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**Union 52**

# **Community Based Technology Plan**

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China, Vassalboro and Winslow

Prepared by the Technology Planning Committee in  
conjunction with the Superintendent of Schools,

Hugh Riordan

Revised June, 2008

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# Community Technology Plan

China, Vassalboro and Winslow

## Executive Summary

This plan is the 2008 revision to the first *Community Technology Plan* written by this committee and approved by the State in 1997 and again in 2002 and 2005. It expands and covers in more detail the program outlined in that plan. It also takes into account dramatic growth and changes in technology since that time. Technology in this plan refers to information technology and that term will be emphasized throughout. Information technology includes the aggregate of computers, computer databases, fax machines, telephones, and video displays and their telecommunications links.

The plan develops a vision from which requirements can be derived. This plan then sets forth the requirements for schools, libraries and municipal offices. Existing systems of the three communities are carefully examined in each of these facilities. Some of these systems are quite extensive and meet many of the requirements of the community now. They all have limitations, however, and this plan sets out goals and strategies to attack these limitations.

The strategies focus on five major elements: curriculum integration, delivery strategies, management, system architecture, and staff development.

**Curriculum Integration.** Technology will be integrated into the curricula, instruction, and assessment utilizing a variety of delivery methods including software, web-based subscriptions, electronic media and video. The existing CIA (Curriculum, Integration, Assessment) team comprised of several educators from each town along with the curriculum coordinator are continually researching and developing integration techniques.

**Delivery Strategies.** The TCT (Technology Coordinators Team) will continually monitor and develop strategies for the delivery of content through various means utilizing the technology at our disposal. The TCT will also assess the need for new methods and new technology that may be needed to deliver content as it presents itself.

**Management.** The management system should be one that coordinates the efforts of the community to prevent undue redundancy and overlap. Standardization should be sought and support between facilities should exist. Maintenance of existing equipment, whether by contract or by internal assets, must be provided. For this, a Technology Coordinators Team has been formed to oversee the management of the systems. The TCT, which consists of the Technology Coordinators from each town, will provide a coordinated management structure. A computer technician is on staff to support the system.

**Architecture.** A system of assessment of needs in order to develop an informed set of requirements that the systems must meet is established. From this formal assessment, a system design with the appropriate

hardware and software that fulfills those requirements will be developed by the Technology Coordinators Team and the system users (teachers, librarians, municipal staff and others) in conjunction with the budgeting authorities.

**Staff Development.** Staff development is necessary both for requirements development and also for system use. Only if teachers understand what the potentials for learning exist in an information technology system can they help develop the requirements for that system. It is most important to assess the current status of staff knowledge of the existing and planned systems and provide incentives and opportunity to train all staff so that they can integrate information technology into their activities. For the school system this should result in a learning environment that fully engages students and equips them to fit into today's technological society. For libraries and municipal offices this should fulfill the public needs for information and access.

This plan is a framework of action that is necessary in order to develop specific tasks and a budgeted program for following years. The plan lays out a road map in order to bring some consistency and rationality to the acquisition of information technology to the communities.

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# Community Technology Plan

China, Vassalboro and Winslow

## Community and Parental Involvement

There are several methods by which technology plays an active part in each of our communities. Technology effectively enhances communication and promotes the use of technology through web sites, email, and telecommunications systems. School Union 52 along with each municipality and school have developed a presence on the World Wide Web to better communicate and disseminate information to each other and the general public. Each school has developed an Acceptable Use Policy (AUP) which, along with the school handbook, outlines the technology available to students and its proper use. This information is also made available electronically. Listed below is the current planning committee responsible for the development of this Community Technology Plan.

## Planning Committee

### China

|                |  |
|----------------|--|
| Ed Bourdeau    | Community member and Erskine Academy teacher |
| Dan L'Heureux  | Town Manager                                 |
| Miranda Babson | Teacher, computer coordinator, parent        |
| Gail Perry     | Teacher                                      |
| Carl Gartley   | Principal, community member                  |

### Vassalboro

|              |   |
|--------------|---|
| Mary Sabins  | Town manager, community member                    |
| Susan Briggs | Teacher, parent, community member                 |
| David Trask  | Teacher, technology coordinator, community member |

## **Winslow**

|               |   |
|---------------|---|
| Debbie Clark  | Teacher, parent                               |
| Mike Heavener | Town manager                                  |
| Joan Meehan   | Teacher, Winslow Schools computer coordinator |
| Kevin Michaud | Principal, community member, parent           |
| Gary Smith    | Community Member, Union 52 Business Manager   |

## **At-Large**

|                |  |
|----------------|--|
| Hugh Riordan   | Superintendent                             |
| Cheryl Trask   | Information Coordinator – KVCAP, parent    |
| Miki Heikkila  | Vassalboro School Committee Member, parent |
| Mike McQuarrie | Headmaster, Erskine Academy                |
| Jane Perry     | Librarian                                  |

## **Vision**

Access to information is fundamental to ensure that every citizen in a democratic society has the knowledge required to make informed choices in the elective process as well as for day-to-day informational needs. Today access is provided by a much broader and more complex system than was available only a few years ago. Information technology, which includes internal and external computer networks and databases, is essential to disseminating information to the citizen.

This access should be available to all who desire it; it should not be dependent on the economic or social standing of the recipient. It is particularly important that access and education regarding the use of this technology be provided by our schools and through our libraries.

Municipal government offices are also involved because much of the public information that formerly required physical visits to local offices should be made available through remote techniques of information technology. This would provide the appropriate level of citizen involvement and oversight that is inherently



necessary in our communities.

Thus our vision is that all our citizens will have access to public information crucial for their political and personal decision-making and that they will have the necessary education and training to utilize the technology available for obtaining that information.

Information technology will be incorporated into the learning process as an effective means for students to reach educational goals. Research, data analysis, reporting, collaboration, sharing information and the production of high quality projects are examples of activities that are enhanced in a technology-rich learning environment. Students who can perform learning activities using these tools will have the functional and analytic skills needed in an increasingly technological society.

## **Mission Statement**

The mission of the Technology Program is to provide the community and all its citizens with access to current information technology and the education and training to utilize this technology effectively. It is especially focused on the schools and libraries to ensure that teachers and students have the technical support for an environment that promotes engaged learning.

## **Scope**

This plan describes the Technology Program for the communities of China, Vassalboro and Winslow. These communities together make up Union 52. The plan addresses the requirements of information technology for the schools, libraries and municipal offices of these three communities.

Technology in this plan refers to information technology and that term will be emphasized throughout. Information technology includes the aggregate of computers, computer databases, fax machines, telephony and video displays and their telecommunications links.

This plan should be considered a dynamic document that provides a road map for the technology program for the communities. It is dynamic in the sense that it requires continuous adaptation based on funding and technology changes that may occur that will be reflected in annual updates. As a road map is not the road, neither is this plan the program itself; implementation of the plan must be taken to achieve the technology-rich environment envisioned.

The plan is the product of the annual review of the original *Community Technology Plan* developed in 1997 and has been developed in accordance with the recommendations of Maine Internet Education Consortium (MIEC).

# Technology Strategic Plan

## *Goals and Strategies*

There is in place a significant capability in the community. At this time students, faculty and municipal personnel are utilizing technology to support their professional and instructional activities.

In 1998 the Kennebec Alliance, which is a coalition of area school districts that share ideas and buying power, began including Technology Coordinators as part of the KA structure. Scheduled meetings have enabled the Technology Coordinators from various schools and districts to share ideas and resources. The role of the School Union 52 Business Manager includes assisting the Technology Coordinators in each school with purchasing and standardization necessary to take advantage of added purchasing power.

The following goals and strategies are proposed as actions to continue the development of the systems needed to support engaged learning and to fulfill the vision of information access for the entire community.

## *Management Structure for Technology*

**Goal #1 To maintain an effective management structure which allows various information technology systems to be coordinated, properly designed, installed and operated to support the educational system and the citizens' right to access in an efficient, effective manner consistent with budget constraints**

### Strategies

- **Technology Coordinators Team (TCT).** The Technology Coordinators Team will consist of the Technology Coordinators from each municipality and is responsible for implementing and administering this plan. The TCT is responsible for...
  - training and coordinating technology support staff
  - maintaining currency in information technology
  - planning
  - conducting other training as required
  - coordinating with both internal and external groups in matters of information technology
  - implementing programs
- **Technician.** To continue to employ and provide training for a full time computer technician who is qualified to configure and install new equipment and networks, diagnose problems and repair or replace malfunctioning equipment. This person must be proficient in troubleshooting networks, servers, and workstations. This person requires experience in Macintosh, Windows, and Linux platforms.

- **Technology Coordinators.** Each school, library and municipal office shall have at least one staff member designated as a Site Technology Coordinator with the following responsibilities in addition to their teaching or other responsibilities.
- developing and implementing courses and training in technology
- providing support and assistance to the staff in the use and maintenance of hardware and software
- plan and oversee the technology budget for their site
- providing assistance in selecting and integrating software into the curriculum
- meeting with teachers to encourage the integration of technology into the curriculum
- assisting the TCT in implementing the Technology Plan

## ***Educational***

**Goal #2 To continue the development and implementation of technology enhanced programs based on the *State of Maine Learning Results* (July 1997, Maine Department of Education).**

### **Strategies**

- Analyze existing curricular goals and objectives to determine where technology can best support these goals and objectives and improve the instruction.
- Develop a method of technology evaluation to determine technology effectiveness based on accepted criteria.

**Goal #3 To increase student achievement and learning through the use of the resources of information technology as specified in *State of Maine Learning Results*.**

### **Strategies**

- Incorporate the use of developmentally appropriate, integrated computer applications, presentation tools, information access pathways, integrated learning systems and distributed video systems into learning and instructional activities where appropriate at all grade levels.
- Provide all students with access to developmentally appropriate library information databases, catalogue and research tools, the Internet, and other on-line resources such as electronic mail and online collaboration.
- Support and promote student research and the acquisition of related skills using automated technology for management and access to library resources.

**Goal #4 To improve the quality and efficiency of instruction using technology tools and information access pathways to design as well as deliver instructional activities and manage educational resources.**

### **Strategies**

- Support and promote faculty and staff use of technology tools to access curriculum and instructional resources, develop curriculum, integrate technology, communicate, collaborate, and manage student data.
- Provide an optimal learning environment for students and an interconnected education community through continued support of administrative operations including office productivity, information, data processing, and communications.

## ***Staff Development***

**Goal #5 To provide the necessary staff development to effectively manage technology resources and to model the use of technology in learning, teaching, and work to support the *State of Maine Learning Results*.**

### **Strategies**

- Focus staff development programs on appropriate methods of using technology to improve instruction and to advance the school's mission of helping all students learn at high levels of achievement.
- Expand the present program of staff development to encompass skills necessary for integration of technology to promote engaged learning and enhanced achievement, communication, collaboration, and management of student data.

## ***Equipment and Facilities***

**Goal #6 To continue the development of technology systems necessary to support the envisioned infrastructure of the schools and the communities.**

### **Strategies**

- Adapt the general concept of technology support at each grade level; that is, determine what technology is appropriate at elementary, junior high school and high school levels.
- Perform a technology analysis of each school facility in order to determine whether the support requirements in the above step are adequately provided in each building. Determine what additional technology elements are needed at each facility.
- Develop a plan of action for each facility to eliminate the deficiencies noted from the steps above. Coordinate the plan across the school system devising phases to be achieved as funding allows.
- As necessary, retrofit and upgrade existing systems to satisfy immediate needs.
- Continue to work to standardize administrative software and systems (food service, transportation, SIS)
- Provide workspace, adaptive equipment and software for individuals with special needs.
- Work toward providing a high speed wide-area network between the communities to enhance sharing

of information resources.

## ***Information Availability***

**Goal #7 To make available public municipal records and data via Internet access to be maintained by each municipality.**

### **Strategy**

- Determine what information currently provided by physical means is suitable for access through information technology systems. Determine whether there is additional information that might be provided that is not now readily available, in any form, that technology can make accessible.
- Develop a phased plan for providing all appropriate data to the citizens via information technology including Internet resources. Budget these improvements at an affordable level.

**Goal #8 To make local library catalogs available for search on the Internet.**

### **Strategy**

- Determine the technology (equipment, software, and cost) required for extending access to existing software in use to access the library holdings and an individual's own account using either a local modem or Internet access.
- Develop a phased plan to install the required system at an affordable pace.

**Goal #9 To provide access to the large variety of resources in our community through the use of library multi-media centers and its present connection to the Internet.**

### **Strategy**

- Perform a technology analysis of each library facility in order to determine what technology elements are needed at each library to fulfill this goal.
- Develop a phased plan to install the required system at an affordable pace.

## ***Three Year Program (2008-2011)***

The strategic goals outlined above can be accomplished by achieving the following specific objectives through the time-phased program. This program consists of a three year schedule of specific actions, which are to be accomplished along with the financial resources that will be allocated or obtained to achieve these objectives.

### **Objectives**

- Retain a technician to install, maintain and repair equipment and networks.

- Obtain peripheral equipment such as projection devices, electronic whiteboards, and other devices to enhance instructional capability.
- Develop a maintenance and purchase plan.
- Establish specific funding for information technology in school, library and municipal budgets.
- Provide a dedicated workstation and/or laptop for each teacher.
- Provide a comprehensive curriculum of adult community education in technology.
- Encourage innovative purchase, development, and use of software in all curricular areas supporting *The State of Maine Learning Results*.
- Upgrade and expand networks as necessary (pursue development and installation of inter-community wide area network).
- Upgrade the internet connections as necessary.
- Encourage teacher training in technology by providing:
  - funding for advanced degrees.
  - in-service programs.
  - funding for after school courses.
  - develop and maintain a web site for every school
  - to connect and provide community involvement
  - to provide a space for instructional assignments encourage and provide for the use of online resources and Web 2.0 technologies

## **2008-2011 Annual Action Steps**

| <b>Action Step</b>   | <b>Est. Cost (\$)</b> |
|--|-----------------------|
| • Continue established 5 year rotation for computer repair/replacement | 125,000               |
| • Maintain and upgrade network infrastructure                          | 75,000                |
| • In-service and after school technology courses                       | 8,000                 |
| • Adult Education computer courses for the community                   | 500                   |

|  |         |
|--|---------|
| • Wiring, switches, wireless access points   | 54,000  |
| • Server software  | 4,000   |
| • Professional development encompassing technology   | 6,000   |
| • Maintain position of technicians   | 100,000 |
| • Provide stipends and contracted services   | 25,000  |
| • Revise curriculum in accordance with technology's role in the <i>State of Maine Learning Results</i> | 7,500   |
| • Maintain and/or upgrade Internet connections at all sites (ATM)                                      | 10,000  |
| • Maintain computer system to track attendance, make announcements, and assign grades in schools       | 15,000  |
| • Maintain classroom and assessment software and services (ie: NWEA, DIBELS)                           | 60,000  |

## **Resources**

Business closures and economic adjustments in this area have had a negative budgetary impact. However, despite these closures and the lack of any significant business tax base community support for technology remains strong.

All budgets shall be examined closely with respect to the new requirements of information technology to determine whether the priority for such technology should be revised. The measures of this plan cannot be carried out without funding support. In addition, funding from other agencies such as state, federal, or institutional shall be sought as available. This requires knowledgeable scanning of the programs and applying for all grants and other opportunities available. Local businesses shall be approached to obtain donations in the form of equipment, software, maintenance services, and telecommunications services to the greatest extent possible.

## **Evaluation**

This plan will be evaluated annually. The annual update will assess the progress achieved the previous year comparing it with the baseline established in the previous year's plan. In subsequent years a set of annual action steps to maintain and upgrade systems and advance existing programs as well as budgeting or securing the funds necessary to complete these steps will be an integral part of the plan. This will stem from the action strategies described earlier, which require a structured planning approach and which, when accomplished, will yield specific objectives and a more detailed program with costs and schedules.

# Identification of Necessary Technology

## ***Schools***

Schools are responsible for providing students with the tools to function efficiently and effectively in the modern community. They have the broadest challenge in the new age of technology: they must educate the staff to integrate technology in the classroom in all courses as well as impart appropriate levels of knowledge of technology to the students and the community. Some of their requirements include...

- teaching the teachers how technology can serve their own area of studies.
- providing a workstation, terminal, and/or laptop for each teacher.
- providing an adequate number of workstations, terminals, and/or laptops to ensure adequate access to technology for students.
- introducing all students to the capabilities of computers and information technology at appropriate grade levels.
- providing opportunities for those students who wish to take advanced computer courses that will provide a basis for employment or further studies.
- providing necessary infrastructure for data storage and networking.
- using computers in the administrative requirements of the school.
- using the Internet as an information and application resource.
- using the Internet to provide the community with access to the activities and news of the school.
- providing e-mail capability.
- integrating technology into the fabric of instruction.

## ***Libraries***

Libraries provide the resource to the residents for information in general. The library should provide daily year-round convenient access for the general public for...

- its own holdings through electronic card catalogs accessible from within the library as well as remotely from a resident's home computer system.
- access to the Internet.
- provide webmail capability.
- public facilities for word processing, resumé writing, income tax programs, spreadsheet and other



software of general applicability.

## ***Municipal Offices***

Municipal offices play a prominent role in the lives of town residents. Improved, efficient access to a wide variety of information currently available only by physical search at the town office can be made available remotely in an automated manner. This service should reduce workload at the town office and provide better access for the citizens. Some of the records that would be appropriate for this access include...

- tax records (assessments, payments, tax liens, tax acquired properties list).
- Maine Municipal Association proceedings.
- Kennebec Valley Council of Governments records.
- agendas and minutes of public meetings.
- Land-Use ordinances.
- town budgets and financial transactions.
- online motor vehicle registration.
- e-mail.
- school and municipal directories.
- directories of local businesses.
- vital statistics.
- births.
- deaths.
- marriages.
- cemetery plot locations.

## **Current Technology Status**

At the present time, each of the schools has extensive networked computer systems that support instruction and administration. Appropriately, these systems vary in size and complexity based on educational level and population of the school. At all levels there are computer labs and in some cases wireless mobile labs that provide resources for all students to integrate the use of technology appropriate for their level. Currently the 7th and 8th grade students in each school have laptops provided as part of the one-to-one technology initiative known as MLTI (Maine Learning Technology Initiative). District-wide most teachers now have laptops provided to them from various sources.

China and Vassalboro schools have access to the Internet through dual T1 connections to the Maine Schools and Library Network (MSLN). Winslow schools have access to the Internet via six T1 connections to MSLN.

Functional diagrams of these systems are included near the end of this document. A detailed inventory of equipment in each of these facilities is provided in Appendix A.

## ***Technology Management Structure***

Installation and continuing operation of systems is handled and/or coordinated by the Technology Coordinators in each school. District-wide there are key personnel who are designated to be responsible for everyday operation of certain systems (eg: SIS, Library Automation, Food Service, Purchasing & Payroll). School Union 52 has contracted with outside vendors to maintain telecommunications, printing, and copying systems.

## ***China***

### **Erskine Academy**

#### ***Capabilities***

The technology capabilities at Erskine Academy have been rapidly growing to meet the needs of our school population. We have a combination of wired and wireless environments that allows access and flexibility for our classes. We have three dedicated rooms for computer labs. There are two labs of eighteen computers each, and a third lab with twelve stations. These labs use a Windows environment. In addition, we have a small lab with eight Macintosh computers as part of our physics department. These eight computers in the physics lab are the only computers not connected to the schools LAN. The newest "lab" is a floating lab that utilizes laptops with wireless connection to the schools servers. This lab currently consists of eight computers that can be delivered anywhere on the property with full capabilities of researching the web, or simply doing word processing.

In addition to adding a wireless environment, our second major change this year has been the use of a TermServ machine to run software on our older computers. This has allowed us to use machines that otherwise would have been too old and slow to run the applications that we are using. For example, in the typing lab we are using P166 machines to connect to the TermServ allowing us to run programs such as PageMaker and Photoshop.

Every classroom at Erskine Academy has a computer hooked to our LAN, and every computer is linked to either a local Deskjet printer or a networked Laser Printer. There are scanners, digital cameras, and an LCD projector available for faculty to utilize. Our school is connected to the MSLN2 using an ATM connection. We have a distance learning classroom which we are using this year.

Teachers are encouraged to utilize technology in all their classes. In order to support this inclusion, teacher education is scheduled throughout the year. Sessions are available after school and often during workshops. Departmental training is available and encouraged. Outside technological training is supported as well. A technology committee has been organized to plan further offerings.

Erskine Academy has available a variety of classes that focus on computers. Desktop publishing, digital imaging, word processing and computer programming are a few of our offerings. On-going educational opportunities are available for teachers as well. Erskine Academy continues to look for and support the incorporation of technology into all the disciplines.

### ***Limitations.***

- Teachers need more instruction in using computers, the Internet, and more help in choosing appropriate software. Time for such instruction is limited.

## **China Middle School.**

### ***Capabilities.***

The Middle School has an all Macintosh system running Mac OS X with a computer lab of 23 workstations, 36 workstations distributed in classrooms, three carts with 20 iBooks each we purchased from the first generation MLTI program, as well as 144 laptops provided through the MLTI program. All computers are on the local area network and have access to the Internet through the T1 MSLN connection, which is shared between the middle school and the primary school via an underground fiber backbone. All staff have access to email via the FirstClass email system. The China Schools currently have a web site featuring information about school activities, the lunch menu, the school calendar, and even access for parents and students to check homework online. A scanner, digital cameras, digital movie camera, and an LCD projector are available to staff and students. The school has a computer coordinator/teacher who is shared with China Primary School. Computer classes are provided.

There are six similar workstations in the school offices for administrative applications.

### ***Limitations.***

- Some computers are more than five years old and have limited capabilities.
- Lacking some multi-media equipment (cameras, projectors, etc)
- Space and lack of furniture make it difficult to add computers to classrooms
- Projectors/smartboards needed in all classrooms.

- Need to create a program for purchase of new machines on a schedule.

## **China Primary School**

### ***Capabilities.***

The Primary School has an all Macintosh system consisting of 49 iMacs and 6 G3 laptops for teacher/student use in classrooms and 24 eMacs in the lab. There are also 11 laptops being used by teachers. All computers are on the local area network and have access to the Internet through the dual T1 MSLN connection. The Primary School shares the computer coordinator /teacher with the Middle School.

There are 6 Mac workstations in the school administrative offices.

### ***Limitations.***

- Some computers are more than five years old and have limited capabilities.
- Lacking some multi-media equipment (cameras, projectors, etc)
- Space and lack of furniture make it difficult to add computers to classrooms
- Projectors/smartboards needed in all classrooms.
- Need to create a program for purchase of new machines on a schedule.

## **China Town Office**

### ***Capabilities.***

The town office has workstations on a local area network for use by town employees. In addition some peer-to-peer networking systems exist. A capability to share files, programs and printers exists. The office is connected to the Internet via a LAN modem.

### ***Limitations.***

- Little or no electronic access to public records is available to the public.

## **China Libraries**

**Brown Memorial Library.** MSLN internet connection and word processing is available for public and staff. E-mail is used by staff. The librarian sees the need for a second computer but the library is financially unable to purchase one at current funding levels.

**South China Library.** This library is run entirely by volunteers. They have one Pentium computer with a CD drive. The public uses the 56K MSLN2 internet connection and two electronic encyclopedias. Word processing is available but not used often. The staff uses e-mail. Another computer is needed for

circulation/catalog but is not envisioned soon.

## ***Vassalboro***

### **Vassalboro Community School**

#### ***Capabilities***

Vassalboro Community School currently has numerous computers throughout the school. They are mixture of Mac OS X laptops, Windows XP PC's and laptops, as well as Linux terminals and workstations. Forty-four of those computers are split between two computer labs. There are three terminal servers, two Linux and one for Windows 2003, as well as 8 other servers for various functions ranging from web services to email. All of the computers at VCS are connected to the Internet. All staff and student occupied rooms have at least one computer connected to the school LAN, this includes all offices and classrooms. Most classrooms have multiple computers. Currently all computers print via the network to departmental laser printers located in each wing, the lab, or the office. The office computers print to a laser printer in the front office. Several computers are also able to print and scan via networked copiers in the main office and the library. All staff have access to email using the FirstClass email system as well as Google Apps for Education. VCS currently has a very active web site featuring information about school activities, the lunch menu, the school calendar, and even access for parents and students to check homework online. A scanner, digital cameras, digital movie cameras, and an LCD projector are available to staff and students. The school has a full-time computer teacher/coordinator.

VCS has computer automation (Winnebago/Spectrum) for the library making it possible to check available titles electronically from anywhere in the building or via the web as well as providing the librarian with the tools to make circulation easier via bar code scanning.

#### **Students and staff have access to a number of facilities:**

- File servers via network/Internet.
- World Wide Web server via network/Internet.
- Moodle server .
- Email accounts for staff via Google Apps for Education and FirstClass
- Scanning station.
- Digital cameras and digital video cameras.
- Networked color and black and white laser printers.
- All laptops connect to projectors.

### ***Limitations***

- Space and lack of furniture make it difficult to add computers to classrooms
- VOIP phone system is included in future plans, but is needed as soon as possible

## **Vassalboro Town Office**

### ***Capabilities.***

The town office has workstations on a local area network for use by town employees. In addition some peer-to-peer networking systems exist. A capability to share files, programs and printers exists. The office is connected to the Internet via a wireless 150kbs connection provided through Air-o-Link. Last fall the town commissioned a local webmaster to produce the town web page and purchased a domain name and web hosting to post this web site. ([www.vassalboro.net](http://www.vassalboro.net)) The web site enables residents to view important town news, organizations, selectman's meeting minutes, as well as register motor vehicles online.

### ***Limitations.***

- Little or no electronic access to public records is available to the public.

## **Vassalboro Public Library**

The 56K MSLN2 Internet connection is available for the public and staff. Word processing is used by the staff, but the staff is not yet using the e-mail to full capabilities. In the future they hope for another computer for catalog and circulation.

## ***Winslow***

### **Winslow High School**

#### **Capabilities**

The high school has an extensive computer system of Windows based computers, current models and some from previous generations. Teachers have MLTI Macbook computers running dual operating systems, Mac OS and Microsoft XP. There are four labs: one has 25 Vista Business workstations, one with 20 Vista Business workstations, the CAD lab has 12 workstations which are all Pentium 4-based operating Windows XP; and the fourth lab is in the library and consists of 10 workstations with Windows XP and a pod of 20 Microsoft Vista laptops. Five classrooms have pods of three to seven Windows XP computers. There are six carts of twenty wireless networked computers, 4 are Windows XP based, and 2 Windows Vista, that can be borrowed for classroom use. All teachers have at least one desktop computer in their classroom as well as a laptop computer. All labs and classroom computers are connected to a common school-wide ethernet LAN. All laptop computers can access the network wirelessly from all points in the building. All computers have network access to color and black and white laser printers. All computers are licensed for several professional software programs, e.g. Microsoft Office XP or 2007, and Adobe Master Collection CS3. Digital cameras, video cameras, projectors, and scanners are available for student and staff use. Twenty

classrooms are using Promethean electronic whiteboard technology for instruction. The school network is connected to the Internet via four T-1 load balanced digital lines provided by MSLN/Verizon through the Maine School and Library Network (MSLN). This connection is shared with the elementary school. The school has an up-to-date firewalled network with a fiber backbone connected with switches. The Administration and Guidance Offices are on a separate VLAN for security. The Library provides electronic access to InfoCentre, SIRS, Encarta, MaineCat, Ursus and Choices. The school has a web server with a home page that is accessible via the Internet. The school has a Windows 2003 file server for data storage with accounts for all students, faculty, staff and some community members. The school has an intranet and E-mail server which provides faculty/staff/administration and some students with school information and e-mail accounts. The school has full-time computer teacher, and coordinator who offers computer application and computer science courses for students along with both informal help and formal inservice classes for staff and faculty. One computer/business teacher offers Windows based office courses. Many teachers integrate technology using classroom labs, the wireless cart and electronic whiteboard technology. A computer service technician works at the high school one day a week. There is a formal full year program that trains and uses student technology assistants to help with servicing computers and helping staff with technology related questions on a daily basis. All classrooms and offices have VOIP.

### **Limitations**

- Faster and more bandwidth to Internet access.
- Students access to one-to-one computing.
- A Student Information System that incorporates school to home information is needed.
- Limited network management outsourcing is necessary.
- Administrative office computers/servers need to be updated.

## **Winslow Junior High School**

### **Capabilities**

The Junior High School has a Local Area Network. The computers in the Junior High School are Apple computers. The school system is connected to the Internet via 2 T-1 digital lines provided by MSLN2/Verizon. The network is school-wide and computers connected to the network have Internet/Printing and Communication capabilities. The entire school has wireless connectivity, as there are Apple Airports throughout the building. All computers are connected to the network. Every classroom has an Apple Computer. Every seventh grade and eighth grade student has an Apple iBook courtesy of the MLTI program. Every teacher has an Apple iBook. The library is a mixed platform consisting of Apple and PC computers working together, along with a server. The administration uses Apple computers for day-to-day operations. The school has a network with a fiber backbone connecting the switches. The school also has a technology coordinator working with staff and students, as well as troubleshooting and servicing computers. All classrooms and offices have VOIP.

### **Students and staff have access to a number of facilities:**

- File servers via network/Internet.

- World Wide Web server via network/Internet.
- Moodle server .
- Email accounts for students and staff through MSLN (Maine State Library Network).
- Scanning station(s).
- Digital cameras and digital video cameras.
- Networked color and black and white laser printers.
- All laptops connect to televisions and/or projectors.

### **Limitations**

- The level of MLTI funding does not support the upkeep needs of computers.
- The level of MLTI funding does not support software needs.
- A Student Information System that incorporates school to home information is needed.
- Winslow Junior School is not part of the Winslow Schools' LAN.

### **Winslow Elementary School**

#### **Capabilities:**

Every elementary teacher and administrator has an up-to-date Apple laptop computer. The elementary school has one full time computer teacher who works formally with all K to grade 5 students. The computers are serviced by a full time computer support technician one day a week and a technician who has daily part time responsibilities. Teachers and staff have e-mail through the high school FirstClass servers. The school is wired throughout with CAT 5-6 wires and wireless access points. The lab has 25 networked Apple computers. There are three pods of older wireless MLTI computers. There are up-to-date computers in all K-5 classrooms. There is a file server in the computer lab. All classrooms and offices have VOIP.

#### **Limitations:**

- Many computers are 5+ years old.
- A Student Information System that incorporates school to home information is needed.

### **Winslow Town Office**

#### **Capabilities.**

The town office has workstations on a local area network for use by town employees. In addition some peer-to-peer networking systems exist. A capability to share files, programs and printers exists. The office



is connected to the Internet via cable services. The town offices are connected to other areas town and to the high school by fiber. The Town has purchased its own URL (winslowmaine.org) and through a local Internet provider. It maintains a home page which provides a schedule of public hearings, current issues, ordinances and limited agendas. Employee training continues to be a priority.

## **Winslow Public Library**

### **Capabilities**

The library has an automated card catalog and patron account systems. It has a Windows LAN that provides connectivity among most workstations. It also has workstations available to the public for word processing and other aids. Access to the Internet is available through MSLN2. The library has a web page to announce schedules and important functions.

### **Limitations**

- Public access to the library holdings and the status of a patron's own individual account should be available from outside the library via the Internet.
- Regular technology service for the computer system.

## **Union #52**

### **District-wide**

#### **Capabilities**

While there are substantial technology programs and capabilities available in Union #52 there are also some acknowledged shortcomings that affect all of us. There is an effort underway to address many of these issues and to bring some standardization and inter-connectivity regarding administrative functions such as Transportation software, Foodservice software, and other district-wide functions. Recent efforts have yielded success with all schools adopting the Web2School system for Student Information and grading as well as the use of ADS for district-wide purchasing.

#### **Identified Issues**

- E-mail Directory
- MEDMS Student Information (Infinite Campus migration)
- MEDMS Financial (transition)
- SIS – Student Information System (possible migration to Infinite Campus)
- LAS – Local Assessment System (further leveraging NWEA)
- Transportation (transition to State transportation software)

- Hot Lunch – including Free and Reduced lunch counts (complete migration to Nutri-Kids)
- Support IT transition to formation of regional school unit
- Continue to expand technology offerings for Adult Education

## **Collaboration with Adult Literacy Service Providers**

**Describe how the program will be developed, where applicable, in collaboration with adult literacy service providers.**

### ***Collaboration with Adult Ed. Services***

School Union #52 currently participates as a member of the Mid-Maine Regional Adult Community Education Program. Due to our location and regionalization efforts with regard to combining services to maximize benefits, adults interested in obtaining their high school diploma or GED participate in adult education classes in the regional adult education program. In addition, community members are allowed and encouraged to participate in School Union #52 Technology Courses, which are offered each school year.

School Union #52 has applied for and received several grants over the years with a focus on literacy and reading. Applying for these grants is done with the purpose of working with families to increase their literacy levels. Technology will be used to enhance this service through the use of specialized software, such as Lexia Learning, PLATO, Read 180, Reading Counts, FastMath, Read Naturally, DIBELS, and others. The program also helps families locate resources through the use of technology that are essential for literacy development, which may lead to employment and a better quality of life.

## **Strategies for Improving Academic Achievement and Teacher Effectiveness**

**Describe how funds, specifically Ed Tech funds where applicable will be used to improve academic achievement, including the technology literacy of all students attending schools served by the SAU; and describe how funds expended will improve the capacity of all teachers in the schools served by the SAU to integrate technology effectively into curricula and instruction.**

School Union #52 offers district-wide technology courses as part of our professional development program. Many staff participate in the courses each year to enhance their knowledge and to learn how to better integrate technology into the curriculum. Staff members are encouraged to attend conferences in their subject area particularly when it is related to technology. Many staff members attend content-based training offered as part of the MLTI project. These funds and local funds are supporting any and all training that offers advancement in the use of technology. Long range planning shows us that we need to address training regarding integrating technology into the curriculum on a regular ongoing basis.

## **Integration of Technology with Curricula, Instruction, and Assessment**

### ***Description of how technology is integrated:***

**Describe how technology (including software and electronically delivered learning materials) will be integrated into curricula, instruction, and assessment and include a timeline for this integration.**

Technology in School Union 52 is now considered an integral part of our everyday teaching, learning, and assessment. Several years ago when we began writing Technology Plans such as this one, technology was a new “thing” that had yet to find its place in our curriculum. Now technology is considered another tool along the same line as a textbook. The most prevalent use of technology in conjunction with subject matter taught in the curriculum is through the use of the Internet and using web sites and other web-based resources to augment or further the study of a particular unit. Using the Internet, students conduct research on particular topics, use several Web 2.0 technologies such as Google Apps for Education, work with educational flash or shockwave based programs, explore multi-media such as movies and music, communicate with others, as well as participate in teacher-created web based assessment.

Software that has been installed locally on the network or hard drive is used to support each area of the curriculum. The majority of the titles are used to support and enhance language arts, science, and social studies. Some schools are using specific titles such as Lexia to enhance and assess language skills among students with special needs. The high school is using PLATO, which is a web-based modular instructional program. Most schools are using FirstClass Collaborative Classroom for electronic communication between staff, students, and the community.

Although most teachers are integrating technology into their own curriculum on a regular basis, technology courses are also offered at all grade levels on a weekly, quarterly, or semester rotation.

Technology plays an integral part in assessment both locally in the classroom and district-wide. Many teachers utilize varying levels of technology ranging from simply typing a test to online assessment with instant feedback to assess student performance. The 8th grade students have also participated in the online version of the Maine Educational Assessment Test. The district also administers the online NWEA test to conduct assessment throughout School Union 52.

Integration is currently taking place in virtually all areas of the curriculum. This will continue and be updated as new technologies and software become available, while maintaining the scope and sequence outlined in the State of Maine Learning Results and the local curriculum.

All staff are expected and required to be familiar with and utilize the provided resources, such as email, for electronic communication within school and between school and home.

## **Technology Type and Costs, and Coordination with Funding Resources**

**Develop a step-by step action plan, with timeline, that includes goals, activities, required hardware and software, costs, and funding sources. Describe the type and costs of technology to be acquired and how it fits within the current structure (use the list developed in the technology assessment in #4 above). Designate sources of funding, specifically Ed. Tech funds, E-Rate funds, and funds from other Federal programs, and state and local sources that support technology acquisition and integration.**

| <b>Goal</b>                | <b>Activity</b>             | <b>Hardware/Software</b>           | <b>Cost per year</b> | <b>Funding Source</b> | <b>Timeline</b> |
|----------------------------|-----------------------------|------------------------------------|----------------------|-----------------------|-----------------|
| Standardize district email | Acquire and purchase proper | Additional licenses/upgrade may be | \$3,000              | Local funds, E-Rate,  | Sept. 2008      |

|  |   |  |           |   |               |
|--|---|--|-----------|---|---------------|
| system   | licenses and hardware for FirstClass Collaborative Classroom  | needed for Winslow.  |           | grants  |               |
| Create a district WAN connecting the three towns   | Lay the groundwork for physically networking the three towns  | Conduit, fiber, associated network switches, etc,                  | \$81,600  | Local funds and E-Rate  | December 2008 |
| District-wide Student Information System   | Evaluate, purchase and install a district-wide SIS  | Servers, licensing, software, and training                         | \$10,000  | Local funds with lease purchase   | Maintenance   |
| Continue to provide training and professional development to staff                               | Union 52 technology courses, MLTI content area training, and specialized training                         | N/A  | \$7,000   | Ed Tech funds, PPPD funds, and other grant monies                           | Ongoing       |
| Acquire and maintain a workstation, terminal, or laptop for every teacher                        | Develop a budget to include and support the purchase and deployment of these resources                    | Workstations, monitors, terminals, laptops and associated hardware | \$160,000 | Ed Tech funds, local funds, Local Entitlement funds, and other grant monies | Ongoing       |
| Acquire and maintain equipment for a 1-to-1 laptop initiative at the appropriate grade levels    | Develop a budget in accordance with EPS guidelines that will enable us to support a 1-to-1 laptop program | Laptops, wireless access points, deployment infrastructure         | \$100,000 | Ed Tech funds, local funds, Local Entitlement funds, and other grant monies | June, 2010    |
| Continue to support and upgrade the present infrastructure for workstations, servers and network | Will enable us to maintain our current deployment as well as provide for future needs                     | workstations, servers and network equipment                        | \$100,000 | Ed Tech funds, local funds, Local Entitlement funds, and other grant monies | Ongoing       |

|  |  |  |                                 |   |         |
|--|--|--|---------------------------------|---|---------|
| connections  |  |  |                                 |   |         |
| Continue to procure and maintain appropriate licensing for software products that are used in our schools                    | Will enable us to continue to integrate software into the curriculum as a supporting tool as well as continue to utilize administrative programs | Software titles, licenses, online subscriptions, and CAL's         | \$50,000                        | Ed Tech funds, local funds, Local Entitlement funds, and other grant monies | Ongoing |
| Acquire and maintain an adequate number of workstations or terminals to ensure appropriate access to technology for students | Develop a budget to include and support the purchase and deployment of these resources   | Workstations, monitors, terminals, laptops and associated hardware | \$30,000                        | Ed Tech funds, local funds, Local Entitlement funds, and other grant monies | Ongoing |
| Continue to provide opportunities for students to participate in advanced courses  | Maintain relationship with local colleges where students are allowed to take free courses  | N/A  | \$0 (offered as a free service) | N/A   | Ongoing |
| Maintain district and school web servers for community information sharing   | Acquire and maintain appropriate servers, software, and/or hosting for school and district web sites   | Servers, software, and hosting                                     | \$3,000                         | Local funds, E-Rate   | Ongoing |
| Automate library card catalog and inventory system   | Acquire and maintain appropriate servers, software, and/or hosting for school and town library card catalogs                                     | Servers, software, and hosting (if appropriate)                    | \$10,000                        | Local funds, E-Rate, and other grant monies                                 | Ongoing |

## Supporting Resources

**Describe the supporting resources such as services, software, other electronically delivered learning materials, and print resources that will be acquired to ensure successful and effective uses of technology.**

School Union 52 uses a wide variety of software and electronically delivered resources to enhance learning and supplement curriculum materials. At the district level we use several software programs to conduct the business of running a school union. These programs include ADS Advanced Data Systems (purchase order and financial management software), ADP Automatic Data Processing (payroll and HR), MS Small Business Server, MS Exchange, and ReportSmith (payroll reporting software).

All schools throughout School Union #52 use the Web2School program for student information services and grade reporting. The NWEA assessment test is also hosted on servers at each town in the school union.

The school libraries in Winslow, Vassalboro, and China are automated using library automation software to managed circulation and the card catalog. Winslow and China both use InfoCentre while Vassalboro uses Winnebago/Spectrum. There has been no need to migrate Vassalboro to InfoCentre at this time, but plans are in place should the need arise. In all schools the client is web-browser based thus eliminating the need for client software and making it universally available to all platforms. In some cases the card catalog is available via the web from outside the school. Winslow High School library subscribes to CQ Researcher online which is web based. The Marvel databases, provided by the state library network, offer all Maine residents access to periodicals. These databases are accessible from directly from school or from home through the Maine Infonet site.

The special education department(s) for School Union 52 utilize many specialized software packages and subscription based programs to augment their delivery of services. Lexia software is currently in use throughout the district to assess reading and language skill levels and provide reinforcement in deficient areas. The special education secretaries use various programs to provide assessment reports used for triennial evaluations and IEP's. These programs include Woodcock-Johnson (W-J-III), Adaptive Behavior Assessment System III (ABAS), Auchenbach, Weschler Individual Achievement Test (WIAT-II), and Weschler Intelligence Scale for Children-4th ed. (WISC-IV). Winslow High School uses the PLATO program to provide online self-paced instruction in many academic areas. Winslow also uses Kurzweil Learning Systems for adaptive software and hardware to do text-to-speech for students with vision or reading difficulties. Boardmaker software is in use in most of the schools to generate symbols, pictures, and templates for use in communication with non-verbal students. Vassalboro uses several programs from Laureate and Earobics to enhance reading instruction.

In the area of regular education, the schools of School Union 52 use many software packages and services as part of our curriculum. Each school uses an Office suite such as Microsoft Office, OpenOffice, iWork or others. These include software for word processing, presentation, graphics, database, desktop publishing, web development, and spreadsheets. Graphics software is also available. Graphics software titles include Adobe Photoshop, GIMP, TuxPaint, iPhoto, Seashore, Adobe CS3 Suite, and others. Each individual instruction area uses content specific software to augment their own curriculum. Vassalboro subscribes to several web-based services such as BrainPop.com and EnchantedLearning.com to add to their existing software and services. Winslow High School uses several technology-oriented textbooks to supplement the existing curriculum.

School Union 52 currently employs a district computer technician who is shared among the six schools and the central office. The union also employs a data systems manager who oversees the use and implementation of Web2School and NWEA. Each school has a building level technology coordinator and each town has a technology director. These people presently serve as both computer teachers and technology coordinators/directors.

## **Steps to Increase Accessibility**

**Describe the steps being taken to ensure that all students and teachers have increased access to technology. The description must include how Ed Tech funds, if applicable, will be used to help students in high-poverty and high-needs schools, or in schools identified for improvement or corrective action under Section 1116 of Title I; and how the steps taken will ensure that teachers are prepared to integrate technology effectively into curricula and instruction**

School Union #52 provides at least one computer for every single classroom in the district. Many classrooms have several computers as well as a variety of other technology devices available for students. We are committed to increasing access to technology for all students by utilizing creative ways to acquire and deploy additional hardware and software. School Union #52 has secured many grants in the past, which have allowed us to acquire additional hardware for classrooms. Increasing the number of computers and devices available in each classroom lowers the student-to-computer ration thus allowing and fostering better technology integration. Use of donated hardware, open source software, Linux, and other lower cost alternatives also allow us to maximize our ability to provide greater access. Each community has a technology coordinator who oversees the deployment and training related to computers and technology in the classroom.

## **Promotion of Various Curricula and Teaching Strategies that Integrate Technology**

**Describe how various curricula and teaching strategies that integrate technology effectively into the general curriculum and instruction will be identified based on a review of relevant research, and promoted to lead to improvements in student academic achievement.**

Currently the technology coordinators, MLTI teacher leaders, and some technology savvy teachers act as facilitators for current technology developments and information regarding its use in the classroom. The technology directors often attend conferences and workshops designed to provide them with the information on various technology advancements and innovative techniques for use and delivery of services via the use of technology. With the addition of the MLTI program many 7th and 8th grade teachers have participated in content area meetings and workshops where they are able to learn about and share ideas surrounding the use of the laptops in the classroom. Since one-to-one computing has become available in the 7th and 8th grade, the teachers have the opportunity to implement these strategies with all students. Some teachers also conduct the School Union 52 technology courses in an effort to share their knowledge with colleagues. Teachers are encouraged to participate in professional organizations with regard to technology, such as ACTEM, and are also encouraged to attend workshops and conferences to learn more about current practices.

## **Professional Development**

**Describe how ongoing, sustained professional development for teachers, principals, administrators, and school library media personnel will be provided to further the effective use of technology in the classroom and library media center.**



School Union #52 offers district-wide technology courses as part of our professional development program. Many staff participate in the courses each year to enhance their knowledge and to learn how to better integrate technology into the curriculum. Staff members are encouraged to attend conferences in their subject area particularly when it is related to technology. Many staff attend content-based training offered as part of the MLTI project.

## **Innovative Delivery Strategies**

**Describe how technology development and use of innovative strategies for the delivery of specialized or rigorous courses and curricula through the use of technology, including distance-learning technologies, will be encouraged, particularly in areas that would not otherwise have access to such courses or curricula due to geographical distances or insufficient resources.**

At this time there is no ATM facility at Winslow High School, however Erskine Academy does have an ATM room. In the plans for the upgrade and renovation of Winslow High School an ATM facility is included. Winslow High School and Erskine Academy both take advantage of additional course offerings in technology at area vocational centers.

The elementary and middle schools use LCD projectors and other methods of screen display such as Apple Remote Desktop or Altiris Vision to demonstrate skills and concepts to classroom students. Winslow High School also uses Vision to demonstrate and/or project the teachers screen to the other computers in the classroom. Winslow High School also utilizes Promethean systems (electronic whiteboards with built-in LCD projectors and controllers) in many classrooms. Vassalboro also uses SmartBoards (electronic whiteboards) to enhance learning with technology.

## **Accountability Measures**

### ***Planning and evaluation***

**Describe the process and accountability measures that will be used to evaluate the extent to which the plan activities are effective in integrating technology into curriculum and instruction, increasing the ability of teachers to teach, and enabling students to reach Maine's Learning Results.**

The technology directors will assess the effectiveness of the current plan annually and recommend changes to be discussed with the Technology Planning Committee. The technology directors will meet with the Administrative Team at least semi-annually to discuss upcoming strategies and needs as we work together to accomplish our district goals relating to technology and its' impact on student learning and Maine's Learning Results.

# Network Diagrams

