

Narragansett Public Schools

September 2013

Table of contents

Mission and Vision.....	3
Technology Committee Members.....	4
Goals.....	5
Strategies and Action Steps.....	6-10
Technology Device/Peripherals Inventory.....	11
Backend Server Specifications.....	12-13
Wireless Network Configuration.....	14
Technology Software Inventory.....	15
Technology Software Apps Inventory.....	16-17
Appendix A – Internet Bandwidth and Building Coonectivity.....	18
Appendix B – Annual Technology Budget Expenditures.....	19

Mission and Vision

Student-Centered Learning Powered by Technology

The Narragansett School System's Technology Plan conveys the technology program's mission, goals, strategies and current status in technology. The plan will provide steps and budgets required to reach these goals and consistently keep the district refreshed with the latest trends in technologies as they evolve. Technology should be used integrated in the classroom instruction as a tool to improve teaching and learning. This plan will provide the transition into the new age of digital student-centered learning. Professional development will be an integral piece to make this plan successful by providing on-going opportunities for staff to improve their technology skills and acquire new knowledge. Our students will be taught good digital citizenship as they respect and responsibly use social media and other cyber venues and treat the technology they are using properly.

Committee Members

**Carol Batchelder – Elementary School
Enrichment Teacher**

Jim Bianco – Elementary School Parent

**Cheryl Blumenbaum – Elementary School
Teacher**

Emily Chartier – Pier School Teacher

John Conroy – Elementary School Parent

Guy DeWardener - School Committee/Parent

**Karen Early – Elementary School Computer
Technician**

Derek Emery – Assistant Director of Technology

**Jane Flood – Elementary School Speech
Therapist**

Eric Gartner - High School Teacher

Gina Giramma - High School Teacher

Donna Good – High School Librarian

Chris Herz – High school Teacher

Roland Lambert – Director of Technology

**Giulio Lugini – Assistant Director of
Technology**

Joan Mouradjian - Middle School Librarian

Matt Newman – Middle School Parent

Pam Sherman – Elementary School Parent

Technology Plan Goals

Goal 1: Engage and empower students in group, differentiated, and individual learning experiences both in and out of school to prepare them to be knowledgeable, ethical, innovative members of a global society.

Goal 2: Provide professional development support to all educators to connect them to data, content, resources, expertise, and learning experiences that enable and inspire more effective and modern instruction for all learners.

Goal 3: Develop a comprehensive infrastructure and acquire the technology needed to support educators and students to give them access to learning when and where they need it.

Goal 4: Budget education systems at all levels to help redesign processes and structures to take advantage of the power of technology to improve teaching and learning while making more efficient use of time, money, and staff.

Goal 5: Provide our schools with the technology necessary for upcoming computerized assessments to measure academic achievement and use assessment data for continuous improvement.

Teaching and Learning

Goal 1: Engage and empower students in group, differentiated, and individual learning experiences both in and out of school to prepare them to be knowledgeable, ethical, innovative members of a global society.

Strategies	Action Step	Intended Outcome
<p>1.1 Introduce new learning resources for educators, students and parents to capture the power of technology for anytime, anywhere learning.</p>	<p>Investigate various learning management systems available and choose the most appropriate one for our schools.</p>	<p>Provide a system to students, educators, and parents that manages digital classroom content, improves the tracking, delivery, and individualized learning of the student, and functions as an ongoing collaboration tool.</p>
<p>1.2 Create a setup where by students' email and storage are based in the cloud to help improve access to data and collaboration anytime and anywhere ,and eventually expand this function to the educators when the student transition is complete.</p>	<p>Setup a domain on the cloud for student email and data storage which should be integrated with our existing email server in some way.</p>	<p>Provide better communication and access to data for students, educators, and parents.</p>
<p>1.3 Continue to revise, create, and implement standards and learning objectives using technology for all content areas in order to reflect 21st-century expectations and the power of technology to improve learning.</p>	<p>Work with curriculum director to ensure that digitally rich resources are being incorporated in all areas.</p> <p>Focus on the new Common Core State Standards with the theme of “engage with technology.”</p> <p>Encourage professional growth goals in the area of technology.</p>	<p>Follow the developing curriculum which includes a more direct incorporation of technology use to help improve student learning.</p>
<p>1.4 Explore different web page systems for the district that will allow educators to share and collaborate with students, other educators, and parents more easily.</p>	<p>Switch the district web page to one that is device-aware and provides a content management system.</p>	<p>Provide a new web page for the district that is device-aware and more informational and interactive for all users.</p>

Professional Development

Goal 2: Provide professional development support to all educators to connect them to data, content, resources, expertise, and learning experiences that enable and inspire more effective and modern instruction for all learners.

Strategies	Action Step	Intended Outcome
<p>2.1 Expand opportunities for educators to have access to technology-based content, resources, training and tools where and when they need them so they can adjust their teaching to new 21st Century learning.</p>	<p>Offer professional development as needed to support the use of new technology-based content initiatives.</p>	<p>Provide today's educators with access to technology-based resources that inspire them to offer more engaging and effective learning opportunities for all students.</p>
<p>2.2 Develop a teaching environment in which all educators become skilled in online instruction as digital learning becomes an increasingly important part of our education system.</p>	<p>Offer online and blended learning opportunities that are more personalized and that embody best practices for engaging all students in their education.</p> <p>Create a pilot program at each school at an appropriate time to introduce blended learning strategies.</p>	<p>Create new ways of teaching for educators in order to move them beyond basic technology skills and provide them new ways to do instructional design. This making them more knowledgeable about emerging technologies.</p>
<p>2.3 Prepare our educators to teach effectively in this new environment of the 21st Century classroom as our schools transition to the expected outcome of all students using their own device.</p>	<p>Explore different digital curriculum and online textbooks to expose the educators to this new environment.</p> <p>Create different ways for educators to use online instruction to provide access to a comprehensive infrastructure when and where they need it.</p>	<p>Select appropriate digital materials for the educators that align with the new Common Core curriculum.</p> <p>Provide a path for educators to transition to a new method of teaching where everyone has a device.</p>
<p>2.4 Explore social networking technologies and platforms to examine its potential usefulness for educators and students in providing learning opportunities within and across schools.</p>	<p>Revisit the district filtering policies as they pertain to social networking sites to learn if they should be adjusted to allow for this activity.</p>	<p>Develop better communication between students, educators, and parents by creating online communities and real-time access to the parties involved.</p>

Infrastructure and Devices

Goal 3: Develop a comprehensive infrastructure and acquire the technology needed to support educators and students to give them access to learning when and where they need it.

Strategies	Action Step	Intended Outcome
3.1 Appropriate broadband access to the Internet and adequate wireless connectivity both in and out of school for students and educators.	Use the state wireless bond initiative to upgrade the district backbone to 10gb and finish the high density classroom wireless access in all three schools.	Enable all student and educator devices to connect to and easily use our network infrastructure as we eventually approach a 1:1 environment.
3.2 Continue to expand available district Internet bandwidth to support increasing devices and need which will also support our gradual shift to cloud services.	Budget annually for increased Internet bandwidth depending on current pricing and current need.	Provide all students and educators with sufficient Internet bandwidth to enable our education process to move forward.
3.3 Create and develop an appropriate BYOD policy for the district that allows us to provide some of the hardware necessary and also allows students and educators to use their own as well to reach our eventual goal of 1:1 computing.	Form a committee of tech staff, administrators, teachers, students and community to create a BYOD policy for Narragansett Schools.	Allow students and educators to use their own technology devices to augment and enhance their education and learning.
3.4 Ensure that every student and educator has at least one Internet access device for research, communication, multimedia content creation, and collaboration for use in and out of school.	Continue and expand where necessary the existing hardware lease programs at the schools to provide onsite mobile devices for education which would supplement what is being brought in and provide devices to those who do not have their own.	Make devices available to students and educators at the schools if they don't have their own to use.
3.5 Provide new/interactive technologies, software and/or learning management systems needed to ensure students and educators have access to current and future thinking educational tools.	Plan rollouts of interactive technology based on need and individual schools' situations. Research and select the best suited software and learning management systems for each school. A district wide system may be considered if available and appropriate.	Equip each school and classroom with the tools necessary to engage student learning and create an environment for collaboration between students, educators, and parents.

Budget

Goal 4: Budget education systems at all levels to help redesign processes and structures to take advantage of the power of technology to improve teaching and learning while making more efficient use of time, money, and staff.

Strategies	Action Step	Intended Outcome
4.1 Explore areas of the existing budget to find money that can be repurposed to fund the new items needed for digital learning like digital curriculum/textbooks or software programs needed for blended learning.	Work with the principals and business manager to adjust budget lines of identified areas where funds can be reallocated to help pay for new digital learning initiatives.	Acquire additional dollars to help fund new technology initiatives without increasing the overall budget.
4.2 Provide the district with adequate technology staffing to support existing and ever growing technology initiatives and infrastructure.	Budget appropriately for Technology Support Staff to accomplish the goals stated in the District Technology Plan.	Provide a high level of technological service and support to students, educators, and parents to ensure successful use of technology in the district.
4.3 Explore the possibility of instituting a technology fee to support a 1:1 student to device initiative in the district. This fee could be to purchase devices or to help support a BYOD program.	Create and distribute an exploratory survey to the parents to assess their willingness to support a technology fee in the district.	Determine from the survey results whether a technology fee is viable way to help fund technology throughout the district.
4.4 Explore possibilities through grants or other alternative methods to provide technology training and equipment for students and educators.	Work with district administrators to research and apply for appropriate grants and funding available for technology.	Supplement existing budget dollars with additional funding to ensure the use of technology in the district.
4.5 Continue to use the ERATE program to help offset and additionally fund the technology budget.	Use the ERATE subsidies to help offset the costs of district-wide Internet bandwidth and supplement technology purchases in the district.	Supplement existing budget dollars with ERATE funding to ensure the use of technology in the district.

Assessment

Goal 5: Provide our schools with the technology necessary for upcoming computerized assessments to measure academic achievement and use assessment data for continuous improvement.

Strategies	Action Step	Intended Outcome
5.1 Prepare the schools for the upcoming PARCC (Partnership for Assessment of Readiness for College and Careers) and other computerized assessments.	Acquire enough assessment ready devices to adequately handle the computerized testing and regular educational use loads at the schools.	Provide enough devices to handle computerized testing and regular educational use during testing windows.
5.2 Improve student achievement and educators' instructional practices through on-going assessment of the student's learning.	Educators will either design or use provided assessments to obtain real-time feedback about student learning and make adjustments accordingly to help improve student achievement.	Provide students, educators, and parents with timely and actionable feedback about student learning to improve achievement and instructional practices.
5.3 Increase the capacity of educators to use technology to improve materials and processes for both formative and summative assessment.	Build accelerated capacity through knowledge exchange, collaboration, and professional development to create a better alignment between educators and assessment experts.	Provide our educators with opportunities and professional development time to design, develop, and validate new and more effective assessment materials.
5.4 Improve communication between students, educators and parents as it pertains to the student's continuing assessment data and electronic learning records.	Continue to build and improve upon electronic systems that increase the communication and availability of student information to all of the parties involved.	Provide systems of communication that help to share student achievement data among students, educators, and parents.

Technology Device/Peripherals Inventory:

Admin

- ◆ Desktops:8
- ◆ Laptops:6
- ◆ Projectors:2
- ◆ Tablets:3
- ◆ Printers:6

High School

- ◆ Teachers: 62
- ◆ Students: 455
- ◆ Admin Desktops: 16
- ◆ Admin Laptops: 5
- ◆ Admin Tablets: 3
- ◆ Teacher Desktops: 40
- ◆ Teacher Laptops: 28
- ◆ Teacher Tablets: 0
- ◆ Student Desktops: 242
- ◆ Student Laptops: 80
- ◆ Student Tablets: 11
- ◆ Projectors: 43
- ◆ Scanners: 7
- ◆ Printers: 25
- ◆ Digital Cameras: 15
- ◆ Digital Video Cameras: 8
- ◆ Digital Voice Recorders: 25

- ◆ Document Cameras: 5
- ◆ Interactive boards: 5
- ◆ Surveillance Cameras: 14
- ◆ Misc: 1 fax machine, 5 copiers, 4 Ereaders, multiple analog, digital and IP phones, misc adaptive special needs technology.
- ◆ Total Students: 455
- Total Student Computers: 322
- Student : Computer Ratio: 1.4 : 1

Middle School

- ◆ Teachers: 45
- ◆ Students:416
- ◆ Admin Desktops: 12
- ◆ Admin Laptops: 6
- ◆ Admin Tablets: 2
- ◆ Teacher Desktops: 42
- ◆ Teacher Laptops: 38
- ◆ Teacher Tablets: 1
- ◆ Student Desktops: 189
- ◆ Student Laptops: 65
- ◆ Student Tablets: 41
- ◆ Projectors: 20
- ◆ Scanners: 6
- ◆ Printers: 24
- ◆ Digital Cameras: 7
- ◆ Digital Video Cameras: 5

- ◆ Document Cameras: 11
- ◆ Interactive boards: 34
- ◆ Surveillance Cameras: 4
- ◆ Misc: 2 fax machines, 3 copiers, multiple analog, digital and IP phones, misc adaptive special needs technology.
- ◆ Total Students: 416
- Total Student Computers: 254
- Student : Computer Ratio: 1.6 : 1

Elementary School

- ◆ Teachers: 58
- ◆ Students: 555
- ◆ Admin Desktops: 1
- ◆ Admin Laptops: 6
- ◆ Admin Tablets: 4
- ◆ Teacher Desktops: 7
- ◆ Teacher Laptops: 6
- ◆ Teacher Tablets: 12
- ◆ Student Desktops: 185
- ◆ Student Laptops: 38
- ◆ Student Tablets: 35
- ◆ Projectors: 14
- ◆ Scanners: 1
- ◆ Printers: 14
- ◆ Digital Cameras: 15
- ◆ Digital Video Cameras: 5
- ◆ Digital Voice Recorders: 0
- ◆ Document Cameras: 6
- ◆ Interactive boards: 21
- ◆ Surveillance Cameras: 4
- ◆ Misc: 1 fax machine, 3 copiers, multiple analog, digital and IP phones, misc adaptive special needs technology.
- ◆ Total Students: 555
- Total Student Computers: 223
- Student : Computer Ratio: 2.5:1

Back End Physical Server Location and Specifications



High School (centralized data center)

- HP pro curve 5406zl Switch Gear with fiber to other locations
- NSSVM1 VMware host server Power Edge R610 2 cpu 6 cores per socket
- NSSVM2 VMware host server Power Edge 1950 2 cpu 4 cores per socket
- NSSVM3 VMware host server Power Edge R620 2 cpu 8 cores per socket
- NSSVM4 VMware host server Power Edge R610 2 cpu 4 cores per socket
- NSSDC – physical domain controller Power Edge 1950 running Windows 2008 R2 64bit
- SAN Equal Logic PS 6000(9.7 TB raw)
- 2 Cisco 3560G switches for SAN



Middle School

- HP pro curve 5406zl Switch Gear with fiber to other locations
- NSSVM2 VMware host server Power Edge 1950 2 cpu 4 cores per socket
- SAN Equal Logic PS 4000 for replication(9.7 TB raw)
- HP Procurve 1800G switch for SAN traffic



Elementary School

- HP pro curve 5406zl Switch Gear with fiber to other locations
- Power Edge 1950 backup server running Backup Exec 2012
- HP Backup SAN P2000 G3 ISCSI with 12TB raw for disk to disk backups

Back end software used

- Environment is virtualized using VMware ESXi version 5.1 standard and essentials
- Windows Server 2008 Datacenter R2 64 bit for virtual servers
- VEEAM 6.5 and Backup exec 2012 for system backups
- Microsoft SCCM 2012 for computer management and rollout
- Microsoft forefront endpoint protection for antivirus

Back End Virtual Server Location and Specifications



Administration (all located at NHS data center)

- ADMINFS1 – Admin file sharing
- NSSPRINT1 – Admin print services
- NSSPRINT2 – Academic print services
- NSSDC1 – Domain, DNS and DHCP services
- NSSARCHIVE – Email archiving
- NSSCA – Certificate Authority services
- NSSCRS – Crystal reports server
- NSSHIVE – Wireless management services
- NSSMAIL – District Email services
- NSSOCS – Office communicator services
- NSSPS – Power School Student Information System
- NSSTSGATE – Remote access gateway services
- NSSTS1 – Terminal services for remote access
- NSSSCCM12 – Desktop management services
- NSSWEB – District web services
- NSSVCENTER2 – Virtual management services
- NSSWSUS – Windows update services
- NUTRIKIDS – Chartwells food services



High School

- NHSFS1 – High school file services
- Richer Picture portfolio services



Middle School

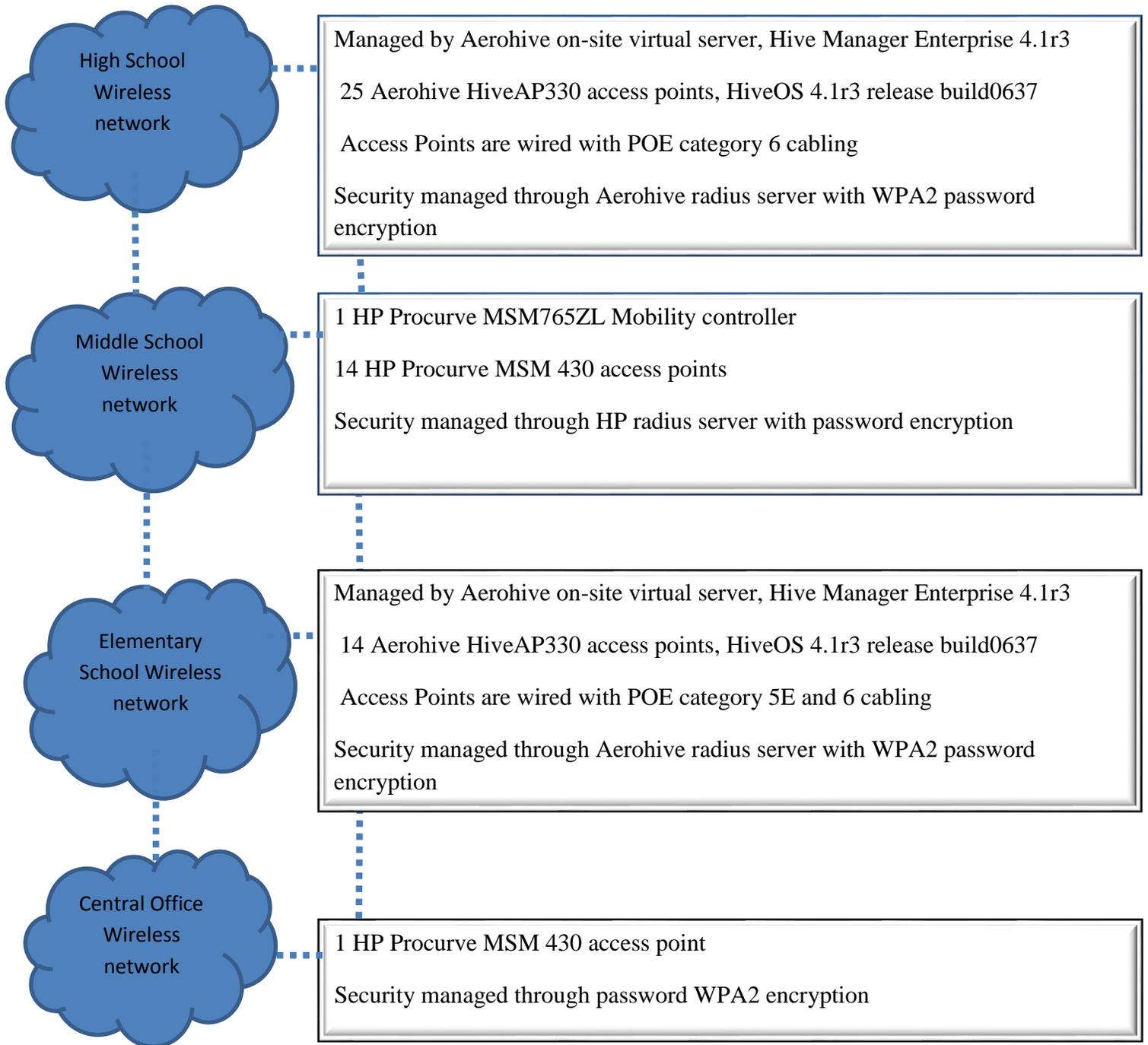
- NPSFS1 – Middle School file services



Elementary School

- DISNEY – Mac OSX physical server file services

Wireless Network Configuration



Technology Software Inventory:

High School

Adobe Design Premium CS5
 Adobe PageMaker
 Auto sketch
 AutoCAD Lite
 C++
 Destiny Library Catalog
 Software
 Digital voice/flip share software
 Display It
 Ed Mark
 Geometers Sketchpad
 Grad point Credit Recovery
 Inspiration
 Moviemaker
 Packet Tracer
 Photo Shop CS5
 Photo Story
 Software
 Text Bridge Pro
 TI-Smart view
 Type to Learn
 Vernier Logger Pro 3.8
 Virtual High School
 Visual Basic
 Wonder share
 Zoom Text

Middle School

Destiny Library Software
 Dragon Naturally Speaking
 Grad point Credit Recovery
 Inspiration 9
 Kuta Math Software
 Lego Mind storms 2.1.6
 Lexia Reading
 Mavis Beacon Typing 16
 Mix craft 5
 Moviemaker
 Pearson Success Net
 Photo story
 Read 180
 ReadOut Loud Book share
 Vegas Movie Studio

Elementary School

Active-Inspire
 A-Z Reading
 A-Z Science
 A-Z Zap
 Bookflix
 Co-Writer
 Follett Library
 Software
 Garage band
 IMovie
 IPhoto
 ITunes
 Kidpix Deluxe 3D
 Kidspiration3
 NXT/Lego Mind
 storms
 PDF Converter 8
 Pearson Success Net
 Read Out Loud
 Safari
 School Check-In
 Scratch
 SymWriter
 The Print Shop
 Video Streaming
 Word Q Speak

All Schools

Adobe Reader
 Aesop Sub / Attendance
 Discovery Video Stream
 DivX
 Dreamweaver CS5
 Firefox
 Fitness Gram 8
 Forefront Virus Protection
 Google Earth
 Internet Explorer 8, 9
 Microsoft Office 2010, 2011
 Nimble Interim Assessment
 NWEA map testing
 Power School SIS
 Power Teacher Grade book
 School Dude
 SEAS IEP Software
 VMware Vsphere
 Windows 7
 Windows Server 2008, 2008R2
 Windows xp
 WordQ
 Write out loud
 Write Out Loud 6

Software Apps Used in our Schools

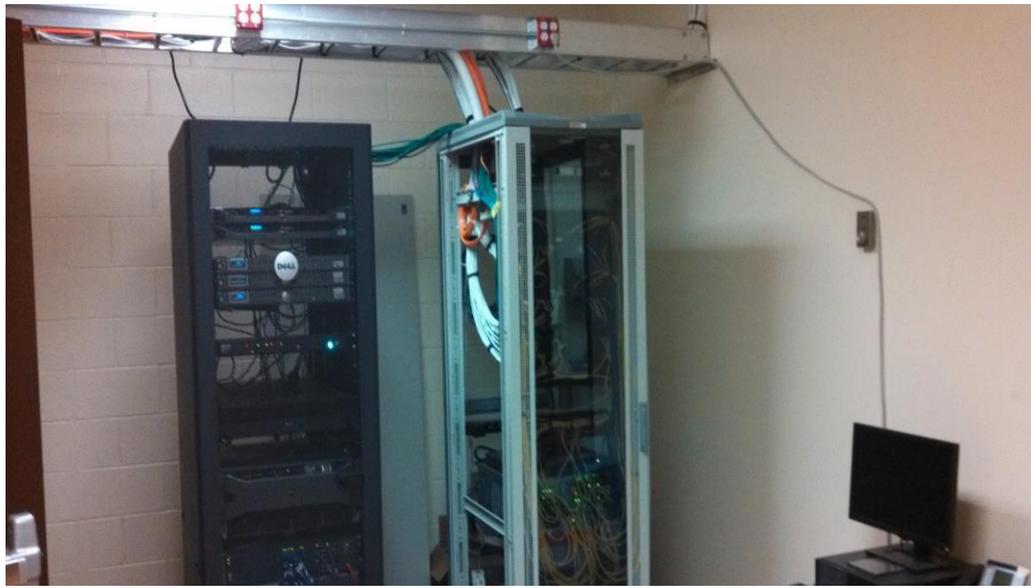
ABC - Magnetic Alphabet HD	Everyday Math Beat the Computer Mult	Jungle Coins
ABC Pocket Phonics	Everyday Math Divisibility Dash	Jungle Fractions
Active Typing Bee	Everyday Math Equivalent Fractions	Jungle Time
Aesop's Quest	Everyday Math Monster Squeeze	Keynote
Alpha Writer, by Montessorium	Everyday Math Name That Number	Kids Learning
Another Monster at the End of the Book	Everyday Math Tric-Trac	Learner's Dictionary
Art Authority	Everyday Social Skills HD	Learning Ally Audio
Artic Pix	Eye Sight	Letter Muncher
Basic Math with Math Aliens	Fais comme mei	Letter School
Bubble Ball Pro	First Phrase	Mad Math
Chicktionary	First Words - Deluxe	Mad Math 2
Choice Works	Five Little Aliens	Matching Animal Parts
Conversation Builder	Fun Sight Words	Micro-Expression Trainer
Cursive Handwriting	Handwriting Without Tears: Capital Letters & Numbers	My Birds of Prey HD
Dexteria	Handy Finder	My Picture Talk
Discover Musical Instruments	HOPE Words	Name That Category Fun Deck
Divisibility Dash	iCardSort	National Geographic World Atlas
Do as Me	Inclusive Smarty Pants	Pages
Dr. Seuss's ABC	Inspiration Maps	Park Math HD
Dragon Dictate	Interactive Alphabet ABCs	Picture the Sentence
East Concepts	IThoughtsHD (mind mapping)	Popplet
Easy Board	IWordQ	Potty Time With Elmo
Everyday Math Addition Top It		Preposition Builder
Everyday Math Baseball Mult 1-6 Facts		Prologue2Go
		Question Builder

Software Apps Used in our Schools Continued

Quick office Pro HD	Speech with Milo: Sequencing	Type-O HD - Writing is for Everybody!
QuickVoice2Text Email	Splash Math - Grades 1-4	Voice-O-Meter
Rad Sounds	Stack the States	Walking Log! PRO
Rainbow Sentences	Stop and Go!	Wheels on the Bus
Read2Go	Story Builder	Word Magic
Responding Social Skills HD - Workplace	Story Patch	Word Slap's
Seed Cycle	That's How I feel	Word Wizard
Sign 4 Me	The Social Express	Write Pad
Sound It Out	Toontastic	Yes or No? Fun Deck
Speak It! Txt to Speech	Train Tracker	You Can Handle Them All
Speech Trainer	Type Fun	
	Type-O	

Appendix A – Internet Bandwidth and Building connectivity

- **Internet: 50mb main pipe with burst up to 75mb and the head end at the high school currently using the Internet Service Provider OSHEAN with M8e6 web filtering solution**
- **The Elementary school, Pier school, and admin offices are connected to the high school by 1gb fiber**
- **Switching for all locations - HP Procurve 5406zl/5412zl**
- **Backbone will be upgraded to 10gps and wireless infrastructure will be increased through the state funded Wireless Classroom Initiative**





Appendix B – Annual Technology Budget Expenditures

Budget Item	Description	Cost
Technology personnel	One director, two assistant directors, one computer technician, and a three fifths data manager (includes salaries and benefits)	\$373,764
Computer leasing	Currently a 50,000 per year hardware lease exists at each school.	\$150,000
Additional hardware	other hardware needed such as servers, printers, storage or other peripherals	\$41,100
Repairs and maintenance	Repairs, upgrade, and maintenance of existing equipment and software	\$58,875
Computer supplies and materials	Ink and other supplies needed for technology	\$23,100
Professional development	Professional development for tech staff	\$4,500
Cisco academy	Budget to support the Cisco academy at the high school	\$5,000
Electronic portfolio	Electronic portfolio costs for the high school	\$9,200
Erate subsidies to enhance the technology budget	Use the ERATE subsidies to help offset the costs and improve District Wide Internet, telephone, and cell phone services. Matching local funds will cover what ERATE does not.	\$22,900
Technology professional development for educators	Proposed addition for upcoming PD for teachers necessary for this plan.	\$15,000
	Total	703,439