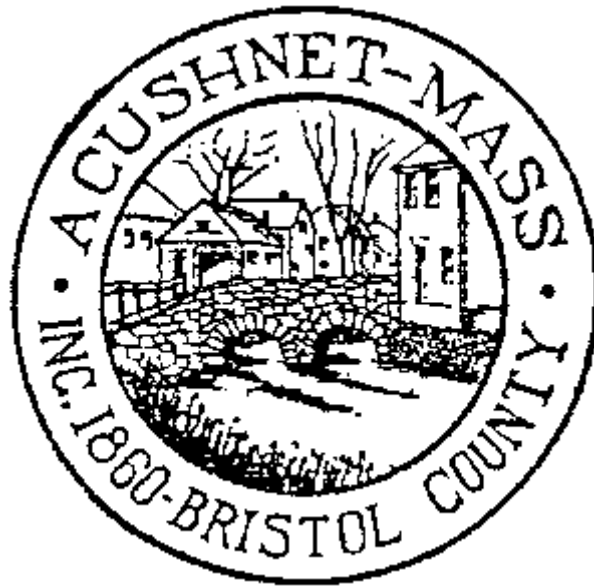


# Acushnet Public Schools

## Technology Plan

2009 – 2012

(Working Draft)



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## Introduction

The Acushnet Public Schools realize that technology has a profound impact on the way students learn. With this in mind, we are continually looking for ways to improve our technology, and train our faculty in the latest methods. We have spent the past three years working towards the goals that were established in our previous Long Range District Technology Plan. There have been a significant number of ambitious goals that have been met. Some of these goals include: the creation of a new Tech-Ed Lab, an updated inventory of our hardware / software, transitioning over to a hosted, reliable, web-based, email program, the upgrading of many of our servers and software, the training of administrators to begin using Rediker SMS software, and the implementation of Grade Quick through Edline.

As we begin creating our new Long Range District Technology plan, we look to the future to set high, attainable goals for the district. Instrumental in the creation of this new plan is the District Technology Committee. The committee is made up of teachers, administrators, and other stake-holders in the district. Collaboratively as a group we have reviewed the previous technology plan, tried to make the determination as to what worked with the plan and how we can make it better.

During the next three years, the Acushnet Public Schools look forward to reaching our new goals, finishing what we started in 2008, and enhancing our curriculum through the use of technology.

## Vision Statement

Acushnet Public Schools recognizes the importance of preparing our students to excel in a global information society with skills that adapt to change. Our vision is to ensure that each and every student possesses the grade-level specific computer skills to meet the recommended technology standards by the end of the eighth grade.

New technologies present exciting and innovative approaches to teaching across all disciplines, engaging the imagination and challenging the intellect of each of our students. Our vision includes goals for teachers and administrators to better prepare them for their daily profession of educating our children. We are committed to providing educators with the means to assist in their daily tasks of planning, grading and assessing. Professional Development is the key for Acushnet Public Schools to reach our goal of total computer literacy.

## Benchmark 1

### Commitment to a Clear Vision and Implementation Strategies

Upon speaking with faculty and staff, reviewing data, and realizing the expectations of the school improvement plan, the technology committee is pleased to share the following long-range technology goals. It is the expectation of this committee to achieve these goals by the end of the year 2011.

- ✓ Upgrade both the hardware and software from our current Windows 2000 active directory server to Windows server 2003 on a new Dell machine
- ✓ Design and implement a Wi-Fi network throughout the district that allows both students and staff the ability to connect to our intranet and the Internet
- ✓ Install and implement an interactive whiteboard program with student response devices. These interactive whiteboards would at a minimum be installed in all math & ELA classrooms at the middle school level. Training would be offered and after a period of 1 year the success of the program would be analyzed.
- ✓ Replace our Apple G4 server that handles all Apple student and teacher accounts at the middle school and numerous data share points, with a new Apple X-Serve with the latest OS available
- ✓ Install and Implement a Safari Montage video-on-demand server to address the need for more media materials across the district. Therefore giving teachers better access to media materials for lessons
- ✓ Update the Apple computer lab at the elementary school, with new computers and software as well as the Tech-Ed lab at the middle School
- ✓ Provide faculty and staff with more technology professional development opportunities
- ✓ Installment and implement a software-based library catalog system at the middle school
- ✓ Upgrade classroom computers in both schools, possible using virtualization such as N-Computing

- ✓ Upgrade our copper T1 Line from our ISP to Switched Fiber Optic Service, thereby tripling our bandwidth and limiting downtime

The Acushnet Public Schools has a technology committee that is committed to improving the technology standards in the district. Through this committee our long range goals will be set, carried out, and made a reality. The committee truly believes instructional technology makes a difference in the classroom and with the way students learn. In partnership with the professional development committee, faculty and staff will be training as needed to become familiar with any new technology methods made available to them.

### Needs Assessment

- C. The APS district evaluates the effectiveness of technology resources toward attainment of educational goals on a regular basis. Assessment is on-going and takes place on many levels:
- ❖ Maintenance requests and performance assessment indicate whether the network infrastructure is able to handle the client load.
  - ❖ Maintenance requests and performance assessment indicate whether the hardware and operating systems are capable of efficiently operating the latest software.
  - ❖ Participation, feedback and performance assessment of teachers in technology Professional development training indicate depth of knowledge, kind and frequency of technology implemented in the classroom.
  - ❖ Maintenance requests and use of the computer labs indicate the frequency and kind of technology implemented in the classroom.
  - ❖ Student performance assessments in class indicate to what degree software used in technology-integrated lessons is helping students meet MADOE standards in specific areas in the short-term.
  - ❖ Student performance assessments on standardized tests such as the MCAS indicate to what degree technology-integrated lessons and access to technology resources are helping students meet MA DOE standards in the long-term.

Prior to purchasing, the district assesses the products and services that are needed to improve teaching and learning. The APS district has found the *MADOE Recommended Criteria for Evaluating Instructional Technology Materials* to be a valuable guide to determine whether the technology under consideration is aligned academically to the Frameworks, is developed according to the latest scientific research, facilitates learning in a unique way, is accessible to learners of varying abilities, integrates easily with existing hardware and software, and provides training and troubleshooting.

D. The district has a CIPA-compliant *Acceptable Use Policy* (AUP) regarding Internet use. The district’s AUP covers Internet use as well as general computer use. The AUP is part of the *Student Handbook*. Students review this policy with their parents, sign and return an agreement to abide by this policy. All students review and discuss the AUP in their computer class. The AUP is also posted at the FMS and AES websites. The AUP is a live document which is revised as needed to remain current with the safe use of emerging technologies.

### Budget

1. The APS district has a budget for its local technology plan with line items for technology in its operational budget. The actual FY ’09 budget allocated \$333,986.76, and the proposed FY ’10 budget projects \$260,437.60. The actual FY’09 budget included \$87,293.59 in capital expenditures on computer workstations and networking equipment.

1. The budget includes staffing, hardware, software, professional development, support and contracted services.

Technology Line Items	Actual FY’ 09	Proposed FY’ 10
Technology Salaries	\$163,880.00	\$172,080.00
Middle School Tech	\$3,960.00	\$4,000.00
District Hardware	\$59,468.43	\$2,800.00
Central Office Tech	\$893.72	\$1,000.00
Supplies	\$37,825.16	\$10,000.00
Network Support	\$3,000.00	\$3,000.00
Internet Access	\$9,120.00	\$9,120.00
District Purchase Contract Services	\$37,530.12	\$39,579.00
Munis Support	\$18,309.33	\$18,858.60
<b>Total Technology Budget</b>	<b>\$333,986.76</b>	<b>\$260,437.60</b>

2. The district leverages the use of federal, state and private resources. Title II D grant funds of \$1,510.00 for FY09 were used to support technology that directly impacts learning district-wide as needed.

3. The Acushnet Public Schools apply annually for E-rate funds made available through USAC. These funds are available to the district to subsidize the cost of our Internet Service and voice

connections. After applying the E-rate funds to our ISP costs, the remainder balance is paid for through our school budget line item Internet Service. The funds are from our operating budget. The remaining amount in that line item is used to purchase hardware and software for our schools.

## Evaluation

1. The APS district evaluates the effectiveness of technology resources toward attainment of educational goals on a regular basis. Assessment is on-going and takes place on many levels:

Maintenance requests and performance assessment indicate whether the network Infrastructure is able to handle the client load.

Maintenance requests and performance assessment indicate whether the hardware and operating systems are capable of efficiently operating the latest software.

Participation, feedback and performance assessment of teachers in technology professional development training indicate depth of knowledge, kind and frequency of technology implemented in the classroom.

Maintenance requests and use of the computer labs indicate the frequency and kind of technology implemented in the classroom.

Student performance assessments in class indicate to what degree software used in technology-integrated lessons is helping students meet MADOE standards in specific areas in the short-term.

Student performance assessments on standardized tests such as the MCAS indicate to what degree technology-integrated lessons and access to technology resources are helping students meet MADOE standards in the long-term.

Prior to purchasing, the district assesses the products and services that are needed to improve teaching and learning. The APS district has found the *MADOE Recommended Criteria for Evaluating Instructional Technology Materials* to be a valuable guide to determine whether the technology under consideration is aligned academically to the Frameworks, is developed according to the latest scientific research, facilitates learning in a unique way, is accessible to learners of varying abilities, integrates easily with existing hardware and software, and provides training and troubleshooting.

2. The district's Technology Plan includes an evaluation process that enables the district to monitor its progress in achieving its technology goals and to make mid-course corrections in response to new developments and opportunities as they arise. The Technology Team is gathering data via the *STaR Chart* (School Technology and Readiness Chart) in order to improve student learning through the use of technology. This chart delineates clear expectations for both schools in the district, teachers and students. The built-in benchmarks are clear indicators of the

degree to which technology is being successfully implemented throughout the APS district. The *STaR Chart* is particularly useful long-term for the Technology Team to review annually, make any necessary “course corrections” based on past performance and “map the future path” of teaching and learning as new technologies emerge and are integrated to extend opportunities and potential for all students.

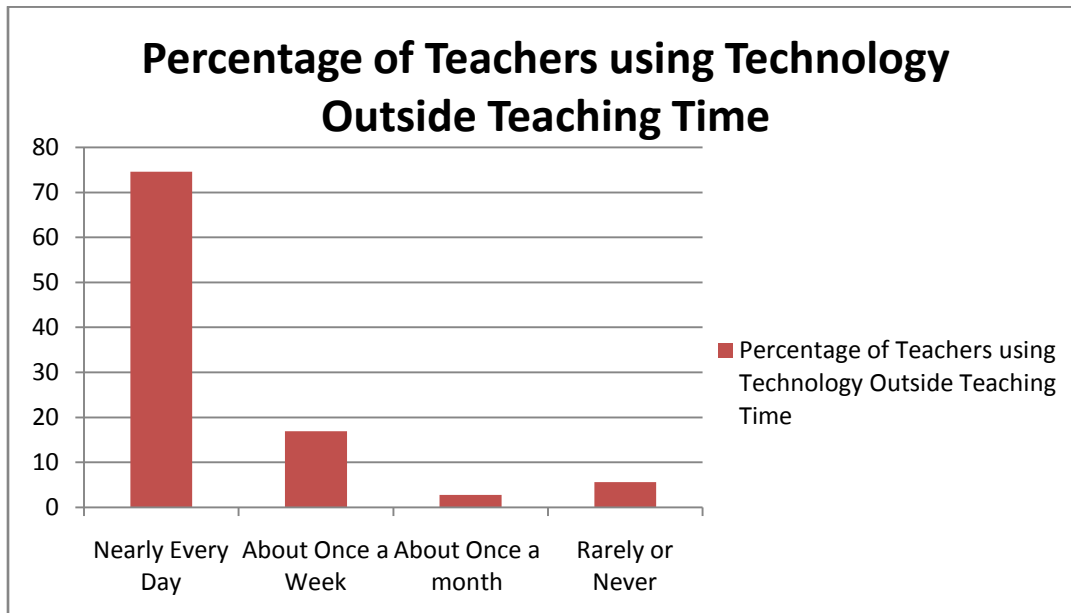
Additionally, the Technology Team plans to meet quarterly to review and analyze data gathered through maintenance requests, performance assessment of hardware, software and connectivity, faculty attendance and feedback during technology professional development, frequency of use of the computer labs, student performance assessment in class, and student performance assessment on the MCAS to inform decision-making.

## Benchmark 2 Technology Integration and Literacy

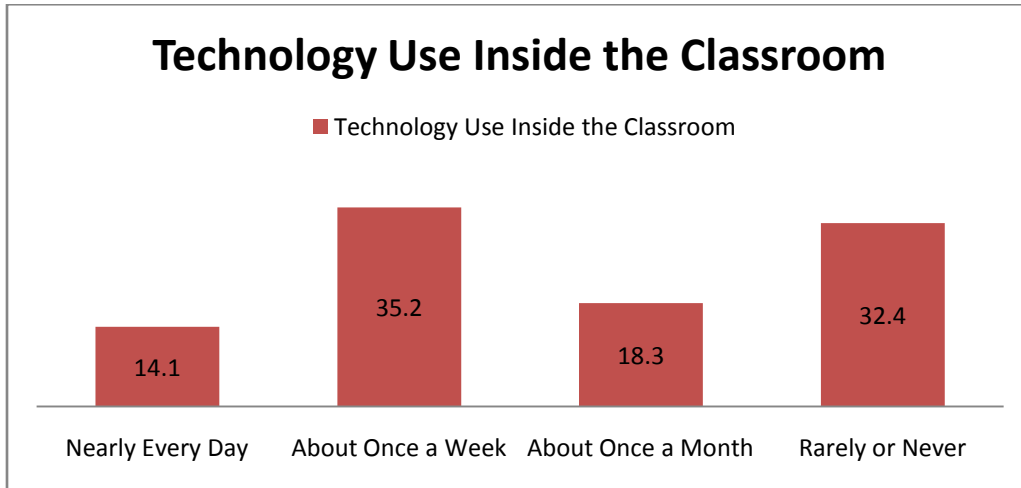
### A. Technology Integration

*“The data being presented is in response to a survey that was given to staff in the winter of 2009. The percentages are based on 71 staff responding to the survey, which is about 98% of our teaching staff.”*

- The following graph shows the percentage of teachers who use technology outside of teaching time. In a positive note, about 75% of staff use technology everyday outside of the classroom. What this means is that staff are using technology for planning, researching, and implementing lessons.



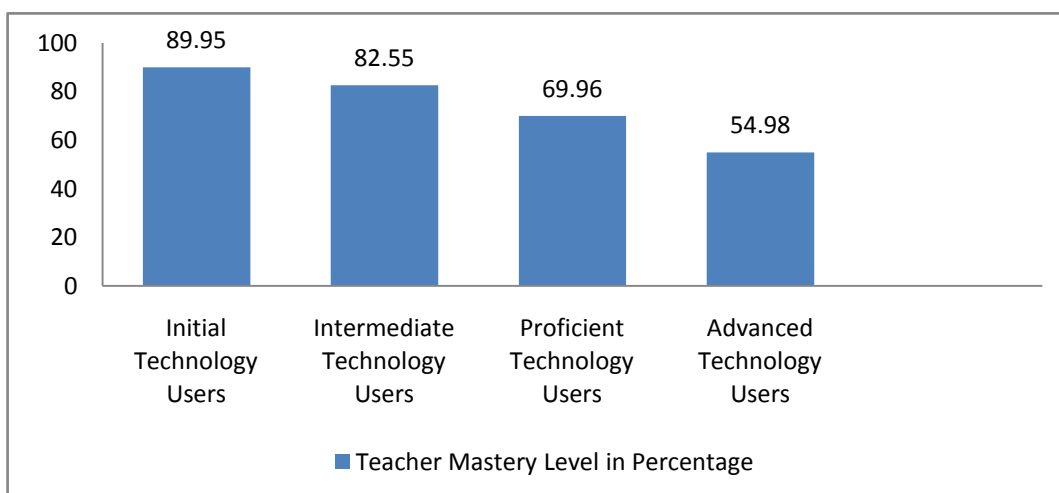
- The following graph shows the percentage of teachers who use technology with students every day to improve student learning of the curriculum. The type of technology used includes, but is not limited to: research, multimedia presentations, simulations, communications, and collaboration.



**B. Technology Literacy**

- Approximately 91% of eighth grade students show proficiency in all the Massachusetts PreK-12 Instructional Technology Standards for grade 8. This information is based on academic records.
- During the fall of 2008 teachers completed the TSAT using the Web-Based application Survey Monkey. The data is based on 58 staff who answered the survey. The following table shows the results of that survey in regards to teacher literacy.

**Teacher Mastery Level in Percentage**



### C. Staffing

1. The district has one full-time equivalent (FTE) district-level Technology / Information Systems Director.
2. The APS district provides two FTE instructional technology teachers per 60-120 instructional staff. There are approximately 100 instructional staff district-wide. There is one FTE instructional technology teacher at FMS. At the AES, the FTE instructional technology teaching position is job-shared by two teachers.

## Benchmark 3 Technology Professional Development

**A.** By the end of the school year 2006-2007, at least 85% of APS district staff will have participated in 45 hours of high-quality technology professional development covering technology skills and the integration of technology into instruction.

During SY 2007-2008, teachers received training in Grade Quick, both from Grade Quick and through in-house tutorials. Teachers participated in in-house training in Test Wiz. Now that the building project is behind us, we are able to refocus our energies on technology training to have teachers and students fully-utilize our new computer lab facilities. We have planned intensive training in Grade Quick/Admin Plus in order to fully automate grading, attendance and reporting for September 2006. Teachers will also learn how to log on to VES to take the TSAT yearly online. NBPS is offering continued training in all aspects of *MassLearns*, as well as offering a number of online technology-related professional development courses. Teachers will receive further training in e-mail, Internet navigation and searching, office applications, Internet safety and copyright law, and classroom lab management.

**B.** Technology professional development is sustained and on-going and includes coaching, modeling best practices, district-based mentoring, and study groups. The professional development includes concepts of Universal Design and scientifically-based researched models. The Technology Team coordinates efforts with the Professional Development Committee to plan and schedule technology professional development activities that are aligned with the District Improvement Plan, address district technology needs as identified by the *STaR Chart* and raise teacher technology skills as indicated by the TSAT.

The Technology Team includes members who possess advanced skills in various areas of instructional technology. A “specialist” team member trains other team members in this particular area. This Trained Team then conducts small group workshops on-site with teachers in our labs. Workshops consist of a minimum of ten hours of instruction on a particular topic and

culminate with a project that produces a usable product for teachers to implement in their classrooms.

This training approach makes the trainers available daily in each school in case a participant has further questions or needs further assistance. This accessibility makes participant teachers more confident and more likely to implement technology in new ways in their classrooms because they have available and accessible technology help. Trainers can also follow-up with participants more easily.

Trainers focus on helping teachers use the McTighe and Wiggins *Backwards Design* approach to design standards-based lessons that promote enduring understanding. Also, teachers are instructed on how to design a lesson that will teach all students using the Universal Design for Learning principals explained at <http://www.cast.org>.

**C. Professional development planning** includes an assessment of district and teachers' needs. The assessment is based on the competencies listed in the Massachusetts Technology Self-Assessment Tool (TSAT). The Department, the Educational Technology Advisory Council and stakeholders will review the levels of competencies in the Massachusetts Technology Self-Assessment Tool on an Annual Basis.

The Technology Team based its current technology professional development initiative on the 2005 TSAT and an in-house technology survey administered Winter 2005. The TSAT identifies technology readiness levels of individual teachers. The in-house survey reordered and narrowed TSAT questions to identify content areas where teachers identified their skills as weak. One survey focused on the learner and the other on the material. In this way, the Technology Team had two coordinates by which to plot their course of action. Results of both surveys are included in the appendix.

The Technology Team's goal is to have teachers now take the TSAT online. Training teachers to do so will be the first opportunity for the Technology Team to implement its "Train the Trainer" model for disseminating professional development, utilizing the trainers and labs in-house. The TSAT is instrumental to assessment of teacher technology skill levels, and as an indicator of the effectiveness of the professional development activities. The TSAT will be one measure that is reviewed to inform decision-making and guide future technology professional development activities.

## Benchmark 4

### Accessibility of Technology

#### A. Hardware Access

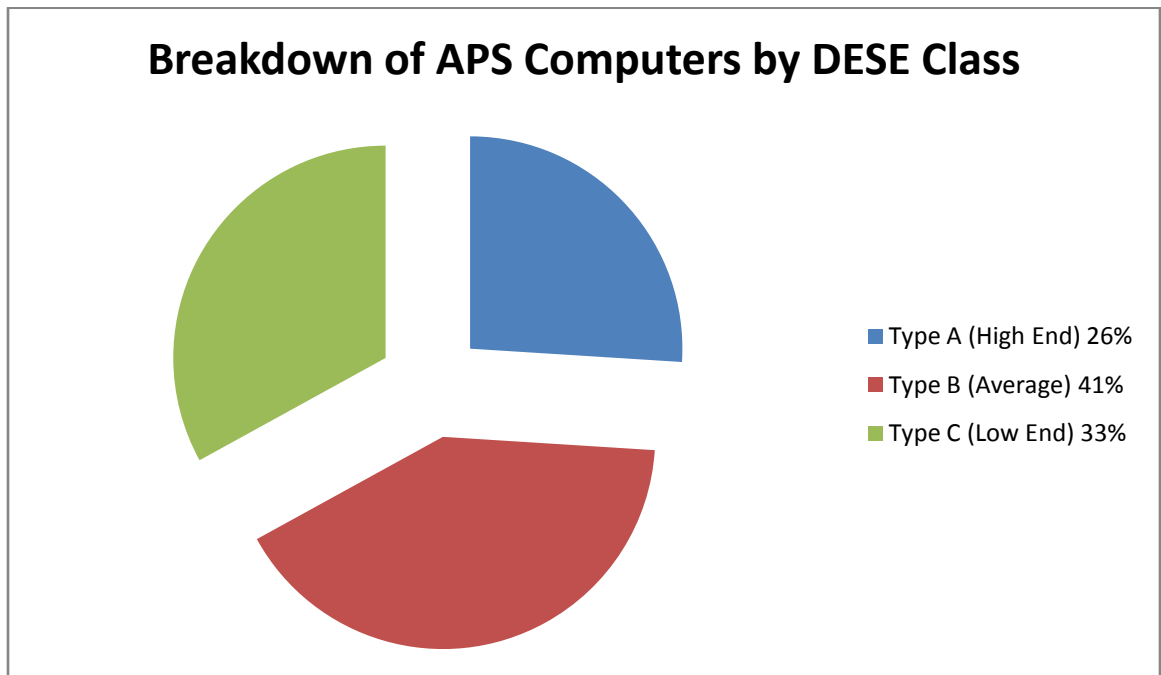
1. Based upon the latest information entered into the DESE Technology Plan Update for the 08-09 school year the district has the following computer to student ratios across the district.

**Acushnet Elementary School**

<i>Type A</i>	<i>7.20 Students per Computer</i>
<i>Type A/B</i>	<i>2.49 Students per Computer</i>
<i>Type A/B/C</i>	<i>1.79 Students per Computer</i>

**Ford Middle School**

<i>Type A</i>	<i>6.52 Students per Computer</i>
<i>Type A/B</i>	<i>2.57 Students per Computer</i>
<i>Type A/B/C</i>	<i>1.57 Students per Computer</i>



2. The APS district considers students' access to portable and/or handheld electronic devices appropriate to their grade levels such as graphing calculators and laptops as necessary for classroom projects or as deemed appropriate by IEPs and/or Student Accommodation Plans.

**3.** The district provides access to the general education curriculum for all students, as well as those with disabilities. Assistive software, wireless mice, classroom amplification systems, lcd projectors, and interactive whiteboards are all means of engaging both regular education students, but more importantly those students with disabilities.

**4.** The APS district has established a computer replacement cycle of six years or less. In alignment with the DIP, the APS plans to purchase approximately 36 computers every six years to upgrade the instructional technology labs in each school (AES 18 computers and FMS 18 computers). In addition, the main servers will be upgraded at this time as well as any administrative computers that require upgrading. The computers removed from these labs will be disseminated to other labs and/or classrooms throughout the district that have older equipment at that time. As result of hardware upgrades, it may be necessary to purchase additional OS software or applications that are compatible with the upgraded hardware.

The APS district makes a commitment to provide timely in-classroom technical support with clear information on how to access the support, so that technical problems will not cause major disruptions to curriculum delivery:

Teachers are encouraged to test their technology lesson prior to implementation to be sure that the hardware and software they need is in place and functional, before bringing students into the lab or operating the equipment in the actual classroom setting.

Each teacher can submit a work order via the Helpdesk. The Helpdesk is an email account that teachers can email work orders to. It is checked regularly and work orders are prioritized from there.

Teachers in immediate need can telephone the Technology Coordinator who responds promptly to situations of immediate need; however, the vast majority of problems can be resolved before they occur if teachers test the technology prior to implementing it in class.

“Work Order Emails” are addressed as soon as they are received. The problem is assessed and repaired by the Technology Director, or assessed and passed on to the FMS Computer Teacher who fixes minor repairs. The APS district provides at least one FTE person, the District Technology Coordinator, to support district computers. Additional technical support is provided by contracted services through Hub-Tech, Rediker, Eutactics and the Merrimack Education Center.

### **B. Internet Access**

1. The APS district provides connectivity to the Internet in all classrooms in all schools including wireless connectivity, if appropriate. The APS contracts its Internet Service through the Merrimack Education Center who provides a T1 connection into a router in the Main Distribution Frame room (MDF) at FMS. From the MDF, all rooms at FMS are hardwired using an industry standard CAT5, 10BASET Ethernet backbone. The FMS is connected to the AES via underground fiber optic cable that connects to an HP Procurve switch which connects to routers at the AES MDF room. From there, all rooms at AES are hardwired using an industry standard Category 5, 10BASET Ethernet backbone.

Four labs at FMS are wireless labs. Plans include converting two iBook mobile carts to wireless labs at AES.

2. The APS district provides bandwidth of at least 100 Mb / 1 Gb to each classroom through its' LAN and provides Internet service through Merrimack Education Center and Comcast.

### **C. Networking (LAN/WAN)**

1. The APS district provides a minimum 10/100 Mb Cat 5 switched network throughout each room in each building in the district. The APS district also provides 802.11 b/g wireless access to four labs at FMS and shortly the two proposed labs at AES.
2. The district provides services for secure file sharing, back-ups, scheduling, email, and web publishing, either internally or through contracted services.

Our main networking security priority is protecting the integrity of our student data, administrative and application software. The network consists of six servers: a main domain Windows server, a Web server, an Email server, a Mac server, an ISA server and a VPN server. Along with our McAfee anti-virus software, our web server and email server sit behind our ISA (Internet and Security Accelerator) server, which provides firewall, caching and authentication features. For security purposes, we do daily backups on all our servers and instruct our staff to backup their personal data on flash drives. Our administrative staff has a higher level of access and our teachers and students have a limited level of access to both the network and local computers. We operate with a closed network where even staff with administrative permissions cannot access data from outside LAN. Software purchase, installation and licensing for local computers is monitored by the Technology Director. Our ISP provides a filtering service on our Internet transmissions.

## Benchmark 5

### E-Learning and Communications

**1.** The APS district encourages the development and use of innovative strategies for delivering specialized courses through the use of technology. The FMS Computer teacher is trained as an Online Course Facilitator. In a partnership with the New Bedford Public School District, APS staff was offered online technology professional development courses. Approximately ten staff members participated in this program.

Currently, the APS district is partnering with the New Bedford Public School district (NBPS) through a 170b grant to provide *MassLearns* accounts, training and support.

**2.** Currently, the APS district does not have a demonstrated need to deploy IP-based and/or ISDN-based connections for access to web-based and/or interactive video learning on the local, state, regional, national and international level, as the district does not support its own high school at this time where off-site e-learning and video conferencing would be more age and content appropriate.

APS students do access web-based video clips as part of technology-integrated classroom lessons where appropriate through Internet plug-ins such as Quicktime, Windows Media Player, Real Player, Macromedia Flash and Shockwave.

All classrooms district-wide have ceiling mounted color televisions with cable access. Additional portable televisions are available in each school library.

The APS does publish a website with links to websites for the Middle School and Elementary School. Each site posts important information, school calendars, contact information and up-to-date homework pages. Calendar information from the websites are also broadcast on local public access cable for the town of Acushnet.

**3.** Classroom applications of e-learning include courses, cultural projects, virtual field trips, etc. E-learning engages students in many classrooms throughout the day where students are actively engaged in researching current topics online, running simulations and gathering real-time data.