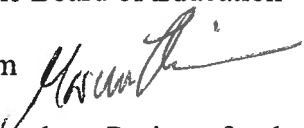


GLENBROOK HIGH SCHOOLS
Office of the Chief Technology Officer

To: Dr. Riggle
Members of the Board of Education

From: Marcus Thimm 

RE: Proposed Technology Projects for the 2010/2011 School Year

Date: March 8, 2010

Background

“Innovations without Restrictions” was adopted by the district two years ago to address substantial technical problems in the district and establish an environment that would match the vision for building a 21st Century Learning Ecosystem. The proposed projects for 2010-2011 school year represent the third year for achieving that vision.

Year 1

The focus for year one was to eliminate technical problems in the infrastructure of the district network and eliminate equity problems and perceptions among the certified staff. During year one, we provided all staff engaged in curriculum and instruction with dual-boot Macbook or HP notebook mobile technology. We also upgraded the wired network to HP ProCurve network switches running full Gigabit to the desktops. We installed Aruba Wireless N network technology district wide. We refreshed desktop and notebook computers throughout the district and established Epson Projectors as standard for LCD projection systems in all classrooms (Exception: those that had existing projectors). We installed a new centralized HP SAN system and Blade Server platform. Xerox Multifunction Devices were deployed to all departments.

Year 2

During year 2, we migrated to Active Directory from Novell Netware. We rolled out the new District/School website based on SharePoint server. We enabled wireless guest network access district wide and provided Remote Network Access via Terminal Servers and VPN for all staff and students. We consolidated servers and storage systems at the district office. We built our Multi-dimensional Learning Space using Moodle and GoogleApps. These services are now integrated with Single-Sign-On to our Active Directory network. We implemented a new service desk software solution (ServiceWise by TechExcel). We adopted new Anti Virus software (Sophos). We implemented AlertNow as new Emergency/Parent notification system. We implemented Docufide for electronic transcript processing.

Year 3

The primary focus for year three is the implementation of a new student information system as well as complete the conversion to a new e-mail system for the district. With those systems in place, we hope to stabilize the work environment for users in order to provide professional development that will encourage and support higher creativity and productivity in all areas of the organization.

Activities for the next school year are grouped in three areas:

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Collaboration and Communication

1. Email service

Timeline: Student email go-live during 2nd semester 2009/2010 school year, staff go-live end of 2nd semester 2010

Administration determined that an internally hosted email solution provides the desired levels of control and allows for best integration with other internal systems. This recommendation was submitted to the board last fall. We have established Exchange 2010 email services for staff and students.

Implementation of Exchange 2010 email services will be conducted in two phases: 1.) Students 2.) Staff

Exchange 2010 is closely integrated with Active Directory and students will have primary access through the webmail interface. (<http://webmail.glenbrook225.org/>). Staff will have access through webmail and may setup client software like Outlook or Apple Mail (in OSX 10.6).

Staff needs to have email data converted from GroupWise. Data migration will be key activity. We are testing various conversion support tools with the objective to minimize disruption for staff and to simplify the actual transition to the new email system. Exchange Email domain will be new “@Glenbrook225.org” and can coexist with current GroupWise domain “@Glenbrook.k12.il.us”.

Upon completion of the email migration we will disable the Novell GroupWise system and direct all email traffic to our new Exchange servers.

2. Office Communication Server (OCS)

Timeline: implementation timeline: 2nd semester 2009-2010

Internal (virtualized) OCS server will provides instant messaging, chat, video and white-boarding capabilities. This system is integrated with Active Directory and can be used for a variety of collaborative purposes. OCS will be rolled out with Exchange server email access. OCS will track all activities as required by law in a database. We will archive chats and Instant Message dialogs for one year.

We are setting the OCS system up for use by staff and students. Student access will be suspended until the board authorizes such access.

3. Email and Instant Messaging (IM) Archiving

Timeline: During 2nd Semester 2009-2010

Federal law (pertaining digital communications) now requires email and IM archiving. We will therefore implement a technology solution to comply with the law. We are currently evaluating archiving solutions that would enhance on the built-in functions of the Exchange 2010 email servers we already use. All email (send and received) will be archived for one year. The solution may also provide an option for user to have read-only access to their personal messages archive. This could eliminate maintaining individual message archives on local hard drives.

4. Digital Learning Space

Timeline: Ongoing. Completion prior to 2010-2011 school year.

Moodle:

Internal Moodle servers were implemented for production and test, replacing the external service, Moodle Rooms. We are going to continue to refine the Moodle infrastructure to integrate plug-ins and enhancements as needed by the schools. There are changes needed to make the system highly available and scalable as well as customize it to the specific needs of each school. In 2010 we will revise and re-architect the Moodle servers to better facilitate integration and high availability. Backup and Restore test exercises will need to be performed. We will also integrate Moodle with additional services and plug-ins as needed. This will require configuration and testing processes using the test server and then production servers.

Google Apps:

We have integrated GoogleApps with our Active Directory. The next phase will require monitoring and tuning of the settings in GoogleApps. Features and services in GoogleApps can be customized to our needs.

Mahara:

We are preparing the next module of the Digital Learning space: Mahara e-Portfolio. Mahara will provide a student centric digital space that will interface with the Course/Teacher centric Moodle system. The Instructional Technology Coordinators will guide implementation and staff training at the building level.

5. Web Portal Software SharePoint 2010

Timeline: Project start in 2010 based on Microsoft's product release.

Currently we use SharePoint MOSS (2007) as a standalone portal solution. With the next version of SharePoint we will integrate the portal directly into Active Directory. It will also provide better cross-platform capabilities (MAC/PC) and complete integration with our primary Active Directory.

6. Calendaring and Scheduling

Timeline: beginning end of 2nd semester (awaiting SharePoint 2010 and full Exchange 2010 roll-out)

There is an immediate need for improved calendaring and scheduling at the buildings. These solutions will aid in effective resource utilization from conference rooms and labs to equipment.

While substantial calendar features are available in Exchange Server and SharePoint we need to analyze the various calendaring needs of the district before committing to a platform. After this review we will test the available platforms and additional products to find the best match. Exchange 2010 and SharePoint do have a strong feature set in this area and we will need to review this feature in the context of a directory-integrated solution that can also publish calendaring info to community and parents via the web as well.

Applications and Software

1. SchoolLogic SIS Migration from SASI:

Timeline: In progress, go-live next school year 2010/11

SchoolLogic implementation is covered in separate project documentation. SchoolLogic implementation is primarily impacting the programmer tech staff (custom programming and data migration) plus server administrators regarding the server system build and maintenance.

This is the main work-focus for programmers until go-live of SchoolLogic next school year.

Legacy Student Information System Outcasts:

Timeline: Outcasts data extraction complete. Conversion after SchoolLogic go-live next school year.

While Outcasts data migration is also part of the SchoolLogic migration; we cannot wait for hardware system failure to occur again. The Outcasts system runs on 15-year-old proprietary hardware. We extracted the legacy Oracle database and will try to load it onto a Windows/Oracle system.

2. Desktop OS Upgrades:

Timeline: Ongoing, ideally completion prior to begin of next school year.

Windows 7 and Mac OSX 10.6 Snow Leopard are the most current versions of desktop OS. Windows XP is end of life and end of support. Windows 7 is a great upgrade with lots of usability and management features. It also works very well with our Active Directory 2008 R2 servers. We have already deployed Windows 7 test systems to technicians and trainers to evaluate the platform. We plan to provide Windows 7 to staff only by request, as we will use the next year to optimize Windows 7 compatibility and migration. After the Year 3 cycle we will replace staff computers, which will be an ideal time to upgrade to Windows 7 as well.

OSX 10.6 Snow Leopard is an incremental update for Intel processor based Mac systems. Technicians are testing software for compatibility. We will upgrade all Mac based systems to this new version.

We are testing the new Xerox printer drivers for compatibility with both platforms. The Xerox printer driver compatibility was the biggest technical obstacle to adopting these new desktop OS.

3. Finance and Payment System Review:

Timeline: Ongoing. Pending on workload of SIS implementation

JSchool needs to be replaced and other payment systems need to be evaluated. The district has several systems that are outdated or poorly interface with other systems. A review will allow us to ensure better payment and financial management tools are established.

Currently we have CAM/xCharge, WinSnap, Revtrack, JSchool and several ID card systems that will have to be able to exchange data with each other and School Logic. This project will require review with business dept staff, programmers and building personnel.

Infrastructure and Services

1. Wiring closets – GBN

Timeline: Planning activity spring 2010, work activity during breaks

Rewire the patch cabling in various switch equipment closets of GBN. Current issue affects labs that are split onto separate network switches, limiting ability to manage entire lab set. We will consolidate smaller switches into bigger switch chassis. Those chassis are already on hand and do not add costs.

Building technicians, network technicians, student helpers and external vendor will map data ports and reconnect to appropriate switches.

Note: Battery Backup implementation for switches is underway. Our architects currently assess backup generator power and cooling requirements for data closets.

2. GBN, GBS, OCC Desktop/Notebook Refresh

Timeline: Summer break 2010

Approximately 30 OCC, 250 GBS and 150 GBN lab and classroom systems need to be refreshed as they have reached their end of life. A mix of PC and Apple notebooks and desktop systems will be purchased and deployed.

The building technicians are the primary resource for the replacement. Service Desk and L4 technicians will control inventory and registration into the Active Directory services.

It is important to note that staff computer resources (HP and Apple notebooks) are under a three-year lease. This is the third year of this cycle. A replacement and upgrade decision will be due by the end of the third year.

3. Broadcasting Computer System Upgrades

Timeline: Ongoing, selection of vendor and budget by February 2010

Broadcasting will become part of 3-year equipment upgrade cycle establish consistent software and computer standard for both schools. The Broadcasting departments reviewed the three major providers of technology for their area (AVID, ADOBE and APPLE). Apple is the preferred solution. Apple has been onsite to review locations and program designs.

4. Web Content filtering System

Timeline: Ongoing, pilot of alternative system in parallel, finalized in September 2010

Server/network administrator is key stakeholder in piloting alternative web content filtering product. Current solution is Cymphonix. This filter has failed to function properly several times during the last year. We seek to improve on high availability of Internet access and quality of content filtering. We will test various products to assess if better systems are available. We will also investigate open source solutions like Spamhaus and SpamAssassin as well.

A replacement of the equipment will occur in September when the current Cymphonix contract expires.

5. Alternative access pilots

Timeline: Ongoing, several weeks for each pilot project

Alternative access delivery includes Virtual Desktop Infrastructure from Citrix or VMware, N-Computing and others. Objective is to deliver consistent user experience and access to district software across platforms and devices. These pilots help evaluate way to enhance accessibility to technology for students.

6. Technology Department Move Due to Facilities Remodeling/Construction

Timeline: Based on construction timelines at GBN, GBS, Passport Plaza and 1835 Landwehr Road offices

Based on architect's plans we will move the district tech staff into the GBN and GBS buildings to allow for remodeling of current district office. The temporary relocation of district office tech staff to GBN and GBS requires preparation of temporary space.

At GBN a remodeling of the IMC area provides an opportunity to collocate 4 staff members into a newly designed space in the IMC. We will collocate the programmers into a room that currently houses computer server equipment and work/storage for tech staff at GBS. The server equipment will be relocated and space will be freed up by taking out a wall. Network /server technicians will collocate with GBS technicians so they have proximity to the District Offices data center. The District Office Datacenter will remain in its current location.

The building remodeling and construction will also require facilitating the relocation of all other district office staff to their respective temporary and final workspaces.

2010/2011 - PROPOSED TECHNOLOGY BUDGET - PAYROLL DOLLARS NOT REFLECTED

		<u>FY 10/11</u>
<u>Program 2660</u>	<u>Information Systems</u>	
	109332 Professional Development	\$25,000
	109419 Supplies Departmental	<u>\$5,000</u>
		\$30,000
<u>Program 2662</u>	<u>Information Services</u>	
	108312 Consultants	\$60,000
	108323 Repairs & Maintenance Services	\$50,000
	108390 Other Contractual Services	\$5,000
	108414 Non Consumable Supplies	\$10,000
	108542 Software & Licensing	\$150,000
	108541 Technology Equipment	\$65,000
	108318 Improvement of Instruction	\$50,000
	108431 Electronic Resources	\$48,000
	108343 Telecommunications/Internet Service	<u>\$55,000</u>
		\$493,000
	Total Program 2660&2662	\$523,000
<u>Program 2661</u>	<u>Information Systems</u>	
	167471 Software	\$70,000
<u>Program 2663</u>	<u>Information Systems</u>	
	166312 Consultants	\$75,000
	166320 Professional Development	\$20,000
	166322 Leases	\$192,000
	166470 Software/No consumable	\$85,000
	166541 Technology Equipment	<u>\$562,000</u>
		\$934,000
	Total Program 2661&2663	\$1,004,000
PROPOSED FY 10/11 BUDGET		\$1,527,000
PRIOR YEAR FY 09/10 BUDGET		\$1,962,500
	Proposed Budget Decrease	-22%

HISTORICAL TECHNOLOGY SPENDING

	FY 07/08	FY 08/09	FY 09/10	FY 10/11
Technology Payroll	\$1,003,435 (budgeted)	\$1,084,867 (budgeted)	\$1,233,870 (budgeted)	\$1,283,225 (proposed budget)
Technology Non-Payroll	\$1,356,030 (actual)	\$2,654,113 (actual)	\$1,962,500 (budgeted)	\$1,527,000 (proposed budget)
Total Technology Cost	\$2,359,465	\$3,738,980	\$3,196,370	\$2,810,225 (proposed budget)
Total District Operating Budget	\$86,676,342	\$90,279,087	\$90,778,419	n/a
Tech Payroll as a % of District Operating Budget	1.1%	1.2%	1.3%	n/a
Tech Non-Payroll as a % of District Operating Budget	1.5%	2.9%	2.1%	n/a
Total Tech as a % of District Operating Budget	2.6%	4.1%	3.4%	n/a
Total Budgeted Tech FTE	17.28	17.28	17.56	17.56 (proposed)

INCREASED SERVICE LEVELS FROM FY 2007 - TODAY

- ✓ Wireless network on all campuses
- ✓ 3-year technology refresh cycle vs. 5-year cycle
- ✓ Improved, centralized service desk software
- ✓ Laptops with dual platform for all certified staff
- ✓ Windows Active Directory replaced Novell e-Directory
- ✓ Consistent technology equipment in all classrooms – including interactive whiteboards
- ✓ Netbooks available for student use
- ✓ Moodle – single platform for curriculum delivery
- ✓ Google Apps – collaborative space for students and faculty for classroom instruction
- ✓ Increased internet bandwidth
- ✓ Remote access for staff and students
- ✓ Increased level of expertise for Apple Support

INCREASED EFFICIENCY FROM FY 2007 - TODAY

- ✓ Centralized Server Room
- ✓ Centralized Help Desk
- ✓ Centralized purchasing of computers and technology equipment
- ✓ Certified teachers were given laptops allowing for 1 computer to be used in the classroom and office
- ✓ Laptops were put in science classrooms to allow for use in both classroom and lab
- ✓ Career path and job classes for technicians
- ✓ Centralized software deployment and software self-service

Glenbrook Technology Vision Update
(Technical Milestones 2010)**Projects Completed as of 1/8/2009**

- Apple and HP Computer Deployment
- SAN Storage Implementation
- Internet Upgrade
- General Remote Access for Staff and Students
- Wireless Access for Staff, Students and Guests
- Outcast Reconnection
- Wiki Standardization
- Course Management System Migration (From Blackboard.com to Moodle)
- Printer/Copier Conversion
- Created Social Network for Retirees

Projects Completed Since 1/8/2009

- Technology Plan Revision
- Board Policy Revision
- Implement Technology Staff Structure
- Annual E-Rate Submission
- Migration to Active Directory from Novell e-Directory
- Implementation of Multi-dimensional Learning Space (MLS)
- Selection and Implementation of E-mail System(s) for Staff and Students
- Student Information System Selection of "SchoolLogic" by MIG
- Emergency / Parent Notification System Implementation (AlertNow)
- Service Desk Software Selection and Implementation (ServiceWise)
- Website Conversion to SharePoint
- Summer School Online Registration Application
- Summer Camp Online Registration Application
- Teacher Website Presence (on SharePoint, Moodle)
- Computer and Classroom Technology Standards Established
- FileMaker Conversion/Replacement
(exception Athletics FileMaker database)
- Docufide Transcript Automation System Implementation
- iVantage HR System implementation

Projects Now Underway

- Student Information System Data Conversion and Custom Programming
- Discussion on Expanding Technology Access for Students of Low Income
- Planning for Broadcasting Computer Equipment Replacement
- Planning for Desktop OS Upgrade/Migration (Windows 7 and OS X 10.6)
- SharePoint 2010 Migration
- Email and Instant Messaging Archiving System Implementation
- Office Communication Server Implementation (Instant Messaging)
- GroupWise to Exchange 2010 E-mail Conversion
- e-Portfolio System Implementation for MLS (Mahara)
- Planning for Annual Desktop and Notebook Equipment Refresh
- Planning for Technology Staff Relocation from District Office Space