

# School District No. 63 (Saanich)

Saanich Schools



## District Technology Plan 2009-2011 (Abridged Version)

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## Introduction

### **Executive Summary**

School District #63 (Saanich) supports technology as an essential component of education as indicated by the Boards motion on June 11, 2008 to “develop a comprehensive technology plan”<sup>1</sup>. The district’s Technology Plan identifies technology as a strategic direction. The vision of the strategic plan recognizes the need for our students to be technologically literate to compete and excel in the twenty-first century.

Our technology plan addresses infrastructure; administrative operations and communication; warehousing of district data, technical support; governance and district policies; curriculum; professional development; funding and budgeting; monitoring and evaluation. The plan is wide-ranging and includes ideas and suggestions gathered from all segments of the school community: teaching staff, administration, and other stakeholders. The plan also recognizes the initiatives of the Province of British Columbia’s Ministry of Education. Many of these initiatives including the Common Student Information System (BCeSIS), Shared Services, with Student Performance and Accountability very carefully considered in its development.

The “network” or communication infrastructure is the cornerstone for enabling centralized shared resources, enhancing distance education, eliminating redundancies and lowering technology total costs of ownership (TCO). A reliable, pervasive, high speed Wide Area Network (WAN) will bring our schools and administrative sites together and strengthen our ability to enhance educational opportunities to our students. Local Area Networks (LAN) put information on our staff and students workstations and builds interaction, cooperation and teamwork. More and more our communication network has to cope with rapidly increasing volumes of data, video and multimedia traffic. Information must be available securely and reliably not only during traditional school times but more often as we move to greater eLearning education options to a 24 x7 model.

Initiatives such as “BCeSIS” and “Thin Client” technologies indicate that effective resource sharing and communication are fundamental to a successful educational technology plan. However, simply putting a connection and a computer on every teacher’s desk will not intrinsically produce effective communications. Professional staff will require professional development and administrative and support staff will require training to make the most efficient and successful use of the resources that are becoming available to them. Therefore a critical component of our strategy has to be an effective training and professional development structure.

The reality of declining enrolments and declining budgets also indicate that we must make the best use of the dollars we have available. With a large part of our budget focused on infrastructure and communication initiatives, as well as support for the Ministry of Education's BCeSIS initiative, this puts a serious strain on the very limited resources we have available. Rather than do little with fewer resources we have taken the initiative to resolve the challenge

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<sup>1</sup> <http://www.sd63.bc.ca/resources/Vision%20for%20Public%20Education%20-%20with%20Motions.pdf>

of fewer dollars and greater requirements for technology by utilizing some extremely innovative technologies in our administrative and schools.

Perhaps the greatest challenge we face is the degradation of our computer hardware pool, the ageing of our software resources and need to keep current with modern technologies – particularly as the world moves towards largely web-based applications and resources. Currently we have approximately 2700 computers in our system not including printers, servers, network devices and other technology related equipment. Our Elementary, Middle and Secondary Schools have several labs of 30 computers which are composed of primarily recycled computers which the technicians have done an admirable job of maintaining. Most of these labs are using Microsoft Windows XP and Microsoft Office XP/2003. Microsoft Windows XP was introduced in October 2001 and Microsoft Office XP was introduced in May of 2001, while Microsoft Office 2003 was introduced in 2003. The current state of technology is utilizing recycled computers, with our primary operating system and productivity package 7 years old with no plans to upgrade. Consequently technology resources for our children will continue to get more dated as time progresses.

Although the hardware has been kept in good repair, the age and capability of this equipment would not support current software such as Microsoft Windows Vista and Office 2007. We have estimated that if we were to replace 10 labs per year on a 3 years cycle the minimum cost to the School District for this initiative alone is approximately \$20,000 plus per lab including new computers, recycled monitors, new printers and updated software. Extrapolating this to the 10 labs per year this would amount to over \$200,000 per year. This does not include hardware and software in classrooms, libraries or administration so the figure could be increased by over double to cover all areas of a school. A new model has to be considered in order to maintain currency, provide advanced applications and change our support model.

KELSET Elementary School is the prototype for the deployment of new state-of-the-art technology which is very low cost, highly energy efficient, easy-to-administer and offers students and teacher's resources and tools which facilitate the teaching learning process. This technology will then be planned and deployed over a period of 2-3 years through Elementary, Middle and Secondary Schools. Additionally the intention is to change from a "maintenance" model to support and development model greatly enhancing the tools and resources available to staff and students.

It is the objective of the District Technology Plan to be a document that has clearly defined goals as well as a scope of work for each initiative and project. With each project there will be a designated project lead whose responsibility is to ensure that the project is being implemented along clearly defined time lines and that it remains within the scope of the allocated resources and budget. Any truly effective plan must be a document that is practical and have clearly defined and attainable goals. As a result of the broad scope of the initiatives and the requirement to analyse budgets on a year-to-year it is important that a careful review and analysis be performed mid-way through each school year. The intent is that the District Technology Plan will serve as a measurable and valuable guide to assist in improving the academic achievement of all students.

If you have any questions regarding the technology plan or you wish to see the un-abridged version, please contact Gregg Ferrie, Director of Information Technology, at [gregg\\_ferrie@sd63.bc.ca](mailto:gregg_ferrie@sd63.bc.ca).

## District Technology Funding and Technology Budget

Successful school districts treat technology as a strategic resource. They create technology plans with comprehensive budgets for ongoing costs that are tied to regular funding from Ministry of Education. In turn, technology investment is linked to classroom performance and enhanced student access to technology systems. The district Technology plan has the following indicators of comprehensive, prioritized funding:

- The school and the district address the full cost of technology as a regular part of district/school budgeting
- Funding is prioritized to promote equity across and within schools.
- Funding is prioritized to establish high-impact, student-centred uses of technology
- Funding is prioritized to provide the support systems necessary to sustain effective uses of technology

## Section 1 – Infrastructure

School District #63, in conjunction with the Provincial Learning Network is working towards building and maintaining a network infrastructure that provides seamless and secure access to the type of resources and data that students and staff will require both now and in the future as emerging technologies evolve. The district will continue the improvement of our Wide Area Network to facilitate access and put increased emphasis upon Local Area Networks for each school and site.

### **Section 1.1 - SD #63 Wide Area Network & the Provincial Learning Network**

The school district will continue to work with and encourage PLNet to provide effective bandwidth and access to enable not only core technologies such as BCeSIS and internet access, but district-centred resources such as centralized library systems, district data warehouse and query system, district email, web portal and other assets.

<b>Project Scope</b> - In conjunction with other government agencies continue to improve the network connecting all schools and administrative sites. To provide district students and staff with high speed, reliable and pervasive access to district resources, curriculum and internet access
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<b>Project Budget</b> - no additional cost anticipated
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<b>Project Lead</b> – Robert Pang
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### **Section 1.2 - LAN Infrastructure/Wiring**

With the expected implementation of the Ministry of Education’s Common Student Initiative (BCeSIS), the necessity to implement network cabling into every classroom throughout our School District becomes a necessity. BCeSIS is a provincial centrally located and managed student information system which will not only include student demographics but facilitate online attendance, online marks management, online report card, and many teacher/parent interaction functions.

<b>Project Scope</b> - To upgrade and expand the existing network to Elementary classrooms and provide teachers in the School District with a network connection. The network will provide a means of communication, access to curriculum resources and to important district and Ministry of Education initiatives such as the Common Student Information System. This is a critical initiative tied to the Common Student Information System initiative
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<b>Project Budget</b> - \$70,000 (from local capital legacy funds) for wiring, outlets, racks and other materials
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<b>Project Lead</b> – Herman Kolkema
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### **Section 1.3 – Facilities Staff for Data Infrastructure**

Administration has excellent access with minor improvements required. The next stage in this

process will be to ensure that Elementary schools have pervasive access for teachers and staff.

<b>Project Scope</b> – To perform the work of upgrading and improving network access for an increased movement to centralized and browser-based applications and information.
<b>Project Budget</b> - \$120,000 (from local capital legacy funds) for labour to replace, update and improve
<b>Project Lead</b> – Gregg Ferrie/Herman Kolkema

### Section 1.4 - e-Waste Disposal

In anticipation of Provincial Regulations<sup>2</sup> regarding e-waste disposal, School District #63 is committed to ensuring that all equipment disposals will be carried out in a responsible manner.

<b>Project Scope</b> – To ensure that the District complies with any regulations regarding the disposal of e-Waste
<b>Project Budget</b> - this will be primarily staffing to remove old computers, palletize for removal
<b>Project Lead</b> – Robert Pang/Herman Kolkema/Nicolas Kendall

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<sup>2</sup> <http://www.env.gov.bc.ca/epd/recycling/electronics/index.htm>

## Section 1.5 – Green Computing & LCD Monitors

As part of our overall strategy for technology infrastructure the district will incorporate measures to minimize power consumption for desktop and server computers. Workstations will incorporate shutdown and start-up routines which will compensate for after-hours, holidays and non-instructional days providing up to 50% plus additional savings. As well servers will be reduced and amalgamated through the use of technology known as virtualization<sup>3</sup>.

In conjunction with the district's green initiatives we are also recommending that as thin client computers are deployed we also purchase low wattage LCD monitors which require 25 to 50% of the power requirements. LCD monitors also have very low emissions, are sharper, have less screen reflection and take up less desk space<sup>4</sup>. The long term energy saving is expected to be significant and will result in overall savings of up to 50% in existing energy consumption further reducing our carbon footprint.

<b>Project Scope</b> – To ensure that the District reduces power consumption and incorporates green computing initiatives lowering our IT carbon footprint.
<b>Project Budget</b> - \$400,000 (from local capital legacy funds)
<b>Project Lead</b> – Robert Pang/Herman Kolkema/Nicolas Kendall

## Section 1.6 - Other Initiatives

As the Network enables efficiencies, it will also enable other technologies such as: video conferencing, Voice over IP (VoIP), IP Video, computer-to-computer based instruction (laptop programs), enhanced wireless networking and the centralization of many curricular and operational resources. These technologies will be analyzed on a year-to-year basis.

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<sup>3</sup> [http://www.webopedia.com/TERM/S/server\\_virtualization.html](http://www.webopedia.com/TERM/S/server_virtualization.html)

## Section 2 - Administrative Operations

Having a well defined Administrative Operations data plan can empower and enable district staff with timely data for decision making. This section outlines some of the initiatives currently under development or planned for the coming months.

### **Section 2.1 - Provincial Common Student Information System (BCeSIS)**

This is one of the most significant projects the Ministry of Education has ever undertaken and will be the driver for many important policy changes and initiatives. Many of our district projects and initiatives will be coordinated with this initiative. One example of this is Thin Client initiative discussed later on in this document.

<b>Project Scope</b> – To migrate schools over a 3 year period from existing student information systems to the provincial BCeSIS. To develop a comprehensive implementation strategy with data conversion, governance, lead trainers, help desk, training resources, staff release time and any other resources required to smooth the progress of implementation.
<b>Project Budget</b> – Project Manager and BCeSIS Implementer - \$475,010 (from local capital legacy funds)
<b>Project Lead</b> – Tim Agnew/Debby Davis

### **Section 2.2 – TSC/SRB Financial/HR/Payroll System**

The TSC/SRB Financial/HR/Payroll System are integrated applications based on older technology. Although the applications are reasonably powerful, they have not been optimized for the Saanich School District's business processes, and an inordinate amount of maintenance and operator intervention is required compared to current standards. The District has purchased but not fully deployed report writers for the main applications. Concerns about system longevity have been expressed by the user community but the vendor has indicated that currently there is no end of life date for the system. Barring any unforeseen issues, there are no plans to replace the TSC/SRB system during the life of the current technology plan.

<b>Project Scope</b> – to optimize, monitor and look for ways to enhance/upgrade or replace the existing Finance/HR/Payroll system to meet the needs of the district
<b>Project Budget</b> – no budget required at this time
<b>Project Lead</b> – Ed Sykora

### **Section 2.3 – Data Centre and Failover Site**

As more district resources become more centralized in district servers such as school web pages, district data warehouse, district databases, etc. it becomes critical to ensure that the

district has adequate backup, archiving and failover to prevent data loss or disruption of services to staff.

<b>Project Scope</b> – virtualization of district servers, with the creation of a state-of-the-art data centre and failover site
<b>Project Budget</b> – most equipment purchased already, remainder from District Server budget (\$5,000)
<b>Project Lead</b> – Robert Pang

## Section 2.4 - District Database's, District Data Warehouse & Online Query System

Data warehousing springs from the combination of two sets of needs which; taken together, allow a new insight into various underlying information problems.

- The first requirement is for a district-wide view of data.
- The second requirement is that information systems (and Information technology people) need to find better ways to provide quality information to our business practises.

Ongoing development of web-based district databases including: Asset Management System (ASM),), Trouble Ticket Reporting System (TTRS), etc. Much of this work is being done by in-house programming staff; other components are being coordinated by our software vendors. The heart of the District Data Warehouse will be the online query and reporting system.

<b>Project Scope</b> – To continue development of centralized district database's and data warehouse for secure access to district resources.
<b>Project Budget</b> – primary cost within staffing budget, one server required taken from District Server budget
<b>Project Lead</b> – Ryan Perkins

## Section 2.5 – District Web Page

A good corporate web page is primarily a communication tool which combines many important features to meet the needs of our target audience which includes; the general public, staff, parents and other public sector entities. As well a good school district web page has to provide secure access to information and resources for staff which allows for single sign-on capabilities. The web page has to be dynamic, integrating information from other databases such as Human Resources, Finance, IT, Facilities and Education reducing the need for intervention when information changes such as staffing moves, etc. The web page has to be modular, extensible, themable and easy to use.

<b>Project Scope</b> – To continue development of centralized district database's and data warehouse for secure access to district resources.
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<b>Project Budget</b> – primary cost within staffing budget, one server required taken from District Server budget
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<b>Project Lead</b> – Ryan Perkins
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## Section 2.6 - District Education Data

The data warehouse will be a repository to store all archived demographic, attendance and PSR information from all schools where available and will accumulate data extracted from the BCeSIS general data warehouse as schools are implemented. It will also have the capacity to store FSA results and district developed assessment.

<b>Project Scope</b> – Future developments proposed include the downloading of archival data from the secondary schools and the integration of the new provincial student data management system with the district’s data warehouse.
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<b>Project Budget</b> – primary cost within staffing budget, one server required taken from District Server budget (\$5,000)
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<b>Project Lead</b> – Ryan Perkins
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## Section 2.7 - Governance and District Technology Policies

Our current policy Reference No.3130 does not fully encompass the growth and advancements that have been made in the applications of technologies for district administrative and educational purposes in the past few years. With the current integral and pervasive role that these technologies play in our educational community, it is imperative that we have clearly defined governance policies reflective of this changed role, including delineating responsibilities regarding acceptable use of technologies, assuring accountability regarding licensing and publishing and defining the education leadership role.

<b>Project Scope</b> – To develop and implement sound governance and district policies around the acceptable use of technologies in the school district.
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<b>Project Budget</b> – No budget required
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<b>Project Lead</b> – Gregg Ferrie
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## Section 2.8 - Software & Software Licensing

Currently we maintain a Software Licensing budget of well over \$100,000. Our strategy is to replace more and more commercial software such as Microsoft Office and Microsoft Windows with viable Open Source alternatives such as OpenOffice and Linux. We anticipate this budget being reduced over the next 3 years as these systems move to Open Source software and Linux Thin Client Technologies. Additionally, it is important for professional development, support and consistency to standardize the resources we use wherever possible.

<b>Project Scope</b> – To continue to maintain our current software licenses.
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<b>Project Budget</b> – Software Licensing Budget to be centralized and reduced where possible
<b>Project Lead</b> – Gregg Ferrie

## Section 2.9 – Technology Asset Management

The Information Technology Department will be creating a web-based Asset Management System (AMS) to track information on technology and audio visual related assets. An initial inventory will be taken over the 2008-2009 school year and all assets will be recorded in the database and barcode tags placed on each unit.

The object of the AMS is to not only track and maintain a current inventory of technology-related assets and but to track purchasing, warranty and repair-related information. Once the initial data was entered it then became a requirement for schools to maintain their inventory through this system and maintain its currency.

<b>Project Scope</b> – to maintain and keep current all technology and audio visual assets within School District #63
<b>Project Budget</b> – \$5000.00 for bar codes (taken from IT department budgets)
<b>Project Lead</b> – Pascal Raven

## Section 2.10 - District Information Systems Department

School District #63 is committed to sustaining the use of communications and technologies district wide to best serve the education and support needs of students, teachers and administrators. With the changeover from Microsoft to Linux and the use of Linux Thin Client technologies the focus and emphasis of the department is becoming increasingly towards centralization and standardization.

<b>Project Scope</b> – To organize our department to meet the challenges and needs of a very rapidly changing technological scene. With Ministry of Education and District initiatives being developed and implemented the IT department continues to adapt effectively and rapidly
<b>Project Budget</b> – budgets defined for department supplies, travel expenses, training and contingency
<b>Project Lead</b> – Gregg Ferrie

## Section 2.11 – District Help Desk

As part of the ongoing effort to improve support to staff and schools, the district has created a District Help Desk. This position will organize and maintain the online Trouble Ticket system,

Technology Asset Management and in conjunction with the districts systems analysts, will coordinate work schedules and site visits.

<b>Project Scope</b> – To improve communication and frontline support for staff utilizing centralized and web-based resources and services
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<b>Project Budget</b> – Software is Open Source and developed in-house
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<b>Project Lead</b> – Pascal Raven
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## Section 3 - Communications

Communication has to be delivered in the most secure manner possible, minimizing the threats of virus and worms as well as eliminating as much as possible time wasting Spam and other annoyances. Our long term goal is to enhance communication between all parties involved in education: parents, students, teachers and administration in the most secure and reliable way possible.

### **Section 3.1 - District Centralized E-Mail & Collaboration**

As e-mail is central to communication throughout the District a reassessment to our existing communication tool is being proposed. A robust system should provide security and protection from the more debilitating instances of worms, virus infections proliferating across the internet as well as the scourge of spam including the features required by district users. A full review of the existing FirstClass email system has been accomplished and the board of trustees has approved the implementation of the Zimbra Enterprise version for Email and Collaboration<sup>4</sup>. Implementation of Zimbra was completed during May of 2009.

<b>Project Scope</b> – Deploy a centralized District E-Mail solution for all District Staff, which would be secure, web-based and almost immune to virus infections. It would be available from any web browser and integrate with other district systems
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<b>Project Budget</b> – Server and software budget taken from the 2008-2009 budget year.
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<b>Project Lead</b> – Gregg Ferrie
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### **Section 3.2 - Student E-Mail**

This initiative would see the creation of a centralized all student e-mail system and managed by district staff and school based teaching staff. The service would provide a web interface for access to student e-mail and could be monitored by district staff if the need warranted it. It would also provide sophisticated SPAM and virus filtering to prevent problems on desktop computers. The only major cost will be the purchase of a very robust and stable district e-mail server.

<b>Project Scope</b> – To implement the Zimbra Open Source e-mail and collaboration system for district students. A district student e-mail would be assigned to a student which will remain their e-mail address for as long as the student remains with the School District.
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<b>Project Budget</b> – \$7,000 for new e-mail server taken from District Server License budget (from local capital legacy funds)
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<b>Project Lead</b> – Gregg Ferrie/Robert Pang
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<sup>4</sup> <http://www.zimbra.com/index.html>

### Section 3.3 - District Enterprise Information Portal (EIP)

The first phase of the School District #63 web site enabled users to find documentation, share resources and other benefits, however our needs have vastly outstripped our current web design. As needs change, online databases are developed it is essential that a successful portal strategy must emphasize the importance and balance of “People, Process and Technology” issues throughout the initiative.

<b>Project Scope</b> – In conjunction with Programmer Analyst commence development of a District Web Portal which will facilitate access to District Communications, District Database and other resources. The system should be secure and only allow access to the areas designated by District Administration; it would be fully dynamic and integrate with the district database and data warehouse.
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<b>Project Budget</b> – primary cost within staffing budget, one server required taken from District Server budget
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<b>Project Lead</b> – Ryan Perkins
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### Section 3.4 – Digital Photocopiers, Network Printing and Scan-to-Email

As the District moves many functions from analog to digital one of the most significant improvements is the acquisition of multifunction Photocopier/Printers.

Traditional photocopiers use either a moving or a static scanning device to capture images for copying. Moving scanning devices pass over a document multiple times, once for each copy being produced. Static devices use repeated scans — one scan per copy which is very inefficient. Digital copiers, on the other hand utilize optical technology to scan the image once. It then stores that image and prints copies using laser printing methods. The advantages include less noise, finer details, greater reduce/enlarge capabilities, simpler paper paths, scanning functions, network printing functions, document management and web administration.

<b>Project Scope</b> – To switchover from independent laser and inkjet printers in Administration to centralized network printing using digital photocopiers, eliminate analog Faxing technology and centralize document management.
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<b>Project Budget</b> – No budget required at this time
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<b>Project Lead</b> – Gregg Ferrie/Ed Sykora
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### Section 3.5 – Mobility and Cell Phones

Many forward looking organizations are beginning to develop cell phone and mobile devices strategies to set expectations and ensure adequate service levels that support mobile business communications are established and communicated to the user community.

Generally, mobile communications devices should be issued based on a needs test. Criteria

to determine need include:

Frequency of travel away from the office

Accessibility expectations

Risk/Personal Safety

Two levels of mobile communications have been established:

1. Basic – Cell Phones
2. Enhanced – Blackberries

<b>Project Scope</b> – To develop and maintain a cell phone/mobility strategy which supports district initiatives such as email and collaboration software
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<b>Project Budget</b> – No budget required
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<b>Project Lead</b> – Ed Sykora
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## Section 4 - Technology in Education

At the heart of our plan is the fundamental delivery of education and technology in the most cost effective, efficacious manner possible. Our technology plan seeks to find ways to provide teachers and students with the most flexibility, reliability and widest range of alternatives to facilitate the teaching learning process.

With the KELSET Elementary school Thin Client project it will be determined to what extent the district can improve upon this model. Using new diskless client computers, the Linux Operating System, Open Source<sup>5</sup> software and thin client technologies it is hoped to improve access, reduce site-based support and increase opportunities for development and support. It will enable schools to have access to a much wider range of applications and programs than was ever possible. In our French immersion schools OpenOffice will be available in both English and French versions at no cost. There is a wide range of software including typing tutors, math programs and science software that provides teachers with many of the tools they need to meet the district technology benchmarks. Additionally tools such as Moodle<sup>6</sup> (modular object oriented dynamic learning environment) will allow schools to standardize on a common platform, brand their own school website and provide resources for staff, students and parents.

### **Section 4.1 – Instructional Technology Plan – Intended Learning Outcomes**

In Saanich School District, we believe that appropriate uses of computers and information technologies will enhance teaching and learning as described by the Principles of Learning, resulting in demonstrable improvements to student learning.

<b>Project Scope</b> – to continue the refinement and development of an instructional technology plan
<b>Project Budget</b> – no budget required
<b>Project Lead</b> – Nancy Macdonald

### **Section 4.2 - Thin Client Pilots and System Development**

All Elementary and Middle Schools have been equipped with instructional labs of 30 computers not including computers in classrooms, libraries and other areas of the school. There is however, a great divergence around the applications and resources which schools have at their disposal for the teaching learning process. The open source Thin Client model, developed at KELSET Elementary school would provide schools with a set of common tools which can be easily upgraded as applications are enhanced and support is centralized. This system, in use at other school districts, has proven to be highly effective in providing centralized, standardized applications and resources.

<sup>5</sup> [http://en.wikipedia.org/wiki/Open\\_source](http://en.wikipedia.org/wiki/Open_source)

<sup>6</sup> <http://moodle.org/>

A project plan is being developed that will blend closely with the implementation of the BCeSIS initiative. All Elementary schools would be transitioned over the 2009-2010 school year. Middle schools would be upgraded during the summer and subsequent 2010-2011 school year.

<b>Project Scope</b> – To pilot and determine the value of web-based curriculum software for Elementary Schools with particular emphasis on literacy and numeracy.
<b>Project Budget</b> – Pilot costs taken from 2007-2008 and 2008-2009 budget years
<b>Project Lead</b> – Nancy Macdonald

### Section 4.3 – Elementary, Middle and Secondary School Technology Initiatives

Upon successful completion of the pilots currently underway the foundation component of the district technology plan will be planned and implemented. In conjunction with each school type meetings will be held to determine the timing and nature of the initiative. The intent is to completely refresh the hardware and software in all schools.

<b>Project Scope</b> – To initiate pilots which would determine the optimum model for Secondary schools utilizing open source software and thin client technology
<b>Project Budget</b> – Server replacement - \$60,000. Thin Client computers \$560,000. These budgets to be utilized over the 3 year implementation time-frame (from local capital legacy funds)
<b>Project Lead</b> – Gregg Ferrie

### Section 4.4 - Library Services

Previously, each library operated independently using various Library Automation software programs, operating on school-based servers. During the summer of 2008 we converted all library databases to run under L4U Platinum 2.1 on Windows servers and workstations.

Though the current version of L4U adds web-based functionality which offers possibilities that relate directly to this Technology Plan, with the next version, L4U Freedom 2.3, our libraries can have secure web-based access to their databases. They will also be able to Print Labels and Reports, Import, Catalog and Circulate items, perform inventory, modify clients, and a wealth of other features via any web browser.

While L4U continues to be Windows based, there now exists an opportunity for a Centralized server hosting all of the District's Library Databases. Some of the benefits of a centralized system have been noted: reduced redundancy of servers (15 to 2) and improved access to resources to students and teachers.

<b>Project Scope</b> – To update, enhance and centralize library systems
<b>Project Budget</b> – Included with Library & Technology (\$20,000) Budgets
<b>Project Lead</b> – Herman Kolkema

## Section 4.5 – Special Education Systems and Software

In Saanich Schools we believe in inclusion and that students’ learning should take place with their peers in the classroom setting whenever possible. Any Technology Plan for the District must be based on the Principles of Inclusive Schools. The plan should provide equal or better access for our more vulnerable learners. This accessibility should be in an inclusive setting in the classroom, not dependent on a resource room setting.

To address the diversity of our learners the plan should also be based on the Universal Design for Learning Guidelines which include multiple means of representation, multiple means of expression, and multiple means of engagement.

<b>Project Scope</b> – to improve access to software and resources in support of special learners and provide all students with resources that facilitate inclusion
<b>Project Budget</b> – \$300,000 - \$100,000 each year (from local capital legacy funds)
<b>Project Lead</b> – Marlene Dergousoff

## Section 4.6 - School Web Pages

Although schools have developed content-based environments for the uploading of information, staff lists, contact information, etc. there is very little facility for schools to incorporate course-related information in a standardized format.

What we require is a district-based, standardized Content Management Systems (CMS)<sup>7</sup> and Learning Management System (LMS)<sup>8</sup> which would allow all schools to maintain the currency of the information on their sites and allow teachers to provide access to course and curriculum-related material to support the teaching learning process. The system should also allow for the creation of a unique theme for each site to enable the branding of the school and individuality while maintaining standardization. There are several open source systems that support his model but the best of breed is Moodle which offers all of these features and more<sup>9</sup>.

The intent is to offer this system to elementary schools and district departments as a start and then encourage the middle and secondary schools to adopt and enhance.

<sup>7</sup> [http://en.wikipedia.org/wiki/Learning\\_management\\_system](http://en.wikipedia.org/wiki/Learning_management_system)

<sup>8</sup> [http://en.wikipedia.org/wiki/Content\\_management\\_system](http://en.wikipedia.org/wiki/Content_management_system)

<sup>9</sup> <http://moodle.org/>

<b>Project Scope</b> – To incorporate Moodle as the “de facto” school web sites for content management and learning management
<b>Project Budget</b> – As Moodle is open source the only additional cost is the purchase of a Moodle server which will be taken out of District Server budget
<b>Project Lead</b> – Nicolas Kendall

#### Section 4.7 - SMART Boards and Related Technologies

SMART Boards have seen a steady increase in educational use over the past 10 years. “Extensive research and case study observations from the UK, the US and Australia prove that interactive whiteboards increase student engagement and motivation, support a variety of learning styles (including those of special needs students), enhance student retention and improve teacher productivity”<sup>10</sup>.

<b>Project Scope</b> – To incorporate interactive white board and related technologies throughout district schools in an equitable manner
<b>Project Budget</b> – \$300,000 for the length of the plan - \$100,000 per year (from local capital legacy funds)
<b>Project Lead</b> – Nancy MacDonald

<sup>10</sup> [http://www.infoport.ca/it/bins/content\\_page.asp?cid=2689-2739-4060](http://www.infoport.ca/it/bins/content_page.asp?cid=2689-2739-4060)

## Section 5 - Professional Development & Staff Training

Training and professional development falls into 3 employee categories: teaching staff, administrative staff and support staff. Each of our two major initiatives: BCeSIS and Linux thin client will require extensive training and professional development for teachers, administrators and support staff. Each of the initiatives will clearly outline how training is to be implemented and how staff will receive the support they require.

### **Section 5.1 - Common Student Information System**

The Common Student Information System will affect every aspect of School District business processes, from teachers in the classroom to administrators in the Board Office. The shift from a school-based student demographic application to a centrally managed web-based application will have a profound impact on our system. The new eSIS package incorporates not only student demographics but the following areas which will be integrated over the coming 2-3 years:

- Student Demographics
- Attendance
- Master Timetable
- Grade Reporting
- Diploma Management
- Incidence and Discipline Reporting
- Special Education Module and IEP Management
- Teacher Assistant including online Attendance and Marks Management
- Co-op Education
- Fees Management
- Parent Assistant

<b>Project Scope</b> – To provide adequate training and professional development ensuring staff can utilize the new Student Information System.
<b>Project Budget</b> – included with the BCeSIS budget
<b>Project Lead</b> – Tim Agnew

### **Section 5.2 – Software changes**

As schools and administration sites are migrated from the existing Windows-based systems to the Linux Operating System and Open Source software the district will ensure that teachers and staff are provided with support and training required to make the transition. This would include programs like the Zimbra Email and Collaboration system, Moodle web pages and Open Office and so forth. As part of each schools transition, members of the IT department will be on-hand to provide in-service on specifics and answer specific user's questions.

Additionally the district help desk will be able to and triage any questions to site-based support to district staff who can assist.

<b>Project Scope</b> – To provide teaching and support staff with the knowledge to administer the new Linux Servers in Secondary Schools
<b>Project Budget</b> – \$100,000 over a three year period, \$33,000 per year (from Operating Funds)
<b>Project Lead</b> – Gregg Ferrie

### Section 5.3 – Instructional Technology Support

Educators all agree on the importance of not just increasing technology capacity within schools, but integrating it into the curriculum. Research demonstrates that the time spent training and assisting teachers in technology correlates to increased student performance. Adequate technological support that is readily available is a condition that has been shown to promote integration and ultimately improves the teaching learning process.

<b>Project Scope</b> – To provide instructional support for teachers in schools with technology use and integration
<b>Project Budget</b> – .5 FTE (\$42,500 per year) over a three year period. \$127,500 over a three year period (from local capital legacy funds)
<b>Project Lead</b> – Nancy MacDonald

## **Section 6 – Security & Privacy**

School District No. 63 (Saanich) is a responsible custodian and purveyor of private and public information. With this in mind it is our determination to adhere to security and privacy best practises as outlined in the Province of British Columbia's Information Security Policy, Version 1.2, March 2008<sup>11</sup>. This can briefly be summed up in the following excerpt:

### **Importance of Information Security**

Protection of information assets is the primary goal of information security. This includes practising safe computing behaviours to reduce the overall occurrence of theft, loss, or misuse of government information assets. A breach in information security or loss of information assets can have serious consequences, depending on the sensitivity and value of the information and the extent of the breach. The consequences can include:

- disclosure of personal information,
- interruption in government's ability to deliver services,
- financial losses related to correcting the situation,
- threats to public safety or individuals' health and well-being,
- legal actions, and
- erosion of the public trust in the government.

### **Overview of the Information Security Policy**

The BC Government Information Security Policy is a set of rules, requirements and guidance used to govern the access to, control of and management of government information and technology resources. The Information Security Policy (ISP) supports the principles and policy found in the BC Government Core Policy and Procedures Manual, in particular Chapters 12 (Information Management) and 15 (Security).

This Policy Summary offers guidance on the Information Security Policy and how it applies to government personnel, which includes employees and other individuals such as contractors, volunteers and third-party organizations. It is intended to identify and outline the basic responsibilities of managers and personnel, to assist people to understand their role in protecting government information and information in the government's custody.

The Information Security Policy is issued and managed under the authority of the Chief Information Officer (CIO) of the Province and has the gravity of internal statute. A variety of branches throughout government are empowered to assist personnel to comply with the Information Security Policy, including the Information Security Branch of the Office of the CIO, and typically the Information Management Branches of Ministries, where the Information Security Management role resides.

The Information Security Policy applies to government personnel, all users of government equipment and contractors by way of their contracts. It applies wherever access to government information and technology resources occurs, regardless of location. The Policy

<sup>11</sup> <http://www.cio.gov.bc.ca/services/security/ISP.asp>

is published on the Office of the Chief Information Officer public and internal web sites, so that it may be referenced or reused by other government jurisdictions and the Broader Public Sector. The purpose of the Information Security Policy is to describe a common set of practices, based on international standards, to allow the coordination of behaviour in the protection of government assets. Coordination of effort will lead to stronger confidence in the security of information and other assets.

The Information Security Policy is based directly on the international standard ISO/IEC 17799:2005, the “Code of Practice for Information Security Management.” ISO 17799 was originally constructed by the British Standards Institute, and has since been updated by an international standards committee. It is considered a comprehensive standard of best practice for information security management.

Although the entire Information Security Policy appears complex and daunting, it is structured into chapters of similar topics that ensure complete coverage. Information security practitioners are able to understand and find policy statements quickly and efficiently.

### **Purpose of the Information Security Policy**

Use of the Information Security Policy will lead to coordination of efforts to protect government information and result in stronger confidence in the security of information and other assets.

The Information Security Policy is:

- A tool for the Office of the Chief Information Officer to inform BC government organizations about the expected standard of behaviour,
- An indication of good information security practices that should be common within government,
- A set of coordinated rules and guidance to prevent, detect or correct activities that might result in an information security breach,
- A common measuring stick for bringing improvements to information and technology protection, especially as it matures, is interpreted, and gathers a body of supporting material, and
- In the extreme, a tool for dealing with misconduct.

## Section 7 – Risk Management & Business Continuity Management

School District No. 63 (Saanich) is a responsible custodian and purveyor of private and public information. With this in mind it is our determination to adhere to responsible, best practices for risk management and business continuity management. Risk management is defined as<sup>12</sup>: *“the process of defining and analysing risks, and then deciding on the appropriate course of action in order to minimise these risks, whilst still achieving business goals”*.

Risk is the chance of something happening that will have an impact upon the achievement of objectives. It includes risk as both opportunity and threat. Risk management is the culture, processes and structures that are directed across a ministry (or public sector entity) towards the effective management of potential opportunities and adverse effects to the Province. The process involves identifying and evaluating both the likelihood and impact of risks in a cost-effective manner, and providing management and staff with the skills to identify, assess, treat and monitor risks.

It is sound business practice to manage risk effectively and to incorporate risk awareness and treatment into the processes used to pursue ministry objectives. The effective management of risk can only take place within a framework that enables communication, comparison and direction at all levels of the ministry. The process needs to be ongoing, embedded in the culture of the ministry and have the potential to re-orient an organization in terms of performance improvement. It is not about eliminating risk but about understanding, managing and efficiently assigning risk.

Business continuity management is defined as: *“the processes and procedures an organization puts in place to ensure that essential functions can continue during and after a disaster. Business continuance planning seeks to prevent interruption of mission-critical services, and to re-establish full functioning as swiftly and smoothly as possible”*<sup>13</sup>.

It is the intent of School District No. 63 to develop a BCMP along the lines recommended by the Risk Management Branch of the provincial government. The following is an excerpt from the RM Core Policy and Procedures manual<sup>14</sup>.

The Business Continuity Management Program (BCMP) is an integral part of Enterprise-wide Risk Management (ERM) and is consistent with government-wide business functions and activities. The program includes planning, developing, implementing and monitoring business continuity and recovery activities in all ministries and agencies.

The Provincial Emergency Program legislation provides the authority for business continuity plans and procedures in government. Ministries and agencies have responsibility for developing and implementing comprehensive business continuity plans to provide essential services during a business interruption. Ministry business continuity management programs provide the foundation for the Government Business Continuity Plan.

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<sup>12</sup> <http://www.the-chiefexecutive.com/glossary/risk-management.html>

<sup>13</sup> [http://searchstorage.techtarget.com/sDefinition/0,,sid5\\_gci801381,00.html](http://searchstorage.techtarget.com/sDefinition/0,,sid5_gci801381,00.html)

<sup>14</sup> [http://www.fin.gov.bc.ca/ocg/fmb/manuals/CPM/16\\_Business\\_Continuity\\_Mgmt.htm](http://www.fin.gov.bc.ca/ocg/fmb/manuals/CPM/16_Business_Continuity_Mgmt.htm)

Business continuity plans ensure availability of government services, programs, and operations, including all resources involved, and the timely resumption of services in the event of a major failure, emergency or disaster. Good coordination and liaison involving inter-ministry activities and with service providers is critical to restoring business operations during and following an interruption.