Grades 2-4

1 Linux Ubuntu Firewall, Content Filter, thin client and File/Print Server.
30 Lab computers
30 Teacher Workstations, notebooks

Grades K-1

1 Linux Ubuntu Firewall, Content Filter, thin client and File/Print Server.
1 Linux Ubuntu Video Security Server with 3 IP cameras
25 classroom computers.
25 Teacher Workstations, notebooks

Infrastructure Acquisition Timeline

As new technologies evolve and existing equipment becomes obsolete, it is necessary to plan strategies of maintaining and replacing the district's current equipment. Although it is challenging to forecast what new technologies lay ahead, experience helps us to understand that the technology we integrate into our educational environment is only useful for a limited time. With this in mind, a tentative, yet realistic plan is outlined for updating and replacing infrastructure and hardware.

2011-2012

- Upgrade LAN's to 1000/100/10 backbones
- Upgrade AC Units in K-4 Computer Labs
- Increase Video surveillance at all location
- Continue to replace older CPU's used as thin clients with true thin client hardware that is much more energy efficient
- Purchase additional thin client units and furniture for K2 lab
- Increase 2-4 lab seating capacity
- Upgrade Linux Server OS's to most recent version
- Upgrade 5-8 Windows Terminal Servers with latest release and upgrade MS Office applications to latest released version
- Building-wide Wi-Fi at the 5-8 location

2012-2013

- Upgrade thin client server hardware
- Upgrade Linux Server OS's to most recent version

2013-2014

- Upgrade Linux Server OS's to most recent version
- Replace 5-8 Terminal Servers with new energy efficient hardware

Technical Support

Goal: Support and assist teachers and staff to ensure that all hardware, software, and network resources can be utilized into the learning environment.

Technology in the classroom plays a ever increasing role for daily instruction and communication. Each building in our district has at least a few "Advanced users" that can provide support for each building for most day to day training, troubleshooting and

operations. Situations that require "Expert Level" support are routed though the school's Administrative Assistant to contact the appropriate support professional via email or phone when necessary.

Currently, the district has Mentors that are designated for certain applications. For example, a teacher has been identified in each school for assisting and training peers in the use of Skyward. If a teacher has a problem with that application, they are to first contact the designated mentor. If the mentor cannot solve the problem, it is then forwarded to the technology department. The district will continue to use mentors for training and support, especially when introducing new technologies and applications.

Currently the district does not employ dedicated full time technical support staff. Where and when necessary work is subcontracted out to local professionals. All servers, PC's and LANs are managed and administered remotely.

Replacement Cycle of Hardware

Hardware is replaced as needed. Some of the older computers may be migrated down to areas where software requirements are not as resource demanding.

Infrastructure, Hardware, Technical Support and Software - Increased Access

This section covers strategies to increase access to technology for all students and all teachers.

Michigan Technical Academy will attempt to provide access to technology for all staff and students. All classrooms and media centers have at least one network drop with a multimedia computer. Strategies for continuing, as well as increasing access include:

- Wireless, mobile laptop carts enable all classrooms to have multiple networked computers. Introduced with grant funds through the Technology Literacy Challenge Fund Cycle 5, all buildings now have at least one cart. Many of our buildings have been adding more laptops (or carts) as opposed to purchasing desktop computers, which increases the accessibility for all students.
- Media Centers in the secondary building should be open before and after school, as well as during lunch, in order to provide students access to technology.
- Multimedia Carts will be purchased with grant funds . Each cart will include a multimedia computer, data projector or 32" monitor, Elmo Visual Presenter Documentation Camera, VCR, and printer. These carts enable all students and staff to have access to technology for presentational purposes.
- Assistive technology will be applied when applicable for students with special needs. The technology department will work in cooperation with the special education department to implement assistive technology where needed.
- At least one computer lab in the secondary building will be designated as an "open lab" available for entire classrooms to use. Classroom teachers will continue to sign-up for scheduled times for lab usage. It is the district's goal to add an additional lab at each secondary building designated as an open lab. It is also the district's goal to have an open lab at each elementary school.
- The district will begin to implement PDA's into the curriculum as a flexible and cost-efficient alternative to computer labs and mobile laptop carts.

FUNDING AND BUDGET - Budget and Timetable

Timeline and budget covering the acquisition, implementation, interoperability provisions, maintenance and professional development related to the use of technology to improve student academic achievement.

	2011-2012	**2012-2013**	**2013-2014**
Funding Sources			
General Funding	$234,550	$160,550	$155,550
Title Funding	$67,500	$67,500	$67,500
Grant Funding	$22,500	$0.00	0.00
E-rate Funding	$401,950	$244,450	$244,450
Total Funding Sources	**$727,500**	**$472,500**	**$467,500**
Expenditures:			
Technology Staff	$67,500	$67,500	$67,500
Consulting Services	$35,000	$35,000	$35,000
Software	$62,5000	$40,000	$30,000
Internet Access	$222,000	$222,000	$222,000
Networking Infrastructure	$100,000	$5,000	$5,000
Video Distribution System	$75,000	$5,000	$5,000
Service Agreements & Purchased Services	$20,000	$20,000	$20,000
Computer & Equipment Repair Services	$3,000	$3,000	$3,000
Computer & Equipment Replacement *	$100,000	$40,000	$35,000
Telephone (Dept. Only)	$30,000	$30,000	$30,000
Professional Development**	$12,500	$5,000	$5,000
Total Expenditures	**$727,500**	**$472,500**	**$467,500**

* All infrastructure and equipment purchases are outlined in the plan's Infrastructure section.

Funding and Budget - Coordination of Resources

Strategies that will be employed to coordinate available state and local resources to implement activities and acquisitions prescribed in the technology plan.

Michigan Technical Academy has established a structured method of planning for the acquisition of technology resources:

- The Technology Committee, in cooperation with the technology department, identifies future technology goals, along with the infrastructure and other resources needed to meet the goals.
- These goals are prioritized in order of greatest impact on instruction.
- Costs are associated with each project.
- The Technology Consultant develops a plan including budget and timeline for completing each project for the upcoming school year.
- The Technology Committee evaluates and approves the plan.
- If necessary, the school district initiates a bidding process for technology acquisitions.
- The Board of Education evaluates the plan, approves the budget, and awards any bids.

Wayne RESA

In the past, our ISD has provided technical services, professional development, and instructional support. The district will continue to collaborate and share resources with our local ISD.

Grants

Michigan Technical Academy will aggressively seek out grants to finance special projects concerning the integration of technology into our classrooms. Our district will continue the practice of obtaining grants in order to further implement technology into the curriculum.

Alignment of Technology Plans

Michigan Technical Academy will continually monitor state and national technology plans to ensure that the district's goals and objectives coordinate with state and national guidelines and requirements. The district's technology plan will be revised and amended as needed.

MONITORING AND EVALUATION - Evaluation

Strategies that the district will use to evaluate the extent to which activities are effective in integrating technology into curricula and instruction, increasing the ability of teachers to teach, and enabling students to reach challenging State academic standards.

Goal: A continuous monitoring and evaluation process will be implemented to ensure that technology is being utilized in a way that best enhances teaching and learning.

Staff Needs Assessment

A Staff Needs Assessment will be updated and implemented by the Technology Consultant and will be completed by all instructional staff on an annual basis. The results will be shared with the Academy and allow the district to:

- Verify that technology integration goals are being met
- Identify weaknesses in current strategies to integrate technology into the curriculum
- Determine if implemented strategies are improving standardized test scores
- Plan for future professional development

As the district identifies goals that are not being met, strategies will be reevaluated to determine how to best meet staff needs in order to improve technology integration.

STaR Chart Self-Diagnostic Tool

Taken from the CEO Forum on Technology and Education's Website (http://ceoforum.org), the STaR Chart can help our district answer three critical questions:
1. Is our district using technology effectively to ensure the best possible teaching and learning?
2. What is our district's current education technology profile?
3. What areas should our district focus on to improve its level of technology integration?
The Technology Consultant will complete the STaR Chart once each year and present the results to the district's superintendent.

Feedback from Mentors

Our technology mentors have one-on-one contact with other teachers while working with the integration of technology in the classroom. Feedback from mentors can provide vital information as far as what is actually working in the classroom, as well as to how technology incorporation is being accepted by our teaching staff. Our mentors can also suggest alternatives to meet goals when existing methods are not working.

Instructional Technology Committee

The Instructional Technology Committee meets occasionally during the school year to provide planning, direction, and evaluation of instructional technology in the district. The committee plays an increasingly vital role in identifying methods of integrating technology into the Michigan Technical Academy 2009-2012 Technology Plan

curriculum. All technology-related projects, policies, goals, and objectives are set in place by the committee, which in turn evaluates progress and suggests changes accordingly.

Questions for Monitoring and Evaluation

Is the technology available and working correctly to perform the task?
Do staff members have enough time to implement technology-related projects?
Have goals and objectives been explained to instructional staff?
Has staff completed sufficient training to implement the technology?
Has staff willingly accepted the integration of the particular technology?
Are students able to utilize the technology proficiently?
Are technology-related lesson plans grade-level appropriate?
Has technology integration resulted in increased student creativity and problem solving skills?
Has technology integration resulted in increased productivity?

Current Evaluation Status

Results of the most recent staff technology needs assessment (2010) depict an increased desire for more technology in the classroom and professional development. While they appreciate the efforts to acquire more technology for lesson enhancement, they would appreciate more opportunities for technical professional development more closely related to their instruction content areas.

Monitoring and Evaluation - Acceptable Use Policy

Strategies are in place to monitor the district's Acceptable Use Policy for staff and student use of the technologies.

Michigan Technical Academy will utilize the Instructional Technology Committee to continually review all policies regarding technology use by staff and students. As changes are recommended and approved by the committee, the Board of Education must then officially approve any changes or amendments to existing policies as well as new policies. Appendix A includes all of the district's technology-related policies.

The district uses a true Internet content filter server provided by Drouillard & Assoicates, Inc. at each location to filter Internet content on all devices on the network. The servers are Linux based and use Dansguardian to transparently filter all traffic. The district also adds specific URLs to OpenDNS.com DNS services in order to block the site throughout all buildings where required.

Appendix A: ACCEPTABLE USE POLICIES

Michigan Technical Academy
Bylaws & Policies

TECHNOLOGY PRIVACY

The Board of Education recognizes its staff members' right to privacy in their personal lives. This policy serves to inform staff members of the Board's position with respect to staff-member privacy in the educational and workplace setting and to protect the Board's interests.

All computers, telephone systems, electronic mail systems, and voice mail systems are the Board's property and are to be used primarily for business purposes. The Board retains the right to access and review all electronic and voice mail, computer files, data bases, and any other electronic transmissions contained in or used in conjunction with the Board's computer system, telephone system, electronic mail system, and voice mail system. Staff members should have no expectation that any information contained on such systems is confidential or private.
Review of such information may be done by the Board with or without the staff member's knowledge. The use of passwords does not guarantee confidentiality, and the Board retains the right to access information in spite of a password. A staff member's refusal to permit such access may be grounds for discipline up to and including discharge.

Computers, electronic mail, and voice mail are to be used for educational purposes. Personal messages via Board-owned technology should be limited in accordance with the Superintendent's guidelines. Staff members are encouraged to keep their personal records and personal business at home.
Because the Board's computer and voice mail systems are to be used primarily for educational purposes, staff members are prohibited from sending offensive, discriminatory, or harassing computer, electronic, or voice mail messages.

The Board is interested in its resources being properly used. Review of computer files, electronic mail, and voice mail will only be done in the ordinary course of business and will be motivated by a legitimate business reason. If a staff member's personal information is discovered, the contents of such discovery will not be reviewed by the Board, except to the extent necessary to determine if the Board's interests have been compromised. Any information discovered will be limited to those who have a specific need to know that information.

The administrators and supervisory staff members authorized by the Superintendent have the authority to search and access information electronically.

All computers and any information of software contained therein are property of the Board. Staff members shall not copy, delete, or remove any information or data contained on the Board's computers/servers without the express permission of the Superintendent or designee or communicate any such information to unauthorized individuals. In addition, staff members may not copy software on any Board computer and may not bring software from outside sources for use on board equipment without the prior approval of the Superintendent or designee. Such pre-approval will include a review of any copyright infringements or virus problems associated with such outside software.

COMPUTER USAGE

At Michigan Technical Academy, we believe that the use of technology and Internet on-line services is a privilege extended to students and staff to enhance learning and information exchange. It is for this reason all students at Michigan Technical Academy will have Internet access unless parent or guardian fills out a Parent Waiver Form for Non-Internet Use which can be obtained in the office or library.

Policy for Acceptable Use of Computers and Other Technology

It is a general policy that all computers and other technology are to be used in a responsible, efficient, ethical and legal manner.

Michigan Technical Academy declares irresponsible, inappropriate, unethical, obscene, or illegal behavior, or support of such activities, as unacceptable behavior and as just cause for taking disciplinary action, revoking information network access privileges, and/or initiating legal action. The AUP guidelines are listed below:

1. Use of the School District's network must be consistent with the School, and the School District's primary goals.
2. The School District network will not be used for inappropriate or illegal purposes of any kind, nor for activities that could be dangerous to myself or to others.
3. The School District network will not be used to send or receive threatening, obscene, or harassing materials. The District will not be held responsible if the user participates in such activities.
4. The School District network will not be used to interfere with, disrupt, or cause damage to network users, services, software, equipment, or files that do not belong to the student.
5. User of the School District network will respect copyright and fair use practices as is appropriate, legal, and ethical. The user will not use the network for financial or commercial gain without the written consent from Michigan Technical Academy.
6. Students will not access multi-user talk sites (chat rooms) and Internet games, except those designated as permissible.
7. Students are prohibited from gaining or attempting to gain unauthorized access to resources or data.
8. Students are prohibited from posting anonymous messages including using the District technology to send messages to other District computers. Students are also prohibited from using the identification or name of another to access another persons account, programs, or files.
9. Students are prohibited from distributing personal information without consent of that individual.
10. Students are not to tamper with technology equipment except when authorized.
11. Students are not to use District Technology or District network without adult supervision or permission.

Michigan Technical Academy reserves the right to review any material stored in files to which users have access and remove any material which the District, in its sole discretion, believes may be unlawful, indecent, obscene, pornographic, abusive, or otherwise objectionable. The use of technology is a privilege, which may be revoked by MTA.

Michigan Technical Academy

HELPING STUDENTS DISCOVER THEIR FUTURES

Parent Waiver Form for Non-Internet Use

Student Name_____ Graduation Date_____

At Michigan Technical Academy we believe that the use of technology and Internet on-line services is a privilege extended to students and staff to enhance learning and information exchange. It is for this reason all students at Michigan Technical Academy will have Internet access unless a parent or guardian fills out this Parent Waiver Form for Non-Internet Use.

This form will be kept on file at the school of attendance as evidence of his/her agreement to waive the right to have Internet privileges while attending Michigan Technical Academy

Parent/Guardian Signature _____ Date _____

Michigan Technical Academy

Bylaws & Policies

APPROPRIATE USE OF TECHNOLOGY

Any student who does not comply with the "Technology Policy" may lose computer privileges. Repeated or sever infractions of the policy may result in permanent termination of privileges. Students will be required to make full financial restitution for any unauthorized or any damages caused.

In order to achieve our educational goals and ensure that the use of the technology resources available at Michigan Technical Academy you should have filled out:

1. Computer Equipment Acceptable Use Agreement
2. Internet Acceptable Use Agreement

These agreements are required so that you are aware of the proper use of these resources and the responsibilities expected of you and your child. Please read these agreements and discuss them with your child. Your signatures on these agreements indicate that you understand and accept the terms and conditions that govern the use of technology at Michigan Technical Academy. If you have any questions about these agreements, please contact the office.

Michigan technical Academy students will have access to the internet in the lab during computer time. Our goal in utilizng this resource is to:

1. Enable our students to access educational resources from all over the world.
2. Enhance the teacher's ability to individualize the development of their students.

Teachers will be responsible for making sure that students research educationally appropriate information.

Michigan Technical Academy

Bylaws & Policies

STAFF NETWORK AND INTERNET ACCEPTABLE USE AND SAFETY

The Superintendent is directed to prepare guidelines which address students' safety and security while using e-mail, chat rooms and other forms of direct electronic communication, and prohibit disclosure of personal identification information of minors and unauthorized access (e.g., "hacking") and other unlawful activities by minors online. Staff members are reminded that personally identifiable student information is confidential and may not be disclosed without prior written parental permission.

Building principals are responsible for providing training so that Internet users under their supervision are knowledgeable about this policy and its accompanying guidelines. The Board expects that staff members will provide guidance and instruction to students in the appropriate use of the Internet. All Internet users are required to sign a written agreement to abide by the terms and conditions of this policy and its accompanying guidelines.

Staff members are responsible for good behavior on Board's computers/network and the Internet. General school rules for behavior and communication apply. The Board does not sanction any use of the Internet that is not authorized by or conducted strictly in compliance with this policy and its accompanying guidelines. Users who disregard this policy and its accompanying guidelines may have their use privileges suspended or revoked, and disciplinary action taken against them. Users granted access to the Internet through the Board's computers assume personal responsibility and liability, both civil and criminal, for uses of the Internet not authorized by this policy and its accompanying guidelines.
The Board designated the Superintendent as the administrator responsible for initiating, implementing, and enforcing this policy and its accompanying guidelines as they apply to the use of the Network and the Internet for instructional purposes.

The Superintendent may disable the technology protection measure to enable access for bona fide research or other lawful purposes.

Michigan Technical Academy

Bylaws & Policies

ELECTRONIC DATA PROCESSING DISASTER RECOVERY PLAN

The Board of Education is committed to maintaining and protecting the District's Information System. The Board believes that a complete and accurate Information System which includes educational, student, fiscal and personnel information is vital to the Board's ability to deliver uninterrupted educational service to the community it represents. To this end, the Superintendent is directed to develop, test and maintain an Electronic Data Processing Disaster Recovery Plan for use in the event a disaster should disable the District's electronic data processing equipment.

Appendix B: GLOSSARY

GLOSSARY

DHCP (Dynamic Host Configuration Protocol)

Allows a device to automatically receive an Internet Protocol address each time it connects to the network (including the Internet), simplifying network administration since software keeps track of the addresses rather than an administrator.

IDF (Intermediate Distribution Frame)

A secondary location, connected directly to the MDF, that serves as an area to terminate network cables. In a school building, an IDF usually serves a designated area of a building that is too far away to be served by the MDF.

IP Telephony

Any "telephone" type service carried over IP (Internet Protocol), including voice, fax, text messaging, etc.

MDF (Main Distribution Frame)

Also known as the "Head-end" room, it is the central location where the main telecommunications cables and the network cables from the internal network come together and terminate.

SIF (School Interoperability Framework)

Standards set by the School Interoperability Framework Association (SIFA) that define the rules for data movement between applications, ensuring that pK12 instructional and administrative software applications can share information seamlessly. For more information, visit http://www.sifinfo.org

UPS (Uninterruptible Power Supply)

A battery backup device that provides adequate power to electronic equipment during a power failure.

VOIP (Voice Over Internet Protocol)

As defined by the FCC: Voice over Internet Protocol (VoIP), is a technology that allows you to make telephone calls using a broadband Internet connection instead of a regular (or analog) phone line. Some services using VoIP may only allow you to call other people using the same service, but others may allow you to call anyone who has a telephone number - including local, long distance, mobile, and international numbers. Also, while some services only work over your computer or a special VoIP phone, other services allow you to use a traditional phone through an adaptor.