

Technology Plan Addendum

2016 - 2018

(Updated January 3, 2018)



Learners ~ Community ~ Challenge ~ Growth

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Introduction

Accomack County Public Schools (ACPS) is located on Virginia's Eastern Shore which is part of the Delaware, Maryland, and Virginia Peninsula. ACPS is a rural and isolated district serving 5,420 students and employing over 500 staff members in 12 schools and two administrative facilities. Three schools are located on two different islands- Chincoteague and Tangier Island. Four elementary, two middle, one alternative, and two high schools (with career and technical centers) are located on the peninsula.

The 2015 Technology Plan established and the 2016 Addendum carried forward the initial roadmap used to ensure the successful integration of technology in the classrooms. This addendum realigns both the technology instructional and business needs of the division and establishes the goals for technology in ACPS over the next two years.

Vision Statement & Mission Statement

"It is the vision of Accomack County Public Schools to be a community of diverse learners where all members are valued, challenged, and expected to grow."

ACPS strives to prepare all students to be effective, productive users of technology. **EVERYONE** at ACPS is committed to the use of educational technology resources to access, remediate, and improve student achievement.

Making the Vision a Reality

Since being implemented, ACPS has made significant strides towards implementing the strategies outlined in the 2015 plan. Key strategies completed:

- Infrastructure and Connectivity:
 - Increase Internet Broadband.
- Support Systems:
 - Increase the use of the division Technology Incident reporting program;
 - Fill a Network Engineering position.
- Communications:
 - Implement an email system on a single domain;
 - Implement contact sharing and email distribution groups;
 - Implement user and departmental calendars;
 - Implement cloud based shared services for all users and learners to include departmental file storage.
- Digital Content:
 - ACPS continues to evaluate and use digital textbooks and software programs to further enhance the learning experience.
- Student Engagement:
 - Core classrooms have been outfitted with an interactive whiteboard, a projector, classroom sound enhancement system, and access to digital cameras, document cameras, etc.;
 - A portable computing device has been provided to all 7th and 9th graders;
 - Students have access to cloud based shared services for receiving and submitting work assignments, collaboration with peer students, and assigned teachers.

While ACPS has made significant progress over the past six years, there are still significant gaps that have yet to be met, first and foremost:

- The Power Over Ethernet Plus (POE+) switches have not been installed;

- Wireless access points have not been upgraded to high density devices;
- The VDOE SOL FTEs have yet to be fully filled and assigned to Technology Services;
- No centralized Help Desk program has been implemented;
 - Service Level Agreements have not been established.

With the ever evolving fast pace of technology, one fear of K12 administrators is being unable to effectively implement the technologies before they become obsolete. According to Rachel Quetti, Editor of K-12 Tech Decisions, Ms. Quetti states (12/2015):

“The development of numerous online learning platforms and digital technology has restructured K-12 classrooms across the nation. As a result, blended learning models such as the flipped classroom have become a rising trend in many K-12 schools.”

From this article Warren Barkley, CTO of SMART Technologies Inc. states:

“It’s hard when you’ve done something for 20 years to then change because your curriculum and lessons are written a certain way and you now have to live in this new world. You have to conquer a little bit of the fear.” Mr. Barkley continues to add:

“Many teachers feel their students are more skilled in using technology than they are, and therefore may find it hard to be leaders of a classroom model that relies heavily on technology.

“It’s really a question of getting over that fear of knowing that students will understand and know more about [technology]. Once teachers face that fear, they understand that technology is really a tool. They have to see it that way as opposed to some big thing they need to learn to make the transition happen.”

This addendum focuses on ensuring the ACPS technology infrastructure and personnel can support the continued growth of the division’s computing environment; ensures personnel are qualified, trained, and well diverse on the technologies that make up a blended classroom; ensures the use of technology to support the curriculum, trains teachers to integrate technology into their classroom and assists with curriculum resources with a focus on program-based refreshes and financial resiliency.

[The ACPS Plan](#)

This addendum has been updated to align ACPS’s current initiatives with the state plan and to address ACPS’s current needs. The addendum keeps the structure and goals of the 2014-2016 addendum. The strategies, responsibilities, costs, sources of funding, and evaluation benchmarks originally established by the 2015 plan and the 2016 addendum have been updated to reflect ACPS’s current stance on implementing blended learning. This addendum is available on the ACPS district website at:

<http://www.accomack.k12.va.us>

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Reference

Rachel Quetti, Editor of K-12 Tech Decisions (12/2015). Retrieved from: http://www.k-12techdecisions.com/article/how_to_successfully_lead_the_flipped_classroom

Infrastructure

Update and maintain an infrastructure that provides access to blended technologies and managed systems such as online digital content, digital portfolios, K12 based social media and collaboration tools accessible across multiple platforms and communication networks while streamlining the backend servers and services. Implement an enterprise management system to automate business processes to reduce the Division's total operating costs of managing its business functions.

Strategy 1: Wireless Network

- 1) Refresh existing and, where needed, add high density wireless access points in every classroom and common areas.
 - The wireless access points shall be centrally managed from a single administrative portal providing a "single pane of glass" overview of the entire wireless system;
 - Secure the ACPS wireless network to minimize security vulnerabilities and external borne threats and attacks;
 - Ensure the ACPS wireless network is capable of supporting Bring Your Own Device (BYOD) programs.

Strategy 2: Network Switches

- 2) Replace all network switches on the ACPS network.
 - Configure a centralized data center to support division distributed and shared systems;
 - Configure a centralized firewall to protect and manage access to and from the Internet and ACPS private network;
 - Network switches shall support POE+ to support existing and new wireless, telephone, and video surveillance POE+ capable devices;
 - Implement virtual networks to further reduce network borne threats and attacks while segregating and securing mission critical and sensitive data from general access;

Strategy 3: Authentication Domain

- 3) Implement a single authentication domain for all authorized ACPS users and computers.
 - Implement system policies to control access to local computing and system resources;
 - Implement security and distribution groups to simplify system and network management;
 - Implement a standardized naming scheme and, where possible, implement pass through authentication for other ACPS systems minimizing the need for users to manage multiple user accounts and passwords.

Strategy 4: Centralized Printing

- 4) Reduce the Division's overall printing costs by implementing a centralized print management system.
 - Implement cloud based secure printing;
 - Implement print quotas for all authorized users;
 - Implement print notification "pop-ups" informing users of alternative means for reducing printing costs.

Strategy 5: Centralize Help Desk

- 5) Implement a Centralized Technology Support Help Desk to assist staff, students, and parents with resolving ACPS technology environment issues.

- Evaluate and fund a technology support position to provide tier 1 phone support to resolve normal and routine issues.
 - Ensure work orders are correctly entered into the ACPS Technology work order system;
 - Expedite emergency and mission critical requests directly to tier 2/3 technicians, network and system administration departments;
 - Develop frequently asked questions and how-to documents to assist with self-service resolutions;
 - Assist with maintaining the ACPS technology environment inventory and parts system.

Strategy 6: Enterprise Management System

- 6) Begin to evaluate an Enterprise Management System to encompass and manage all aspects of Human Resources, Payroll, & Finance.
- Research, evaluate and budget for a turnkey Enterprise Management System
 - System shall be compatible and able to interface with existing county enterprise management systems;
 - System shall be compatible and able to interface with existing student information management systems;
 - System shall be a hosted solution and supported by the vendor;
 - Solution shall be purchased, configured, supported and installed as a turn-key product.

Strategy	Department Responsible	Start Date	Target Completion Date	Date Completed / Notes
1. Wireless	Technology Coordinator	5/1/2016	9/2/2016	Complete wireless coverage provided. Continue to monitor and improve as needed. Completed: August 2016
2. Network Switches	Technology Coordinator	5/1/2016	9/2/2016	Upgraded network infrastructure to support 1GB to the desktops, VLAN switch, stacking management Completed: August 2016
3. Authentication Domain	Technology Coordinator	4/1/2016	9/2/2016	All users are now authenticating through a single domain Completed: August 2016
4. Centralized Printing	Technology Coordinator	7/1/2016	9/2/2016	All printers are now managed through PaperCut. Completed: September 2016
5. Centralized Helpdesk	Technology Coordinator	7/1/2017	6/30/2018	As of this update, no approved FTEs to support.
6. Enterprise Management	Technology, HR, & Finance Leadership	7/1/2017	6/30/2018	Partial funding has been set aside. Will need to hire analysis for system selection, administration, and management. Currently no FTE to support. As of 1-3-18: Automated SubFinder system scheduled to go live start of 2nd semester

Professional Development

Ensure technology personnel have the knowledge, skill sets, and tools to support a robust technology environment for administering and maintaining the division's investment in state-of-the-art software and technology equipment needed for blended learning while continuing to promote efficiencies to improve instruction and business operations.

Strategy 1: ITRT and Technician SOQ

- 1) Continue to advocate funding for filling the required number of VDOE SOQs Instructional Technology Resource Teachers (ITRT) and Computer Technicians assigned to Technology Services.
 - ITRT: The SOQ FTE positions are filled however, two of these positions are coded as data specialist positions. These two positions do not support instructional technology in the classroom.
 - Computer Technician: VDOE SOQ FTE positions are not filled. ACPS only employs 4.5 technicians preventing ACPS from providing the level of technical support required to meet the mission of the division.

Strategy 2: Professional Development

- 2) Develop and fund an annual professional development budget for lead professionals, ITRTs and Computer Technicians
 - Ensure staff is trained and certified on the systems implemented to support blended learning and business operations
 - Evaluate providing stipends for staff members who obtain and maintain current industry standard technology certifications.

Strategy 3: Job Descriptions and Career Progression

- 3) In accordance with the division's mission and goals, update Technology employee job descriptions to gauge current staff knowledge and to ensure ACPS hires the most qualified individuals.
 - Ensure job descriptions are written to allow growth within the department. Consider tiered positions or stipends as a resource to retain certified, trained, and knowledgeable personnel:
 - Tier 1, Junior Level (Apprentice) Junior Helpdesk/Technician/Network/ITRT Step 1
 - Tier 2, Mid-Level (Journeyman) Helpdesk/Technician/Network/ITRT Step 2
 - Tier 3, Senior Level (Master) Lead Helpdesk/Technician/Network/ITRT Step 3
 - Based on actual career, ensure step promotions are in line with VDOE teacher certification requirements, industry standards, professional certifications, and education

Strategy	Department Responsible	Start Date	Target Completion Date	Date Completed / Notes
1. ITRT and Technician SOQ	Technology Coordinator	7/1/2016	6/30/2017 Unknown	As of this update: ITRT SOQ is 5 FTE. ACPS 3 FTE TECH SOQ is 5 FTE. ACPS 4.5 FTE
2. Professional Development	Technology Coordinator	7/1/2017	6/30/2018	FY16/17, TECH: \$7,700.00 FY17/18, TECH: \$322.00
3. Job Descriptions Career Pathways	Technology Coordinator	7/1/2016	6/30/2017 6/30/2018	2 ea Lead Computer Technicians have been established. Completed: January 2017

				Updated job descriptions still in work
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Technology Classroom Integration

Provide all faculty, staff, and students with technology computing devices and equipment to create and consume work and tasks in a managed collaborative environment that includes cloud based classrooms, electronic communication systems, social media systems, instructional based application stores, peer and faculty contacts, electronic calendars, and digital creation tools such as documents, presentations and spreadsheets.

Strategy 1: Equipment Refresh

- 1) Develop a program based computing refresh schedule.
 - Consideration on the timeframes shall be weighted on the instructional and business needs of the programs and not the actual age of the equipment;
 - Consideration should be given specifically to K-2, 3-6, and 7-12 programs and the Standards of Learning requirements. Additional programs to consider:
 - Career and Technical Education;
 - Library Media Systems;
 - Business Applications

NOTE: The program based refresh will encompass the entire technology environment to include network and server based hardware and software, non-classroom instructional and business hardware and software, etc.

Strategy 2: Evaluate Current & New Equipment

- 2) Prior to developing fiscal budgets, poll the various core subject teachers and administrators to ensure technology classroom equipment is essential to maintaining a blended learning environment and evaluate new and emerging technologies as replacements and or enhancements.
 - During evaluations of new equipment consideration needs to be given to the total cost of ownership and return on investment to ensure ACPS remains financially resilient of its technology environment.

Strategy 3: Student Use Computing Devices

- 3) Student use devices not only need to support a blended learning environment, but should also be conducive to the instructional programs being delivered. A laptop or desktop in every classroom is not always the best device for the learning environment and neither is a tablet, Android, Google, or Apple device. In addition to the programs:
 - Evaluate current hardware to ensure the best tool is being used for student engagement.
 - Consideration should be given to total cost of ownership and expected return on investment;
 - Age and current development of the targeted audience should be a weighed measure.

Strategy	Department Responsible	Start Date	Target Completion Date	Date Completed / Notes
1. Equipment Refresh	Technology Coordinator	7/1/2016	6/30/2017 Ongoing	All aging classroom equipment has been refreshed in K-5. 6 th grade is being looked at and 7 – 11 are all 1:1. 12 th grade will be 1:1 in 2018/2019
2. Equipment Evaluation	ITRT Staff	7/1/2017	6/30/2018 Ongoing	Ongoing. As new and emerging technologies become available ACPS will evaluate the devices and systems as part of the computing infrastructure for ACPS
3. Student Use Computing Devices	ITRT Staff	7/1/2016	6/30/2017	Chromebooks is the primary device for student learning in all grade levels. Updated 1/3/18. 8 Chromebooks for all K-6 grades and 1:1 Chromebooks for students in grades 7th – 11th. 12th Grade will happen in SY18/19

Digital Content

The growth of digital content continues to provide students with valuable access to high quality, relevant, and up-to-date instructional materials. Access to digital content engages students and addresses multiple intelligence and learning styles and encourages students to be active learners.

Strategy 1: Digital Textbooks

- Continue to integrate digital content into the curriculum.
 - When evaluating textbooks, ensure textbooks are also available in digital format;
 - Ensure digital content is available in a variety of languages;
 - Continue to focus on digital content for key core subjects that have measureable results;
 - Evaluate site/division licensed content to streamline and ensure consistency throughout the grade levels and subject areas.

Strategy 2: Core Computing Software

- Evaluate the effectiveness of implemented software that addresses the three levels of intervention on the core subject areas.
 - Query teachers on the effectiveness of the software being used in the classroom;
 - ITRT staff will assess how to effectively measure the various software applications identified and in use;
 - Future intervention software purchases shall be able to produce measureable results for the content being delivered.

Strategy	Department Responsible	Start Date	Target Completion Date	Date Completed / Notes
1. Digital Textbooks	ITRT Staff	7/1/2016	6/30/2017	

2. Core Computing Software	ITRT Staff	7/1/2016	6/30/2017	Imagine Math implemented SY17/18
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Communication

ACPS will continue to provide and support the use of collaborative learning and business environments for all students and staff members to further promote instructional learning opportunities for student engagement and to streamline business processes and improve workflow.

Strategy 1: Student use E-Mail

- 1) Provide secondary students with access to email.
 - Allow 9 – 12 grade students to access and use the ACPS e-mail system (internally and externally) for collaborating with peers, teachers, colleges, business, etc. in preparation of becoming a Career, College or Citizen ready individual.
 - Allow 6 -8 grade students to access and use the ACPS e-mail system (internally only) for collaborating with peers and teachers in preparation of being promoted to the 9th grade;

Strategy 2: Teacher Websites

- 2) Promote the use of teacher based websites to communicate:
 - Parent and teacher contact information;
 - Course syllabus, class schedules, and objectives;
 - Class special events, activities; and resources.

Strategy 3: Professional Development

- 3) Establish a division-wide professional development program
 - Develop target based training on the use of technology in the classroom.
 - Ensure ITRT staff have the ability to provide professional development during school based professional development days
 - Evaluate the development of a specialty knowledge program to track target based technology use training for all teachers.

Strategy 4: Business Processes

- 4) Evaluate current business processes to ensure communications are consistent and aligned with the division's current communication plan.
 - Evaluate the tools used for internal and external audiences;
 - Weigh cost factors of manual distribution and hard copies of general correspondence against posting general correspondence in electronic format such as email or a web based communication forum.

Strategy	Department Responsible	Start Date	Target Completion Date	Date Completed / Notes
1. Student Use E-Mail	ITRT Staff	7/1/2016	6/30/2017 6/30/2018	Implemented student email for all 9-12 grade students. Evaluate 6-8 in SY17/18

2. Teacher Websites	ITRT Staff	7/1/2016	6/30/2017	
3. Professional Development	CAO & Instructional Directors	7/1/2016	6/30/2017	
4. Business Processes	Department Heads	7/1/2016	6/30/2017 Ongoing	<ul style="list-style-type: none"> - Discussion have been around implementing an ERP system. - Automate subfinder system will be implemented in 2nd quarter of FY17/18 - Division has enrolled in an online and automated benefits enrollment and management system

Instructional Strategy and Student Engagement

ACPS will use best practices in instructional strategies to maintain student engagement and support the curriculum.

Strategy 1: Student Engagement Evaluations

- 1) Develop a tool to evaluate “student engagement”
 - Conduct ITRT technology walkthroughs to assess levels of student engagement.

Strategy 2: Instructional Strategies

- 2) Develop instructional strategies to maximize student engagement and therefore maximize student performance as determined by SOL scores.
 - ITRT technology walkthroughs to assess needs of individual teachers based on the SAMR model of technology integration;
 - Conduct quarterly surveys of teachers and analyze the data to determine topics for countywide/schoolwide PD.

Strategy	Department Responsible	Start Date	Target Completion Date	Date Completed / Notes
1. Student Engagement	ITRT Staff	7/1/2016	6/30/2018	
2. Instructional Strategies	ITRT Staff	7/1/2016	6/30/2018	