

# Mid-America Technology Center

## Technology Plan

We challenge one another to live our lives, embrace our mission, and  
pursue our vision

Mid-America Technology Center  
27438 State Highway 59  
Wayne, Oklahoma 73095

Approved at the MATC Board Meeting  
May 10, 2021

# DISTRICT TECHNOLOGY PLANS

## Minimum Preferred Components

1. The vision, mission, and funding description of the type of technologies, telecommunications, and other services (i.e., hardware, Internet access, wiring) to be acquired, including specific provisions for interoperability among components of such technologies, and to the extent practicable, with existing technologies. The projected cost of technologies to be acquired and related expenses needed to implement such plan including a demonstration of how the district will pay the after discount costs for the purpose of the Universal Service Fund.  
.....Pages 3-4
2. An explanation of how the acquired technologies will be integrated into the curriculum or library services to help enhance teaching, training, and student achievement. A description of the supporting resources such as services, software and print resources, which will be acquired to ensure successful and effective use of technologies acquired under this section. A list of the source or sources of ongoing training and technical assistance available to schools, teachers, and administrators such as state technology offices, institutions of higher education  
.....Pages 5-8
3. An explanation of how programs will be developed in collaboration with existing adult literacy services providers such as public libraries to maximize the use of such technologies. A description of how the LEA will coordinate all technology with other grant funds available for technology from state and local sources  
.....Page 9
4. A description of how the LEA will ensure ongoing, sustained professional development for teachers, administrators, and school library media personnel to further the use of technology in the classroom or library media center.  
.....Page 10
5. The projected timetable for implementing such plan in schools.  
.....Pages 11-12
6. A description of a continuous evaluation process which takes place at established intervals. The evaluation should focus on both internal and external institutional variables such as student performance, sources of ongoing funding, teacher proficiency in the use of technology, innovations in technology development, etc.  
.....Pages 13-14
7. Copies of the district student technology policy and Internet usage policy.  
.....Pages 15-36

## **VISION:**

*We have an exciting shared vision about the future of learning. Our vision comes from the desire to be all we can be.*

Mid-America Technology Center is recognized for quality education, training, leadership and service, providing a climate where all stakeholders can experience success. Mid-America Technology Center is also recognized as a leader in economic development, providing an atmosphere where every individual is valued. We continue to stay on the leading edge of technology, innovation, and emerging workforce trends in order to maximize a return on investment.

## **MISSION:**

*Our mission describes the fundamental reason we exist and is the focal point of all our efforts.*

Mid-America Technology Center enriches economic stability and growth by providing quality education and training.

## **Goals:**

*At Mid-America Technology Center, as our mission states we have set specific goals to provide educational and training opportunities for our students, citizens, and businesses in our communities.*

**Goal 1:** Mid-America Technology Center will improve academic student achievement for all students by incorporating the use of technology to broaden the variety and presentation of materials using best practices. By incorporating up to date technology practices our students will better serve the citizens and businesses in our surrounding communities.

**Goal 2:** Mid-America Technology Center will provide professional development in technology for all staff in technology areas that will help each staff member upgrade their technology proficiency.

**Funding:**

At Mid-America Technology Center, we plan for our technology budget and have been able to keep up with the growing demand of a school district that has learned to integrate the use of the technology into the classrooms in an effective way. We not only use our technology budget from ODCTE, but work to coordinate other programs to support integration of technology into our curriculum. The budget for our proposed technology plan includes money to cover professional development to help staff effectively use new technologies. Our budget also provides funds to acquire and maintain the infrastructure, voice communications, hardware, software, professional development, and other services that will be needed to implement the strategy for improved educational services.

We recognize that technology is an ever-changing area. New demands and needs arise as technology changes. The budget set aside through the district has met the technology needs of our district to this point. We have been fortunate to have the leadership, staff, and budget to provide for a stable and predictable technology growth in our district.

## **GENERAL INFORMATION:**

Mid-America Technology Center serves 19 public schools over 8 counties with a number of students coming from private and home school environment. There are 32 daytime programs with 850-950 daytime students and 5,000 students in the nighttime classes. Mid-America has put together the infrastructure that consists of a fiber optic connection to OneNet with the speed of 1Gbps. Mid-America has a local area network (LAN) that consists of fiber backbone connecting 12 buildings and 800 Internet connected devices. Instructors are provided a laptop, giving them access to email, the Internet & enabling remote instruction.

### **The plan calls for the installation of the following components:**

- 1) upgraded servers that are no longer meeting the needs of the campus for shared applications and files on the LAN;
- 2) upgraded networking equipment, wireless access points to support higher bandwidth applications;
- 3) upgraded printers that are no longer meeting the needs of students, staff and faculty;
- 4) a RFID inventory system
- 5) upgraded security cameras and physical access control
- 6) upgraded computers that are no longer meeting the needs of students, staff and faculty
- 7) a disaster recovery plan
- 8) designing and implementing an IT security plan
- 9) upgrading and standardizing Audio/Visual equipment on campus
- 10) adding AR/VR capabilities to the classroom
- 11) Upgrade Internet Connection to 2.5Gbps
- 12) Replace analog clocks on campus with digital clocks

## **TECHNOLOGY PLAN:**

To help improve instructor's and teacher assistant's productivity we will implement necessary technology to allow grades to be automatically transferred from an officially supported learning management system (LMS) to the student information system (SIS).

All full-time students will be provided a school email address to help facilitate learning. The email account will grant the students access to online resources (from Microsoft, Adobe, Google, Apple, etc) that instructors can use in and out of the classroom.

Desktop, laptop and tablet computers that are no longer able to run current software reasonably will be replaced with new industry standards computers. An industry standards computer is defined as one that includes optimal hardware, peripherals and the latest available operating system. Exact specifications for the hardware, peripherals and operating system will be based on recommendations of the Mid-America IT staff. These industry standards computers will have a connection to the network and the Internet as needed, allowing an instructor to use them for student instruction.

Cyber security is very important in today's age. Security software such as anti-malware will be installed on all computers. Licensing for such software will be annually renewed, so that the latest definitions will be available. An intrusion detection/prevention system will be implemented and maintained for the purpose of detecting and stopping both internal and external network attacks. It is our intent to screen all emails for SPAM and Phishing attempts, and Internet access filtered for inappropriate and malicious sites. A two-factor authentication system will be put into place for the purpose of protecting student information and computer systems in areas that are easily accessible to the public. As new security threats come out, new software will be deployed to prevent downtime and data loss. A disaster recovery plan will be created including a secondary server room in a separate building and off-site backups. Physical security will be improved by upgrading existing analog security cameras to digital HD security cameras. Also, physical access will be restricted and controlled by implementing electric locks that either unlock using a keycard or a wireless key fob.

The IT infrastructure will be updated by replacing servers when they become outdated, with the replaced servers being repurposed for testing, instruction and for the disaster recovery plan. All new servers will be rack mount capable servers to make more efficient use of space. All new servers will be purchased based on recommendations of the Mid-America IT staff. All new interbuilding cable will be single mode fiber to allow 10Gbps connection between buildings and prepare us

for future upgrades as new switching technologies becomes available. The campus wide wireless network will be upgraded as new wireless technologies come out.

The inventory system will be upgraded to use RFID technology to allow the more efficient and accurate method of keeping track of inventory.

Audio/Visual equipment will be upgraded to support the latest technologies. Video equipment will be upgraded to support digital inputs as well as analog inputs. Wall mounted or lectern mounted control systems will be implemented and standardized across campus to allow for ease of use.

Augmented Reality and Virtual Reality systems will be made available to classrooms, not to replace hands-on learning, but to enhance the hands-on learning experience. In addition, AR/VR will allow for training that would be cost prohibitive otherwise.

The analog clocks around campus will be phased out and replaced with LED clocks that have the capability to connect to the campus paging system to allow text alerts to be displayed around the school whenever a drill or emergency notification is sent out over the speakers.

## **INTEGRATION:**

With the benefit of added technology, the instructor will be able to enhance the curriculum by use of industry videos, which will depict live work situations. The people in industry will be able to interact with students who might be prospects for employment. With the use of the Internet, the instructor will be able to tap vast information resources from their training field, enhancing the curriculum. Students will, with the new technologies, have access in the media-center and their classrooms to career development information from other libraries. The instructor will be able to add certification testing to the class which will better prepare students for the job market.

Mid-America, which serves approximately 5000 students, offers a wide variety of short-term classes, many of which are information technology related. The adding of new emerging technology to the night programs will enhance the offering of the nighttime programs.

The Academic Resource Center is available to all the students. In the Academic Resource Center, students work on their technology skills such as computer operation and job readiness. The students produce a resume and a portfolio to assist them in job placement.

The Academic Resource Center is also used to enhance and supplement the instruction in the classroom. The Academic Resource Center uses a variety of programs and subject-specific software to enhance what they are learning in the classroom. The Academic Resource Center is used for remediation in math and reading.

## **SUPPORTING RESOURCES:**

Supporting resources include but are not limited to classroom computers, servers, printers, network topology, networking devices, and software. All resources should be applicable to each classroom and fulfill the educational needs of every student in every classroom. Students need to be in the best learning atmosphere that we can feasibly offer.

Classroom computers should fulfill the learning requirements needed to obtain a job in today's society. Every classroom should have access to computers, and peripherals that are updated as necessary to accomplish the needs of the curriculum; this includes updated software and the operating system.

Servers should be kept updated with hardware and software and be able to handle the traffic involved. Software and computers should be kept updated such that all capabilities can be exploited by the faculty.

The network should have good performance, availability, and scalability by constantly evaluating the bandwidth available with the current throughput. Considerations of throughput should be: internetworking devices used, types of data transferred, network topology, number of users, user computers, server computers, power conditions, and network congestion. As our throughput needs increase we will upgrade our network infrastructure to allow greater bandwidth, and consider a higher capacity connection to the internet.

We need to train faculty to operate the software that we have. Faculty members that need be trained on simple computer usage such as subdirectories, file management, etc. will be offered classes in such areas. Also classes will be offered on software to allow better utilization. An example is Outlook that can be used as a calendar, for a scheduler/planner, and etc.

Finally, administration needs to be able to track the training that faculty has had and any training that the faculty or administration decides would be helpful in the teacher's performance.

## **PROFESSIONAL DEVELOPMENT TRAINING:**

As Mid-America advances in technology, we clearly see the importance of providing training to the faculty, staff, and administration who will be utilizing the technologies. Personnel will be encouraged to participate in training on site and/or at qualified training sites throughout the nation.

An organized in-service training program for the faculty was established at the school's inception and more of the in-service training is becoming technology related. On-site training for instructors, staff, and administration will be available through courses developed and delivered internally by qualified instructors, who will attend authorized training facilities to equip them for specific applications.

In addition, the Oklahoma Department of Career and Technology Education offers workshops and conferences for on-going training. Several universities offer training and college credit courses through videoconferencing. Corporations often offer training relevant to specific applications. Additional training opportunities are available to the faculty and staff at no charge through our evening programs and short-term classes.

Mid-America is committed to keeping our faculty, staff, and administration adequately trained to utilize our latest technology. Personnel are encouraged to stay up to date of the newest available technology and become educated about those things which will benefit our purpose and improve our educational process.

## **TIMELINE:**

Every Year IT will perform the following tasks:

- Purchase computing devices to replace outdated equipment
- Re-evaluate software needs and purchase necessary licenses.
- Evaluate servers for upgrade, replacement, or transition to the cloud
- Evaluate network equipment for upgrade or replacement
- Evaluate security equipment for upgrade or replacement
- Evaluate campus printers and replace as needed
- Continue implementing IT Security Plan

2021-2022: Continue implementing Disaster Recovery Plan  
Continue installation of physical access control system  
Continue implementing AV Control system for conference rooms  
Continue replacing analog clock with LED clocks  
Upgrade to 1.5Gbps internet connection  
Implement a Remote Management and Monitoring solution  
Create outdoor Wi-Fi Zones

2022-2023: Finish implementing Disaster Recovery plan  
Continue installation of physical access control system  
Implement AR/VR in a classroom  
Finish implementing AV Control systems for conference rooms  
Continue replacing analog clock with LED clocks  
Begin implementing RFID inventory system  
Upgrade to 2.0Gbps internet connection  
Purchase Internet connected devices for buses

2023-2024: Finish installation of access control system  
Continue replacing analog clock with LED clocks  
Continue implementing RFID inventory System  
Upgrade to 2.5Gbps internet connection

2024-2025: Continue replacing analog clock with LED clocks  
Finish implementing RFID inventory system  
Upgrade to 3.0Gbps internet connection

2025-2026: Continue replacing analog clock with LED clocks  
Upgrade to 3.5Gbps internet connection

## **EVALUATION:**

The annual evaluation and review will focus on appropriateness of system functionality and its relevancy in promoting significant school reform (i.e., improvement in student achievement test scores, graduation rates, student grade point averages, student performance on ACT and SAT scores, and student dropout rate). They shall utilize both internal and external methods of evaluating the effectiveness of technology integration. Student progress will be assessed using a variety of testing instruments.

- Subject matter tests will be used to measure student learning and competency gains and at least one measure of student performance. It will measure student progress in basic and more advanced academic skills.
- Occupational Competency Test will be used to measure student competency in technology areas as they relate to specific job skills needed in the technology class. They help in standardizing occupational competencies taught in the individual programs.
- State Certification Test - Certain individual programs within the technology setting work cooperatively with their receptive state and national certifying organization. Students in these programs undergo a series of written tests and in many instances a hands-on skills set.

## **INSTRUCTIONAL TECHNOLOGY ASSESSMENT:**

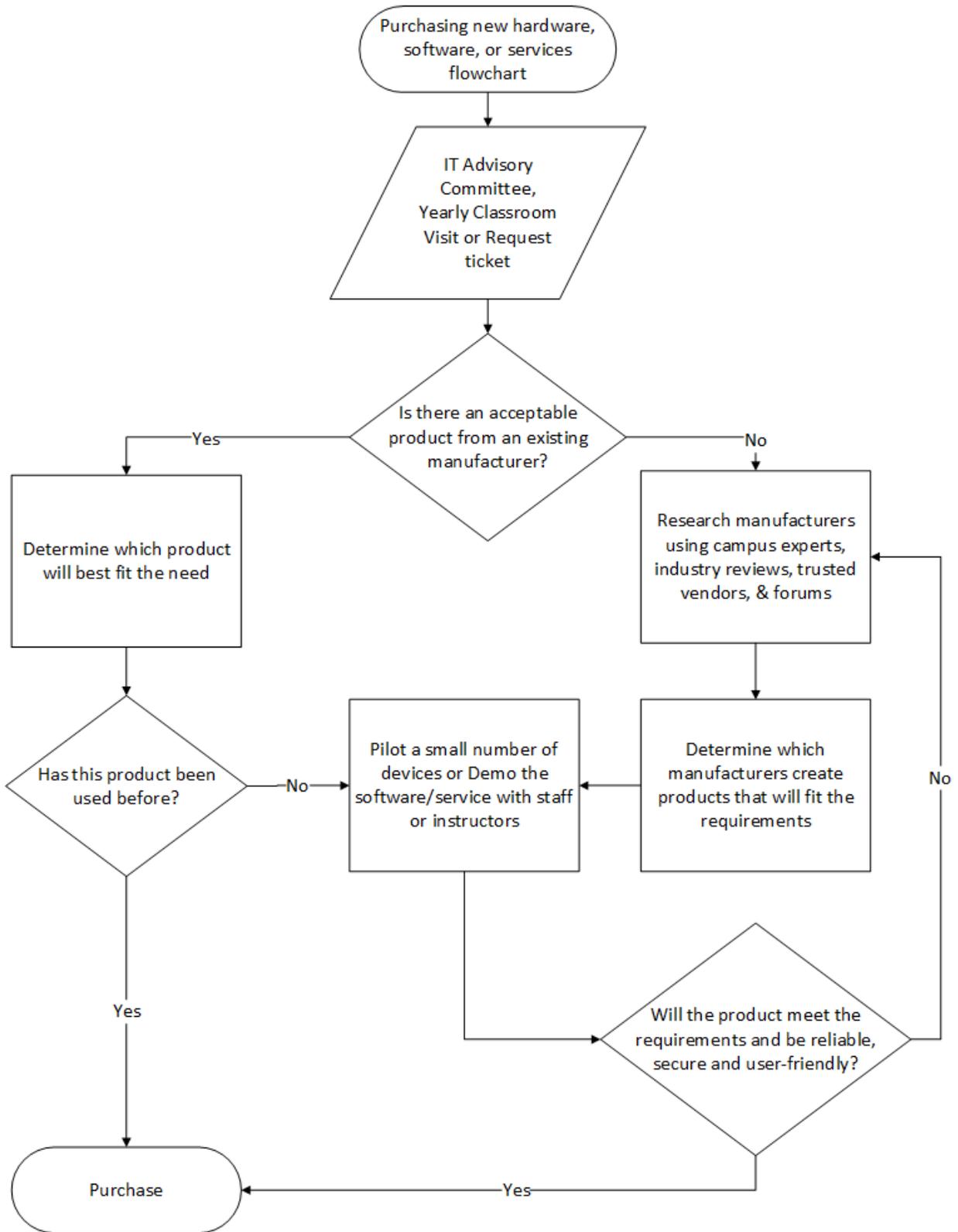
The technology within the School District will be reviewed by annual assessments, with a focus on the extent to which the technology plan is being implemented and the impact of technology on the students, teachers, and classroom. In addition, there will be an assessment of new technologies that reduce cost and improve instruction. The plan will reflect the success of the district in introducing instructional technology to benefit the needs of students, teachers, school, and to determine the technology best suited to deliver curriculum.

The Academic Resource Center is available to all students. In the Academic Resource Center, students work on their technology skills such as computer operation and job readiness. The students produce a resume' and a portfolio to assist them in job placement. The Academic Resource Center will be able to assess the effectiveness of information technology by the percentage of students who successfully complete the training.

In the Academic Resource Center, students are tested to determine current grade levels in math and reading. These evaluations are then used to prescribe a plan of remediation and improvement, through the use of computer software. Records are logged to show the gains that are made in each area.

Instructor assessment will be part of the instructor evaluation to determine how the instructor uses information technology including, but not be limited to: grading, remediation, presentation, career exploration, and research.

# Hardware, Software & Services Purchasing Flowchart



# Mid-America Technology Center Cyber Security Policy Summary

**Modeled:** Based on the Center for Internet Security (CIS) Controls. The CIS Controls are a prioritized set of actions that collectively form a defense-in-depth set of best practices that mitigate the most common attacks against systems and networks. The CIS Controls are developed by a community of IT experts who apply their first-hand experience as cyber defenders to create these globally accepted security best practices.

**Exceptions:** All exceptions will be approved by the IT Director and an Assistant Superintendent or Superintendent. Exceptions must have a valid “business” reason, have no other method available and have additional controls created to keep the school protected.

**Control 1:** Inventory and Control of Hardware Assets

**Control 2:** Inventory and Control of Software Assets

**Control 3:** Continuous Vulnerability Management

**Control 4:** Controlled Use of Administrative Privileges

**Control 5:** Secure Configuration for Hardware and Software on Mobile Devices, Laptops, Workstations and Servers

**Control 6:** Maintenance, Monitoring and Analysis of Audit Logs

**Control 7:** Email and Web Browser Protections

**Control 8:** Malware Defenses

**Control 9:** Limitation and Control of Network Ports, Protocols, and Services

**Control 10:** Data Recovery Capabilities

**Control 11:** Secure Configuration for Network Devices, such as Firewalls, Routers, and Switches

**Control 12:** Boundary Defense

**Control 13:** Data Protection

**Control 14:** Controlled Access Based on the Need to Know

**Control 15:** Wireless Access Control

**Control 16:** Account Monitoring and Control

**Control 17:** Implement a Security Awareness and Training Program

**Control 18:** Application Software Security

**Control 19:** Incident Response and Management

**Control 20:** Penetration Tests and Red Team Exercises