Once again I am honoured and humbled to be invited by my team to introduce the stories they have written with, and about, some of our partners in education and the work we are doing together.

In this edition, you will see our strong focus on helping our school divisions use technology effectively and efficiently to save time and money. Moving to cloud-based solutions, implementing SCCM, centralizing services, or creating efficient processes through the use of new technologies can free up technical specialists to provide enhanced services to teachers and students.

Our team will work with divisions on any challenge – no matter the size! Read about the Province of BC’s Next Generation Network (NGN) project which touched every school in the province and Durham District School Board’s one-to-one Chromebook project that is targeted to include all students in Grades 7-12.

Our K-12 Education Team brings extensive experience to support divisions in a time of leadership transition, increase the effectiveness of their investments in digital resources or protect divisions from cyberattacks.

As we increasingly participate in technology planning with Indigenous education organizations, the last article summarizes IBM’s national Aboriginal Strategy in support of the participation of Aboriginal peoples in the Canadian IT industry.

As you read the articles, I encourage you to reach out to our team to discuss how we might work with your school division to maximize the impact of your technology investments!

Sincerely,

Anne Saftich
Chief Education Officer
IBM Canada
K-12 Education Division

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BC Districts Keep Moving Forward

West Vancouver SD45 implemented SCCM for imaging, inventory reporting, software deployment and device management. The district is also building a new Windows 10 image for all schools to be deployed in the fall.

Rocky Mountain SD6 is on an efficiency mission. They rolled out SCCM integrated with SchoolConnect saving significant time for their tech specialists. System Center Data Protection Manager (SCDPM) backup solution was built to centralize backups for the entire school district, which has provided huge efficiencies in backup operations.

Gold Trail SD74 implemented SCCM for imaging and device management and Windows 10 across all their schools making student, teacher and admin access more reliable.

Vancouver SD39, Richmond SD38, Abbotsford SD34 and Central Okanagan SD23 are holding security workshops aimed at educating their leadership teams on Security Awareness and Accountability. The K-12 “10 Essential Practices Workshop” highlights why enterprise security is everyone’s responsibility – not just IT’s and why educating the workforce at every level is critical to a balanced and effective security program.

Campbell River SD72, Central Okanagan SD23 and many other districts have asked IBM K-12 to conduct a Network Vulnerability Assessment. Their proactive stance regarding security will help them assess and address vulnerabilities in their networks before they are compromised.

Campbell River SD72 engaged IBM’s K-12 Teaching and Learning Education Consultants as they developed their strategic plan to identify the most effective areas, within that plan, to initially leverage digital in support of the learning experience.

Coquitlam SD43 district operations worked with IBM K-12 to properly size the district wireless infrastructure, in order to purchase exactly what was needed to provide seamless wireless access in all classrooms and common areas. This efficient design sizing necessitated working with 70+ school blueprints and studying the building materials (walls, ceilings, doors)!

South East Kootenay SD5 engaged IBM K-12 to assist with their far reaching 2020 Technology Refresh Roadmap. A highlight of the roadmap is their Hybrid Cloud solution which was defined during a Cloud Readiness Assessment engagement.

Abbotsford SD34 is implementing Wave 2 of their technology infrastructure refresh... staying current while planning for the future. With the help of the IBM K-12 Education Consultants, Abbotsford is integrating their strategic educational goals with the new Ed Tech roadmap.

Nicola-Similkameen SD58 engaged IBM K-12 to review their IT landscape and provide a 5 year plan for refreshing their technology infrastructure.

For more information, email:
Steve Cuccione
IBM K-12 Education Client Manager
scuccione@ca.ibm.com

or

Chris King
IBM K-12 Education IT Architect
cmking@ca.ibm.com

Saskatchewan and Manitoba

Saskatoon Public Schools (SPSD): This year, the IBM Canada K-12 Teaching and Learning Team had the pleasure of working with SPSD as they explored how to leverage digital in support of their K-8 Literacy for Life division priority. Working together, the team from IBM and SPSD co-created the Assessment for Learning Plan to enhance assessment for learning practices using an e-portfolio digital resource.

Manitoba First Nations School System (MFNSS): In partnership with Manitoba First Nations Education Resource Centre (MFNERC) and MFNSS, the IBM K-12 Education Team is building a central management system for all user ID authentication. Using the power of IBM’s SchoolConnect, the MFNSS partner schools will be able to optimize user
management and maintain a stable AD structure for IT operations. Their network will feature enhanced security and integration levels, password tools for end users, simplified peripheral device management, and drive automation with their Student Information System (Maplewood). This new partnership is the beginning of an exciting journey with the newly created school system.

Brandon School Division (BSD): After an engaging Strategic Planning Workshop lead by the K-12 Education Teaching & Learning Team, IBM is working with BSD to define the data and systems required to provide in-depth analysis of the results of their Response to Intervention (RtI) initiative and their Continuous Improvement Plan leveraging digital.

Algonquin Lakeshore Catholic DSB originally planned for a Cloud Readiness Assessment, but with a pending data centre hardware refresh, they decided that moving to the cloud sooner made better financial and technical sense. As such, the Readiness Assessment transformed into a Cloud Design Project that will be implemented in the coming months. ALCDSB will dramatically reduce their on-premise data centre footprint and move the majority (approximately 90%) of their servers into IBM Softlayer/Bluemix with VMware. They will experience dramatically reduced power and cooling costs for their data centre, a switch from capital to operational spending, and the ability to customize and change their environment in the cloud at any time.

Peterborough Victoria Northumberland Clarington Catholic DSB has scheduled their Cloud Readiness Assessment for early fall.

Eastern and Southern Ontario

Journey to the Cloud for OCDSB, ALCDSB and PVNCCDSB

Ottawa Catholic DSB has completed their Cloud Implementation Project using Veeam Backup with IBM Bluemix and is working toward full disaster recovery capabilities. As a result, OCDSB has eliminated their tape library as Softlayer offers fast, onsite backup and now has a realistic and financially sustainable Disaster Recovery Solution.

Waterloo Region DSB (WRDSB): The IT staff was really hopping this summer! They worked with IBM K-12 on an IT Optimization Assessment (ITOP) of the data centre and district-wide IT infrastructure. This prepared them for the future with a 5 year technology plan. Part of the ITOP was a Cloud Readiness Assessment to help build their roadmap to the cloud, and a Storage Area Network plan. And, of course, the other top of mind issue is security. IBM K-12 will be working with WRDSB on the 10 Essential Practices Workshop and our Network Vulnerability Assessment.

Durham DSB (DDSB): Durham has made a strategic decision to begin a staged expansion of a one-to-one device pilot for all grade 7-12 students in their district. This pilot is focusing on grades 7 and 10 for the coming school year. After an exhaustive RFP process, they chose Lenovo N23 Touch Chromebooks and IBM’s Strategic Teaching and Learning Consulting Practice to

continued on page 4
help them with effective use of Chromebooks in their district along with G Suite for Education implementation services. Assuming a successful pilot phase, Durham may acquire and implement up to 15,000 Chromebooks each year for the next 5 years. The district has standardized on Lenovo Yoga Touch Windows 10 devices for teaching staff. This project might just make DDSB the largest Chromebook district in Canada!

**ALCDSB and Limestone DSB:** Both districts selected Meraki Technology and IBM K-12 as their implementation partner to start with the Ontario Ministry funded Wave 1 Site (1 High School, 1 Elementary School and Board Office). We will be working to redesign their network infrastructure and implement Meraki’s low cost award-winning Cloud solution consisting of Cloud-based Wireless APs, Meraki Switches, Meraki SDWAN Firewalls and Meraki IP Cameras.

**Northern Ontario, South Western Ontario, and GTA**

**Wikwemikong Board of Education (WBE):** After awarding IBM K-12 the RFP to conduct an IT Optimization Project review to produce a 3 year IT roadmap, WBE has since asked IBM to work with them to implement their IT plan. This plan will help them reduce IT risk, improve management of technology, improve service to their students, optimize their infrastructure and ultimately save money and better align their technology with educational priorities.

**Thames Valley DSB (TVDSB):** After a successful pilot, TVDSB chose IBM K-12 to supply them with Meraki equipment to support their Software Defined Wide Area Network (SDWAN) Project. Thames Valley has met the Ministry’s Broadband requirements for funding and Wave 1 was completed over the summer. We are looking forward to working with TVDSB for Wave 2 and leveraging IBM’s auditing and performance services to ensure a successful implementation.

**Holy Name of Mary College School (HNMCS):** leased networking switches and access points over 5 years ago. Now, at the end of their lease with a less than favourable buyout, they were seeking new technology to meet their current and growing WiFi needs. With the help of IBM, upon reviewing options and already having a Meraki firewall, Meraki Access Point technology was chosen as the best solution for them. The Meraki solution has minimized administration & complexity while providing HNMCS a much lower total cost of ownership which, given the size of their school, is a true benefit.

For more information, email:
Frank Grano
IBM K-12 Education Client Manager
fgrano@ca.ibm.com

For more information, email:
Liza Riley
IBM K-12 Education Client Manager
liza@ca.ibm.com
For the past several years, Hanover School Division has hosted their PowerSchool (Student Information System) deployment with a 3rd party provider. The division had been using the 3rd party hosted solution to reduce the workload on their IT staff, and to eliminate the need to purchase hardware to support PowerSchool.

After the IT Director reviewed his yearly costs, he thought to himself, “Could this be done cheaper?” IBM K-12 was then asked to assess the viability of moving PowerSchool to Microsoft Azure. An IBM K-12 Architect, using PowerSchool infrastructure requirements, built out a costing estimate and the conclusion was clear. By migrating PowerSchool to Microsoft Azure, operational costs could be reduced by more than 50%!

Following the assessment, IBM K-12’s Technical Team assisted the division with setup of their Microsoft Azure account, building the infrastructure (servers, storage, networking and firewall) and training the division technical staff.

The engagement to migrate PowerSchool took 2 weeks in total. The majority of this work was done in the background with no disruption to the division and 2 days were dedicated to training division technical staff.

Moving PowerSchool to Microsoft Azure provides divisions with high availability and redundancy that is geographically separated from their place of business. This is good business practice.

In addition, moving to Microsoft Azure provides Hanover with the flexibility to apply updates and conduct maintenance to PowerSchool at their leisure, without having to worry about supporting underlying hardware and virtualization.

The key driver for Hanover School Division moving PowerSchool to Azure was the significantly lower operational cost and added control of the new PowerSchool environment.

For more information, email: Chris King, IBM K-12 Education IT Architect, cmking@ca.ibm.com
What’s new with SchoolConnect 6.5?

Flexible and Simple, yet with more Control too

The SchoolConnect Team has been working diligently to further enhance your SchoolConnect experience. Version 6.5 was released in September and brings several capabilities you’ll love.

Custom User Types. You now have much greater flexibility to manage users because we’ve provided the ability to have custom user types with their own OU, group, shared space and web page options. This adds value to both SchoolConnect and applications that use Active Directory for user authentication.

Easier Administration. The new installer uses PowerShell to install and configure IIS. The SchoolConnect EMC no longer requires a copy of the school database, so changes only need to be made once to the school configuration. Administrators can now export a CSV file containing rooms, LanSchool channels and workstation names from the Manage Rooms page. Customized / filtered user lists can now be exported and saved as well. The EMC server page will redirect users to their school’s local SchoolConnect web page. HTTPS is now required and all shortcuts use HTTPS.

Enhanced Password Management. The self-service portal has been enhanced to provide email notifications for password expiry and two-factor authentication to enhance security. Teachers can now reset student passwords in the self-service portal in lieu of using the traditional SchoolConnect Teacher Webpage.

Cloud File Access. CloudDrive incorporates new bandwidth control and client-specific Google accounts for enhanced performance via higher Google IOPS quotas.

Active Directory Health Check. What are the top 24 indicators that prove the Active Directory domain controllers in a school district are performing correctly and where do you focus your efforts if they are not? This new feature allows administrators to quickly gather all pertinent information about their Active Directories and fine tune accordingly.

User Group Meeting. The annual 2017 Ontario SchoolConnect User Group Meeting occurred on July 27th in Markham. The top requested features for the next update to SchoolConnect included home drive elimination, Windows 10 S support, Google Team Drive support, cloud enablement, login time reductions and enhanced printing.

Staying up to date with SchoolConnect upgrades minimizes your help desk support calls. To schedule a v6.5 upgrade, please call 1-800-66-LEARN, or open a support ticket via our web helpdesk at k12support.ca.

I look forward to hearing from you with comments and suggestions.

For more information, email:
Greg Schneider
IBM K-12 Education SchoolConnect Product Manager
gschneider@ca.ibm.com

SchoolConnect 6
Did you know that IBM K-12 Education Canada has been selected as one of the OECM Vendors for Cisco-Meraki SD-WAN appliances?

The selected products are a subset, but not limited to CISCO-Meraki SD-WAN such as MX100, MX400 and MX600, as well as related remote support and installation services.

Please refer to your OECM personalized website to see all the details of the announcement, pricing, support documents and procurement process.

Some of the early adopters of this technology are:

• Thames Valley District School Board
• Algonquin Lakeshore District School Board
• Limestone District School Board.

Contact your IBM Marketing Representative to order (see back page of this newsletter).
The IBM Canada K-12 Education Division is a team of consultants, architects and sales professionals dedicated to helping educators and IT departments improve the quality of education by providing tailored solutions for school districts in Canada. Our consultants work with districts to align their IT strategy and investments with their educational priorities.

There are common elements in all teams dedicated to learning technology, and much focus is on ensuring these elements are in place when working with schools. This includes:

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<td><strong>Culture</strong></td>
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| 2. | **Communication** | A team engaged and knowledgeable about: 
   a) the vision and goals of the district and 
   b) the effort and tasks required to meet the implementation plans regarding learning and business technology. |
| 3. | **Process** | Strong business processes to ensure the work: 
   a) is completed in a prioritized, planned, effective and efficient manner, 
   b) is focused on priorities, and 
   c) meets demand with a balance of time and efforts. |

To help you gain a better understanding of how our consultants work with districts to align their IT strategy and investments with their educational priorities, we asked one of our consultants to describe his efforts on a consulting engagement.

Q: Can you describe what you do when you work with IT Leadership Teams?

A: That’s a big question. And really, it’s contextual. Each district is unique. Generally, I start with an assessment. I seek out strengths and weaknesses of the Information Technology Services (ITS) Team from the staff, to the technology, to the business and communications processes that are used. I leverage the information gathered to generate actionable items that move teams towards continuous improvement and implementation. In some cases, I’ve needed to focus on business processes. In others, it’s the actual set up of their organizational structure or roles and responsibilities. And sometimes it is about technical pieces – security or bandwidth demands. My engagements have ranged from a few weeks to a full school year.

Q: What do you find is a consistent issue with the teams you work with?

A: An issue that is often apparent, is that the training provided to staff is limited to either technical or educational. Ask the CIO, the team leads or the managers about IP address schemas, virtualization of servers or the educational research of Fullan and Hargreaves, and they can fill you in at great length. Ask them however, about Luccioni, VitalSmarts or Change Management Theory, and they are less familiar. Ask those same people about business process, strategic planning or ITIL Foundations, and again, those skills are varied.

When I help teams build strong business processes, based on current research and industry standards, and couple that with a communication plan that involves the whole team, visible shifts in culture take place. People start feeling less anxious and you hear a lot more laughter.

Q: Can you provide an example?

A: Durham District School Board (DDSB) is a large board with 77,000 students. The district had hired an external auditor to review their Information Technology Services Department. The outcome of the audit suggested focus on some main projects that needed completion and a review of their structures for roles and responsibilities.

Though I was originally hired to support the completion of the projects on this list, the work eventually transitioned to include numerous other aspects because the Associate Director and the Chief Technology Officer (CTO) made a point of getting to know me and understanding what I could offer.

The new district leaders had excellent in-depth knowledge of Information Technology, but would have benefited from additional experience to support some of their decisions. As such, I was available to coach these leaders and provide strategies to use in conversations and decision-making going forward. I also worked with the auditor and CTO to rewrite and implement roles and responsibilities.

Work can sometimes be easily isolated because of a focus on tasks within individual departments. I facilitated several workshops, building team approaches and a shared responsibility toward meeting the needs of the larger organization. Emphasis was placed on creating a highly collaborative, communicative team. A true cultural shift resulted.
Q: What other value do you bring to an organization?
A: I am fortunate to be a part of the IBM Canada K-12 Education Team. Let me give you an example. I was working with a board and a concern surfaced about Ransomware. My knowledge level on security is not as in depth as my knowledge on cultural change. During my meeting, I called my team manager and asked if he could help. My manager asked me if he could call back in 2 minutes. When the call came in, he had the top security person from IBM Canada on the line. That’s a lot of clout. IBM is a company of geniuses and our customers have access to that team.

The other value is a broad Canadian perspective of educational settings. We take some learning away from every team we encounter. We walk away smarter than when we started, and take that to the next engagement. It’s very powerful. The people we have worked with become a part of our network. We build lasting relationships with clients and we call on each other from time to time.

Q: What is the greatest reward of the work you’re completing?
A: It’s gratifying to know that I’m able to make a big difference. Right up front, one of the members of the DDSB team told me that things had been the “way they were” for 20 years and there was no way I was going to make a difference. Four months later, that same person came back into my office and told me he was wrong and, that for the first time in a long time, he really looked forward to coming to work. That’s very rewarding.

For more information, email:
James Aitchison
IBM K-12 Education Senior Consultant
jamesait@ca.ibm.com

David Visser, Associate Director, DDSB was pleased to add his view.

“James has spent the last 7 months working with our IT Services Department in a dual role as a leadership mentor/advisor and as a guide for the implementation of sustainable processes based on proven practices. In this short time, James has fostered a cohesive environment focused on accountability, which has seen measured improvement in prioritization and completion of projects. His work in supporting the leadership team, both in departmental restructuring and effective communication, has led to a cultural shift with a noticeable increase in collaboration within teams, within the larger department, and across departments. His style has allowed this new leadership team to develop the culture and style that works best for them, while offering the support and advice to make them successful, in this transformational time for the IT Services Department. All of this, while reinforcing the Board’s core mission to Ignite Learning.”
Educators want and need to know the impact of their work. In order to accomplish this, a district must decide what will success look like – and how it is going to monitor and measure that impact.

This can be quite a challenge as the process takes time and resources; two commodities which are valuable and often scarce in a school district. As a result, monitoring can take a back seat to the “work”, and feedback on impact is often expressed in terms of what people are “hearing” from schools.

As one component in the change management process, IBM K-12 recommends that school districts develop a clear monitoring plan related to their implementation goals. This does not have to be a detailed research project, but it does require time and discipline to prepare and to implement on an ongoing basis.

River East Transcona School Division (RETSID) is a mid-size school division in Winnipeg, Manitoba, which, for the last three years, has focused on student learning in mathematics in grades 4 through 9, using technology as one key resource. To assess success, a monitoring plan was created to track four aspects through staff surveys:

1. teacher ability to plan
2. teacher ability to instruct and assess in math (both from a perspective of pedagogy and when using technology)
3. teacher collaboration
4. student engagement.

RETSID also wanted an annual measurement of the impact on student achievement, specifically in the areas of problem solving and making thinking visible. While report card grades and provincial assessment information was already available, division staff wanted to supplement this information with precise data related to targeted math achievement in the target grades.

Based on their extensive background in education, and their understanding of change management, IBM Education Consultants were tasked with developing common math assessments to monitor student proficiency. There were some well-thought-out guidelines:

- the questions had to be problem-based
- “marking” of the assessments could not add to teacher workload
- the assessment should take less than half an hour for students to complete
- the questions had to be directly tied to the Manitoba curriculum for each of the target grades.

IBM worked along with Division Program Consultants to successfully co-create a unique online math assessment for each target grade level with a clear plan for its administration.

It is still early days for RETSD, but they can now gather both year-by-year data for each grade (i.e. comparing grade 4 to grade 4 year after year) and cohort data for students (i.e. monitor the same group of students as they move from grades 4 through 9). Meaningful analysis will require several years of accumulated data, but the monitoring has already provided insights for ongoing teacher professional learning and support.

For more information, email:
Leta Potter
IBM K-12 Education Senior Consultant
lpotter@ca.ibm.com

or
Jonathan Bibby
IBM K-12 Education Senior Consultant
jbibby@ca.ibm.com

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Leta Potter
IBM K-12 Education Senior Consultant
lpotter@ca.ibm.com

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Jonathan Bibby
IBM K-12 Education Senior Consultant
jbibby@ca.ibm.com
Most districts have seen this situation – a piece of software is purchased based on either the potential it has to fulfil a need in the district, because someone in the district sees a demo and is amazed by it, or simply because of “buzz” – everyone else is using it, therefore it must be good.

However, most districts have also seen how the software does not seem to live up to its potential – it is not adopted by users in the system, or after an initial period of hype, utilization drops and it is rarely used after that – and may in fact be maligned as a poor product.

When this happens, it is usually not a reflection on the product, but rather the result of one, or more, of the following reasons:

1. the software is purchased for the wrong reason
2. the implementation is not seen from a strategic perspective
3. the implementation of the software to the district is not systematic in its approach or
4. the “total cost” to the system is not well understood.

Let’s take a look at these pitfalls and how to avoid them.

**PITFALL 1: Software for system implementation should never be purchased based on the knowledge, research or interest of one person.** In IBM K-12’s Learning Plan Framework for Leveraging Digital, we recommend a process for digital resource acquisition. This process involves key stakeholders who make recommendations to a governance structure tasked with supporting district-wide improvement and growth.

**PITFALL 2: Too often in school districts, when software is purchased, the plan for implementation is developed based on the software’s functionality and training is then built around which “buttons to push”.** IBM’s perspective is that educational software should meet a pedagogical need, and the implementation must be tied to this pedagogical focus. This ensures a tighter and deeper adoption of the software.

**PITFALL 3: When rolling out new software, districts often provide some initial training for staff and then hope that adoption will happen automatically.** IBM’s approach is to develop a plan which, in addition to tightly connecting the use of the digital resource to the pedagogical focus and professional learning, considers change management strategies for deeper implementation.

**PITFALL 4: Another issue is the “cost” of the software.** A software package in itself may not be expensive, but the P.D. required for a successful implementation and on-going support, whether from other teachers or from your IT help desk, IS a significant expense to your district.

We advocate for:

1. a continued focus on the integration of the software over time, as part of the ongoing professional learning plan for the pedagogical focus
2. a continuous monitoring of the use of the software and how it is meeting the needs of the system
3. the development of a communication plan directed at all current and potential users of the software
4. a team who is responsible for implementation
5. a contact person for communication related to issues and future features.

In Gold Trail SD74, British Columbia, we developed a plan for the renewal of their Scholantis Portal implementation both for internal communication, and as a tool for teacher use with students and parents. Theresa Downs, Superintendent of Schools for Gold Trail emphasizes that: “Communication is essential to being a successful organization. The district looks forward to using a revitalized portal to improve communication with staff, students and caregivers.” With a strategic perspective on implementation, a planned renewed rollout connected with teacher professional learning, plus ongoing monitoring and support, Gold Trail is looking at a comprehensive implementation of this tool in the upcoming year.

IBM K-12 Education Consultants have extensive experience with digital resources such as specific curriculum software, communication and collaboration suites (i.e. G Suite and O365), portals, eportfolios, and learning management systems. We are confident our team can enhance the implementation of these resources to support your teachers and students in their learning. In addition, we can help you to take another look at resources you have invested in, and increase their impact on your achievement priorities.

For more information, email:
Jonathan Bibby
IBM K-12 Education Senior Consultant
jbibby@ca.ibm.com

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**For more information, email:**
Jonathan Bibby
IBM K-12 Education Senior Consultant
jbibby@ca.ibm.com

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**For more information, email:**
Jonathan Bibby
IBM K-12 Education Senior Consultant
jbibby@ca.ibm.com
The (Cyber) Storm is Coming

IS YOUR LEADERSHIP TEAM READY?

Most school districts today are unaware of how vulnerable they are to cyber attacks. They either don’t have a district-wide security strategy or they are unsure what security gaps exist, which may lead to unauthorized access or a data breach.

And the sad reality today is, it’s not a matter of if you will be hacked, it’s really a matter of when. That’s why security is now top of mind for many K-12 district executives and CIOs. Failure to protect data and prevent intrusions can result in a loss of confidence by your public, as well as result in significant financial costs.

Attackers are becoming more sophisticated every day and their operations are well-funded and business-like. They patiently evaluate targets based on potential effort and reward, and their methods are extremely sophisticated. They use social media to track down people with access to your data and exploit their vulnerabilities. Even worse, security investments of the past can fail to protect against these new classes of attacks. The result is more severe security breaches, more often.

It is the responsibility of the entire district leadership team to build a risk aware culture – to change staff behaviour at all levels, so that they are mindful of security as they use technology and work with data.

This culture change is founded on the premise that security belongs to everyone and everyone must play a role. To achieve that culture change, districts need to develop a security awareness program that promotes a culture where the employees are risk-aware. This includes communicating to all staff, their role and responsibility to protect critical assets as well as communicating district security policies, standards, and guidelines.

A key component of a security awareness program is security training for staff, to educate them on the types of threats and how they can mitigate risks. Security education is critical because 30% of all incidents are related to human error as a contributing factor.
The first step in developing a comprehensive security strategy is to understand the issues. The IBM 10 Essential Practices is a consulting engagement for district executives, operational leaders and IT managers concerned with security, risk and compliance. This one day workshop and follow up report provides a framework that defines all the critical components that must be addressed to develop a comprehensive security program. It is designed to achieve the following objectives:

• Help the district leadership team understand security essentials
• Assess the current security posture and capabilities from the perspective of Organization, Process, Technology, Metrics and Governance
• Agree on goals for the target maturity required in the district to be successful
• Analyze critical gaps, provide recommendations, and prioritize projects using a roadmap to improve the district’s security capabilities so that they are proven, repeatable and measurable.

For the IT department, we would focus on Essential Practice 5 to manage IT ‘hygienically’. This includes proactive vulnerability management to gain visibility into security exposures and to stop threats of malicious attacks before they occur.

IBM K-12’s Vulnerability Assessment Services is an IT security audit of critical district systems to identify and document current vulnerabilities. These vulnerabilities are evaluated based on risk rankings and are documented to identify the severity of the issues, their impact, the systems affected and recommendations to resolve these vulnerabilities. The report is actionable and provides a great point-in-time assessment that can be repeated on an annual basis so that it becomes a part of IT hygiene. Vulnerability Assessments also help validate existing security operations like the patch management program and security configuration standards.

IBM K-12 also offers a security awareness managed service that allows districts to identify ‘human’ security vulnerabilities and remediate them before they are exploited. This includes:

• Assessing staff to detect where weaknesses exist by a combination of knowledge assessments and simulated attacks
• Educating staff through web-based, interactive training modules that are scenario-based to remediate those vulnerabilities
• Reinforcing and maintaining that security posture on an ongoing basis by reminding staff of what they learned through security awareness materials
• Measuring to demonstrate reduced risk and validating the effectiveness of the security awareness program.

Education can eliminate avoidable human error and enable staff to be a valuable security asset – an intelligent last line of defense. Security must be a district-wide focus. To effectively manage today’s risks, districts need to be proactive and develop a holistic security strategy considering aspects like governance, policies, procedures, measurements and tools. IBM K-12 Education can help!

For more information, email:
George Antoun
IBM K-12 Education Solutions and Services Manager
antoung@ca.ibm.com
Students throughout the province, even those living in the most isolated areas, now have access to high-speed Internet in the classroom to support their learning and development as the Next Generation Network (NGN) is now complete.

Over the past three years, more than 1,600 public schools in all of British Columbia’s 60 school districts have been successfully transitioned to the NGN. In some districts, Internet speeds are up to 10 times faster than before, making it easier for teachers to bring online learning tools to the classroom so students can follow their passions and embrace B.C.’s new curriculum.

For example, students in the Central Okanagan School District are now interacting with astronauts on the International Space Station through Skype. Grade 2 students at Black Mountain Elementary, in this same district, are expanding their learning experiences and thinking outside of their classroom by Skyping with students in Houston, Texas in a new program called Reading around the World.

Teachers have reported that the NGN has reduced lesson preparation time and improved access to online resources. For example, the high-speed Internet has improved the performance of e-Exam, an online tool that makes it easier for teachers to mark and administer provincial exams. Teachers and students can now use YouTube, apps, Microsoft document sharing platforms and a wide variety of interactive tools to share ideas and get real-time information. Before NGN, Internet access was often slow and connections weren’t reliable.

The improved bandwidth from NGN has unlocked new learning opportunities for students in the remote Gold Trail School District. Through the Elementary Connected Classrooms Project, students are now able to use an innovative app called BlueJeans that lets them see, hear and talk with each other in real time. Students within the district recently collaborated to design an automated Mars rover that can pick up objects. After weeks of designing the prototype, the students met in Lillooet to build their rovers together.

The NGN has upgraded schools in both remote and urban areas and has provided enhanced network security services. This project was a massive undertaking that required crews to navigate through diverse landscapes, including helicopters transporting crews to mountain tops to connect Internet services to radio towers. Crews also travelled to some of B.C.’s most remote locations, such as Kyuquot Sound on Northern Vancouver Island, by boat and laid fibre cables under shallow bridges to connect Internet services for schools.

The Province was able to complete the NGN upgrades through strong partnerships with local governments and service providers including TELUS and IBM Canada.

Quick Facts:
- The NGN was created to replace the Provincial Learning Network (PLNET)
- Before NGN started, more than 20% of schools had less broadband Internet service than the average household.

For more information, email: Steve Cuccione
IBM K-12 Education Client Manager
scuccione@ca.ibm.com

Did you know...

BC’s innovative Next Generation Network is now complete

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scuccione@ca.ibm.com
IBM Canada’s longstanding commitment to diversity has inspired IBM’s initiatives in supporting the participation of Aboriginal peoples in the Canadian IT industry. To this end, IBM Canada has developed a National Aboriginal Strategy that includes partnership and collaboration in addressing four key areas of interest:

**Human Resources: Employment & Capacity Building**
- Increase the number of Aboriginal people working for IBM Canada
- Grow the Aboriginal Diversity Network Group
- Develop employee pipeline; Campus recruitment and post-secondary
- Promote the IT industry and its benefits to the Aboriginal Community

**Business Development**
- Facilitate the growth of Aboriginal IT business by;
  - Partnering on large opportunities
  - Promoting Aboriginal firms as a channel to traditional and Aboriginal markets
- Introduce existing IBM Business Partners to Aboriginal IT businesses
- Provide solutions to Aboriginal challenges;
  - Health, Child and Family Services, Education
  - First Nation Government and business
  - Community Services infrastructure

**Community Relations**
- Provide assistance to organizations that are making a difference in the Aboriginal Community, with an emphasis on K-12 education
- Help improve Aboriginal Community infrastructure
- Forge partnerships that will impact early education and encourage Aboriginal children to stay in school and focus on post-secondary education

**Procurement**
- Break down barriers and facilitate the supply of products and services from Aboriginal companies to IBM Canada

IBM Canada is celebrated as a leader in its work and in 2015 was awarded Gold Certification as a Progressive Aboriginal Relations Company by the Canadian Council for Aboriginal Business for the third consecutive year. Fundamental to this success is the role IBM plays in building relationships with Federal, Provincial and Aboriginal governments to create a forum for discussion and collaboration on technology topics and the opportunities and challenges for First Nation, Metis and Inuit Peoples of Canada.

The three foundational goals for the partnership agreements are:

1. Partners work together to strengthen First Nations participation in the economy with a specific focus on the role of IT and related aspects of employment, education and training, business and investment, and leadership in IT technologies.
2. Partners work together to identify and address barriers to full participation of First Nations in the economy, recognizing the unique needs of urban, rural and remote communities and the potential opportunities that IT presents.
3. Partners work together to develop a strategic plan outlining the short and long term priorities for the Partnership.

Projects undertaken as a result of these agreements have improved the awareness about the opportunities for careers and businesses in the Canadian IT sector. Awareness has increased about the role technology plays in the delivery of fundamental government services including education, healthcare, infrastructure development and general communication services. The projects have also influenced the development of a community-based planning methodology that is focused on IT skills, infrastructure, accessibility and community vision for economic development.

To date, IBM Canada has signed Aboriginal Partnership Agreements with Manitoba, Alberta and Saskatchewan.
IBM Canada K-12 Education
Your team for educational solutions

If you have suggestions or comments about this newsletter, please send an email to Anne Saftich, IBM K-12 Chief Educational Officer, at asaftich@ca.ibm.com.

We look forward to hearing from you!

Editor: Anne Paterson
Associate Editor: Stella Boz
Design and Production: Mystique Brand Communications

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<tr>
<th>Region</th>
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<td>BRITISH COLUMBIA</td>
<td>Steve Cuccione</td>
<td>Monique Thibault-LeBlanc</td>
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<td></td>
<td><a href="mailto:scuccion@ca.ibm.com">scuccion@ca.ibm.com</a></td>
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<td>Angela Gradini</td>
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<td>MANITOBA</td>
<td><a href="mailto:jjackson@ca.ibm.com">jjackson@ca.ibm.com</a></td>
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<tr>
<td>Owen Sound - Windsor</td>
<td><a href="mailto:liza@ca.ibm.com">liza@ca.ibm.com</a></td>
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<td><a href="mailto:fggrano@ca.ibm.com">fggrano@ca.ibm.com</a></td>
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