training Services:

Customized training for school divisions helps sustain operations and enhance technology infrastructures. Training services are intended to provide education-specific training in areas where it might not normally be available.

- Support for applications of distance education
- Delivery of workshops and seminars

General Support to the Education Community:

This includes activities such as general technical support and participation in various educational organizations including Manitoba Association of Educational Technology Leaders (MAETL), Manitoba Association for Distributed Learning and Training (MADLaT), Manitoba’s Regional Advanced Research and Education Network (MRnet), Build Your Teaching Experience (BYTE) Technology Conference, Riding the Wave (RTW) Annual Technology Conference, etc.

Markets

PRIMARY	SECONDARY
Schools and school divisions (K-12) comprised of 37 school divisions, over 700 public schools, 94 independent schools and over 50 band-operated schools within about 62 First Nations and post-secondary institutions.	Adult learning centres, educational organizations, Department of Education and Training

While MERLIN does not have a monopoly for its services within the province, it does have a unique position in the education community, allowing for the provision of an education-specific component to decision-making, provincial coordination, and advisory services. The Agency attempts to foster cooperative relationships with private industry to benefit the education community.

“I can’t say enough good things about MERLIN and what they provide for USB! An ever growing and indispensable set of quality services combined with amazing staff.”

Denis Bernardin, Directeur, Service des technologies de l’information, Université de Saint-Boniface



Performance Review

Performance Targets and Accomplishments

Performance Areas:

- Focus on the K-12 system and post-secondary institutions
- Focus on provincial services
- Improve access to MERLIN's services for rural and northern school divisions
- Proactive planning

MERLIN made a significant impact in many areas during the Fiscal Year 2018/19. Some examples are highlighted below.

MERLIN PARTNER PROGRAMS

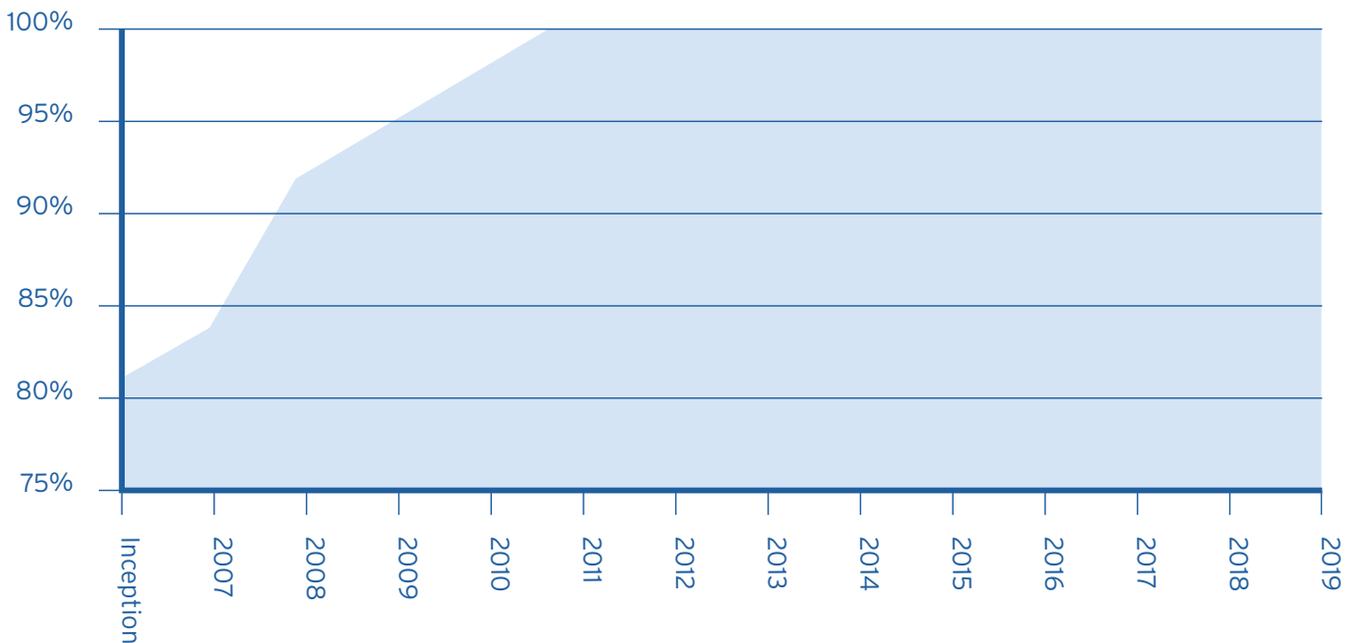
The Partner Programs includes a collection of commonly used technology services bringing major cost savings and benefits to all schools and post-secondary institutions in Manitoba.

MERLIN's K-12 Partner Program is currently in the renewal process for a new three-year Agreement effective July 1, 2019.

All of Manitoba's school divisions and 70% of funded independent

schools participate in the Partner Program. The Agency also has negotiated a customized Partner Program for post-secondary institutions.

% OF SCHOOL DIVISIONS PARTICIPATING IN THE PARTNER PROGRAM



“The team at MERLIN is extremely resourceful and proficient at supporting our division in the Partner Program. As well, our division recently migrated the majority of our data centre to MERLIN’s hosted services and their expertise was certainly quite helpful as we worked through that process. We look forward to continued successes in our growing relationship.”

Royce Hollier, Technology Coordinator, Beautiful Plains School Division

PROVINCIAL LICENSING AND PURCHASING

Microsoft:

- MERLIN continues to coordinate the purchase of all Microsoft products for all educational organizations in the province to provide volume discounts to all. This includes Desktop Operating systems, Office suites, database software and Microsoft cloud services like Office 365.
- The Microsoft Enrollment for Education Solutions (EES) Agreement for post-secondary institutions is currently in its third year of the three-year agreement.

- The Microsoft Enrollment for Education Solutions (EES) Agreement for Manitoba K-12 education and First Nations schools is currently being renewed for the next three years and will take effect July 1, 2019.
- MERLIN has worked with Microsoft to renew the Shape the Future Program for Manitoba schools. This Program provides schools with a discount on OEM desktop licenses.

Adobe:

- MERLIN continues to work with Adobe on educational pricing

on Adobe products for K-12 schools and post-secondary institutions. These products include Adobe's Creative Cloud, Photoshop and Premiere.

Trimble SketchUp Pro:

- MERLIN continues to be a facilitator of the Trimble SketchUp Pro K-12 State-Wide License Grant Program providing all public K-12 schools with access to the latest versions at no cost. SketchUp Pro is a full-featured desktop 3D modeling tool.



CONSULTING

MERLIN provides consulting support for two provincial departments

Department of Finance - MERLIN facilitates Manitoba Network services for education.

Department of Education and Training - MERLIN has a Memorandum of Understanding with the Department of Education and Training which provides a number of consulting and IT-related services.

The Agency has also worked with all public and private post-secondary institutions

Design and implementation of:

- Design and implementation of network security services
- Pilot projects with Infrastructure as a Service
- Directory services
- Email services
- Network segmentation solutions which include security and virtual private networks (VPN), network management, disaster recovery/backup solutions, desktop deployments, application deployments, virtual infrastructure deployments, network connectivity failover strategies and strategic planning

MERLIN provides fee-for-service consulting for the education community

Some examples:

- Installed and managed firewalls
- Rebuilt entire school network including servers, switches, firewalls, desktop deployment, and wireless access
- Comprehensive review of entire division technology infrastructure
- Office 365 tenant setup services
- Migration of mail from on premises Exchange to Office 365
- Federated Authentication with Google 's G-Suite, Office 365 and Discovery Education
- Worked to complete a technology review resulting in a technology plan including recommendations for software updates, desktops and servers, and wireless
- Reviewed network segmentation and design and implementation of directory services for single user directory
- Provided consulting on network security
- Provided Incident response to an IT security emergency
- Wide Area Network performance testing and problem resolution
- Design and setup of a Network monitoring solution
- MERLIN is frequently called upon to assist school divisions with problem-solving and provides an objective evaluation as well as recommendations. The Agency's goal is to assist school divisions to become self-sufficient in managing their own infrastructures.



INTERNET ACCESS

MERLIN continues to offer Internet gateway services to schools via fibre, wireless and high-speed circuits. MERLIN works with many different organizations to connect schools across the province including the following:

- BellMTS
- MRnet
- Shaw
- Manitoba Hydro
- Netset
- Manitoba Network
- Westman Communication
- Pembina Trails School Division
- Valley Internet Service Provider (VISP)

MRnet is Manitoba’s connection to the global high-speed education and research network

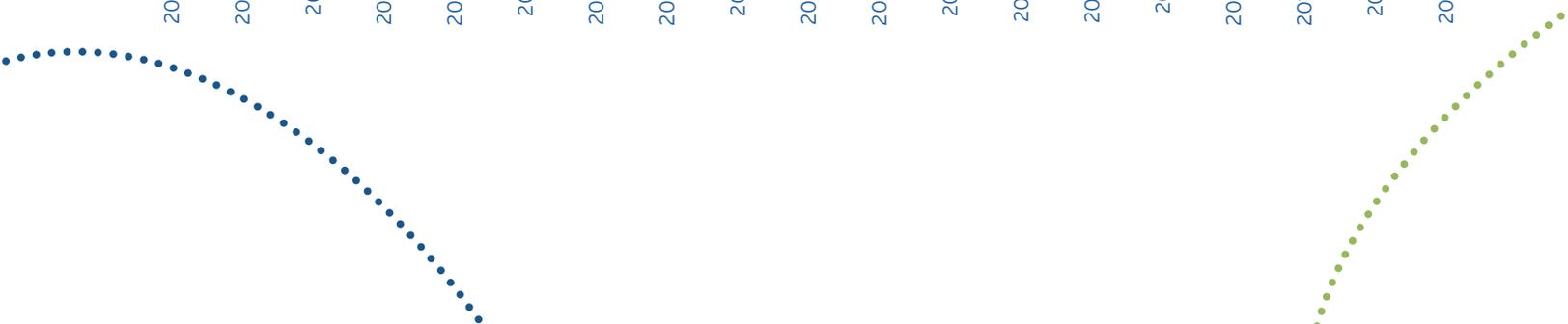
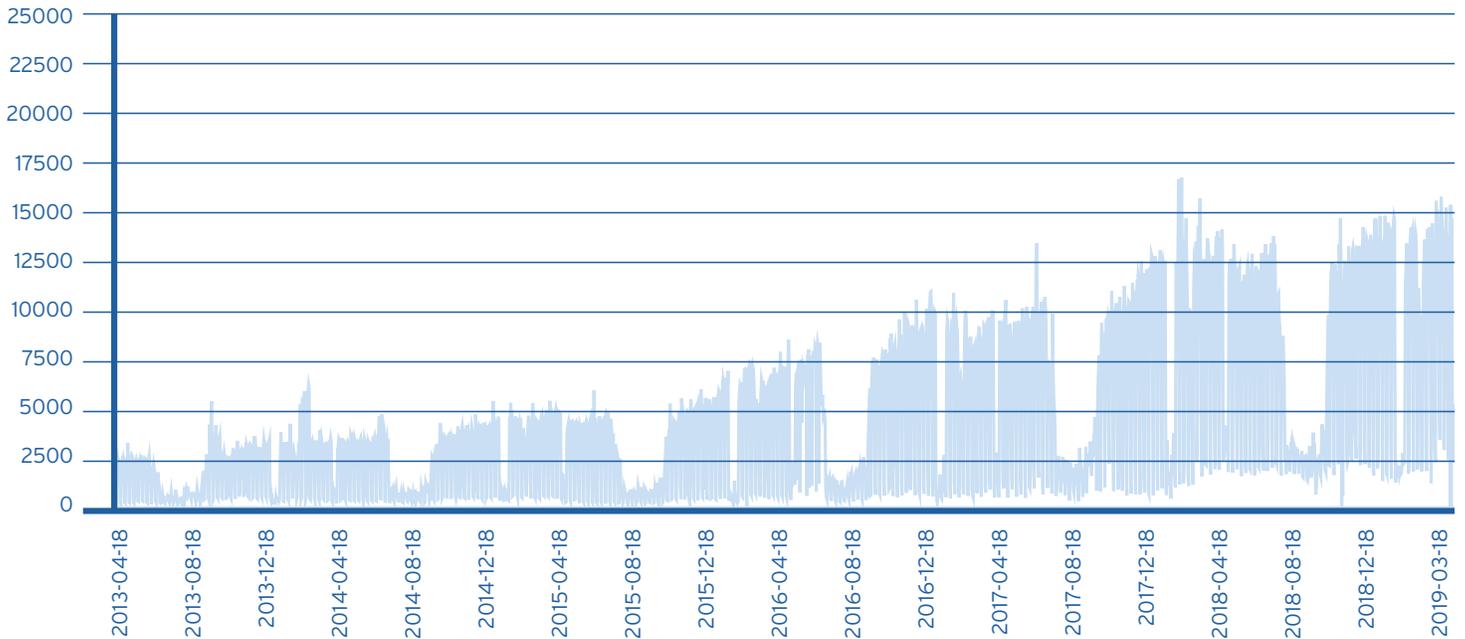
through the CANARIE Network. In Manitoba, MERLIN is the gateway organization for K-12 school connectivity to CANARIE. This includes approximately 700 schools. CANARIE provides high-speed access to popular Internet based resources and content providers such as Microsoft, Google, Amazon and others via the CANARIE Content Delivery service (CDS). MERLIN is consistently one of the top three largest users of CANARIE’s CDS in Canada. MERLIN continues to work with other service providers to facilitate additional connections through Brandon University. It is the responsibility of the education institution to connect to MERLIN in order to take advantage of Internet gateway services. MERLIN allows any education institution or service provider to connect an education institution to MERLIN at no charge.

All Internet usage includes Spyware/Malware filtering; Intrusion Prevention; bandwidth monitoring, and gateway access to MRnet and CANARIE.

MERLIN currently sees about three or four Distributed Denial of Service (DDoS) attacks per month. MERLIN leverages a new DDoS Mitigation Service from our Internet Service Provider which continues to be very effective.

MERLIN’s commercial Internet capacity is currently 2 x 20 Gb links. The second link is used for automatic failover. MERLIN also offers native IPv6 connectivity (the next generation Internet Protocol) as part of its Internet gateway services. MERLIN can allocate IPv6 address blocks to school divisions upon request.

INBOUND TRAFFIC MAX GB/S

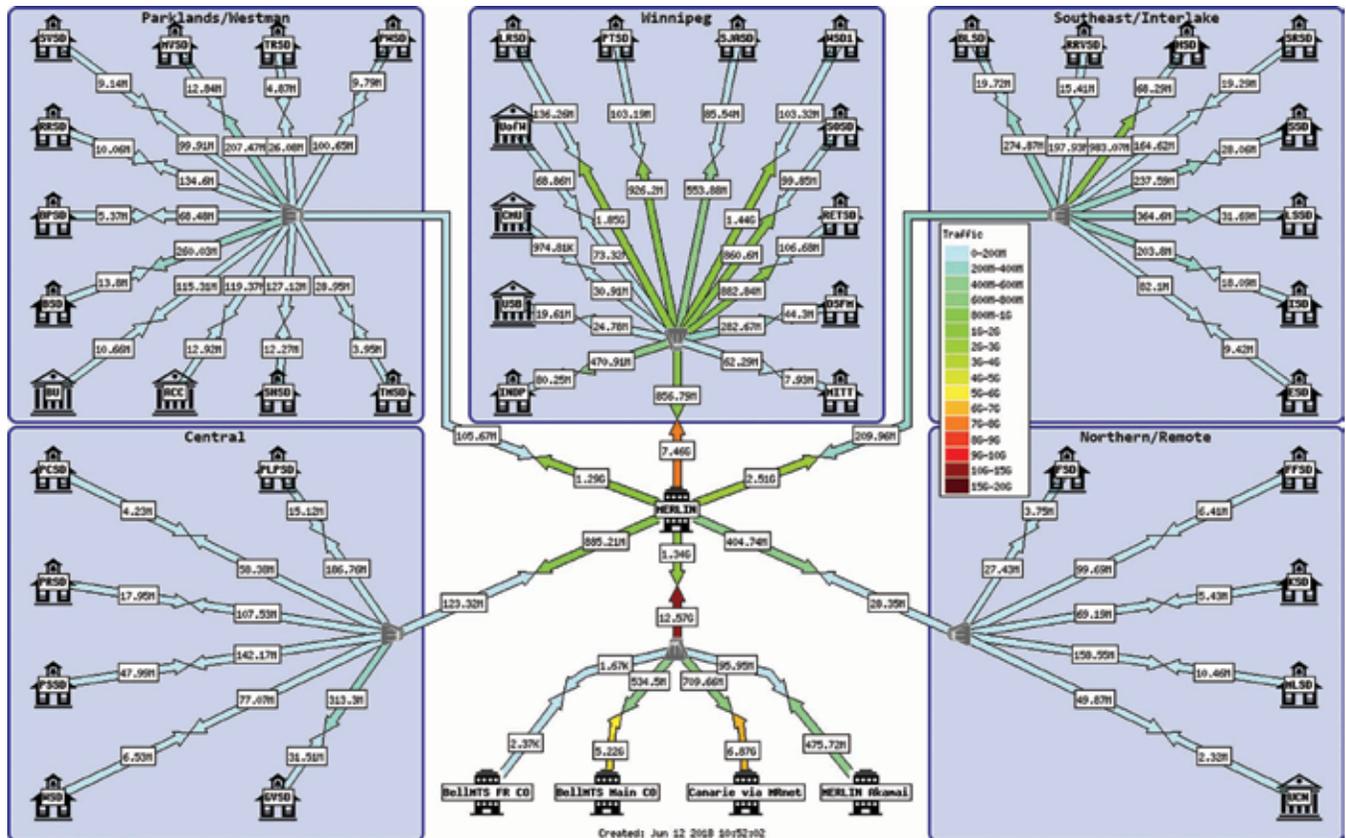


Internet Weather Map

In the past year, MERLIN staff created a feature called the Internet Weather Map. This tool is a point in time view of school

division, post-secondary and Independent school Internet usage across the Province of Manitoba. Usage statistics are updated every

five minutes. This can be viewed at <https://observium.merlin.mb.ca/weathermap>

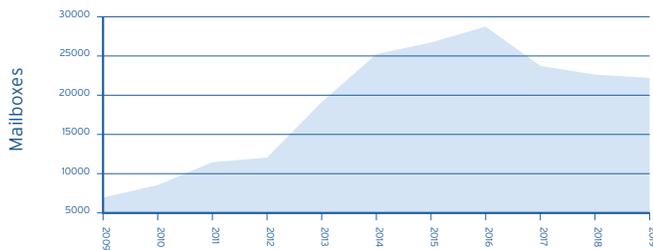


HOSTING

1) For School Division Staff:

- **Email** - MERLIN has created and maintains 22,156 email accounts for school staff (down from 22,829 last fiscal year). This includes more than 50 email domains for educational organizations in Manitoba. Microsoft Office 365 and Google Email services in the cloud continue to improve their offerings for education and some organizations have migrated to these cloud-based services.

Hosted Email for School Staff



- **Hosted Skype for Business for school staff** provides a single interface that unites voice communications, Instant Messaging and audio, video, and Web conferencing. 9,295 school staff (down from 11,217 last fiscal year) are currently using this communication tool. As new cloud based services from Microsoft and Google become available schools are migrating off of Skype for Business.

Hosted Skype for Business for School Staff



- **Microsoft SharePoint** allows staff to set up websites to share information with others, manage documents from start to finish and publish reports. Eleven school divisions (up from ten last fiscal year), one post-secondary institution and one independent school are using this hosted Microsoft SharePoint service.

2) Other Hosting Benefits for School Divisions and Post-Secondary Institutions:

- **Data Back-up Service** - This service remotely backs-up server data to MERLIN's data centre. Currently, ten educational organizations access this service protecting a total of 37 servers.
- **Hosting websites and domain names** - MERLIN hosts 124 websites and 152 divisional and 22 post-secondary domain names.
- **Email list server** - This electronic mail discussion list gives each mailing list a unique web page and allows users to subscribe, unsubscribe and change their account options over the web. Currently, MERLIN maintains 58 lists.
- **Hosted virtual servers and storage** - Infrastructure as a service (IAAS) is now officially part of MERLIN's service offerings. Benefits to clients include infrastructure and licensing cost-savings and cost efficiencies with redundancy and fault tolerance. Currently, two post-secondary institutions and nine school divisions are using this service. MERLIN is currently hosting 212 virtual machines in MERLIN's infrastructure.
- Through hosting services for the Department of Education and Training, school divisions also benefit from the following initiatives:
 - **Blackboard Learning Environment** - Students and school divisions across the province have opportunities to access provincially created distance education courses through MERLIN's hosting of Blackboard. To ensure up-to-date support, new versions of Blackboard are provided when available.
 - **Websites** - MERLIN has been hosting the Department of Education and Training's website since 1996. This currently includes 7,320 web pages (up from 6,720) web pages and 15,587 PDFs (up from 14,470).
 - **Hosted MEL/DREF from the Manitoba Education Library system and associated databases.** Teachers across the province can access these online resources. MERLIN provides ongoing support for the library servers. There are three MEL and four DREF servers in MERLIN's infrastructure available to staff and Manitoba teachers. These are accessible from the Internet as well as from the Managed Environment.

SECURITY

- **Anti-spam/Anti-virus Email Filtering Service** -

All email accounts hosted by MERLIN are scanned for spam and viruses. This service is also available for an annual fee to any school division that runs and maintains its own email server.

- Spam continues to be alive and well, albeit in lower volumes than the Agency has seen in past years. Highly targeted phishing campaigns are the top concern as spammers are utilizing improved techniques for evading IP reputation-based and traditional anti-virus tools. Staff continue to use new and novel methods to keep users from receiving unwanted or malicious email.

- **Web Content Filtering** is the blocking or filtering of undesirable Internet web content

- Currently 36 school divisions and 18 independent schools, five post-secondary institutions and three educational organizations are using this service.

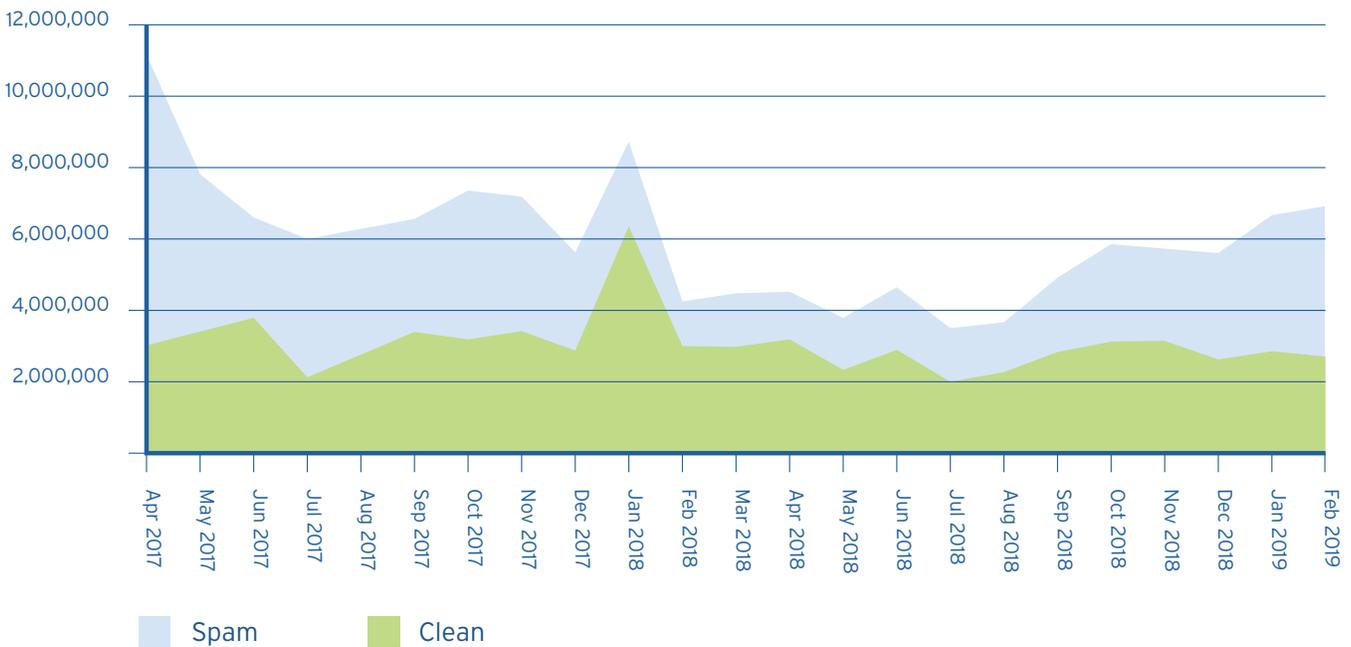
- **Vulnerability, Anti-virus, and Spyware protection.** MERLIN provides protection from known vulnerabilities, spyware and viruses by utilizing a Palo Alto Networks' firewall. Non-hosted firewall client traffic passes through this firewall and is:

- Scanned for client and server based vulnerabilities. Vulnerabilities classified as critical and high are blocked.

- Scanned for viruses. Web, ftp, imap, pop, smtp, and smb traffic is analyzed. Traffic containing viruses is blocked and the connections are reset.
- Examined for spyware. Spyware categorized as critical and high is blocked and connections are reset.

MERLIN also makes use of Palo Alto's Wildfire service for all client traffic. This service uploads unknown executables and portable apps to its cloud sandbox. Files are executed and all activity is monitored to determine if the file contains malware or behaves in a malicious way. Future downloads of any files identified as malicious are blocked.

MONTHLY EMAIL STATISTICS



The graph above illustrates the volume of email and spam that the Agency has processed.

TECHNICAL TRAINING

Customized training to school divisions helps them sustain operations and enhance their own technology infrastructures. The following list describes training that MERLIN staff have delivered and/or played a coordinating role in providing technical training to the education community.

Seminars and/or workshops delivered	
Office 365 - How to get it going and not the sales pitch	May 1, 2018
Infrastructure as a Service	May 10, 2018
Microsoft Licensing Refresher / Update	May 10, 2018
Automating Administration with Windows PowerShell	October 22-26, 2018
Administering System Center Configuration Manager	November 5-9, 2018
GPOs for Security and Management	November 13, 2018
MS Azure Fundamentals	November 26-27, 2018
Integrating Cloud Manager with System Center Configuration Manager	February 11-12, 2019
Microsoft Workshop	March 1, 2019
Microsoft Security Workshop	May 16, 2019
Powershell	May 9, 2019

TECHNICIANS EVENTS

MERLIN continues to facilitate a provincial technicians group to foster collaboration, information sharing and informal technical training. For the past three consecutive years, MERLIN coordinated quarterly events for all technicians in the education community in the Province of Manitoba.

Positive feedback has been received from attendees as these workshops provide a great networking opportunity to hear and learn what other technicians are doing in other school divisions when it comes to technology projects and/or issues. It is a forum to share experiences and technical knowledge.

“Over the past thirteen years that Frontier School Division has been a MERLIN client, they have consistently proven to be far more than the sum of the services they offer. We have benefited from increased purchasing power with common software providers through the ‘Partner Program’, and have grown our own capacities through the various technical training sessions they host.”

Bradley Hampson, Assistant Superintendent Technology, Frontier School Division

GENERAL SUPPORT TO THE EDUCATION COMMUNITY

As part of its service portfolio, MERLIN provides general support to the education community, facilitating communication and collaboration and ensuring that the Agency is on track in its service provision. Some of the areas in which MERLIN provides support include:

Partnerships / Affiliations	
Educational Organizations	<ul style="list-style-type: none"> Manitoba Association of School Superintendents (MASS) Manitoba Association of School Business Officials (MASBO) Manitoba Association of Education Technology Leaders (MAETL) Manitoba First Nations Education Resource Center (MFNERC) Manitoba Association of Computing Educators (ManACE) Manitoba Learning Resource Center
Information Technology Organizations	<ul style="list-style-type: none"> CANARIE Manitoba's Regional Advanced Research and Education Network (MRnet) The Research and Education Networks Information and Analysis (REN-ISAC) Manitoba Internet Exchange (MBIX) Canadian Cyber Defense Challenge (CCDC) Defence Research and Development Canada Canadian Centre for Cyber Security

Education Technology Support

The Agency provides free technical support on educational concerns ranging from Internet access to network and computer hardware issues responding to a large volume of inquiries.

MERLIN has created a mailing list that schools and post-secondary institutions can subscribe to view any planned and unplanned network outages and events along with a Twitter account to communicate these updates.

PRESENTATIONS, MEETINGS AND COMMITTEE SUPPORT

Educational Activities

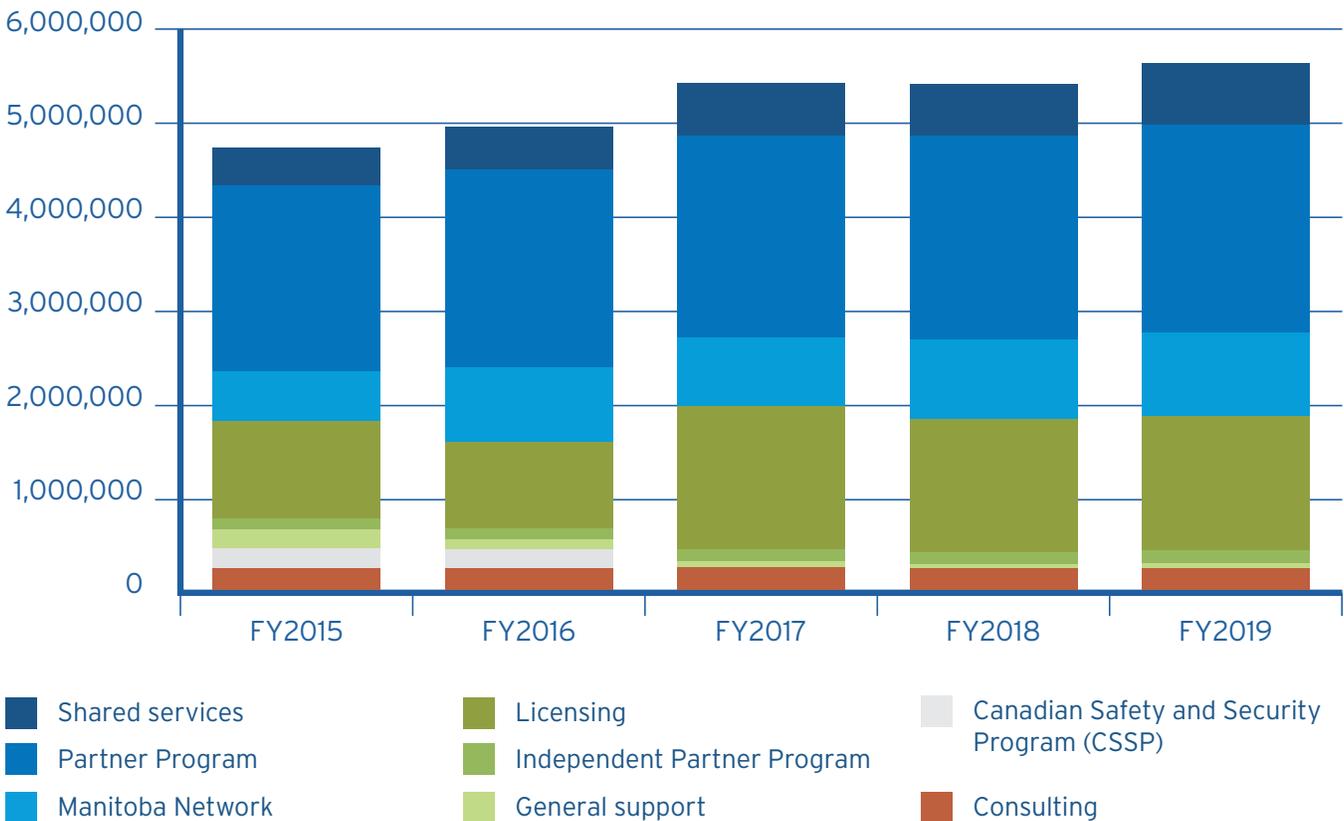
In addition to MERLIN's important role in supporting and providing technology services, MERLIN is also asked to participate on Advisory committees and support educational technology activities (assist in planning conferences, deliver IT presentations and workshops). Some of the events that MERLIN participated in include:

- MAETL** (Manitoba Association of Educational Technology Leaders) - This IT group is committed to supporting and promoting the objectives of its members in the use of ICT in teaching and learning as an integral part of curriculum delivery in the Province of Manitoba. Membership is open to all school divisions and partners with educational organizations (Department of Education and Training, ManACE, MERLIN, etc.) MERLIN staff regularly attend monthly meetings.
- MRnet** (Manitoba's Regional Advanced Research and Education Network) - It is Manitoba's connection for all post-secondary institutions, research centers and K-12 schools to the global high-speed education and research network through the CANARIE Network. MERLIN staff participate on the Executive Committee.
- MADLaT** (Manitoba Association for Distributed Learning and Training) - MADLaT brings together K-12, post-secondary, business, government and healthcare in the province to work collaboratively on distance education initiatives and professional development. The Agency continues to support the MADLaT Annual Conference by providing listservs to the organization.
- BYTE** (Build Your Teaching Experience) - Annual Conference for K-12 teachers showcases the many excellent activities that are happening within Manitoba classrooms and schools to support Literacy with ICT.

- **RTW** (Riding the Wave of Change Annual Technology Conference) - MERLIN staff participate on the Planning Committee, assist in the registration process and present technical sessions at this event.
- **CCDC** (Canadian Cyber Defense Challenge) - This is a non-profit organization designed to promote and educate awareness of Cyber security. This year, MERLIN helped to write and deliver a full-day Capture The Flag (CTF) style competition for students not only in Manitoba but across Canada.

SERVICE ANALYSIS

Clients value MERLIN's services and have increased the use of MERLIN's service offerings over the last five years. This has had a favorable financial impact as the Agency is now self-sufficient and no longer requires provincial funding. Below is a breakdown of the Agency's service revenue for the last five years.



“Services and innovation is what makes MERLIN such a great educational partner, we expect value from our partners and MERLIN exceeds this by creating great partnership programs that benefit all students and school divisions across Manitoba.”

Brian Spurrill, Secretary-Treasurer, Lord Selkirk School Division



Future Outlook

The major changes planned for FY 2019/20 include:

- Expansion of the managed firewall service - This service makes a modern, managed firewall platform available to participating clients allowing them to more effectively manage IT security within their organizations at a reduced cost. MERLIN provides central management of the platform to ensure that it evolves to meet ongoing requirements.
- Expansion of the Infrastructure as a Service (IAAS) - MERLIN can provide hosted virtual infrastructure services including virtual servers and backup storage, etc. Principal benefits include cost savings and cost efficiencies on both infrastructure and licensing, redundancy and fault tolerance.
- Expansion of MERLIN's network and Internet service to accommodate the 50% annual growth in demand from our clients. This provides additional resiliency of the network, Internet, and hosted services including the expansion of an additional data centre location and new commercial Internet partnerships.
- Expansion of MERLIN's security services for both post-secondary and K-12 organizations.

"The staff at MERLIN are what it makes it an extraordinary organization. Through continuous innovation, they offer the most current technology solutions. Reliable hosted services, quick response times, knowledgeable and courteous staff, technical and licensing support, and ongoing consultation and collaboration with the educational community, these make MERLIN exceptional. The benefits MERLIN provides to the learners of Manitoba cannot be overstated."

Katon Frank, Manager of Information Technology, Pine Creek School Division



MANITOBA EDUCATION, RESEARCH AND LEARNING INFORMATION NETWORKS

AN AGENCY OF THE GOVERNMENT OF MANITOBA

FINANCIAL STATEMENTS

FOR THE YEAR ENDED MARCH 31, 2019

Management's Responsibility for Financial Reporting

The accompanying financial statements are the responsibility of the management of the Manitoba Education, Research and Learning Information Networks (the "Agency") and have been prepared in accordance with Canadian public sector accounting standards. In management's opinion, the financial statements have been properly prepared within reasonable limits of materiality, incorporating management's best judgment regarding all necessary estimates and all other data available to the date of the audit report.

Management maintains internal controls to properly safeguard the assets and to provide reasonable assurance that the books and records from which the financial statements are derived accurately reflect all transactions and that established policies and procedures are followed.

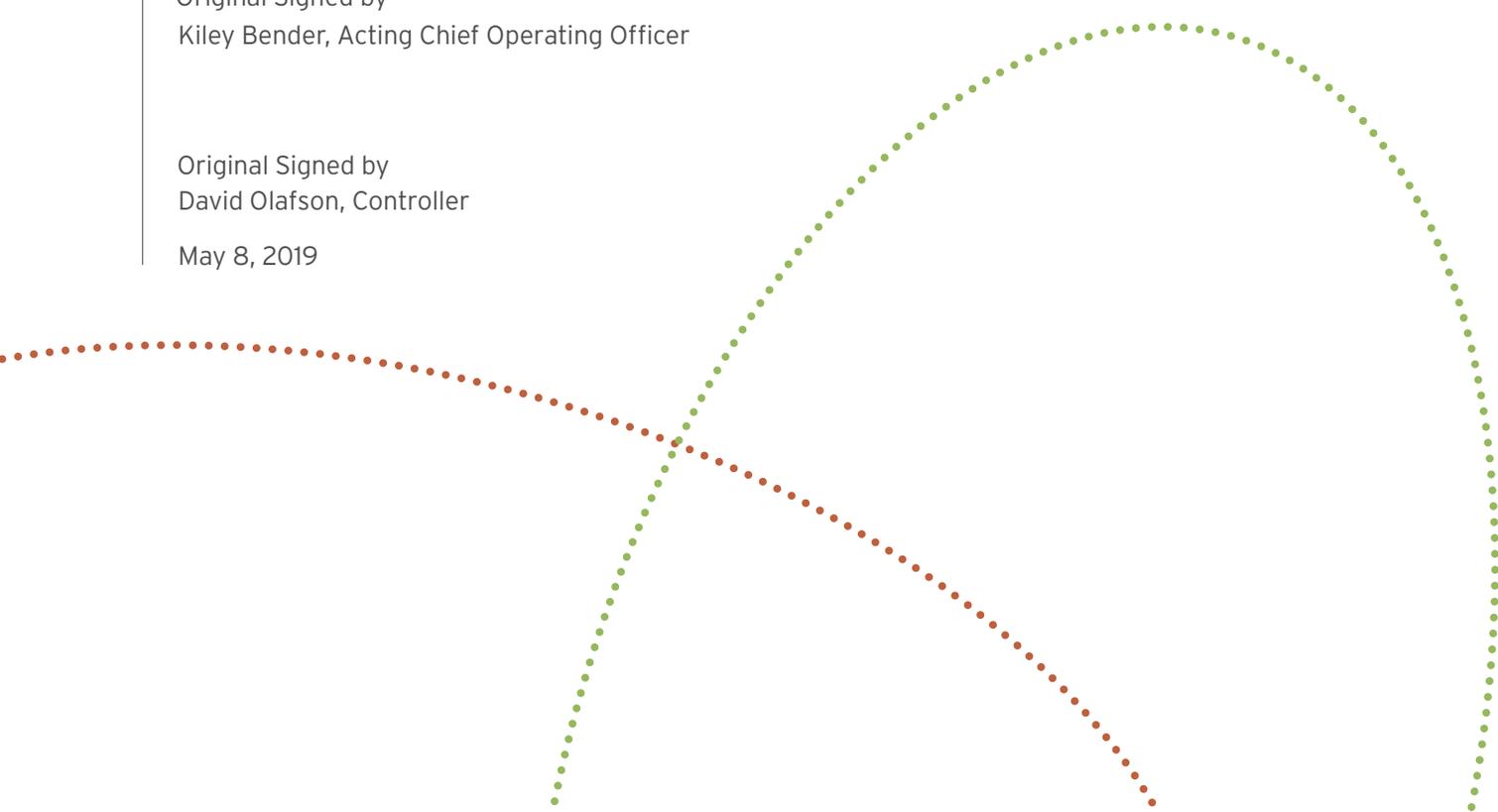
The responsibility of the external audit is to express an independent opinion on whether the financial statements of the Agency are fairly represented in accordance with Canadian public sector accounting standards. The Independent Auditor's Report outlines the scope of the audit examination and provides the audit opinion.

On behalf of Management of the Agency:

Original Signed by
Kiley Bender, Acting Chief Operating Officer

Original Signed by
David Olafson, Controller

May 8, 2019



Independent Auditor's Report



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TO THE SPECIAL OPERATING AGENCIES FINANCING AUTHORITY

Opinion

We have audited the financial statements of **Manitoba Education, Research and Learning Information Networks (the "Agency")**, which comprise the statement of financial position as at March 31, 2019, and the statements of operations, change in net debt, and cash flows for the year then ended and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Agency as at March 31, 2019, and its financial performance and its cash flows for the year then ended in accordance with Canadian public sector accounting standards.

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Agency in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian public sector accounting standards, 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.

In preparing the financial statements, management is responsible for assessing the Agency's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Agency or to cease operations, or has no realistic alternative but to do so.

Those charge with governance are responsible for overseeing the Agency's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

Obtain an understanding of internal control relevant to the audit 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 Agency's internal control.

Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Agency's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Agency to cease to continue as a going concern.

Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Original Signed by
Chartered Professional Accountants

Winnipeg, Manitoba
May 8, 2019



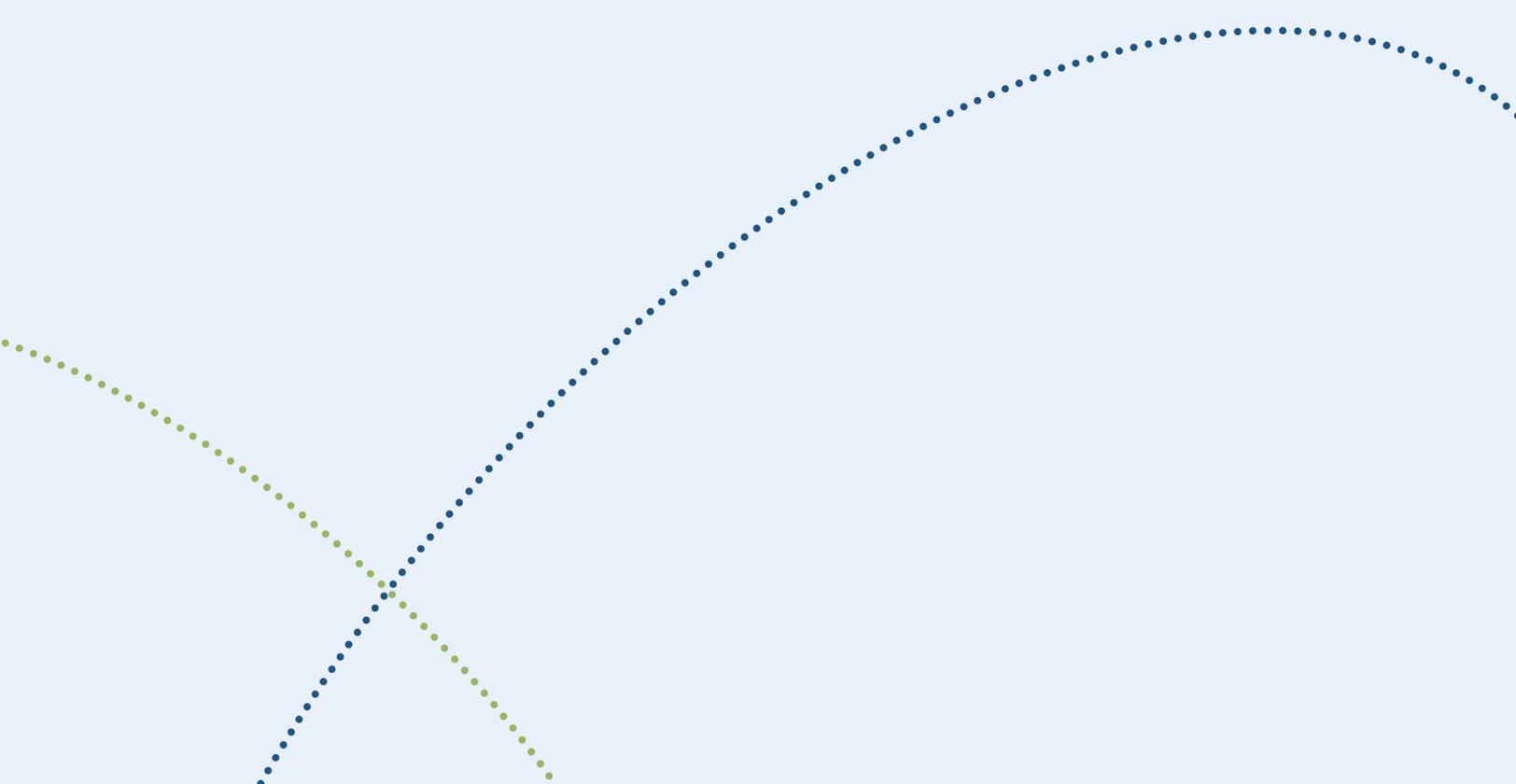
MANITOBA EDUCATION, RESEARCH AND LEARNING INFORMATION NETWORKS

AN AGENCY OF THE GOVERNMENT OF MANITOBA STATEMENT OF FINANCIAL POSITION

(In Thousands)

MARCH 31	2019	2018
Financial Assets		
Cash and cash equivalents (Note 6)	\$ 1,101	\$ 1,443
Accounts receivable	567	526
Portfolio investments	47	47
	1,715	2,016
Liabilities		
Accounts payable and accruals	532	470
Unearned revenue	1,455	1,485
Employee future benefits (Note 7)	147	171
	2,134	2,126
Net debt	(419)	(110)
Non-financial Assets		
Prepaid expenses	787	437
Tangible capital assets (Note 8)	622	638
	1,409	1,075
Accumulated surplus	\$ 990	\$ 965

Designated assets (Note 9)



MANITOBA EDUCATION, RESEARCH AND LEARNING INFORMATION NETWORKS

AN AGENCY OF THE GOVERNMENT OF MANITOBA STATEMENT OF OPERATIONS

(In Thousands)

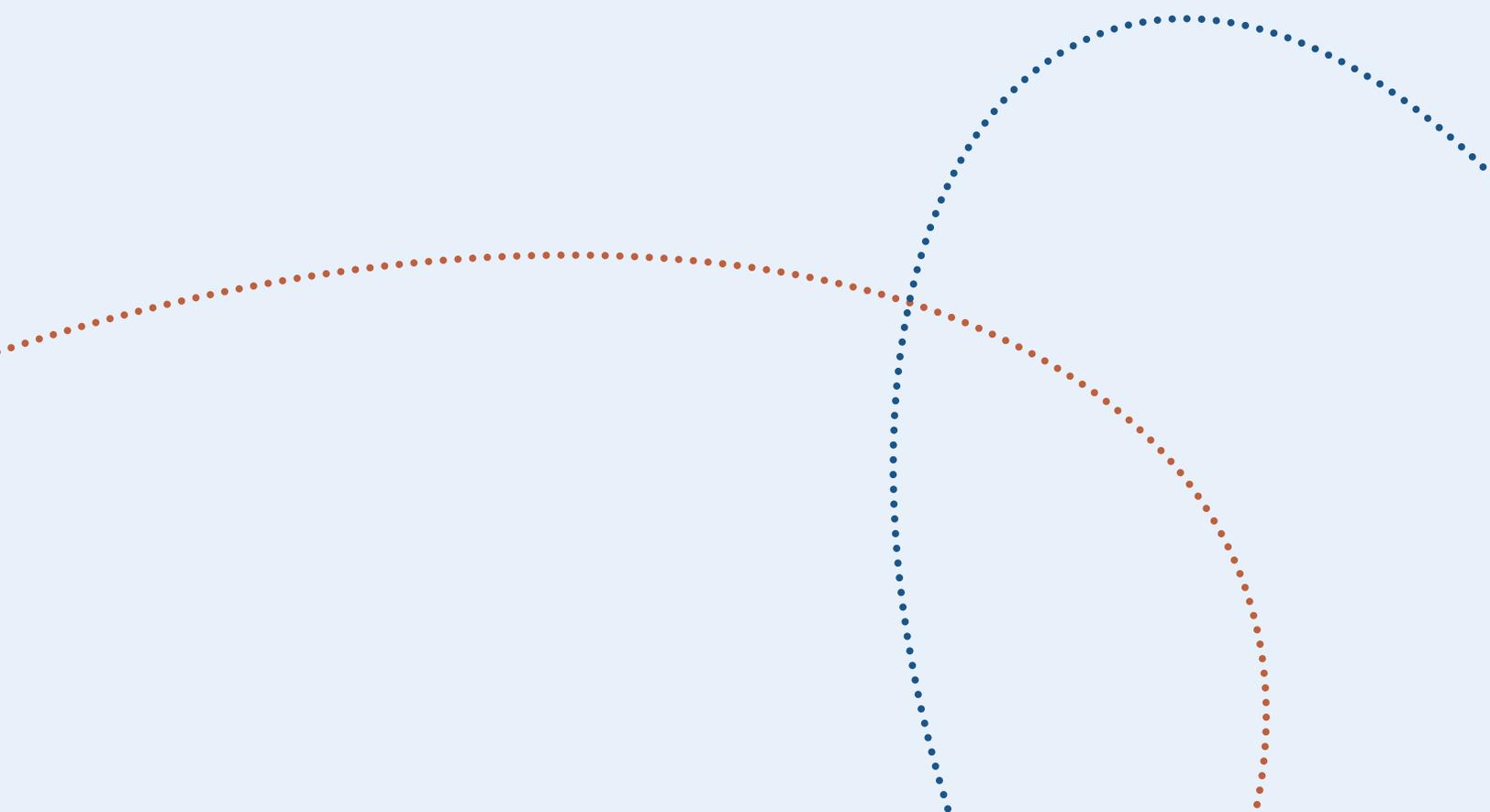
FOR THE YEAR ENDED MARCH 31	2019 BUDGET	2019 ACTUAL	2018 ACTUAL
Revenue			
Fee for goods and services	\$ 5,347	\$ 5,501	\$ 5,284
Other	-	105	12
Province of Manitoba	-	-	346
	5,347	5,606	5,642
Expense			
Advertising and promotion	16	13	10
Amortization of tangible capital assets	343	322	323
Audit and legal fees	14	11	11
Communication and bandwidth	263	190	194
Cost of purchases for resale	2,202	2,310	2,211
Course delivery	50	46	34
Equipment repair and maintenance	364	356	371
Manitoba Network connections	700	892	829
Occupancy	77	102	76
Office and miscellaneous	68	73	35
Professional development	20	21	1
Purchased services	-	54	-
Salaries and benefits	1,210	1,183	1,177
Travel	20	8	11
	5,347	5,581	5,283
Annual surplus	-	25	359
Accumulated surplus, beginning of year	952	965	606
Accumulated surplus, end of year	\$ 952	\$ 990	\$ 965

MANITOBA EDUCATION, RESEARCH AND LEARNING INFORMATION NETWORKS

AN AGENCY OF THE GOVERNMENT OF MANITOBA
STATEMENT OF CHANGE IN NET DEBT

(In Thousands)

FOR THE YEAR ENDED MARCH 31	2019 BUDGET	2019 ACTUAL	2018 ACTUAL
Annual surplus	\$ -	\$ 25	\$ 359
Tangible Capital Assets			
Acquisition of tangible capital assets	(400)	(306)	(306)
Amortization of tangible capital assets	343	322	323
Net acquisition of tangible capital assets	(57)	16	17
Other Non-financial Assets			
Decrease in prepaid expenses	-	(350)	153
Decrease in net debt	(57)	(309)	529
Net debt, beginning of year	(97)	(110)	(639)
Net debt, end of year	\$ (154)	\$ (419)	\$ (110)



MANITOBA EDUCATION, RESEARCH AND LEARNING INFORMATION NETWORKS

AN AGENCY OF THE GOVERNMENT OF MANITOBA STATEMENT OF CASH FLOWS

(In Thousands)

FOR THE YEAR ENDED MARCH 31	2019	2018
Cash provided by (applied to):		
Operating Activities		
Annual surplus	\$ 25	\$ 359
Amortization of tangible capital assets	322	323
	347	682
Changes in:		
Accounts receivable	(41)	(74)
Accounts payable and accruals	62	(41)
Unearned revenue	(30)	629
Employee future benefits	24	16
Prepaid expenses	(350)	153
Cash provided by (applied to) operating activities	(36)	1,365
Capital Activities		
Acquisition of tangible capital assets	(306)	(306)
Increase (decrease) in cash and cash equivalents	(342)	1,059
Cash and cash equivalents, beginning of year	1,443	384
Cash and cash equivalents, end of year	\$ 1,101	\$ 1,443

The accompanying notes are an integral part of these financial statements.



MANITOBA EDUCATION, RESEARCH AND LEARNING INFORMATION NETWORKS

AN AGENCY OF THE GOVERNMENT OF MANITOBA

NOTES TO FINANCIAL STATEMENTS (IN THOUSANDS) FOR THE YEAR ENDED MARCH 31, 2019

1. NATURE OF ORGANIZATION

Effective April 1, 1995, Manitoba Education, Research and Learning Information Networks (the "Agency") was designated as a Special Operating Agency pursuant to The Special Operating Agencies Financing Authority Act, Cap S185, C.C.S.M. and operates under a charter approved by the Lieutenant Governor in Council. Effective April 1, 2015, Agency operates as part of Finance under the general direction of the Assistant Deputy Minister.

The Agency is financed through the Special Operating Agencies Financing Authority (SOAFA). SOAFA has the mandate to hold and acquire assets required for and resulting from the Agency's operations. It finances the Agency through repayable loans and working capital advances. This financial framework enables the Agency to operate in a business-like manner according to public policy expectations.

A Management Agreement between SOAFA and the Minister of Finance assigns responsibility to the Agency to manage and account for Agency related assets and operations on behalf of SOAFA.

The Agency remains bound by relevant legislation and regulations. It is also bound by administrative policy except where specific exemptions have been provided in its charter in order to meet business objectives.

The Agency is economically dependent on the Province of Manitoba as it derives much of its revenue and all of its financing requirements from the Province.

2. BASIS OF ACCOUNTING

The financial statements are prepared in accordance with Canadian generally accepted accounting principles for the public sector as recommended by the Public Sector Accounting Board.

3. SIGNIFICANT ACCOUNTING POLICIES

a. Revenue

(i) Government Transfers

Government transfers without eligibility criteria or stipulations are recognized as revenue when the transfer is authorized.

Government transfers with eligibility criteria but without stipulations are recognized as revenue when the transfer is authorized and all eligibility criteria have been met.

Government transfers with or without eligibility criteria but with stipulations are recognized as revenue in the period the transfer is authorized and all eligibility criteria have been met, except when and to the extent that the transfer gives rise to a liability.

(ii) Exchange Transactions

Product revenue is recognized when the goods are shipped or delivered and title and risk of loss pass to the customer. Service revenue is recognized when the rendering of services is completed or substantially completed.

(iii) Other Revenue

All other revenues are recorded on an accrual basis.

b. Expenses*(i) Accrual Accounting*

All expenses incurred for goods and services are recorded on an accrual basis.

(ii) Government Transfers

Government transfers are recognized as expenses in the period in which the transfers are authorized and all eligibility criteria have been met.

c. Financial Assets*(i) Portfolio Investments*

Portfolio investments are short-term deposits with original maturities of more than three months. These investments are recognized at cost.

d. Liabilities

Liabilities are present obligations as a result of transactions and events occurring prior to the end of the fiscal year. The settlement of the liabilities will result in the future transfer or use of assets or other form of settlement. Liabilities are recorded at the estimated amount ultimately payable.

e. Non-financial Assets

Non-financial assets do not normally provide resources to discharge liabilities of the Agency. These assets are normally employed to provide future services.

(i) Prepaid Expenses

Prepaid expenses are payments of goods or services which will provide economic benefit in future periods. The prepaid amount is recognized as an expense in the year the goods or services are consumed.

(ii) Tangible Capital Assets

Tangible capital assets are recognized at cost. Cost includes the purchase price as well as other acquisition costs. The cost of tangible capital assets, less any residual are amortized over their estimated useful lives as follows:

Computer hardware	25%, straight-line
Computer software	25%, straight-line
Equipment and furniture	20%, straight-line
Leaseholds	20%, straight-line

f. Measurement Uncertainty

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingencies at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

4. FINANCIAL INSTRUMENTS AND FINANCIAL RISK MANAGEMENT

Measurement

Financial instruments are classified into one of the two measurement categories: (a) fair value; or (b) cost or amortized cost.

The Agency records its financial assets at cost, which include cash and cash equivalents, accounts receivable and portfolio investments. The Agency also records its financial liabilities at cost, which include accounts payable.

Gains and losses on financial instruments measured at fair value are recorded in accumulated surplus as remeasurement gains and losses until realized. Upon disposition of the financial instruments, the cumulative remeasurement gains and losses are reclassified to the consolidated statement of operations. Gains and losses on financial instruments measured at cost or amortized cost are recognized in the consolidated statement of operations in the year the gain or loss occurs.

The Agency did not incur any remeasurement gains and losses during the years ended March 31, 2019 and 2018.

Financial Risk Management - Overview

The Agency has exposure to the following risks from its use of financial instruments: credit risk; liquidity risk; market risk; interest risk; and foreign currency risk.

Credit Risk

Credit risk is the risk that one party to a financial instrument fails to discharge an obligation and causes financial loss to another party. Financial instruments which potentially subject the Agency to credit risk consist principally of cash and cash equivalents, accounts receivable, and portfolio investments.

The maximum exposure of the Agency to credit risk at March 31 is:

	2019	2018
Cash and cash equivalents	\$ 1,101	\$ 1,443
Accounts receivable	567	526
Portfolio investments	47	47
Maximum exposure to credit risk	\$ 1,715	\$ 2,016

Cash and cash equivalents, and portfolio investments: The Agency is not exposed to significant credit risk as these amounts are held by the Minister of Finance.

Accounts receivable: The Agency is not exposed to significant credit risk as the balance is due from a large client base, and payment in full is typically collected when it is due. The Agency manages this credit risk through close monitoring of overdue accounts.

The Agency establishes an allowance for doubtful accounts that represents its estimate of potential credit losses. The allowance for doubtful accounts is based on management's estimates and assumptions regarding current market conditions, customer analysis and historical payment trends. These factors are considered when determining whether past due accounts are allowed for or written off.

The allowance for doubtful accounts balance at 2019 was \$5 (\$5 in 2018).

Liquidity Risk

Liquidity risk is the risk that the Agency will not be able to meet its financial obligations as they come due.

The Agency manages liquidity risk by maintaining adequate cash balances and by review from the Province of Manitoba to ensure adequate funding will be received to meet the obligations.

Market Risk

Market risk is the risk that changes in market prices, such as interest rates and foreign exchange rates, will affect the Agency's income or the fair values of its financial instruments.

Interest Rate Risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. The interest rate exposure relates to funds on deposit, and portfolio investments.

The interest rate risk on funds on deposit is considered to be low because of their short-term nature. The interest rate risk on portfolio investments is considered low as the original deposits are reinvested at rates for investments with similar terms and conditions.

Foreign Currency Risk

Foreign currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. The Agency is not exposed to significant foreign currency risk as it does not have any financial instruments denominated in foreign currency.

5. WORKING CAPITAL ADVANCES

The Agency has an authorized line of working capital advances up to \$2.0 million. As at March 31, 2019 working capital advances were \$NIL (\$NIL in 2018). The line bears interest at prime less 1% and is not secured by specific assets.

6. CASH AND CASH EQUIVALENTS

The Agency invests all surplus cash in short-term deposits with the Province of Manitoba, which are made up of term deposits with maturities of up to three months.

7. EMPLOYEE FUTURE BENEFITS

	2019	2018
Severance benefits	\$ 129	\$ 154
Sick pay benefits	18	17
	\$ 147	\$ 171

Pension Benefits

Employees of the Agency are eligible for pension benefits in accordance with the provisions of the Civil Service Superannuation Act (CSSA), administered by the Civil Service Superannuation Board (CSSB). The CSSA established a defined benefit plan to provide benefits to employees of the Manitoba Civil Service and to participating agencies of the Government, including the Manitoba Education, Research & Learning Information Network, through the Civil Service Superannuation Fund (CSSF).

Pursuant to an agreement with the Province of Manitoba, the Agency is required to pay to the Province an amount equal to the current pension contributions of their employees. The amount paid for 2019 was \$83 (\$82 in 2018). Under this agreement, the pension liability is the responsibility of the Province, and the Agency has no further pension liability.

Severance Benefits

Effective April 1, 1998, the Agency began recording accumulated severance pay benefits for its employees. The amount of severance pay obligations is based on actuarial calculations. The periodic actuarial valuations of these liabilities may determine that adjustments are needed to the actuarial calculations when actual experience is different from that expected and/or because of changes in actuarial assumptions used. The resulting actuarial gains or losses are amortized over the expected average remaining service life of the related employee group.

An actuarial report was completed for the severance pay liability as of March 31, 2017. The report provides a formula to update the liability on an annual basis. The Agency's actuarially determined net liability for accounting purposes as at March 31, 2019 was \$129 (\$154 in 2018), with an actuarial adjustment being amortized over the 15 year expected average remaining service life (EARSL) of the employee group.

Significant long-term actuarial assumptions used in the March 31, 2017 valuation, and in the determination of the March 31, 2019 present value of the accrued severance benefit obligation were:

Annual rate of return:	
Discount rate	3.80%
<hr/>	
Annual salary increase rates:	
Annual productivity increase	1.00%
Annual general salary increase	2.75%
	<hr/>
	3.75%
	<hr/>

The severance benefit liability at March 31 includes the following components:

	2019	2018
Accrued benefit liability		
Balance, beginning of year	\$ 194	\$ 146
Actuarial loss	-	36
Benefits accrued	5	5
Interest on accrued benefits	8	7
Severance paid	(42)	-
Balance, end of year	165	194
Less unamortized actuarial losses	(36)	(40)
Severance benefit liability	\$ 129	\$ 154

The total expenses related to severance benefits at March 31 includes the following components:

	2019	2018
Interest on obligation	\$ 8	\$ 7
Current period benefit cost	5	5
Amortization of actuarial losses over EARSL	2	2
Total expense related to severance benefit	\$ 15	\$ 14

Sick Pay Benefits

The Agency provides sick leave benefits for employees that accumulate but do not vest. The accrued benefit obligation related to sick leave entitlement earned by employees is determined using a valuation model developed by an actuary. The valuation is based on employee demographics, sick leave usage and actuarial assumptions. These assumptions include a 3.80% discount rate and a 3.75% annual salary increase.

8. TANGIBLE CAPITAL ASSETS

	2019			
	OPENING BALANCE	ADDITIONS	DISPOSALS	CLOSING BALANCE
Cost				
Computer hardware	\$ 2,336	\$ 306	\$ -	\$ 2,642
Computer software	132	-	-	132
Equipment and furniture	48	-	-	48
Leaseholds	20	-	-	20
	2,536	306	-	2,842
Accumulated Amortization				
Computer hardware	1,725	313	-	2,038
Computer software	107	9	-	116
Equipment and furniture	46	-	-	46
Leaseholds	20	-	-	20
	1,898	322	-	2,220
Net book value	\$ 638	\$ (16)	\$ -	\$ 622

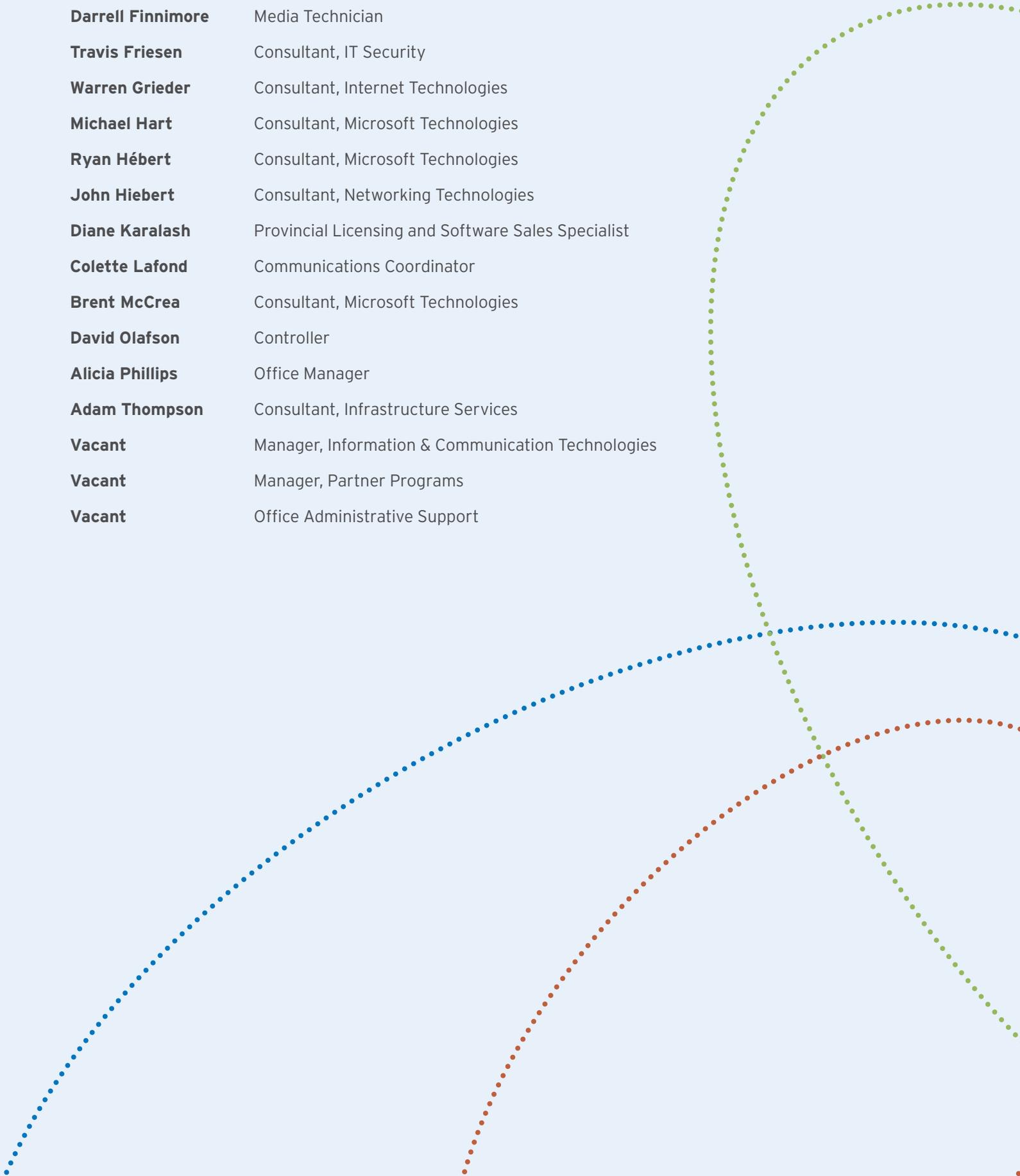
	2018			
	OPENING BALANCE	ADDITIONS	DISPOSALS	CLOSING BALANCE
Cost				
Computer hardware	\$ 2,052	\$ 284	\$ -	\$ 2,336
Computer software	110	22	-	132
Equipment and furniture	48	-	-	48
Leaseholds	20	-	-	20
	2,230	306	-	2,536
Accumulated Amortization				
Computer hardware	1,408	317	-	1,725
Computer software	102	5	-	107
Equipment and furniture	45	1	-	46
Leaseholds	20	-	-	20
	1,575	323	-	1,898
Net book value	\$ 655	\$ (17)	\$ -	\$ 638

9. DESIGNATED ASSETS

The Agency has allocated \$47 (\$47 in 2018) of its portfolio investments as designated assets for cash received from the Province of Manitoba for the vacation entitlements earned by employees of the Agency prior to its designation as an SOA and the severance pay benefits accumulated to March 31, 1998 for certain of their employees. This amount is held in an interest bearing account until the cash is required to discharge the related liabilities. Any unused balance is reinvested annually.

APPENDIX 1 - STAFF AS AT MARCH 31, 2019

Kiley Bender	A/Chief Operating Officer
Darrell Finnimore	Media Technician
Travis Friesen	Consultant, IT Security
Warren Grieder	Consultant, Internet Technologies
Michael Hart	Consultant, Microsoft Technologies
Ryan Hébert	Consultant, Microsoft Technologies
John Hiebert	Consultant, Networking Technologies
Diane Karalash	Provincial Licensing and Software Sales Specialist
Colette Lafond	Communications Coordinator
Brent McCrea	Consultant, Microsoft Technologies
David Olafson	Controller
Alicia Phillips	Office Manager
Adam Thompson	Consultant, Infrastructure Services
Vacant	Manager, Information & Communication Technologies
Vacant	Manager, Partner Programs
Vacant	Office Administrative Support





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