MADISON METROPOLITAN SCHOOL DISTRICT

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APPENDIX LLL-8-7
February 8, 2010

TO: Daniel Nerad, Superintendent

FROM: Kurt Kiefer – Chief Information Officer
Lisa Wachtel – Executive Director of Teaching & Learning
John Harper – Executive Director of Educational Services

DATE; January 28, 2010

SUBJ: Technology Plan Update and Funding Priorities

I. Introduction

A. Technology Plan Update and Funding Priorities

This update at the February 2010 Board of Education meeting provides information about progress made on action items within the plan and explains how technology-related funds are recommended to be prioritized.

B. Presenters

Kurt Kiefer – Chief Information Officer
Lisa Wachtel – Executive Director of Teaching & Learning
John Harper – Executive Director of Educational Services

C. Background information

The MMSD Information (Library Media) and Technology Plan was approved by the Board of Education in June 2009.

(http://infosvcweb.madison.k12.wi.us/files/infosvc/InfoTechPlan20092012.pdf)

This report provides an update on progress in implementing the plan.

D. Action requested of the BOE

The report is an update and seeks feedback from the Board of Education on areas in which the activities might be adjusted in some manner and other issues that can help improve the effectiveness of the plan activities.

II. Summary of Current Information

A. Summary of Actions

The Information (Library Media) and Technology plan activities between July 2009 and January 2010 have included the following:

- Formation of a community-staff technology advisory group. The group has over 200 persons on the listerv including a mix of staff, administrators, parents, students, and other IT professional from the community. The group has met twice (November, 2009 and January 2010), and has created the following action teams: partnerships/resources, IT career pathways, policies and procedures, and technology awareness building and professional development.

- Begun meetings with a Library Media Specialist (LMS) Liaison Group to discuss methods of integrating educational technology into school and classroom practices.

- Submitted two competitive Enhancing Education Through Technology (EETT) ARRA grant application to the DPI. Both were awarded for a total exceeding $130,000. The focus is on creating professional development

- Submitted two Broadband ARRA grant applications totaling $30M in partnership with City of Madison, UW-Madison, and other community agencies.

- Convened an assessment committee whose charge, in part, is to explore online computer adaptive assessment software tools. The objective is to pilot tools prior to the end of the 2009-10 school year.

- Participated in WI DPI assessment task force to set direction for changes in state tests including the use of online assessments.

- Initiated a project funded through IDEA ARRA to utilize handheld devices (e.g., iTouches) to collect formative assessment data from teachers in classrooms that can link to the student information system.

- Established the following tools as foundational software for our system: Moodle learning management system, Drupal content management system, Eclipse curriculum mapping system, Elluminate online virtual classroom system. User credentials are being synched to eliminate system set up tasks that previously were performed by teachers manually, and to help reduce multiple sign on steps.

- Initiated Instructional Learning Plan (ILP) project with UW Center on School and Work.

- Conducted first professional development session focused on web 2.0 tools using the Intel Essential curriculum (as part of the EETT grant). Focus is on middle school staff including LMS as leads. There are two more sessions planned this school year. Over 100 staff will have been provided this professional development by the end of the school year.

- Conducted several enhancements to the Madison Virtual Campus student and staff registration portals in order to streamline procedures and save user and system management time.

- A Ning social network has been created where participants share their ideas, suggestions and comments related to technology in our schools.

- Developed a procedure for reviewing software so that it aligns to our instructional and technical standards.

- Deployed a new work order system to streamline steps required, improved the level of information tracked and analyzed, and aide in the process of user's helping themselves via a knowledgebase tool within the system.

- Conducted another round of proofs of concept for virtual desktop systems, the goal of which is to reduce the amount of support time required on computers, customizing the use of computers quickly

and easily as scheduling affects room changes, and to, possibly, provide a remote access solution for staff into the network from outside the firewall.

- Explored options for possible printer management solutions to reduce costs in this area.

- Increased LTE staffing via ARRA for data management and analysis, technical support, and network management including wireless technologies.

- Completed Storage Area Network (SAN) server consolidation project so now all schools and sites are virtualized within the data center (rather than having separate physical servers in each site). This makes management of the network more efficient.

- Initiated a security audit of the entire network, policies, and practices. Audit will include anticipated change to a wireless network. There may potentially be several policy changes being forwarded based on the feedback we receive from staff, administrators, parents, students, and others. Begun due diligence of such policies and procedures with other school districts, higher education institutions, and public agencies.

- Consolidated several enterprise application sign on processes to eliminate the need for users to repeat these steps from one application to another. Systems now "talking" with each other include the Novell network, GroupWise, Infinite Campus, GUI special ed, Destiny Library Automation, and Moodle learning management system. Others will be added over the next several months.

- Installed wireless access points in every high school and middle school Library Media Center (LMC) as the initial phase of our wireless project. Have received approval for carrying out site assessments for every school in the district. The assessments determine where access points are optimally located and provide the basis for a final financial analysis.

- Distributed requests for proposals (RFPs) for both email systems and volume messaging systems (i.e., emergency calls and messages, student attendance calls and messages, school activity messages, etc.)

- Upgraded email client to GroupWise 8.0 and implemented several system administration adjustments to better manage to email traffic through our network.

B. Recommendations

Implications below are recommended as the focus for technology related investments over the next few years. These are our best planning estimates at this time. Specific projects will come to the Board for review and approval as they are available. We anticipate changes as conditions warrant and technologies emerge. We welcome Board and community feedback as a means to ensure we are meeting the overall goals for our students, staff, and parents.

III. Implications

A. Budget

The following funding sources and amounts are accessible for implementing the technology priorities over the next several years. The total amount is just under $10,000,000 for the next four year period, or about $2,500,000 per year. To put this figure in context, the Information (Library Media) and Technology Plan calls for spending roughly $4,000,000 per year on computers and other technology peripheral equipment to achieve goals such as reducing our computer refresh cycle from the current 9 years to 4 to 5 years.

ARRA Funds (used by Sept 2011)

- Title I - $1,200,000 (targeted schools)
- IDEA (Special Education)- $400,000
- Qualified Loans - $2,000,000
- Title II-D- $150,000
- EETT grants - $130,000 (Enhancing Education Through Technology)

Microsoft settlement (used by 2013)

- Phase 1 - $200,000
- Phase 2 - $3,200,000 (targeted schools)

Other

- Operating budgets - $500,000/year
- Common School Fund - $200,000/year
- Technology Referendum - $700,000 (2009-10 is final year)

The following priorities have been identified from the Information (Library Media) and Technology Plan. They have also been reviewed by administrators, principals, other staff including the Library media Specialists, and the MMSD Technology Advisory Group. The Board of Education will be presented with specific agenda items following the specific procedures for review and approval as these items are available. These priorities, estimated amounts, and funding sources are our best attempt at planning for the overall District technology efforts over the next four years. We anticipate changes over time and will bring those to the Board as recommendations for their review and approval.

1. Wireless Infrastructure

Our plan is install wireless in all schools as extensively as possible by September 2011. We have begun this by installing access points in high school and middle school LMCs and beginning site assessments at all schools. We anticipate needing consulting services to accomplish the project over this tight time frame. The project requires some data center and other network upgrade investments along with software to manage the wireless network. We also anticipate some policy changes regarding who can use what equipment on the network.

Projected cost: $2,000,000

Funding sources: QZAB/QSCB ARRA, Microsoft settlement

2. Basic Technologies

This priority focuses on replacing our oldest computers, of which based on current definitions there are approximately 1,500. Our desire is to focus on providing these newer devices to classroom teachers along with basic display technologies for use in their classrooms (e.g., data projectors). Our preference is to use mobile technologies for computing such as netbooks which leverage the flexible opportunities the wireless infrastructure creates in schools and classrooms. Document cameras and digital video devices are also included in this category as well. A final area within this category for improvement are our printers and print management software.

Projected cost: $2,000,000

Funding sources: Technology Referendum Fund, Title 1 ARRA, Microsoft settlement, Title II-D ARRA

3. Mobile Technologies

Our primary focus in this category is mobile labs that include netbooks on carts. This brings technology to the classroom, rather than students to the technology in a lab. It allows more flexibility in use, e.g., clusters in classrooms for projects. In addition, the state student assessments are moving to a digital format by 2012-13 and the mobile devices would be used for that purpose as well. We also plan to fund experimental uses of other handheld devices, e.g., iTouches, within classrooms.

We believe staff and students are also beginning to use cell and smart phones as instructional tools and we should be exploring constructive uses. This priority may require certain policy changes including acceptable use as well as the use of personal equipment. Just as other agencies have done elsewhere, we intend to explore a possible employee purchase program that involves equipment from a standard list that meets our system requirements. We believe that a secure, wireless infrastructure facilitates the transition of our IT function from a capital investment entity to one that enables the use of such technology as needed.

Another key component of this strategy is to constantly be vigilant to emerging technologies. Because our technical staffing resources are limited we plan to engage our school and site based staff, parents, community members, and - especially - students in helping us stay abreast of trends.

Cost estimate: $2,000,000

Funding sources: Title 1 ARRA, Microsoft settlement, Common school fund

4. Professional Development

Professional development is critical to the successful use of technology in schools and classrooms. Our first level is to build awareness around tools. The second level is to help teachers teach effectively with these tools. Our focus is to create site-based leaders who can coach their peers, and to create collaborative professional communities (virtual and face-to-face) where learning can occur. We plan to focus on Web 2.0 technologies (e.g., blogs, wikis, and social networks) and how these integrate into instruction. We also intend to embed every professional development event in all content areas with some level of technology integration. We hope to begin mini-grants to spur innovation in schools and classrooms, with an emphasis on community collaborative partnerships. We also intend to revive summer academy events, something the District used very successfully many years ago around the topic of technology integration.

Cost estimate: ~$600,000 over 18 months

Funding sources: Microsoft settlement funds, Title II-D ARRA, Enhancing Education Through Technology (EETT) ARRA

5. Network and user support

Often overlooked because it is taken for granted, technical support is key to our efforts especially as we move aggressively into technology transition and wireless infrastructure deployment. We plan to add temporary technical staff for these tasks as well as to create new efficiency process improvements using technology tools and data managements systems.

Cost estimate: $600,000 over 18 months

Funding sources: Title 1 ARRA, IDEA ARRA, Microsoft settlement funds, Title II-D ARRA

6. Software

The final segment of the priorities is software tools. Our focus now are the following: common benchmark assessments, e.g., NWEA MAP, Scantron Performance Series, etc., literacy and other curricular support systems, data tools including dashboards and portals for administrators, teachers, and parents, network system monitoring and performance including automated notices of problems for tech support staff, and wireless network management software.

Cost estimate: $1,600,000

Funding sources: Title 1 ARRA, IDEA ARRA, Microsoft settlement funds, Information Services and other departmental operating budgets

B. Strategic Plan

The strategic plan calls for an expanded role for technology in a variety of areas including professional development, virtual and technology-infused instruction for students, better tools for creating planful and individualized learning situations via tools such as the Individual Learning Plan (ILP) and better formative and benchmark assessments, and enhanced data systems for decision-making and transparency.

The strategic plan identifies as weaknesses and threats several aspects related to technology including outdated equipment and infrastructures, and the inequity in technology-based learning opportunities among our student subgroups.

The strategic plan calls for greater community collaboration and partnerships. The MMSD Technology Advisory Group is a concrete action step that aligns with that strategic goal.

The plan also calls for utilizing technology to continue to enhance and improve our processes by making them more streamlined and automated wherever possible.

C. Implications for other aspects of the organization

Wherever possible, the project work has been connected with other initiatives being conducted within the District. Indeed, many of the projects are cross-functional by their very nature making integration essential.