



Eastchester Union Free School District

Technology plan

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And

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Mission Statement

It is the mission of the Eastchester Public Schools to provide an environment that fosters mutual respect, promotes the uniqueness of the individual, provides opportunities for student successes, and guides all students intellectually, emotionally, physically and socially using technology.

In order that students may become life-long learners and Digital Citizens of society, we encourage students to incorporate technology to develop:

- Ethical values
- Civic responsibility
- Self-motivation
- Global responsibility
- Processes of learning
- Facility in social interaction
- Problem-solving skills
- Life planning skills
- A comprehensive base of knowledge

Upon the strength and effectiveness of this mission, in partnership with parents and community, rest the future of those children whom we serve.

Vision statement and Summary

We expect that technology will continue to be a compelling, driving force in the global economy of the 21st century. In the Eastchester Union Free School District, students will access, interpret, and apply information through the skillful and timely use of technology in order to advance their learning. Teachers will develop technology skills to integrate technology seamlessly into curriculum and instruction. Support staff will use their technology skills to incorporate technology into their daily job responsibilities. Administrators will support and evaluate the implementation of technology into curriculum and instruction, while using technology to manage student data, programs, and resources.

Teaching and learning in the classroom will be enhanced through a “Bring Your Own Device” (BYOD) initiative that will inherently foster a culture and practice of research, collaboration, and communication. Curricular content and textbooks will be made available electronically so a student’s device will serve as his or her primary, and possibly sole, hub for instructional materials.

The Google Applications for Education will provide a unified platform for students to access classroom information, manage curricular content, work collaboratively with peers and teachers,

and hold virtual meetings. Courses that promote STEM (science, technology, engineering, and mathematics) ideals have been added to the District's course catalog and will become increasingly more robust each year.

The innovative use and applications of technology in our district will result in the development of students who are responsible and sophisticated users and creators of technology and who appreciate the vast contribution of technology in their learning environment.

Current Status

Equipment and Services:

The Eastchester School District currently has 772 desktop and laptop computers deployed throughout one primary school (grades K-1), two elementary schools (grades 2-5), one middle school (grades 6-8) and one high school (grades 9-12.) Additional instructional technology features are provided below.

- Each classroom has one teacher desktop connected to an interactive projector or whiteboard along with a color deskjet printer and flatbed scanner.
- Shared classrooms may have a secondary computer installed for teacher use.
- Classrooms have up to four additional computers installed for student use.
- All buildings have computer labs for instruction.
- A student drop in computer lab is available in Eastchester High School.
- All libraries have computer clusters for instruction and student use.
- Classroom printers are networked for student and teacher use.
- Mobile laptop, Chromebook and iPad carts for instructional use available in each building.
- Wireless access is available in most instructional spaces.
- Digital cameras for student and teacher use are available in libraries and assigned classrooms.
- Poly-Com video conference is available in each building.
- A combination of 29 physical and virtual servers supports instruction, administration and infrastructure functions.

The District's infrastructure consists of Category 5e and 6 cabling from data rooms to end user locations. Data rooms are connected in each building to the buildings server room by fiber optic cable transmitting and receiving at 10/100/1000Mb transmission speeds. The Elementary buildings connect to the High School main server room by managed fiber optic cables transmitting and receiving at 1 GB transmission speeds. The district procures internet services from LHRIC (Lower Hudson Regional Information Center) and connects using Verizon TLS lines transmitting/receiving at 100Mb.

Program Status

To provide support services for the Eastchester Data/Voice Network and its installed equipment, (such as desktops, mobile devices, software, peripherals, security, servers, network switches, POS systems, cell phones and wireless connectivity) the district employs the following staff:

- Director of Technology
- Network Specialist
- 3 Junior Network Specialist
- 1 Computer Aid

The existing staffing structure provides teacher training for productivity software and equipment operation as requested. Instructional training is available to teachers through one to one peer sharing, small group targeted professional development, mentoring, consultants, BOCES workshops, boot camp academies and fellowship programs--scheduled by the assistant superintendent for curriculum and instruction, based on the technology initiatives being deployed.

Instructional technology is perpetually evolving and the importance of delivering instruction through technology is becoming increasingly prevalent. Consequently, the way we deliver professional development to our teaching staff must also evolve with the times. Maintaining a consistent goal to provide teachers with ongoing training in the integration of technology with curriculum will empower teachers to use technology skillfully in the classroom and become more efficient in the delivery of curriculum.

The District Technology Committee which is comprised of Board of Education Trustees, the Superintendent of Schools, Assistant Superintendent for Curriculum and Instruction, Director of Technology, Assistant Superintendent of Business, Librarians, Teachers and Community members meet monthly to discuss and evaluate existing and new goals, initiatives and objectives. From the discussions and evaluations that take place, we are able to shape the deployment of technology and professional development to meet the district's future requirements.

Current Budget 2015-2016

The following is the 2015-2016 school budget for technology as approved by the voters in the Eastchester Union Free School District and Adopted by the BOE.

<u>Item</u>	<u>Amount</u>
Technical Support Staff	\$509,377
Computer Hardware/Repair	\$45,000
Materials/Supplies	\$95,000
Software/Contracts	\$90,000
Contractual Services BOCES, etc.	<u>\$365,000</u>
Total:	\$1,104,377

The Technology infrastructure is supported by 12-month technical staff and second level support services provided by BOCES. BOCES contractual services include internet filtering, Express purchasing, Continuing IPA's, New 5 year IPA, software maintenance and telecommunications.

The adopted 2015-2016 school year budget can be viewed at <http://district.eastchesterschools.org/m2/mod/dataform/view.php?d=1&view=1&filter=-2&eids=117&ret=20>

Technology Objectives and Plans

Overview

The Eastchester Union Free School District understands that in order for students to be prepared for the Global community and the technology being used in all aspects of life today they must be provided with the correct tools (hardware) and skills (instruction). By providing students access to high quality instruction using current technology hardware and software, they will be able to think critically, problem solve and form rational opinions to anchor their decisions.

The Eastchester technology objectives will focus on supporting the district's instructional and educational goals that will enable students to be independent and creative thinkers, discerning researchers, effective decision makers and collaborative members of a team. At the pace that technology is changing it is necessary that we provide all users with current technology which meets the districts educational and support initiatives. A long term and sustainable technology program must also include a fiscally responsible approach to introducing new technologies that can be sustained by our community from one budget year to the next.

Eastchester will provide a technology platform that:

- includes technology integration in all aspects of district's initiatives, instruction and learning;
- provides continuing professional development to support curriculum and infrastructure;
- provides equitable access to computing devices and software;
- provides hardware and software to support the District's goals;
- has an annual budget that will provide the technology required to support the District's educational goals;
- provides a dependable network infrastructure;
- provides reliable web access and filtering;
- provides a well-trained and efficient staff to resolve technical problems.

Equipment and Services in relation to District Goals

The Eastchester School District has purchased desktops for teacher locations, computer labs, support staff and student use. Each year the school district upgrades a certain amount of computers in the library, computer labs and teacher locations to make sure the equipment is reliable in those areas. The Technology Department currently upgrades desktops using a master software image and then provides helpdesk services using Novell Zenworks to gather information about computing devices on the network. If required a technician can remotely attach to a networked device to perform a service call and also to see what the end user is experiencing. If needed the technician can take over the device remotely to resolve the help desk

issue reported. If a hardware failure is detected then the technician will schedule time to visit the location and resolve the physical hardware issue.

Having the ability to remotely diagnose the problem and gather the hardware information allows the technicians to take required parts from inventory and complete the help desk ticket efficiently.

Eastchester has started testing a virtual desktop environment that we are planning to deploy for use in our computer labs and libraries, as well as on student desktops. Once the virtual environment is created and in place, the useable life of our existing desktops increases by a dozen years. This will also reduce the cost of desktop equipment replacement and keep the District's cost of technical services from rising. Technicians will no longer have to visit virtualized desktops to complete software installations or updates to applications that are delivered to virtualized desktops. Technical services for virtualized desktops are completed at the server level distributing the applications or updates to all the desktops at the same time.

To reduce the district cost on having to purchase service and repair district computers we are also moving toward a bring your own device (BYOD) program that will allow students to bring in their own devices and use them when appropriate for class or studying. When the BYOD program is in place the district will concentrate on providing any necessary computing devices in carts so that the equipment is portable and can be used in multiple classrooms daily.

As the deployment of Chromebooks, laptops, desktops and iPads along with our network grows we will continue to research and implement efficient ways to provide support for our teachers, students, administrators, support staff and the community. Reviewing new technology as it becomes available, and then implementing reliable solutions will allow us to continue to support and meet the District's educational goals and initiatives.

Staffing and Training

Administrators and Certified Teachers

Administrators and teachers have access to the same rich menu of professional development opportunities in technology. During the 2015-16, 2016-17, and potentially the 2017-18 school years, the focus of the District's technology professional development will be in Google, specifically, the Applications for Education suite of products. At the present time, there is a cohort of 15 teachers, three per building, enrolled in the Eastchester Google Fellowship Program. The Fellowship Program is a comprehensive and deep immersion into the Google Applications for Education. Teachers who move through this program will be required to create a Google Classroom with their students.

The second option for training is the Eastchester Bootcamp Academy. This professional development opportunity consists of monthly two-hours learning sessions around various aspects of Google. Teacher will be learning under a certified Google educator, and will share their learning in subsequent years with their colleagues through faculty meeting presentations.

Additionally, teachers have the option of attending various Google workshops offered through the Lower Hudson Regional Information Center and Southern Westchester BOCES. These opportunities encompass many of the subjects being covered during the Fellowship and Bootcamp programs, but are open to participants from other District's and do not require a longitudinal commitment.

Finally, there are many additional opportunities for teachers and administrators to participate in professional learning in the areas of coding and STEM. The Lower Hudson Regional Information Center, Southern Westchester BOCES, and Putnam/Northern Westchester BOCES offer myriad opportunities throughout the school year that teachers and administrators are encouraged to attend.

Support Staff

Support staff members are provided training that is more relevant to their day-to-day responsibilities. This includes training in eSchool, Cognos reporting, and various productivity applications (e.g. Microsoft Office).

School Budget

The Eastchester Union Free School District is part of the New York State Public School system, and as such is required to prepare a budget annually and present it to the eligible voters in our community to approve. Each year the District Technology Plan is reviewed and preliminary budgets are developed to meet the technology goals that have been described in that plan. Part of the budget development is the cost consideration for new desktops, devices, peripherals, software, security, supplies and the support services required to maintain the existing infrastructure and devices in use throughout the district. The technology budget is only one piece of the District's overall operating budget and the ability to meet the district's technology goals is reliant on a successful budget vote.

Current Implementation

COMPUTING DEVICES	Number of devices in use that are less than five years old	How many total devices deployed.
Desktop Computers / Virtual Machine (VM)	387	827
Laptops / Virtual Machine (VM)	160	160
Chromebooks	177	177
Tablets less than nine (9) inches with access to an external keyboard	0	0
Tablets nine (9) inches or greater with access to an external keyboard	0	0
Tablets less than nine (9) inches without access to an external keyboard	120	120
Tablets nine inches or greater without access to an external keyboard	0	0

Equipment Replacement

The Eastchester School District allocates technology funds to be used for the replacement of aging and new equipment. The funding for technology upgrades and replacements are allocated based on the school budget which the community votes on each year. Eastchester schools use an IPA (Installment Purchasing Agreement) through BOCES to purchase new equipment each year. Equipment reaching the end of its useful life is continuously re-assessed to determine if it can be re-purposed or upgraded to continue providing value to the District’s technology goals.

Replacing and upgrading equipment is done through our evaluation process and on a needs basis. We have found that by upgrading older desktops with SSD (Solid State Drives) we are able to repurpose desktops that were at the end of life and capture a few additional years of productivity from them. Also by stripping and inventorying parts from desktops and devices scheduled for recycling we are able to repair other desktops and devices that would have required ordering parts to repair.

The Eastchester School District has been moving toward the replacement of desktops with laptops, Chromebooks and iPads which will also meet the District’s needs for on line testing that is scheduled to be implemented by NYSED (New York State Education Department) in the next year or two.

The District is planning and building an infrastructure that will support a BYOD (Bring your own device) program. Expanding our Wireless infrastructure and replacing our end of life network switching equipment will provide us the network speeds required to support this program. By upgrading the network switch equipment throughout the school district we will be able to provide substantially increased WAN (Wide Area Network) transmission speeds between each building and internet services. The installation of the new switching equipment will also increase LAN (Local Area Network) transmission speeds permitting the implementation of the BYOD program. The BYOD program will assist Eastchester by reducing the number of desktops and devices that are required to be replaced or repaired each year, ultimately reducing the cost of desktop and device maintenance by the district.

Wide Area Network Upgrades and Local Area Network upgrades

The Eastchester School District, like many districts, has been experiencing an increased use of web-based applications and on-line research tools. Incorporating the increased amount of district owned computing devices and Wireless Access Points along with Eastchester’s vision to implement a BYOD program makes it imperative that Eastchester Schools increase the internet bandwidth and upgrade the current network switching infrastructure.

WAN Connectivity between Buildings

Building	Current Connectivity	Proposed Upgrade
Eastchester High School	1GB managed fiber	10GB managed fiber
Eastchester Middle School	1GB managed fiber	10GB managed fiber
Anne Hutchinson Elementary	1GB managed fiber	10GB managed fiber
Greenvale Elementary	1GB managed fiber	10GB managed fiber
Waverly k-1	1GB managed fiber	10GB managed fiber
Eastchester High School connectivity to BOCES	1GB Verizon TLS	2GB Verizon TLS
Currently all Eastchester school buildings connect to the Eastchester HS with 1GB managed Fiber.		

LAN Connectivity for Network Switching infrastructure

Building	LAN Connectivity	Proposed Upgrade
Eastchester High School	Mixed 100MB and 1GB Fiber backbones between server room and IDF rooms	10GB fiber backbone
Eastchester Middle School	Mixed 100MB and 1GB Fiber backbones between server room and IDF rooms	10GB fiber backbone

Anne Hutchinson Elementary	Mixed 100MB and 1GB Fiber backbones between server room and IDF rooms	10GB fiber backbone
Greenvale Elementary	Mixed 100MB and 1GB Fiber backbones between server room and IDF rooms	10GB fiber backbone
Waverly k-1	1GB fiber backbone	10GB fiber backbone
Currently EUFSD has a mix of 100 MB fiber back bones between IDF data closets and the server room in each building. The goal is to uniform all connectivity to provide maximum throughput for LAN and WAN network traffic.		

Internet Bandwidth

Building	Internet connectivity	Proposed Upgrade
Eastchester High School	Shared 100MB	Shared 1GB
Eastchester Middle School	Shared 100MB	Shared 1GB
Anne Hutchinson Elementary	Shared 100MB	Shared 1GB
Greenvale Elementary	Shared 100MB	Shared 1GB
Waverly k-1	Shared 100MB	Shared 1GB
Eastchester HS to BOCES	100MB over TLS	1GB over TLS
The Eastchester school buildings share a 100MB internet bandwidth.		

Emerging Technologies and Considerations

Eastchester Schools along with our partnership with LHRIC/BOCES has the ability to examine emerging technologies that are being offered by the private sector and the educational sector to determine if they are appropriate for our existing educational goals and future initiatives. The technologies being offered either software, hardware, web or cloud based are evaluated then aligned with the district’s budget to determine what technologies can be implemented. The emerging technologies that are considered must meet the District’s current instructional goals with a clear understanding on how these emerging technologies will support the District’s future instructional goals for students and teacher’s professional development. Eastchester funds new equipment purchases using a yearly Installment Purchase Agreement (IPA) through Southern Westchester BOCES. All equipment is assessed yearly using the “Evaluation Process”.

Current Considerations

Network Infrastructure Switching

The Eastchester Schools must replace the current network switch equipment in order to meet the demands of 21st century technologies being introduced into the educational environment. The current tax levy cap that is in place on the District budget each year creates a barrier in the District's ability to fund major upgrades such as this. With the use of the Smart Schools Bond Act monies, the District will be able to create a switching infrastructure that will support the educational initiatives for the district. The continued use of the yearly IPA will permit the district to continue to maintain the new switching infrastructure in future years.

Wireless Access District-wide

Currently, Eastchester UFSD has limited wireless access in its buildings. The current wireless access installation was implemented to provide wireless access coverage for district owned devices being used from rolling carts or the library. Eastchester has consulted with BOCES and our vendor to provide a comprehensive wireless infrastructure that will support the instructional goals of the district using district devices and the BYOD program for students, teachers, administrators and support staff. As the district prepares for online state testing, the wireless infrastructure will be instrumental for the district to utilize large spaces and wireless devices for testing.

District-wide Internet Bandwidth Upgrades

With the expansion of web-based educational applications, research and global collaboration being used in the District, we will evaluate the amount of bandwidth required each year to support our educational programs. Currently the existing internet bandwidth and transmission speeds between buildings is restricting or causing delays in the delivery of content or access to online applications. We propose to resolve this by completing the network switching infrastructure upgrades and increasing the available internet bandwidth contracted through Southern Westchester BOCES.

Online State Exams

When the State implements online state testing for all students, the Eastchester UFSD will need to have a device available for each student in a grade level for testing. We have evaluated the enrollment numbers for each grade level in our buildings to determine the number of devices that will be required for each building. This calculation was based on the largest cohort of students in a given school building. By continuing to purchase computing devices each year using district funds, state and federal Grants and the IPA through Southern Westchester BOCES we expect to meet the demand for devices to implement online state testing, while still maintaining a reserve of devices to be available for the District's regular instructional day.

Additional (Future) Considerations

- Additional device carts (Chromebooks, Laptops, iPads)
- Technology life cycle programs (on-going)
- Instructional online software subscriptions (on-going)
- Professional Development (on-going)
- District wide wireless device to interactive projector connectivity
- New interactive, collaborative learning spaces (Group, quiet, presentation)
- Continued STEM initiatives (on-going)
- Administrative software (on-going)
- Video on demand and live streaming
- Digital surveillance upgrades (on-going)

Current Considerations- Estimated Funding Required

Project	Estimated Cost	Possible Funding
Network Switching	\$ 360,000.00	Smart Bond Funds
Network Cabling	\$ 60,000.00	Smart Bond Funds, District funds
Wireless Access Points	\$ 165,000.00	Smart Bond Funds
Internet bandwidth	\$ 40,000.00	District Funds, BOCES Aid
Devices/Line State Exams	\$ 100,000.00	District funds, BOCES Aid, IPA

Future Considerations- Estimated Funding Required

Future considerations	Estimated Cost	Possible Funding	Term
Device Carts	\$ 650,000.00	District funds, BOCES Aid, IPA	One time
Tech life cycle program	\$ 325,000.00	District funds, BOCES Aid, IPA	Annual
instructional software online	\$ 50,000.00	District funds, BOCES Aid, IPA	Annual
Professional development	\$ 60,000.00	District funds, BOCES Aid, IPA	Annual
Wireless projector connectivity	\$ 30,000.00	District funds, BOCES Aid, IPA	One time
New Learning spaces	\$ 250,000.00	District funds, BOCES Aid, IPA	One time
STEM programs	\$ 100,000.00	District funds, BOCES Aid, IPA	Annual
Administrative software	\$ 25,000.00	District funds, BOCES Aid, IPA	One time
Video on demand, live streaming	\$ 75,000.00	District funds, BOCES Aid, IPA	One time
Digital surveillance upgrades	\$ 20,000.00	District funds, BOCES Aid, IPA	Annual

- BOCES Aid to Eastchester Schools is currently 27%
- A Technology Bond is a consideration to fund future considerations

Equitable Access to Instruction

The Eastchester School District offers students a comprehensive instructional experience at an appropriate level of rigor. We offer programs to struggling students, grade level appropriate programs, and programs for accelerated learners. We provide a vast menu of support services to students, when appropriate. Classes range from self-contained special education classes to courses with Advanced Placement designation. However, regardless of a child's placement, disability or academic ability, all students have the same equitable access to all of the technology the district owns and operates. The District fully complies with the Regulations of the Commissioner of Education in New York State sections 200.4(d)(2)(v)(b)(6), 200.4(d)(3)(v) and 200.4(e). In sum, all students, regardless of disability, will have access to the general curriculum and district owned technology as defined by their Individual Education Plan (IEP).

Proposed instructional Technology Plan and Timeline

2015-2016

- Upgrade Network Switching District wide with the approval of Smart Bond Funds.
- Installation of a comprehensive Wireless Access Solution District wide provided Smart Bond Funds are approved.
- Installation of additional Category 5E and 6 UTP cable to support additional wireless access points.
- Continued administrator and teacher professional development for Google Apps for Education (GAFE). Bootcamp and Fellowship program.
- Continued teacher Professional development for the District's learning management system Moodle.
- Additional device carts for all buildings (e.g. Chromebooks, laptops, iPads).
- Incremental upgrade to existing Digital surveillance cameras.
- Upgrade TV studio equipment cameras to support video production curriculum.
- Replace failing Smartboards.
- Replace failing projectors with interactive projectors.
- Upgrade and replace peripherals as needed.
- Educational software upgrades and purchases.
- Evaluation of Special Education technology requirements to support curriculum,
- Continued evaluation of the District's Technology Plan using Clarity survey tool two times per year along with technology committee meetings, administrative observations and site visits.
- Evaluate and adjust the 2016-2017 Technology Plan.

2016-2017

- Continued administrator and teacher professional development for Google Apps for Education (GAFE). Bootcamp and Fellowship program.
- Additional device carts for all buildings (Chromebooks, laptops, iPads).
- Continued teacher Professional development for the District's learning management system Moodle.
- Review and deploy appropriate Google Apps for curriculum
- Incremental upgrade to existing digital surveillance cameras.
- Upgrade TV studio editing equipment.
- Replace failing Smartboards.
- Replace failing projectors with interactive projectors.
- Upgrade and replace peripherals as needed.
- Educational software upgrades and purchases.
- Assessment of Video on Demand and Live streaming technologies.
- Implement a Technology life cycle program for district technology.
- Evaluation of Special Education technology requirements to support curriculum.
- Continued evaluation of the District's Technology Plan using Clarity survey tool two times per year along with technology committee meetings, administrative observations and site visits.
- Evaluate and adjust the 2017-2018 Technology Plan.

2017-2018

- Continued administrator and teacher professional development for Google Apps for Education (GAFE). Bootcamp and Fellowship program.
- Additional device carts for all buildings (Chromebooks, laptops, iPads).
- Continued teacher Professional development for the District's learning management system Moodle.
- Implementation of adopted Video on demand/live streaming technology.
- Incremental upgrade to existing digital surveillance cameras.
- Upgrade TV studio editing equipment.
- Replace failing Smartboards.
- Replace failing projectors with interactive projectors.
- Upgrade and replace peripherals as needed.
- Educational software upgrades and purchases.
- Evaluation of Special Education technology requirements to support curriculum.
- Continued evaluation of the District's Technology Plan using Clarity survey tool two times per year along with technology committee meetings, administrative observations and site visits.

- Create a new 3 year technology plan based on the District's instructional goals and initiatives as permitted by the estimated 2018-2019 district budget and estimated future budgets.

Evaluation Process

During the 2014-2015 school year, in partnership with the Lower Hudson Regional Information Center, the Eastchester UFSD implemented the use of the Clarity survey tool. The Clarity survey tool provides a technology assessment of the District in several areas. Eastchester plans to use the Clarity survey tool twice per school year to reevaluate the District's technology plan and guide the District when making decisions in multiple areas including the integration of technology, professional development, student assistive technology, staffing and the development of best practices and procedures. The Clarity survey tool will assist in our planning by identifying areas that need additional attention and support while also affording us the opportunity to reflect on the impact of technology initiatives that have been previously implemented.

The Eastchester School District used the Clarity survey tool during the 2014-2015 school year and administered the survey to parents, teachers, students, administration and support staff. The Clarity survey tool provided the District with a clear insight and perspective of survey participants--the District's stakeholders. When additional or more specific information is required, the District will use a second survey tool, Survey Monkey, to create more detailed questions around a targeted area of technology.

Additional information used to evaluate our technology plan is collected from the Board of Education Technology Committee, individual school technology committees, administrator evaluations and classroom visits. These resources allow direct feedback on the use of devices and the integration of technology into the curriculum and instruction in the classroom. Meeting regularly with these groups and juxtaposing those data with the results of the Clarity survey tool allows the District to collect timely feedback through multiple lenses in its ongoing effort to improve the state of technology in the Eastchester School District.

End of the Eastchester 2015 to 2018 District Technology Plan.

October 29, 2015