
Educational Technology Plan

Pittsylvania County Schools

- 2009 - 2011

This document outlines the plan by which Pittsylvania County Schools will maintain, update, and install technology in its classrooms during the specified period.

James E. McDaniel, Division Superintendent
Rickey W. Parker, Asst. Supt. for Information Technology

Table of Contents

Stakeholders	2
Plan Distribution	3
Mission & Vision	4
Learning, Technology Access & Use	4
Current Status/Needs Assessment	5
Infrastructure	5
Hardware/Software	6
Instructional Technology	8
Duration	9
Collaborations & Partners	10
Goals, Objectives, Strategies & Implementation Responsibility	11
Infrastructure	11
Hardware, Software & Instructional Technology.....	12
Professional Development	13
Integration	14
Equity of Access & Core Network Design	14
Ongoing Professional Development & Support Programs	16
Connectivity	18
Educational Applications	18
Accountability	21
Fiscal Analysis	21
Review of Accomplishments	22
Local Technology Policies & Guidelines	24
Executive Summary.....	25

Educational Technology Plan

Pittsylvania County Schools

Stakeholders

The **Pittsylvania County Schools' Stakeholders** act in an advisory capacity and serve as a catalyst for technology plan implementation with regard to the policy issues and planning of instructional technology in the schools. Stakeholders are comprised of teachers, classified staff, administrators, community representatives, community minority representatives and parents.

Stakeholders' Principles

Technology is a tool and should never become an end in itself. It can never substitute for a caring and competent teacher. Students and teachers must learn to use technology as a normal part of their daily routine. Because the computing tools of today have become the tools of choice in 21st century living, we believe that computer technology must be an integral part of the classroom and of the daily life of the school. School administrators and teachers must see the benefits of technology in all facets of their work environment before they can pass on its significance to the students they serve.

Committees and Partnering Organizations

The following committees meet on a regular basis to discuss topics and concerns, offering the division the opportunity to see the system as an integrated whole. This results in technology decisions being developed from the perspective of the entire K-12 educational system.

Committees

Assistant Superintendent for Information Technology/IT Staff

Instructional Department: Elementary, Middle and Secondary Directors

Division Technology Committee *

Teacher Advisory Council*

Classified Staff Advisory Board

Citizens' Advisory Council*

Minority Concerns Committee*

School Board

Partnering Organizations

Institute for Advanced Learning and Research

Danville-Pittsylvania Broadband Coalition*

Southern Piedmont Technology Council

Pittsylvania County public libraries

Regional 911 Center

Pittsylvania County Sheriff's Department

Church-Based Tutorial Programs

Blue Ridge East Technology Consortium*

Southside Virginia Regional Technology Consortium

**The Assistant Superintendent for Information Technology serves as a member.*

Plan Distribution

The PCS Technology Plan is distributed in two ways:

- Posting it for download in both Adobe PDF and Word formats on the PCS web site <http://www.pcs.k12.va.us/techplan/>
- Providing a hard copy to the public in the School Board lobby

Mission & Vision

Mission Statement

The **Pittsylvania County School System** is committed to providing students and teachers with the most appropriate technology for the enhancement of education.

Vision Statement

Students, teachers and staff will learn and work in a technology-rich environment that encourages exploration and personal development that leads to a productive and fulfilling life.

Technology-integrated learning environments will be provided to maximize instruction and achievement.

On-going professional development opportunities designed to enhance instruction through the integration of appropriate technologies will be provided to instructional personnel.

Support to assure equity of access division-wide to technologies for communication, collaboration, and learning will be provided.

Learning, Technology Access and Use

The ***Standards of Learning for Virginia Public Schools*** clearly identify the importance of technology in the classroom. Teachers in the Pittsylvania County Schools are committed to meeting the standards and are endeavoring to find innovative means by which to enhance instruction. Professional development is the key strategy to success. The Information Technology Department maintains a close working relationship with local school personnel, providing technical support and ongoing training in the use and integration of available technologies. All of its functions are examined in the light of one overriding concern: every function must support instruction.

Pittsylvania County Schools is dedicated to providing high quality instruction in a technology-rich learning environment. Previously, the concept of the 'open computing laboratory' had been the division's focus; however, we recognize the need to increase the ease of access to computers at all levels, in all instructional areas. Access to computer facilities should not be for a select few in specialized classes; therefore, our current focus will be to increase the availability of technology for instructional use, including classroom technology, multi-purpose classrooms in our newly renovated high schools, laptop carts, and smaller mini-labs in classrooms. The Pittsylvania County School system is committed to meeting the expectations of the Standards of Learning and NCLB goals, creating 21st century learning environments, and preparing our students for the challenges of the 21st century.

Current Status/Needs Assessment

Infrastructure

Needs Assessment

The establishment of the Danville-Pittsylvania Broadband Coalition (DPBC) brought a new era in high-speed Internet access to our region. The DPBC is a coalition of Danville City, Pittsylvania County, Danville City Schools and Pittsylvania County Schools. Together we are able to dramatically reduce the cost per Mbps of Internet access. The joint purchase is an OC3 with the 155 Mbps bandwidth split into two shared pools.

Pittsylvania County Schools recognizes that many modern educational IT applications require the connection of multiple schools over a high-speed internal WAN. The existing Intranet has 54, 100 and 300 Mbps microwave links to regional nodes that are 2, 4, 9, 10, 9 and 14 miles from the regional fiber drop. Typically, the regional nodes are located at the high schools with fiber connecting the adjacent middle school to the regional node.

The *Danville-Pittsylvania Broadband Coalition* projects costs to decrease to the members through the City of Danville's Utilities Department. Bulk buying power insures adequate bandwidth for the near future for both Pittsylvania County Schools and its partner, Danville City Schools. Currently PCS infrastructure has increased to 55 Mbps with access to burst into a 70 Mbps pool.

Gap Analysis

There are no significant identifiable gaps between internal bandwidth availability at the elementary, middle and secondary levels based on student enrollment per school. The Tunstall area, however, does not have a fiber connection to the core of the regional network. To replace our current wireless access, 100 Mbps fiber transport to Danville MSAP is needed for the Tunstall district. This would affect two elementary schools, one middle school, and one high school.

Hardware/Software

Needs Assessment

The Pittsylvania County School system is committed to creating 21st century learning environments and providing high quality, technology-enhanced instruction designed to prepare students for the challenges of the 21st century. Educational technologies including software applications are utilized in instruction and assessment in all curricular areas. The allocation of instructional funds to individual schools, however, provides for the purchase of software at the building level, resulting in disparity among software purchases and program utilization. In addition, Web 2.0 technologies are underused due to network restrictions and a lack of professional development relative to their use in instruction.

PCS uses SchoolVue Lab Management software in middle and high school labs and libraries to ensure a secure, well-managed lab conducive to instruction and learning. This software is not available in elementary school labs due to funding considerations.

The computer to student ratio, particularly at the elementary level, restricts the use of available software as well as the integration of Web 2.0 tools into classroom instruction. Presently, the ratio of computers to middle and high school students is better than one computer per 1.5 students, although these machines are in fixed classroom and lab locations. In our elementary schools, the ratio is far worse, averaging one computer per 8 to 14 students with all machines also located in computer labs. The fixed nature of these machines restricts the teachers' ability to seamlessly integrate their use into instruction and hinders the division's ability to conduct online SOL testing at the elementary level.

The table on the following page illustrates the software available in most schools. Individual schools, due to the manner in which funding is allocated, may have additional software installed on their machines.

Gap Analysis

Pittsylvania County Schools has identified four significant gaps in hardware and/or software across the division:

- Computer to student ratio, particularly at the elementary level
- Availability of classroom technology, particularly at the elementary level
- Access to Web 2.0 tools
- Equity of access to high-quality, cutting-edge software

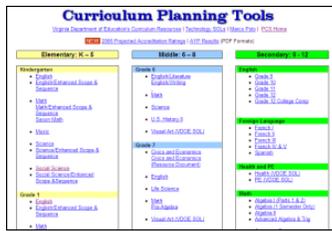
Our goal remains to equip our elementary and high schools in the same manner as these four middle schools; however, adequate funding is not yet available. The middle school design includes a computer lab for each grade level, small library labs, and small labs in each of the exploratory classrooms. Plans now approved will provide for the renovation and upgrade of all four high schools. Details of the technology upgrades are in development with consultation from the architects. Construction began during the 2008-2009 school year. Lack of space in elementary schools prohibits any expansion of computer lab facilities at this time.

TABLE OF INSTRUCTIONAL SOFTWARE IN SCHOOLS

APPLICATION	PURPOSE					TARGETED POPULATION
	Instruction	Assessment	Professional Development	Communication	Reporting	
Accelerated Reader		×			×	K- 9, select schools
A+ Math	×	×			×	K – 8
ARDT		×			×	7 – 8
Atomic Learning	×		×			6 – 12; Employees; Parents
Blackboard CMS	×	×	×	×		K – 12; Parents
Child Observation Record				×	×	Pre-school
Cortez Algebra	×	×				9 – 12
Destination Math	×	×			×	K – 5 (Kentuck Elementary)
Destination Reading	×	×			×	K – 5 (Kentuck Elementary)
Electronic Report Card				×	×	K - 5
ePAT SOL		×				3 - 12
Harcourt Math	×	×			×	K - 5
Inspiration	×					6 - 8
InteGrade Pro				×	×	1 - 12
Interactive Achievement		×			×	6 – 8, Math only
Microsoft Office	×					6 – 12; Employees
NCS Writing Mentor for VA	×		×			3 – 12, English Writing
NovaNET	×	×			×	6 - 12
Project Graduation	×	×			×	11
Scholastic Keys	×					K - 5
Soft Chalk	×					K - 12
Star Reading Assessment		×			×	K – 9, select schools
Study Island	×	×			×	K – 8, select schools
Thinklink Learning		×			×	K – 5, select schools

Instructional Technology: Classroom Integration Needs Assessment

Annually, Pittsylvania County Schools' Information Technology Department ascertains the extent of technology use and integration in the classroom through an online survey. Additionally, direct observation by principals and Instructional Technology Resource Teachers (ITRT) allows us to determine specific areas of need. The availability of the ITRT has increased the integration of technology into classroom instruction and the use of the lab resources available to both students and teachers. Ninety-five percent (95%) of PCS employees now use PCS email on a regular basis. Seventy-five percent (75%) of teachers use the Internet to locate instructional resources.



Elementary, K-5	Middle, 6-8	Secondary, 9-12
<ul style="list-style-type: none">Language ArtsMathScienceSocial StudiesHealthArtMusicPhysical EducationCareer/Technical EducationSpecial Education	<ul style="list-style-type: none">Language ArtsMathScienceSocial StudiesHealthArtMusicPhysical EducationCareer/Technical EducationSpecial Education	<ul style="list-style-type: none">Language ArtsMathScienceSocial StudiesHealthArtMusicPhysical EducationCareer/Technical EducationSpecial Education

PCS has developed a comprehensive curriculum alignment plan with mapping and pacing guides for all subjects. These instructional resources are revised annually and are available online to teachers. In this way, PCS is able to provide a consistently comprehensive education to its students. Internet Safety Education lessons have been integrated into these pacing guides for inclusion in lessons taught by classroom teachers, guidance personnel, media specialists, and ITRT.

Fewer than ten percent (10%) of Pittsylvania County Schools' classrooms have instructional technology such as LCD projectors, document cameras, interactive white boards/wireless slates, classroom response systems, or computers for student use. Adequate funding with which to purchase classroom technology is the main obstacle to the integration of technology in our division. A plan by which these items can be obtained and the funding necessary to purchase these items are necessary for technology integration to occur to the extent desired. Results of the *2008 Technology Use Survey* indicated that teachers view increasing the availability of classroom technologies such as LCD projectors, SMART Boards, classroom response systems, document cameras, and computers for student use as a top priority for Pittsylvania County Schools.

Secondary to the lack of classroom technology is the lack of training time built into the regular contract period. Ongoing significant technology training is the key to effective integration. Continuation of the ITRT program is essential to the creation of 21st century learning environments and the seamless integration of technology into the lives of students.

The results of our *2008 Technology Use Survey* indicate that approximately ninety percent (90%) of PCS employees now have internet access at home. Only sixty-two percent (62%), however, have broadband access. Sixty percent (60%) of students report having Internet access at home. Schools are currently posting information online for parents and students via the PCS home page, school web pages, and Blackboard; however, until the population, both students and teachers, has more access to the Internet, particularly to broadband, the main form of home-school communication remains paper copy.

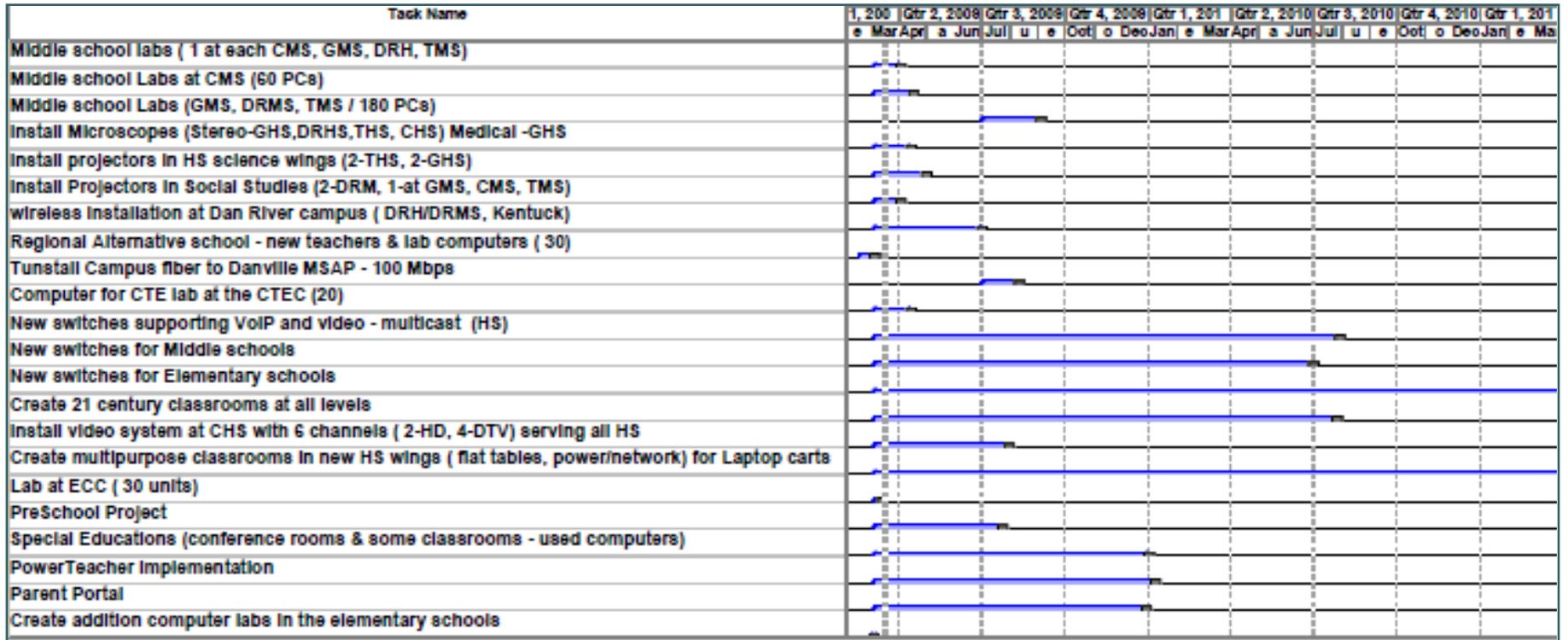
Gap Analysis

Pittsylvania County Schools has identified significant gaps in the integration of instructional technology:

- Availability of instructional technology such as LCD projectors, document cameras, wireless slates, classroom response systems, and student computers in classrooms
- Availability of professional development in the use of 21st century pedagogy
- Access to Web 2.0 technologies within classrooms
- Availability of broadband access to homes of PCS employees and students

Duration

The following chart indicates the technology timeline for Pittsylvania County Schools' implementation over the next two years. For each milestone listed, the projected date range of implementation is shaded below:



Collaborations and Partners

Support Programs/Partnerships

The following partnerships provide opportunities for professional development and collaboration with neighboring and regional school divisions:

Blue Ridge East Consortium

Pittsylvania County Schools is a member of the No Child Left Behind/ED Tech Competitive Grant that forms the Blue Ridge East Consortium (<http://www.bath.k12.va.us/bretc/default.aspx>). This consortium offers professional development opportunities for its 21 member partners through the National Teacher Training Institute and provides technology equipment for classroom use to participating school divisions.

Southside Virginia Regional Technology Consortium

Pittsylvania County Schools is also a member of the twenty-five division SVRTC. The SVRTC (<http://www.svrtc.org/>) collaborates with Longwood University to deliver high-quality professional development to participating school divisions through videoconferencing and site-based instruction.

James Madison University Virtual Communities of Practice

Both the BRETc and the SVRTC have joined with James Madison University to form virtual communities of practice (VCOP) intended to serve as catalysts for NETS*T certification among ITRT and classroom teachers. The VCOP connects participants with others statewide, providing a vehicle for communication and sharing of ideas. Through the VCOP, three to four participants may receive NETS*T certification each year. PCS currently has one NETS*T certified ITRT and three additional ITRT working toward this goal.

Piedmont Regional Governor's School

PCS hosts technology-rich summer enrichment classes for identified gifted students in grades 4-7 for eight neighboring school divisions and four private schools. (<http://www.pcs.k12.va.us/governor/>)

Goals, Objectives, Strategies & Implementation Responsibility

Pittsylvania County Schools has identified gaps in all three areas of importance: Infrastructure, Hardware/Software, and Instructional Technology. In addition, we find that significant on-going technology-related professional development is necessary for administrators, instructional personnel, and support staff. PCS's plan for improvement during 2009 and 2010 is detailed in the tables that follow. Many of these projects will continue past the plan's period until their completion.

It is the responsibility of the Information Technology department to secure, install, and maintain all hardware and software. The Lead ITRT works with the Instructional Department to provide technology-related professional development to employees.

Infrastructure

GOAL	OBJECTIVE	STRATEGY
Secure access to additional bandwidth, insuring the capability of future expansion.	Increase the available total bandwidth outside our network so as to exceed our current needs	Continue working with the DPBC to improve access to low cost, high quality bandwidth. The existing Intranet will be used to efficiently distribute the bandwidth out to the edge of our network
Create a secure robust Intranet capable of meeting the ever-changing demands of the school division.	Insure secure coexistence of the wireless network with the WAN and LAN.	Establish at least a 100 Mbps connection to each of 23 educational facilities with Gbps (1,000 Mbps) connections over the main backbone regional links.
Provide fiber connection to all regions.	Add fiber to include the Tunstall region.	Purchase internet access over fiber as soon as it becomes available.
Handle video, voice and data efficiently.	Provide Voice over IP (VoIP) services to the schools. Provide Video Distribution services via IPTV over the data network instead of a separate coaxial network.	Implement VoIP in a staged approach beginning with the high school renovations in 2009. Install QOS and POE switches in the high schools for the 4 regions
Avoid duplication of efforts in data entry of student related data	Move toward all administrative applications being interoperable.	Make all new systems SIF compliant

Professional Development

GOAL	OBJECTIVE	STRATEGY
<p>Facilitate the seamless integration of technology into classroom instruction</p>	<p>Provide consistent instruction and support to teachers and administrators relative to available software and hardware</p> <p>Provide professional development in the use of 21st century teaching strategies</p>	<p>Utilize ITRT as professional developers according to division and school level training plans</p> <p>Conduct sessions of Intel’s administrator and teacher training</p> <p>Provide Atomic Learning*, an online, self-paced tutorial program, to staff as a resource for personal growth in the use of technology; educate staff in its use with students as well</p> <p><i>*Dependent upon funding</i></p>
<p>Fully integrate the use of PowerSchool and PowerTeacher, along with Parent Access</p>	<p>Train administrators, support staff, and instructional personnel in areas of implementation relative to their assigned duties.</p> <p>Provide ongoing, on-site support and training to insure full integration.</p> <p>Educate parents and school staff in the benefits and use of the parent portal.</p>	<p>Provide staff professional development according to a consistent training plan developed by the Lead ITRT who will work closely with the Instructional staff at the central office to identify instructional needs, plan division training initiatives, and provide division level and administrative training. This training will encompass all areas of Power School.</p> <p>Purchase PowerSource’s “Mastery in Minutes” training tutorial series (\$1,000/year, unlimited access)</p> <p>Provide parent information sessions at each school prior to opening the portal to parents and students</p>

Integration

Technology Support for Available Equipment

Pittsylvania County employs nine technicians (one per 1,000 students). Of these nine positions, two are assigned to the division's Information Technology Department office as Network Manager/Lead Technician and Assistant Network Administrator. They oversee the division's network and provide immediate support to all areas of the division in addition to managing the daily work assignments of the seven building level technicians. One technician maintains all wireless network applications and provides support for related work orders. Four of the remaining technicians are assigned to a region of the division and the schools within that region. Each provides support to his/her region on a daily basis, installs new equipment and software, and addresses technology-related work orders submitted by teachers and staff. The remaining two technicians specialize in computer/video infrastructure and general computer maintenance and provide assistance for all special projects and related repairs.

Go to Assist software allows technicians to diagnose, troubleshoot, and resolve problems throughout the division from any location. Technicians are able to chat and to use remote diagnostics, file transfer, and reboot/reconnect capabilities. This software also gives technicians the option of remotely viewing or controlling the computers to provide immediate service.

Nine Instructional Technology Resource Teachers (one per 1,000 students) serve the division's administrative, instructional, and support staff, providing ongoing professional development for all hardware and software. They also assist with troubleshooting and needed repairs. As the ITRT model the integration of technology and correlate activities to the SOL, they are supported by the resident network/computer support technicians. This close proximity of the ITRT team and the technician is designed to improve response time and foster a cooperative work environment, insuring the availability of technology support and training to administrators, teachers, and students.

Equity of Access & Core Network Design

The core of the **Pittsylvania County Schools'** intranet is based centrally at the Network Operations Center. Three regions (Chatham, Dan River, and Gretna) are served by Gigabit fiber. The Tunstall area is currently served by 100 Mbps wireless.

The chart on the following page illustrates the intranet of Pittsylvania County Schools, a symmetrical system providing broadband access across a 987 square mile region including ten neighborhood elementary schools, four regional middle schools, and four regional high schools. This system serves over 1,300 employees and over 9,000 students with secure high-speed internet access.

Intranet/Extranet Links: Pittsylvania County, Virginia

Link	Link Rate	From	To	Status	Units	Comment
1	GigE Fiber	Jones Tower(14 mi)	Gretna High	Active	2	backbone Seg- Intranet
2	GigE Fiber	NOC (1.4 mi)	White Oak Tower	Active	2	backbone Seg- Intranet
3	100Mbps	Jones Tower (9.4 mi)	Tunstall High	Active	2	Tsunami
4	GigE Fiber	Jones Tower (7.4 mi)	Dan River High	Active	2	backbone Seg- Intranet
5	GigE Fiber	NOC (4.4 mi)	Central Office	Active	2	backbone Seg- Intranet
6	GigE Fiber	NOC	Chatham High	Active	2	backbone Seg- Intranet
7	45 Mbps	Gretna High (15 mi)	Mt. Airy	Existing	2	Proxim
8	150 Mbps	Gretna High	Gretna Elem	Existing	2	Orthogon - Spectra
9	GigE Fiber	Gretna High	Gretna Middle	Existing	2	backbone Seg- Intranet
10	150 Mbps	Jones Tower	Twin Springs	Existing	2	Orthogon - Spectra
11	45 Mbps	Twin Springs	Southside Elem	Existing	2	Orthogon - Gemini
12	10 Mbps	Reg. Alt School	Southside Elem	Existing	2	Orthogon
13	150 Mbps	Tunstall High	Brosville Elem	Existing	2	Orthogon - Spectra
14	150 Mbps	Tunstall High	Stony Mill Elem	Existing	2	Orthogon - Spectra
15	GigE fiber	Dan River High	Kentuck Elem	Existing	2	backbone Seg- Intranet
16	GigE fiber	Dan River High	Dan River Middle	Existing	2	backbone Seg- Intranet
17a	54 Mbps	NOC	Medley Tower	Existing	2	Engenious
17b	45 Mbps	Medley Tower	Union Hall Elem	Existing	2	Orthogon
18	GigE fiber	Chatham Middle	NOC	Existing		segment
19	150 Mbps	Chatham Elem	E911 Tower	Existing	1	Orthogon
20	5 Mbps	Public Library	E911 Tower	Existing	1	Alvarion
21	5 Mbps	Public Lib - Extension	Brosville Elem	Existing	1	Alvarion
22a	54 Mbps	Gretna High	Brushy Mountain	Existing	2	Engenious
22b	10 Mbps	Brushy Mountain	Hurt Elem	Existing	2	Orthogon
23	70Mbps	NOC -Internet Access	Danville/COVANET	Existing	ATM	
24	-	NOC Dialup	Southern region	8	dialup	active
25	-	Gretna High Dialup	Northern region	4	dialup	discontinued
28	70 Mbps	NOC-Internet Access	Danville City NOC		Fiber	MCB/MCI

Professional Development & Support Programs

Instructional Technology Resource Teachers

Eight (8) Instructional Technology Resource teachers (ITRT) and one (1) Lead ITRT support the integration of technology into classroom instruction. Their primary function is to train teachers, provide support, and model instructional strategies utilizing technology that will enhance instruction. Each ITRT serves two to three schools. The Lead ITRT works closely with the instructional staff at the central office to identify instructional needs, plans division level training initiatives, provides division level and administrative training, and coordinates and supervises the ITRTs as they work with the teaching staff in their respective schools. The Lead ITRT also works closely with the instructional staff to align the curriculum division-wide and to develop benchmark assessments. The ITRT currently oversee the implementation of the classroom integration component of the division's Internet Safety Education Plan and will be the principal trainers during the implementation of Power School, Power Teacher, and the parent access component of Power School.

Ongoing Training Programs and Opportunities

Teachers are required to complete a technology portfolio by the end of their first five years of employment. In addition, all instructional personnel must complete an in-service on copyright and an online training course on Internet Safety Education. Plans of action have been developed at the division level to document completion of assigned courses and training designed to certify all teachers of special needs students as "Highly Qualified. Cortez instructors receive training annually, paid for with grant funding, to administer instruction to their students. These opportunities are detailed in the table on the following page.

ONGOING TRAINING & SUPPORT PROGRAMS

OBJECTIVES	STRATEGY/ACTIVITY	EVALUATION/ EVIDENCE OF FOLLOW-UP IN THE CLASSROOM
<p>All teachers in the area of Special Education will become Highly Qualified in all areas pertaining to their assignments.</p>	<p>Training will be provided for each core subject area as follows: English, Math, and Science: Instructors will attend training provided by the Lead ITRT in available technology for curriculum enhancement and instructional support. Social Science teachers will complete an online course through Blackboard in which curriculum, instructional resources, and teaching strategies are explored and evaluated.</p> <p>All instructors will complete online “Digital Workshops” maintained through the PCS Blackboard course for support teachers.</p>	<p>Attendance at training sessions will be documented.</p> <p>The Director of Special Education will collect certificates of completion for all online content.</p> <p>Principals and supervisors will observe teachers. Observations of instruction as well as lesson plans will serve as evidence.</p>
<p>New certified staff will meet the Teacher Technology Certification Standards for Pittsylvania County Schools.</p>	<p>Teachers will submit a Teacher Technology Portfolio for review.</p>	<p>Building principal's classroom observations indicate effective technology integration.</p> <p>Teacher's unit/lesson plans indicate effective technology integration.</p>
<p>Instructional personnel will receive training in copyright and fair use as it pertains to educators and in the importance of Internet safety education for their students, enabling them to effectively instruct students in both copyright issues and in online safety.</p>	<p>All instructional personnel will be required to attend an in-service on copyright and fair use in education.</p> <p>All instructional personnel will be required to complete four hours of online Internet safety education training.</p> <p>In addition to core Internet safety lessons taught by ITRT, teachers will utilize Internet safety lesson activities correlated with grade level and/or subject SOL and available in PCS pacing guides.</p>	<p>Attendance at copyright in-service will be documented. One hour will be awarded toward certificate renewal.</p> <p>Instructional personnel will be required to submit the certificate generated upon completion of the online course. Four hours will be awarded toward certificate renewal.</p> <p>Principals will evaluate lesson plans and conduct classroom observations as evidence of integration.</p>
<p>Cortez* instructors will receive high quality professional development training. <i>*Cortez is a network-based client-server mathematics instructional package that incorporates classroom administration of student progress.</i></p>	<p>High school instructors will receive ongoing training in the summer and throughout the school year from the Cortez Management Corporation.</p>	<p>Teachers will be able to use the data that is provided by the software to group students to work on specific skills for continuous achievement. <i>*Cortez funding is dependent upon the proposed budget.</i></p>
<p>Middle school mathematics teachers will effectively utilize test data to improve student achievement.</p>	<p>Teachers will receive training provided by Interactive Achievement, Inc. specifically designed to facilitate the use of data to improve achievement.</p>	<p>Principals will evaluate lesson plans and observe instruction.</p> <p>Test data will be evaluated.</p>

Connectivity

As detailed in the previous sections of this report, “Integration” and “Professional Development and Support Programs,” Pittsylvania County Schools maintains and provides support for a secure, robust Intranet with equity of access to all twenty schools and division offices. Plans to connect the Tunstall area via fiber (see “Current Status/Needs Assessment – Infrastructure”) are underway.

To insure continued access to low cost, high quality bandwidth at a rate sufficient to support high volume internal applications, Pittsylvania County Schools will continue its partnership with the Danville-Pittsylvania Broadband Coalition (DPBC). Increasing the available total bandwidth outside the network to exceed current needs and allow for future expansion remains the division’s continued goal.

To maintain compliance with Virginia’s *Acceptable Internet Use* policy (§ 22.1-70.2., Acceptable Internet use policies for public and private schools), Pittsylvania County Schools filters all Internet content provided by the division to staff and students using a product called *i-Prism*. Machines are categorized as student or administrative, and permissions are set accordingly. An employee using an administrative machine can use his/her staff login to request access to acceptable, uncategorized sites for educational use and to override certain categories for personal use. Categories such as gambling and pornography may never be overridden. Requests to override or release sites may not be made from machines with IP addresses in the “student” category.

Educational Applications

Pittsylvania County Schools is committed to the best teaching practices integrating technology in meaningful and productive ways. Online resources that correlate to the SOL have allowed us to distribute individualized instruction to target populations where SOL improvement is required. The continuation of their use is dependent upon available funding and may be impacted by reductions to the division’s budget during this plan’s period.

Virtual Virginia

Students at all four high schools participate in virtual courses including Advanced Placement courses not offered in the traditional setting via Virtual Virginia.

Cortez Math

Selected Algebra students will be enrolled in a Cortez math lab learning environment in all four high schools. Cortez is a blended client-server mathematics instructional package that incorporates classroom administration of student progress. Since its implementation, Algebra scores have consistently improved.

Career Academy

Career Academy labs provide educational experiences for students who have not experienced success in the traditional educational setting. Currently, there are five Career Academy classrooms - one per high school, with an additional lab at the high school with greatest need. The Career Academy program allows students to progress at a faster rate by taking more than the traditional eight classes per year, thus enabling them to regain age-appropriate academic status. NovaNET software is the instructional vehicle through which the curriculum is delivered.

Read 180

Read 180 labs provide technology-enhanced reading instruction to selected students in all four middle schools.

Math Labs / A+ Software

Math labs in two middle schools have been created to provide technology-enhanced remedial mathematics assistance using A+ software. The creation of these mini-labs in other schools is dependent upon classroom space and available funding.

Interactive Achievement

Interactive Achievement is currently utilized for all mathematics benchmark testing at the middle school level. This web-based testing program allows teachers to modify instruction based on real-time test data.

ESL Instruction

The instructional focus remains on the English Language Proficiency Standards of Learning and the continuous monitoring of student progress. To accomplish these goals, ESL teachers are provided laptops and accompanying software for use with students when access to other machines is not available. Teachers use a variety of online resources in addition to their software to enhance the instruction of their students.

CTE Programs

Career & Technical Education classes focus on job related technology skills, utilizing the available technology to prepare students for immediate entry into the job market and for post-secondary certification opportunities. The CAD, Cisco, A+ and Net+ classes provide students with a basic skill set on which to build their post-secondary education. An engineering lab allows students to utilize special software to further their interests in the field of engineering and to provide a foundation for their post-secondary education.

ARDT

Algebra Readiness Diagnostic Test Practice is used at the middle school level to assess readiness for algebra.

Inventor Software/InCad

Students use this software in classes designed to prepare them to pursue engineering careers in their post-secondary education.

NovaNET

NovaNET school curriculum software from Pearson Digital Learning is a comprehensive e-learning system revolutionizing the relationship between students, teachers, and technology. This software is used in the Career Academy program, GED program, Regional Alternative School, homebound instruction, and some church based tutorial programs. PCS provides access to this system through our WAN.

Blackboard*/ Moodle

This web-based courseware and online course creation program is utilized by schools in the division as a school/homework portal and by secondary teachers to post class information, lessons, and resources, and to assess student learning.

**Due to increasing costs and budget restrictions, PCS will transition to Moodle during the 2009 – 2010 school year. Other considerations to replace Blackboard are PowerTeacher and the Parent Access component of PowerSchool.*

Soft Chalk

Soft Chalk enables teachers to design interactive courses and/or course materials for use in Blackboard or as standalone applications.

ePAT

Teachers utilize ePAT at all levels, K-12, to provide practice for online SOL testing.

Project Graduation

This program is used to assist students who have been unsuccessful in English in meeting necessary requirements for graduation.

Atomic Learning*

Self-paced technology instruction is provided via this online resource to employees, students, and their families.

**Due to budget constraints, the use of Atomic Learning may be discontinued at the end of the 2008 – 2009 school year.*

Videoconferencing via Tandberg Units

PCS has hosted many videoconferencing sessions including a simultaneous broadcast with all four division high schools. As a component of the “21st Century Community Learning Center” after-school program, students in participating PCS middle schools held academic competitions between schools using videoconferencing equipment. Beginning in the fall of 2007, PCS schools participated in virtual field trips available through Tandberg’s “Center for Interactive Learning and Collaboration.”

NetMeeting

PCS held NetMeetings with the communications engineer in Antarctica (<http://www.pcs.k12.va.us/instruction/science/antarctica/index.html>) and Professor Defen Luo, Dean of English at the Hunan Normal University in Chang Sha, Hu Nan in the Peoples Republic of China (<http://www.pcs.k12.va.us/public/index-1-china.html>).

MediaSite/Sonic Foundry:

MediaSite provides a means for live and on-demand communications. Faculty and staff training videos using this product are being planned.

Distance Learning

Videoconferencing equipment is also used in conjunction with Blackboard and SchoolVue lab management software to deliver high-quality instruction in a distance learning environment. Due to teacher shortages in critical needs areas, distance learning has been used successfully in the instruction of Computer Science, Spanish, and Physics.

Accountability

Pittsylvania County Schools recognizes that technology is changing rapidly. Teachers and staff are continually at odds with the pace of change. With new options available on a daily basis for solving formerly difficult problems, it is imperative that the Information Technology Department staff continually look for new ways to accomplish their goals. Teachers must look for new opportunities and new ways of approaching instructional goals with the use of available technology.

To ascertain the utilization and effectiveness of the technology provided to the students and staff, PCS conducts an online survey each spring. Results are evaluated and used to tailor professional development and to guide the purchase of new technologies.

Annual Technology Survey

Beginning in 2009, *Survey Monkey* will be used to conduct our technology needs assessment. Pittsylvania County Schools' Information Technology Department utilizes an online survey each spring to assess information technology literacy, Internet safety education preparedness, classroom use of technology, and the impact of the ITRT program. All PCS employees are expected to complete the survey annually.

The results of the 2008 Technology Use Survey are available online at http://www.pcs.k12.va.us/techplan/2008_technology_use_survey_pcs.pdf

Fiscal Analysis

Internet Connectivity

The Schools and Libraries E-rate Program underwrites Pittsylvania County Schools' Internet connectivity. In 2007-2008, the E-rate program paid \$34,985 toward Internet access. During 2008-2009, E-rate provided 63% of the cost of PCS's broadband connection, and in 2009-2010, that percentage will increase to 65%. IT local funds cover the remainder of the cost of broadband connection.

Educational Applications (Hardware & Software)

The annual Virginia Department of Education funding for technology in 2008-2009 was \$596,000 plus \$114,000 for the local match. The Pittsylvania County Board of Supervisors consistently funds only the minimum requirement for the local match annually, limiting the purchase of classroom technology.

No additional funds other than state funds and required local match for the state funds are provided for the purchase of school computer hardware or classroom technology or its maintenance, repair, or replacement. Current state funding restrictions do not permit PCS to purchase classroom technology such as projectors, SMART Boards or wireless slates, document cameras, classroom response systems, or other such items. Total Cost of Ownership has been addressed by requesting that the Board of Supervisors create a line item for the purchase and replacement of equipment on a four-year cycle in their capital outlay budget. Pittsylvania County's Board of Supervisors has yet to support the school budget with additional funding. The impending budget cuts (2009-2010) will further impact purchasing decisions, although the exact amounts are unknown at the time of this plan's report.

Review of Accomplishments

Pittsylvania County Schools' Technology Department has received citations from the Governor, the Virginia Department of Education, regional technology councils and the local chamber of commerce.



2006: Exceptional Education Achievement Award

Danville Pittsylvania County Chamber of Commerce

For John L. Hurt, Jr. Elementary School's recognition as a Distinguished Title I School by the Virginia Department of Education



2006: The McGlothlin Awards for Teaching Excellence

Blue Ridge Public Television

For Jennie Finney, PCS Elementary Teacher, who was the 2006 Elementary School Winner (Grades K-5) of the McGlothlin Award:

<http://www.wbra.org/html/commevents/mcgllothlin/2006winners.html>



2006: Leadership in Government: Southern Piedmont Technology Council

To the city of Danville, Pittsylvania County, Danville Public Schools, and Pittsylvania County Schools for their leadership in providing technological advancements in government operations and functions through a collaborative effort to bring high-speed internet connectivity to the local governments and schools



2003: No Child Left Behind: Blue Ribbon School

U.S. Department of Education

Awarded to Mount Airy Elementary



2002: Governor's Gold Award for K-12 Education

Commonwealth of Virginia Information Technology Symposium

For The Regional Wireless Broadband WAN and in recognition of outstanding achievement in using technology innovatively to serve Virginia's citizens effectively



2002: Leadership in Telecommunications Infrastructure Award

Southern Piedmont Technology Council

For significant contributions to the enhancement of the region's telecommunications infrastructure



2002: Governor's Innovative Technology in Education Award

To PCS teacher Donna N. Dorr in recognition of innovative use of technology to improve instruction

<http://www.pen.k12.va.us/VDOE/NewHome/pressreleases/may3102.html>



2001: Excellence in Education Award

Danville Area Chamber of Commerce

For contributions made in the field of technology in the Dan River Region



2000: Technology Leadership Award

Virginia Department of Education

Presented to Assistant Superintendent of Information Technology, Rickey W. Parker for Technology Leadership in Region VI



2000: Leadership in Education Award

Southern Piedmont Technology Council

For the Innovative Use of Wireless Technologies in the Implementation of a Microwave-Based WAN

This was the inaugural award for the SPTC.



2000: Governor's Partnership in Education Horizon Award

For Virginia's best partnership practices designed to improve students' academic achievement through bold education reform initiatives (involving the private sector) which make a substantial difference in students' lives

Local Technology Policies and Guidelines

Acceptable Use Policy for Staff/Community

An overview of the Pittsylvania County Schools' *Acceptable Use Policy* is presented each year during the general session for all new employees in August. In addition, it is covered in detail in small-group sessions during their orientation. Attendance is mandatory, and ITRT cover the policy in depth with all new employees not in attendance. The policy is also presented in Windows Media Video format on CD to all employees as a part of their employee package. This video captures the spirit of the *AUP* in situational examples of acceptable and unacceptable uses. (<http://www.pcs.k12.va.us/training/pcs-aup.wmv>)

Internet Safety & Copyright/Fair Use in Education

The *Acceptable Use Policy* was revised to include a component on Internet Safety Education in May 2007. The revised policy was presented to all employees during mandated in-service. Employees are kept abreast of changes through notifications on the PCS home page. Workshops are held annually in the schools for parent volunteers who assist in the labs. Substitutes are required to complete *AUP* training online as a condition of employment.

All certified (instructional) employees are also required to attend a copyright and Fair Use in-service provided by the ITRT and to complete online Internet Safety Education training.

Acceptable Use Policy for Students

Pittsylvania County Schools' *Acceptable Use Policy* is included in the student handbook given to all students each year. A parent/guardian signature page is included in the handbook. This page is to be returned to the student's homeroom teacher to verify receipt of the *Acceptable Use Policy* and other PCS student policies contained in the handbook.

Two versions of the *AUP* have been posted online for students: a version for use with elementary students and a version for secondary students. The intent is to present the information contained in the *AUP* in language easily understood by students. Teachers are expected to cover the *AUP* with students prior to their first visit to the computer lab.

All versions of the PCS *Acceptable Use Policy* are posted online and can be viewed at <http://www.pcs.k12.va.us/aup/> .

Executive Summary

Pittsylvania County Schools is comprised of ten elementary schools, four middle schools, four high schools, a career and technical center and a regional alternative school. With the completion of the Tunstall area as detailed in this plan, all division operations will be connected via fiber to the Network Operations Center in Chatham. Nine technicians and two division analysts provide technology support, utilizing an online work order system and remote assistance to streamline efforts. Consistent, ongoing technology training is provided at both the school and division level by nine instructional technology resource teachers. Pittsylvania County Schools' web site (www.pcs.k12.va.us/public) is maintained by the division webmaster as a current portal to the school division.

The division administration through the Information Technology Department coordinates and guides the local schools in the implementation of computer technology for both instruction and administration. The *Standards of Learning for Virginia Public Schools* clearly identify the importance of technology in the classroom. Furthermore, Pittsylvania County Schools has committed itself to creating 21st century learning environments for its students. Previously, the concept of the 'open computing laboratory' had been the division's focus; however, recognizing the need to increase the ease of access to computers at all levels, in all instructional areas, the present focus is on equipping individual classrooms. Access to computer facilities should not be for a select few in specialized classes; therefore, the division's current focus is to increase the availability of technology for instructional use, including classroom technology, multi-purpose classrooms in our newly renovated high schools, laptop carts, and smaller mini-labs in classrooms. The Pittsylvania County School system is committed to meeting the expectations of the Standards of Learning and NCLB goals, creating 21st century learning environments, and preparing our students for the challenges of the 21st century.

Pittsylvania County Schools receives state funding for infrastructure, classroom computers, and a portion of its software. The annual Virginia Department of Education funding for technology in 2008-2009 was \$596,000 plus \$114,000 for the local match. The Pittsylvania County Board of Supervisors consistently funds only the minimum requirement for the local match annually, limiting the purchase of classroom technology. No additional funds other than state funds and required local match for the state funds are provided for the purchase of school computer hardware or classroom technology or its maintenance, repair, or replacement. Current state funding restrictions do not permit PCS to purchase classroom technology such as projectors, SMART Boards or wireless slates, document cameras, classroom response systems, or other such items. Total Cost of Ownership has been addressed by requesting that the Board of Supervisors create a line item for the purchase and replacement of equipment on a four-year cycle in their capital outlay budget. Pittsylvania County's Board of Supervisors has yet to support the school budget with additional funding. The impending budget cuts (2009-2010) will further impact purchasing decisions, although the exact amounts are unknown at the time of this plan's report. It is anticipated that the current renovations of the division's four high schools will address needs at this level. Funding may then be directed toward equipping the middle and elementary schools. Without consistent support from the locality, however, maintenance, repair, and equipment replacement will remain obstacles to the full integration of technology in our classrooms.

Despite these obstacles, Pittsylvania County Schools is committed to meeting the needs of both the general school population as well as those of the college bound student. Efforts are underway to better utilize available and emerging technologies to instruct students, to inform students, parents, and the community in general, and to prepare graduates for post-secondary education and careers. Students are strongly encouraged to pursue pathways toward these goals. These pathways include courses in basic

computer skills as well as computer programming, technical drawing, networking, and pre-engineering, depending upon the students' goals and interests.

Through continuous assessment, Pittsylvania County Schools has identified areas of need and general goals for improvement. The following outlines the goals for this plan's period:

- Provide fiber connection to all regions that will enable efficient handling of voice, video, and data and meet the ever-changing demands of the division
- Create 21st century learning environments at all levels, K – 12, to promote student engagement and success.
- Enhance home/school communication.
- Facilitate the seamless integration of classroom technology into instruction through consistent professional development and support.

It is anticipated that this two year plan, with adequate funding and support, will meet the goals and objectives stated in order to support the best teaching practices and to improve the quality of education for the 9,000 students in Pittsylvania County Schools.