

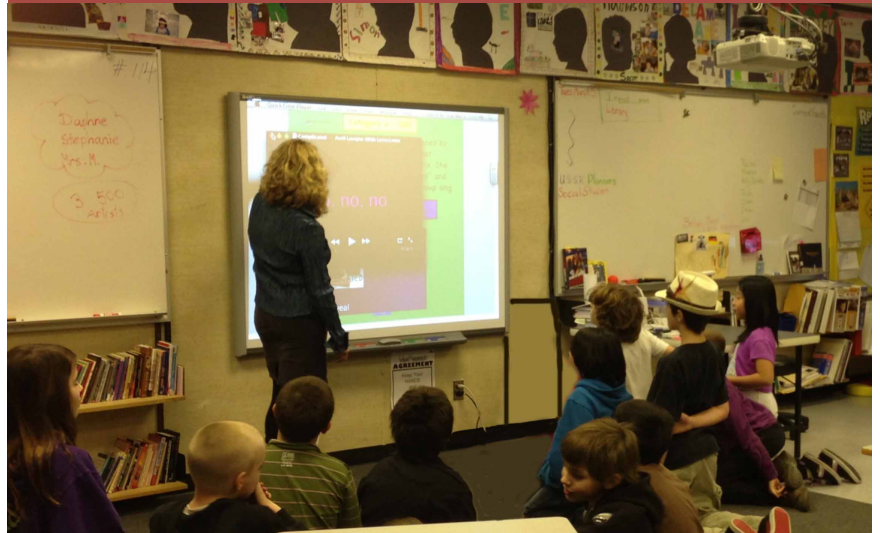


*Setting directions for  
our future  
technological needs.*

## Technology Plan – Year 2A

School District No. 46

September 2014



*School District No.46 is committed to develop a 'living' district-wide Technology Plan. Knowing when and how to use technology requires the same thoughtfulness, care and professional decision making that must be used for all other aspects of district operations and instructional practices. The Technology Planning Committee continues to play a pivotal role in setting this direction to improve learning opportunities for all students in SD46.*

## INTRODUCTION

This is the third year (referred to as YEAR '2A') of our District Technology Plan with the first year being the *Implementation, Planning and Development* stage (YEAR '0'). This document is a reflection of the initial YEAR '0' document and the review by the District Technology and Planning Committee of the 'living' document during 2012/2013 meetings. Changes have been made to the plan, as indicated throughout this document, based on the input from the committee. Due to teacher job action/strike the Technology Planning Committee was only able to meet 2 times. As a result the Year 1 technology plan is carried over into what we are calling Year 2A. It is hoped as we meet we will complete the development of the full Year 2 plan.



## REFLECTING ON OUR TECHNOLOGY PLAN.....

.....what we have done and what else we need to continue to look at

This technology plan continues to address six areas: infrastructure, computer hardware, other technology hardware, security, software and training/support. The plan encompasses ideas and suggestions gathered from many groups within the school community: teaching staff, CUPE, administration and support groups including: office assistants from both elementary and secondary, teaching assistants and technicians.

### Network Infrastructure

Every year the district reviews the infrastructure in terms of connectivity and bandwidth utilization. As our demands change so must our infrastructure. We continue to look at our 'network' infrastructure with the next commitment the replacement of all our remaining switches to Gbit PoE managed switches from the current 10/100 Mbit switches we currently have This is at a cost of approximately \$30,000. The "network" infrastructure changes that have occurred in the past year include:

- a new wireless system; the Wi-Fi is now set up ...we are just finishing the deployment of passwords and will be working on the guest network next which will include BYOD. We are also assessing for weak areas where we will likely need to add five or six APs. These weak areas are in locations of programs where there have been changes in locations such as Halfmoon Bay, West Sechelt, Chatelech and Elphinstone.
- In addition, bandwidth upgrades at Elphinstone and Chatelech were completed but results are not yet at the expected results due to backbone limitations.

#### ACTION:

School District 46 needs to review its new Wireless Network to look for areas of weak signal strength and make adjustments where necessary. This will likely involve increasing the number of APs at a few sites. We need to continue with our infrastructure upgrades to change all our switches to iGbit managed switches to aide in speed improvements.

## Computer Hardware:

Our computer hardware collection at each school is aging and it continues to be of concern. Currently we have more than 1650 computers / iPads in our system. This does not include printers, servers, network devices and other technology related equipment. A computer replacement plan was established and presented to the secretary treasurer. It continues to be a recommendation to replace three to five carts per year on a four-year cycle replacement plan (This is a cost of \$35,000 per cart). Some of the changes this past year included:

- 2 labs (Davis Bay and Kinnikinnick) and 1 cart (West Sechelt) were replaced this past year.
- The desktop computers from the labs listed above were then used to replace the student workstations at Chatelech, Elphinstone and Gibsons with a goal to remove as many of the cathode ray tubed eMacs as possible.
- All the secretary's computers were replaced to update and standardize all software and operating systems those computers were used to replace librarian/library clerk computers at all the schools.
- School initiatives included adding a laptop cart at Elphinstone and replacing an eMAC lab with a laptop cart at Chatelech. Also, three iPAD carts were placed at Elphinstone and one iPAD cart at Chatelech (AbEd).

### ACTION:

The school district will embark on a 4-year replacement plan to replace 3 to 5 mobile carts per year. It is recognized that the technology may change over the next 4 years with the potential to replace laptops with other devices. This decision should be addressed through the Technology Planning Committee in future years.

## Other Technology Hardware:

Smart boards, document cameras and FM systems are in use to various levels at all of our schools. It continues to be recognized that budgetary constraints at the school level are a factor for purchase and replacement. We must also be conscious of the fact that the purchase of the hardware is only one aspect of successful use of technology. Software installation, updates, training and regular technician support are all additional costs

often not considered at the outset. It is also recognized that there needs to be support for teachers who show initiative in terms of technological uses to enhance student engagement in the learning process. We will also continue to look and trial eBooks using our Destiny library system. This past year there were additions purchased at the school level at all schools plus:

- 18 FM systems at the elementary level with one or two systems going into each elementary school.

**ACTION:**

Schools will continue to purchase other technological solutions to aide in the enhancement of student engagement. Standardization on purchases will aide in the capability to provide training and support, and will continue to be encouraged.

We will embark in an ebook loan system pilot using our Destiny library.

**Security:**

Security of our data continues to be frequently scrutinized within the Technology Education Plan. Budgetary considerations need to ensure that our servers, switches and security software are up to date at all times. In addition, consideration needs to be given to appropriateness of materials found on the internet by our students and staff. Inappropriate use can lead to breaches in the infrastructure including bandwidth loss as well as virus attacks on our systems. Regulation 1600 has been revised and will be going to appropriate committees this coming year.

- a new UPS power supply system was added to our existing servers
- our mail server was replaced with an array based configuration increasing storage capacity to over 2 Tbytes. It will allow for more storage for individual emails accounts as well as improving our backup system.

**ACTION:**

The district technology department continues to ensure our data is protected and will make recommendations when needed.

The draft Technology Acceptable Use Policy (Reg 1600) needs to be presented to appropriate committees for review and acceptance by the Board.

The district will look at ways to promote internet safety to our students via posters, presentations and supervision.



## Software:

The choice of software is quickly changing especially for new technologies like iPADS. Selection of the software for student use changes as software becomes available. Much of the software is free and it reminds us that it is not the use of individual software that is important but instead the demonstration of intended Learning Outcomes. Decisions made this past year include:

- changing to a district web based license for Kurzweil to be available for all students within the district.
- Opting to purchase an ERAC 'Digital Classroom' to give teachers and students access to videos and other resources to enhance their learning. This will be done via the Learn Now BC portal.

### ACTION:

Software for iPADS is constantly changing and the most appropriate Apps will be selected as needed. We will continue to utilize volume purchasing to help reduce the costs.

The district will continue to use mostly proprietary software at this time, especially for our clerical staff. It is recognized that students may not have the software that the schools are using, but Open Source software options allow for translations and conversions of software, in most cases.

## Training and Support:

The district recognizes that all our staff and students will benefit from ongoing professional development and in-service. Teachers are receiving new laptops. Administration and support staff will require training to make the most effective and successful use of the resources that will be available to them. Therefore, a critical component of our plan continues to be effective training, in service and a professional development structure. We will be surveying staff this fall to help guide the Technology Planning Committee in planning future learning opportunities for all staff. Opportunities that have been set in place include:

- opportunities for staff to apply for half day release days to 'see technology in action'.
- Workshop series to learn from teachers in technology
- District training events planned for implementation of new technology

- /software (Kurzweil, Digital Classroom, FM systems)
- Endorsement by the SCTA to allow for more Technology training opportunities during Pro-D days.
- A widening by the SCTA of the mentorship program to allow teachers to be able to apply for funding based on desire to learn technological change.
- show casing of various technologies available throughout the district as well as bringing in new technologies

**ACTION:**

The district continues to develop a training / professional development / support model to ensure that an investment in technology will support student learning. The district will work on showcasing the many resources that are presently available within the district to administrators, teachers and support staff.



If you have any questions regarding the Technology Education Plan please contact Phil Luporini, District Principal, at [pluporini@sd46.bc.ca](mailto:pluporini@sd46.bc.ca).

THIS PLAN IS DESIGNED TO BE REVIEWED YEARLY

**TECHNOLOGY PLAN ACTION ITEMS**

AREA	ACTION	YEAR 0 TIMELINE	YEAR 1 TIMELINE
INFRASTRUCTURE	School District 46, in conjunction with the Provincial Learning Network, work at addressing the bandwidth needs of the district WAN. We need to work 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. <b>BANDWIDTH UPGRADES ARE COMPLETED FOR ELPHINSTONE AND CHATELECH...SMALLER SCHOOLS HAD A MINOR UPGRADE BY VENDOR THIS SPRING</b>	Ongoing	Ongoing
	School District 46 needs to incorporate a new Wireless Network based on an enterprise network solution with the number of APs based on what is described in Figure 2.0 above. Exact AP numbers will be determined at time of installation. <b>COMPLETED ....NOW LOOKING FOR WEAK AREAS. GUEST NETWORK ACCESS IS SET FOR THE FALL OF 2013</b>	Fall 2012	Completion Winter 2013
	School District 46, in cooperation with PLNet services, continue to monitor and block SPAM to the best of its ability. In addition, the district needs to explore and educate staff on the expanded use of Firstclass in the development of Professional Learning Community collaboration spots and other interactive communication options.	Ongoing	Ongoing
	School District 46 continue with the implementation / development of new school websites to enhance communication to and from our schools. <b>WITH CHANGES IN ADMINISTRATORS LAST 3 SCHOOLS TO BE COMPLETE FALL 2013</b>	Spring 2012	Fall, 2013
	<b>TEACHER WEBSITES WILL BEGIN IN THE FALL 2013 WITH THE UPDATE TO FIRSTCLASS 12</b>	Spring 2012	Starting Fall 2013
COMPUTER HARDWARE	The school district will embark on a 4-year replacement plan to replace 3 mobile carts per year. In the interim, laptops should have their RAM upgraded. It is recognized that the technology may change over the next 4 years with the potential to replace laptops with other devices. This decision should be addressed via the Tech Plan in future years. The desktop labs at the elementary level should be phased out with the replacement of mobile laptop carts. In addition, replacement of the remaining non-Intel based labs at the elementary level and developing an action plan for the replacement of secondary non-Intel based labs is necessary. <b>THE DISTRICT NEEDS TO DEVELOP A FINANCIAL REPLACEMENT PLAN FOR LAB/CART REPLACEMENTS.....THIS WILL CONTINUE TO BE LOOKED AT IN THE FALL OF 2013</b>	starting Fall 2012	Continue Investigating Fall 2013
OTHER TECHNOLOGICAL HARDWARE	Schools will continue to purchase other technological solutions to aid in the improvement of student learning. Standardization on purchases will aid in the capability to provide training and support and will be encouraged. The district needs to embark on an education of various new technologies to show teachers and support staff of the potential to support student learning.		ongoing
	District Support Services will conduct a review and make recommendations on appropriate FM systems to allow for standardization in the future. School librarians need to have input into the selection, use and distribution of ebooks. <b>FM SYSTEMS DISTRIBUTED WITH TRAINING IN EARLY OCTOBER</b>	starting Fall 2012	implantation Fall 2013
	<b>We will embark in an ebook loan system pilot using our Destiny Library system</b>		Winter 2013
	<b>GREEN initiatives - EXPLORE GREEN INITIATIVES TO REDUCE OUR DEPENDENCE ON COPIERS / PRINTERS AND PAPER AND DEVELOP A RECOMMENDED PLAN FOR THE SCHOOL DISTRICT</b>		Winter 2013
SECURITY	The district technology department continues to ensure our data is protected and will make recommendations when needed. The Technology Committee needs to review and finalize their draft Technology Acceptable Use Policy started last year. The district will develop an acceptable use policy for BYOD technology by spring of 2013. <b>THIS IS TIED TO THE NEW WIRELESS SYSTEM IMPLEMENTATION AND BANDWIDTH CONCERNS. WE WILL LOOK TO START BYOD IN THE FALL/WINTER OF 2013 AT THE HIGHSCHOOL LEVEL ON A TRIAL BASIS AND THEN MOVE TO A DISTRICT IMPLEMENTATION</b>	Winter 2012	Winter 2013
SOFTWARE	The district will continue to use mostly proprietary software at this time, especially for our clerical staff. It is recognized that students may not have the software that the schools are using, but Open Source software options allow for translations and conversions of software in most cases. As technology demands and advances occur, reviews will be made on the most appropriate type of software. For clerical staff, schools should only use the standard software provided with the computer. As district software decisions occur, the district will provide the appropriate training and support. Schools should purchase software coordinated through the technology department to ensure there is an up to date inventory in the district, allowing best bulk purchase price for updates and renewals.	ongoing	ongoing
	<b>VOLUME PURCHASING PROGRAM FOR APPS</b>		Starting Spring 2013
TRAINING AND SUPPORT	The district needs to develop a training/professional development/support model to ensure that an investment in technology will support student learning. The district will work on showcasing the many resources that are presently available within the district to administrators, teachers and support staff. <b>TEACHER / SETA TRAINING OPPORTUNITY FUND ESTABLISHED IN THE SPRING OF 2013. LOOKING AT CREATING VIDEOS TO INSTILL INTEREST, AMD LECTURE TYPE PRESENTATIONS STARTING IN THE FALL OF 2013</b>	Fall 2012	ongoing
	<b>SURVEY STAFF STUDENTS ARE TRAINING AND SUPPORT NEEDED</b>		FALL 2013
	<b>CREATE AN AWARENESS TO THE 'DIGITAL LITERACY STANDARDS (REGULATION 1600)) and promote safety</b>		Fall 2013
	<b>DEVELOP A SUCCESSION PLAN TO OUR CURRENT STUDENT INFORMATION SYSTEM</b>		Winter 2013

Revised: May, 2013



Proposed Additional Tech commitment Needed

Proposed / Actual SD46 Technology Budget  
(above regular Technology Budget)

	INFRASTRUCTURE	COMPUTER HARDWARE	OTHER HARDWARE	SECURITY / ACCESS	SOFTWARE	TRAINING / SUPPORT	TOTAL	Brief Description
YEAR 0	\$160,000	\$15,000			\$10,000	\$5,000	\$190,000	Infrastructure and wireless network improvements throughout the district, training for new infrastructure. Web site development for all schools, training and support.
ACTUAL ADDITIONAL FUNDS	\$150,000	\$45,000 \$70,000	\$30,000	\$10,000		\$15,000	\$150,000 \$100,000 \$70,000	<p><b>Infrastructure:</b> Wireless RFP - Aerohive system</p> <p><b>Computer Hardware:</b> Clerical computer upgrades with replaced computers to update library computers</p> <p><b>Other Hardware</b> - school improvements and partial upgrade to oldest lab (remainder covered by school)...schools applied for \$30K funds.</p> <p><b>Security:</b> UPS Backup for servers.</p> <p><b>Training and Support:</b> \$15,000 allocated for Teacher and SETA Tech opportunities, (application for 0.5 day)</p> <p><b>TEACHER LAPTOP REPLACEMENT LEASE - money allocated</b></p>
YEAR 1	\$30,000	\$150,000 \$70,000	\$25,000		\$20,000	\$20,000	\$150,000 \$75,000 \$70,000	<p>NAT services deployment at most sites in preparation for BYOD. Replace switches. Develop a plan and implement student computer replacement at schools, Server upgrades at smaller schools. Video conference classroom set up at each highschool, software as recommended by librarians, training and support, BCeSIS replacement implementation plan</p> <p>Replace 2 labs and one cart - money allocated June 2013 as part of the lease plan</p> <p><b>TEACHER LAPTOP REPLACEMENT LEASE - money allocated</b></p>
YEAR 2	\$10,000	\$150,000 \$70,000	\$25,000		\$20,000	\$20,000	\$150,000 \$75,000 \$70,000	<p>Continue to implement student computer replacement at schools with redeployment to other facilities, other technological initiatives, ongoing software licenses, training and support.</p> <p><b>TEACHER LAPTOP REPLACEMENT LEASE - money allocated</b></p>
YEAR 3		\$150,000 \$70,000	\$30,000		\$15,000	\$20,000	\$150,000 \$65,000 \$70,000	<p>Library replacement of computers, other technological initiatives/green initiatives, ongoing software license, training and support.</p> <p><b>TEACHER LAPTOP REPLACEMENT LEASE - money allocated</b></p>
YEAR 4		\$150,000 \$70,000	\$15,000	\$15,000	\$15,000	\$20,000	\$150,000 \$65,000 \$70,000	<p>district server replacements, other technological initiatives, ongoing software license, training and support.</p> <p><b>TEACHER LAPTOP REPLACEMENT LEASE - money allocated</b></p>
YEAR 5		\$150,000 \$70,000	\$30,000		\$15,000	\$20,000	\$150,000 \$65,000 \$70,000	<p>district server replacements, training and support.</p> <p><b>TEACHER LAPTOP REPLACEMENT LEASE - money allocated</b></p>

Revised: May, 2013