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Supt. Office

MEMORANDUM

TO: Michael Wood, Superintendent

FROM: Jeffrey Nellhaus, Acting Commissioner of Education *Jeffrey Nellhaus*

SUBJECT: Approval of Nashoba Technology Plan

DATE: April 2008

We have reviewed the data you have submitted for the implementation of your technology plan and have determined that this data aligns with your long-range technology plan. I am pleased to inform you that the Nashoba Technology Plan has been approved through June 30, 2009.

We will continue to work with you on the annual submission of your online data forms so that your technology plan will remain valid for E-Rate discounts and state and federal technology grants.

If you have questions about your technology plan, Baiba Ozols, Instructional Technology Specialist, will be pleased to assist you. You can contact her at 781-338-6831 or bozols@doe.mass.edu.

Copy: Cynthia Larsen, Technology Director/Coordinator

Nashoba Regional School District Technology Plan

FY 2006 through FY 2009 – Four Year Goals

Executive Summary and Background

The PreK-12 Nashoba Regional School District (NRSD) includes students from the towns of Bolton, Lancaster, and Stow. The three picturesque and attractive communities are located 20 miles northeast of Worcester, and 28 miles west of Boston, with easy access off Interstates 495 and 190. The area maintains its rural character with several working farms and commercial apple orchards. The area is also home to many excellent golf courses, both public and private. Each of the towns has a mix of professional, managerial, skilled and non-skilled residents. The majority of parents in the District are college graduates who value and support their children's education. The residents of the three communities are also vitally concerned with education, support the schools financially and help to maintain an active community volunteer program. The Nashoba Regional School District is comprised of three elementary schools, one K-8 school, two middle schools, and one high school. More information about NRSD may be found on the District website at <http://www.nrsd.net/index.php> or on the Massachusetts DOE website at <http://profiles.doe.mass.edu/home.asp?mode=so&view=dir&mcasyear=&ot=5&o=2226&so=0>.

Mission statement

Nashoba Regional School District views technology as an essential tool in delivering educational content to its students. NRSD strives to make available to the educational community technology that is current and in a condition that is reliable, easy, and convenient to use.

Technology Objectives and Plans

Section A: Administrative and Management

Goal 1: To have appropriate data in the school District readily accessible over a fast and reliable wide-area network environment to all who should have access.

Strategies:

- Purchase all necessary devices and services to allow connectivity between all District buildings
- Maintain necessary devices to allow connectivity between District buildings
- Secure necessary storage to support various data collections and maintenance
- Provide adequate security to prevent access and tampering from unauthorized sources
- Implement remote backup for all critical systems
- Assess the speed and reliability routinely through monitoring programs that benchmark speed, response time, and reliability.

Goal 2: Develop and maintain a 'common language' and single District databases for the following areas: student records, health, special education, and finance.

Strategies:

- Continue to use Microsoft Exchange, BudgetSense, HealthOffice, Microsoft SharePoint, Spectrum Library Software

- Use online or network systems for finance, special education, health, and human resources (HR). Currently all of these areas have systems that are either online or are available via web or on the NRSD network - except HR.
 - Keep systems current and under maintenance
 - Explore options for HR management system
- Purchase annual maintenance services for all systems when available
- Expand use of Student Information Management System (SIMS) software package. This is the 'heart' of all student information.
 - Employee an information systems manager
 - Provide professional development to users
 - Attend local and national user meetings
 - Update to current versions of the SIMS software, PowerSchool to assure compliance and ease of use and support
 - Send key personnel and Admins to training (when available) to assure District leadership has buy in and knowledge to promote expanding use
- Use a document management and information sharing system
 - Implemented Microsoft SharePoint in FY2005 and rolling it out in FY2006
 - Use to promote communication between job-a-like groups such as 4th grade teachers, science teachers, secretaries, paraprofessionals, and administrators District wide.
 - Promote online learning either through this kind of system or some commercial system specifically designed for this use.
 - Expand communication with parents through available systems used in District

Section B: Communications and Information Access

Goal 1: To maintain and improve a network interconnecting all District buildings, school offices and classrooms.

Strategies:

- Review and update design of LAN's in each building. Evaluate and upgrade wireless within buildings
- Review and update connections from each building to outside and each building to the District network.
- Document all layouts, connections and inventory
- Implement a network replacement schedule for network devices to upgrade performance and disperse costs over time

Goal 2: To create information management strategies for exchanging and storing all information resources within the District.

Strategies:

- Maintain all necessary networking software/hardware for information exchange. (OS license and server application upgrades)
- Design and maintain procedures, services, hardware and software needed to backup informational data generated by both administrative and academic entities.
- Maintain network configuration, asset management, and inventory control systems
- Create standard forms for use throughout the District.
- Maintain e-mail system for all staff

- Maintain network accounts for students, where needed and appropriate
- Develop and maintain District and local school web pages.
 - Use websites as a key component of communication with the greater school community and towns
 - Endorse consistent content and similar look and feel among school websites so that parents can move comfortably between schools
 - Promote teacher websites for all teachers
- Explore feasibility of developing and maintaining system for electronic conferencing. If feasible – implement.
- Maintain and expand use of SharePoint or a similar system for facilitating communication through out the District, between teachers and students, and between the District and parents.
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Section C: Current inventory of equipment, software, and services

Goal 1: To meet and/or exceed the ratio of computer to students recommended by the Massachusetts DOE and to have current equipment in good condition. Continue to supply all teachers at all levels with laptops or Tablet PC's.

Strategies:

- Implement and update District-wide hardware and software inventories that include age of equipment and status of warranties and licenses using web helpdesk software.
- The District buying policy is to buy all computers with a three year warranty. All machines under warranty are serviced under the warranty on site by authorized vendors. This expedites repairs and allows the District to have fewer central office technicians.
- The District plans to replace computers after 5 years. Realistically, we keep and use computers 6 to 7 years but our goal is to keep labs and teacher laptops to the 5 year replacement cycle and move computers from the labs to classrooms and from teachers to mobile carts.
- District technology support is controlled through the District web helpdesk software to manage technology issues more effectively and efficiently.

Goal 2: Explore various options for having students have their own laptops that can and would be used in school and at home for their individual use. Implement if feasible. Interim plan is to have laptop carts available in all buildings for students in grades 3-12.

Goal 3: Telecommunications, Internet access and intranet access. The District currently uses a Frame Relay system for both internal and external phone communications and as an intranet for connections between school buildings. The Frame Relay in conjunction with some T1s and Cable connections make up the intranet and extranet for the District. In FY 2006, the District will be actively exploring a more robust system with dramatically expanded bandwidth. Our expanded use necessitates this action.

Strategies:

- Availability:
 - High speed connection between schools (Gb+ school-to-school)
 - High speed connection inside of schools (100Mb+ workstation-to-switch; Gb+ server-to-switch; Gb+ switch-to-switch)
 - High speed internet access (both download and upload)
 - Complete plan to have wireless access in all schools (as of fall of FY '07, 50% of working areas of all schools are wireless today)
- Stability:
 - Internal routing backup (between schools)
 - Internet access backup
- Network and Device Management
 - Remote control – have ability to manage servers over the network remotely with security in place to assure control
 - Monitoring – have ability to monitor response time and other network factors
 - FULL control capability of all systems (using systems like Altiris and GroupPolicy for PC; ARD and WorkGroupmanager for Mac)
 - Other devices
 - network printer and scanner
 - standalone printer and scanner
- Phones
 - Explore viability and cost of VoIP for voice and teleconferencing
 - Use cell and mobile messaging in cost effective manner to increase communication – particularly with administrators
- Disaster Recovery Plan
 - . Data Backup – on site and off site
- Server Redundancy Setup

Section D: Instructional and Curricular Technology Integration

Goal 1: To implement a scope and sequence, grades preK-12, for the development of technology utilization skills within the appropriate academic disciplines.

Strategies:

- Collect technology related scope and sequence curriculum information from District.
- Follow the scope and sequence, grades K-12 as needed to reflect evolving changes in DOE standards and current educational technology initiatives. <http://www.doe.mass.edu/edtech/standards.html>

Goal 2: To align technology applications and hardware with appropriate curriculum goals/objectives and Mass DOE Frameworks and other DOE guidelines

Strategies:

- Inform teachers about technology applications related to curricular goals and objectives. Solicit from teachers their needs in this area.

- Assist teachers by updating District adopted software to "current" versions.
- Pilot, then implement new innovative hardware into all curricular areas.
- Pilot, then implement new innovative software into all curricular areas.
- Maintain current high level of accessibility to computers for students throughout the District.
- Maintain MA DOE mandated ratio of 5 students to 1 category A/B computer.
- Maintain computer lab hardware/peripherals at or above minimum state standards.

Section E: Professional Development

Goal 1: To develop and institute a comprehensive staff professional development program for technology to support student learning and educational reform initiatives.

Strategies:

- Identify areas of staff development needs to support further integration of technology use in classrooms using both District staff and outside sources
- Tailor staff development programs to meet the needs of teachers

Goal 2: To implement a comprehensive staff professional development program with the aim of increasing the integration of technology into the curriculum.

Strategies

- Provide early release time for professional development that shows creative use of technology across age levels and subject matters.
 - Have focused professional development on integration of technology
 - Have teachers use early release on project-based integration solutions that can be shared with other teachers
- Expand offerings of technology training in District to include online courses developed both in District and from other sources.
- Showcase success at annual professional development 'fair' where teachers exchange ideas and present projects
- Embark upon District wide professional development covering technology skills that will promote integration of technology into instruction.
 - Set goal of having 85% of the staff participate in 45 hours of high-quality technology professional development
 - Sustain the professional development with coaching, modeling best practices, District based mentoring, and study groups or job-a-like groups.

Goal 3: To have all District staff, including supervisors and support staff, fully literate in word processing, spreadsheet, presentation, database and Internet use.

Strategies:

- Offer training for administrators and support staff

- Provide all staff have email addresses and access to the network
- Provide an online self-assessment tool for all staff, to be used as needed in planning and implementing Technology Staff Development.

Section F: Technology Staffing

Goal 1: To provide building level personnel to meet or exceed the Dept. of Education's *minimum* staffing standards for the integration of instructional technologies.

Strategies:

- Hire and maintain necessary personnel to meet the DOE *minimal* standard of one FTE for every 120 staff members.
- Hire and maintain necessary personnel to meet the DOE *minimal* standard of one FTE for every 200 computers.
- Hire and maintain necessary personnel to meet the DOE *minimal* network/support of one FTE for every 200 computer. Include in this the support received from outside repair vendors.
- Hire and maintain technology instructors so every child benefits at least one session of computer instruction per week
- Network training for ITS staff and District tech staff

Goal 2: To provide the District level support and leadership staffing to assist in the design, purchase and maintenance of infrastructure, hardware, software and training needed for administrative and classroom success.

Strategies:

- Be mindful of DOE guidelines for staffing
- Maintain position of Director of Educational Technology to meet the DOE staffing standard for administrative coordination of the appropriate integration of educational technologies.
- Maintain position of a Network Manager to facilitate the design, maintenance and utilization of our server and network infrastructure.
- Maintain necessary personnel for the general maintenance of educational technologies including managing SIMS data and other student data used both for internal monitoring and external reporting.
- The District should maintain staffing levels that provide one FTE instructional technology teacher per 40-80 instructional staff. As of 11/2005, the ratio is roughly one ITS for 68 staff. (This was arrived at assuming that the average percent of instructional technology and professional development time that 6 of the 7 ITS staff is 45% and the 7th ITS person is 100% giving the District 3.7 full time equivalents of ITS staff.)

Section G: Advanced Technology for students – particularly high school students.

Goal 1: Provide opportunities and equipment for the subset of students who blaze the path for use of technology in the classroom.

Strategies:

- Partner with area technology businesses to establish yearly grants for projects and equipment
- Provide classes, either on campus or on-line, for students with specialized interests in either technology or technology engineering.

Goal 2: Provide opportunities for high achieving students in technology for their further exploration of the area.

Strategies:

- Establish multiply paths for students interested in technology.
- Ensure that those interested in the both 'hard and soft' disciplines are addressed.

Section H: Funding

Goal 1: Work with towns in the District to maintain adequate funding levels

Strategies:

- Keep community informed of technology plans and needs
- Invite community to events where technology is showcased as part of the learning experience in the schools
- Form a Tech Advisory group of community members to help guide the technology program as well as to be ambassadors to the community informing about District needs

Goal 2: Make use of sources of funding available to communities that are outside of the town budget process

Strategies:

- File for ERate and other government funds for services and products purchased and be mindful of these avenues when making strategic plans
- Be watchful for grants that NRSD can apply for that would fit with goals
- Actively seek partnerships with the business community to enhance meeting all of the above goals.

Goal 3: Maintain a long-term lease-to-own plan to replace and acquire hardware to satisfy District and State goals.

Strategy:

- Continue to budget each year, through fiscal year 2010, for the purchase of new equipment using a three year lease-to-own program for the sum.

Goal 4: Budget for a robust network infrastructure, Internet access and telecommunications

Strategy:

- Apply ERate funding for eligible services for internal connections and Internet Access
- Include budget line items for resources necessary to make effective use of the discounted ERate services
- Request adequate funding from local municipalities for non-eligible portions of ERate services

Section I: Technology Plan Monitoring, Evaluation and Revision

Goal 1: To develop and maintain a strategy for ongoing evaluation of the plan

Strategies:

- The Director of Technology will monitor the plan's progress and make adjustments as needed. This will be done in collaboration with District Technology Staff. Assessments will be made of the District's Technology Goals and Objectives using the Massachusetts School Technology and Readiness (STaR) chart. Reporting of the plan's progress will be done mainly through postings on the District's website.