

TECHNOLOGY

The Subcommittee divided the Bethlehem Area School District Three-Year Technology Plan into the three sections as mandated by the PA Department of Education for state-approved technology plans:

- Curriculum and Learning
- Administration and Management
- Communications and Information Access

Curriculum and Learning

This section includes the classroom computers and software that are used to support teachers and empower students to learn BASD curriculum. Curriculum-related software is implemented in coordination with the Office of Curriculum and Instruction to meet curriculum objectives and to support academic standards.

The plan supports two major curriculum and instruction initiatives and several smaller projects. The replacement initiative plans to replace of all district computers over a four-year life cycle. This is advantageous to the district for two reasons. First, it guarantees that no student or staff person will be using obsolete technology that cannot run required software or access required information. Second, it reduces the excessive technical support and repair that older computers require as their parts wear out and fail. The SKILL-21 Laptop Initiative plans to equip each secondary student with a laptop computer, beginning in sixth grade in 2003-04 and adding grade levels annually. The cornerstone of SKILL-21 is that students need 21st century tools to learn 21st century skills. Extensive staff development is required to effectively implement all of the technology initiatives because of the rapid-changes in associated technology skills.

For elementary schools, the plan calls for increasing the number of classroom computers to a level that can make a difference in academic achievement. The computers and software support several projects such as *Fast ForWord*, a program to teach fundamental reading skills to students who have demonstrated significant reading deficiencies. Plans include committees to identify and support best practices of learning with technology.

For high schools, the plan supports programs in which students develop technology skills they will need for the working world and for higher education. It calls for the continued support of the business and technology program computer labs, the use of technology to conduct sophisticated math and science investigations, and the expanded use in the arts, such as the new Musical Instrument Device

InterFace (MIDI) courses to support advanced music education. This reflects the growing importance of technology in the large arts employment sector (arts and entertainment are the second-largest U.S. export).

Administration and Management

This section includes not only office technology, but also most of the Data Processing Department and much of the ICT Department. The plan supports the major initiative of replacing the current data processing computer hardware and software, and the conversion of district data to the new system. The plan also includes the ongoing training required by both technical and administrative staff. Administrative and technology procedures are also addressed to ensure that the district's technology needs are adequately supported. These initiatives provide for the collection, analysis and maintenance of data to support data-driven decision making.

Communications and Information Access

This section includes the technology and staff infrastructure that is required to support widespread, mission-critical technology use across the district. Although much of this is “behind the scenes,” it forms the basis for the success or failure of all district technology initiatives. The three major initiatives will replace the district telephone system, upgrade the district networks to support the new phone system and provide technical staff to adequately support district technology use.

TECHNOLOGY: CURRICULUM & LEARNING

Goal Number(s): O-1, O-3, E-1, E-3

Objective Statement: The BASD will ensure that all educators will use appropriate technology to help their students achieve curriculum objectives and to prepare them with technology skills for the digital age.

Action Plan Statement: The BASD will ensure that all faculty/administration have up-to-date computers capable of multimedia design and instruction as well as access to classroom projection systems.

Activity Steps	<ol style="list-style-type: none"> 1. Continue faculty computers replacement schedule until all faculty/administration have up-to-date computers capable of multimedia design and instruction with connection to television/projection systems (700 faculty at \$1,200 per system) \$840,000 2. Purchase television and mounting system/cart for every classroom that needs one at a rate of 100 per year (estimated at \$350 each) \$35,000 3. Purchase projection systems for each school (\$2000 per system) (1 system per elementary school, 2 per middle school, 6 per high school= 36 projectors) \$72,000
Person/Group Responsible	ICT coordinator
Timelines for Completion	<ol style="list-style-type: none"> 1. Initiate August 2004 2. Ongoing
Resources Needed	Hardware \$947,000
Evaluation/Indicators of Success	<ol style="list-style-type: none"> 1. Project completion 2. Inventories
Date Completed	Ongoing

TECHNOLOGY: CURRICULUM & LEARNING

Goal Number(s): O-1, O-3, E-1, E-3

Objective Statement: The BASD will ensure that all educators will use appropriate technology to help their students achieve curriculum objectives and to prepare them with technology skills for the digital age.

Action Plan Statement: The BASD will ensure that all educators will learn to use appropriate software to help their students meet curriculum objectives and to prepare their students to live and work in the digital age.

Activity Steps	<ol style="list-style-type: none"> 1. License software and training for new and current faculty computers, including presentation software (i.e. keynote) 700 computers at \$100 per system) \$72,000 2. Training to accompany software (370 hours of instructor time at \$27 per hour. This assumes that teachers will attend training for flex hours.) \$10,000
Person/Group Responsible	ICT coordinator
Timelines for Completion	<ol style="list-style-type: none"> 1. Initiate August 2004; ongoing 2. June-2005
Resources Needed	<ol style="list-style-type: none"> 1. Software \$72,000 2. Training \$10,000
Evaluation/Indicators of Success	<ol style="list-style-type: none"> 1. Users surveys (e.g., comfort and level of use) 2. Project completion
Date Completed	Ongoing

TECHNOLOGY: CURRICULUM & LEARNING

Goal Number(s): O-1, O-3, E-1, E-3
Objective Statement: The BASD will ensure that all educators will use appropriate technology to help their students achieve curriculum objectives and to prepare them with technology skills for the digital age.
Action Plan Statement: The BASD will train educators and paraprofessionals in the use of appropriate classroom technology.

Activity Steps	<ol style="list-style-type: none"> 1. Train paraprofessional, building level substitutes, and long-term substitutes in the use of appropriate curriculum-based technology (estimated 100 staff at \$90 per day per substitute for one day of training - \$9,000 and 5 staff to provide training for a 7-hour day at \$27 per hour - \$945) \$9,945 2. All teachers should have adequate training and access to manage classroom computers (20 trainers for 8 hours at leadership rate \$27/hour) \$4,300 3. Establish a technology rich center for teacher training and technique sharing \$4,000 4. Expand staff development opportunities in technology 5. Train educators in ethical use and expect them in turn to instruct their students accordingly. (allocated \$1,000 for curriculum writing and training sessions)
Person/Group Responsible	ICT coordinator, Act 48 committee chairperson
Timelines for Completion	<ol style="list-style-type: none"> 1. Initiate August 2004, complete by June 2005 (Steps 1-3) 2. Ongoing (Steps 4,5)
Resources Needed	<ol style="list-style-type: none"> 1. Staff development \$15,245 2. Creation of a technology center \$4,000
Evaluation/Indicators of Success	<ol style="list-style-type: none"> 1. Users surveys (e.g., comfort and level of use) 2. Project completion 3. Attendance
Date Completed	Ongoing

TECHNOLOGY: CURRICULUM & LEARNING

Goal Number(s): O-1, O-3, E-1, E-3
Objective Statement: The BASD will ensure that all educators will use appropriate technology to help their students achieve curriculum objectives and to prepare them with technology skills for the digital age.
Action Plan Statement: The BASD will establish "Technology Mentor" program.

Activity Steps	<ol style="list-style-type: none"> 1. Establish "Technology Mentor" teachers at elementary level (1 to 2 depending on building size) and one per department at middle and high school levels with release time to support building staff (40 mentors at \$500 stipend per mentor) \$20,000 2. Utilize "Technology Mentors" for training during flextime programs (40 mentors for 10 hours training + 2 prep hours at leadership rate \$27 per hour) \$12,960 3. Utilize the Office of Curriculum and Instruction in conjunction with the Department of Information and Communication Technology for oversight of the implementation of the "Technology Mentor" program
Person/Group Responsible	ICT coordinator, Office of Curriculum & Instruction, associate superintendent
Timelines for Completion	<ol style="list-style-type: none"> 1. Initiate August 2004; annual commitment & development; reevaluate summer 2006 2. Ongoing
Resources Needed	Staff Development \$32,960
Evaluation/Indicators of Success	<ol style="list-style-type: none"> 1. Users surveys (e.g., comfort and level of use) 2. Project completion
Date Completed	Ongoing

TECHNOLOGY: CURRICULUM & LEARNING

Goal Number(s): O-1, O-3, E-1, E-3

Objective Statement: The BASD will ensure that all educators will use appropriate technology to help their students achieve curriculum objectives and to prepare them with technology skills for the digital age.

Action Plan Statement: The BASD will expand the "Train the Trainer" for technology mentors and teachers in the One-to-One Laptop Initiative.

Activity Steps	Expand the Apple Mentor training to include grade 5 at the Regional Academic Standards Academy, other grades as appropriate (cost of the Apple trainer for one group meeting 8 times = \$1,200 per year)
Person/Group Responsible	ICT, Office of Curriculum & Instruction, associate superintendent
Timelines for Completion	Expand August 2004 to include the Regional Academic Standards Academy; ongoing
Resources Needed	Staff development \$1,200 per year
Evaluation/Indicators of Success	<ol style="list-style-type: none"> 1. Users surveys (e.g., comfort and level of use) 2. Project completion
Date Completed	Ongoing

TECHNOLOGY: CURRICULUM & LEARNING

Goal Number(s) : O-1, O-3, E-1, E-3

Objective Statement: The BASD will ensure that all educators will be empowered with technology resources to design technology-enriched learning environments to help students attain curriculum objectives and to prepare their students to live and work in the digital age.

Action Plan Statement: The BASD will continue to develop, evaluate, maintain and provide access to software appropriate per grade level or subject.

Activity Steps	Continue to develop, evaluate, maintain, and provide access to an image of appropriate software per grade level or subject (44 firewire drives at \$400) \$17,600
Person/Group Responsible	ICT coordinator
Timelines for Completion	Initiate August 2004; ongoing
Resources Needed	Hardware \$17,600
Evaluation/Indicators of Success	Annual yearly progress
Date Completed	Ongoing

TECHNOLOGY: CURRICULUM & LEARNING

Goal Number(s): O-1, O-3, E-1, E-3

Objective Statement: The BASD will ensure that all educators will be empowered with technology resources to design technology-enriched learning environments to help students attain curriculum objectives and to prepare their students to live and work in the digital age.

Action Plan Statement: The BASD will investigate and promote ways that technology can effectively be integrated into the curriculum.

Activity Steps	<ol style="list-style-type: none"> 1. Establish grade level/departmental curriculum committees responsible for determining necessary revisions pertaining to the alignment of district curriculum to state regulations and standards in all major subject areas to ensure that technology becomes an integral part of the curriculum. This committee must include classroom teachers, technology mentors, technology integration specialists and academic integration specialists (estimated cost for substitutes plus teacher pay \$10,000) 2. Investigate the possibility of using software or web-based curriculum in lieu of printed text 3. Investigate, evaluate, and recommend instructional software and online technology that enables students to develop and promote skills to research, collect, analyze, interpret, and present information as critical thinkers 4. Oversee the use and purchase of technologies aligned to the curricula
Person/Group Responsible	ICT coordinator, Office of Curriculum & Instruction, principals
Timelines for Completion	<ol style="list-style-type: none"> 1. Initiate August 2004 2. Evaluate progress August 2005
Resources Needed	Staff development \$10,000 annually
Evaluation/Indicators of Success	<ol style="list-style-type: none"> 1. Annual yearly progress report 2. Use of the technologies by students
Date Completed	Ongoing

TECHNOLOGY: CURRICULUM & LEARNING

Goal Numbers: O-3, E-1, E-2, E-3, E-5

Objective Statement: The BASD will ensure that students will use technology to help them develop and reinforce curriculum concepts, higher-order thinking skills, and applied skills to solve complex problems.

Action Plan Statement: The BASD will continue the replacement strategy for student computers and purchase new computers and multimedia equipment to ensure access to appropriate technology.

Activity Steps	<ol style="list-style-type: none"> 1. Continue replacement strategy for student computers to ensure sufficient power to run modern applications (e.g., multimedia software, video editing, presentation software) (500 computers per year at \$1,200) \$600,000 per year 2. Purchase additional computers for each elementary classroom, working towards a goal of one computer per two students, starting fifth grade working down to 1st grade (600 computers year at \$1,200) \$720,000 per year 3. Purchase multimedia equipment for elementary and middle schools as appropriate. (digital cameras - 1 per classroom at \$250, video cameras- 1 per team or grade level at \$650) estimate \$330,000
Person/Group Responsible	ICT coordinator
Timelines for Completion	<p>Initiate August 2004</p> <p>Continue computer replacement on a 4-year cycle</p>
Resources Needed	<ol style="list-style-type: none"> 1. Hardware \$1,320,000 per year for steps 1 & 2 2. Hardware \$330,000 for step 3 - phased in over 3 years
Evaluation/Indicators of Success	<ol style="list-style-type: none"> 1. Inventory 2. Project completion
Date Completed	Ongoing

TECHNOLOGY: CURRICULUM & LEARNING

Goal Numbers: O-3, E-1, E-2, E-3, E-5

Objective Statement: The BASD will ensure that all students will use technology to help them develop and reinforce curriculum concepts, higher-order thinking skills, and applied skills to solve complex problems.

Action Plan Statement: The BASD will purchase updated computers for the science instruction to support 2007 PSSA Science Assessment.

Activity Steps	<ol style="list-style-type: none"> 1. Replace physics lab computers and purchase updated software at both high schools (systems estimated at \$1000, probeware and software estimated at \$2200, 32 systems) \$102,400 2. Replace anatomy lab computers at both high schools (20 systems at \$1000) 3. Purchase additional laptop lab for the chemistry program at each high school (one Laptop lab with 16 computers \$22,000) \$44,000 4. Purchase science probeware lab for middle schools (16 systems (\$466) per school, software and curriculum (\$194 per school) \$30,600 5. License software for labs, physics, anatomy, chemistry, and middle school science computers (\$1000 for software per computer for 84 computers) \$84,000 6. Replace biology lab computers at each high schools (6 classrooms per school with 7 computers per room for a total of 84 systems at \$1000) = \$84,000 7. Replace physical science lab computers at each high schools (6 classrooms per school/7 computers per room = 84 systems at \$1000) = \$84,000
Person/Group Responsible	ICT coordinator, Office of Curriculum & Instruction
Timelines for Completion	<ol style="list-style-type: none"> 1. Initiate August 2004 2. Year one - physics, chemistry, and anatomy labs 3. Year two - biology and physical science
Resources Needed	<ol style="list-style-type: none"> 1. Hardware \$ 264,000 2. Software & probeware \$185,000
Evaluation/Indicators of Success	<ol style="list-style-type: none"> 1. Projection completion 2. Inventories
Date Completed	Ongoing

TECHNOLOGY: CURRICULUM & LEARNING

Goal Number(s):

O3, E1, E2, E3, E5

Objective Statement:

The BASD will ensure that all students will learn the technology skills in academic classes as well as related arts (areas such as technology/information, music, art, video, physical education, and industrial arts) to enable them to continue their education through a lifetime of learning.

Action Plan Statement:

The BASD will upgrade/replace/purchase computers and software for music, art, business, and library.

Activity Steps	<ol style="list-style-type: none"> 1. Replace/purchase 40 updated computers and peripherals (i.e., keyboards, audio recording equipment, scanners, photo printers) for music and art classrooms at each high school (\$1,500 per system) \$60,000 2. Upgrade high school business department computers (\$1,000 per system) \$120,000 3. Build up library research computers number at each high school to 30 systems per school (\$1000 per system) \$30,000 4. License additional instructional software and hardware for business computers \$24,000 5. License new instructional software and hardware for 40 related arts computers \$10,000 6. Provide training for classroom teachers in the new instructional software estimated 200 hours of pay for staff and trainers at leadership rate \$5,400
Person/Group Responsible	ICT coordinator
Timelines for Completion	<ol style="list-style-type: none"> 1. Initiate August 2004,- Steps 2 and 4- 2004; Step 3 - 2005; Step 1 - 2006 2. Phase in training
Resources Needed	<ol style="list-style-type: none"> 1. Hardware \$210,000 2. Software \$34,000 3. Staff development \$5,400
Evaluation/Indicators of Success	<ol style="list-style-type: none"> 1. Inventories 2. Project completion
Date Completed	Ongoing

TECHNOLOGY: CURRICULUM & LEARNING

Goal Number(s):

O3, E1, E2, E3, E5

Objective Statement:

The BASD will ensure that all students will learn the technology skills in academic classes as well as related arts (areas such as technology/information, music, art, video, physical education, and industrial arts) to enable them to continue their education through a lifetime of learning.

Action Plan Statement:

The BASD will ensure that students master the applications of technology through both integrated and specific courses and programs.

Activity Steps	<ol style="list-style-type: none"> 1. Establish a procedure for evaluating the instructional impact of technology on technology skills, standards-based learning, and academic interventions. 2. Maintain and refine the Academic Intervention program currently in place at the elementary level
Person/Group Responsible	ICT coordinator, Office of Curriculum & Instruction
Timelines for Completion	Initiate August 2004
Resources Needed	
Evaluation/Indicators of Success	Report
Date Completed	Ongoing

TECHNOLOGY: CURRICULUM & LEARNING

Goal Number(s): O3, E1, E2, E3, E5

Objective Statement: The BASD will ensure that students will use technology immersively in special programs (such as the Regional Academic Standards Academy and SKILL-21) to help them meet or exceed academic standards to meet other individually prescribed needs.

Action Plan Statement: The BASD will encourage the home use of computers to improve engagement in academics.

Activity Steps	<ol style="list-style-type: none"> 1. Encourage the home use of computers to improve engagement in academics and investigate the possibility of home use of student computers via newsletters, websites, parent meetings 2. Provide students with access to technology at school and explore options to expand access at home
Person/Group Responsible	ICT coordinator
Timelines for Completion	Initiate August 2004
Resources Needed	Insurance for laptops
Evaluation/Indicators of Success	Project completion
Date Completed	Ongoing

TECHNOLOGY: CURRICULUM & LEARNING

Goal Numbers: O-3, E-1, E-2, E-3, E-5

Objective Statement: The BASD will ensure that students will use technology immersively in special programs (such as the Regional Academic Standards Academy and SKILL-21) to help them meet or exceed academic standards to meet other individually prescribed needs.

Action Plan Statement: The BASD will continue One-to-One Initiative at the middle school level.

Activity Steps	<ol style="list-style-type: none"> 1. Continue One-to-One Laptop Initiative at middle school level. (\$1,000,000 year two covering grades 6 and 7, \$1,500,000 year three covering grades 6, 7, and 8) 2. Specific educational objectives will be identified on which the program will focus 3. A program evaluation will be conducted to determine the degree to which SKILL-21 is meeting its educational objectives
Person/Group Responsible	ICT coordinator
Timelines for Completion	Initiate August 2004 with roll-out by October of each year
Resources Needed	Hardware \$1,000,000 year two and \$1,500,000 year 3
Evaluation/Indicators of Success	Project completion
Date Completed	Ongoing

TECHNOLOGY: ADMINISTRATIVE & MANAGEMENT

Goal Number(s):

O-2, E-2

Objective Statement:

The BASD will provide the ability to use technology to make real-time data-driven decision-making so that students will evidence an increase in indicators of success including academic performance, attendance, graduation rates, college and workplace placements, while becoming true life-long learners.

Action Plan Statement:

The BASD will provide a centralized student management system with web-based accessibility.

Activity Steps	<ol style="list-style-type: none"> 1. Purchase new central server(s) to support new or upgrade student management system 2. Purchase new or upgrade student management system software 3. Purchase new or upgrade current office and teacher computers and software to access new or upgraded system 4. Unify all current district databases containing student data into central student management system through use of various integration software and programming languages 5. Develop web-accessible reports on student achievement through use of report writer software 6. Train appropriate technology staff in administering new or upgraded central server 7. Train both technology and office staff in using new or upgraded student management system 8. Train technology staff in creating and using web-accessible reports on student achievement 9. Train office staff and teachers on using new or upgraded computers for the student management system 10. Utilize existing technology staff from all areas, allowing for overtime in conversion to new system 11. Implement and maintain appropriate connections to various district databases 12. Ensure ability to access Internet, more specifically district website containing web-accessible reports
Person/Group Responsible	ICT coordinator, data processing supervisor, supervisor of child accounting
Timelines for Completion	<ol style="list-style-type: none"> 1. Decision to be made by December 2004 2. Pilot implementation beginning December 2005 3. Final phase beginning June 2006
Resources Needed	<ol style="list-style-type: none"> 1. Hardware: \$60,000-80,000 2. Software: \$200,000-500,000 3. Staff training for all staff, from data processing to end-users including support staff and teachers: \$70,000 4. Technology staffing (overtime): \$25,000
Evaluation/Indicators of Success	<ol style="list-style-type: none"> 1. Use of real-time data for decision making 2. Ease of producing district-required reports 3. Measured by user group surveys
Date Completed	Ongoing

TECHNOLOGY: ADMINISTRATIVE & MANAGEMENT

Goal Number(s): O-1, O-4, E-4
Objective Statement: The BASD will use technology to enhance productivity and effectiveness of its staff by encouraging and providing opportunities to gain professional growth.
Action Plan Statement: The BASD will provide various avenues of training for the technology staff.

Activity Steps	<ol style="list-style-type: none"> 1. Provide hardware and software as needed for training 2. Develop and offer on-site and CD/DVD/on-line training for technology staff tasks, specifically troubleshooting problems and/or conflicts 3. Allow for site visitations and conference attendance 4. Initiate a train-the-trainer program 5. Utilize existing technology staff, allowing for overtime in preparing training materials 6. Ensure training lab computers can access school and district network and Internet
Person/Group Responsible	ICT coordinator, data processing supervisor
Timelines for Completion	Winter 2004–05
Resources Needed	<ol style="list-style-type: none"> 1. Staff training for all technology staff - technology staffing (overtime): \$5,000 2. Hardware: \$500 3. Software: \$500
Evaluation/Indicators of Success	<ol style="list-style-type: none"> 1. Consistent and effective training 2. Measured by user group surveys
Date Completed	Ongoing

TECHNOLOGY: ADMINISTRATIVE & MANAGEMENT

Goal Number(s): O-1, O-4, E-4
Objective Statement: The BASD will use technology to enhance productivity and effectiveness of its staff by encouraging and providing opportunities to gain professional growth.
Action Plan Statement: The BASD will provide various avenues of training for office staff.

Activity Steps	<ol style="list-style-type: none"> 1. Provide hardware and software as needed for training 2. Develop and offer on-site and CD/DVD/on-line training for office staff tasks, specifically regarding document processing, database use, electronic communications, and spreadsheet development, etc. 3. Allow for conference attendance 4. Initiate a train-the-trainer program 5. Utilize existing technology staff, allowing for overtime in preparing new or upgraded office computers 6. Ensure training lab computers can access school and district network and Internet
Person/Group Responsible	ICT coordinator, data processing supervisor
Timelines for Completion	Winter 2004–05
Resources Needed	<ol style="list-style-type: none"> 1. Hardware: \$500 2. Software: \$500 3. Staff development: \$5,000 4. Technology staffing (overtime): \$5,000
Evaluation/Indicators of Success	<ol style="list-style-type: none"> 1. Consistent and effective training 2. Measured by user group surveys
Date Completed	Ongoing

TECHNOLOGY: ADMINISTRATIVE & MANAGEMENT

Goal Number(s): O-1, O-4, E-4
Objective Statement: The BASD will use technology to enhance productivity and effectiveness of its staff by encouraging and providing opportunities to gain professional growth.
Action Plan Statement: The BASD will utilize electronic communication technologies to enhance productivity.

Activity Steps	<ol style="list-style-type: none"> 1. Purchase additional communication hardware/software as needed 2. Explore the use of electronic bulletin boards and/or chat rooms in place of face-to-face meetings 3. Train office staff, administrators and secretaries, in using electronic communications technologies such as personal scheduling software for coordinating meetings 4. Utilize existing technology staff, allowing for overtime in preparing electronic bulletin boards and/or chat rooms 5. Ensure training lab computers can access any servers with personal scheduling software
Person/Group Responsible	ICT coordinator, data processing supervisor
Timelines for Completion	Winter 2004–05
Resources Needed	<ol style="list-style-type: none"> 1. Hardware: \$500 2. Software: \$1,000 3. Staff development: \$500 4. Technology staffing (overtime): \$2,000
Evaluation/Indicators of Success	<ol style="list-style-type: none"> 1. More efficient meeting coordination 2. Reduce number of meetings
Date Completed	Ongoing

TECHNOLOGY: ADMINISTRATIVE & MANAGEMENT

Goal Number(s): O-1, O-4, E-4
Objective Statement: The BASD will use technology to enhance productivity and effectiveness of its staff by encouraging and providing opportunities to gain professional growth.
Action Plan Statement: The BASD will provide a centralized business operations management system with web-based accessibility.

Activity Steps	<ol style="list-style-type: none"> 1. Purchase new central server(s) to support or upgraded business operations management system 2. Investigate and pilot system to handle district business operations 3. Purchase new or upgrade current business operations management system and ensure it is real-time 4. Purchase new or upgrade current hardware to access business operations management system 5. Unify all current district databases containing business data into central business operations system through use of various integration software and programming languages 6. Develop web-accessible reports through the use of report writer software 7. Train appropriate technology staff in administering new or upgraded central server 8. Train both technology and office staff in using new or upgraded business operations system 9. Train both technology and office staff in creating and using web-accessible reports on business operations 10. Utilize existing technology staff from all areas, allowing for overtime in conversion to new business operations system, etc. 11. Implement and maintain appropriate connections to various district databases containing business data through use of district networking 12. Ensure ability to access Internet, more specifically district website where web-accessible reports on business operations will be found
Person/Group Responsible	ICT coordinator, data processing supervisor, Business Office
Timelines for Completion	<ol style="list-style-type: none"> 1. Decision made by December 2006 2. Implementation by December 2007
Resources Needed	<ol style="list-style-type: none"> 1. Analysis of business needs and practices 2. Server: \$10,000-30,000; office computers: \$50,000 3. Software: \$200,000 - 500,000 4. Staff development: \$70,000 5. Technology staffing (overtime): \$5,000
Evaluation/Indicators of Success	<ol style="list-style-type: none"> 1. Use of real-time data for decision making 2. Ease of producing district-required business reports 3. Measured by user group surveys
Date Completed	Ongoing

TECHNOLOGY: ADMINISTRATIVE & MANAGEMENT

Goal Number(s): O-2, O-3

Objective Statement: The BASD will improve the management and maintenance of technology resources to provide an atmosphere where students and staff can grow and be productive in life and work.

Action Plan Statement: The BASD will improve current system for upgrade, setup, and distribution and accountability of hardware and software.

Activity Steps	<ol style="list-style-type: none"> 1. Implement the four year hardware cycle 2. Implement an annual software upgrade 3. Maintain up-to-date (generally annually) hardware and software setup and troubleshooting guides via the web 4. Train technology staff to identify and access appropriate setup and troubleshooting guides on the web 5. Utilize existing technology staff, allowing for overtime to prepare web-based guides 6. Maintain and develop on-line inventory system 7. Train appropriate technology staff in on-line inventory system 8. Ensure appropriate technology staff can access hardware inventory via the web 9. Maintain master district software library (original CDs and licensing information)
Person/Group Responsible	ICT
Timelines for Completion	December 2004
Resources Needed	<ol style="list-style-type: none"> 1. Staff development: \$1,500 2. Development of web accessible databases and guides 3. Technology staffing (overtime): \$4,000
Evaluation/Indicators of Success	<ol style="list-style-type: none"> 1. Development of accountable inventory and web guides 2. Measured by user group surveys
Date Completed	Ongoing

TECHNOLOGY: ADMINISTRATIVE & MANAGEMENT

Goal Number(s): O-2, O-3
Objective Statement: The BASD will improve the management and maintenance of technology resources to provide an atmosphere where students and staff can grow and be productive in life and work.
Action Plan Statement: The BASD will provide an effective technology support system.

Activity Steps	<ol style="list-style-type: none"> 1. Continue the development and implementation of a timely process for escalating troubleshooting/consulting 2. Continue to review and implement the use of knowledge bases, FAQs, CDs/DVDs/on-line training, and other technology staff as a means for troubleshooting/consulting 3. Utilize existing technology staff, allowing for overtime for developing time process 4. Improve repair/services request tracking system 5. Train staff in repair/services request tracking system 6. Flexibly allocate current technology staff when necessary 7. Evaluate the need for additional technology staff, based on implementation of an effective technology support system
Person/Group Responsible	ICT coordinator
Timelines for Completion	Spring 2005
Resources Needed	<ol style="list-style-type: none"> 1. Software: \$1,000 2. Additional staffing pending evaluation (approx. \$30,000 per person for support technologist position) 3. Technology staffing: \$2,500 (substantial increase may occur for additional support technologist position per evaluation) 4. Staff development: \$500
Evaluation/Indicators of Success	Measured by user-group surveys
Date Completed	Ongoing

TECHNOLOGY: ADMINISTRATIVE & MANAGEMENT

Goal Number(s): O-2, O-3
Objective Statement: The BASD will improve the management and maintenance of technology resources to provide an atmosphere where students and staff can grow and be productive in life and work.
Action Plan Statement The BASD will provide and maintain a technology disaster and recovery plan.

Activity Steps	<ol style="list-style-type: none"> 1. Ensure all central server data is backed up to a server at an off-site location 2. Purchase and continually update backup software 3. Develop and implement technology disaster and recovery plan 4. Practice routine technology disaster and recovery routines 5. Utilize existing technology staff, allowing for overtime for developing plan and practicing disaster and recovery routines 6. Ensure central server can access off-site server for backup routines 7. Ensure all key technology staff can access off-site server
Person/Group Responsible	ICT coordinator, data processing supervisor
Timelines for Completion	Fall 2004
Resources Needed	<ol style="list-style-type: none"> 1. Hardware: \$5,000-30,000 2. Software: \$4,000 3. Staff development: \$2,000 4. Technology staffing (overtime): \$500
Evaluation/Indicators of Success	Successful drills and routines utilizing the plan
Date Completed	Ongoing

TECHNOLOGY: ADMINISTRATIVE & MANAGEMENT

Goal Number(s): O-4

Objective Statement: The BASD will improve access to and availability of information to foster collaborative partnerships and communications among schools, families, universities, businesses, and communities.

Action Plan Statement: The BASD will provide for web-based delivery of information to the community.

Activity Steps	<ol style="list-style-type: none"> 1. Develop district website to supply parents and students access to grades, academic progress, attendance, and assignments using web-editing software and contemporary techniques 2. Update and continue maintenance of district website with information appropriate for parents, students, and faculty using web-editing software and contemporary techniques 3. Supply parents and students access to information via secure username and password 4. Train all staff in finding information on district website in order to better direct parents and community 5. Train all technology and teaching staff in use of web-editing software and contemporary techniques 6. Develop brochures to assist parents, students, and community in accessing various information 7. Utilize current technology staff, allowing for overtime for developing training materials and brochures 8. Ensure all information can be accessed via school and district networks and the Internet
Person/Group Responsible	ICT coordinator, data processing supervisor
Timelines for Completion	Fall 2006
Resources Needed	<ol style="list-style-type: none"> 1. Hardware: \$5,000-10,000 2. Software: \$5,000 3. Staff development: \$1,000 4. Technology staffing (overtime): \$1,000
Evaluation/Indicators of Success	<ol style="list-style-type: none"> 1. Measured by user-group surveys 2. Measured by website activity
Date Completed	Ongoing

TECHNOLOGY: ADMINISTRATIVE & MANAGEMENT

Goal Number(s): O-4

Objective Statement: The BASD will improve access to and availability of information to foster collaborative partnerships and communications among schools, families, universities, businesses, and communities.

Action Plan Statement: The BASD will provide resources for effective management of emergency information.

Activity Steps	<ol style="list-style-type: none"> 1. Provide portable computing equipment to administrators equipped with emergency information on students and faculty 2. Provide mobile database software for portable computing equipment 3. Train administrators in the use of portable computing equipment for emergency information 4. Utilize current technology staff for training in utilizing portable computing equipment 5. Ensure all information can be accessed via school and district networks and the Internet
Person/Group Responsible	ICT coordinator, data processing supervisor, supervisor of child accounting
Timelines for Completion	Fall 2005
Resources Needed	<ol style="list-style-type: none"> 1. Hardware: \$20,000 2. Software: \$2,000 3. Staff development: \$500 4. Technology staffing (overtime): \$500
Evaluation/Indicators of Success	Successful implementation of drills and emergency routines
Date Completed	Ongoing

TECHNOLOGY: COMMUNICATIONS & INFORMATION ACCESS

Goal Number(s): O-3

Objective Statement: The BASD will provide appropriate technology and communications services to support its mission and operation.

Action Plan Statement: The BASD will provide ongoing staff development services as required to implement the technology plan.

Activity Steps	Staff Development in Educational Technology <ol style="list-style-type: none"> 1. Upgrade projection/sound capability in district training labs 2. Conduct ongoing staff development workshops for teachers in the application of classroom technology 3. Support attendance at educational technology conferences and other off-site professional development
Person/Group Responsible	ICT coordinator, curriculum and instruction office, and Act 48 committee
Timelines for Completion	<ol style="list-style-type: none"> 1. Summer, 2004 – training for seventh grade mentor teachers begins 2. Summer, 2005 – training for eighth grade mentor teachers begins 3. Summer, 2006 – training for ninth grade mentor teachers begins 4. Ongoing – educational workshops scheduled during inservice days and after school 5. Annual – four training labs upgraded per year
Resources Needed	<ol style="list-style-type: none"> 1. \$10,000 annually to upgrade 4 training labs per year (\$2,500 per lab) for video/audio presentation upgrade 2. \$18,500 annually for mentor teacher training program (7th grade teachers, then 8th grade next year, etc.) 3. \$15,000 annually for educational technology conference attendance
Evaluation/Indicators of Success	<ol style="list-style-type: none"> 1. Ongoing evaluation by ICT coordinator, curriculum and instruction office, and Act 48 committee 2. Ongoing evaluation of workshops by participants
Date Completed	Ongoing

TECHNOLOGY: COMMUNICATIONS & INFORMATION ACCESS

Goal Number(s): O-3
Objective Statement: The BASD will provide appropriate technology and communications services to support its mission and operation.
Action Plan Statement: The BASD will provide and maintain Local Area Networks within each building and a Wide-Area Network (WAN) to connect each building to district network services and to the Internet. – part 1 (WAN & Internet)

Activity Steps	Wide Area Network (WAN) and Internet Service 1. Continue to lease cost-effective, high bandwidth Wide Area Network services 2. Upgrade Internet service from 10 Mbps to 100 Mbps
Person/Group Responsible	ICT coordinator
Timelines for Completion	1. Ongoing – WAN service 2. Summer, 2004 – Internet milestone: Internet service upgraded to 100 Mbps
Resources Needed	1. \$94,200 (w/o anticipated E-rate discount) for annual WAN service (estimate \$36,738 after discount) 2. \$90,000 (w/o anticipated E-rate discount) for 100 Mbps Internet service (estimate \$35,100 annual cost)
Evaluation/Indicators of Success	Assessed by project completion per ICT coordinator and network supervisor
Date Completed	1. WAN service – ongoing 2. Internet upgrade – July 1, 2004

TECHNOLOGY: COMMUNICATIONS & INFORMATION ACCESS

Goal Number(s): O-3
Objective Statement: The BASD will provide appropriate technology and communications services to support its mission and operation.
Action Plan Statement: The BASD will provide and maintain Local Area Networks (LANs) within each building and a Wide-Area Network (WAN) to connect each building to district network services and to the Internet. – part 2 (LANs)

Activity Steps	Local Area Network (LAN) Upgrade Project 1. Purchase and install equipment to continue migration of LANs to 100 Mbps switched/powered Ethernet 2. Purchase and install equipment to continue to expand wireless Ethernet coverage in district
Person/Group Responsible	ICT coordinator
Timelines for Completion	1a. 2004-05 – install 100 Mbps Power-over-Ether (PoE) switches for Northeast Middle School 1b. 2004-05 – install 100 Mbps PoE switches in other buildings as need arises and funding permits 2a. June-Aug, 2004 – install wireless Ethernet coverage for all seventh grade classrooms 2b. 2004-05 – install wireless Ethernet access points in other buildings as need arises and funding permits
Resources Needed	1a. \$45,720 (pre-Erate discount) for Ethernet switches for Northeast Middle School 1b. estimate \$2,000 per PoE Ethernet switch installed as need, funding, and staff availability dictate note: Ethernet LANs MUST be upgraded prior to installation of new telephone system 2a. \$12,600 for about 63 seventh-grade classrooms @ \$200 each 2b. \$200-\$700 per wireless access point as need, funding, and staff availability dictate
Evaluation/Indicators of Success	Assessed by project completion per ICT coordinator and network supervisor
Date Completed	Project is ongoing, but there are two milestone dates: 1. 100 Mbps PoE Ethernet for Northeast Middle School: April 2005 2. Seventh-grade wireless: August 2004

TECHNOLOGY: COMMUNICATIONS & INFORMATION ACCESS

Goal Number(s): O-3

Objective Statement: The BASD will provide technology staff to adequately support technology operations and initiatives.

Action Plan Statement: The BASD will annually review ICT and data processing support staff to evaluate need for additional staff.

Activity Steps	Technology Staffing – Adequacy Review Process <ol style="list-style-type: none"> 1. District annually reviews central ICT staff to evaluate need for additional staff 2. District annually reviews school-based ICT support staff to evaluate need for additional staff 3. District annually reviews data processing staff to evaluate need for additional staff
Person/Group Responsible	ICT coordinator and data processing supervisor
Timelines for Completion	<ol style="list-style-type: none"> 1. Summer 2004 – additional support technologist position approved for high schools 2. Summer 2004 – additional hours and/or position approved for elementary technology support staff 3. Spring/summer 2004 – creation of “ICT intern” position (1-yr. limit, \$8/hour) 4. 2004-05 – additional telephone programmer position to replace \$100,000 third party contract and fees 5. 2004-06 – ICT assistant coordinator
Resources Needed	<ol style="list-style-type: none"> 1. \$60,000 for two high school support technologists @ \$30,000 each 2. \$40,000 for additional elementary technology staff 3. \$14,400 for a full-time intern (36 hrs. per week @ \$8 per hour) 4. \$40,000 for telephone programmer (\$60,000 savings from current third party system) 5. \$50,000 for ICT assistant coordinator
Evaluation/Indicators of Success	Assessed by evaluation of existing staff’s capacity to handle workload and initiatives
Date Completed	Ongoing

TECHNOLOGY: COMMUNICATIONS & INFORMATION ACCESS

Goal Number(s): O-3
Objective Statement: The BASD will provide appropriate technology and communications services to support its mission and operation.
Action Plan Statement: The BASD will provide/maintain a system of 24/7 information services to include domain name server(s), e-mail server(s), Web servers, database servers, library servers, streaming media servers, curriculum servers, and other related services. – part 1

Activity Steps	<p>Library Automation Project</p> <ol style="list-style-type: none"> 1. Conduct automation system selection process 2. Replace 22 library automation systems with single central automation system 3. Annually license AccessPA/POWER Library services 4. Annually renew library automation software maintenance contract
Person/Group Responsible	Director of student services and ICT coordinator
Timelines for Completion	<ol style="list-style-type: none"> 1a. 2004 – consultant/library automation selection committee conduct selection process and determine cost 1b. 2004-05 – prepare for implementation (e.g., resolve conflicting barcodes) 2. 2004-05 – implement central library automation system 3. Annual licensing for AccessPA/POWER library 4. Annual renewal of automation software maintenance contract
Resources Needed	<ol style="list-style-type: none"> 1. Consultant with expertise in centralizing automation services. (\$3,000 - \$8,000) 2. Cost of central library automation system estimated at \$60,000 for hardware and software 3. \$5,500 for AccessPA/POWER Library licensing (22 schools @ \$250 per year) 4. \$11,000 for automation software maintenance contract (22 schools @ \$500 per year)
Evaluation/Indicators of Success	Library automation selection committee assesses whether completed system adequately meets their selection criteria
Date Completed	Fall 2005 or fall 2006, depending on funding/priority

TECHNOLOGY: COMMUNICATIONS & INFORMATION ACCESS

Goal Number(s): O-3
Objective Statement: The BASD will provide appropriate technology and communications services to support its mission and operation.
Action Plan Statement: The BASD will provide/maintain a system of 24/7 information services to include dns server(s), e-mail server(s), web servers, database servers, library servers, streaming media servers, curriculum servers, and other related services. – part 2

Activity Steps	School Web Server Project 1. Replace, consolidate, and centralize school web servers into server farm in Network Operations Center (NOC) 2. Continue to support and train school webmasters
Person/Group Responsible	ICT coordinator
Timelines for Completion	1a. 2004 – milestone#1: all web masters can maintain/edit their school’s webservice content 1b. 2004-05 – milestone#2: all web servers upgraded to xServe/OS X/Apache and moved to BASD NOC 2. School web master training and support is ongoing, with a minimum of two meetings/workshops per year
Resources Needed	1. \$33,000 cost for replacement servers. 2a. \$11,000 annual budget for 22 web masters @ \$500 stipend 2b. \$2,800 annual budget for web authoring/editing software for web masters 2c. \$30,000 cost to license web authoring/editing software for faculty and students (e.g., <i>Contribute 2</i> software)
Evaluation/Indicators of Success	1a. All web masters can maintain/edit their school’s webservice content 1b. All web servers are upgraded to xServe/OS X/Apache and relocated in BASD NOC 2. ICT coordinator and web masters will provide ongoing evaluation
Date Completed	June 2005

TECHNOLOGY: COMMUNICATIONS & INFORMATION ACCESS

Goal Number(s):

O-3

Objective Statement:

The BASD will provide appropriate technology and communications services to support its mission and operation.

Action Plan Statement:

The BASD will provide & maintain security for its communications & technology systems, including firewall, content filtering, authentication, encryption, backup, and related services. In addition to physical security, the district will provide & maintain policies to define legal, ethical and secure use of district technology & information resources.

Activity Steps	<p>Infrastructure Services for Information and Communication Technology and Data Processing</p> <ol style="list-style-type: none"> 1. Maintain/renew annual licenses for ICT Network Operations Center (NOC) and data processing server software and security certificates 2. Maintain and refine firewall, content filter, and SPAM filter systems and services 3. Continue to develop authentication server/services 4. Maintain and expand data backup servers/services
Person/Group Responsible	ICT coordinator, data processing supervisor, and network supervisor
Timelines for Completion	<ol style="list-style-type: none"> 1. Ongoing annually 2. Ongoing 3. Ongoing 4. 2004-05 – implement two RAID backup systems
Resources Needed	<ol style="list-style-type: none"> 1. \$250,000 per year (estimate – most for Data Processing) 2. \$25,000 for expanded firewall system and refinement of content and SPAM filters 3. \$3,000 for authentication server 4. \$12,000 for RAID backup systems for NOC-based systems
Evaluation/Indicators of Success	Assessed by project completion
Date Completed	Fall 2004 for first RAID backup system–spring 2005 for second RAID backup system, others ongoing

TECHNOLOGY: COMMUNICATIONS & INFORMATION ACCESS

Goal Number(s): O-3
Objective Statement: The BASD will provide appropriate technology and communications services to support its mission and operation.
Action Plan Statement: The BASD will provide and maintain telephone services that includes voicemail and fax services to facilitate communication within the district and outside the district to parents and the community.

Activity Steps	Telephone System Replacement Project 1. Continue to provide reliable, cost-effective local and long distance telephone service 2. Plan for the timely and cost-effective replacement of district's telephone system 3. Pilot proposed telephone system in new Northeast Middle School 4. Replace current telephone system (current system obsolete; replacement parts no longer made)
Person/Group Responsible	ICT coordinator
Timelines for Completion	1. Spring, 2004 – evaluate options and bring up small-scale prototype telephone system 2. Summer & fall, 2004 – develop detailed specifications for Northeast telephone system and order system 3. Spring, 2005 – install & program Northeast telephone system, and train Northeast staff 4. Summer & fall, 2005 – evaluate Northeast pilot, develop specifications for replacement district telephone system 5. Spring & summer, 2006 – install & program district telephone system (staged by school)
Resources Needed	1. \$2,000 for small-scale prototype telephone system (BASD NOC and cabinet) 2. Up to \$150,000 for Northeast telephone system (expect final cost to be significantly less) 3. Up to \$2,000,000 for district telephone system (expect final cost to be significantly less) Note: New \$40,000 technical staff position will replace approx. \$100,000 annual service cost to vendor Note: New telephone system expected to REQUIRE network electronics upgrade in all schools (See LAN section)
Evaluation/Indicators of Success	1. Small-scale prototype telephone system installed and functioning 2. Northeast telephone system installed and performing according to specification 3. District telephone system installed and performing according to specification
Date Completed	1. Small-scale prototype – June 2004 2. Northeast telephone system pilot – April 2005 3. District telephone system replacement – August 2006

TECHNOLOGY: COMMUNICATIONS & INFORMATION ACCESS

Goal Number(s): O-3
Objective Statement: The BASD will provide appropriate technology and communications services to support its mission and operation.
Action Plan Statement: The BASD will provide and maintain video services, including cable television service (or equivalent), to all instructional areas.

Activity Steps	<p>Television & Cable Television Project</p> <ol style="list-style-type: none"> 1. Determine gaps in cable television coverage in schools and classrooms 2. Plan for providing cable television coverage to gaps identified in step 1 3. Determine gaps in television set installation in schools and classrooms 4. Plan for providing television sets and appropriate media playback capability to gaps identified in step 3
Person/Group Responsible	Director of operations, planning, and special projects; district engineer; and ICT coordinator
Timelines for Completion	<ol style="list-style-type: none"> 1, 3. 2004-05 – Steps 1 and 3 2, 4. 2004-08 – Steps 2 and 4 as construction, funding, and staffing permits
Resources Needed	<ol style="list-style-type: none"> 1. \$17,500 would cover installation of 50 wall-mounted television systems @\$350 2. Capital fund will cover video cable installation in new construction 3. Existing television cable gaps to be filled whenever cabling is done in a building (e.g., when telephone system is updated)
Evaluation/Indicators of Success	<ol style="list-style-type: none"> 1. Gap analysis completed (steps 1 & 2) 2. Complete video services coverage completed by building 3. All buildings have achieved video services coverage
Date Completed	<ol style="list-style-type: none"> 1, 3. Complete video gap analysis – April 2005 2, 4. Complete video cable/equipment installation – August 2008

TECHNOLOGY: COMMUNICATIONS & INFORMATION ACCESS

Goal Number(s): O-3
Objective Statement: The BASD will provide appropriate technology and communications services to support its mission and operation.
Action Plan Statement: The BASD will maintain a standing committee to monitor the technology plan and update it annually. Also, the committee will evaluate new technologies to determine if, when, and how they may be incorporated into the district.

Activity Steps	Standing Technology Steering Committee Standing Technology Steering Committee will meet quarterly to review progress of plan, to address planning issues, and to revise plan as appropriate
Person/Group Responsible	ICT coordinator
Timelines for Completion	<ol style="list-style-type: none"> 1. Summer 2004 – steering committee meets to review progress of plan 2. Fall 2004 – steering committee meets to review new technologies 3. Winter 2004-05 – steering committee revises technology plan 4. February 2005 – technology plan submittal to BASD administration 5. March 2005 – technology plan submittal to Board of School Directors 6. April 2005 – technology plan submittal deadline to Pennsylvania Department of Education
Resources Needed	\$3,000 for committee meetings
Evaluation/Indicators of Success	Assessed by acceptance of plan by BASD administration/board and by Pennsylvania Department of Education
Date Completed	April 2005 and each succeeding April

