Worksheet Directory

Worksheet Name	Page Identifier
Preface	
Introduction	
District Mission	P-2
District Vision	P-3
Summary	
Overall Technology Strategy	S-1
Technology Future Map	S-2 thru S-7
A. Student Outcomes	
Vision & Strategy for Student Outcomes	A-1
NYS Learning Standards	A-3
ISTE Student & Teacher Standards	*Insert document*
Framework For 21st Century Learning	*Insert document*
Technology Benchmarks	*Insert document*
B. Staff Development	
Vision & Strategy for Staff Development	B-1
Staff Development Methods	B-2
Staff Development Calendar	B-3
Staff Proficiency Standards	B-5-1
C. Workstation Access	
Vision & Strategy for Workstation Access	C-1
Workstation Access Requirements	C-2
District-wide Replacement Analysis	C-2 *Addendum 1*
Standard Workstation Specifications	C-3
Platform/Operating System Plan	C-4
D. Peripheral Access	
Vision & Strategy for Peripheral Access	D-1
Peripheral Access Requirements	D-2
E. Software & Data Access	
Vision & Strategy for Software & Data Access	E-1
Standard Software Configurations	E-2
District Data Systems	E-4
Access to District Data	E-5
F. Connectivity	
Vision & Strategy for Connectivity	F-1
Connectivity Overview	F-2
Inter-Building Connections	F-3
Intra-Building Networks	F-4
Connectivity Systems & Services	F-5
Original Hunt Engineering Capital Project Proposal	*Insert document*
Electrical System Capacity	F-6
G. Policies	
Vision & Strategy for Technology Policy	G-1
Policy Record	G-2
H. Support	
Vision & Strategy for Support	H-1
Responsibility Chart	H-2

Worksheet Directory

Worksheet Name	Page Identifier
I. Communication & Cooperation	
Vision & Strategy for Communication	I-1
Communication Plan	I-2
External Cooperation	I-3
J. Funding	
Vision & Strategy for Funding	J-1
Annual Operating Costs	J-2
Technology Budget Allocation & Distribution	J-3
Original Hunt Engineering Capital Project Proposal	*Insert document*
Request Routing Process	J-5-1
Budgeting & Acquisition Process	J-5-2
Technology Request Evaluation	*Insert document*
K. Implementation	
Vision & Strategy for Implementation	K-1
Implementation Report Card	K-3
Meeting Cycles	K-5
L. Assessment	
Vision & Strategy for Assessment	L-1
Plan Assessment Results	L-5
Directory updated August 2018	

Introduction

This technology plan was initially developed by the District Technology Committee using the DistrictViSTA process. This plan is intended to be an ever-evolving document that guides our efforts to provide our students, staff, parents, and community with access to appropriate technologies as we work to prepare all learners for future challenges and opportunities.

This plan represents the "baseline" approach we intend to take. Should this not meet the needs of your department, office, or classroom, be sure to contact the computer coordinator and provide documentation of your unique needs. All who read this plan are encouraged to provide feedback to the committee so the plan can continue to improve.

This plan is designed to support the mission and beliefs of our district while recognizing our current and projected environment. The overall approach of the plan is described in the Summary. Twelve subsequent sections (A through L) describe our strategy and detailed intentions for student outcomes, staff development, access to technology, policies, personnel, communication, funding, implementation, and assessment.

Technology planning is a process, not just an event. Therefore, this book is a "living document" which will be continuously updated as our plans mature, our understanding grows, and technology capabilities expand. The district is now in the process of working to refine, fund, and implement this plan. The Technology Plan was most recently reviewed and approved by the Board of Education on June 22, 2017.

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

District Mission Beliefs

DISTRICT MISSION STATEMENT

Mission: Explore, Empower, Excel

We *explore* through local and global opportunities, a culture of innovation, and individual learning paths.

We *empower* each other by rising to challenges, celebrating success, and learning from failure.

We *excel* as a result of our passion for learning, the quality of our character, and the strength of our relationships.

The role of technology is to support this mission in harmony with our district vision about teaching & learning and our learning standards. These and other aspects of our pedagogy have been defined and are included in this preface to our plan to ensure we keep them in proper perspective and keep our focus on teaching and learning.

ATTACHED DOCUMENTS

(such as district vision, beliefs, etc.)

District Vision Statement

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Our Vision

- Horseheads Central School District sets the standard of educational excellence by fostering innovative thinking, curiosity, and a passion for learning to maximize the potential of each individual. We engage with our local and global communities to provide a student-centered, nurturing environment.

- Instructional technology will be viewed as a fundamental tool to support the growth of each student on their learning path. These tools will be equitable and sustained. They will be tied to planning regarding current and future capital projects and the District 2030 "Building Our Future Now" initiative dedicated to improving our educational program and physical infrastructure.

Overall Technology Strategy

The Common Core Learning Standards, 21st Century Learning Fluencies, and ISTE Standards require students to develop the knowledge and skills they will need to learn, work, and communicate successfully in the world of work. We must view information and communication technologies as a fundamental tool of education and commit to providing adequate, sustained, equitable access to carefully selected equipment. Our approach will support the District 2030 "Building Our New Future Now" initiative, including changes to curriculum and associated staff development and will integrate into everyday teaching and learning.

Student Outcomes

To accomplish our Student Technology Outcomes, we will need to align, and modify as needed, the current District Technology Benchmarks to better support the changes in teaching and assessing that will result from embracing the District 2030 "Building Our New Future Now" initiative. The Benchmarks will be integrated into all curricular areas at all grade levels. Ideally, they will support all given standards: The Common Core Learning Standards, 21st Century Learning Fluencies, and ISTE Standards. A system will be established for the regular review of District Assessments, the results of which will be used to refine instruction and technology integration.

Staff Development

All staff will make extensive use of technology resources and training opportunities. We will improve communication and dissemination of staff development opportunities and resources in order to accomplish this. Staff development initiatives will support ongoing changes to district curriculum.

Assessment

We will know we have accomplished our plan when multiple local assessments are regularly completed online across the spectrum of grades and disciplines. Teachers and students will be provided opportunities to provide feedback on their proficiencies as well as overall technical performance. We will continue to develop and implement several specific technology assessment tools.

Technology Future Map

Section of Plan	**Present** (Present State & Trends)	**Vision** (Preferred Future)
	STUDENT OUTCOMES	
A	Benchmarks need to be updated to reflect the International Society for Technology in Education Standards (2016 ISTE), Common Core Learning Standards (CCLS), 21st Century Learning Outcomes, and District Curriculum. There continues to be inconsistency with implementation of and familiarity with the Benchmarks.	Benchmarks are updated to reflect ISTE, CCLS, and 21st Century Learning Fluencies. District assessments are aligned with the Benchmarks and assessment rubrics are designed to reflect integration of the Benchmarks. Benchmarks are aligned with Curriculum Committee work thru the 2030 "Building Our Future Now" initiative. Appropriate technology is made available to support the integration of all curriculum updates in support of the 2030 initiative. Utilize current and new committee structures to communicate and disseminate information.
	STAFF DEVELOPMENT	
B	While many technology staff development opportunities are available, not all staff take advantage of the opportunities that exist.	All staff make extensive use of technology and instructional support resources and participate in training opportunities. Align Staff Development efforts with District 2030 "Building Our Future Now" initiative and resulting curriculum changes.
	WORKSTATION ACCESS	
C	Computers are added and/or replaced at an average annual rate of approx. 15%. The original goal has been 20% per year. The compromise is a realistic balance between replacement, new technology, and fiscal reductions. Replacement is tied to physical changes and industry and instructional trends (IE: software, performance, excessive breakage, new technology).	All staff have appropriate technology to implement the Technology Plan.
	PERIPHERAL ACCESS	
D	Current funding strategy allows for the purchase of most requested peripherals with the exception of the interactive white boards, which are in nearly all classrooms. Replacements are available for failed equipment. Training is available when requested.	Meet all students' and staff members' needs in a timely way with regard to provisioning, training, support, and convenient access to peripheral devices. Effective and efficient copier and printer management is sustained. Be in support of needs generated through the District 2030 "Building Our Future Now" initiative.

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Technology Future Map

Section of Plan	**Strategy** (Strategy for Change)	**Action** (Key Objectives)	**Target Date:**
	STUDENT OUTCOMES		
A	Refine district assessments to support the District 2030 "Building Our Future Now" process and include the updated technology benchmarks. Ensure all grade levels review.	Continue to be integral in the district process of change and ensure the inclusion of technology benchmarks and technology integration in all levels of teaching.	Ongoing
	STAFF DEVELOPMENT		
B	Improve communication and dissemination of staff development opportunities and resources including home-grown in-services and outside resources. Investigate use of online in-service options with the In-service committee.	Provide training opportunities for all staff. Customize training wherever possible. Critically explore additional online staff development models.	Ongoing
	WORKSTATION ACCESS		
C	Critically analyze replacement and new requests each year with regard to need. Consider new mobile technology over traditional desktop technology. Cascade older equipment for re-use or replacement as needed.	Refine implementation of new and replacement technology using request form, frequent review of usage data, classroom visitation, and budget accountability.	Ongoing
	PERIPHERAL ACCESS		
D	Continue to analyze needs annually from an obsolescence and provision basis in each building. Research ways to replace interactive whiteboards with new panel/monitor technology through sources such as SMART bond, capital projects, or other non-traditional funding. Cost efficiencies and aid generation are a priority.	Refine implementation of new and replacement technology using request form, frequent review of usage data, classroom visitation, and budget accountability.	Ongoing

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Technology Future Map

Section of Plan	**Present** (Present State & Trends)	**Vision** (Preferred Future)
	SOFTWARE & DATA ACCESS	
E	Convenient access to core applications is available in pertinent locations. A broad variety of software packages are installed on computers. When appropriate, standardized software is purchased and deployed. Information about existing software, relative to standardization, is shared electronically. Nearly all applications are web based.	Product information is shared efficiently. Web-based software and data access options should be explored due to their availability both remotely and from schools. State & District auditors recommendations relative to HIPAA, FERPA, & Parents Bill Of Rights should be included. Remote access to District managed resources includes security planning with strict adherence to NYS Schedule 2-d law. Benchmark, CCLS, 21st Century Standards, and ISTE Standards are routinely considered in purchasing decisions.
	CONNECTIVITY	
F	There is network in every classroom, office, and meeting area. The network is leveraged to provide access for data, phone, CATV, and video. Special distance learning connectivity is available in two District multimedia rooms. All district infrastructure will be upgraded by Summer 2019.	Fast, reliable, secure access from all locations to needed applications. Convergence of most technologies onto the "network" - wired & wireless computer access, phone, HVAC, security, camera, CATV, video, video conference, and live on-site broadcast. Ability to support any feasible number of devices, to include 1:1 or higher ratios with students and the possibility of personally owned computing devices. Support all hi-density device initiatives, including CBT and online assessment.
	POLICY	
G	Recently revised Board of Education policies, regulations, and exhibits are currently posted on the District's Intranet and through the electronic online Board of Education system, BoardDocs. Most, but not all, policies and regulations are reviewed on an annual basis.	Technology policies are reviewed on an annual basis. Emphasis is given to those policies regarding the safekeeping of "sensitive" student and staff data, particularly "sensitive" data residing at vendor sites. Any changes are communicated to all staff. Recommendations from Auditors are taken into account.
	SUPPORT	
H	9 Staff, 7.3 FTE - Technology Director (Reporting to Assistant Superintendent), Instructional Technology Support Specialists (District and BOCES), Network Technicians (BOCES). Access to many other regional services (BOCES).	A support structure will exist that can meet the instructional and technical needs of all users in a timely manner.
	COMMUNICATION & COOPERATION	
I	There is a wide range of avenues for communication. We cooperate with a wide variety of organizations. Concerted effort is made to keep communications up-to-date.	We communicate regularly with all stakeholders. Appropriate technology is utilized to facilitate communication whenever possible. Explore new methods of communication that leverage technology assets and reach a larger community audience.

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Technology Future Map

Section of Plan	**Strategy** (Strategy for Change)	**Action** (Key Objectives)	**Target Date:**
	SOFTWARE & DATA ACCESS		
E	Refine and follow the current process for purchases. Review pertinent policies and practices. Explore delivering each new or upgrade software request via the web. Test other types of remote access to appropriate District resources.	Utilize existing department or building groups to emphasize information sharing on software needs and purchases. Continue to look at software options on a multi-building or district-wide basis. Ensure secure access to data from outside locations, abiding by state and district law/policy.	Ongoing
	CONNECTIVITY		
F	Upgrade switching, wireless access points, server infrastructure, cabling backbone, and Internet bandwidth to accommodate growth and new technology. Participate in regional planning regarding long-term hi-speed data circuits. Increase wireless laptop and tablet use. Develop effective wireless configurations and management. Begin discussing 1:1 student access strategies. Implement all capital projects to support all identified infrastructure needs.	Expand efforts and perform necessary upgrades as budgets permit. Continue discussions on obtaining long-term network upgrades to accommodate convergence of all technologies in our preferred future, keeping in mind the District's 2030 "Building Our Future Now" initiative.	Ongoing
	POLICY		
G	Technology policies are reviewed each year and suggested changes are communicated to appropriate staff.	Refine policies as needed given introduction of newly requested technologies, capabilities, accesses, State requirements, and recommendations from Auditors.	Ongoing
	SUPPORT		
H	Annually evaluate current conditions and service needs to make recommendations for the future. This would include district level support and in-building support.	Analyze changing needs for technical and instructional support relative to growth in technology integration and district or building initiatives. Promote HELPDESK utilization: 795-5324, Email HelpDesk@ , & Online Technical Support Form.	Ongoing
	COMMUNICATION & COOPERATION		
I	Review current methods of communication and provide mechanisms to include all key stakeholders. Incorporate District 2030 "Building Our Future Now" initiative efforts. A strategic team called the Community Engagement/Relations Action Team will be vital as we spearhead this growth.	Expand current methods of communication where useful. Implement new methods of appropriate internal and external communication.	Ongoing

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Technology Future Map

Section of Plan	**Present** (Present State & Trends)	**Vision** (Preferred Future)
	FUNDING	
J	Funding is gradually being restored from previous years of reduction but has not been fully restored from previous peak years. Current demands are not being completely met by extending the replacement cycle and forgoing some new requests. Spending practices maximize alternative sources such as BOCES, State, Federal monies, and Capital Project Aid.	Funding sources continue to meet all District needs over a shorter period of time. Capital Project funding is provided to deal with systemic improvement to deliver required access and content, particularly infrastructure and widely used classroom display technology. Annual funding streams, apart from any capital project, can be increased and sustained to support large scale initiatives of new technology while maintaining a sufficient replacement program.
	IMPLEMENTATION	
K	Previous District Technology Committees met separately, annually, for review and updating of the plan. They were not totally effective as their makeup was unpredictable and often did not include the correct staff for making key decisions on curriculum, staff development and funding. Participation in the recently structured District 2030 "Building Our Future Now" initiative offers an alternative process.	The Technology Plan is modified through the lens of key decision-making groups; namely the four 2030 Engagement Action Teams, Administrative leadership teams, and teacher focused department groups which include the full PK-12 spectrum. Sub-committees or off-shoot groups are only created where absolutely necessary to complete research for a particular task. The key is to avoid a group attempting to make decisions in a technology silo and that lack the authority to implement the changes that are identified.
	ASSESSMENT	
L	Many students are gradually improving limited technology skills and knowledge yet improvements must be made to acquire 21st Century Learning Fluencies and Common Core Standards attainment.	Simple indicators are used to provide feedback as students and teachers develop technology proficiencies. This will be influenced by regulation from the state regarding staff evaluation, required performance indicators, and mandated online testing such as NYS CBT (Computer Based Testing). All staff need to embrace expanding student technology skills.

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Technology Future Map

Section of Plan	**Strategy** (Strategy for Change)	**Action** (Key Objectives)	**Target Date:**
	FUNDING		
J	Leverage state and federal programs such as BOCES aid, capital construction, Title II grants, and telecommunications discounts (E-Rate) to provide maximum funding. Pursue and implement technology specific capital project funding. Gradually increase local funding to previous year peak levels through voter approval. Funding and corresponding implementation strategy are reviewed annually and revised as needed to support identified needs. Evaluate systems options that can promote increased performance and longer retention of technology.	Maintain and maximize local and non-local share funding including E-rate. Consider replacement strategies based on individual user needs and new technology requests based on instructionally driven rationale & standardized evaluation.	Ongoing
	IMPLEMENTATION		
K	Implement the inclusion of a voice in all relevant groups with technology integration as a focus in curriculum and staff development changes. This includes instructional technology expertise and technical support expertise relative to key short-term key objectives and long-term strategies.	Align vision and strategy with District 2030 "Building Our Future Now" initiative beginning with the first Strategic 2030 Engagement Action Team on Curriculum, Instruction, and Assessment.	Ongoing
	ASSESSMENT		
L	Develop key indicators of student and staff technological knowledge and skills and begin monitoring trends. Share local initiatives at BOE meetings. Utilize District 2030 Action teams as means to review and modify these proficiencies (Professional Learning and Curriculum, Instruction, and Assessment Action Teams).	Work with District Action Teams that develop curriculum and student assessments to integrate technology.	Ongoing

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Vision and Strategy for Student Outcomes

Background	Students need to learn about technology, and they can often learn better using technology. As we nurture their development into lifelong learners, the learning outcomes we define and work toward must therefore include (1) the development of technological knowledge and skills as well as (2) the interdisciplinary use of technology in all areas of study. Students need to learn how to operate computer hardware, software, and peripherals. They also can learn using technology as they create, express, capture, record, experience, explore, communicate, collaborate, manage, and organize. This section considers the technology-related learning outcomes which this technology plan is designed to help produce.
Present State & Trends	*Benchmarks need to be updated to reflect the International Society for Technology in Education Standards (2016 ISTE), Common Core Learning Standards (CCLS), 21st Century Learning Outcomes, and District Curriculum. There continues to be inconsistency with implementation of and familiarity with the Benchmarks.*
Preferred Future	*Benchmarks are updated to reflect ISTE, CCLS, and 21st Century Learning Fluencies. District assessments are aligned with the Benchmarks and assessment rubrics are designed to reflect integration of the Benchmarks. Benchmarks are aligned with Curriculum Committee work thru the 2030 "Building Our Future Now" initiative. Appropriate technology is made available to support the integration of all curriculum updates in support of the 2030 initiative. Utilize current and new committee structures to communicate and disseminate information.*
Strategy for Change	*Refine district assessments to support the District 2030 "Building Our Future Now" process and include the updated technology benchmarks. Ensure all grade levels review.*

	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	Continue to be integral in the district process of change and ensure the inclusion of technology benchmarks and technology integration in all levels of teaching.	*Ongoing*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

There are many sources to obtain curriculum information about the Common Core Learning Standards (CCLS) in New York State. The same is true regarding the International Society for Technology in Education Standards for students and teachers (ISTE), and the 21st Century Learning Outcomes. Below are some reliable sources that provide detail in all areas. These are maintained and have been referenced by the District in the past. On proceeding pages are more detail on the ISTE and 21st Century Learning Standards.

NYSED Source - CCLS

http://www.nysed.gov/curriculum-instruction/

EngageNY website - CCLS

https://www.engageny.org/

ELA and Math Curriculum

https://www.engageny.org/common-core-curriculum

Common Core Learning Standards

https://www.engageny.org/resource/new-york-state-p-12-common-core-learning-standards

ISTE Standards

http://www.iste.org/standards/standards-for-students

http://www.iste.org/standards/standards-for-educators

21st Century Learning Standards

http://www.p21.org/

http://www.p21.org/about-us/p21-framework

2016

ISTE STANDARDS
FOR STUDENTS

1. Empowered Learner

Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences. Students:

a. articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.
b. build networks and customize their learning environments in ways that support the learning process.
c. use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.
d. understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.

2. Digital Citizen

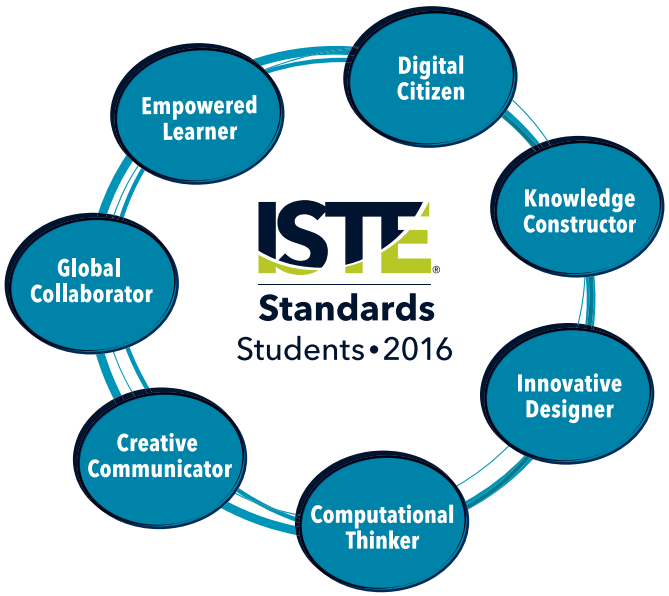
Students recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical. Students:

a. cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world.
b. engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.
c. demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.
d. manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.

3. Knowledge Constructor

Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others. Students:

a. plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.
b. evaluate the accuracy, perspective, credibility and relevance of information, media, data or other resources.
c. curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.
d. build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.



4. Innovative Designer

Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions. Students:

a. know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.
b. select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.
c. develop, test and refine prototypes as part of a cyclical design process.
d. exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.

5. Computational Thinker

Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. Students:

a. formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.
b. collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.
c. break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.
d. understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.

6. Creative Communicator

Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals. Students:

a. choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.
b. create original works or responsibly repurpose or remix digital resources into new creations.
c. communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.
d. publish or present content that customizes the message and medium for their intended audiences.

7. Global Collaborator

Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally. Students:

a. use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.
b. use collaborative technologies to work with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints.
c. contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
d. explore local and global issues and use collaborative technologies to work with others to investigate solutions.

ISTE Standards•S © 2016 International Society for Technology in Education. ISTE® is a registered trademark of the International Society for Technology in Education. If you would like to reproduce this material, please contact permissions@iste.org.

ISTE STANDARDS
FOR EDUCATORS

Empowered Professional

1. Learner

Educators continually improve their practice by learning from and with others and exploring proven and promising practices that leverage technology to improve student learning. Educators:

a. Set professional learning goals to explore and apply pedagogical approaches made possible by technology and reflect on their effectiveness.
b. Pursue professional interests by creating and actively participating in local and global learning networks.
c. Stay current with research that supports improved student learning outcomes, including findings from the learning sciences.

2. Leader

Educators seek out opportunities for leadership to support student empowerment and success and to improve teaching and learning. Educators:

a. Shape, advance and accelerate a shared vision for empowered learning with technology by engaging with education stakeholders.
b. Advocate for equitable access to educational technology, digital content and learning opportunities to meet the diverse needs of all students.
c. Model for colleagues the identification, exploration, evaluation, curation and adoption of new digital resources and tools for learning.

3. Citizen

Educators inspire students to positively contribute to and responsibly participate in the digital world. Educators:

a. Create experiences for learners to make positive, socially responsible contributions and exhibit empathetic behavior online that build relationships and community.
b. Establish a learning culture that promotes curiosity and critical examination of online resources and fosters digital literacy and media fluency.
c. Mentor students in the safe, legal and ethical practices with digital tools and the protection of intellectual rights and property.
d. Model and promote management of personal data and digital identity and protect student data privacy.

Learning Catalyst

4. Collaborator

Educators dedicate time to collaborate with both colleagues and students to improve practice, discover and share resources and ideas, and solve problems. Educators:

a. Dedicate planning time to collaborate with colleagues to create authentic learning experiences that leverage technology.
b. Collaborate and co-learn with students to discover and use new digital resources and diagnose and troubleshoot technology issues.
c. Use collaborative tools to expand students' authentic, real-world learning experiences by engaging virtually with experts, teams and students, locally and globally.
d. Demonstrate cultural competency when communicating with students, parents and colleagues and interact with them as co-collaborators in student learning.

5. Designer

Educators design authentic, learner-driven activities and environments that recognize and accommodate learner variability. Educators:

a. Use technology to create, adapt and personalize learning experiences that foster independent learning and accommodate learner differences and needs.
b. Design authentic learning activities that align with content area standards and use digital tools and resources to maximize active, deep learning.
c. Explore and apply instructional design principles to create innovative digital learning environments that engage and support learning.

6. Facilitator

Educators facilitate learning with technology to support student achievement of the 2016 ISTE Standards for Students. Educators:

a. Foster a culture where students take ownership of their learning goals and outcomes in both independent and group settings.
b. Manage the use of technology and student learning strategies in digital platforms, virtual environments, hands-on makerspaces or in the field.
c. Create learning opportunities that challenge students to use a design process and computational thinking to innovate and solve problems.
d. Model and nurture creativity and creative expression to communicate ideas, knowledge or connections.

7. Analyst

Educators understand and use data to drive their instruction and support students in achieving their learning goals. Educators:

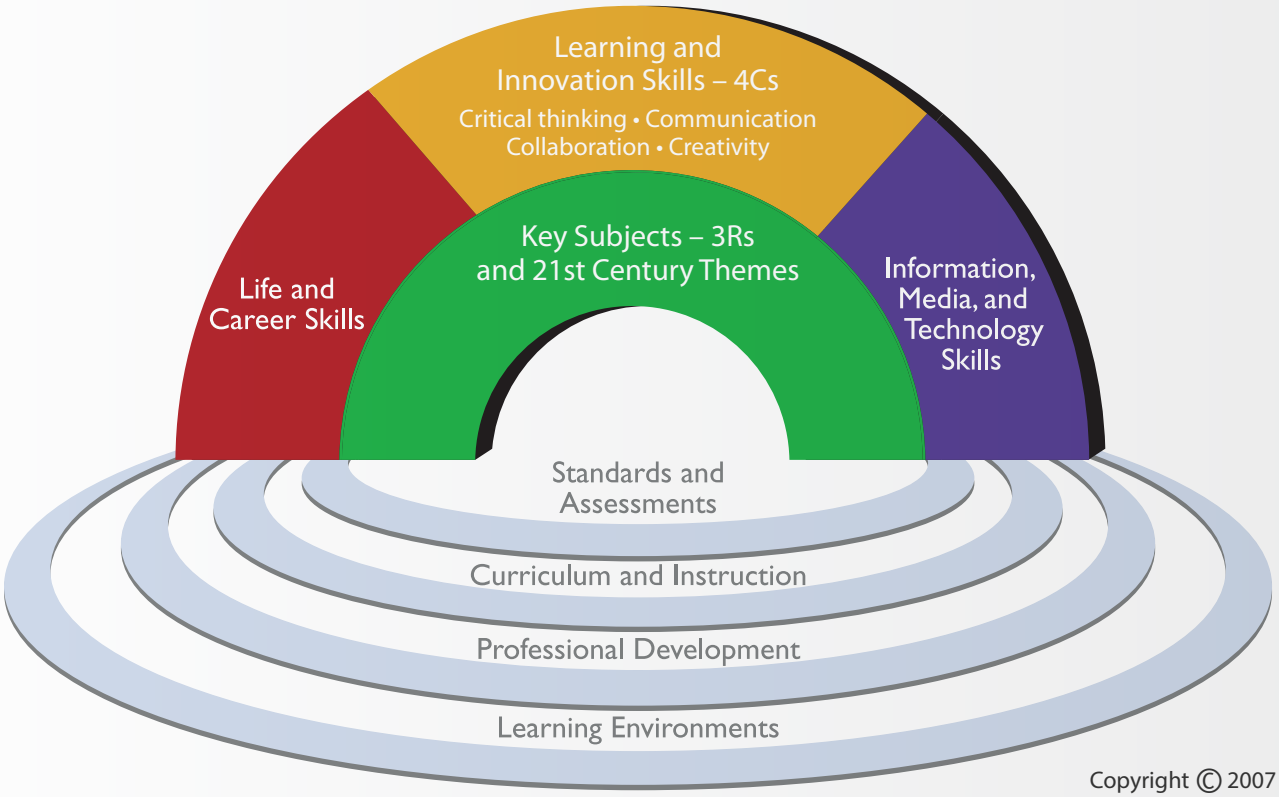
a. Provide alternative ways for students to demonstrate competency and reflect on their learning using technology.
b. Use technology to design and implement a variety of formative and summative assessments that accommodate learner needs, provide timely feedback to students and inform instruction.
c. Use assessment data to guide progress and communicate with students, parents and education stakeholders to build student self-direction.

For more information, contact standards@iste.org. ISTE Standards for Educators, ©2017, ISTE® (International Society for Technology in Education), iste.org. All rights reserved.

P21
PARTNERSHIP FOR 21ST CENTURY LEARNING

Framework for 21st Century Learning

A unified vision for learning to ensure student success in a world where change is constant and learning never stops.



Copyright © 2007

21ST CENTURY STUDENT OUTCOMES AND SUPPORT SYSTEMS

The P21 Framework for 21st Century Learning was developed with input from educators, education experts, and business leaders to define and illustrate the skills, knowledge, expertise, and support systems that students need to succeed in work, life, and citizenship.

The Framework continues to be used by thousands of educators and hundreds of schools in the U.S. and abroad to put 21st century skills at the center of learning. All elements of the Framework are critical to ensure 21st century readiness for every student.

When a school, district, or state builds on this foundation, combining knowledge and skills with the necessary support systems of standards, assessments, curriculum and instruction, professional development, and learning environments - students are more engaged in the learning process and graduate better prepared to thrive in today's digitally and globally interconnected world.

Publication date: 01/16

Key Subjects and 21st Century Themes

Mastery of key subjects and 21st century themes is essential to student success. Key subjects include English, reading or language arts, world languages, arts, mathematics, economics, science, geography, history, government and civics.

In addition, schools must promote an understanding of academic content at much higher levels by weaving 21st century interdisciplinary themes into key subjects:

- Global Awareness
- Financial, Economic, Business and Entrepreneurial Literacy
- Civic Literacy
- Health Literacy
- Environmental Literacy

Learning and Innovation Skills

Learning and innovation skills are what separate students who are prepared for increasingly complex life and work environments in today's world and those who are not. They include:

- Creativity and Innovation
- Critical Thinking and Problem Solving
- Communication
- Collaboration

Information, Media and Technology Skills

Today, we live in a technology and media-driven environment, marked by access to an abundance of information, rapid changes in technology tools and the ability to collaborate and make individual contributions on an unprecedented scale. Effective citizens and workers must be able to exhibit a range of functional and critical thinking skills, such as:

- Information Literacy
- Media Literacy
- ICT (Information, Communications and Technology) Literacy

Life and Career Skills

Today's students need to develop thinking skills, content knowledge, and social and emotional competencies to navigate complex life and work environments. P21's essential Life and Career Skills include:

- Flexibility and Adaptability
- Initiative and Self-Direction
- Social and Cross-Cultural Skills
- Productivity and Accountability
- Leadership and Responsibility

21ST CENTURY SUPPORT SYSTEMS

21st century learning requires an innovative support system to engage learners through applicable skills and knowledge, appropriate technologies, and real-world connections to make learning relevant, personalized, and engaging. P21 has identified five critical support systems to ensure all students receive the kinds of learning experiences that build 21st century competency:

- 21st Century Standards
- Assessments of 21st Century Skills
- 21st Century Curriculum and Instruction
- 21st Century Professional Development
- 21st Century Learning Environments

For more information, visit P21 at www.P21.org.

P21® PARTNERSHIP FOR 21ST CENTURY LEARNING

Member Organizations

- American Camp Association
- AFT
- Apple Inc.
- AT&T
- Bahcesehir K-12 Schools
- Crayola
- CreativeFuture
- Destination Imagination
- Duck Learning
- EF Education First
- ENA
- First Five Years Fund
- Fisher-Price
- Ford Motor Company Fund
- Future Problem Solving Program International
- The Goddard School
- Intel Corporation
- Learning.com
- LEGO Education
- National Board for Professional Teaching Standards
- National Education Association
- National Speech and Debate Association
- PBS
- Pearson
- Playworld
- Project Management Institute Educational Foundation
- VIF International Education
- The Walt Disney Company

P21 Framework Definitions

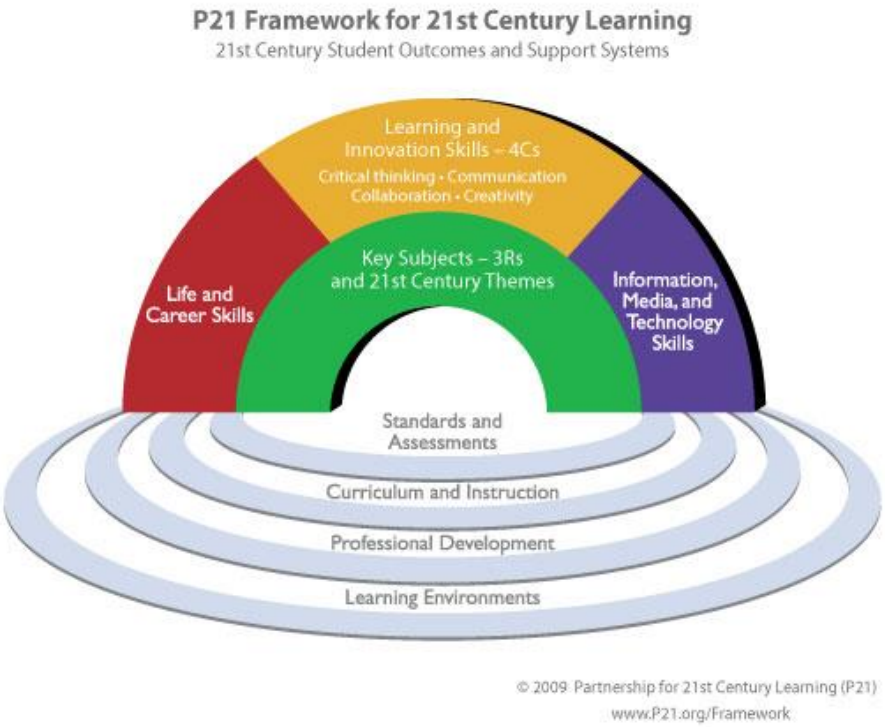
To help practitioners integrate skills into the teaching of key academic subjects, the Partnership has developed a unified, collective vision for learning known as the Framework for 21st Century Learning. This Framework describes the skills, knowledge and expertise students must master to succeed in work and life; it is a blend of content knowledge, specific skills, expertise and literacies.

Every 21st century skills implementation requires the development of key academic subject knowledge and understanding among all students. Those who can think critically and communicate effectively must build on a base of key academic subject knowledge.

Within the context of key knowledge instruction, **students must also learn the essential skills for success in today's world, such as critical thinking, problem solving, communication and collaboration.**

When a school or district builds on this foundation, combining the entire Framework with the necessary support systems—standards, assessments, curriculum and instruction, professional development and learning environments—students are more engaged in the learning process and graduate better prepared to thrive in today's global economy.

While the graphic represents each element distinctly for descriptive purposes, the Partnership views all the components as fully interconnected in the process of 21st century teaching and learning.



21st CENTURY STUDENT OUTCOMES

The elements described in this section as "21st century student outcomes" (represented by the rainbow) are the knowledge, skills and expertise students should master to succeed in work and life in the 21st century.

Key SUBJECTS AND 21st CENTURY THEMES

Mastery of **key subjects and 21st century themes** is essential for all students in the 21st century. **Key** subjects include:

- English, reading or language arts
- World languages
- Arts
- Mathematics
- Economics
- Science
- Geography
- History
- Government and Civics

In addition to these subjects, we believe schools must move to include not only a focus on mastery of key subjects, but also promote understanding of academic content at much higher levels by weaving **21st century interdisciplinary themes** into key subjects:

Global Awareness

- Using 21st century skills to understand and address global issues
- Learning from and working collaboratively with individuals representing diverse cultures, religions and lifestyles in a spirit of mutual respect and open dialogue in personal, work and community contexts
- Understanding other nations and cultures, including the use of non-English languages

Financial, Economic, Business and Entrepreneurial Literacy

- Knowing how to make appropriate personal economic choices
- Understanding the role of the economy in society
- Using entrepreneurial skills to enhance workplace productivity and career options

Civic Literacy

- Participating effectively in civic life through knowing how to stay informed and understanding governmental processes
- Exercising the rights and obligations of citizenship at local, state, national and global levels
- Understanding the local and global implications of civic decisions

Health Literacy

- Obtaining, interpreting and understanding basic health information and services and using such information and services in ways that enhance health
- Understanding preventive physical and mental health measures, including proper diet, nutrition, exercise, risk avoidance and stress reduction
- Using available information to make appropriate health-related decisions
- Establishing and monitoring personal and family health goals
- Understanding national and international public health and safety issues

Environmental Literacy

- Demonstrate knowledge and understanding of the environment and the circumstances and conditions affecting it, particularly as relates to air, climate, land, food, energy, water and ecosystems
- Demonstrate knowledge and understanding of society's impact on the natural world (e.g., population growth, population development, resource consumption rate, etc.)
- Investigate and analyze environmental issues, and make accurate conclusions about effective solutions
- Take individual and collective action towards addressing environmental challenges (e.g., participating in global actions, designing solutions that inspire action on environmental issues)

LEARNING AND INNOVATION SKILLS

Learning and innovation skills increasingly are being recognized as those that separate students who are prepared for a more and more complex life and work environments in the 21st century, and those who are not. A focus on creativity, critical thinking, communication and collaboration is essential to prepare students for the future.

CREATIVITY AND INNOVATION

Think Creatively

- Use a wide range of idea creation techniques (such as brainstorming)
- Create new and worthwhile ideas (both incremental and radical concepts)
- Elaborate, refine, analyze and evaluate their own ideas in order to improve and maximize creative efforts

Work Creatively with Others

- Develop, implement and communicate new ideas to others effectively
- Be open and responsive to new and diverse perspectives; incorporate group input and feedback into the work
- Demonstrate originality and inventiveness in work and understand the real world limits to adopting new ideas

- View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes

Implement Innovations

- Act on creative ideas to make a tangible and useful contribution to the field in which the innovation will occur

CRITICAL THINKING AND PROBLEM SOLVING

Reason Effectively

- Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation

Use Systems Thinking

- Analyze how parts of a whole interact with each other to produce overall outcomes in complex systems

Make Judgments and Decisions

- Effectively analyze and evaluate evidence, arguments, claims and beliefs
- Analyze and evaluate major alternative points of view
- Synthesize and make connections between information and arguments
- Interpret information and draw conclusions based on the best analysis
- Reflect critically on learning experiences and processes

Solve Problems

- Solve different kinds of non-familiar problems in both conventional and innovative ways
- Identify and ask significant questions that clarify various points of view and lead to better solutions

COMMUNICATION AND COLLABORATION

Communicate Clearly

- Articulate thoughts and ideas effectively using oral, written and nonverbal communication skills in a variety of forms and contexts
- Listen effectively to decipher meaning, including knowledge, values, attitudes and intentions
- Use communication for a range of purposes (e.g. to inform, instruct, motivate and persuade)
- Utilize multiple media and technologies, and know how to judge their effectiveness a priori as well as assess their impact
- Communicate effectively in diverse environments (including multi-lingual)

Collaborate with Others

- Demonstrate ability to work effectively and respectfully with diverse teams
- Exercise flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal

- Assume shared responsibility for collaborative work, and value the individual contributions made by each team member

INFORMATION, MEDIA AND TECHNOLOGY SKILLS

People in the 21st century live in a technology and media-driven environment, marked by various characteristics, including: 1) access to an abundance of information, 2) rapid changes in technology tools, and 3) the ability to collaborate and make individual contributions on an unprecedented scale. Effective citizens and workers of the 21st century must be able to exhibit a range of functional and critical thinking skills related to information, media and technology.

INFORMATION LITERACY

Access and Evaluate Information

- Access information efficiently (time) and effectively (sources)
- Evaluate information critically and competently

Use and Manage Information

- Use information accurately and creatively for the issue or problem at hand
- Manage the flow of information from a wide variety of sources
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information

MEDIA LITERACY

Analyze Media

- Understand both how and why media messages are constructed, and for what purposes
- Examine how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of media

Create Media Products

- Understand and utilize the most appropriate media creation tools, characteristics and conventions
- Understand and effectively utilize the most appropriate expressions and interpretations in diverse, multi-cultural environments

ICT (Information, Communications and Technology) LITERACY

Apply Technology Effectively

- Use technology as a tool to research, organize, evaluate and communicate information

- Use digital technologies (computers, PDAs, media players, GPS, etc.), communication/networking tools and social networks appropriately to access, manage, integrate, evaluate and create information to successfully function in a knowledge economy
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies

LIFE AND CAREER SKILLS

Today's life and work environments require far more than thinking skills and content knowledge. The ability to navigate the complex life and work environments in the globally competitive information age requires students to pay rigorous attention to developing adequate life and career skills.

FLEXIBILITY AND ADAPTABILITY

Adapt to Change

- Adapt to varied roles, jobs responsibilities, schedules and contexts
- Work effectively in a climate of ambiguity and changing priorities

Be Flexible

- Incorporate feedback effectively
- Deal positively with praise, setbacks and criticism
- Understand, negotiate and balance diverse views and beliefs to reach workable solutions, particularly in multi-cultural environments

INITIATIVE AND SELF-DIRECTION

Manage Goals and Time

- Set goals with tangible and intangible success criteria
- Balance tactical (short-term) and strategic (long-term) goals
- Utilize time and manage workload efficiently

Work Independently

- Monitor, define, prioritize and complete tasks without direct oversight

Be Self-directed Learners

- Go beyond basic mastery of skills and/or curriculum to explore and expand one's own learning and opportunities to gain expertise
- Demonstrate initiative to advance skill levels towards a professional level
- Demonstrate commitment to learning as a lifelong process
- Reflect critically on past experiences in order to inform future progress

SOCIAL AND CROSS-CULTURAL SKILLS

Interact Effectively with Others

- Know when it is appropriate to listen and when to speak

- Conduct themselves in a respectable, professional manner

Work Effectively in Diverse Teams

- Respect cultural differences and work effectively with people from a range of social and cultural backgrounds
- Respond open-mindedly to different ideas and values
- Leverage social and cultural differences to create new ideas and increase both innovation and quality of work

PRODUCTIVITY AND ACCOUNTABILITY

Manage Projects

- Set and meet goals, even in the face of obstacles and competing pressures
- Prioritize, plan and manage work to achieve the intended result

Produce Results

- Demonstrate additional attributes associated with producing high quality products including the abilities to:
  - Work positively and ethically
  - Manage time and projects effectively
  - Multi-task
  - Participate actively, as well as be reliable and punctual
  - Present oneself professionally and with proper etiquette
  - Collaborate and cooperate effectively with teams
  - Respect and appreciate team diversity
  - Be accountable for results

LEADERSHIP AND RESPONSIBILITY

Guide and Lead Others

- Use interpersonal and problem-solving skills to influence and guide others toward a goal
- Leverage strengths of others to accomplish a common goal
- Inspire others to reach their very best via example and selflessness
- Demonstrate integrity and ethical behavior in using influence and power

Be Responsible to Others

- Act responsibly with the interests of the larger community in mind

21st CENTURY SUPPORT SYSTEMS

The elements described below are the critical systems necessary to ensure student mastery of 21st century skills. 21st century standards, assessments, curriculum, instruction, professional development and learning environments must be aligned to produce a support system that produces 21st century outcomes for today's students.

21st Century Standards

- Focus on 21st century skills, content knowledge and expertise
- Build understanding across and among key subjects as well as 21st century interdisciplinary themes
- Emphasize deep understanding rather than shallow knowledge
- Engage students with the real world data, tools and experts they will encounter in college, on the job, and in life; students learn best when actively engaged in solving meaningful problems
- Allow for multiple measures of mastery

Assessment of 21st Century Skills

- Supports a balance of assessments, including high-quality standardized testing along with effective formative and summative classroom assessments
- Emphasizes useful feedback on student performance that is embedded into everyday learning
- Requires a balance of technology-enhanced, formative and summative assessments that measure student mastery of 21st century skills
- Enables development of portfolios of student work that demonstrate mastery of 21st century skills to educators and prospective employers
- Enables a balanced portfolio of measures to assess the educational system's effectiveness in reaching high levels of student competency in 21st century skills

21st Century Curriculum and Instruction

- Teaches 21st century skills discretely in the context of key subjects and 21st century interdisciplinary themes
- Focuses on providing opportunities for applying 21st century skills across content areas and for a competency-based approach to learning
- Enables innovative learning methods that integrate the use of supportive technologies, inquiry- and problem-based approaches and higher order thinking skills
- Encourages the integration of community resources beyond school walls

21st Century Professional Development

- Highlights ways teachers can seize opportunities for integrating 21st century skills, tools and teaching strategies into their classroom practice — and help them identify what activities they can replace/de-emphasize
- Balances direct instruction with project-oriented teaching methods
- Illustrates how a deeper understanding of subject matter can actually enhance problem-solving, critical thinking, and other 21st century skills
- Enables 21st century professional learning communities for teachers that model the kinds of classroom learning that best promotes 21st century skills for students
- Cultivates teachers' ability to identify students' particular learning styles, intelligences, strengths and weaknesses

- Helps teachers develop their abilities to use various strategies (such as formative assessments) to reach diverse students and create environments that support differentiated teaching and learning
- Supports the continuous evaluation of students' 21st century skills development
- Encourages knowledge sharing among communities of practitioners, using face-to-face, virtual and blended communications
- Uses a scalable and sustainable model of professional development

21st Century Learning Environments

- Create learning practices, human support and physical environments that will support the teaching and learning of 21st century skill outcomes
- Support professional learning communities that enable educators to collaborate, share best practices and integrate 21st century skills into classroom practice
- Enable students to learn in relevant, real world 21st century contexts (e.g., through project-based or other applied work)
- Allow equitable access to quality learning tools, technologies and resources
- Provide 21st century architectural and interior designs for group, team and individual learning
- Support expanded community and international involvement in learning, both face-to-face and online

About the Partnership for 21st Century Learning

The Partnership for 21st Century Learning recognizes that all learners need educational experiences in school and beyond, from cradle to career, to build knowledge and skills for success in a globally and digitally interconnected world. Representing over 5 million members of the global workforce, P21 unites business, government and education leaders from the U.S. and abroad to advance evidence-based education policy and practice and to make innovative teaching and learning a reality for all.

P21 and member organizations provide tools and resources that help facilitate and drive this necessary change.

Learn more and get involved at www.p21.org.

Copyright © 2015, The Partnership for 21st Century Learning. All rights reserved.

K-4

1. Basic Operations and Concepts
2. Social, Ethical, and Human Issues
3. Technology Productivity Tools
4. Technology Communication Tools
5. Technology Research Tools
6. Technology Problem-solving and Decision Making

* All grades need to practice and extend competencies of previous grade levels.
* Numbers in parenthesis after the benchmark indicate coordinating standard(s).

Kindergarten

1. Identify 6 parts-keyboard, monitor, CPU, disk drive, mouse & printer. (1)
2. Turn on computer system (or power strip), learn to load and remove CD's, and learn to run a program from the Start Menu. (1)
3. Run simple programs (basic instructions on screen- e.g. Reader Rabbit, Word Munchers, Living Books, WiggleWorks etc.) (1)
4. Know proper procedures for exiting from a file or program and for shutting down the computer. (2)
5. Work cooperatively and collaboratively with peers when using technology in the classroom. (2)
6. Demonstrate responsible use of technology (wait for hourglass, close programs and pop ups…) (2)
7. Communicate ideas using pictures and/or words (i.e. Paint, WiggleWorks, Kidspiration, KidPix etc.) (3, 4)
8. Use developmentally appropriate books to support learning. (5)
9. Solve computer problems using developmentally appropriate and accurate terminology (6)
10. Use technology resources (i.e. puzzles, logical thinking programs) for problem solving. (6)

Grade 1

1. Begin to use proper posture. (1)
2. Identify memory devices (i.e. CD-Rom, H drive, C drive…) (1)
3. Use shift, backspace, arrows, Enter key, letter keys, number keys, and punctuation keys. (1)
4. Develop positive attitudes toward technology. (2)
5. Begin to read and follow on screen directions (3)
6. Type/Draw and Print simple stories (i.e. using WiggleWorks, MS Word, Paint, Kidspiration…) (4,6)
7. Awareness of electronic resources (i.e. websites, encyclopedia, CD ROMs) (5)

Grade 2

1. Begin to use proper keyboarding techniques (i.e. two hands on keyboard) (1)
2. Use Word processing programs (3, 4)
3. Type and print simple stories (i.e. using WiggleWorks, MS Word, Kidspiration…) (4, 6)
4. Use of electronic resources (i.e. websites, encyclopedias, CD ROMs…) (5)

Grade 3

1. Use proper keyboarding techniques (i.e. left-right hand placement, use home row keys…) (1)
2. Demonstrate ability to name, save, retrieve, and print saved work. (2)
3. Use formatting skills for word processing (i.e. bold, capital letters, indentations) (3, 4)
4. Demonstrate ability to conduct searches using electronic catalogs (5)
5. Understand concept and use of websites (5, 6)

Grade 4

1. Evaluate websites for appropriate use. (2)
2. Use word-processing and editing skills (i.e. spell checker, thesaurus, cut, copy, and paste,) (3, 4)
3. Begin to use, cite, and evaluate electronic resources/references tools. (5)
4. Exposure to emerging technologies including specialized input devices (i.e. microscopes, digital cameras, science probes, Palm handhelds…) (5, 6)

Technology Essential Map
Grade K
Horseheads Central School District
Date:4/19/12

Suggested Essential Questions :
- **What are the basic parts of the computer?**
- **What can I do to successfully run the computer and software programs?**
- **What procedures make the computer work**

All grades need to practice and extend competencies of previous grade levels.

Content	Skills	Common Assessments
Basic Operations	1. **Identify 6 parts** • Keyboard • Monitor • CPU • disk drive • mouse • printer 2. **Basic Concepts** • turn on the computer • learn to load and remove CD's • learn to run a program from the start button. 3. **Run Simple Programs**	

Suggested Resources/Technology
- EveryDay Math
- A To Zap
- Wiggle Works
- Starfall

• Sammy Science • Math Workshop Deluxe • NYSTROM • Accelerated Reader	
NYS Standards **K.1,K.2,K.3**	
Suggested Instructional Time: On-Going Skills	**Suggested Placement in Calendar Map (Month):** On-Going Skills

Note: A folder on the District Intranet contain *Suggested Activities* related to this curriculum

K – 12 District Technology (Curriculum) Committee:
Marcy Bates (Facilitator), Marcy DeNunzio, Mellisa Devitt, Mary Hancock, Heather Henry, Gennie Houck, Stephanie Lewis, Louisa McNaney, Jason Schrage, Michelle Tillinghast, Alice Learn (Curriculum Coordinator)

Technology Essential Map
Grade K
Horseheads Central School District

Map Authors: Summer Map Team **Date:4/19/12**

Suggested Essential Questions :

- **How can my attitude enhance my ability to perform technology tasks?**
- **How do I exit and shut down a program?**

All grades need to practice and extend competencies of previous grade levels.

Content	Skills	Common Assessments
Responsible Computer Usage	1. **Work Cooperatively and Collaboratively** • peers • when using technology in the classroom 2. **Demonstrate responsible use of technology**. • wait for hourglass • close programs • pop up 3. **Know Proper Procedures** • exiting from a file or program • shutting down from a file or program	

Suggested Resources/Technology

- EveryDay Math
- A To Zap
- Wiggle Works
- Starfall
- Sammy Science
- Math Workshop Deluxe
- NYSTROM

NYS Standards **K.4, K.5, K.6**	
Suggested Instructional Time: On-Going	**Suggested Placement in Calendar Map (Month):** On-Going

Technology Essential Map
Grade K
Horseheads Central School District

Map Authors: Summer Map Team **Date:4/19/12**

Suggested Essential Questions :

- **How will the use of technology help me to create stories (and other projects) and insert pictures?**

All grades need to practice and extend competencies of previous grade levels.

Content	Skills	Common Assessments
Word Processing	**1. Communicate Ideas** • **pictures** • **words**	

Suggested Resources/Technology

- Wiggle Works
- Paint
- Kidspiration
- KidPix
- Student Writing Center

NYS Standards
K.7

Suggested Instructional Time: On-Going	**Suggested Placement in Calendar Map (Month):** On-Going

Technology Essential Map
Grade K
Horseheads Central School District

Map Authors: Summer Map Team **Date:4/19/12**

Suggested Essential Questions :

- **How can I use technology to assist me with books that will support my individual reading ability?**

All grades need to practice and extend competencies of previous grade levels.

Content	Skills	Common Assessments
Research Tools	1. **Use Developmentally Appropriately Books to Support Learning.**	

Suggested Resources/Technology

- Wiggle Works
- Living Books
- Accelerated Reader

NYS Standards
K,8

Suggested Instructional Time:	Suggested Placement in Calendar Map (Month):
On-Going	On-Going

Technology Essential Map
Grade K
Horseheads Central School District

Map Authors: Summer Map Team **Date:4/19/12**

Suggested Essential Questions :

- **What vocabulary terms will help me to describe computer processes?**
- **How can listening and focusing help me make a correct decision?**

All grades need to practice and extend competencies of previous grade levels.

Content	Skills	Common Assessments
Problem Solving and Decision Making	1. **Solve Computer Problems** • Developmentally appropriate (raise hand, click o.k., press enter) • Accurate Terminology (mouse, open, close, start button, screen) 2. **Use Technology Resources** • Logical Thinking • Problem Solving	

Suggested Resources/Technology • EveryDay Math • A To Zap • Wiggle Works • Starfall • Sammy Science • Math Workshop Deluxe • NYSTROM		
NYS Standards **K.9, K.10**		
Suggested Instructional Time: On-Going	**Suggested Placement in Calendar Map (Month):** On-Going	

Technology Essential Map
1st Grade
Horseheads Central School District
Date:4/19/12

Suggested Essential Questions :

- **Why is it necessary to have computer procedures?**
- **Why is it necessary to know what each memory device stands for?**
- **Why are keyboard functions vital?**

All grades need to practice and extend competencies of previous grade levels.

Content	Skills	Common Assessments
Responsible Computer Usage	**1. Use proper posture and positive attitude** • Sit straight and tall with feet in front of you • Be prepared to listen and follow directions **2. Identify memory devices** • CD Rom • H Drive • C Drive **3. Utilize keyboard keys** • Shift • Backspace • Arrows • Enter key • Letter keys • Number keys • Punctuation keys **4. Read and follow on-screen directions** • Read and be aware of what the pop-up boxes may say • Choosing the correct option to move forward or not	

Suggested Resources/Technology

- EveryDay Math
- Wiggle Works
- Starfall
- Sammy Science
- Math Workshop Deluxe
- NYSTROM
- Leap Frog Math
- Rainforest Math
- Elementary Sites
- Word
- World Book
- Reading Blaster
- Kidpix
- Kidspiration
- Inspiration
- Numbers Under Cover
- On-Line Resources
- Earthwalk
- Accelerated Reader

NYS Standards
1.1, 1.2, 1.3, 1.4, 1.5

Suggested Instructional Time:	**Suggested Placement in Calendar Map (Month):**
On-Going	On-Going

Note: A folder on the District Intranet contain *Suggested Activities* related to this curriculum

K – 12 District Technology (Curriculum) Committee:
Marcy Bates (Facilitator), Marcy DeNunzio, Mellisa Devitt, Mary Hancock, Heather Henry, Gennie Houck, Stephanie Lewis, Louisa McNaney, Jason Schrage, Michelle Tillinghast, Alice Learn (Curriculum Coordinator)

Technology Essential Map
1st Grade
Horseheads Central School District

Map Authors: Summer Mapping Team **Date:4/19/12**

Suggested Essential Questions :

- **How can I communicate ideas through technology?**
- **How can I create a quality simple story using word processing?**
- **How can a picture enhance my written story?**
- **How can I successfully print my story?**
- **How will the electronic resources support my written work?**

All grades need to practice and extend competencies of previous grade levels.

Content	Skills	Common Assessments
Word Processing	**1. Create stories with word processing programs** • Type simple stories • Draw picture/insert pictures to go with stories • Print stories **2. Awareness of electronic resources** • Websites • Encyclopedias • CDs	

Suggested Resources/Technology

- EveryDay Math
- Wiggle Works
- Starfall
- Sammy Science
- Math Workshop Deluxe
- NYSTROM
- Leap Frog Math
- Rainforest Math
- Elementary Sites
- Word
- World Book
- Reading Blaster
- Kidpix
- Kidspiration
- Inspiration
- Numbers Under Cover
- On-Line Resources
- Paint
- Earthwalk

NYS Standards
1.4, 1.5, 1.6

Suggested Instructional Time:	**Suggested Placement in Calendar Map (Month):**
On-Going	On-Going

Technology Essential Map
2nd Grade
Horseheads Central School District
Date:4/19/12

Suggested Essential Questions : • **How will proper procedures enhance my keyboarding skills?** ***All grades need to practice and extend competencies of previous grade levels.***		
Content	**Skills**	**Common Assessments**
Responsible Computer Usage	**1. Proper keyboarding techniques** • **Two hands on keyboard** • **Proper posture**	
Suggested Resources/Technology • **UltraKey**		
NYS Standards **2.1**		
Suggested Instructional Time: Late spring	**Suggested Placement in Calendar Map (Month):** Late spring	

Note: A folder on the District Intranet contain *Suggested Activities* related to this curriculum

K – 12 District Technology (Curriculum) Committee:

Marcy Bates (Facilitator), Marcy DeNunzio, Mellisa Devitt, Mary Hancock, Heather Henry, Gennie Houck, Stephanie Lewis, Louisa McNaney, Jason Schrage, Michelle Tillinghast, Alice Learn (Curriculum Coordinator)

Technology Essential Map
2nd Grade
Horseheads Central School District
Date:4/19/12

Suggested Essential Questions :

- **What procedures should be considered when retrieving, saving, and printing my work?**
- **How will the electronic resources support my written work?**

All grades need to practice and extend competencies of previous grade levels.

Content	Skills	Common Assessments
Word Processing	**1. Use word processing programs to create lists, poems, stories,etc….** • **Retrieving documents** • **Saving documents** • **Printing documents** **2. Use electronic resources** • **Websites** • **Encyclopedias** • **CD's** **3. Discuss plagarism**	**Bats vs. Birds** **OPAC**

Suggested Resources/Technology

- EveryDay Math
- Wiggle Works
- Math Workshop Deluxe
- NYSTROM
- Rainforest Math
- Elementary Sites
- Word
- World Book
- Reading Blaster

• Kidpix • Kidspiration • Inspiration • Numbers Under Cover • On-Line Resources	
NYS Standards **2.3, 2.4, 2.5, 2.6**	
Suggested Instructional Time: On-Going	**Suggested Placement in Calendar Map (Month):** On-Going

K – 12 District Technology (Curriculum) Committee:
Marcy Bates (Facilitator), Marcy DeNunzio, Mellisa Devitt, Mary Hancock, Heather Henry, Gennie Houck, Stephanie Lewis, Louisa McNaney, Jason Schrage, Michelle Tillinghast, Alice Learn (Curriculum Coordinator)

Technology Essential Map
Grade 3 & 4
Horseheads Central School District
Date: 4/19/12

Suggested Essential Questions :

- **How can I use graphics to make my work more attractive?**
- **Where can I find appropriate graphics?**
- **What tools help me to manipulate my graphics?**
- **How can I use graphics to enhance the quality of my work?**
- **Why are graphics important when creating a presentation?**
- **Why should graphics be used?**
- **What graphics are appropriate for my projects?**
- **How can I give credit to my graphic source(s)?**

All grades need to practice and extend competencies of previous grade levels.

Content	Skills	Common Assessments
Graphics	**1. Use graphics effectively to communicate ideas.** **2. Save and retrieve graphics from multiple sources** • **Clipart** • **Internet** • **Cd** • **Personal flies** **3. Manipulate graphic files for desired results.** • **Resize** • **Layout** • **Rotate** **4. Insert graphics appropriately.** • **Cut, copy, paste** • **Save and retrieve** **5. Demonstrate acceptable citation of graphics.**	

Suggested Resources/Technology

- **Word**
- **PowerPoint**
- **Publisher**
- **OpenOffice**
- **Kidspiration**
- **EarthWalk**
- **Inspiration**
- **Internet**
- **KidPix**
- **ACTIVstudio**
- **Other…**

• www.gstboces.org/iss/hancock/home	
NYS Standards (HCSD Technology Benchmarks) **3.2, 3.3, 3.4, 3.5** **4.1, 4.2, 4.3, 4.4**	
Suggested Instructional Time:	**Suggested Placement in Calendar Map (Month):**

Note: A folder on the District Intranet contain *Suggested Activities* related to this curriculum

K – 12 District Technology (Curriculum) Committee:
Marcy Bates (Facilitator), Marcy DeNunzio, Mellisa Devitt, Mary Hancock, Heather Henry, Gennie Houck, Stephanie Lewis, Louisa McNaney, Jason Schrage, Michelle Tillinghast, Alice Learn (Curriculum Coordinator)

Technology Essential Map
Grade 3 & 4
Horseheads Central School District
Date:4/19/12

Suggested Essential Questions :

- **How can exploring a variety of educational websites expand my knowledge on a topic?**
- **Which search engine is most appropriate for my research?**
- **How do virtual learning experiences expand my understanding beyond the walls of my classroom?**
- **How do virtual fieldtrips compare to traditional field trips?**
- **What purpose do passwords and logins serve?**

All grades need to practice and extend competencies of previous grade levels.

Content	Skills	Common Assessments
Web-Based Content	**1. Log in/access and use online resources appropriately to extend learning**	

Suggested Resources/Technology

- **Educational websites**
- **WebQuests**
- **District/School/Class websites**
- **Supplemental textbook sites**
- **OPAC**
- **Accelerated Reader**
- **Everyday Math online games**
- **PowerMedia Plus**
- **Virtual Learning Experiences**
- **EarthWalk**
- **Iroquois WebQuest**
- **Colonial Kids WebQuest**
- **World Communities**

NYS Standards 3.4, 3.5 4.1, 4.3

Suggested Instructional Time:	Suggested Placement in Calendar Map (Month):

Note: A folder on the District Intranet contain *Suggested Activities* related to this curriculum

K – 12 District Technology (Curriculum) Committee:
Marcy Bates (Facilitator), Marcy DeNunzio, Mellisa Devitt, Mary Hancock, Heather Henry, Gennie Houck, Stephanie Lewis, Louisa McNaney, Jason Schrage, Michelle Tillinghast, Alice Learn (Curriculum Coordinator)

Technology Essential Map
Grade 3 & 4
Horseheads Central School District
Date:4/19/12

Suggested Essential Questions :

- **What is the arrangement of the keys on the keyboard?**
- **What are the basic formatting tools of Microsoft Word?**
- **How can I utilize Microsoft Word's editing tools?**
- **What procedures should be considered when saving and retrieving my work?**
- **How can the arrow keys help me to navigate my text?**
- **Which print setting best fits this piece of work?**

All grades need to practice and extend competencies of previous grade levels.

Content	Skills	Common Assessments
Word Processing	**1. Create a content-specific word processed document using proper keyboarding techniques (i.e. left-right hand placement, use home row keys, …)** **2. Demonstrate appropriate paragraph format** • **Indent using tab key** • **Font choice (i.e. color, size, bold, underline, italics, style, …)** • **Align (i.e. center, left, right)** • **Line space** • **Bullets/numbering** **3. Apply editing tools** • **Spell check** • **Grammar check** • **Thesaurus** • **Cut, copy, paste** • **Cursor** • **Arrows** • **Highlight** **4. Save and retrieve files to appropriate drives** **5. Utilize appropriate print settings** • **Network printers** • **Print preview** • **Page layout (i.e. landscape/portrait)** • **Print quality** • **Color/grayscale**	**Throughout the 3rd grade year students will have been assessed using UltraKey Skill Checks.**

Suggested Resources/Technology

- **Word**

• **Student Writing Center** • **Open Office** • **Publisher** • **EarthWalk** • **Ultra Key** • **Erie Canal PowerPoint** • • **Other…**	
NYS Standards (HCSD Technology Benchmarks) **3.1, 3.2, 3.3** **4.2**	
Suggested Instructional Time:	**Suggested Placement in Calendar Map (Month):**

Note: A folder on the District Intranet contain *Suggested Activities* related to this curriculum

K – 12 District Technology (Curriculum) Committee:
Marcy Bates (Facilitator), Marcy DeNunzio, Mellisa Devitt, Mary Hancock, Heather Henry, Gennie Houck, Stephanie Lewis, Louisa McNaney, Jason Schrage, Michelle Tillinghast, Alice Learn (Curriculum Coordinator)

5-6

1. Basic Operations and Concepts	2. Social, Ethical, and Human Issues
3. Technology Productivity Tools	4. Technology Communication Tools
5. Technology Research Tools	6. Technology Problem-solving and Decision Making

* All grades need to practice and extend competencies of previous grade levels.
* Numbers in parenthesis after the benchmark indicate coordinating standard(s).

Grade 5

1. Use keyboards and other common input/output devices efficiently and effectively. (1)
2. Discuss common uses of technology in daily life (advantages and disadvantages). (1, 2)
3. Discuss basic issues related to responsible use of technology and information and describe personal consequences of inappropriate use. (2)
4. Extend the use of technology tools to support personal productivity, remediate skill deficits, and facilitate learning throughout the curriculum (ex. word processing, graphics, charts, tables, Cornerstone). (3)
5. Determine which technology is useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems. (5, 6)
6. Evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources. (6)
7. Use telecommunications to investigate curriculum related problems, issues, and information (ex. Internet, Virtual Field Trips). (4, 5)

Grade 6

1. Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and of practical applications to learning and problem solving. (1)
2. Awareness of current changes in information technologies and the effect those changes have on society.
3. Develop basic trouble-shooting skills. (1)
4. Exhibit legal and ethical behaviors when using information and technology and discuss consequences of misuse. (2)
5. Design, develop, publish and present products using technology resources that demonstrate and communicate concepts to audiences. (4, 5, 6)
6. Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources. (2, 3, 5, 6)
7. Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems. (5, 6)
8. Use telecommunications and online resources to participate in collaborative problem-solving activities for the purpose of developing solutions or products for audiences. (3, 4, 5)

Technology Essential Curriculum Maps Grades 5 & 6

Horseheads Central School District

Date: 11/29/06 , Updated 11/28/07

Suggested Essential Questions :

- **How can I use graphics to make my work more attractive?**
- **How can I use graphics to enhance the quality of my work?**
- **Why are graphics important when creating a presentation?**
- **When should graphics be used?**
- **What graphics are appropriate for my project?**
- **Where can I find appropriate graphics?**

Content	Skills	Common Assessments
<u>Graphics</u> **Possible Software Applications:** • **Word (all writing)** • **PowerPoint (All About Me)** • **Excel (solar system weights)** • **Publisher (brochure)** • **PhotoEditor** • **OpenOffice** • **Fireworks** • **Photoshop** • **Dreamweaver** • **Inspiration (persuasive Ws)** • **Internet** • **Flash** • **ACTIVstudio** • **Other…**	1. **Use graphics effectively to communicate ideas.** 2. **Identify appropriate image size for medium** • **Pixels** • **Thumbnails** • **File size** 3. **Save and retrieve graphics from multiple sources** • **Clipart** • **Internet** • **Cd** • **Personal files** • **File extension** 4. **Manipulate graphic files for desired results** • **Resize**	**Bring in assessments from previous 5-6 map '06.**

	• **Layout** • **Compress** • **Layer** • **Rotate** • **File extension** • **Crop** **5. Insert graphics appropriately.** **6. Demonstrate acceptable citation of graphics.**	

Suggested Resources/Technology

- **Computers with internet access**
- **Scan converter or projector**
- **Digital camera**
- **Earthwalk**
- **Interactive whiteboards**
- **Scanner**

NYS Standards (Technology Benchmarks)
5.1-5.7
6.1-6.8

Suggested Instructional Time:	**Suggested Placement in Calendar Map (Month):**
On-going	

Map Authors:

John Imbt, Lisa O’Connell, Judy Merrow, Stephanie Lewis, Jan Przybylski, Matt Middlebrook, Bill Carney, Alice Learn (Curriculum Coordinator

Technology Essential Curriculum Maps Grades 5 & 6

Horseheads Central School District

Date:11/29/2006, updated 11/28/07

Suggested Essential Questions :

- **When is it appropriate to use presentation software?**
- **How do I create a quality organized presentation?**
- **What information should I include that is shown to the audience?**
- **What planning is required for creating a presentation?**
- **What formatting should I use for my presentation to show my voice?**

Content	Skills	Common Assessments
Presentation Software **Possible Software Applications:** • PowerPoint (research, speech) • OpenOffice Impress • Timeliner • ACTIV studio • Flash (maps) • Word • Photo Shop • Microsoft Publisher • Other…	1. Create a content-rich, multi "slide" multimedia presentation. 2. Demonstrate correct citation. 3. Format text and graphics correctly. 4. Present project for appropriate audience/medium. 5. Differentiate between appropriate and inappropriate use of sounds, animations, and effects. 6. Scan and retrieve files from appropriate electronic devices and drives.	**Presentations 5-6, see previous map.**

Suggested Resources/Technology

- **Computers with internet access**
- **Scan converter or projector**
- **Digital camera**
- **Earthwalk**
- **Interactive Whiteboards**

NYS Standards (Technology Benchmarks)
5.1,5.3,5.4-5.7
6.1,6.3-6.8

Suggested Instructional Time:	Suggested Placement in Calendar Map (Month):

Map Authors:
John Imbt, Lisa O'Connell, Judy Merrow, Stephanie Lewis, Jan Przybylski, Matt Middlebrook, Bill Carney, Alice Learn (Curriculum Coordinator

Technology Essential Curriculum Maps Grades 5 & 6

Horseheads Central School District

Map Authors: Summer Mapping Team, created summer 2006 **Date: 4/19/12**

<table>
<tr><td colspan="3">Suggested Essential Questions :
How can exploring a variety of educational websites expand my knowledge on a topic?
Which search engine is most appropriate for my research?
How do Virtual Learning Experiences expand my understanding beyond the walls of my classroom?
How do Virtual Fieldtrips compare to traditional field trips?
What purpose to passwords and log-in serve?</td></tr>
<tr><td>Content</td><td>Skills</td><td>Common Assessments</td></tr>
<tr><td><u>Web-Based Content</u>

Possible Software Application:
School Island
SkillsTutor
Teacher Toolbox
CERF
Proquest
Ebsco Host
E Library
Biography Resource Center
Virtual Learning Experiences
Other…</td><td>1. Log-in access and use online resources appropriately to extend learning.</td><td>Use of various programs—see previous map</td></tr>
<tr><td colspan="3">Suggested Resources/Technology
Computers with internet access
Scan converter or projector</td></tr>
</table>

<table>
<tr><td colspan="2">

- **Digital camera**
- **Earthwalk**
- **Interactive Whiteboard**

</td></tr>
<tr><td colspan="2">NYS Standards (Technology Benchmarks)
5.1-5.4,5.7
6.1-6.4
6.8</td></tr>
<tr><td>Suggested Instructional Time:</td><td>Suggested Placement in Calendar Map (Month):</td></tr>
</table>

Technology Essential Curriculum Maps Grades 5/6

Horseheads Central School District

Date: 11/29/2006, Updated 11/28/07

Suggested Essential Questions :

- **What is the arrangement of the keys on the keyboard?**
- **What are the basic formatting tools of Microsoft Word?**
- **I can I utilize Microsoft Words editing tools?**
- **What procedures should be considered when saving and retrieving my work?**
- **How can the arrow keys help me to navigate my text?**
- **Which print setting best fits this piece of work?**

Content	Skills	Common Assessments
<u>Word Processing</u> **Possible Software Applications:** • **Word** • **Word Q** • **OpenOffice** • **Publisher** • **EMC software (literature series)** • **Other…**	**1. Create a content-specific word processed document.** **2. Demonstrate appropriate paragraph/page styles and format** • **Indent** • **Align** • **Line space** • **Font choice** • **Header/Footer** • **Margins** **3. Apply editing tools** • **Spell check** • **Grammar check** **4. Save and retrieve files to appropriate devices** **5. Utilize appropriate print settings** • **Network printers** • **Page layout** • **Print preview**	**250 word paper—see previous maps**

Suggested Resources/Technology

- **Computers with internet access**
- **Scan converter or projector**

• **Digital camera** • **Earthwalk**	
NYS Standards (Technology Benchmark) **1-8**	
Suggested Instructional Time:	**Suggested Placement in Calendar Map (Month):**

<u>Map Authors</u>:
John Imbt, Lisa O'Connell, Judy Merrow, Stephanie Lewis, Jan Przybylski, Matt Middlebrook, Bill Carney, Alice Learn (Curriculum Coordinator

7-8

1. Basic Operations and Concepts	2. Social, Ethical, and Human Issues
3. Technology Productivity Tools	4. Technology Communication Tools
5. Technology Research Tools	6. Technology Problem-solving and Decision Making

* All grades need to practice and extend competencies of previous grade levels.
* Numbers in parenthesis after the benchmark indicate coordinating standard(s).

GRADES 7 - 8
All students should have opportunities to demonstrate the following performances:

1. Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use. (1)

2. Demonstrate knowledge of current changes in information technologies and the effect those changes have on the workplace and society. (2)

3. Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse. (2)

4. Use content-specific tools, software, and simulations to support learning and research. (3, 5)

5. Apply productivity/multimedia/ telecommunications tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum. (3, 6)

6. Design, develop, publish, and present products using technology resources that demonstrate and communicate curriculum concepts. (4, 5, 6)

7. Select and use appropriate technology resources to accomplish a variety of tasks and solve problems. (5, 6)

8. Demonstrate an understanding of concepts underlying hardware and software and their practical applications to learning and problem solving. (1, 6)

Technology Essential Curriculum Map Grades 7 & 8

Horseheads Central School District

Date:4/19/12

Suggested Essential Questions :

- **How can I use graphics to make my work more attractive?**
- **How can I use graphics to enhance the quality of my work?**
- **Why are graphics important when creating a presentation?**
- **When should graphics be used?**
- **What graphics are appropriate for my project?**
- **Where can I find appropriate graphics?**

Content	Skills	Common Assessments

<u>Graphics</u>
 	
Possible Software Applications:
• **Word**
• **PowerPoint**
• **Excel**
• **Publisher**
• **PhotoEditor**
• **OpenOffice**
• **Fireworks**
• **Photoshop**
• **Dreamweaver**
• **Inspiration**
• **Internet**
• **Flash**
• **ACTIVstudio**
 	
• **Timeliner**
	1. **Use graphics effectively to communicate ideas.**
	
	2. **Identify appropriate image size for medium**
	  • **Pixels**
	  • **Thumbnails**
	  • **File size**
	
	3. **Save and retrieve graphics from multiple sources**
	  • **Clipart**
	  • **Internet**
	  • **Cd**
	  • **Personal files**
	  • **File extension**
	  • **Digital Camera**
	
	4. **Manipulate graphic files for desired results**	

• **Other…**	• **Resize** • **Layout** • **Compress** • **Layer** • **Rotate** • **File extension** • **Crop** **5. Insert graphics appropriately.** **6. Demonstrate acceptable citation of graphics.**	

Suggested Resources/Technology

- **Computers with internet access**
- **Scan converter or projector**
- **Digital camera**
- **Earthwalk**
- **Scanner**

NYS Standards (Technology Benchmarks)
1-8

Suggested Instructional Time:	**Suggested Placement in Calendar Map (Month):**
On-going	

Note: A folder on the District Intranet contain *Suggested Activities* related to this curriculum

K – 12 District Technology (Curriculum) Committee:
Marcy Bates (Facilitator), Marcy DeNunzio, Mellisa Devitt, Mary Hancock, Heather Henry, Gennie Houck, Stephanie Lewis, Louisa McNaney, Jason Schrage, Michelle Tillinghast, Alice Learn (Curriculum Coordinator)

Technology Essential Curriculum Map Technology Grades 7 & 8

Horseheads Central School District

Date:4/19/12

Suggested Essential Questions :

- **When is it appropriate to use presentation software?**
- **How do I create a quality organized presentation?**
- **What information should I include that is shown to the audience?**
- **What planning is required for creating a presentation?**
- **What formatting should I use for my presentation to show my voice?**

Content	Skills	Common Assessments
<u>Presentation Software</u> **Possible Software Applications:** • PowerPoint • OpenOffice Impress • Timeliner • ACTIV studio • Flash • Word • Photo Shop • Microsoft Publisher • MovieMaker • Other…	1. Create a content-rich, multi "slide" multimedia presentation. 2. Demonstrate correct citation. 3. Format text and graphics correctly. 4. Present project for appropriate audience/medium. 5. Save to and retrieve from appropriate electronic storage devices and drives.	

Suggested Resources/Technology

- **Computers with internet access**
- **Scan converter or projector**

• **Digital camera** • **Earthwalk** • **Interactive Whiteboards**	
NYS Standards (Technology Benchmarks) **1-8**	
Suggested Instructional Time: **On-going**	**Suggested Placement in Calendar Map (Month):**

Note: A folder on the District Intranet contain *Suggested Activities* related to this curriculum

K – 12 District Technology (Curriculum) Committee:
Marcy Bates (Facilitator), Marcy DeNunzio, Mellisa Devitt, Mary Hancock, Heather Henry, Gennie Houck, Stephanie Lewis, Louisa McNaney, Jason Schrage, Michelle Tillinghast, Alice Learn (Curriculum Coordinator)

Technology Essential Curriculum Map Grades 7 & 8

Horseheads Central School District

Date:4/19/12

Suggested Essential Questions :

- **How can exploring a variety of educational websites expand my knowledge on a topic?**
- **Which search engine is most appropriate for my research?**
- **How do Virtual Learning Experiences expand my understanding beyond the walls of my classroom?**
- **How do Virtual Fieldtrips compare to traditional field trips?**
- **What purpose to passwords and loggin serve?**

Content	Skills	Common Assessments
<u>Web-Based Content</u> **Possible Software Application:** • **School Island** • **Teacher Toolbox** • **CERF** • **Proquest** • **Ebsco Host** • **E Library** • **Biography Resource Center** • **Virtual Learning Experiences** • **Other…**	**1. Log/in access and use online resources appropriately to extend learning.** **2. Identify reliable and viable resources.** **3. Validate and/or determine credibility of sources with appropriate citation.**	

Suggested Resources/Technology

- **Computers with internet access**
- **Scan converter or projector**
- **Digital camera**
- **Earthwalk**
- **Interactive Whiteboards**

NYS Standards (Technology Benchmarks): 1-8

Suggested Instructional Time:	**Suggested Placement in Calendar Map (Month):**

On-going	

Map Authors: Mellisa Devitt, Louisa McNaney, Gennie Houck, Heather Henry, Marcy Bates, Marcy DeNunzio, Michaelle Tillinghast

9-12

1. Basic Operations and Concepts	2. Social, Ethical, and Human Issues
3. Technology Productivity Tools	4. Technology Communication Tools
5. Technology Research Tools	6. Technology Problem-solving and Decision Making

* All grades need to practice and extend competencies of previous grade levels.
* Numbers in parenthesis after the benchmark indicates coordinating standard(s).

Grades 9-12

1. Make informed choices among technology systems, resources, and services to address personal, lifelong learning and workplace needs. (1, 2)

2. Practice and advocate for legal and ethical behaviors among peers, family, and community regarding the use of technology and information. (2)

3. Use technology tools and resources for managing, communicating, and presenting personal/professional information. (3, 4)

4. Routinely and efficiently use online information resources to meet needs for collaboration, research, publications, communications, and productivity. (4, 5, 6)

5. Select and apply technology tools for research, information analysis, problem-solving, and decision-making in content learning. (4, 5)

6. Investigate and apply simulations in real-world situations. (4, 5, 6)

Technology Essential Curriculum Map Grades 9-12

Horseheads Central School District

Date:4/19/12

Suggested Essential Questions :

- **How can I use graphics to make my work more attractive?**
- **How can I use graphics to enhance the quality of my work?**
- **Why are graphics important when creating a presentation?**
- **When should graphics be used?**
- **What graphics are appropriate for my project?**
- **Where can I find appropriate graphics?**

Content	Skills	Common Assessments
<u>Graphics</u> **Possible Software Applications:** • **Word** • **PowerPoint** • **Excel** • **Publisher** • **PhotoEditor** • **OpenOffice** • **Fireworks** • **Photoshop** • **Dreamweaver** • **Inspiration** • **Internet** • **Flash** • **ACTIVstudio** • **Adobe Premiere** • **Movie Maker**	**1. Find appropriate graphics.** **2. Use graphics effectively to communicate ideas.** **3. Identify appropriate image size for medium** • **Pixels** • **Thumbnails** • **File size** **4. Save and retrieve graphics from multiple sources** **a. Clipart** **b. Internet** **c. Cd** **d. Personal files** **e. File extension** **f. Digital Camera**	

• **Other…**	**6. Manipulate graphic files for desired results** **a. Resize** **b. Layout** **c. Compress** **d. Layer** **e. Rotate** **f. File extension** **g. Crop** **7. Insert graphics appropriately.** **8. Demonstrate acceptable citation of graphics.**	

Suggested Resources/Technology

- **Computers with internet access**
- **Scan converter or projector**
- **Digital camera**
- **Earthwalk**

NYS Standards (Technology Benchmarks)
1-6

Suggested Instructional Time:	**Suggested Placement in Calendar Map (Month):**
On-going	

Map Authors: Mellisa Devitt, Louisa McNaney, Gennie Houck, Heather Henry, Marcy Bates, Marcy DeNunzio, Michaelle Tillinghast

Technology Essential Curriculum Map Technology Grades 9-12

Horseheads Central School District

Date:4/19/12

Suggested Essential Questions :

- **When is it appropriate to use presentation software?**
- **How do I create a quality organized presentation?**
- **What information should I include that is shown to the audience?**
- **What planning is required for creating a presentation?**
- **What formatting should I use for my presentation to show my voice?**

Content	Skills	Common Assessments
<u>Presentation Software</u> **Possible Software Applications:** • PowerPoint • OpenOffice Impress • Timeliner • ACTIV studio • Flash • Word • Photo Shop • Microsoft Publisher • Movie Maker • Dreamweaver • Other…	1. Create a content-rich, multi "slide" multimedia presentation. 2. Demonstrate correct citation. 3. Format text and graphics correctly. 4. Present project for appropriate audience/medium.	

Suggested Resources/Technology

- **Computers with internet access**
- **Scan converter or projector**
- **Digital camera**
- **Earthwalk**

NYS Standards (Technology Benchmarks): 1-6

Suggested Instructional Time:	Suggested Placement in Calendar Map (Month):
On-going	

Map Authors: Mellisa Devitt, Louisa McNaney, Gennie Houck, Heather Henry, Marcy Bates, Marcy DeNunzio, Michaelle Tillinghast

Technology Essential Curriculum Map Grades 9-12

Horseheads Central School District

Date:4/19/12

Suggested Essential Questions :

- **How can exploring a variety of educational websites expand my knowledge on a topic?**
- **Which search engine is most appropriate for my research?**
- **How do Virtual Learning Experiences expand my understanding beyond the walls of my classroom?**
- **How do Virtual Fieldtrips compare to traditional field trips?**
- **What purpose to passwords and loggin serve?**

Content	Skills	Common Assessments
<u>Web-Based Content</u> **Possible Software Application:** • **School Island** • **Teacher Toolbox** • **CERF** • **Proquest** • **Ebsco Host** • **E Library** • **Biography Resource Center** • **Virtual Learning Experiences** • **Other…**	**1. Log/in access and use online resources appropriately to extend learning.**	

Suggested Resources/Technology

- **Computers with internet access**
- **Scan converter or projector**
- **Digital camera**
- **Earthwalk**

Technology Benchmarks: 1 - 6

Suggested Instructional Time:	Suggested Placement in Calendar Map (Month):
On-going	

Map Authors: Mellisa Devitt, Louisa McNaney, Gennie Houck, Heather Henry, Marcy Bates, Marcy DeNunzio, Michaelle Tillinghast

Technology Essential Curriculum Map Grades 9-12

Horseheads Central School District

Date:4/19/12

Suggested Essential Questions :

- **What is the arrangement of the keys on the keyboard?**
- **What are the basic formatting tools of Microsoft Word?**
- **I can I utilize Microsoft Words editing tools?**
- **What procedures should be considered when saving and retrieving my work?**
- **How can the arrow keys help me to navigate my text?**
- **Which print setting best fits this piece of work?**

Content	Skills	Common Assessments
<u>Word Processing</u> **Possible Software Applications:** • **Word** • **Word Q** • **OpenOffice** • **Publisher** • **EMC software (literature series)** • **Other…**	**1. Create a content-specific word processed document.** **2. Demonstrate appropriate paragraph/page styles and format** • **Indent** • **Align** • **Line space** • **Font choice** • **Header/Footer** • **Margins** **3. Apply editing tools** • **Spell check** • **Grammar check** **4. Save and retrieve files to appropriate drives** **5. Utilize appropriate print settings** • **Network printers** • **Page layout** • **Print preview**	

Suggested Resources/Technology

- **Computers with internet access**
- **Scan converter or projector**
- **Digital camera**

• **Earthwalk**	
NYS Standards (Technology Benchmark) **1-6**	
Suggested Instructional Time: **On-going**	**Suggested Placement in Calendar Map (Month):**

Map Authors: Mellisa Devitt, Louisa McNaney, Gennie Houck, Heather Henry, Marcy Bates, Marcy DeNunzio, Michaelle Tillinghast

Vision and Strategy for Staff Development

Background	Faculty and staff can often teach, learn, and manage better by integrating technology as they work to produce improved learning outcomes among the students they serve. It is a critical yet difficult challenge to provide staff development opportunities that accommodate the broad range of staff learning styles, teaching styles, and technological skill and comfort. Districts must balance the limited supply of time and resources against the demand to "cast a wide net" of learning opportunities and incentives. This section describes the staff development strategy and specific opportunities and incentives that will be provided to develop basic staff proficiency and to encourage & support integration of technology into teaching and learning.
Present State & Trends	*While many technology staff development opportunities are available, not all staff take advantage of the opportunities that exist.*
Preferred Future	*All staff make extensive use of technology and instructional support resources and participate in training opportunities. Align Staff Development efforts with District 2030 "Building Our Future Now" initiative and resulting curriculum changes.*
Strategy for Change	*Improve communication and dissemination of staff development opportunities and resources including home-grown in-services and outside resources. Investigate use of online in-service options with the In-service committee.*

	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	Provide training opportunities for all staff. Customize training wherever possible. Critically explore additional online staff development models.	*Ongoing*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Staff Development Methods

STAFF DEVELOPMENT ELEMENT / ASPECT	PRESENT IMPLEMENTATION	PREFERRED IMPLEMENTATION	FOCUS AREA?
a. Professional Development Needs Assessment Survey	Needs Assessment Survey developed by ESC staff	Online-based: results compiled and used to refine training as needed.	☐
b. Teacher-Based Planning (annual goals, PDP planning)	PDP Options, Site Team Planning, Technology Committee, use skills from workshops	Administrative support/pressure to use acquired skills; integrate Technology Benchmarks into planning and maps.	☑
c. Courses & Workshops (local & external providers)	BOCES SIP, Horseheads, Model Schools, Teacher Center, Outside conferences	Pre-assessments, pre-requisites, online trainings free up time to attend other sessions.	☑
d. Library of Training Materials (books, videos, tutorials, etc.)	Staff Development library, online database of software, school libraries, online tutorials, IST materials, Teachers' Center, read/route magazines	Promote awareness of /online access to materials in SD libraries; promote awareness of other online materials (tutorials, etc.).	☐
e. Professional Online websites (attendance, grading, etc.)	Testing possible sites	Successfully utilizing online sites.	☑
f. Train-the-Trainer Program (lead-users trained/available)	Train-the-Trainer Program in place and special programs such as "white board Wednesdays"	Continued development of T-t-T concepts.	☐
g. Mentors / Learning Teams (organized support system)	PDP mentors and Peer Partners, T-t-T support, Dept Chair initiated	Incorporate Instructional Tech. Specialists more formally into mentoring process; PDP options; incorporate Technology Benchmarks.	☑
h. External Collaboration (conferences, site visits, etc.)	Limited conference money available, time/coverage for site visits	Opportunity for attendance at high-quality technology conferences; separate budget for technology conference attendance.	☐
i. External Collaboration (Model School Program)	Model Schools Program	Easy access to peers regardless of location to share common interests.	☐
j. Internal Collaboration (Technology day, Supt. Conf Day, newsletters, Intranet)	ESC generated information, ESC Newsletter, Website, Intranet, Videos, Blogs	Continuing	☐
k. Portable Technology for Staff (notebooks/laptops/tablets)	Wireless Laptops & Labs, shared Laptops, Tablets, Interactive white boards, Panels, Response systems, Unique projects	Expand all use - Leverage wireless network capabilities inside and outside buildings brought about by Capital Projects.	☑
l. Software Learning Systems (vendor provided training)	Moby Max, Learning A-Z, Library automation, BOCES STEM, Fast ForWord - as examples	Continue research of appropriate programs.	☑

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Staff Development Methods

m. Staff Hiring Standards & New Orientation (technology proficiency)	Core training is not required (online or classroom); interview questions about personal and professional use of technology - needs updating	Develop assessment tool to evaluate new staff in a timely manner. Offer online "Basic" training to all new staff on core proficiencies.	☑
n. Online offerings of mandated safety training, IE Right To Know	Online Right To Know offered in Fall; long completion period permitted	Shorten duration to complete online training	☐

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Staff Development Calendar

Recurring Staff Development Tasks & Events			
JUL	Curriculum Development	Summer inservices	Course development
AUG	Curriculum Development	Summer inservices	Course development
SEP	CORE Trainings	Newsletters begin	
OCT	Model Schools, Supt Conference Day	Fall courses begin	Notification and reminders of sign-up begins
NOV	NYSCaTE Conference	State Level Technology Conference	
DEC			
JAN			
FEB	Winter Inservice begins, Model Schools		Notification and reminders of sign-up begins
MAR	Technology Fair/Supt. Conference Day	District-wide, Held annually	Internal and external presenters
APR			
MAY			
JUN	CORE Trainings / Model Schools	Specific Conferences identified throughout the year. Model Schools Summer courses begin.	Bi-weekly ESC instructional technology review including ongoing staff development

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Staff Proficiency Standards

General Competencies: Teachers and other staff (as appropriate) are expected to become proficient at operating and routinely using the following core technology capabilities:

- ☑ Basic Operation, Network Shares
- ☑ Office Suite
- ☑ Printing/B/W & Color Copiers
- ☑ APPR Related
- ☑ Collaboration Tools - OneNote
- ☑ Client and Cloud Email
- ☑ Internet Resources
- ☑ Data Security Mindedness

Specific/Local Applications: Teachers and other staff (as appropriate) are expected to become proficient at operating and routinely using the following local applications and procedures:

- ☑ Attendance Program
- ☑ Grading Program
- ☑ Intranet
- ☑ Staff /Mgt Evaluation- APPR, MPPR
- ☑ Other: Web Page or other parental communication resource
- ☑ Automated Library System
- ☑ Lesson Plan Development
- ☑ Student Records
- ☑ Integrated Tools Package (i.e., Microsoft Office)

Other: SchoolTool Parent Portal

Specialized Competencies: Teachers are also expected to become proficient at other technology capabilities which *they have identified* as integral to their curriculum and teaching style. This can include (but is not limited to):

Adobe Cloud Suite products	Department/Curriculum Tools as Identified
Tablet APPs	Scientific Interface, Simulations
Mobile & Interactive Board/Panel Technology	Discussion Groups
Digital Photography / Video / Document Camera	Video Conferencing & Video Steaming
Digital Audio & Video Recording	Supplementary Textbook Online Tools-ELA,Math
Interactive & Immediate Response Technologies	Office Suite Programs
Multimedia Books & Guided Exploration	Mapping and Organizer Programs
Toolbox Pro / Collaboration tools	Curriculum Specific Web-based Software

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Vision and Strategy for Workstation Access

Background	Computers come in a variety of forms, including desktops, mobile computers (a.k.a. “laptops”, “notebooks”, or "tablets"), hand-held computers, and other specialized computing devices. This section contains the district’s “baseline” plan for providing students and staff with access to workstations. (If the access levels specified do not meet the needs of your department, office, or classroom, be sure to provide inputs to your principal regarding your preferences & unique needs.) Additionally, this section contains specifications and inventory and also addresses planning for obsolescence.
Present State & Trends	*Computers are added and/or replaced at an average annual rate of approx. 15%. The original goal has been 20% per year. The compromise is a realistic balance between replacement, new technology, and fiscal reductions. Replacement is tied to physical changes and industry and instructional trends (IE: software, performance, excessive breakage, new technology).*
Preferred Future	*All staff have appropriate technology to implement the Technology Plan.*
Strategy for Change	*Critically analyze replacement and new requests each year with regard to need. Consider new mobile technology over traditional desktop technology. Cascade older equipment for re-use or replacement as needed.*

	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	Refine implementation of new and replacement technology using request form, frequent review of usage data, classroom visitation, and budget accountability.	*Ongoing*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Workstation Access Requirements

Summary
(Sum of all Building Requirements)

Requirements By Building	Basic Workstation Design or Type									
	Desktops	Laptops	Netbooks	Tablets						
Elementary - Big Flats	All technology inventory is maintained in the RAMI system (inventory database). This includes some 7,400 records including BOCES and HCSD owned devices.									
Elementary - Center St										
Elementary - Gardner Rd										
Elementary - Ridge Rd										
Intermediate School	Approximately 4,500 of the 7,400 devices in RAMI are qualified as computing instructional devices, IE desktop, laptop, notebook, and tablet computers.									
Middle School										
High School										
District Services										
Total Number Required	0	0	0	0	0	0	0	0	0	0
Number Now In Service	0	0	0	0	0	0	0	0	0	0

Number To Be Added/Replaced researched annually - Possible Replacement Schedule below

School Year	
	See Spreadsheet C-2 Addendum 1 for replacement analysis sorted by location, then age.

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Spreadsheet C-2 Addendum 1																updated		8/2/2018
Replacement Analysis - as of 8-2-18							5-7 year cycle, CPU, Laptop			5 year cycle Tablet			No ERATE					
High School	**2019-2020**		**2020-2021**		**2021-2022**		**2022-2023**		**2023-2024**		**2024-2025**		**2025-2026**		**2026-2027**		**2027-2028**	
Desktop	54		103		29		27											
	3425 1 5/12	N	9020 1 1/15	N	209AIO 29,7/16	N	3050 20 7/17	N										
	7010 8 7/13	N	Liby 35 3/15	N	5040 2 7/16	N	109AIO 26,7/18	N										
	7010 10 7/14	N	9020 19 7/15	N	Lab156 28 7/15	S	211AIO 25,7/18	N										
	Lab260 29 7/13	S	Lab154 26 2/15	S	5040 7 7/16	S	Art AIO 23 5/16	S										
	7010 6 7/13	S	9020 22 2/15	S			3050 7 7/17	S										
	7010 2 7/14	S																
Cost	$25,056		$47,792		$49,776		$71,728		$0		$0		$0		$0		$0	
Laptop	100		75		37		60		97		30							
	Cart1 30 7/13	N	5530 5 7/13	N	3150 9 7/15	N	Cart9 30 7/16	N	3189 37 7/17	N	3189 55 9/17	S						
	Cart1 7/13	N	5440 24 7/14	N	5550 2 7/15	N	Cart9 7/16	N	5480 1 4/18	N	Cart4 30 7/18							
	Cart2 30 7/14	N	7440 2 1/15	N	5570 1 7/16	N	Cart3 30 4/17	N	Cart6 30 7/18	N	Cart4 7/18							
	Cart2 7/14	N	Cart7 30 7/15	N	3350 2 7/16	N	Cart3 4/17	N	Cart6 7/18	N								
	Cart5 30 7/14	S	Cart7 7/15	N	Cart9 30 7/16	N			5480 1 7/17	N								
	Cart5 7/14	S	5440 1 1/15	N	Cart9 7/16	N			7480 1 7/17	N								
	5440 10 7/14	S	5440 15 7/14	S	Surface 1 12/16	N			Cart11 30 3/17	S								
					7450 1 7/16	N			Cart11 3/17	S								
					3150 5 7/15	S			Cart12 30 7/17	S								
					5550 2 7/15	S			Cart12 7/17	S								
									3380 1 7/17	S								
									5580 4 7/17	S								
Cost	$71,400		$51,100		$34,218		$43,200		$87,129		$46,735		$0		$0		$0	
Tablet	1		17		1		4											
	2013 Tch 1	S	2014 Tch 17	S	2017 Tch 1	N	2018 Tch 4	S										
Cost	$399		$6,783		$399		$1,596		$0		$0		$0		$0		$0	
All Types	$96,855		$105,675		$84,393		$116,524		$87,129		$46,735		$0		$0		$0	
Reg HW$	$99,271		$99,271		$99,271		$99,271		$99,271		$99,271		$99,271		$99,271		$99,271	
Balance	$2,416		-$6,404		$14,878		-$17,253		$12,142		$52,536		$99,271		$99,271		$99,271	
% Balance	2%		-6%		15%		-17%		12%		53%		100%		100%		100%	
Needed	$0		$6,404		$0		$17,253		$0		$0		$0		$0		$0	
High School																		
Desktop	54		103		29		27		0		0		0		0		0	
Laptop	100		75		37		60		97		30		0		0		0	
Tablet	1		17		1		4		0		0		0		0		0	

Middle School	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Desktop	50	49	49	28	17				
	3425 2 7/12	Lab127 27 2/15	Lab201 30 2/15	3050 28 7/17	3050 17 7/18				
	9010 1 7/13	Lab129 13 2/15	9020 19 7/15						
	7010 20 7/14	9020 9 2/15							
	Lab218 27 7/14								
Cost	$23,200	$22,736	$22,736	$12,992	$7,888	$0	$0	$0	$0
Laptop	60	48	60	37	30	54	60	60	
	Cart7 30 3/13	5530 18 7/13	Cart12 30 3/14	5440 17 7/14	3150 24 7/15	5570 4 7/16	Cart23 30 7/17	3189 21 4/18	
	Cart7 3/13	Cart10 30 3/14	Cart12 3/14	5540 6 1/15	Surface 1 7/15	Surface 1 7/16	Cart23 7/17	Cart3 30 7/18	
	Cart5 30 5/13	Cart10 3/14	Cart14 30 3/14	Lab129 3 3/15	Cart17 30 3/14	3380 20 7/17	Cart21 30 7/17	Cart3 7/18	
	Cart5 5/13		Cart14 3/14	5550 11 7/15	Cart17 3/14	Cart19 30 3/17	Cart21 7/17	Cart4 30 7/18	
						Cart19 3/17	3189 15 9/17	Cart4 7/18	
Cost	$43,200	$33,480	$43,200	$24,420	$33,368	$38,240	$50,055	$52,797	$0
Tablet	22	1	5	5					
	2014 Tch 22	2015 Tch 1	2017 Tch 5	2018 Tch 5					
Cost	$8,778	$399	$1,995	$1,995	$0	$0	$0	$0	$0
All Types	$75,178	$56,615	$67,931	$39,407	$41,256	$38,240	$50,055	$52,797	$0
Reg HW$	$43,635	$43,635	$43,635	$43,635	$43,635	$43,635	$43,635	$43,635	$43,635
Balance	-$31,543	-$12,980	-$24,296	$4,228	$2,379	$5,395	-$6,420	-$9,162	$43,635
% Balance	-72%	-30%	-56%	10%	5%	12%	-15%	-21%	100%
Needed	$31,543	$12,980	$24,296	$0	$0	$0	$6,420	$9,162	$0
Middle School									
Desktop	50	49	49	28	17	0	0	0	0
Laptop	60	48	60	37	30	54	60	60	0
Tablet	22	1	5	5	0	0	0	0	0

Intermediate School	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Desktop	30	46	3	13					
	7010 7 8/13	9020 46 7/15	5040 3 7/16	3050 13 7/18					
	7010 23 7/14								
Cost	$13,920	$21,344	$1,392	$6,032	$0	$0	$0	$0	$0
Laptop	30	60	86	66	65	53	60	63	
	Cart2 30 11/13	Cart9 30 11/13	Cart11 30 3/14	7440 2 1/15	Cart16 30 5/16	3380 14 7/17	Cart22 30 7/17	3380 3 7/18	
	Cart2 11/13	Cart9 11/13	Cart11 3/14	Cart15 30 5/15	Cart16 5/16	Cart20 30 7/17	Cart22 7/17	Cart6 30 7/18	
		Cart8 30 3/14	Cart13 30 3/14	Cart15 5/15	5570 5 7/16	Cart20 7/17	Cart24 30 7/17	Cart6 7/18	
		Cart8 3/14	Cart13 3/14	3150 36 7/15	Cart18 30 3/17	5580 9 7/17	Cart24 7/17	Cart1 30 7/18	
			5440 26 7/14	5550 5 7/15	Cart18 3/17		3189 6 9/17	Cart1 7/18	
Cost	$21,600	$43,200	$60,360	$36,282	$46,500	$36,780	$45,942	$43,380	$0
Tablet	13	33	24	24	54				
	2014 Tch 7	2015 Tch 27	2016 Cart1 24	2017 Cart2 24	2018 Cart4 24				
	2015 Tch 6	2016 Tch 6			2018 Cart3 24				
					2018 Tch 6				
Cost	$5,187	$13,167	$9,576	$9,576	$21,546	$0	$0	$0	$0
All Types	$40,707	$77,711	$71,328	$51,890	$68,046	$36,780	$45,942	$43,380	$0
Reg HW$	$48,635	$48,635	$48,635	$48,635	$48,635	$48,635	$48,635	$48,635	$48,635
Balance	$7,928	-$29,076	-$22,693	-$3,255	-$19,411	$11,855	$2,693	$5,255	$48,635
% Balance	16%	-60%	-47%	-7%	-40%	24%	6%	11%	100%
Needed	$0	$29,076	$22,693	$3,255	$19,411	$0	$0	$0	$0
Intermediate School									
Desktop	30	46	3	13	0	0	0	0	0
Laptop	30	60	86	66	65	53	60	63	0
Tablet	13	33	24	24	54	0	0	0	0

Big Flats	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Desktop	13		11	13					
	7010 4 7/13		5040 11 7/16	3050 13 7/18					
	9020 9 7/15								
Cost	$6,032	$0	$5,104	$6,032	$0	$0	$0	$0	$0
Laptop	30	56	27	14	34	30	30		
	6460 10 7/12	Cart1 30 7/14	7440 1 7/15	3160 14 6/16	Cart3 30 3/17	Cart4 30 7/17	Cart2 30 7/18		
	5530 20 7/13	Cart1 7/14	5540 1 7/15		Cart3 3/17	Cart4 7/17	Cart2 7/18		
		5440 Tch 6 7/14	5550 2 7/15		3380 2 11/17	3189 15 1/4/18			
		FF 20 7/14	3150 27 7/15		3189 2 11/17				
Cost	$19,800	$38,760	$14,979	$6,398	$24,240	$28,455	$21,600	$0	$0
Tablet	31	30	69	14					
	2013 Tch 13	2015 Tch 8	2016 Cart2 47	2017 Tch 14					
	2014 Tch 18	2016 Cart1 22	2016 Tch 22						
Cost	$12,369	$11,970	$27,531	$5,586	$0	$0	$0	$0	$0
All Types	$38,201	$50,730	$47,614	$18,016	$24,240	$28,455	$21,600	$0	$0
Reg HW$	$36,090	$36,090	$36,090	$36,090	$36,090	$36,090	$36,090	$36,090	$36,090
Balance	-$2,111	-$14,640	-$11,524	$18,074	$11,850	$7,635	$14,490	$36,090	$36,090
% Balance	-6%	-41%	-32%	50%	33%	21%	40%	100%	100%
Needed	$2,111	$14,640	$11,524	$0	$0	$0	$0	$0	$0
Big Flats									
Desktop	13	0	11	13	0	0	0	0	0
Laptop	30	56	27	14	34	30	30	0	0
Tablet	31	30	69	14	0	0	0	0	0

Center Street	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Desktop	10	1	5	8					
	7010 10 7/14	9020 1 7/15	3050 5 7/17	3050 8 7/18					
Cost	$4,640	$464	$2,320	$3,712	$0	$0	$0	$0	$0
Laptop	44	30	13	32	52	14	30		
	6460 15 7/8/12	Cart1 30 7/14	3150 11 7/15	Cart3 30 5/16	Cart4 30 3/17	3189 14 4/18	Cart2 30 7/18		
	6460 FF 11 8/12	Cart1 7/14	7440 1 1/15	Cart3 5/16	Cart4 3/17		Cart2 7/18		
	5530 18 7/13		5550 1 7/15	2 Tch 7/12/16	3380 22 7/17				
Cost	$29,040	$21,600	$8,580	$22,920	$36,120	$6,398	$21,600	$0	$0
Tablet		38	49	57	9				
		2015 Tch 38	2016 Tch 49	2017 Tch 57	2018 Tch 9				
Cost	$0	$15,162	$19,551	$22,743	$3,591	$0	$0	$0	$0
All Types	$33,680	$37,226	$30,451	$49,375	$39,711	$6,398	$21,600	$0	$0
Reg HW$	$38,090	$38,090	$38,090	$38,090	$38,090	$38,090	$38,090	$38,090	$38,090
Balance	$4,410	$864	$7,639	-$11,285	-$1,621	$31,692	$16,490	$38,090	$38,090
% Balance	12%	2%	20%	-30%	-4%	83%	43%	100%	100%
Needed	$0	$0	$0	$11,285	$1,621	$0	$0	$0	$0
Center St									
Desktop	10	1	5	8	0	0	0	0	0
Laptop	44	30	13	32	52	14	30	0	0
Tablet	0	38	49	57	9	0	0	0	0

Gardner Road	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Desktop	13	4	3	17	27				
	7010 13 7/13	9020 4 7/15	5040 3 7/16	3050 17 7/17	3050 27 7/18				
Cost	$6,032	$1,856	$1,392	$7,888	$12,528	$0	$0	$0	$0
Laptop	49	30	16	18	41	30			
	Cart2 30 5/12	Cart1 30 7/14	5440 16 Tch 7/14	3150 18 7/15	Cart3 30 3/17	3189 9 4/18			
	Cart2 5/12	Cart1 7/14	3150 18 7/15	7440 1 1/15	Cart3 3/17	Cart4 30 7/18			
	6460 5 9/12 esl	5440 16 Tch 7/14		5550 1 3/15	Mix 11 7/17	Cart4 7/18			
	5530 8 7/13 Tch			5450 1 3/15					
	3330 6 8/13 esl			5550 18 FF 7/15					
Cost	$34,140	$21,600	$18,786	$22,086	$28,860	$25,713	$0	$0	$0
Tablet	29	13	86	64	27				
	2012 8 esl	2015 13 Tch	2016 86 Tch	2017 64 Tch	2018 8 Tch				
	2014 21 Tch				2018 19 Tch				
Cost	$11,571	$5,187	$34,314	$25,536	$10,773	$0	$0	$0	$0
All Types	$51,743	$28,643	$54,492	$55,510	$52,161	$25,713	$0	$0	$0
Reg HW$	$43,130	$43,130	$43,130	$43,130	$43,130	$43,130	$43,130	$43,130	$43,130
Balance	-$8,613	$14,487	-$11,362	-$12,380	-$9,031	$17,417	$43,130	$43,130	$43,130
% Balance	-20%	34%	-26%	-29%	-21%	40%	100%	100%	100%
Needed	$8,613	$0	$11,362	$12,380	$9,031	$0	$0	$0	$0
Gardner Rd									
Desktop	13	4	3	17	27	0	0	0	0
Laptop	49	30	16	18	41	30	0	0	0
Tablet	29	13	86	64	27	0	0	0	0

Ridge Road	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Desktop	28	11	32						
	3425 28 7/12	7010 6 7/14	3050 32 7/18						
		9020 5 7/15							
Cost	$12,992	$5,104	$14,848	$0	$0	$0	$0	$0	$0
Laptop	33	39	35	30	40	32			
	Cart2 30 5/12	5440 20 7/14	3150 35 7/15	Cart3 30 3/17	Cart4 30 3/17	7490 1 2/18			
	Cart2	5440 19 FF 7/14	5550 3 7/15	Cart3 3/17	Cart4 3/17	3189 10 4/18			
	6460 3 7/12				5480 10 8/17	Cart1 30 3/17			
						Cart1 3/17			
						5480 2 7/18			
Cost	$23,580	$25,740	$17,975	$21,600	$28,200	$27,947	$0	$0	$0
Tablet	2	12	74	26	7				
	2012 2 Tch	2015 12 Tch	2016 74 Tch	2017 26 Tch	2018 7 Tch				
Cost	$798	$4,788	$29,526	$10,374	$2,793	$0	$0	$0	$0
All Types	$37,370	$35,632	$62,349	$31,974	$30,993	$27,947	$0	$0	$0
Reg HW$	$32,090	$32,090	$32,090	$32,090	$32,090	$32,090	$32,090	$32,090	$32,090
Balance	-$5,280	-$3,542	-$30,259	$116	$1,097	$4,143	$32,090	$32,090	$32,090
% Balance	-16%	-11%	-94%	0%	3%	13%	100%	100%	100%
Needed	$5,280	$3,542	$30,259	$0	$0	$0	$0	$0	$0
Ridge Rd									
Desktop	28	11	32	0	0	0	0	0	0
Laptop	33	39	35	30	40	32	0	0	0
Tablet	2	12	74	26	7	0	0	0	0

	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Addt'l Need	$47,547	$66,642	$100,134	$44,173	$30,063	$0	$6,420	$9,162	$0
Dist Total	$373,734	$392,232	$418,558	$362,696	$343,536	$210,268	$139,197	$96,177	$0
Device Estimates:									
Desktop w/monitor, 3050		$564.00							
Desktop no/monitor, 3050		$464.00							
Laptop, 5480		$579.62							
Laptop/Cart, 3380		$660.00							
Student Laptop, 3189		$457.00							
Tablet IOS		$399.00							
Tablet Win, Surface, AIO		$800.00							
Web/Cloud Tablet Win		$250.00							
Number in Count row does not reflect total number devices affected that year. Refer to individual details listed for total number.									
Balancing Criteria									
	Age								
	Spread out over time, 5-7years on average. Tablets are approximately 5 years.								
	Budget for "new", non-replacement technology after current replacements. Evaluate all replacement decisions with Principals. Provide usage data.								
	Supplementing budgets with Erate will eventually end as Erate discounts decrease and applicable telecomm services decrease.								

Standard Workstation Specifications

Attribute or Component	Basic Workstation Design or Type							
	DVD/DVDRW Desktop	Laptop, Non-Touch Screen	Laptop Touch Screen	Laptop Touch Screen, Student	Tablet			
CPU Speed	i5 Intel or higher	i5 Intel or higher	i5 Intel or higher	Current Std	Current Std			
RAM	≥ 8000MB	≥ 8000MB	≥ 8000MB	≥ 8000MB	Current Std			
Hard Drive Storage - SSD	≥ 128GB	≥ 128GB	≥ 128GB	≥ 128GB	≥ 128GB			
Media Drive	DVD / DVDRW	None	None	None	None			
Other Storage Devices	As Needed	As Needed	As Needed	None	None			
Monitor Type	Re-use where possible	≥HD 1366x768 13+"	≥HD 1366x768 13+"	≥HD 1366x768 11.6+"	≥ 9.7+"			
Mouse Type	Optical	Touchpad or Optical	Touchpad /Tchscreen	Touchpad /Tchscreen	Touchpad			
Keyboard Type	Std	Std	Keybd or Screen	Keybd or Screen	On screen or separate as needed			
Speakers	in monitor	in unit	in unit	in unit	in unit			
Microphone/Webcam	As Needed	both in unit	both in unit	both in unit	both in unit			
Sound Card	Industry Std.							
Video Card	≥ 1GB on board	≥ 1GB on board	≥ 1GB on board	≥ .5GB on board	iPad equivalent			
Network	Ethernet 10/100/1000 integrated							
Modem	No	No	No	No	No			
Wireless Network	802.11a/g/n/ac and Bluetooth on-board							
Warranty	3 Year	3 Year	3 Year	3 Year	1 Year			
Battery		3, 6, or 9 cell	3, 6, or 9 cell	3, 6, or 9 cell	3, 6, or 9 cell			
Note: Subject to upgrading as models and feature improvements become available								

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Platform/Operating System Plan

PRESENT	PREFERRED
Number of Platforms:	**Number of Platforms:**
☑ Single Platform - Network	☑ Single Platform - Network
☑ Exceptions Allowed	☑ Exceptions Allowed
☐ No Exceptions	☐ No Exceptions
☐ Phase Out Other Platforms Through Attrition	☐ Phase Out Other Platforms Through Attrition
☑ Other _____	☑ Other if necessary for new applications
☐ Dual Platform	☐ Dual Platform
☐ Uniform within each Building	☐ Uniform within each Building
☐ Uniform within each Grade/Department	☐ Uniform within each Grade/Department
☐ Non-Uniform / Individual Choice	☐ Non-Uniform / Individual Choice
☐ Other _____	☐ Other _____
Type of Platform(s):	**Type of Platform(s):**
☑ Platforms	☑ Platforms
☑ Windows 10	☑ Windows 10 including new updates
☑ Windows 7	☐ Windows 7
☑ iOS 11	☑ iOS 11 or higher
☐ Android 4	☐ Android 4 +
☐ Mac Platform	☐ Mac Platform
☑ Other Platform - Apple	☑ Other Platform - Apple
Notes:	**Projected Platform Mix:**

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Vision and Strategy for Peripheral Access

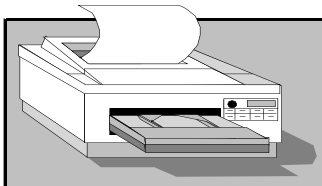
Background	Computer peripherals are devices which operate physically external to a computer to enable it to interface with users in various ways. Some enable users to provide inputs to the computer (keyboard, mouse, microphone, camera, document cameras, sensors, etc.) while others enable the computer to deliver outputs to the user (speakers, printers, projectors, interactive white boards and panels, voice enhancement, immediate response devices, etc.) As networks improve, they can be leveraged to consolidate certain peripheral functions. Using adaptive devices (vision, hearing, speech, touch, etc.) special needs learners can more equitably access computers. This section describes district needs for access to computer peripherals.
Present State & Trends	*Current funding strategy allows for the purchase of most requested peripherals with the exception of the interactive white boards, which are in nearly all classrooms. Replacements are available for failed equipment. Training is available when requested.*
Preferred Future	*Meet all students' and staff members' needs in a timely way with regard to provisioning, training, support, and convenient access to peripheral devices. Effective and efficient copier and printer management is sustained. Be in support of needs generated through the District 2030 "Building Our Future Now" initiative.*
Strategy for Change	*Continue to analyze needs annually from an obsolescence and provision basis in each building. Research ways to replace interactive whiteboards with new panel/monitor technology through sources such as SMART bond, capital projects, or other non-traditional funding. Cost efficiencies and aid generation are a priority.*

	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	Refine implementation of new and replacement technology using request form, frequent review of usage data, classroom visitation, and budget accountability.	*Ongoing*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Peripheral Access Requirements

Summary
(Sum of all Building Requirements)



Requirements By Building	Peripheral Type														
	Printer	Copier-Printers	Scanner	Document Camera	Digital Camera/Camcorder	Interactive White Board	Interactive Panel	Electronic Responder Package	Electronic Slate	Digital Projector	Personal Handheld Computer	TV Monitor & Converter	VCR - DVD - Combo Player	Scientific Interface - Calculator	
Elem Schools	All peripherals inventory is maintained by building in the RAMI system (inventory database). Items are identified for replacement multiple ways: 1) replacement year tagging in the RAMI database, 2) breakage where the unit cannot be repaired, and 3) thru the technology request process. Older technologies such as TV's and VCR/DVD players will not be replaced in lieu of other solutions and delivery methods such as Safari Montage and interactive whiteboard and panel projection. New peripheral technologies will be identified, researched and implemented.														
Intermediate School															
Middle School															
High School															
District Services															
*Storage/Spares															
Total Number Required	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number Now In Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number To Be Added	Determined as needed annually														
School Year	**Peripheral data in the District can be sorted by Location, then Device Type and extracted from the RAMI system upon request.**														
	*Please Note - Storage/Spares is a combination of actual spares ready for use and a number of units that have come out of operation and are awaiting disposition, particularly some older projectors.														

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Vision and Strategy for Software and Data Access

Background	An ever-increasing number of software programs are available for use by students and staff. When wisely integrated into teaching and learning, many of these programs can become valuable educational tools. Similarly, there is also an increasing amount of electronic data that is or can be available. Students, staff, parents, and community members can benefit from appropriate and secure access to district information such as student records, schedules, homework, and library resources. With so many options, it is important to balance individuals' unique needs against broader needs for standardization, security, privacy, and low costs. This section describes how access to software and data will be managed.
Present State & Trends	*Convenient access to core applications is available in pertinent locations. A broad variety of software packages are installed on computers. When appropriate, standardized software is purchased and deployed. Information about existing software, relative to standardization, is shared electronically. Nearly all applications are web based.*
Preferred Future	*Product information is shared efficiently. Web-based software and data access options should be explored due to their availability both remotely and from schools. State & District auditors recommendations relative to HIPAA, FERPA, & Parents Bill Of Rights should be included. Remote access to District managed resources includes security planning with strict adherence to NYS Schedule 2-d law. Benchmark, CCLS, 21st Century Standards, and ISTE Standards are routinely considered in purchasing decisions.*
Strategy for Change	*Refine and follow the current process for purchases. Review pertinent policies and practices. Explore delivering each new or upgrade software request via the web. Test other types of remote access to appropriate District resources.*

	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	Utilize existing department or building groups to emphasize information sharing on software needs and purchases. Continue to look at software options on a multi-building or district-wide basis. Ensure secure access to data from outside locations, abiding by state and district law/policy.	*Ongoing*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Standard Software Configurations

Configuration:	K-12		
Locations/Users:	Office/Classroom/Lab/Library		
Software Type	Standard Package/Program	Distribution (file server, hard drive, CD ROM, etc)	Notes
EES Microsoft Licensing	Microsoft Tools (Office, SQL, Sharepoint, Exchange, Operating System, etc.)	*Affects File Server and Hard Drive*	*Regional licensing*
Integrated Tools Package	MS Office Pro 2016, Office 365	*Hard Drive, Web based*	*K-12*
Word Processing / Publishing	MS Word, Publisher	*Hard Drive, Web based*	*K-12*
Survey, Polls, Quizzes	MS Forms SurveyMonkey, ToolBox Pro	*Web Based*	*K-12*
Presentation	MS PowerPoint, Sway	*Hard Drive, Web based*	*K-12*
Spreadsheet	MS Excel	*Hard Drive, Web based*	*K-12*
Collaboration	MS Sharepoint, OneNote, Notebook, Teams, Google Classroom, Yammer	*Web based*	*K-12*
Video Sharing	MS Stream	*Web based*	*K-12*
Web Browser	Internet Explorer 11+, Chrome, Firefox, Safari	*Hard Drive*	*K-12, IE managed, not others*
Data/Information Sharing - Interactive	MS Sharepoint	*Web based*	*K-12*
Data/Information Sharing - Read Only	District Intranet Site	*Web based*	*K-12*
E-mail, Scheduling, Groupware	MS Outlook 2016, Office 365	*Hard Drive, Web based*	*K-12 staff*
E-Mail Archive	Barracuda Message Archiver	*Server based*	*K-12 staff*
E-Mail Encryption, Data Encryption	Office 365, ZixMail	*Server based, Web based*	*K-12 staff*
E- Mail Quota	Office 365	*Server based and Web based*	*K-12 staff*
E-Mail SPAM Control	Barracuda SPAM Appliance, Office 365	*Server based*	*K-12 staff*
E-Mail Virus Control	Barracuda SPAM Appliance/Office 365 and System Center Endpoint Protection	*Server based*	*K-12 staff*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Standard Software Configurations

Configuration:	K-12		
Locations/Users:	Office/Classroom/Lab/Library		
Software Type	Standard Package/Program	Distribution (file server, hard drive, CD ROM, etc)	Notes
Room Scheduling	Roommate	*Web based*	*K-12 staff*
Facilities Work Order	Qware	*Web based*	*K-12 staff*
Transportation - Management	Transfinder	*Server based, Web based*	*Transportation*
Transportation - Daily Bus changes	Bus Notes	*Server based, GST BOCES*	*Transportation and K-6*
Security - Virus Control	System Center Endpoint Protection	*Server based*	*K-12*
Security - Internet Filtering	Content Keeper	*Server based*	*K-12*
Internet Usage / Volume Analysis	NETAudit Reports, Content Keeper Reports	*Server based*	*K-12*
Firewall Protection	Cisco Firepower	*Server based*	*K-12*
Network Traffic Analysis	Cisco Firepower, Solarwinds, NetScout Sniffer	*Server based*	*K-12*
Network "Push" Installations	System Configuration Mgr & Microsoft ADUC Group Policy	*Server based*	*K-12*
Network Connectivity Verify	Solarwinds and System Center Operations Manager	*Server based*	*K-12*
Network Remote Access Support	Microsoft SCCM Dameware Mini Remote	*Server based with Client connectivity*	*Dameware used on select District computers*
Network Password Maintenance	Microsoft Active Directory Password Policy	*Server based*	*K-12 (Students 5-12)*
Wireless Network Access & Security	Cisco Controllers and 802.1x/WPA/WPA2 Encryption, Cisco Prime Infrastructure Radius Authentication	*Network*	*K-12*
Personal & Shared Drive Quotas	Windows File Resource Manager feature in Windows Server	*Server based, Web based*	*K-12*
Data & E-Mail Backup	Retrospect, Microsoft DPM, Microsoft Exchange Dumpster	*Server based*	*K-12 staff*
Auto Dialer	School Messenger	*Web based*	*Admin Access*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Standard Software Configurations

Configuration:	K-12		
Locations/Users:	Office/Classroom/Lab/Library		
Software Type	Standard Package/Program	Distribution (file server, hard drive, CD ROM, etc)	Notes
Crisis Calling	School Messenger	*Web based*	*Admin Access*
Camera Security	Avigilon	*Server based*	*K-12*
Classroom Security	NaviGate	*Web based*	*K-12*
Student Information	SchoolTool	*Web based*	*K-12 staff, Parents*
Online Staff Development	PD Tracker, scheduling, Management	*Web based, GST BOCES*	*K-12 staff*
Assessment Tool	Mastery Manager, AIMSweb Plus	*Web based*	*K-12 staff*
Teaching Staff Performance/Evaluation	APPR - iObservation	*Web based*	*K-12 teaching staff*
Administration Performance/Evaluation	MPPR - LCI Data Management	*Web based*	*Administrators*
Plug-Ins	As Needed	*Hard Drive*	*K-12*
Library/Instructional	Mandarin/OPAC, r*eplacement being researched*	*Server based*	*K-12*
Addtl' Instructional Software	**Core Programs listed separately *(not a total list of all software, see spreadsheet ESC I: Drive share for complete, maintained list)***		
	Standard Package/Program	Distribution (file server, hard drive, CD ROM, etc)	Notes
	Accelerated Reader Renaissance Place	*Web based*	*K-6*
	Adobe Acrobat Reader, Adobe Cloud Suite	*Hard Drive*	*K-12*
	ActivInspire	*Hard Drive*	*Interactive technology specific software, K-12*
	AIMS Web Progression Monitoring	*Web based*	*RTI - Response to Intervention, District-wide*
	AIMSweb Plus	*Web based*	*RTI - Response to Intervention, District-wide*
	Apple VPP Vouchers	*Web based*	*iPad APP purchasing, K-12*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Standard Software Configurations

Configuration:	K-12		
Locations/Users:	Office/Classroom/Lab/Library		
Software Type	Standard Package/Program	Distribution (file server, hard drive, CD ROM, etc)	Notes
	BrainPop	*Web based*	*K-4 (Library Services), IS, MS*
	BrainPop Jr	*Web based*	*K-4 (Library Services)*
	Camtasia Studio 8	*Hard Drive*	*HS Math Dept*
	Career Choices/Explorer/TestGEAR	*Web based*	*Guidance HS and MS*
	Castle Learning	*Web Based*	*IS, MS, HS*
	Choices	*Web based*	*Guidance HS and MS*
	Content Essentials For Science	*Web Based*	*Where requested*
	Dollars & Sense	*Server based*	*HS Home & Careers*
	Dragon Naturally Speaking	*Hard Drive*	*Special Ed. K-12*
	Dragon Systems Naturally Speaking	*Hard Drive*	*Special Ed. K-12*
	Enchanted Learning	*Web based*	*RR*
	ESGI Software	*Web based*	*K-4*
	ExamGen	*Server based*	*Math, Science, Social Studies as Requested*
	Fast Forward	*Web based*	*K-4*
	Finale - Music/Score	*Hard Drive and Server*	*K-12 Music where requested*
	Geometer SketchPad	*Hard Drive*	*HS Math*
	Go-Math	*Web based*	*K-6*
	INEW.com	*Web Based*	*Special Ed, District-wide*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Standard Software Configurations

Configuration:	K-12		
Locations/Users:	Office/Classroom/Lab/Library		
Software Type	Standard Package/Program	Distribution (file server, hard drive, CD ROM, etc)	Notes
	Mathseeds	*Web Based*	*K-4*
	Math Type 6.7	*Hard Drive*	*Math Dept*
	Microtype 5.0	*Server based*	*HS Business*
	Mirroring 360	*Hard Drive*	*K-12*
	Moby Max	*Web based*	*K-12*
	Movie Licensing	*Web based License*	*K-12*
	On Your Own	*Server based*	*HS Home & Careers*
	Punch	*Server based*	*HS Home & Careers*
	Raz-Kids	*Web based*	*K-4*
	Reading A-Z	*Web based*	*K-4*
	Reading A-Zap	*Hard Drive and Server*	*CS*
	Reading Eggs	*Web based*	*K-4*
	Safari Montage	*Server Based*	*K-12*
	Senior Wooly	*Web based*	*MS Language*
	SmartMusic	*Hard Drive, Online*	*Where Requested K-12 Music*
	SmartView TI Emulator	*Hard Drive, Server, Calculator*	*HS Math*
	SnagIt V10	*Hard Drive*	*HS Math Dept*
	Solid Works	*Web based*	*MS, HS*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Standard Software Configurations

Configuration:	K-12		
Locations/Users:	Office/Classroom/Lab/Library		
Software Type	Standard Package/Program	Distribution (file server, hard drive, CD ROM, etc)	Notes
	STEM Online	*Web based*	*STEM initiative thru GST BOCES*
	Super Teacher Worksheets	*Web based*	*GR*
	Timez Attack	*Hard Drive and Web Based*	*CS, IS*
	Treasures (ELA)	*Web based*	*K-6*
	Typing Instructor For Kids 5.0 Deluxe & Platinum	*Hard Drive and Server*	*K-6*
	Visions	*Hard Drive and Server*	*IS, MS, HS (Labs)*
	World Book & Other Online Research Sources	*Web based, BOCES CoSer 508*	*K-6 - via Library Services*
	Writing A-Z	*Web based*	*GR*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

District Data Systems

Software / Data System	Standard Package(s) & Version(s)	Number of Authorized Copies/Sites	District Point of Contact	Notes / Actions Required (also add major actions to Section K)
Student Records	*SchoolTool*	*District License*	*Gregg Moyer, Tony Gill*	
Student Attendance	*SchoolTool*	*HS and MS*	*Gregg Moyer, Tony Gill*	
Student Grade Reporting	*SchoolTool*	*District License*	*Gregg Moyer, Tony Gill*	
Master Schedule building	*SchoolTool*	*HS, MS*	*Karen Donahue, Ron Holloway*	
Parent Portal	*SchoolTool Parent Portal*	*All parents permitted*	*Gregg Moyer*	
Elementary and Intermediate Grade book	*SchoolTool*	*K-6*	*Tony Gill*	
Elementary and Intermediate Electronic Report Cards	*Custom program developed by CSC*	*1-4*	*Tony Gill*	
Kindergarten Electronic Report Cards	*Custom program to be developed by CSC*	*K*	*Tony Gill*	
Permanent Student Record	*SchoolTool Extract*	*District License*	*Gregg Moyer*	*Consolidates pertinent info from multiple SchoolTool modules*
State and Local Data Assessment	*Mastery Manager*	*District*	*Shawn McDonough*	*Item analysis of multiple choice, achievement results by standard, immediate results to staff, individual students, group, or whole class*
Data Archiving	*OnBase*	*GST BOCES Service*	*Gregg Moyer*	*Provides electronic archiving of data, mostly but not entirely in paper form, into a searchable database.*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

District Data Systems

Software / Data System	Standard Package(s) & Version(s)	Number of Authorized Copies/Sites	District Point of Contact	Notes / Actions Required (also add major actions to Section K)
Library Automation	*Mandarin*	*District License*	*Gregg Moyer*	*Available in libraries, considering classrooms*
Special Ed Administration	*IEP Direct*	*Site*	*Kim Williams*	*Web-based application*
Response to Intervention, School Improvement	*RTI FrontLine*	*District License*	*Shawn McDonough*	
College & Career Information and Applications	*Choices*	*Site- HS and MS*	*Karen Donahue, Ron Holloway*	
Payroll	*WinCap*	*District License*	*Katy Buzzetti*	
Accounting	*WinCap*	*District License*	*Katy Buzzetti*	
Automated Bidding and Special Reporting	*WinCap*	*District License*	*Katy Buzzetti*	
Insurance/Physical Assets Database	*GST BOCES / RAMI*	*1*	*CBO, Ron Tryon*	
Insurance/Physical Assets Database	*GST BOCES / RAMI*	*1*	*CBO, Ron Tryon*	
Personnel Recruitment & Tracking	*RecruitFront / TrackerReviewer*	*District License*	*Megan Collins*	
Personnel Records	*WinCap*	*Site - District Office*	*Megan Collins*	

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

District Data Systems

Software / Data System	Standard Package(s) & Version(s)	Number of Authorized Copies/Sites	District Point of Contact	Notes / Actions Required (also add major actions to Section K)
Transportation Records	*Bus Routing - Transfinder*	*District License*	*Pete Wilcox*	
Transportation BUS Notes	*GST BOCES software*	*District License*	*Pete Wilcox, Dan Tice, GST BOCES*	
Food Service	*Nourish POS - Cash Register System*	*7*	*Joe Kilmer*	*Interface with SchoolTool/School Messenger Auto Dialer system*
Food Service	*PaySchools*	*District License*	*Joe Kilmer*	*Access via District web site, meals pre-payment*
Software / Resource Databases	*Library services*	*District License*	*Gregg Moyer*	*GST BOCES, CoSer 508*
Inventory Hardware Database	*RAMI*	*Support Staff Licenses*	*Gregg Moyer*	*Shared by technical staff*
HVAC	*Siemens*	*District License*	*Larry Park*	*Remote access*
Security / Camera	*Day Automation*	*District License*	*Larry Park, Mike Coghlan, Gregg Moyer*	
Electronic Door Monitor	*Day Automation*	*District License*	*Mike Coghlan*	
Public Address		*District License*	*Mike Coghlan*	
Phone	*Nortel - Building PBX / IP routing,* GST BOCES VoIP 2019	*District License*	*Gregg Moyer, GST BOCES*	

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

District Data Systems

Software / Data System	Standard Package(s) & Version(s)	Number of Authorized Copies/Sites	District Point of Contact	Notes / Actions Required (also add major actions to Section K)
Network Accounts - Staff, Students 5-12	*Individual Account including 365 One Drive*	*District License*	*Gregg Moyer*	
Students 4th Grade	*Individual Account*	*District License*	*Gregg Moyer*	
Network Accounts - Students PK - 3* **Grade 3 will be individual 2019*	*Shared Classroom Account One per Grade PK-3*	*District License*	*Gregg Moyer*	
Shared Network Resources	*I, J, K, M, N, P drives*	*District License*	*Gregg Moyer*	*Electronic storage for access by staff and students*
SharePoint Sites	*Microsoft SharePoint*	*District License*	*Gregg Moyer*	*GST BOCES IDEAS*
Online Acceptable Use Policy (AUP)	*Custom program developed by CSC*	*District License*	*Gregg Moyer*	*Automated Annual AUP tracking for all staff and all 3-12 students*
Online Acceptable Use Email Policy (AUP)	*Custom program developed by CSC*	*District License*	*Gregg Moyer*	*Automated Annual Email AUP tracking for all staff and all 3-12 students*
Resource / Room Scheduler	*Roommate*	*District License*	*Gregg Moyer*	*GST BOCES IDEAS*
Automated Dialing	*School Messenger*	*District License*	*Gregg Moyer*	*Auto dialer integrated with SchoolTool system*
Automated Emergency High Speed Dialing	*School Messenger*	*District License*	*Gregg Moyer*	*Auto dialer integrated with SchoolTool system*
Online Work Assignment Program	*Q-Ware*	*District License*	*Mike Coghlan*	

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

District
Data Systems

Software / Data System	Standard Package(s) & Version(s)	Number of Authorized Copies/Sites	District Point of Contact	Notes / Actions Required (also add major actions to Section K)
Online Forms	*District Intranet*	*District License*	*Gregg Moyer, Sue Pirozzolo*	*Supported by IDEAS service*
Data Center	*Microsoft SharePoint*	*District License*	*Gregg Moyer, GST BOCES*	*Varied district data presented to public via district web-site*
BOE Electronic Agenda	*Board Docs*	*District License*	*Gregg Moyer, Nancy Parrillo*	*Paperless BOE meeting project. Information available to audience and community.*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Access to District Data

	Student Records							Libr.		Special Ed.				Guid.		Business Ofc					Tran.		Café		Facilities			Network			
Who Needs (vs Has?) Access	Attendance	Assessment	Transcripts	Scheduling	Medical	Discipline	Census	Card Catalogue/Resources	Library Systems	I.E.P.	Scheduling	Funding	Other Records	Career & College Info	Counselling Records	Payroll	Purchasing	Accounting	Personnel Records	Certification & Job Appl.	Transfinder & Bus Notes	Fleet Maintenance	School Lunch Program	Purchasing & Inventory	HVAC	Security	Public Address	Phone	Individual Accounts/Web based	Shared Classroom Accounts	Shared Resources
Elem. Teachers	x	x					x	x	x	x						x					x		x					x	x	x	x
IS Teachers	x	x					x	x	x	x						x					x							x	x		x
MS Teachers	x	x		x			x	x	x	x				x		x					x							x	x		x
HS Teachers	x	x		x			x	x	x	x				x		x					x							x	x		x
Special Ed	x	x		x			x		x	x	x					x					x							x	x		x
Resource Room	x	x		x			x		x	x						x					x							x	x		x
Compensatory																															
Home & Careers	x	x							x							x					x							x	x		x
Library	x	x		x			x	x	x							x					x							x	x		x
PE/Athletics	x	x		x			x		x	x						x					x							x	x		x
Administrators	x	x	x	x	x	x	x			x	x	x	x	x	x	x	x	x	x	x	x		x			x	x	x	x		x
District Office Staff	x	x		x	x		x				x	x	x		x	x	x	x	x	x								x	x		x
Clerical	x			x		x	x			x						x	x				x					x	x	x	x		x
Guidance	x		x	x			x			x				x	x	x					x							x	x		x
Psychologist	x		x	x			x			x	x					x					x							x	x		x
Nurse	x			x	x		x			x						x					x							x	x		x
Speech/Language	x	x		x			x		x	x	x					x					x							x	x		x
Technology Director				x				x				x				x	x				x								x	x		x
Transportation							x			x						x	x				x	x							x	x		x
Food Service							x																x	x					x	x		x
Facilities Staff																x	x								x	x	x	x	x		x
Technical Support	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Elem. Students								x	x																				x	x	x
IS Students								x	x																				x		x
MS Students								x	x					x															x		x
HS Students								x	x					x															x		x
Parents	x	x	x	x		x								x									x								
Community		x												x																	

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Vision and Strategy for Connectivity

Background	Networked computer capabilities can be greatly enhanced by connecting them to local and wide area networks, on-line services, web based systems via the Internet. This section describes preferred access to connectivity along with specifications for associated network wiring, hardware, and software.
Present State & Trends	*There is network in every classroom, office, and meeting area. The network is leveraged to provide access for data, phone, CATV, and video. Special distance learning connectivity is available in two District multimedia rooms. All district infrastructure will be upgraded by Summer 2019.*
Preferred Future	*Fast, reliable, secure access from all locations to needed applications. Convergence of most technologies onto the "network" - wired & wireless computer access, phone, HVAC, security, camera, CATV, video, video conference, and live on-site broadcast. Ability to support any feasible number of devices, to include 1:1 or higher ratios with students and the possibility of personally owned computing devices. Support all hi-density device initiatives, including CBT and online assessment.*
Strategy for Change	*Upgrade switching, wireless access points, server infrastructure, cabling backbone, and Internet bandwidth to accommodate growth and new technology. Participate in regional planning regarding long-term hi-speed data circuits. Increase wireless laptop and tablet use. Develop effective wireless configurations and management. Begin discussing 1:1 student access strategies. Implement all capital projects to support all identified infrastructure needs.*

	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	Expand efforts and perform necessary upgrades as budgets permit. Continue discussions on obtaining long-term network upgrades to accommodate convergence of all technologies in our preferred future, keeping in mind the District's 2030 "Building Our Future Now" initiative.	*Ongoing*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Connectivity Overview

MEDIUM	SYSTEM / APPROACH	CURRENT STATUS
Data Networks	Switched 10/100/1000/10000 Ethernet, 10 Gigabit backbone internal & external. Powered switches for Wireless Access Points. "AC" wireless Ethernet.	Backbone upgrades complete by summer 2019. Upgrading CISCO switching equipment to offer full 1GB bandwidth to the desktop.
Telephone	Hybrid district-wide system using Building PBX and IP inter-building connectivity.	Upgrade to VoIP will be complete by summer 2019. Review all Verizon, Centrex, and FirstLight services for best pricing, quality service, E-Rate compliance, and BOCES service opportunities.
Television	Cable TV, 16 channels via IP using Safari Montage. Video and sound delivered through interactive whiteboards and projectors.	Internal stations used for information distribution for and by staff and students. Cable signals used with Interactive white boards.
Video Conferencing	IP based access through special systems in HS MMC and MS LGI. Skype connectivity is part of operating system on Windows computers. IP access via the Internet from GST BOCES services.	Video conferencing available from all networked computers via Skype.

Connectivity Standards

Interoperability: Connectivity systems and associated equipment will allow for the simultaneous use of different types of hardware from a variety of different vendors. Standardization where possible.
Scalability: Connectivity systems will be designed to accommodate increased usage, either from the same user population demanding a higher level or services, or through a greatly expanded user population, with no fundamental change to newest architecture.
Security: Connectivity systems will guard against unauthorized access (accidental and deliberate) to information and network resources including wireless technology.
Reliability: Connectivity systems will be designed to minimize “down-time” and the associated disruptions to instructional and administrative activities. Includes bi-monthly scheduled maintenance.
Industry Standards: Connectivity systems will be designed, installed, and tested in accordance with minimum requirements specified by appropriate ANSI/TIA/EIA guidelines.

The following people will work to ensure compliance with these standards:

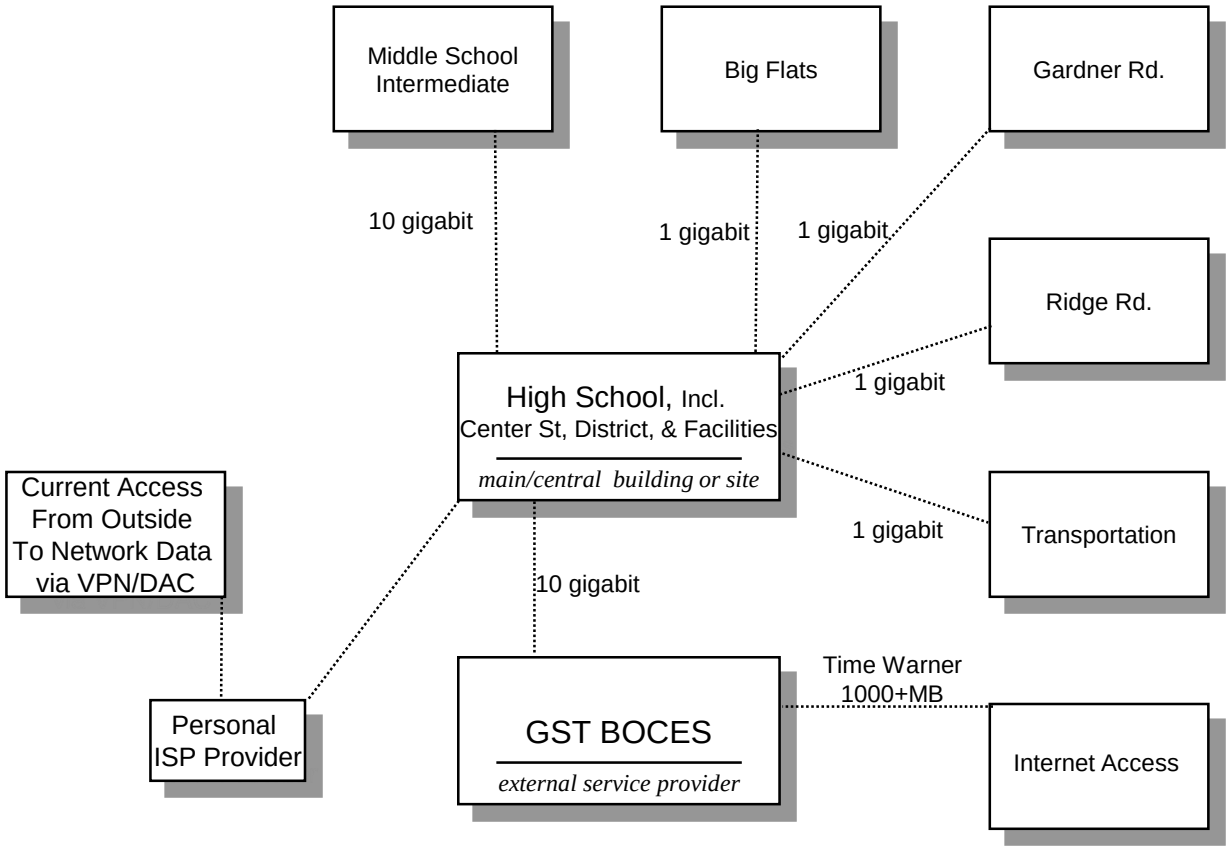
Technical Designer:	Hunt Engineering / Technology Director, District staff / GST BOCES
Design Reviewer:	Hunt Engineering / Technology Director, District staff / GST BOCES
Post-Installation Tester:	Hunt Engineering / Technology Director, District staff / GST BOCES

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Inter-Building Connections

Medium: *Data - Existing* - STN Fiber Network

(eg. data, telephone, distance learning, cable TV)



System Description:

Use portion of Intra-building gigabit backbone to support phone system traffic between buildings. This will be replaced by VoIP implementation summer 2019.

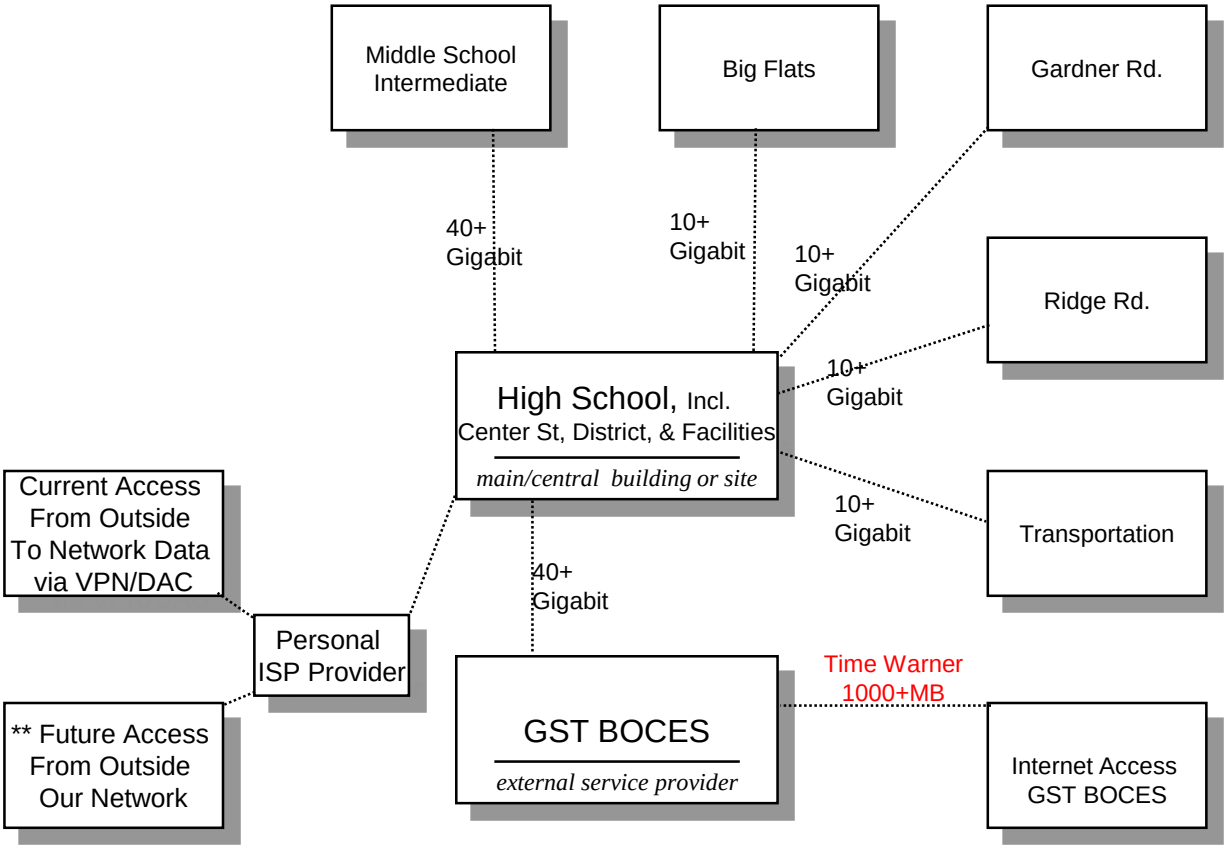
Content Keeper used to filter Internet.

Inter-Building Connections

Medium: *Data – Planned (With STN Network Backbone)*

(Wired, Wireless, Phone, HVAC, Security, CATV, Video, Video Conference, Live Broadcast)

(Dependent on Capital Project Implementation)



System Description:

Content Keeper used to filter Internet.

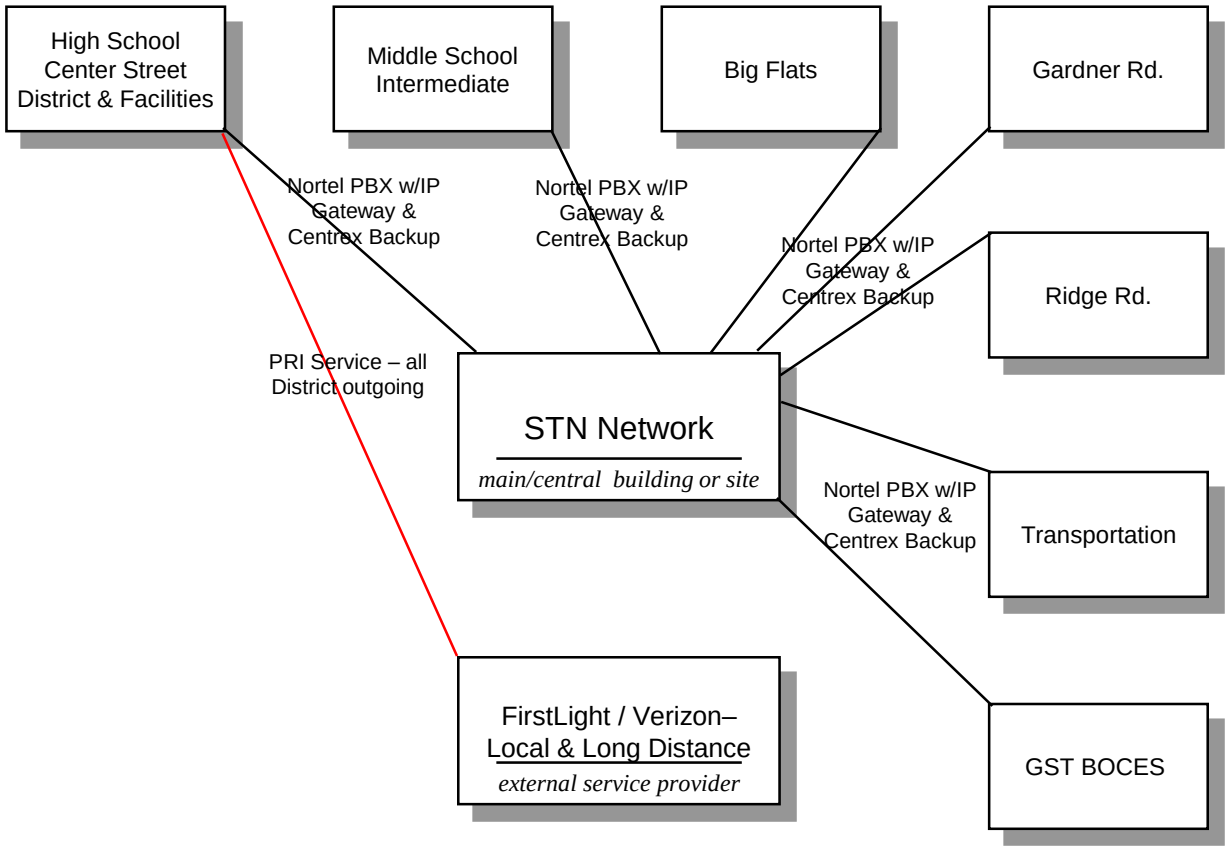
•The connections between buildings are via STN Fiber circuits for 10 years thru July 2022. STN is dark fiber so we are not limited to the data speed it an carry. It will be determined by the edge equipment we can introduce.

** Future implementation to permit flexibility in accessing applications serviced by GST BOCES. This could include instructional programs, personal and shared storage resources, and secure/filtered Internet access.

Inter-Building Connections

Medium: *Telephone - Existing*

(eg. data, telephone, distance learning, cable TV)



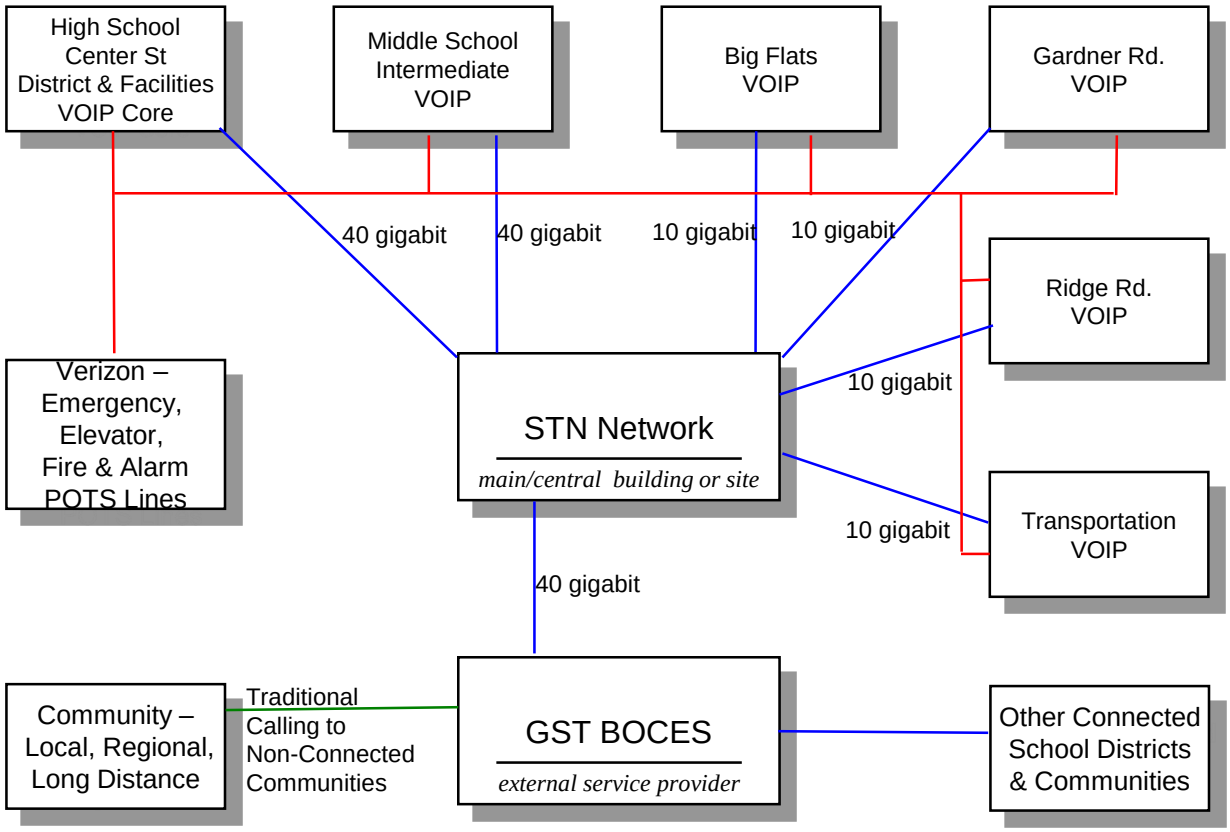
System Description:
Internal Calls and Voicemail:
Each building has a dedicated Nortel PBX controlling intra-building traffic. Calls between buildings and voicemail are serviced via the data network using IP gateway cards in the building PBX's. All calls flow the High School's centralized equipment.

Calls Outside the District:
Calls outside the district also flow through the High School's centralized equipment and then to FirstLight using a PRI service. In the event the network is down, each building possesses Verizon CENTREX phone lines which permit calls to continue in and out of each building. Four digit extension dialing and voicemail are disrupted, but seven digit dialing still permits calls between buildings. An auto-attendant is used to manage calls coming into the District. Nearly all staff have voicemail. For teaching staff, voicemail extensions are separate from classroom extensions. An email is sent to staff when they have received a voicemail as a reminder to check. District-wide Caller ID has been researched and for now is on hold due to additional cost.

Inter-Building Connections

Medium: *Telephone – Planned*

(eg. data, telephone, distance learning, cable TV)



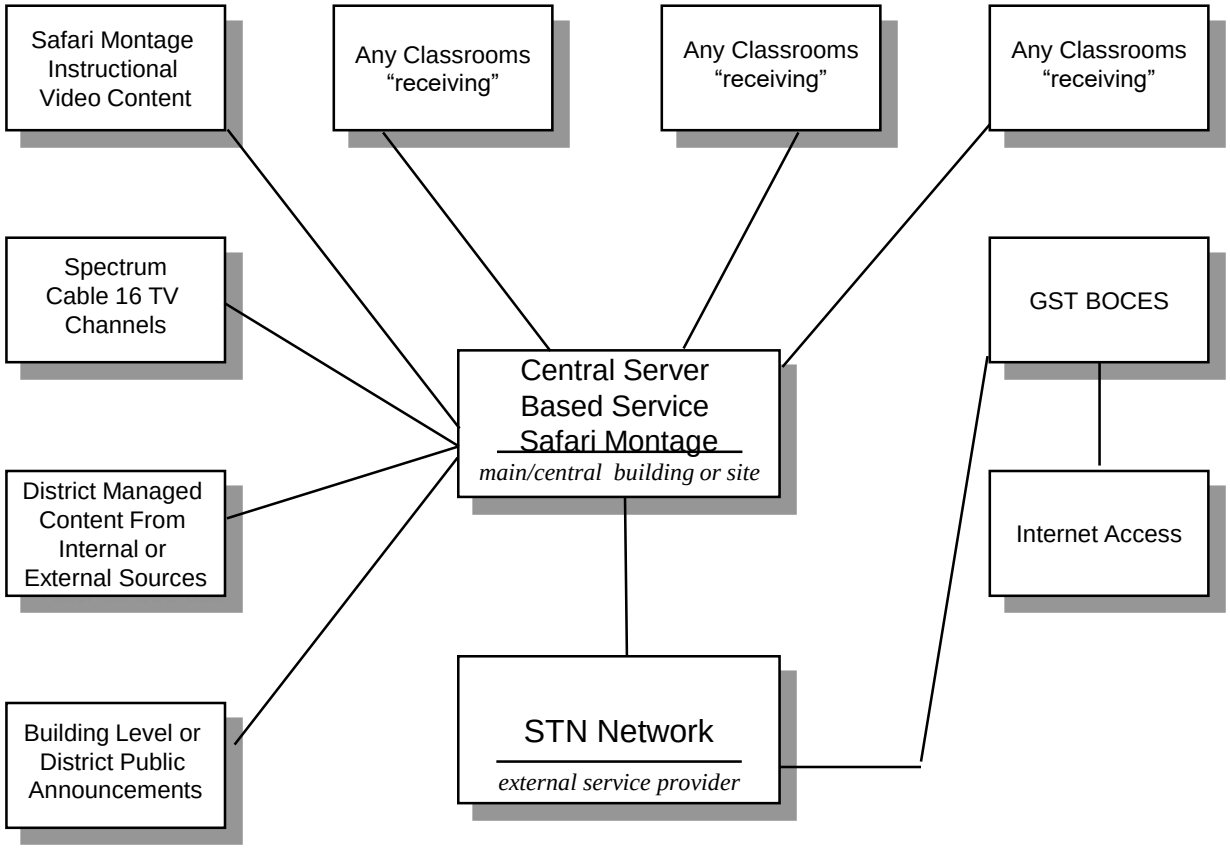
System Description:

The current phone system will be replaced by summer 2019 through capital project funding to the regional VoIP system. All services that can generate E-Rate discounts or BOCES aid will be pursued. Support will be maintained through GST BOCES. The District will leverage the additional features offered through a VoIP system to enhance communications and safety.

Inter-Building Connections

Medium: *Media Distribution (incl. Cable) - Existing*

(eg. data, telephone, distance learning, cable TV)



System Description:

Video Streaming:
Instructional video streaming content for teaching staff is available through Safari Montage. Also, live building feeds, and district created content are available through Safari Montage. Safari Montage requires an annual subscription which is coordinated through GST BOCES CoSer 512.

Intra-Building Networks

Existing – Elementary by summer 2019

STN

remote site / source

10/40 Gigabit

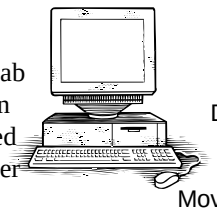
Building/Network:

All Buildings

(Dependent on Capital Project Implementation)

Blue indicates changes due to Capital Project
Switches – Cabling, Controllers

Typical Classroom/Lab Workstation & Networked Printer/Copier



Desktop (mbps) 10/100/1000 Ethernet
Move Servers to 1GB or 10GB & Upgrade to Virtual

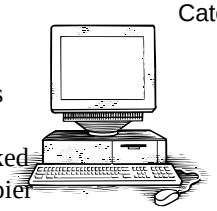
Non 'MDF' Closets
3580X Switches
2960X Security Switches
All Powered

Fiber Backbone
10 Gigabit

'MDF' Closet
C3850X Switch – All HS/CS, RR, Trans, MS/IS, BF, GR,
All Powered
Security – 2960X

Category 6 cabling

Typical Wireless Laptop & Networked Printer/Copier



Laptop 802.11g/n/ac access

same

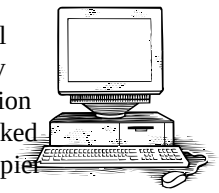
same

'MDF' Closet
5520 Series Wireless LAN Controller/s HS/MS

Throughout the District
3802I 500+ 'ac' Wireless Access Points
Connecting to Powered Switches in All Closets

Upgrade to category 6
Add additional 3802I AP's to saturate all classrooms 1:1

Typical Library Workstation & Networked Printer/Copier



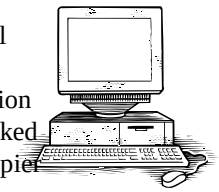
same

same

same

Upgrade Category 6 cabling

Typical Office Workstation & Networked Printer/Copier



same

same

same

Upgrade Category 6 cabling

Connectivity Systems and Services

Medium: Data Network - Current

(eg. data network, telephone, distance learning)

ITEM / SERVICE	STATUS / NOTES	E-RATE ELIGIBLE?	ONE-TIME COSTS	ANNUAL COSTS
Gigabit Ethernet Leases	Leased from STN - BOCES Aidable	☑		$25,032
CISCO SMARTNET Wireless Support	BOCES Aidable	☐		$4,330
File Server Replacement/Upgrade	Type - Applications, As Needed	☐		$4,000
CISCO Switches / MDF/IDF Related	BOCES Aidable	☐		$7,690
Access Points - Expansion	As Needed - Through Cap. Project	☐		$0
Access Points - Spares	As Needed - Through Cap. Project	☐		$0
CATV Repairs	N/A	☐		$0
Cabling Repairs/ Cat 6	As Needed	☐		$3,000
Electric Infrastructure Repairs	As Needed	☐		$1,000
Security Maintenance	GST BOCES Contract	☐		$63,277
VoIP PRI Circuits	GST BOCES - FirstLight	☐		$16,596
Infrastructure Upgrades - Cabling, Closets (Capital Project), Multi-Year	**Estimate**	☐	$12,000,000	
Many BOCES Services Associated With Connectivity Systems		☐		
		☐		
	SUBTOTALS:		$12,000,000	$124,925

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Connectivity Systems and Services

Medium: Data Network - Future Upgrades

(eg. data network, telephone, distance learning)

ITEM / SERVICE	STATUS / NOTES	E-RATE ELIGIBLE?	ONE-TIME COSTS	ANNUAL COSTS
Gigabit Ethernet Leases	Leased from STN - BOCES Aidable	☑		$25,032
CISCO SMARTNET Wireless Support	BOCES Aidable	☐		$4,330
File Server Replacement/Upgrade	Type - Applications, As Needed	☐		$4,000
CISCO Switches / CER Related	BOCES Aidable	☐		$7,690
Access Points - Expansion	As Needed - Through Cap. Project	☐		$0
Access Points - Spares	As Needed - Through Cap. Project	☐		$0
CATV Repairs	N/A	☐		$0
Cabling Repairs/ Cat 6	As Needed	☐		$3,000
Electric Infrastructure Repairs	As Needed	☐		$1,000
Security Maintenance	GST BOCES Contract	☐		$63,277
VoIP PRI Circuits	GST BOCES - FirstLight	☐		$16,596
VoIP Support Service	GST BOCES - Estimate	☐		$51,400
Many BOCES Services Associated With Connectivity Systems		☐		
		☐		
	SUBTOTALS:		$0	$176,325

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Connectivity Systems and Services

Medium: Telephone

(eg. data network, telephone, distance learning)

ITEM / SERVICE	STATUS / NOTES	E-RATE ELIGIBLE?	ONE-TIME COSTS	ANNUAL COSTS
Telephone - Local	Verizon/FirstLight	☐		$30,557
Telephone - Regional & Long Distance	Verizon/FirstLight - in above	☐		$0
Telephone - Long Distance AT&T	N/A	☐		$0
Service Under Contract	Phone - All-Mode Communications*	☐		$17,453
Services Not Under Contract	Phone - All-Mode Communications*	☐		$500
	* Costs may end with move to VOIP phone system	☐		
Cell Phone Contracts (4)	Verizon Select Services	☐		$3,000
		☐		
		☐		
		☐		
		☐		
		☐		
		☐		
		☐		
SUBTOTALS:			$0	$51,510

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Connectivity Systems and Services

Medium: Video Conferencing
(eg. data network, telephone, distance learning)

ITEM / SERVICE	STATUS / NOTES	E-RATE ELIGIBLE?	ONE-TIME COSTS	ANNUAL COSTS
Distance Learning Service Contract - High School	Presentation Source	☐		$5,000
Distance Learning Service Contract - Middle School	Presentation Source - In Above	☐		$0
		☐		
		☐		
		☐		
		☐		
		☐		
		☐		
		☐		
		☐		
		☐		
		☐		
		☐		
		☐		
SUBTOTALS:			$0	$5,000

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Horseheads Central School District

District Wide Technology & Security System Improvements

HUNT

January 25, 2013

Option	A	B	C	D	E	F	G	H		I	J	K	L	M	N	O	P	
								Data Cabling Upgrade to Category 6			Corridor Ceiling Replacement							
	Data Room Upgrades	10 Gigabit Network Switch Gear	Power Backup (UPS)	Voice / IP Phone System	Security Camera Upgrade	Wireless System Upgrade	IP Video Distribution System	Cable Tray in Corridors	Office Areas, Comp. Labs, Librarys, etc.	2 Cables per Classroom	4 Cables per Classroom	Tiles Only	ADD Grid	ADD Lights	*ADD L.E.D. Lights	Secured Building Entryways	Classrm. Security Locksets	Computers to meet PARCC Requirement	Building Totals
High School	$162,375	$235,000	$55,000	$249,000	$249,500	$224,000	$240,000	$55,400	$290,700	$139,400	$278,800	$69,250	$77,906	$129,844	$86,563	$130,000	$49,200	$105,000	**$2,826,938**
Middle School	$119,148	$150,000	$40,000	$137,250	$90,500	$152,000	$7,500	$43,773	$218,025	$130,900	$261,800	$54,716	$61,556	$102,593	$68,395	$246,000	$46,200	$85,000	**$2,015,354**
Big Flats Elem.	$80,975	$125,000	$25,000	$51,000	$46,500	$56,000	$3,500	$12,483	$90,950	$51,000	$102,000	$15,604	$17,555	$29,258	$19,505	$127,000	$18,000	$80,000	**$951,329**
Center St. Elem	$40,838	$80,000	$15,000	$60,000	$50,500	$51,200	$3,500	$12,304	$88,825	$49,300	$98,600	$15,380	$17,303	$28,838	$19,225	$86,000	$17,400	$65,000	**$799,212**
Gardner Rd. Elem	$49,075	$105,000	$20,000	$52,500	$46,500	$56,000	$3,500	$15,011	$90,950	$51,000	$102,000	$18,764	$21,110	$35,183	$23,455	$69,000	$18,000	$65,000	**$842,047**
Ridge Road Elem	$52,490	$105,000	$20,000	$50,250	$42,500	$52,800	$3,500	$10,344	$84,575	$45,900	$91,800	$12,930	$14,546	$24,244	$16,163	$100,000	$16,200	$80,000	**$823,242**
Broad St. Bldg	$27,763	$75,000	$15,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$117,763**
Bus Garage	$6,300	$8,000	$1,000	$13,500	$75,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$103,800**
Maintenance	$6,040	$5,000	$1,000	$4,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$16,540**
Total	$545,003	$888,000	$192,000	$618,000	$601,000	$592,000	$261,500	$149,315	$864,025	$467,500	$935,000	#########	$209,975	$349,958	$233,305	$758,000	$165,000	$480,000	

Ceiling Replacement w/ L.E.D. Total $979,881

Other Technology Items

Middle School LGI **$100,000**
(Included in Total)

(20% or more)
Over 65% Energy Savings per L.E.D. light fixture
vs. T-8

Total Construction Cost	**$8,596,224**
5% Design Contingency	**$429,811**
Construction Contingency	**$902,603**
20% Incidentals	**$1,985,728**
Total Project Cost	**$11,914,366**

Electrical System Capacity

Building / Area	Review Date	Assessment / Notes	Max KW	Avail KW	% Used
Intermediate School	Annual or as Needed	OK - Service review needs to be rescheduled	520	1500	34.67%
Middle School	Annual or as Needed	OK - Service review needs to be rescheduled	Combined above		
Ridge Road	Annual or as Needed	OK - Service review needs to be rescheduled	132	288	45.83%
Gardner Road	Annual or as Needed	OK - Service review needs to be rescheduled	153	500	30.60%
Big Flats	Annual or as Needed	OK - Service review needs to be rescheduled	122	432	28.24%
Center Street	Annual or as Needed	OK - Service review needs to be rescheduled	129	432	29.86%
High School North	Annual or as Needed	OK - Service review needs to be rescheduled	544	1500	36.27%
High School South	Annual or as Needed	OK - Service review needs to be rescheduled	Combined above		
High School (North Classrooms)	Annual or as Needed	OK - Service review needs to be rescheduled	Combined above		
High School (North Offices)	Annual or as Needed	OK - Service review needs to be rescheduled	Combined above		
High School (South Classrooms)	Annual or as Needed	OK - Service review needs to be rescheduled	Combined above		
High School (South Offices)	Annual or as Needed	OK - Service review needs to be rescheduled	Combined above		
High School (Supt Offices)	Annual or as Needed	OK - Service review needs to be rescheduled	Combined above		
High School (Business Offices)	Annual or as Needed	OK - Service review needs to be rescheduled	Combined above		
High School (Educational Support Center Offices)	Annual or as Needed	OK - Service review needs to be rescheduled	Combined above		

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Vision and Strategy for Policy

Background	Technology requires a unique set of policies & formal procedures to ensure that it is properly purchased & maintained, equitably accessible, appropriately safeguarded, and responsibly used. Of course, policy is only effective where it is understood and implemented. This section reviews the content and effectiveness of existing policies & formal procedures and assesses the need for modifications and additions.
Present State & Trends	*Recently revised Board of Education policies, regulations, and exhibits are currently posted on the District's Intranet and through the electronic online Board of Education system, BoardDocs. Most, but not all, policies and regulations are reviewed on an annual basis.*
Preferred Future	*Technology policies are reviewed on an annual basis. Emphasis is given to those policies regarding the safekeeping of "sensitive" student and staff data, particularly "sensitive" data residing at vendor sites. Any changes are communicated to all staff. Recommendations from Auditors are taken into account.*
Strategy for Change	*Technology policies are reviewed each year and suggested changes are communicated to appropriate staff.*

	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	Refine policies as needed given introduction of newly requested technologies, capabilities, accesses, State requirements, and recommendations from Auditors.	*Ongoing*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Policy Record

POLICY / PROCEDURE / REGULATION	STATUS	REFERENCE LOCATION	TOPICS COVERED
Authorized Use of School Equipment*	Current	BOE 8330	Private use of school materials
Authorized Use of School Equipment by District Residents*	Current	BOE 8330.1	Public use of school materials
Care of School Property By Students*	Current	BOE 5311.4	School property
Code of Conduct	Current	BOE 5300-E	Student code of conduct
Complaints About Curricula or Instructional Materials*	Current	BOE 1420	Challenge of instructional materials
Computer Resources and Data Management*	Current	BOE 8630	Expectations for mgt of data, records, accounts, hardware, and software
Cooperative Purchasing Policy*	Current	BOE 6730	Purchasing of items
Disaster Recovery Plan	Current	On File - GST BOCES	Regional GST BOCES plan
Information For New Users	Current	Intranet	Provided to new hires - expectations
Library Materials Selection*	Current	BOE 4513	Criteria to select
Network and Internet Acceptable Use Policy and Regulation*	Current	BOE 4526, 4526-R	Do's, don'ts and consequences
Network Email Acceptable Use Policy & Regulation - Staff and Student*	Current	BOE 4526.1, 4526.1-R, 4526.2, 4526.2-R	Do's, don'ts and consequences
Parents Bill of Rights (PBoR)	Current	BOE 5510	2014 NYS Law, parent access to information

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Policy Record

POLICY / PROCEDURE / REGULATION	STATUS	REFERENCE LOCATION	TOPICS COVERED
Relationship With Non-Public Schools - Loaning Software & Hardware*	Current	BOE 1612-R	Loaning criteria and responsibilities
Security Breach and Notification*	Current	BOE 8635	Procedures if computerized data has been compromised
Security Breach and Notification Regulation*	Current	BOE 8635-R	Procedures if computerized data has been compromised
Security Procedures - Regional Wide Area Network*	Current	BOE 4528-R	Detailed procedures for maintaining network security
Technology Request Form**	Current	Intranet	Documents request, instructional rationale, cost, training
User Authorization Form - Staff**	Current	Intranet - Forms Folder	Part of network account creation process
Online AUP (Acceptable Use Policy) Acceptance - Students Grades 3-12 and All Staff	Current	Online - AUP Acceptance every September	Student accounts automatically created from SchoolTool
Online Email AUP (Acceptable Use Policy) Acceptance - Students Grades 3-12 & All Staff	In research	Online - AUP Acceptance every September	Student accounts automatically created from SchoolTool
Web Site Process Approval*	Current	BOE 4527-E1	Teacher web pages
Web Site Photo and Project Release*	Current	BOE 4527-E2	Teacher web pages
Web Site Use*	Current	BOE 4527-R	Teacher web pages
*Located on District Website under Board of Education section			
**Located on Intranet: Document Library / Forms Library Folder / Technology Sub-Folder			

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Vision and Strategy for Support

Background	Technology is largely ineffective without an adequate and properly trained support staff. Technology responsibilities that must be handled include planning, designing, purchasing, installing, maintaining, troubleshooting, training, assessment, and more. This section charts how these responsibilities are assigned presently and identifies changes that will be made.
Present State & Trends	*9 Staff, 7.3 FTE - Technology Director (Reporting to Assistant Superintendent), Instructional Technology Support Specialists (District and BOCES), Network Technicians (BOCES). Access to many other regional services (BOCES).*
Preferred Future	*A support structure will exist that can meet the instructional and technical needs of all users in a timely manner.*
Strategy for Change	*Annually evaluate current conditions and service needs to make recommendations for the future. This would include district level support and in-building support.*

	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	Analyze changing needs for technical and instructional support relative to growth in technology integration and district or building initiatives. Promote HELPDESK utilization: 795-5324, Email HelpDesk@ , & Online Technical Support Form.	*Ongoing*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Responsibility Chart

Indicate Projected Start Date Here for Future Positions →	**Person**	Gregg Moyer	S McDonough, K McLain	T Owen, A Gill		T Owen, A Gill	Kim Williams	Matt/Dave/Cheryl	Gale/Kristy/John/Sally/ Sean.4	Thomas Douglas	Katy Buzzetti	Sue Pirozzolo	Megan Collins	7 Prin., 5 Asst. Prin.	Linda Perry	G Moyer, T Owen, A Gill	G Moyer, T Owen, A Gill		Chuck Stefanini	Chuck Stefanini
Responsibility *(Letters indicate corresponding section of this technology plan)*	**Position**	Technology Director	Data Administrator	Staff Development		Curriculum Coordination	Pupil Services	Inst. Tch. Support Spec.	Network Technicians	Superintendent	Business Manager	Public Relations	Dir. Of Human Res.	Building Principals	BOCES Instr. Support	Technology integration in committees	Planning Sub Committees		BOCES Repair Service	BOCES Comp. Serv.
Technology Planning		x								x						x	x			
Record & Distribute Meeting Minutes		x																		
Keeping District Plan Up-To-Date		x														x				
Annual Update to BOE		x																		
A. Define Desired Student Outcomes		x	x			x		x									x			
B. Staff Development Design				x													x			
B. Staff Development Coordination				x													x			
B. Staff Development Teaching				x				x	x								x			
B. General Staff Support		x	x	x		x		x	x					x						
B. Collect & Review Staff Inputs		x	x	x				x									x			
C. Determine Hardware Standards		x						x	x											
C. Research & Ordering		x						x	x											
C. Hardware Installation		x							x											
C. Troubleshooting & Repair		x						x	x										x	x
D. Equipment Sign-Out & Tracking		x							x					x						
E. Determine Software Standards		x		x		x		x					x	x			x			
E. Software Installation		x						x	x						x					x
E. Database Design & Support		x						x	x								x			x
F. Network Design		x						x	x	x										x
F. Network Installation & Testing		x							x											x
F. Network Administration		x							x											x
G. Policy Development & Coordination		x	x	x		x	x	x		x	x	x	x	x						
H. Personnel Supervision, Hiring, etc.		x		x		x				x			x	x			x			
I. Communications		x										x		x			x			
J. Budgeting & Fund Sources		x								x	x			x			x			
J. Grant Writing				x		x	x					x			x					
K. Implementation Tracking		x		x		x											x			
L. Assessment		x	x	x		x											x			

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Vision and Strategy for Communication and Cooperation

Background	As in most endeavors, communication and cooperation are critical to the successful integration of technology into teaching and learning. All stakeholders, including faculty, staff, students, parents, boards of education, and other community members must be kept reasonably well informed about plans, opportunities, and developments. Meanwhile, collaborative opportunities often exist with other schools, agencies, corporations, etc. These can help leverage technology investments and provide additional funding and/or support. This section describes present and planned communications and cooperative efforts related to technology and this plan.
Present State & Trends	*There is a wide range of avenues for communication. We cooperate with a wide variety of organizations. Concerted effort is made to keep communications up-to-date.*
Preferred Future	*We communicate regularly with all stakeholders. Appropriate technology is utilized to facilitate communication whenever possible. Explore new methods of communication that leverage technology assets and reach a larger community audience.*
Strategy for Change	*Review current methods of communication and provide mechanisms to include all key stakeholders. Incorporate District 2030 "Building Our Future Now" initiative efforts. A strategic team called the Community Engagement/Relations Action Team will be vital as we spearhead this growth.*

	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	Expand current methods of communication where useful. Implement new methods of appropriate internal and external communication.	*Ongoing*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Communication Plan

Medium/Method	Responsible Person(s)	Status / Schedule	Target Audience					
			Faculty & Staff	Students	Parents	BOE	Community	Strat. Action Teams
District								
Administrative Central Office	Thomas Douglas, Nancy Parrillo	Monthly	X Adm					
Administrative Executive Team	Thomas Douglas, Nancy Parrillo	Monthly	X Adm					
Administrative Council & Principals & Elementary Principal's Meetings	Thomas Douglas, Nancy Parrillo	Monthly	X Adm					
Administrative - Instructional Leaders Group, Pk-4 Principals Group	Anthony Gill	Monthly	X Adm					
Administrative News	Nancy Parrillo	Ongoing	X Adm					
Athletic - Health Information - FamilyID	Bert Conklin	Ongoing	X	X	X			
Athletic - Scheduling - Schedule Galaxy	Bert Conklin	Ongoing	X	X	X			
Badging System - Staff	Candi Valentine	Ongoing	X					
Badging System - Students (9-12)	Katie Wida	Ongoing		X				
BOE Email & Network Accounts	Thomas Douglas, Nancy Parrillo, Gregg Moyer	Daily				X		
BOE Meetings	Thomas Douglas, Pam Strollo	Monthly	X	X	X	X	X	
BOE Electronic Agenda	Nancy Parrillo	Monthly	X	X	X	X	X	
BOE Sub Committees	Thomas Douglas, Nancy Parrillo, Pam Strollo	Monthly	X Adm			X		
BOE Technology Presentations	Gregg Moyer, Support Team	1-2 Times/Year	X	X	X	X	X	
BOE Recap	Susan Pirozzolo	Monthly	X	X	X	X	X	

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Communication Plan

Medium/Method	Responsible Person(s)	Status / Schedule	Target Audience					
			Faculty & Staff	Students	Parents	BOE	Community	Strat. Action Teams
Calendar	Susan Pirozzolo	Yearly	X	X	X	X	X	
Custom Program - Lunch Counts	Principal	Daily	X	X				
Custom Program - PaySchools Service	Joseph Kilmer	Daily			X			
Custom Program - Bus Notes	Transportation Supervisor/Principals	Daily	X	X				
Data Center, State Requirements, Warehouse	S McDonough, A Gill, T Douglas, BOE, GST BOCES	Ongoing	X	X	X	X	X	
Exchange Outlook E-mail	Gregg Moyer, Sue Pirozzolo	Daily	X		X	X	X	
"ESC" Communications - Email/Intranet/Other	A Gill, T Owen, S McDonough, R Bradley, G Moyer	Monthly	X					
Grade Level, Department Chair Meeting	Anthony Gill, Tiffany Owen	7 Times Per Year	X					
Grade Level, Department Chair Combined Meeting	Anthony Gill, Tiffany Owen	2 Times Per Year	X					
Health, Dental, Insurance Newsletter	Megan Collins, Susan Pirozzolo	As Needed	X					
Health, Dental, Insurance Changes/Updates	Nicole Kerbein	As Needed	X					
HPC (Horseheads Parent Council)	Thomas Douglas	Monthly			X			
Internal TV Broadcasting - Infomercial model	Gregg Moyer, Technical Support	As Needed	X	X				
Internal TV Broadcasting - Instructional	Gregg Moyer, Technical Support, Key Bldg Staff	As Needed	X	X				
Intranet	Gregg Moyer, Anthony Gill, Tiffany Owen, Sue Pirozzolo	Ongoing	X					
District Newsletter	Susan Pirozzolo	Monthly	X	X	X	X	X	

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Communication Plan

Medium/Method	Responsible Person(s)	Status / Schedule	Target Audience					
			Faculty & Staff	Students	Parents	BOE	Community	Strat. Action Teams
Media Relations - Star Gazette, Leader, WETM, & WENY	Susan Pirozzolo	As Needed	X	X	X	X	X	
Minutes BOE Archive, BoardDocs	Nancy Parrillo	As Needed	X			X		
New Teacher Orientation	Anthony Gill, Tiffany Owen, Rachel Bradley	August	X			X		
Online Application Process	Human Resources	As Needed	X				X	
Online Helpdesk, Email Helpdesk	GST BOCES	Ongoing	X	X		X		
Online Web-based Admin Applications - To include APPR & MPPR	A Gill, T Owen, G Moyer	Ongoing	X					
Online Web-based Applications - Instructional Technology software	Instruct Support Team, Jessica Benkelmann	Ongoing	X	X	X			
Phone System (Current) & Migration to VoIP	Gregg Moyer, Sally Gwin, GST BOCES	Ongoing	X					
Roommate	Gregg Moyer, GST BOCES	Ongoing	X				X	
School Safety, NaviGate	Megan Collins, Mike Coghlan	Ongoing	X	X	X		X	
SchoolTool - Parent Connection	Admin, Teachers, SchoolTool Support	Ongoing	X		X			
Shared Network Drives - Staff	Gregg Moyer, Technical Staff	Ongoing	X					
Shared Network Drives - Staff and Student	Gregg Moyer, Technical Staff	Ongoing	X	X				
SharePoint Sites	Building Staff, GST BOCES, Sue P	Ongoing	X					
Social Media - Facebook, Twitter	Susan Pirozzolo	Ongoing	X	X	X	X	X	
Staff Development Procedures	Tiffany Owen, Anthony Gill	Ongoing	X					

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Communication Plan

Medium/Method	Responsible Person(s)	Status / Schedule	Target Audience					
			Faculty & Staff	Students	Parents	BOE	Community	Strat. Action Teams
Staff Development Online Registration	T Owen, A Gill, R Bradley	Ongoing	X					
Staff Network Account - Acceptable Use Agreement	Gregg Moyer	Ongoing	X					
Staff Network Account - Online Acceptable Use Agreement	Gregg Moyer, Technical Staff	Annual	X					
Strategic 2030 Engagement Action Team - Professional Learning	Anthony Gill, BOE Member	Ongoing	X					X
Strategic 2030 Engagement Action Team - Curriculum, Instruction, & Assessment	Anthony Gill, BOE Member	Ongoing	X					X
Strategic 2030 Engagement Action Team - Community Engagement	Anthony Gill, BOE Member	Ongoing	X					X
Strategic 2030 Engagement Action Team - Culture & Wellness	Anthony Gill, BOE Member	Ongoing	X					X
Student Network Account - Online Acceptable Use Agreement	Gregg Moyer, Technical Staff	Annual		X				
Superintendent Roundtables	Thomas Douglas, Nancy Parrillo	Monthly	X		X		X	
Superintendent Staff Chats	Thomas Douglas, Nancy Parrillo	Throughout The Year	X					
SchoolMessenger Auto Dialing System	Gregg Moyer, Technical Staff, Administration	Ongoing	X	X	X			
SchoolMessenger Auto Dialing System, Crisis Calling	Gregg Moyer, Technical Staff, Sue Pirozzolo, Thomas Douglas	As Needed			X			
Technology Fair	Gregg Moyer, Technical & Instructional Support, T Owen, A Gill	TBD	X			X		
Video Conferencing - Staff Development	Tiffany Owen, Anthony Gill, Gregg Moyer	As Needed	X					
Virtual Meetings	Gregg Moyer, Technical Staff	As Needed	X					
Weather Emergencies - WELM, WATS, WINK/WWLZ/WINGS/ WSKG, WCBA/WENY, WENY TV, WETM, WHGL, Spectrum News	Nancy Parrillo, Gregg Moyer	Ongoing	X	X	X	X	X	

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Communication Plan

Medium/Method	Responsible Person(s)	Status / Schedule	Target Audience					
			Faculty & Staff	Students	Parents	BOE	Community	Strat. Action Teams
Web-Site	S Pirozzolo, GST BOCES, G Moyer	Ongoing	X	X	X	X	X	
Work Order, Q-Ware	Mike Coghlan, Gregg Moyer	Ongoing	X					
Building								
Custom Programming - IE: Online Hall Passes	Principals, Instr Support Staff, GST BOCES	Daily	X	X				
Faculty Meetings	Principals	Monthly	X					
High School Computer Lab Newsletter	TBD	Periodically	X					
High School - Data Sharing (Surveys)	Instructional Support Staff, Gregg Moyer	Daily	X	X				
Internal TV Broadcasting - All Bldgs., Safari Montage	Building Staff, Technical Staff	Daily	X	X				
Newsletters	Principals, Secretaries	Monthly/ Bimonthly		X	X			
Parent Associations	Parents, Principals	Monthly	X		X			
Parent Night / Teacher Conferences	Principals & Staff	Ongoing	X	X	X			
Star Students Program	Principals	Monthly		X	X	X	X	
Support for Technology Integration - IE: Whiteboard *Wednesdays, Open labs*	Principals, Teachers, Instructional Support Team	As Needed	X					
Teacher/School Web Pages (ToolBox Pro)	Teachers, Sue S Pirozzolo, GST BOCES	Daily/As Needed	X	X				
Teacher ToolBox Collaborate Web	Teachers, GST BOCES	As Needed	X	X				

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

External Cooperation
(Technology-Related)

Name of Organization	Present Level of Cooperation	Notes / Preferred Cooperation
Administrative Combined Services	*Shared Food Service Director.*	*Program continues.*
BOCES Services	*Participate in many shared services with other school districts.*	*Services continue.*
CCC	*Advanced coursework for college credit.*	*Program continues.*
CCC	*Solidworks application Pre-Engineering program.*	*Program continues.*
Computer Loaning Program - Parochial	*Specific hardware and software loaned to Horseheads Saint Mary Our Mother, Horseheads Christian School, and Montessori.*	*Continue as requested.*
CrowdFiber	*Initiative dedicated to bringing High Speed Bandwidth to remote locations within Chemung County and Horseheads boundaries specifically.*	*Currently being researched.*
Elmira Heights / Horseheads - Transportation	*Combined busing services.*	*Services continue.*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

External Cooperation
(Technology-Related)

Name of Organization	Present Level of Cooperation	Notes / Preferred Cooperation
GST BOCES	*Service / Support provider District-wide*	*Services continue.*
High Tech High School, STEM	*Create a 4 year technical high school program that prepares students for a successful transition into advanced post secondary STEM (science, technology, engineering, math) study or entrance into local STEM workforce.*	*Continue research, Continue GST BOCES Program.*
Local Law Enforcement	*Safety resource officer in the High School and Middle School.*	*Program continues. Access to all appropriate network resources.*
NYSCATE	*State Conference for Instructional Technology.*	*Program continues.*
Pre-K	*Big Flats, Center Street, Gardner Road, and Ridge Rd.. Collaborate on program for four-year olds. State grant funds collaboration with Ungvarsky Daycare.*	*Desire to expand as need increases. Continue as funding allows.*
Regional (County) Technology Infrastructure Planning	*Access to county-wide dark fiber project to provide unlimited bandwidth to all school facilities in Elmira, Elmira Heights, and Horseheads Districts.*	*Completed and implemented. Has replaced Verizon circuits.*
Regional District Instructional Technology Planning	*Made up of Technology Directors to discuss similar needs with regard to many areas: infrastructure, 21st century learning skills, best practices, new technology, new staff development concepts, and regional impact for federal and state dollars.*	*Meet monthly thru GST BOCES.*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

External Cooperation
(Technology-Related)

Name of Organization	Present Level of Cooperation	Notes / Preferred Cooperation
Spectrum Services	*Provide digital access to TV Channels.*	*Continuing.*
Summer Cohesion	*Use available school facilities for summer programming ages 4 - 12.*	*Program continues.*
Summer School	*Summer program designed to provide course completion not completed during school year.*	*Program continues. Usually held in High School or Middle School.*
Summer Science Institute (Elmira/Horseheads)	*Summer program designed to enrich the middle level science program. Classroom computers, computer lab, and multimedia center utilized.*	*Program continues.*
Village of Horseheads	*Joint Fueling Station - District & Village*	*Currently operational.*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Vision and Strategy for Funding

Background	To enable technology to effectively improve teaching and learning, adequate resources must be allocated on a regular basis. Funds are needed for capital costs such as hardware & software acquisition & installation. However, industry standards estimate that these up-front costs represent only 30% of the life-cycle cost of technology. Substantial funds are also needed to cover operating costs such as ongoing training, upkeep, support, consumables, upgrades, connectivity fees, etc. While recognizing the inherent uncertainties of forecasting technology costs, this section projects technology-related costs by year and identifies appropriate funding sources. It will be kept as accurate as possible through periodic updates.
Present State & Trends	*Funding is gradually being restored from previous years of reduction but has not been fully restored from previous peak years. Current demands are not being completely met by extending the replacement cycle and forgoing some new requests. Spending practices maximize alternative sources such as BOCES, State, Federal monies, and Capital Project Aid.*
Preferred Future	*Funding sources continue to meet all District needs over a shorter period of time. Capital Project funding is provided to deal with systemic improvement to deliver required access and content, particularly infrastructure and widely used classroom display technology. Annual funding streams, apart from any capital project, can be increased and sustained to support large scale initiatives of new technology while maintaining a sufficient replacement program.*
Strategy for Change	*Leverage state and federal programs such as BOCES aid, capital construction, Title II grants, and telecommunications discounts (E-Rate) to provide maximum funding. Pursue and implement technology specific capital project funding. Gradually increase local funding to previous year peak levels through voter approval. Funding and corresponding implementation strategy are reviewed annually and revised as needed to support identified needs. Evaluate systems options that can promote increased performance and longer retention of technology.*

	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	Maintain and maximize local and non-local share funding including E-rate. Consider replacement strategies based on individual user needs and new technology requests based on instructionally driven rationale & standardized evaluation.	*Ongoing*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Annual Operating Costs

	Notes / Assumptions	Cost Estimate
PERSONNEL	9 Staff, 7.3 FTE - Technology Director (Reporting to Assistant Superintendent), Instructional Technology Support Specialists (District and BOCES), Network Technicians (BOCES). Access to many other regional services (BOCES).	$749,690
STAFF DEVELOPMENT	In-Service, Substitutes, Staff Development	$183,487
HARDWARE UPKEEP & UPGRADES	See Technology Implementation Schedule	$340,941
SOFTWARE ADDITIONS & UPGRADES	See Technology Implementation Schedule	$59,895
CONSUMABLE MATERIALS	Paper, Printer Cartridges - used district-wide 0450 budget code allocation and separate code for copier/printer paper where available. May be used for other purchases also.	$200,000
CONNECTIVITY FEES	See Technology Implementation Schedule Under District - BOCES Section	$42,108
E-Rate	Erate applications are made annually and are not guaranteed. The funds are expended to supplement the local budget where a shortfall would occur due to the specific need of a building or buildings.	-$20,000
NOTE:	There are additional salary/materials costs associated with BOCES Computer Center staff. These staff provide services to the region whereas the Personnel costs above are directly charged to Horseheads. See CSC and ISC budgets.	
ESTIMATED TOTAL ANNUAL OPERATING COST:		$1,556,121

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Estimated Technology Implementation Schedule Base Year Plus 5 Years - 2018-2019 Thru 2023-2024																				J-3 Worksheet
High School	**2018-2019**				**2019-2020**				**2020-2021**				**2021-2022**				**2022-2023**				**2023-2024**			
	$119,195				$119,195				$119,195				$119,195				$119,195				$119,195			
	$99,271	83.3%	Classroom Technology		$99,271	83.3%	Classroom Technology		$99,271	83.3%	Classroom Technology		$99,271	83.3%	Classroom Technology		$99,271	83.3%	Classroom Technology		$99,271	83.3%	Classroom Technology	
	$19,924	16.7%	St Aid Software		$19,924	16.7%	St Aid Software		$19,924	16.7%	St Aid Software		$19,924	16.7%	St Aid Software		$19,924	16.7%	St Aid Software		$19,924	16.7%	St Aid Software	
Middle School	**2018-2019**				**2019-2020**				**2020-2021**				**2021-2022**				**2022-2023**				**2023-2024**			
	$53,103				$53,103				$53,103				$53,103				$53,103				$53,103			
	$43,635	82.2%	Classroom Technology		$43,635	82.2%	Classroom Technology		$43,635	82.2%	Classroom Technology		$43,635	82.2%	Classroom Technology		$43,635	82.2%	Classroom Technology		$43,635	82.2%	Classroom Technology	
	$9,468	17.8%	St Aid Software		$9,468	17.8%	St Aid Software		$9,468	17.8%	St Aid Software		$9,468	17.8%	St Aid Software		$9,468	17.8%	St Aid Software		$9,468	17.8%	St Aid Software	
Intermediate	**2018-2019**				**2019-2020**				**2020-2021**				**2021-2022**				**2022-2023**				**2023-2024**			
School	$57,534				$57,534				$57,534				$57,534				$57,534				$57,534			
	$48,635	84.5%	Classroom Technology		$48,635	84.5%	Classroom Technology		$48,635	84.5%	Classroom Technology		$48,635	84.5%	Classroom Technology		$48,635	84.5%	Classroom Technology		$48,635	84.5%	Classroom Technology	
	$8,899	15.5%	St Aid Software		$8,899	15.5%	St Aid Software		$8,899	15.5%	St Aid Software		$8,899	15.5%	St Aid Software		$8,899	15.5%	St Aid Software		$8,899	15.5%	St Aid Software	
Big Flats	**2018-2019**				**2019-2020**				**2020-2021**				**2021-2022**				**2022-2023**				**2023-2024**			
	$41,199				$41,199				$41,199				$41,199				$41,199				$41,199			
	$36,090	87.6%	Classroom Technology		$36,090	87.6%	Classroom Technology		$36,090	87.6%	Classroom Technology		$36,090	87.6%	Classroom Technology		$36,090	87.6%	Classroom Technology		$36,090	87.6%	Classroom Technology	
	$5,109	12.4%	St Aid Software		$5,109	12.4%	St Aid Software		$5,109	12.4%	St Aid Software		$5,109	12.4%	St Aid Software		$5,109	12.4%	St Aid Software		$5,109	12.4%	St Aid Software	
Center Street	**2018-2019**				**2019-2020**				**2020-2021**				**2021-2022**				**2022-2023**				**2023-2024**			
	$43,004				$43,004				$43,004				$43,004				$43,004				$43,004			
	$38,090	88.6%	Classroom Technology		$38,090	88.6%	Classroom Technology		$38,090	88.6%	Classroom Technology		$38,090	88.6%	Classroom Technology		$38,090	88.6%	Classroom Technology		$38,090	88.6%	Classroom Technology	
	$4,914	11.4%	St Aid Software		$4,914	11.4%	St Aid Software		$4,914	11.4%	St Aid Software		$4,914	11.4%	St Aid Software		$4,914	11.4%	St Aid Software		$4,914	11.4%	St Aid Software	
Gardner Road	**2018-2019**				**2019-2020**				**2020-2021**				**2021-2022**				**2022-2023**				**2023-2024**			
	$48,973				$48,973				$48,973				$48,973				$48,973				$48,973			
	$43,130	88.1%	Classroom Technology		$43,130	88.1%	Classroom Technology		$43,130	88.1%	Classroom Technology		$43,130	88.1%	Classroom Technology		$43,130	88.1%	Classroom Technology		$43,130	88.1%	Classroom Technology	
	$5,843	11.9%	St Aid Software		$5,843	11.9%	St Aid Software		$5,843	11.9%	St Aid Software		$5,843	11.9%	St Aid Software		$5,843	11.9%	St Aid Software		$5,843	11.9%	St Aid Software	
Ridge Road	**2018-2019**				**2019-2020**				**2020-2021**				**2021-2022**				**2022-2023**				**2023-2024**			
	$37,828				$37,828				$37,828				$37,828				$37,828				$37,828			
	$32,090	84.8%	Classroom Technology		$32,090	84.8%	Classroom Technology		$32,090	84.8%	Classroom Technology		$32,090	84.8%	Classroom Technology		$32,090	84.8%	Classroom Technology		$32,090	84.8%	Classroom Technology	
	$5,738	15.2%	St Aid Software		$5,738	15.2%	St Aid Software		$5,738	15.2%	St Aid Software		$5,738	15.2%	St Aid Software		$5,738	15.2%	St Aid Software		$5,738	15.2%	St Aid Software	
	==========				==========				==========				==========				==========				==========			
	$400,836				$400,836				$400,836				$400,836				$400,836				$400,836			

Estimated Technology Implementation Schedule Base Year Plus 5 Years - 2018-2019 Thru 2023-2024

J-3 Worksheet

District	**2018-2019**			**2019-2020**			**2020-2021**			**2021-2022**			**2022-2023**			**2023-2024**		
	$45,847			$45,847			$45,847			$45,847			$45,847			$45,847		
	$9,950	21.7%	Contractual	$9,950	21.7%	Contractual	$9,950	21.7%	Contractual	$9,950	21.7%	Contractual	$9,950	21.7%	Contractual	$9,950	21.7%	Contractual
	$28,495	62.2%	Supplies	$28,495	62.2%	Supplies	$28,495	62.2%	Supplies	$28,495	62.2%	Supplies	$28,495	62.2%	Supplies	$28,495	62.2%	Supplies
	$7,402	16.1%	Software	$7,402	16.1%	Software	$7,402	16.1%	Software	$7,402	16.1%	Software	$7,402	16.1%	Software	$7,402	16.1%	Software

District	**2018-2019**	**2019-2020**	**2020-2021**	**2021-2022**	**2022-2023**	**2023-2024**
ERATE*	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000

* ERATE funding was set at $40,000 but has been decreasing. It is subject to change and decrease based upon the strategies for the program. The move is away from traditional telecomm service discounting. The bulk of discounts received are from our consortium spending in BOCES Erate qualifi

District	**2018-2019**	**2019-2020**	**2020-2021**	**2021-2022**	**2022-2023**	**2023-2024**
BOCES CoSers	$2,175,200	$2,218,704	$2,263,078	$2,308,340	$2,354,506	$2,401,597

	$1,816,731	605	Computer Services	$1,853,066	605	Computer Services	$1,890,127	605	Computer Services	$1,927,929	605	Computer Services	$1,966,488	605	Computer Services	$2,005,818	605	Computer Services
	$279,619	512	Instructional Services	$285,211	512	Instructional Services	$290,916	512	Instructional Services	$296,734	512	Instructional Services	$302,669	512	Instructional Services	$308,722	512	Instructional Services
	$42,245	508	Library Services	$43,090	508	Library Services	$43,952	508	Library Services	$44,831	508	Library Services	$45,727	508	Library Services	$46,642	508	Library Services
	$22,813	513	Library Automation	$23,269	513	Library Automation	$23,735	513	Library Automation	$24,209	513	Library Automation	$24,694	513	Library Automation	$25,187	513	Library Automation
	$13,792	536	Model Schools Services	$14,068	536	Model Schools Services	$14,349	536	Model Schools Services	$14,636	536	Model Schools Services	$14,929	536	Model Schools Services	$15,227	536	Model Schools Service

Note: Classroom Technology includes building 219 budgeted money. This fluctuates year to year.

Note: Non-BOCES District expenditures may vary slightly from the purposes depending on analyzed needs.

Note: Assume 2% increase in BOCES service costs per year. Actual costs vary.

Note: BOCES services are approved annually as part of the overall budget process.

Note: There are additional supporting services approved by the district such as cross contracts not indicated here.

Horseheads Central School District

District Wide Technology & Security System Improvements

HUNT

January 25, 2013

Option	A	B	C		D	E	F	G	H		I	J	K	L	M	N	O	P	
									Data Cabling Upgrade to Category 6			Corridor Ceiling Replacement							
	Data Room Upgrades	10 Gigabit Network Switch Gear	Power Backup (UPS)	Voice / IP Phone System	Security Camera Upgrade	Wireless System Upgrade	IP Video Distribution System	Cable Tray in Corridors	Office Areas, Comp. Labs, Librarys, etc.	2 Cables per Classroom	4 Cables per Classroom	Tiles Only	ADD Grid	ADD Lights	*ADD L.E.D. Lights	Secured Building Entryways	Classrm. Security Locksets	Computers to meet PARCC Requirement	Building Totals
High School	$162,375	$235,000	$55,000	$249,000	$249,500	$224,000	$240,000	$55,400	$290,700	$139,400	$278,800	$69,250	$77,906	$129,844	$86,563	$130,000	$49,200	$105,000	**$2,826,938**
Middle School	$119,148	$150,000	$40,000	$137,250	$90,500	$152,000	$7,500	$43,773	$218,025	$130,900	$261,800	$54,716	$61,556	$102,593	$68,395	$246,000	$46,200	$85,000	**$2,015,354**
Big Flats Elem.	$80,975	$125,000	$25,000	$51,000	$46,500	$56,000	$3,500	$12,483	$90,950	$51,000	$102,000	$15,604	$17,555	$29,258	$19,505	$127,000	$18,000	$80,000	**$951,329**
Center St. Elem	$40,838	$80,000	$15,000	$60,000	$50,500	$51,200	$3,500	$12,304	$88,825	$49,300	$98,600	$15,380	$17,303	$28,838	$19,225	$86,000	$17,400	$65,000	**$799,212**
Gardner Rd. Elem	$49,075	$105,000	$20,000	$52,500	$46,500	$56,000	$3,500	$15,011	$90,950	$51,000	$102,000	$18,764	$21,110	$35,183	$23,455	$69,000	$18,000	$65,000	**$842,047**
Ridge Road Elem	$52,490	$105,000	$20,000	$50,250	$42,500	$52,800	$3,500	$10,344	$84,575	$45,900	$91,800	$12,930	$14,546	$24,244	$16,163	$100,000	$16,200	$80,000	**$823,242**
Broad St. Bldg	$27,763	$75,000	$15,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$117,763**
Bus Garage	$6,300	$8,000	$1,000	$13,500	$75,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$103,800**
Maintenance	$6,040	$5,000	$1,000	$4,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$16,540**
Total	$545,003	$888,000	$192,000	$618,000	$601,000	$592,000	$261,500	$149,315	$864,025	$467,500	$935,000	$186,644	$209,975	$349,958	$233,305	$758,000	$165,000	$480,000	

Ceiling Replacement w/ L.E.D. Total $979,881

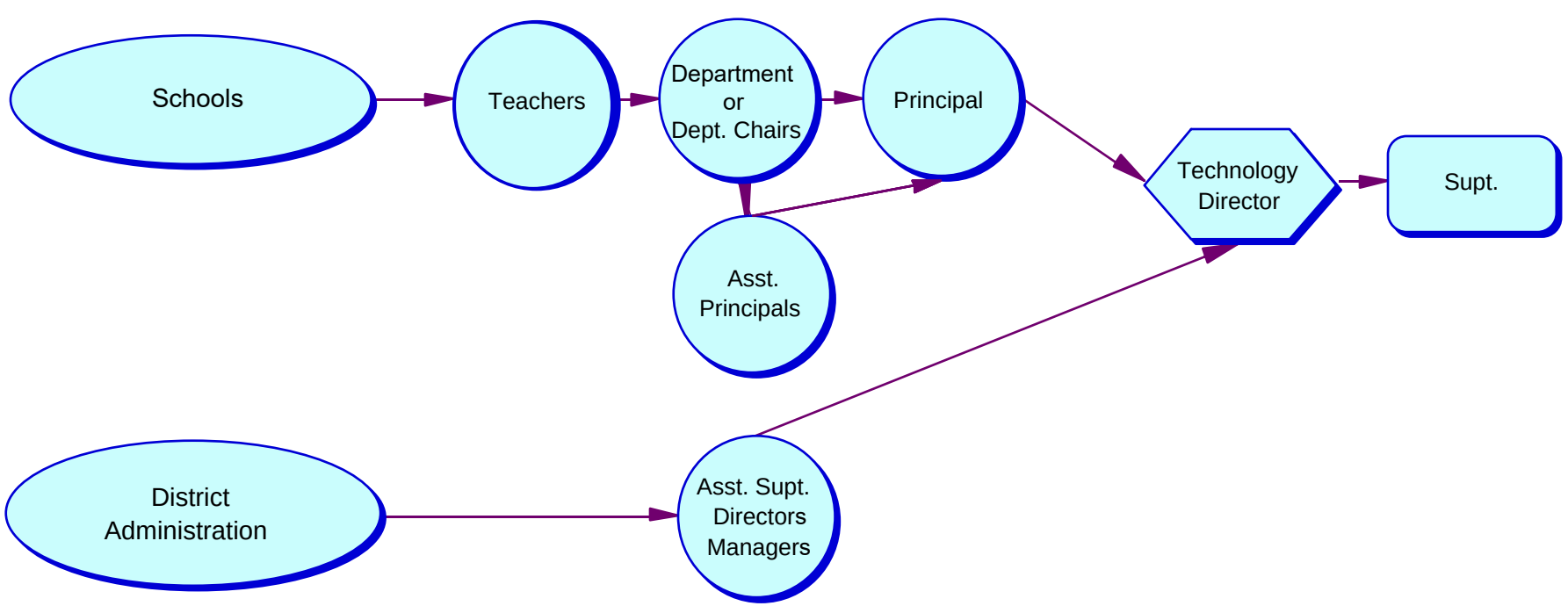
Other Technology Items

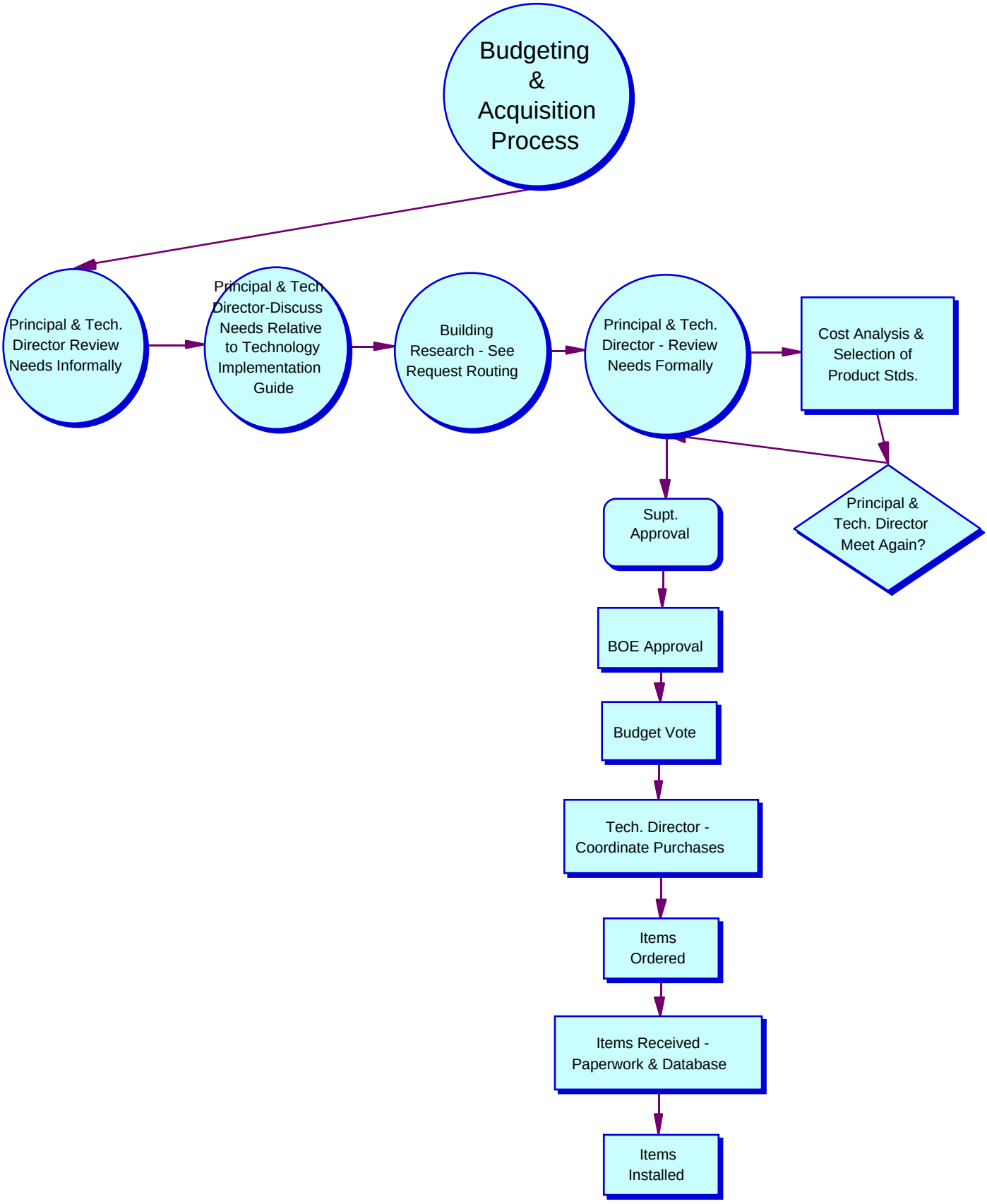
Middle School LGI **$100,000**
(Included in Total)

(20% or more)
Over 65% Energy Savings per L.E.D. light fixture vs. T-8

Total Construction Cost	**$8,596,224**
5% Design Contingency	**$429,811**
% Construction Contingency	**$902,603**
20% Incidentals	**$1,985,728**
Total Project Cost	**$11,914,366**

Request Routing Using Technology Request Form




Budgeting & Acquisition Process
Principal & Tech. Director Review Needs Informally
Principal & Tech. Director-Discuss Needs Relative to Technology Implementation Guide
Building Research - See Request Routing
Principal & Tech. Director - Review Needs Formally
Cost Analysis & Selection of Product Stds.
Principal & Tech. Director Meet Again?
Supt. Approval
BOE Approval
Budget Vote
Tech. Director - Coordinate Purchases
Items Ordered
Items Received - Paperwork & Database
Items Installed

Technology Request Evaluation

Staff, Building, and Room: _____

If a *Replacement* Request: What replacement is needed and why?

All other Requests:
1. What is the technology desired? Please provide details and costs.

2. What experiences have you had that brought about this request?

3. How will the technology be used by the students?

4. How will the technology be used by the teacher - to collaborate – teacher to teacher, teacher to students, student to student, or within department or grade level?

5. How will the technology affect/enhance student performance?

6. What technology benchmarks and NYS Learning Standards would this technology address in your curriculum map?

7. Please describe training scenarios in which you have participated or will participate in if you are unfamiliar with the technology being requested.

8. How do you plan to share and encourage the use of this technology in the district?

Staff Signature: _____ Date: _____

Principal Approval: _____ Date: _____

District Approval: _____ Date: _____

Additional Information

Please contact Gregg Moyer if you require assistance with pricing information not provided in the budget guide or if you have questions. See budget guide on the Intranet entitled “Technology Request Form Suggested Budget Amounts.”

If you need help developing your instructional technology request strategy, please contact one of the Instructional Technology Support Staff (Dave Mayotte, Cheryl Tice, Matt Middlebrook)

Vision and Strategy for Implementation

Background	Monitoring progress improves the likelihood of successful implementation of a plan. This is often accomplished by technology driven participation in relevant District planning committees. Because of the plethora of technical issues and details, implementation of a technology plan requires an organized yet flexible approach. This section contains implementation tracking tools such as identification of critical committees and groups, a multi-year timeline, a calendar of tasks & events, and a key objectives report card.
Present State & Trends	*Previous District Technology Committees met separately, annually, for review and updating of the plan. They were not totally effective as their makeup was unpredictable and often did not include the correct staff for making key decisions on curriculum, staff development and funding. Participation in the recently structured District 2030 "Building Our Future Now" initiative offers an alternative process.*
Preferred Future	*The Technology Plan is modified through the lens of key decision-making groups; namely the four 2030 Engagement Action Teams, Administrative leadership teams, and teacher focused department groups which include the full PK-12 spectrum. Sub-committees or off-shoot groups are only created where absolutely necessary to complete research for a particular task. The key is to avoid a group attempting to make decisions in a technology silo and that lack the authority to implement the changes that are identified.*
Strategy for Change	*Implement the inclusion of a voice in all relevant groups with technology integration as a focus in curriculum and staff development changes. This includes instructional technology expertise and technical support expertise relative to key short-term key objectives and long-term strategies.*

	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	Align vision and strategy with District 2030 "Building Our Future Now" initiative beginning with the first Strategic 2030 Engagement Action Team on Curriculum, Instruction, and Assessment.	*Ongoing*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Implementation Report Card

Section of Plan	Key Objective	Target Date	Responsible Person or Group	Current Status
A	Continue to be integral in the district process of change and ensure the inclusion of technology benchmarks and technology integration in all levels of teaching.	Ongoing	2030 Engagement Team, Curr, Instr, & Assess.	Work in progress
B	Provide training opportunities for all staff. Customize training wherever possible. Critically explore additional online staff development models.	Ongoing	2030 Engagement Team, Prof. Learning	Work in progress
C	Refine implementation of new and replacement technology using request form, frequent review of usage data, classroom visitation, and budget accountability.	Ongoing	Gregg Moyer	Work in progress
D	Refine implementation of new and replacement technology using request form, frequent review of usage data, classroom visitation, and budget accountability.	Ongoing	Gregg Moyer	Work in progress
E	Utilize existing department or building groups to emphasize information sharing on software needs and purchases. Continue to look at software options on a multi-building or district-wide basis. Ensure secure access to data from outside locations, abiding by state and district law/policy.	Ongoing	Gregg Moyer	Work in progress
F	Expand efforts and perform necessary upgrades as budgets permit. Continue discussions on obtaining long-term network upgrades to accommodate convergence of all technologies in our preferred future, keeping in mind the District's 2030 "Building Our Future Now" initiative.	Ongoing	Gregg Moyer, GST BOCES, Hunt Eng.	Work in progress
G	Refine policies as needed given introduction of newly requested technologies, capabilities, accesses, State requirements, and recommendations from Auditors.	Ongoing	Megan Collins, HR Director	Work in progress
H	Analyze changing needs for technical and instructional support relative to growth in technology integration and district or building initiatives. Promote HELPDESK utilization: 795-5324, Email HelpDesk@ , & Online Technical Support Form.	Ongoing	Gregg Moyer, Anthony Gill, Katy Buzzetti, Tom Douglas	Work in progress

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

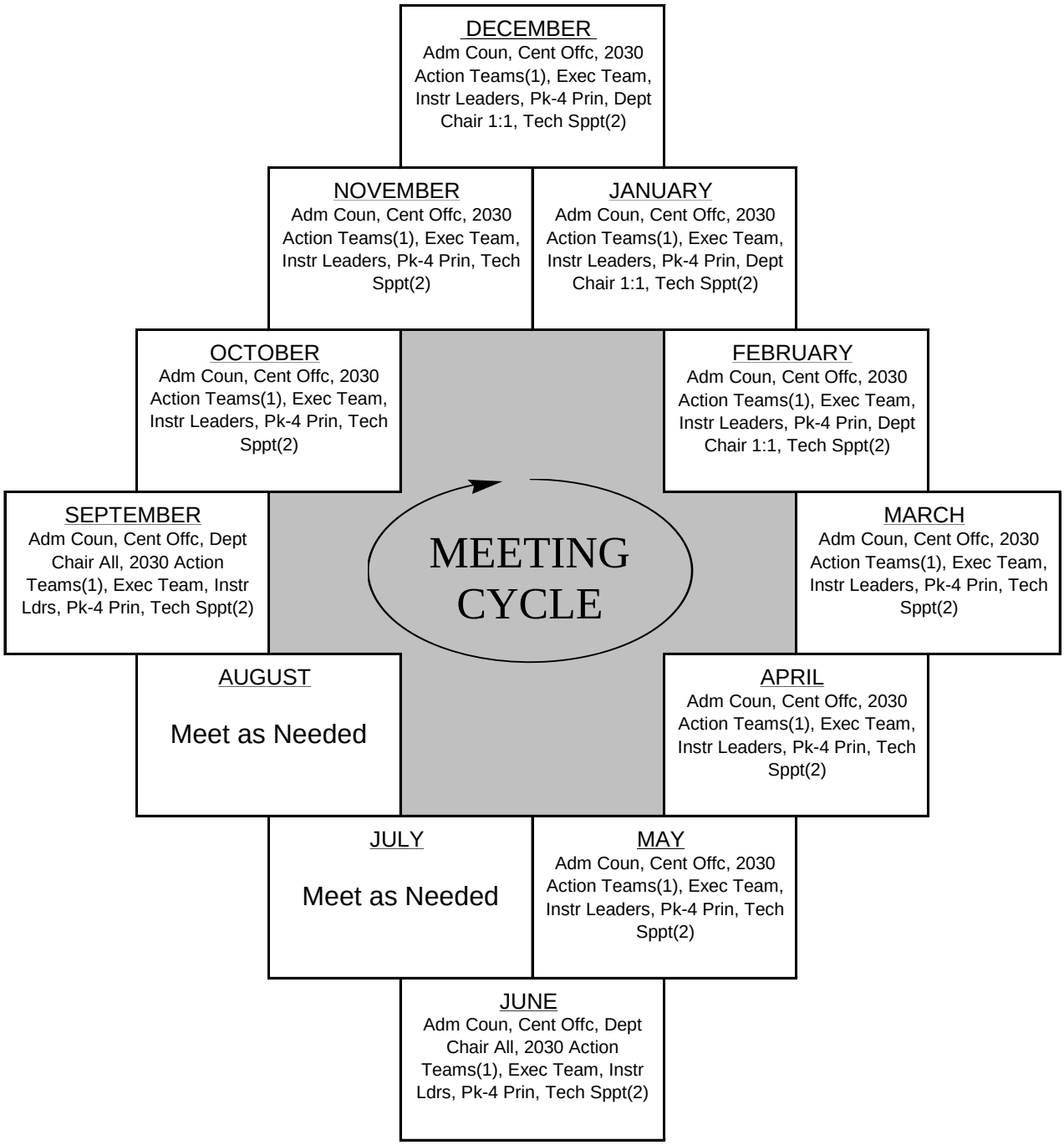
Implementation Report Card

I	Expand current methods of communication where useful. Implement new methods of appropriate internal and external communication.	Ongoing	Gregg Moyer, Susan Pirozzolo, Anthony Gill, Instruct Tech. Specialists	Work in progress
J	Maintain and maximize local and non-local share funding including E-rate. Consider replacement strategies based on individual user needs and new technology requests based on instructionally driven rationale & standardized evaluation.	Ongoing	Gregg Moyer, Katy Buzzetti, Anthony Gill, Tom Douglas	Work in progress
K	Align vision and strategy with District 2030 "Building Our Future Now" initiative beginning with the first Strategic 2030 Engagement Action Team on Curriculum, Instruction, and Assessment.	Ongoing	Gregg Moyer, Anthony Gill, Tiffany Owen	Work in progress
L	Work with District Action Teams that develop curriculum and student assessments to integrate technology.	Ongoing	Gregg Moyer, Anthony Gill, Tiffany Owen	Work in progress

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Meeting Cycles

Number in parentheses indicates number of meeting times per month for those groups listed before. Electronic meetings/discussion boards will support this meeting schedule.



Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

Vision and Strategy for Assessment

Background	This technology plan is successful if it helps the district accomplish its mission. Unfortunately, measuring progress towards the mission and correlating it with some or all of the specific actions in this plan is difficult at best. However, attempting to assess such progress is the key to learning and growth, and result-oriented feedback is the primary requisite for making technology planning a process. A variety of methods can be used to assess knowledge and performance outcomes, such as monitoring specific results within standardized tests, building a portfolio of authentic works, tracking trends in periodic surveys, and so on. This section contains evidence of results in terms of staff and student outcomes.
Present State & Trends	*Many students are gradually improving limited technology skills and knowledge yet improvements must be made to acquire 21st Century Learning Fluencies and Common Core Standards attainment.*
Preferred Future	*Simple indicators are used to provide feedback as students and teachers develop technology proficiencies. This will be influenced by regulation from the state regarding staff evaluation, required performance indicators, and mandated online testing such as NYS CBT (Computer Based Testing). All staff need to embrace expanding student technology skills.*
Strategy for Change	*Develop key indicators of student and staff technological knowledge and skills and begin monitoring trends. Share local initiatives at BOE meetings. Utilize District 2030 Action teams as means to review and modify these proficiencies (Professional Learning and Curriculum, Instruction, and Assessment Action Teams).*

	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	Work with District Action Teams that develop curriculum and student assessments to integrate technology.	*Ongoing*

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

District/Organization: Horseheads Central Schools

DistrictViSTA Rubric
for Assessing Educational Technology Plans

Assessment Results									
Components of a Technology Plan	**Date of Assessment**								
	Jun '18	Jun '19	Jun '20	Jun '21	Jun '22				
	Assessment Score *(see attached rubric)*								
Summary	2.75								
A. Student Outcomes	2.5								
B. Staff Development	2.5								
C. Workstation Access	3								
D. Peripheral Access	3								
E. Software & Data Access	3								
F. Connectivity	3								
G. Policies	2.5								
H. Support	2.5								
I. Communication & Cooperation	3								
J. Funding	2.75								
K. Implementation	2.75								
L. Assessment	2.5								
Sum:	35.75	0	0	0	0	0	0	0	0

Section of Plan →	**Summary** *(Vision + Strategy)*
3 ***"detailed design"***	The plan includes a specific, comprehensive vision covering all areas from student outcomes to assessment; and a clearly summarized strategy which identifies key objectives and timing.
2 ***"basic design"***	The plan includes a specific vision for at least five of the key areas (see list on this page); and a narrative summary of the strategy for achieving that vision.
1 ***"general approach"***	The plan includes a general vision that identifies the overall philosophy of the organization related to education and technology.
0 ***not included***	The plan does not specifically present a vision of the future or a strategy for getting to that vision.

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

DistrictViSTA Rubric

for Assessing Educational Technology Plans

Section of Plan →	A. Student Outcomes	B. Staff Development	C. Workstation Access	D. Peripheral Access
3 ***"detailed design"***	The plan identifies specific student outcomes by grade/ department and the process to be used to ensure technology integration into the curriculum on an ongoing basis to achieve these outcomes.	The plan contains detailed descriptions of staff development such as models, methods, training providers, training resources, workshop schedules, and/or staff proficiency standards.	The plan contains a detailed computer workstation inventory, and identifies all projected requirements, along with detailed specifications & standards, and a strategy for platform compatibility and obsolescence.	The plan contains a detailed inventory of peripherals, and identifies all projected requirements, along with detailed specifications.
2 ***"basic design"***	The plan identifies a basic set of technology-related student outcomes.	The plan outlines the basic staff development model and methods (*e.g.* workshops every Wednesday afternoon based on annual survey of needs).	The plan estimates the present inventory of computer workstations, projects total future needs, and identifies purchases planned over the next 2-4 years.	The plan estimates the present inventory of peripherals, projects total future needs, and identifies purchases planned over the next 2-4 years.
1 ***"general approach"***	The plan describes the general approach to be used for identifying and communicating desired student outcomes related to technology.	The plan describes the basic scope of the staff development program, such as by identifying the overall budget and primary training provider.	The plan identifies computer purchases planned for the next 1-2 years.	The plan identifies peripheral purchases planned for the next 1-2 years.
0 ***not included***	The plan does not specifically address student outcomes.	The plan does not specifically address staff development.	The plan does not address workstation access.	The plan does not specifically address peripheral access.

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

DistrictViSTA Rubric

for Assessing Educational Technology Plans

Section of Plan →	E. Software & Data Access	F. Connectivity	G. Policies	H. Support
3 ***"detailed design"***	In addition to the items below, the plan specifically addresses software standards, site licenses, database access needs, and software installation & data back-up procedures.	The plan contains detailed network specifications such as wire types, routing, and connection points; network protocol, hardware, & software; capital and recurring costs; and security measures.	A detailed set of technology-related policies & procedures have been (or will soon be) developed, approved, communicated, and implemented; and they will be periodically reviewed.	The plan contains detailed job descriptions, actions, and scheduling to meet personnel and support process improvement objectives.
2 ***"basic design"***	The plan contains a list of existing software & data packages, and it outlines the general approach to providing increased access to software & data.	The plan describes the basic network design in terms of bandwidth capacity, network operating system, basic network architecture, # of drops in a typical room, and an estimate of the specific costs & schedule.	Existing policies & procedures have been reviewed, and a list of necessary additions & modifications is contained in the plan along with an update schedule and responsible person(s).	The plan identifies the need for additional personnel and charts the responsibilities of existing and future staff. It also identifies how support processes need to be improved.
1 ***"general approach"***	The plan and identifies software purchases planned for the next 1-2 years.	The plan identifies the buildings & areas to be connected and includes a rough cost & schedule estimate.	Existing policies & procedures are listed and/or contained in the plan; and responsibility for policy has been assigned to a specific person or group.	The plan identifies the general needs for support processes and personnel, such as how many staff positions are needed.
0 ***not included***	The plan does not specifically address software & data access.	The plan does not specifically address connectivity.	The plan does not specifically address policies & procedures.	The plan does not specifically address support personnel & processes.

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788

DistrictViSTA Rubric

for Assessing Educational Technology Plans

Section of Plan →	I. Communication & Cooperation	J. Funding	K. Implementation	L. Assessment
3 ***"detailed design"***	The plan contains detailed actions and schedules for meeting communications objectives and for strengthening cooperative relationships with external organizations.	The plan lists all capital and annual costs for hardware, software, and support; and the plan identifies specific, real funding sources which are equal to the total costs.	The plan includes a detailed timeline and list of scheduled & delegated actions. It also includes detailed procedures for implementing, monitoring, and adjusting the plan, and reports progress toward key objectives.	The plan charts long-term trends in technology-related student & staff outcomes, and it identifies specific areas for improvement based on these results.
2 ***"basic design"***	The plan lists present & planned media used to communicate with key stakeholders as well as present & planned cooperative efforts and relationships with external organizations.	The plan estimates capital and annual costs and shows possible funding sources that are equal to the total costs.	The plan contains an overall technology timeline and identifies the ongoing process to be used to implement, monitor and adjust the plan.	The plan identifies specific tools for assessing student & staff outomes related to technology.
1 ***"general approach"***	The plan identifies the general approach for communicating with stakeholders and cooperating with other schools, agencies, corporations, etc.	The plan estimates capital and annual costs and lists possible funding sources.	The plan lists objectives and delegated actions.	The plan identifies a general approach for assessing technology-related outcomes.
0 ***not included***	The plan does not specifically address communication & cooperation.	The plan does not specifically address costs and funding sources.	The plan does not contain specific implementation actions or timelines.	The plan does not specifically address assessment of teaching & learning outcomes.

Copyright 1998 by ViSTA Resultants Inc.
(607) 844-3788