

# **Educational Technology Plan for Medina City SD - 044388**

**School Years:**

**2009-10**

**2010-11**

**2011-12**

**eTech Ohio Certified on Jun 30, 2009**

**Certification Period: July 1, 2009 - Jun 30, 2012**

*\*created using the eTech Ohio online Technology Planning Tool version 3.0 (TPTv3)*

## **TABLE OF CONTENTS**

### **Pre-Planning**

- 1.0 Establish Technology Planning Committee
- 1.1 Overview of TPT Planning Framework
- 1.2 Review Current Technology Plan
- 1.3 Vision/Mission

### **Curriculum Alignment & Instructional Integration**

- 2.1 How Are You Making Ohio's Technology Standards An Official Part Of Your District's Curriculum?
- 2.2 How Will You Be Using Technology to Improve Teaching and Learning in English/Language Arts?
- 2.3 How Will You Be Using Technology to Improve Teaching and Learning in Fine Arts?
- 2.4 How Will You Be Using Technology to Improve Teaching and Learning in Foreign Language?
- 2.5 How Will You Be Using Technology To Improve Teaching and Learning In Mathematics?
- 2.6 How Will You Be Using Technology to Improve Teaching and Learning in Science?
- 2.7 How Will You Be Using Technology to Improve Teaching and Learning in Social Studies?
- 2.8 How Are You Teaching Students About Technology Itself?

### **Technology Policy, Leadership and Administration**

- 3.1 Analyzing District Education Technology Policies
- 3.2 Analyzing District Leadership
- 3.3 Technology Leader/Coordinator Time Commitments

### **Technology Infrastructure, Management and Support**

- 4.1 Networking, Internet & Telecommunications
- 4.2 Access to Technology
- 4.3 Stakeholder Access to Educational Information & Applications
- 4.4 Educational Software
- 4.5 Security
- 4.6 Technology Support and Management
- 4.7 Total Cost of Ownership

### **Budget and Planning**

- 5.0 Budget

## Pre-Planning

### 1.0 Establish Technology Planning Committee

Board Member  
 Community/Business Leader  
 Library/Media Specialist  
 Principal  
 Superintendent  
 Teacher  
 Technology Coordinator  
 Technology Support  
 Treasurer  
 Other

Approvers:

Dale McRitchie (Technology Coordinator/Director)  
 Wally Gordon (Treasurer)  
 Randy Stepp (Superintendent)

### 1.1 Overview of TPT Planning Framework

eTech Ohio's Technology Planning Tool, strategically addresses technology planning in an educational organization and provides guidance in implementing technology to increase student achievement. Within this technology plan you will find the educational organization's vision and mission statements as well as a plan for the following: ODE Academic Content Standards (ACS) alignment with the ODE Technology ACS, technology integration into the curriculum, technology policy, technology leadership and administration, infrastructure and networking, and budgeting.

The technology planning framework addresses 5 questions adapted from "Asking the Right Questions: Techniques for Collaboration and School Change" by Edie Holcomb. In each phase of the plan, narrative responses describe the educational organization's technology planning in the following manner:

**"Where are we now?"** addresses ASSESSMENT of current status within the educational organization

**"Where do we want to go?"** addresses GOALS for growth in various areas

**"How will we get there?"** addresses PROFESSIONAL DEVELOPMENT necessary to achieve goals

**"How will we know we're getting there?"** addresses the EVALUATION PROCESS that enables the educational organization to MONITOR PROGRESS toward the specified goals.

**"How do we sustain the momentum?"** Addresses ORGANIZATIONAL SUPPORT, EVALUATION and REVISION processes to achieve the goals

As Ohio endeavors to build more agile and effective school improvement plans, this technology plan will be an instrumental tool in fostering quality planning and managing technological changes that will impact the communities where we live.

### 1.2 Review Current Technology Plan

To what goals and strategies does your current plan commit to advance the use of technology to enhance teaching and learning?

Are any of these goals no longer relevant?

What goals and strategies were met, and to what degree of success?

The district's tech and strategic plan combined to enhance and advance the use of technology for teaching and learning in Medina. We were able to regain a technician who help normalize break/fix issues. This kept the hardware/software functioning in the classroom and for administration. This inturn allowed technology to be part of the process and not a stumbling block. However with the addition of two new elementary facilities the department will be stretched again. Over the next few months it will be evident if our response and computer readiness time is affected. Goals for district users concerning response and repairs are imediate. Department goals will be to pursued same day or within 24 hours response.

Revenue from a Sales tax levy passed in 2006, allows better opportunities to replace outdated and beyond life hardware. Before the sales tax, replacement opportunities were non-existent. Medina has had success rolling out online grading and parent assistant software for grades 6-12, (4&5 grade will be online in fall of 2010).

Additional replacement dollars have allowed us to add many technology enhanced classrooms to multiple buildings. This sparked motivation in both teachers and student. More work is needed in the evaluation of technology use, professional development and effective modeling in the classroom/administrative offices. Please address the following as you plan for the next three years. Be sure to record your conclusions for reflection.

Were there any unexpected outcomes or new needs that emerged?

Which goals and strategies still need to be addressed? How will the technology committee address them?

Yes, some of the unexpected results are that by focusing computer use to aid in OGT and OAT preparation through programs like SRI and Study Island, there is a significant reduction in availability of computers for classroom use. In addition, there is not enough availability of computer time to take our common assessments to the next level. We would like to have the students complete these assessments online, but it brings us back to the previous conclusion. Medina does not have enough stations to run through three different computer based assessment programs and allow for classroom presentation, research and creative development of extended learning projects. Ironically if we had enough equipment to accommodate the online common assessment, teachers would know immediately where changes in instruction must be made so that students will have the background to perform at a higher level on the state assessments. With this data at a teacher fingertips, re-inforcement can be applied sooner and give student more time to work with computer resources to extend and explore the concepts they are studying. Technology resources will still be spent to track student data, to make it more efficient to identify students that are falling into AYP categories. Our last plan identified areas such as science, math and reading. Our new plan must work with the identified sub-groups, which will vary from building to building and be more focused on social studies.

## 1.3 Vision/Mission

### A. Vision

To assist in the realization of the mission of Medina City Schools through instructional integration and innovative application of technology.

Recognizing Potential - Maximizing Achievement.

### B. Mission

The Medina City School District is a visionary organization whose mission is to:

- Help students reach their maximum potential
- Instill enthusiasm for learning
- Engage in partnerships with involved families and community

Technology will support the mission of Medina City Schools through:

- Communication
- Instruction and Learning Styles
- Information Literacy
- Task Management
- Data Analysis for Student Achievement

## Curriculum Alignment & Instructional Integration

### 2.1 How Are You Making Ohio's Technology Standards An Official Part Of Your District's Curriculum?

This section is a prerequisite for Sections 2.2 through 2.8 and should be considered as a separate task with a different goal. The goal of this section is to describe how your district is including Ohio Technology Standards into the district's curriculum. Regardless whether your district calls it a "Graded Course of Study," "Curriculum Map," or something else – all districts have some form of documentation that spells out what is expected to be taught. The content standards for technology should be written into these documents so they are interwoven with the content standards for math, science etc. For Educational Service Centers (ESCs), please identify how you are assisting your contracted schools in aligning their curriculum to technology standards.

The academic content standards, known as curriculum, describe what to teach. Technology standards should be embedded within the content from other disciplines in order to deliver the curriculum in a highly effective and motivational way.

- Using the grid below, please indicate the status of your district's efforts to embed Ohio's Technology Standards into the content standards for each curricular area. In the left column, "Where Are We Now?," please select "Not Started," "In Progress," or "Complete" for each curriculum area listed. In the right column, "Where Do We Want To Go?" please select the school year you completed or plan to complete this process.

|                              | Where are we now? | Where do we want to go? |
|------------------------------|-------------------|-------------------------|
| English Language Arts        | In Progress       | 2011-12                 |
| Fine Arts                    | In Progress       | 2011-12                 |
| Foreign Language             | In Progress       | 2008-09                 |
| Mathematics                  | In Progress       | 2010-11                 |
| Science                      | In Progress       | 2010-11                 |
| Social Studies               | In Progress       | 2010-11                 |
| Technology (specific course) | In Progress       | 2009-10                 |
| Other Content Areas          | In Progress       | 2009-10                 |

- In the textboxes below, please provide brief but comprehensive descriptions of how you are writing Ohio's Technology Standards into all of your curriculum areas. How are you measuring progress toward that goal, and how will you sustain a culture of technology integration into the future?

#### How will we get there?

Medina is in process of always fine tuning our courses of studies (COS) by subject level. It is our goal to interweave the state technology standards into the district's COS when they are up for review by district committees. Currently, foreign language is the subject area we are focusing.

Tools that the district has developed to assist students and teachers to gain mastery over the standards and benchmarks are the "I CAN" booklets. They are posted on the district web site for easy access and review for all teachers, parents and students.

Our teachers are all introduced to these standards and benchmarks on early release days, through curriculum hours and in the near future through an on line professional development website which the district can post content that can be reviewed and assessed electronically.

The district will review several COS during any school year. As stated above, foreign Language is being concentrated on currently. During the fall of 2009 we will begin on the Business COS.

Pre-assessments and formative assessments have been developed and are delivered as short cycle assessments in the following subject areas K-8: Social Studies, Science, Mathematics, and English/Language Arts.

The post assessment is often the OAT or OGT. All information is collected in our data warehouse for teacher and administrator review. We have used the ODE IMS web site, Examview software and other state's tests and instructor's tests to develop the questions.

In our early grades, 1-3, students are introduced to computers and given basic of multimedia literacy. Plans to standardize with block scheduling will allow all students technology based instruction in entry level computer skills from keyboarding and hardware to developing a powerpoint slide with multimedia components.

In grade levels 4-8, expanded online research projects across disciplines and grade levels have been implemented to incorporate technology standards into all content areas. During this time students knowledge of multimedia literacy is expanded and Informational literacy is introduced and developed.

In grades 9-12, informational literacy is further developed and technological literacy is promoted, as it becomes a tool students must embrace and develop to master the core curricular and elective subjects.

Professional development-informational support from instructional staff is provided monthly through department professional news letters, technology and department of instruction web links, Public School Works and Teacher Talk News Flash. Online resources like Net Trekker and United Streaming in addition to other titles purchased through media centers will continue to help teachers use technology to align to the content areas.

The district plans to implement instructional technology mini courses that focus on software and hardware implementation based on staff needs. Several tools like Public School Works or Moodle will be used to deliver online based instruction. We will try to partner with local school districts to share content and courses in the Moodle application.

Teacher lead courses will be developed and offered after the school day. The district teacher mentors and building experts will develop and administer these offerings. Classes will be in 2 - 4 hour blocks, ranging in content matter such as Flash, Frames, email, web development, etc., and will be available for graduate credit for staff to use on their IPDP.

#### **How will we know we're getting there?**

The review of soft data from the state BETA surveys, classroom observations and computer lab use have been a standard indication of technology use. Physical growth of the amount of disk space that is being consumed by district students and staff is a hard indication that digital files are being created and stored for educational use.

Hard data numbers can be retrieved from login statistics and hours of student use. School Dude can monitor the number of repairs and requests for subject specific software requests. Instructors will spend release days in the 2009-10 school year to review short cycle common assessments across grade levels and subjects. These common assessments will be given two times per year prior to the achievement test. The common assessments will be administered in each class and graded electronically and results will be available on the web several days after the completion of the assessment.

Teachers and administrator will be able to run graphical reports which can be broken down into specific sub groups. Results will show where teachers may need to provide additional reinforcement to a small group of students or a concept. Extended answers on these assessments will still need to be entered by the instructor, but at the speed of the electronic grading, teachers will have more time to focus on the needs of her class through the data that is compiled by the AlterNet Performance product; Assessment Builder. A bank of assessment questions is available online that can be formatted into unique tests and assessed as needed. Monitoring additional test results and setting goals like the ones in our district and building CIPs can be done via the AlterNet Performance Tracker.

The district will be assessing achievement at the local (common assessments/DRA), state and national levels. The data from each level will be collected and transferred into the Performance Tracker database. Teachers and administrator will use this web based application run reports and track low performing students across these district administered assessments.

The district has been accepted into the SOAR initiative in Grades 5-12. Professional development will be on-going for these programs. Teachers will need to become proficient in running reports for their classes.

#### **How will we sustain focus and momentum?**

Monitor progress through data collection, both hard and soft data. Review Performance tracker results, to look for increase student achievement. Use School Dude reports to evaluate the level of classroom computer repair. Monitor the progress of the short cycle assessments that are scheduled in Science, Math, Social Studies, and Language Arts.

Sustaining the availability and access to technology for the instructional staff is a key component for the promotion of this program. We will track the number of people who attend, participate and implement our mini tech courses, seminars and online professional development sessions. We will maintain control of certain curriculum hours each year to ensure other opportunities for technical support and training for building staff. In addition to the above intangibles, the feedback we provide to our staff will be an essential component to reach higher levels of instructional technology Integration. It will be an objective to establish Learning Walks, where the technology director, building principal, and/or technology mentors/experts can observe teachers' use of the technology they have access to. Efforts to develop best practices will be shared with instructors to strengthen and advance skills at each level of integration. Feedback data will be gathered through student surveys, staff questionnaires, and direct interview. In many cases the use of video tape can be used so staff can self-evaluate their skills. Data will be shared with teacher and paths can be developed to strengthen individual technology integration skills. In addition, the district will enter into a strategic planning process, in the fall of 2009, that will be revisited every two years. This will give the district the ability to constantly update and align the technology instruction offered by the Medina City Schools.

## 2.2 How Will You Be Using Technology to Improve Teaching and Learning in English/Language Arts?

The goal of section 2.2 is to identify the major elements of your district's plans to use technology to enhance teaching and learning in English/Language Arts at the elementary, middle and secondary levels over the next three years.

The primary objective is that you provide a brief description of two or three broad-based practices being utilized by the majority of your district's teachers to use technology to improve teaching and learning at the elementary, middle and secondary levels. For example, if all or most of your fifth through seventh grade English/Language Arts teachers are requiring students to conduct internet research or produce multimedia presentations on a regular basis; this would qualify as a broad-based practice. But if only a fraction of your teachers are regularly using these tools in the classroom – do not portray it as a broad-based practice.

Please feel free to include information about significant technology integration practices which are, by nature, not broad-based. For example, if a high school science teacher is using simulation software to allow students to conduct virtual experiments which are too dangerous to replicate in the classroom or lab; please indicate this in the Science curriculum area at the high school level only.

Using the ACOT Scale and the grid below, indicate your school's current level of effective technology integration in the English/Language Arts instructional process, as well as your target levels for improvement. If your responses fall between whole numbers, such as between 3.0 and 4.0, feel free to use .5 increments such as 3.5.

### Current Levels of Technology Integration in English/Language Arts

**1.0 Entry** - Learn the basics of using new technology.

**2.0 Adoption** - Use new technology to support traditional instruction.

**3.0 Adaptation** - Integrate new technology into traditional classroom practice. Here, they often focus on increased student productivity and engagement by using word processors, spreadsheets, and graphics tools.

**4.0 Appropriation** - Focus on cooperative, project-based, and interdisciplinary work, incorporating technology as needed.

**5.0 Invention** - Discover new uses for technology tools. Develop spreadsheet macros for teaching algebra for example, or design projects that combine multiple technologies.

|       | Where are we now? | Where do we want to go? |
|-------|-------------------|-------------------------|
| Pre-K | N/A               | 1.0                     |
| K-2   | 1.0               | 3.0                     |
| 3-4   | 3.0               | 3.0                     |
| 5-7   | 3.0               | 3.0                     |
| 8-10  | 3.0               | 4.0                     |
| 11-12 | 3.0               | 5.0                     |

**How will we get there?**

Our goal across the district in English/Language Arts is to increase student achievement in reading. We have found that technology can be an outstanding tool in pursuit of this goal. In our elementary schools, classroom computers are used to present ideas, graphics and words to our students. Teachers use ceiling mounted light projectors and interactive tablets so the entire class can be engaged in the lesson.

Elementary school labs are used to give entire classes instruction in word recognition, keyboarding, basic word processing and entry level research methods. Teachers continue to use PowerPoint to enhance lessons and encourage its use for student presentations. Other applications used in the primary classes are online stories, research, web quests, and author studies via the web, video streaming using United Streaming, and word processing with MSWord. Digital and document cameras are often employed to enhance lessons and display exemplary work. Other computer applications being used in the elementary setting are Kurzweil, Adobe Acrobat Professional, Fast for Word, SRI and Read 180. These programs are more often placed on student and lab computers and are used for re-enforcement and intervention tool for those students that fall into a basic or limited category of proficiency. Fast ForWord is a brain-based research program that uses a myriad of leveled exercises which train the students brain to better understand and recognize sounds/words. This program is applied in addition to a students regular reading requirements. After school and summer academies have been offered to reach a greater number of our struggling students. We are also piloting an online version of Fast ForWord that may allow additional reading intervention beyond the district walls.

In middle school language arts classes, our students are taught to go from basic word processing techniques to more advanced skills. Skills are emphasized to focus on formatting, toolbars, mail merges, hyper linking, and integrating other products that allow the word processing document to become an interactive learning tool. MS Publisher is used to create brochures and as in the word processing many other technical applications and devices are incorporated to increase the multimedia affect of Publisher document. Often the technology focus is to increase student productivity and engagement by using word processors, spreadsheets, and graphics tools. Our district is also in process of upgrading many of these 6-8 grade classroom into enhanced learning environments. These 21st century classrooms will add additional student computers for individual/small group word processing, internet research and presentation development. Ceiling mounted LCD projectors and interactive tablets/slates will also be used to engage students in these grade levels. Read 180 is used at the middle school level. This software tracks students progress as they complete exercises and then takes them to the next appropriate learning level. SRI is used to establish reading levels and placement.

The district has used Glencoe products in 9-12 grade levels to further enhance our students understanding of the Microsoft Office Suite. Skills are fine tuned and expanded to prepare them for life beyond high school. Another effort in Language Arts is the implementation of the Kurzweil learning system software. This product will assist students who have difficulty reading. Material is scanned into the system and the computer will read it back to the student. This software is used across our special education classrooms elementary through high school.

Professional development for this software has been on-going. We have worked on developing internal experts who have attending external workshops. Our internal experts will hold professional development opportunities for the remainder of staff users.

**How will we know we're getting there?**

Language arts teachers are invested in using technology as instructional tools. Students are expected to use technology to produce work. Students use PowerPoint to give classroom presentations and MS Word to hand-in assignments. Teachers will begin to use technology standards to align subject matter. Common assessments will be given two times per year prior to the achievement test. The common assessments will be administered in each class and graded electronically and results will be available on the web several days after the completion of the assessment. Teachers and administrator will be able to run graphical reports which can be broken down into specific sub groups. Results will show where teachers may need to provide additional reinforcement to a small group of students or a concept. Extended answers on these assessments will still need to be entered by the instructor, but at the speed of the electronic grading, teachers will have more time to focus on the needs of her class through the data that is compiled by the AlterNet Performance product; Assessment Builder. Monitoring additional test results and setting goals like the ones in our district and building CIPs can be done via the AlterNet Performance's Performance Tracker. The district will be assessing achievement at the local (common assessments/DRA), state and national levels. The data from each level will be collected and transferred into the Performance Tracker database. Teachers and administrator will use this

web based application to run reports and track low performing students. The district has been accepted into the SOAR initiative in Grades 5-12. Professional development will be on-going for these programs. They will also need to build focus groups on the lowest performers and track their progress more closely. Fast ForWord, SRI and Read 180 software have a student performance feature that will be used to track these selected students progress through this software application. Teachers will be watching for behavior, understanding and retention characteristics of the student who participate in the program. Many of the students who will be engaged with the Kurzweil product will have documentation entered into their IEP documents.

#### **How will we sustain focus and momentum?**

Each building tech committees will create grade level goals and Tech foot-prints. Teachers and Paraprofessionals will be designated cheerleaders for initiatives like Fast ForWord, Kurzweil, SRI, Read 180 and technical support. Professional development through staff meetings, curriculum hours, CIP development, and release time will be utilized to keep the staff proficient. Yearly evaluations of our Tracking initiatives will re-enforce our progress and determine future steps.

Sustaining the availability and access to technology for the instructional staff is a key component for the promotion of this program. Using tax funds will be a way to introduce new equipment and free up general fund money to support software solutions. Other ways to enhance 21st Century Skills in the language arts curriculum will be sought such as collaboration with other classes in different countries and through the use of Skype to bring experts into the classroom. The feedback we provide and receive from our Language Arts staff will be an essential component to reach higher levels of instructional technology Integration. It will be an objective to establish learning walks, where the technology director, building principal and/or technology mentors/experts can observe teachers' use of the technology they have access to. Efforts to develop best practices will be shared with instructors to strengthen and advance skills at each level of integration. Feedback data will be gathered in through student surveys, staff questionnaires, and direct interview. In many cases the use of video tape can be used so staff can self-evaluate their skills. Data will be shared with teacher and paths can be developed to strengthen individual technology integration skills.

## **2.3 How Will You Be Using Technology to Improve Teaching and Learning in Fine Arts?**

The goal of section 2.3 is to identify the major elements of your district's plans to use technology to enhance teaching and learning in Fine Arts at the elementary, middle and secondary levels over the next three years.

The primary objective is that you provide a brief description of two or three broad-based practices being utilized by the majority of your district's teachers to use technology to improve teaching and learning at the elementary, middle and secondary levels. For example, if all or most of your fifth through seventh grade Fine Arts teachers are requiring students to conduct internet research or produce multimedia presentations on a regular basis; this would qualify as a broad-based practice. But if only a fraction of your teachers are regularly using these tools in the classroom – do not portray it as a broad-based practice.

Please feel free to include information about significant technology integration practices which are, by nature, not broad-based. For example, if a high school science teacher is using simulation software to allow students to conduct virtual experiments which are too dangerous to replicate in the classroom or lab; please indicate this in the Science curriculum area at the high school level only.

Using the ACOT Scale and the grid below, indicate your school's current level of effective technology integration in the Fine Arts instructional process, as well as your target levels for improvement. If your responses fall between whole numbers, such as between 3.0 and 4.0, feel free to use .5 increments such as 3.5.

#### **Current Levels of Technology Integration in Fine Arts**

- 1.0 **Entry** - Learn the basics of using the new technology.
- 2.0 **Adoption** - Use new technology to support traditional instruction.
- 3.0 **Adaptation** - Integrate new technology into traditional classroom practice. Here, they often focus on increased student productivity and engagement by using word processors, spreadsheets, and graphics tools.
- 4.0 **Appropriation** - Focus on cooperative, project-based, and interdisciplinary work - incorporating the technology as needed and as one of many tools.
- 5.0 **Invention** - Discover new uses for technology tools, for example, developing spreadsheet macros for teaching algebra or designing projects that combine multiple technologies.

|       | Where are we now? | Where do we want to go? |
|-------|-------------------|-------------------------|
| Pre-K | N/A               | N/A                     |
| K-4   | N/A               | 1.0                     |
| 5-8   | 1.5               | 3.0                     |
| 9-12  | 2.5               | 4.0                     |

### How will we get there?

The goal of the fine arts, life skills and modular technology classes is to increase the number of 21st Century learning environments available to the department across the district.

In the elementary grades, there are only three of seven buildings that will have 21st century learning environments. These rooms have a classroom station, ceiling mounted LCD and an interactive slate/tablet. Two other elementary buildings have access to mobile carts. These carts are outfitted with LCD projectors and either a desktop computer or a laptop. They are also supplied with an interactive slate or remote mouse.

Middle schools are in a similar situation. Two of four fine arts classrooms have teacher/presentation stations. These units are of the 21st century classroom learning model. The remaining classrooms are only supplied with a teacher station. Some of our modular technology classrooms use LCD projectors to display examples of finished products and demonstrations of how to create. Teachers and students use the technology to create electronic artwork, videos, robotics and web pages then allow students to present their ideas and finished products. These rooms have a higher quantity of student computers.

Medina High School has one art room out of four that is outfitted with a technology enhanced classroom. This room has an actual computer tablet with the interactive unit attached to the LCD. The other art rooms do have teacher stations and at least one student station that is used for internet research. Other classrooms at MHS have computer labs that specialize in computerized video editing. This class actually films, edits and produces the daily video announcements run each morning. They also author full length video productions. Other classrooms in industrial arts have computer labs that allow students to take classes in web development, CAD, computer graphics and robotics.

There is professional development will consist of furthering staff members technology integration skills with the programs and equipment that are available in fine art. This professional development will occur during department/staff meetings and release time. Fine arts, life skills and modular technology classes have limited access to multiple individual tech tools, but there are classrooms at both middle and high school grade levels that have access to full feature multimedia tools and software. Adding technology to the remaining secondary rooms then to elementary classrooms is an objective the district would like to complete during the next three years. The current footprint for an art room is a ceiling mounted-wireless or networked light projector, a classroom computer, a student computer and a tablet/pad/slate interactive device for both teacher and student use. Art teachers in all buildings have shared access to a VCR/DVD player, the Internet, an LCD projector and an Elmo or document camera. Grants, state support, sales tax and the district general funds are the financial means to constructing this vision. Intra-department dissemination of practices and training will allow colleagues to build their skills in the use of the art-room tech-footprint. Opportunities to swap art classrooms will allow district staff and students the use of this limited resource. Through the department of Fine Arts, the district has the opportunity to take students to the Invention level of understanding.

### How will we know we're getting there?

Fine arts, life skills and modular technology teachers are invested in using technology as instructional tools. Students are expected to use technology to produce work. Students will use PowerPoint, Photoshop, video capturing and editing software, Legos robotics software and other drawing software to give classroom presentations and complete assignments. Fine Arts instructors have and will spend release days over the next year to expand on their efforts from the previous school year. Professional development will be on-going for these programs. Teachers will need to become proficient in running reports for their classes from the Performance Tracker program to understand their students' proficiency levels and structure their assignments accordingly. They will also need to build focus groups on the lowest performers and track their progress more closely.

### How will we sustain focus and momentum?

Sustaining and expanding the availability and access to technology for the fine arts, life skills and modular technology instructional staff is a key component for the promotion of this program. Spending sales tax dollars

to upgrade and install 21st Century learning environments is essential to further move these disciplines toward technology integration. Once the majority of environments are completed, ongoing professional development for these subjects will be developed further. The feedback we provide and receive from our Fine Arts staff will be an essential component to reach higher levels of instructional technology integration. It will be an objective to establish Learning Walks, where the technology director, building principal and/or technology mentors/experts can observe teachers' use of the technology they have access. Efforts to develop best practices will be shared with instructors to strengthen and advance skills at each level of integration. Feedback data will be gathered in through student surveys, staff questionnaires, and direct interview. In many cases the use of video tape can be used so staff can self-evaluate their skills. Data will be shared with teacher and paths can be developed to strengthen individual technology integration skills.

## 2.4 How Will You Be Using Technology to Improve Teaching and Learning in Foreign Language?

The goal of section 2.4 is to identify the major elements of your district's plans to use technology to enhance teaching and learning in Foreign Language at the elementary, middle and secondary levels over the next three years.

The primary objective is that you provide a brief description of two or three broad-based practices being utilized by the majority of your district's teachers to use technology to improve teaching and learning at the elementary, middle and secondary levels. For example, if all or most of your fifth through seventh grade Foreign Language teachers are requiring students to conduct internet research or produce multimedia presentations on a regular basis; this would qualify as a broad-based practice. But if only a fraction of your teachers are regularly using these tools in the classroom – do not portray it as a broad-based practice.

Please feel free to include information about significant technology integration practices which are, by nature, not broad-based. For example, if a high school science teacher is using simulation software to allow students to conduct virtual experiments which are too dangerous to replicate in the classroom or lab; please indicate this in the Science curriculum area at the high school level only.

Using the ACOT Scale and the grid below, indicate your school's current level of effective technology integration in the Foreign Language instructional process, as well as your target levels for improvement. If your responses fall between whole numbers, such as between 3.0 and 4.0, feel free to use .5 increments such as 3.5.

### Current Levels of Technology Integration in Foreign Language

- 1.0 **Entry** - Learn the basics of using the new technology.
- 2.0 **Adoption** - Use new technology to support traditional instruction.
- 3.0 **Adaptation** - Integrate new technology into traditional classroom practice. Here, they often focus on increased student productivity and engagement by using word processors, spreadsheets, and graphics tools.
- 4.0 **Appropriation** - Focus on cooperative, project-based, and interdisciplinary work - incorporating the technology as needed and as one of many tools.
- 5.0 **Invention** - Discover new uses for technology tools, for example, developing spreadsheet macros for teaching algebra or designing projects that combine multiple technologies.

|       | Where are we now? | Where do we want to go? |
|-------|-------------------|-------------------------|
| Pre-K | N/A               | N/A                     |
| K-4   | N/A               | N/A                     |
| 5-8   | N/A               | N/A                     |
| 9-12  | 1.0               | 3.0                     |

### How will we get there?

Foreign language is not offered as a formal class of instruction in our elementary schools.

Middle Schools offer exploratory foreign language instruction, however there is only a teacher station available for the instructors.

At the high school, technology is used mostly at the entry or adoption levels. The goal of the department is for technology to be used as a means of resource management (digitizing videos and having them available through SnapStream video retrieval system). Foreign language teachers use several video/dvd series to

extend the students application and comprehension of a language. Research has been completed on a web based voice recording program to more efficiently assess student's language skills. However, a traditional type computer lab is needed. POD casts are another technology that is being considered in the effort of integrating technology into foreign language classes. In either case, additional student stations will be required to download/upload media files to the portable units. With a district emphasis on creating a 21st Century learning environment, funding may not reach 1 to 1 student access. However, a majority of the foreign language classrooms are scheduled to have ceiling mounted LCD projectors installed. The remainder can utilize a 32" VGA monitor to display media, from a laptop/teacher station, VCR/DVD, or shared document camera. Professional development will consist of course offerings that cover digital encoding, such as with Audacity and VoiceThread, to create access to content over district resources. This professional development will occur during department/staff meetings and release days.

#### **How will we know we're getting there?**

Foreign language teachers are invested in using technology as instructional and administrative tools however funding and training have not produced the results expected. Lack of available student stations proved to be detrimental towards the MP3 effort. Successful implementation of digital encoding and language acquisition will be used to measure progress towards district goals. Department staff will monitor progress and provide feedback. Foreign language instructors have and will spend release days over the next year to expand on their technology integration efforts from the previous school year. Professional development will be on-going for the Performance tracking programs. Teachers will become proficient in running reports for their classes from the Performance Tracker program to understand their students' proficiency levels and structure their assignments accordingly. They will also need to build focus groups on the lowest performers and track their progress more closely.

#### **How will we sustain focus and momentum?**

Sustaining the availability and access to technology for the instructional staff is a key component for the promotion of this program. Expanding the professional development offerings to the foreign language staff will encourage them to use the technology on a more frequent basis. If we change the way students access content, such as with MP3 players and POD casts, students will be more engaged. The feedback we provide and receive from our Foreign Languages staff will be an essential component to reach higher levels of instructional technology Integration. It will be an objective to establish Learning Walks, where the technology director, building principal and/or technology mentors/experts can observe teachers' use of the technology they have access. Efforts to develop best practices will be shared with instructors to strengthen and advance skills at each level of integration. Feedback data will be gathered in through student surveys, staff questionnaires, and direct interview. In many cases the use of video tape can be used so staff can self-evaluate their skills. Data will be shared with teacher and paths can be developed to strengthen individual technology integration skills.

## **2.5 How Will You Be Using Technology To Improve Teaching and Learning In Mathematics?**

The goal of section 2.5 is to identify the major elements of your district's plans to use technology to enhance teaching and learning in Mathematics at the elementary, middle and secondary levels over the next three years.

The primary objective is that you provide a brief description of two or three broad-based practices being utilized by the majority of your district's teachers to use technology to improve teaching and learning at the elementary, middle and secondary levels. For example, if all or most of your fifth through seventh grade Mathematics teachers are requiring students to conduct internet research or produce multimedia presentations on a regular basis; this would qualify as a broad-based practice. But if only a fraction of your teachers are regularly using these tools in the classroom – do not portray it as a broad-based practice.

Please feel free to include information about significant technology integration practices which are, by nature, not broad-based. For example, if a high school science teacher is using simulation software to allow students to conduct virtual experiments which are too dangerous to replicate in the classroom or lab; please indicate this in the Science curriculum area at the high school level only.

Using the ACOT Scale and the grid below, indicate your school's current level of effective technology integration in the Mathematics instructional process, as well as your target levels for improvement. If your responses fall between whole numbers, such as between 3.0 and 4.0, feel free to use .5 increments such as 3.5.

### Current Levels of Technology Integration in Mathematics

- 1.0 **Entry** - Learn the basics of using the new technology.
- 2.0 **Adoption** - Use new technology to support traditional instruction.
- 3.0 **Adaptation** - Integrate new technology into traditional classroom practice. Here, they often focus on increased student productivity and engagement by using word processors, spreadsheets, and graphics tools.
- 4.0 **Appropriation** - Focus on cooperative, project-based, and interdisciplinary work - incorporating the technology as needed and as one of many tools.
- 5.0 **Invention** - Discover new uses for technology tools, for example, developing spreadsheet macros for teaching algebra or designing projects that combine multiple technologies.

|       | Where are we now? | Where do we want to go? |
|-------|-------------------|-------------------------|
| Pre-K | N/A               | N/A                     |
| K-2   | N/A               | 1.5                     |
| 3-4   | 1.5               | 3.0                     |
| 5-7   | 3.0               | 4.0                     |
| 8-10  | 2.5               | 4.0                     |
| 11-12 | 2.5               | 4.0                     |

### How will we get there?

In our elementary schools, technology and mathematics are integrated through the use of LCD projectors, SmartBoards, Activboards, Mimio pads, Laptop PC's, Tablet PC's, on line research, online interactive exercises and streaming video (UnitedStreaming). The teachers have been able to utilize the Activote, CPS or Turning Point student response systems as a means of formative assessment. With the class, teachers can then go over the correct answer and also which incorrect answer was chosen most often. The teacher can then address any misconceptions of problems that a large percentage of students miss at that very moment. Teachers also post their PowerPoint notes, homework, and resources such as practice quizzes on their web pages for students and parents to access at home. Some teachers have incorporated the use of TeacherTube or other math songs and videos that fit into the curriculum into their lessons as a means of using various modes of teaching strategies to reach all learners. Many elementary classrooms have been able to use online math programs like McDonald's® First In Math® online program to extend student comprehension of mathematical concepts. Another program we have introduced into the elementary math classrooms is FastMath. This software tracks students performance with math facts and leads them through a series of exercises and math based games to assist them in mastering addition, subtraction, multiplication and division facts. This program will also track a students progress and provide extra work in areas that are not being mastered. Over the past three years, the district's goal to increase the level of technology availability for mathematics students in the elementary levels has been significant. 80 of 145 Elementary classroom now have an LCD. This will give elementary math teachers the ability to illustrate and let students participate more openly during the math lesson. Interactive response clicker technology will let teachers instantly assess student understanding. The response devices will gather student input and tabulate instant results from real-time problems and questions.

At the middle schools, teachers use their Mimio pad and LCD projector to show 3D figures, graphs, practice problems and examples. Geometry teachers and students specifically use Active and Smart boards as giant protractor to measure angles, lines and objects. As stated above, Math teachers use video streaming from United Streaming and other web-based media to demonstrate and enforce mathematical procedures. Interactive response clicker technology let teachers instantly assess student understanding and engage students to the lesson.

TI Graphing calculators and IT presenters are employed at secondary levels. A few 9-12 mathematics classrooms have ceiling mounted LCD and the most others can utilize a 32" VGA monitor to display media, from a laptop, VCR/DVD, or shared document camera. Yet, most of these devices are used by the instructor for demonstration purposes. Future equipment goals are to additional computers for student access into these classrooms. Replacement of 32" vga TV/monitors with Ceiling mounted LCD projectors at the senior high will be a focus over the next three years. Other technology goals reflect those of the district's CIP; to increase student achievement in math. Professional Development will continue through the technology department, central offices, and in the professional learning communities being developed by our staff. As in the past we will offer refresher and intial training from vendors and resident staff experts. They will be able conduct sessions for before and after-school workshops. Vendors will be made available for release time sessions,

where we intend to have train the trainer sessions

### **How will we know we're getting there?**

Math teachers are invested in using technology as instructional and administrative tools. Students are expected to use technology to produce work and review. Teachers and students use MS Excel, PowerPoint, TI 84 Graphing Calculators and TI presenters to give classroom presentations. Teachers have begun to use technology to align subject matter.

Now that elementary and middle school teachers have developed common assessments, High school math instructors will spend release days in the 2009-10 school year to develop theirs. These common assessments will be given two times per year prior to the achievement test. Assessment Builder survived its pilot and will be used by all math teachers. The common assessments will be administered in each class and graded electronically and results will be available on the web days after the completion of the assessment. Teachers and administrator will be able to run graphical reports which can be broken down into specific sub groups. Results will show where teachers may need to provide additional reinforcement to a small group of students or a concept. Extended answers on these assessments will still need to be entered by the instructor, but at the speed of the electronic grading, teachers will have more time to focus on the needs of her class through the data that is compiled by the AlterNet Performance product; Assessment Builder. Eventually we envision a bank of assessment questions available online that can be formatted into unique tests and assessed as needed. Monitoring additional test results and setting goals like the ones in our district and building CIPs can be done via the AlterNet Performance Tracker.

The district will be assessing achievement at the local (short cycle common assessments), state and national levels. The data from each level will be collected and transferred into the Performance Tracker database. Teachers and administrator will use this web based application run reports and track low performing students across these district administered assessments.

The district has been accepted into the SOAR initiative in Grades 5-12. Professional development will be on-going for these programs. Web refresher and novice webinar training for teachers is available on the district web site and will be sent to them through email at the start of each school year. Teachers will need to become proficient in running reports for their classes. They will also need to build focus groups on the lowest performers and track their progress more closely. As stated in other sections, the ability to scan all bubble sheets into the system under our current system in a 24-48 hour period across the system was unrealistic. Technology changes have made it possible to remove the scanning piece, but it is at a high cost which the district is not able to afford. However, it is a goal we will pursue. In addition, another obstacle to on-line common assessments is the lack of student seats for computer access in our facilities. Choosing to go with on-line assessments, SRI and Study Island programs will significantly reduce available computer resource time for our students.

### **How will we sustain focus and momentum?**

Sustaining the availability and access to technology for the math instructional staff will hinge on the sales tax initiative that was implemented in 2008. This new money is the key ingredient to having 80 out of 145 elementary classrooms enhanced with advanced technologies. It is a key component for the promotion of this program. Developing computer experts in every building who will continue to assist in the growth of the professional development program. Giving math teachers more opportunities for professional development through release time and workshops will be a factor in the continued growth of technology use in math across the district. The launch of our new web site will also be able to provide feedback from students, parents and the community via a survey tool. It will also give teachers the ability, for the first time, to work on their web pages outside of the district. It will be an objective to continue Learning Walks, where the technology director, building principal and/or technology mentors/experts can observe teachers use of the technology they have access. Efforts to develop best practices will be shared with instructors to strengthen and advance skills at each level of integration. Feedback data will be gathered in through student surveys, staff questionnaires, and direct interview. In many cases the use of video tape can be used so staff can self-evaluate their skills. Data will be shared with teacher and paths can be developed to strengthen individual technology integration skills.

## **2.6 How Will You Be Using Technology to Improve Teaching and Learning in Science?**

The goal of section 2.6 is to identify the major elements of your district's plans to use technology to enhance teaching and learning in Science at the elementary, middle and secondary levels over the next three years.

The primary objective is that you provide a brief description of two or three broad-based practices being utilized by the majority of your district's teachers to use technology to improve teaching and learning at the elementary, middle and secondary levels. For example, if all or most of your fifth through seventh grade Science teachers are requiring students to conduct internet research or produce multimedia presentations on a regular basis; this would qualify as a broad-based practice. But if only a fraction of your teachers are regularly using these tools in the classroom – do not portray it as a broad-based practice.

Please feel free to include information about significant technology integration practices which are, by nature, not broad-based. For example, if a high school science teacher is using simulation software to allow students to conduct virtual experiments which are too dangerous to replicate in the classroom or lab; please indicate this in the Science curriculum area at the high school level only.

Using the ACOT Scale and the grid below, indicate your school's current level of effective technology integration in the Science instructional process, as well as your target levels for improvement. If your responses fall between whole numbers, such as between 3.0 and 4.0, feel free to use .5 increments such as 3.5.

### Current Levels of Technology Integration in Science

1.0 **Entry** - Learn the basics of using the new technology.

2.0 **Adoption** - Use new technology to support traditional instruction.

3.0 **Adaptation** - Integrate new technology into traditional classroom practice. Here, they often focus on increased student productivity and engagement by using word processors, spreadsheets, and graphics tools.

4.0 **Appropriation** - Focus on cooperative, project-based, and interdisciplinary work - incorporating the technology as needed and as one of many tools.

5.0 **Invention** - Discover new uses for technology tools, for example, developing spreadsheet macros for teaching algebra or designing projects that combine multiple technologies.

|       | Where are we now? | Where do we want to go? |
|-------|-------------------|-------------------------|
| Pre-K | N/A               | N/A                     |
| K-2   | N/A               | 1.0                     |
| 3-5   | 1.5               | 3.0                     |
| 6-8   | 2.5               | 4.0                     |
| 9-10  | 3.0               | 5.0                     |
| 11-12 | 3.0               | 5.0                     |

### How will we get there?

In elementaries, just like Math, technology availability has expanded to where it is available in over half of the classrooms. Classroom response systems are used in fourth and fifth grade classrooms to engage the students in science concepts and proficiency. Students are able to use the interactive pads to answer questions and explore internet resources. PowerPoint is used for presentations and review games that resemble game shows. Elmos and Document Cameras are used across grade levels to demonstrate/view concepts and real-time experiments.

In middle school, students use sensors that gather data in student lead experiments and labs can be exported into several software products which allow students to refine data and postulate a theory. Laptop carts are utilized when performing the previous types of labs. Teachers will use Smartboards, Mimio pads and interactive white boards to present and capture lessons and post them to the web for student access and recall. UnitedStreaming video is often used in concert with ceiling mounted LCD projectors and/or vga converters to 27" TVs. We use Unitedstreaming.com to help students actually visualize the concepts that are being taught in science. We use DVD's and VHS recording to do this as well. Tablet PC's, Interactive slates and wireless/wired LCD projectors are installed into district classrooms to enhance the instructors ability to integrate technology into the daily lesson. This type of installation will provide additional student access to technology during the class period. Students reaction and classroom performance has encouraged the district to plan additional installations when funds become available. Students also utilize the computer lab to type edited drafts of their writings, create power points, and select students have created claymation movies.

At Medina High School 16 science classrooms are all outfitted with an LCD-Smartboard system. Teachers have a classroom computer and students have a 2:1 ratio. There are at 14 student stations in each of the high school classrooms. Interactive software for each of the science disciplines Chemistry, Earth Science, Life

science and physics, are resident on all the computers. Online simulations - especially with astronomy (eclipses, phases, etc.), weather and earth processes are often completed by lab partners to better understand concepts. Students also utilize the computer lab to type edited drafts of their writings, and create power points.

Professional development consists of vendor workshops, lead teacher workshops and the formation of cohort groups to share ideas, tips and practices during teacher driven release time. Additional computer labs in each building or enter into a 1 to 1 computing scenario will allow greater advantages to our science students. Computer access has become more difficult to schedule as all students are required to take computer based common assessments, SRI and Study Island exercises. An additional benefit to having the additional computer labs for assessment would be when they are not being used, teachers can schedule in to work on improving the students' 21st Century Skills (Critical thinking & Problem Solving, Communication & Collaboration, Creativity & Innovation). If we were to add computers, another needed goal is to add more technical support for the district to reduce down time.

Strategies: Elementary/Middle School/High School Update/create curriculum maps (in grades 5, 8, 9 and 10)with an emphasis on strategies for informational text and aquisition of test vocabulary. Develop Online district-wide common assessments in grades 1 and 8. Develop a K-12 science network team for vertical communication and planning. A combination of technological devices in each science classroom will aid us in achieving these goals.

#### **How will we know we're getting there?**

Science teachers are invested in using technology as instructional and administrative tools. Students are expected to use technology to produce work. Students use PowerPoint to give classroom presentations and MS Word and Publisher to complete research assignments. In many of the secondary classrooms sensors are used to record experimental data which is then analyzed in a report. Teachers have begun to use technology to align subject matter. Science instructors are using a vertical team to compile a data bank of questions for short cycle assessments. They have spent 1/2 release days per month over the 2008-09 SY and will continue their work in the 2009-10 SY. These common assessments will be given two times per year prior to the achievement test. The common assessments will be administered in each class and graded electronically and results will be available on the web several hours after the completion of the assessment. Teachers and administrators evaluate outcomes by running graphical reports which can be broken down into specific sub groups. Results will show where teachers may need to provide additional reinforcement to a small group of students or a concept. Extended answers on these assessments will still need to be entered by the instructor, but at the speed of the electronic grading, teachers will have more time to focus on the needs of her class through the data that is compiled by the AlterNet Performance product; Assessment Builder. Eventually we envision a bank of assessment questions available online that can be formatted into unique tests and assessed as needed. Monitoring additional test results and setting goals like the ones in our district and building CIPs can be done via the AlterNet Performance's Performance Tracker. The district will be assessing achievement at the local (common assessments/DRA), state and national levels. The data from each level will be collected and transferred into the Data warehouse. Teachers and administrator will use the performance Tracker database web application to run reports and track low performing students across these district administered assessments. The district has been accepted into the SOAR initiative in Grades 5-12. Professional development will be on-going for these programs. Teachers will need to become proficient in running reports for their classes. They will also need to build focus groups on the lowest performers and track their progress more closely. Teachers will have access to Classroom Response Systems (CPS or TurningPoint) to use for formative assessments during instructional units. By assigning a "clicker" to each student, the teachers will be able to run reports to see how each student is progressing and alter classroom instruction accordingly.

One outcome is that it is very time consuming and costly for both personnel time to scan in bubble sheets of answers and paper resources for test booklets and bubble sheets. To have the teachers scan in their students' bubble sheets would cause even more issues because of inconsistencies across the 400 plus teachers in the district. Having the additional computer labs or the 1 to 1 computing would allow us to enter, analyze and act on the results of these assessments more efficiently.

#### **How will we sustain focus and momentum?**

K-12 science network team will meet monthly to develop an assessment question bank. They will also introduce new technology tools to assist in the demonstration of science concepts in their home buildings. Document cameras, interactive slates and Elmos are the tools that will assist the teachers. Sustaining the availability and access to technology for the instructional science staff is a key component for the promotion of

this program. Two action steps in Medina's Strategic Plan are to develop computer aides in every building and to pursue a permanent improvement levy to fund technology replacement in the district. With the slower economy, funds for technology have been less than anticipated, limiting the installation of new technology into additional classrooms. Development of advanced practices can be achieved by sending lead teachers to national conferences (NSTA, NECC, etc.) as funds permit, to learn what new techniques are being used across the country. These lead teachers and building computer aides will then share this information with district staff.

In addition to the above intangibles, the feedback and support we provide to our science staff will be an essential component to reach higher levels of instructional technology integration. It will be an objective to establish Learning Walks, where the technology director, building principal, science vertical team member and/or technology mentors can observe teachers' use of the technology they have access to. Efforts to develop best practices will be shared with instructors to strengthen and advance skills at each level of integration. Feedback data will be gathered through student surveys, staff questionnaires, and direct interview.

In many cases, the use of video tape can be used so staff can self-evaluate their skills. Data will be shared with each teacher and paths can be developed to strengthen individual technology integration skills.

## 2.7 How Will You Be Using Technology to Improve Teaching and Learning in Social Studies?

The goal of section 2.7 is to identify the major elements of your district's plans to use technology to enhance teaching and learning in Social Studies at the elementary, middle and secondary levels over the next three years.

The primary objective is that you provide a brief description of two or three broad-based practices being utilized by the majority of your district's teachers to use technology to improve teaching and learning at the elementary, middle and secondary levels. For example, if all or most of your fifth through seventh grade Social Studies teachers are requiring students to conduct internet research or produce multimedia presentations on a regular basis; this would qualify as a broad-based practice. But if only a fraction of your teachers are regularly using these tools in the classroom – do not portray it as a broad-based practice.

Please feel free to include information about significant technology integration practices which are, by nature, not broad-based. For example, if a high school science teacher is using simulation software to allow students to conduct virtual experiments which are too dangerous to replicate in the classroom or lab; please indicate this in the Science curriculum area at the high school level only.

Using the ACOT Scale and the grid below, indicate your school's current level of effective technology integration in the Social Studies instructional process, as well as your target levels for improvement. If your responses fall between whole numbers, such as between 3.0 and 4.0, feel free to use .5 increments such as 3.5.

### Current Levels of Technology Integration in Social Studies

1.0 **Entry** - Learn the basics of using the new technology.

2.0 **Adoption** - Use new technology to support traditional instruction.

3.0 **Adaptation** - Integrate new technology into traditional classroom practice. Here, they often focus on increased student productivity and engagement by using word processors, spreadsheets, and graphics tools.

4.0 **Appropriation** - Focus on cooperative, project-based, and interdisciplinary work - incorporating the technology as needed and as one of many tools.

5.0 **Invention** - Discover new uses for technology tools, for example, developing spreadsheet macros for teaching algebra or designing projects that combine multiple technologies.

|       | Where are we now? | Where do we want to go? |
|-------|-------------------|-------------------------|
| Pre-K | N/A               | N/A                     |
| K-2   | N/A               | 1.0                     |
| 3-5   | 1.0               | 3.0                     |
| 6-8   | 2.5               | 3.5                     |
| 9-10  | 2.5               | 4.0                     |
| 11-12 | 2.5               | 4.0                     |

### How will we get there?

Our goal is to increase student achievement in citizenship by bridging the gap to the lower performing sub-groups. Social Studies classrooms have limited access to multiple individual tech tools, but there are classrooms at all grade levels that have access to full feature multimedia tools.

Elementary school labs are used to give entire classes entry level instruction in basic research methods and powerpoint development for social studies. Teachers continue to use PowerPoint to enhance lessons and encourage its use for student presentations. Other applications used in the primary classes are online web quests, and subject studies studies via the web, video streaming, and word processing with MSWord. Digital and document cameras are often employed to enhance lessons and display exemplary work. Study Island is used in both classroom and computer labs to re-enforce concepts and test preparation. As explained in other sections, over half of our elementary classrooms have enhanced learning environments that provide our teachers with 21st century teaching tools, like LCD projector, interactive slates, N-computing stations and access to banks of multimedia clips. Teachers use the technology to create electronic presentations and allow students to present their ideas and finished products and reports.

In middle school social studies classes, our students have fewer opportunities to interact with technology. Most classroom teacher must schedule computer lab time for students to gain access to the schools technology resources. Most of the time in the computer lab is used for students to gain access to Study Island and test preparation. However, there are a few model classrooms that have multiple stations for student use. Some of the exercises that these student are able to complete have them using technology to create pod casts. These pod casts allow student to use a myriad of technology tools that range from the internet to digital recorders to digital converting software. Students use cameras, audacity and powerpoint to create interviews with local war veterans. Our district is in process of upgrading many of these 6-8 grade classroom into enhanced learning environments. These 21st century classrooms will add additional student computers for individual/small group word processing, internet research and presentation development. Ceiling mounted LCD projectors and interactive tablets/slates will also be used to engage students in these grade levels.

The current desired foot print for a high school social studies room is a ceiling mounted-wireless Epson 1715c light projector, a teacher/classroom station, a bank of N-computing stations and an interactive slate or tablet laptop. Social studies teachers in the building have access to a VCR/DVD player, the Internet, video streaming, cable, a large 32 inch? VGA TV and a DVR system. Study Island is utilized in all high school Social Studies classrooms. United streaming is another resource that is often used throughout social studies classes. Occasionally email becomes a tech tool that is employed by the social studies classroom teacher to develop pen-pal type exercises with students in other countries. Adding technology to the remaining secondary rooms classrooms at a rate of two classrooms per year per building will outfit all social study classrooms by 2014. Department dissemination of practices and training will allow colleagues to build their skills in the use of the social studies classroom tech-footprint. Professional Development will continue through the technology department, central offices, and in the professional learning communities being developed by our staff. As in the past we will offer refresher and initial training from vendors and resident staff experts. They will be able conduct sessions for before and after-school workshops. Vendors will be made available for release time sessions, where we intend to have train the trainer session

#### **How will we know we're getting there?**

Social Studies teachers are invested in using technology as instructional and administrative tools. Students are expected to use technology to produce work. Students use PowerPoint to give classroom presentations and MS Word to complete assignments. Teachers have built common assessments to align subject matter. Social Studies instructors will spend release days in the 2009-10 school year to refine short cycle common assessments across grade and subject. These common assessments will be given two times per year prior to the achievement test. The common assessments will be administered in each class and graded electronically and results will be available on the web several days after the completion of the assessment. Teachers and administrator will be able to run graphical reports which can be broken down into specific sub groups. Results will show where teachers may need to provide additional reinforcement to a small group of students or a concept. Extended answers on these assessments will still need to be entered by the instructor, but at the speed of the electronic grading, teachers will have more time to focus on the needs of her class through the data that is compiled by the AlterNet Performance product; Assessment Builder. Eventually we envision a bank of assessment questions available online that can be formatted into unique tests an assessed as needed. Monitoring additional test results and setting goals like the ones in our district and building CIPs can be done via the AlterNet Performance's Performance Tracker. The district will be assessing achievement at the local (common assessments/DRA), state and national levels. The data from each level will be collected and transferred into the Performance Tracker database. Teachers and administrator will use this web based application run reports and track low performing students across these district administered assessments. The district has been accepted into the SOAR initiative in Grades 5-12. Professional development will be on-going

for these programs. Teachers will need to become proficient in running reports for their classes. They will also need to build focus groups on the lowest performers and track their progress more closely. On-line pre-test will provide students with the opportunity to simulate the OGT and provide feedback on their performance. High School Social Studies teachers will continue to have release time to construct short cycle assessments.

#### How will we sustain focus and momentum?

Sustaining the availability and access to technology for the instructional staff and students is a key component for the promotion of this program. In Medina High School, there is potential to adding an additional mobile lab to be shared by all departments, including the Social Studies department. Re-deploying older work stations that still have word processing capabilities will be another step to providing more access to this department. Providing the Social Studies staff with web development access outside of the district will further their flexibility to enhance their program. The district will need to encourage feedback from staff and students of departmental technology needs. Additions of interactive slates will provide to our Social Studies staff with an essential component to reaching higher levels of instructional technology integration. It will be an objective to establish Learning Walks, where the technology director, building principal and/or technology mentors/experts can observe teachers' use of the technology they have access. Efforts to develop best practices will be shared with instructors to strengthen and advance skills at each level of integration. Feedback data will be gathered in through student surveys, staff questionnaires, and direct interview. In many cases the use of video tape can be used so staff can self-evaluate their skills. Data will be shared with teacher and paths can be developed to strengthen individual technology integration skills.

## 2.8 How Are You Teaching Students About Technology Itself?

The goal of Phase 2.8 is for district technology planning staff to describe your district's efforts to teach students what they need to know and be able to do in order to meet Ohio's technology content standards.

**IMPORTANT NOTE:** Phase 2.8 is about technology as its own academic content standard and focuses on specific technology courses.

Phase 2.8 is the place to indicate what technology instruction you are offering at the elementary, middle and secondary levels. Examples of these "pure technology" courses would include, but are not limited to: career technology, library media, keyboarding, multi-media or digital video production, web page authoring, network administration, etc.

As you are considering how you will teach the technology academic content standards, consider reviewing your Comprehensive Continuous Improvement Plan (CCIP) goals and strategies.

#### Activity

Using the Apple Classroom of Tomorrow (ACOT) Scale and the grid below, indicate your school's current level of effective technology integration specifically concerning technology courses, as well as your target levels for improvement. If your responses fall between whole numbers, such as between 3.0 and 4.0, feel free to use .5 increments such as 3.5.

#### Instructional Integration

- 1.0 **Entry** - Learn the basics of using the new technology.
- 2.0 **Adoption** - Use new technology to support traditional instruction.
- 3.0 **Adaptation** - Integrate new technology into traditional classroom practice. Here, they often focus on increased student productivity and engagement by using word processors, spreadsheets, and graphics tools.
- 4.0 **Appropriation** - Focus on cooperative, project-based, and interdisciplinary work - incorporating the technology as needed and as one of many tools.
- 5.0 **Invention** - Discover new uses for technology tools, for example, developing spreadsheet macros for teaching algebra or designing projects that combine multiple technologies.

|       | Where are we now? | Where do we want to go? |
|-------|-------------------|-------------------------|
| Pre-K | N/A               | N/A                     |
| K-2   | 1.0               | 1.5                     |
| 3-5   | 2.0               | 3.0                     |
| 6-8   | 3.0               | 5.0                     |
| 9-10  | 3.0               | 5.0                     |
| 11-12 | 3.0               | 5.0                     |

**How will we get there?**

Medina will integrate technology into our strategic plan components of Facilities and Growth, Communications, Academics and Finances. The district will provide students with the electronic resources and tools to facilitate their education. Technology enhanced classrooms have access to multiple tech tools that are delivered in computer lab and enhanced learning environments settings. These classrooms use LCD projectors to display examples of finished products and demonstrations of how to create multimedia presentations. A feature of these enhanced classrooms is to allow students to present their work from any work station through the network enhanced light projectors. From web page development to video production technology, integration is at the appropriation and invention levels. Regular classroom teachers are able to tap into these resources via computer labs, but only for limited amounts of time. Students who need additional work time must often do their work after school at either the school or at home. Replacement budgets have fallen severely short in past years. The addition of sales tax funds has increased the number of seats available to our students. Adding advanced technology to the remaining secondary rooms and to elementary classrooms is a continued objective of the district. Even with the sales tax, we still fall short of a 5 - 6 year replacement schedule. This means the district has the dilemma of choosing to which programs deserve replacements and upgrades versus just adding appropriate equipment to regular classrooms. The current desired foot print for a room is a ceiling mounted wireless or networked light projector, N-computing banks for student use and an interactive slate or tablet laptop. Students learn new technology skills at each level through the best practices modeling done by their teachers or direct instruction during projects. Students, when given a chance, will learn new skills by being allowed to explore the programs being used and through collaboration, often teaching the teacher new techniques. One of our goals is to allow students to continue to develop 21st Century Skills through the use of collaboration tools such as wikis, blogs, tweets and educational chatrooms.

**How will we know we're getting there?**

Progress will be monitored through the amount of hard drive space occupied by our students. Current observations of this data is very distinctive because comparing class lists with student users we can determine that some students have significantly high usage of disk space depending on their class schedule. Enhanced storage capacity is now possible. Terabyte(s) of data can be saved to our system. Student portfolios can be maintained and evidence of their digital class work can be tracked. Technology teachers are invested in using technology as instructional and administrative tools. Students are expected to use technology to produce work. Students use Study Island, Read 180, Student Reading Inventory, Macromedia, Adobe Suites, Microsoft Office and Video creation and editing software to give classroom presentations and to complete assignments. Instructors have spent release days to develop short cycle common assessments across grade and subject. These common assessments will be given two times per year prior to the achievement test. The common assessments will be administered in each class and graded electronically and results will be available on the web several days after the completion of the assessment. Teachers and administrator will be able to run graphical reports which can be broken down into specific sub groups. Results will show where teachers may need to provide additional reinforcement to a small group of students or a concept. Extended answers on these assessments will still need to be entered by the instructor, but at the speed of the electronic grading, teachers will have more time to focus on the needs of her class through the data that is compiled by the AlterNet Performance product; Assessment Builder. Monitoring additional test results and setting goals like the ones in our district and building CIPs can be done via the AlterNet Performance Tracker. The district will be assessing achievement at the local (common assessments/DRA), state and national levels. The data from each level will be collected and transferred into the Performance Tracker database. Teachers and administrator will use this web based application run reports and track low performing students across these district administered assessments. The district has been accepted into the SOAR initiative in Grades 5-12. Professional development will be on-going for these programs. Teachers will need to become proficient in running reports for their classes. They will also need to build focus groups on the lowest performers and track their progress more closely.

One unexpected outcome is that it is very time consuming and costly for both personnel time to scan in bubble sheets of answers and paper resources for test booklets and bubble sheets. To have the teachers scan in their students' bubble sheets would cause even more issues because of inconsistencies across the 400 plus teachers in the district. Having additional computer labs or a 1 to 1 computing scenario would allow us to enter, analyze and act on the results of these assessments more efficiently.

**How will we sustain focus and momentum?**

Continue to provide adequate computers, storage, access to online resources and increase available connectivity. Introducing newer technologies that promote 21st century learning skills. Achieving school "connected" environment will aid the district in sustaining student focus which will increase student achievement. Students are connected out side of the school environment, so to bring this into the school will

assist us in carrying any momentum achieved by enhancing a single learning environment. This however, will depend on available funds, manpower and staff buy in. Therefore the first step is to ensure we continue with the classroom enhancement initiative and carry it through until all rooms have newer technology. In addition to the above intangibles, the feedback we provide to our staff will be an essential component to reach higher levels of instructional technology integration. It will be an objective to establish Learning Walks, where the technology director, building principal and/or technology mentors/experts can observe teachers' use of the technology they have access. Efforts to develop best practices will be shared with instructors to strengthen and advance skills at each level of integration. Feedback data will be gathered in through student surveys, staff questionnaires, and direct interview. In many cases the use of video tape can be used so staff can self-evaluate their skills. Data will be shared with teacher and paths can be developed to strengthen individual technology integration skills. Building experts/mentors will attend conferences focused on 21st Century Skills to find new techniques and strategies that can be shared and implemented with the rest of the staff and across the district.

## Technology Policy, Leadership and Administration

### 3.1 Analyzing District Education Technology Policies

**Awareness** - Policy is not in place; little or no understanding of importance of policy

**Adoption** - Traditional policies are in place; lack of consistent use

**Exploration** - New/updated policies are being researched

**Transformation** - Policies support high performing learning environments

|   | Where are we now? | Where do we want to go? |
|---|-------------------|-------------------------|
| A. Electronic network linking district with other stakeholders for information exchange, collaboration and distance education     | Adoption          | Exploration             |
| B. District wide program providing data or administrative systems to schools (e.g., fiscal databases, student assessment results) | Exploration       | Transformation          |
| C. Technology-related facilities design, equipment and software   | Adoption          | Transformation          |
| D. Technology acquisition and standards   | Adoption          | Exploration             |
| E. Research and evaluation of educational technology initiatives  | Adoption          | Transformation          |
| F. Development and dissemination of educational technology devices, applications and approaches                                   | Adoption          | Adoption                |
| G. District funding for educational technology  | Transformation    | Transformation          |
| H. Equity and access to technology  | Transformation    | Transformation          |

#### How do we get there?

Medina has tried strategies to develop and enhance educational technology. These policies have been very successful when the stakeholders have embraced the concepts and were patient through the initial stages of deployment. The biggest draw-back to our efforts has been the lack of technical support, time for professional development and the reduction in force that occurred as the result of an operational levy failure. As a result, the following key elements; all Middle School Technology Integration teachers, several media specialist and many key tech mentor positions used to enhance educational technology were reduced. The cuts that were made were promised to be sustainable. However, with the new strategic plan, efforts are being pursued to recover some of the man-power that was reduced. The plan calls for building level technology assistants that will be used to promote technology policy. Keeping computers in operational status and reducing down time is the initial goal of this effort. Preventive Maintenance Service or PMS will be a focus for these assistants and the department technicians. Providing them will professional development so that they are the first line of defense for their buildings will ensure that easy problems can be handled and reduce the time it takes to receive technical assistance.

The technology mentor program was developed to allow building level technology experts to create professional development opportunities. These technology enrichment and training opportunities could occur before and after school. Mentors could also schedule release days so they could directly assist colleagues with technology development.

Building technology representatives are individuals who attend the monthly district technology meeting. These representative help develop policy and pass information back to their respective buildings.

The technology department in coordination with the above individuals and building principals will participate in building wide professional development efforts. For example, a building staff will be surveyed and multiple tech sessions will be developed. Sessions in web page development, multimedia operation, video streaming, Performance Tracker, scanning, digital camera operation and file management are just a few of the options that may be provided. Opportunities for staff members to complete these types workshops for graduate credit will be an option offered.

Other strategies to enhance educational technology have been focused on emerging technologies. Breaking the traditional mode of equity, the only district personnel to receive the new emerging technology devices were those who completed mandatory training and staff development. These staff members would then go on to participate in a best practices release day so they could share successes and road blocks of the use of the newly implemented technology. These staff members would also encourage and coach other team members in the use of the new equipment.

Otherwise the traditional informational newsletters, email communications, entry level classes in district's email and security systems are in place to keep policy in the minds of staff members.

### How do we know we are getting there?

The district's repair request system can produce specific tech repair based reports that can be compared to historical data. Reduction in simple repairs, repairs due to user error and the amount of time it takes to complete a repair will be a good indication that technology is being used more often and more effectively. A reduction in the misuse of technology will imply that staff members are embracing the resource and ensuring it is being taken care of... the milestone will be a reduction in vandalism. Other milestones will be the desire for higher level professional development and an increase in staff member web development and maintenance. A Policy for email storage and archiving was developed over the 08-09 SY. Again, reports of available space and how quickly it was being used up on the server set the district on a path to limit the amount of email that can remain in a users inbox. Re-education of factual statistics and real capabilities of the email system were distributed to the staff. Online demonstrations of how to archive important mail and remove unwanted were made available online.

Time lines were set and limits were made known to all staff users. The policy is set to remove any mail from email in boxes that exceeds 365 days of age. This automated process will allow the system to remain leaner and function more efficiently.

### How do we sustain the focus and momentum?

Building principals, tech plans and committees will need to become the gate-keepers that put technology in the hands of educators in their buildings. They will need to focus on their facilities strengths. As finances tighten equity will lose focus to placing computers and related components with individuals skilled in its use to enhance a student's educational experience. In several buildings we will be piloting a matrix that encourages and devotes funding toward teachers who have integrated the use of technology into their classroom. Technology will be expected to be used by all staff members. Lower level computers users may access resources in a common space rather than their desktop or classroom. This will allow the resource to be shared by others. Higher level users will find multiple computers and peripherals available for daily instruction. Staff members will be able to climb to higher levels of classroom integration by attending professional development sessions and through approval by the building principal.

## 3.2 Analyzing District Leadership

**Awareness** - These administrators do not use technology. An expectation to use technology with students and staff is not expressed nor do the administrators support the staff in the use of technology.

**Adoption** - Administrators have access to technology but don't use it on a comprehensive basis. Educators in the building are expected to use the technology but not in a powerful way to improve student achievement. Leaders support staff in developing technology skills.

**Exploration** - Leaders encourage and support educators in the use of technology, but the use may not be pervasive throughout the system. Administrators use technology and see some benefit.

**Transformation** - Leadership provides strong vision encompassing all aspects of educational technology. Technology is vital to administrators and is utilized in innovative ways on a daily basis. Administrators fully understand how to use the tools effectively in the classroom and to manage education.

|  | Where are we now? | Where do we want to go? |
|--|-------------------|-------------------------|
| A. Instructional leadership, assessment and curriculum | Transformation    | Transformation          |
| B. Competencies/Standards (e.g. ISTE NETS-A)           | Exploration       | Exploration             |
| C. Advocacy for technology                             | Exploration       | Exploration             |
| D. Measures and accountability for effective use       | Adoption          | Adoption                |
| E. Role model in the use of technology                 | Adoption          | Exploration             |
| F. Professional development                            | Adoption          | Exploration             |
| G. Support for educational technology                  | Adoption          | Transformation          |
| H. Professional practice                               | Adoption          | Transformation          |

### How do we get there?

Moving the Medina City School District towards 21st century learning skills finds our administration prepared to take steps to model technology practices that we would like to become common place in our classrooms and district. The administrative team will look to transition from traditional desktop computers to interactive touch

screen tablet computers. These devices will easily travel to district meetings and classrooms where notes and documentation can be collected and stored. Administrators will undergo training in tapping, optical character recognition (OCR), writing with a styleless device, interacting with various presentation systems (LCD projectors), gaining access to various modes of connectivity, becoming more familiar with interactive pads/boards and extending their work space to an additional monitor or monitors. This transition will occur over several years as the district can ease into the replacements of administrators current computing units for an interactive tablet. The pilot group will consist of no more than 10 individuals. The following year 10 more will be added and continue until all administrators receive a tablet. Other goals beyond modeling the use of advanced technology is to consolidate documentation into one device that will be more capable/reliable than a pda. Other initiatives will find the administrators becoming green. Reduction of printing hand-outs and agendas will help us become more frugal with our resources. Administrators will become proficient at posting agendas and hand-outs on the web or create pdf documents that can be easily emailed and viewed.

Their participation in this transition will provide them with experience and alternative ways to use and introduce technological practices to their buildings and the district. Administrators will be more comfortable to assist and make recommendations toward technology integration into their classrooms. Training will be run by the technical staff and include the skills mentioned above.

Another administrative goal is to quickly identify struggling and borderline students and supply them with alternative instruction, (Study Island, Fast Math, Fast for Word). Continuing to Use the data warehouse products Performance Tracker and Assesment Builder, the tracking of student data has been an accelerator and an excellent solution. Administrator are well armed with meaningful data queries and graphical representation of the progress our students are achieving. The next goal is to expand the entire staffs understanding and proficiency in their use of this product. Pre and post common assessment have become common place grades 1-8. Expanding it into grade levels 9-12 will be the goal during this planning period.

#### **How do we know we are getting there?**

The progress of transitioning to tablet computer will be observed by both staff and other administrators. Pilot administrators will be expected to become proficient with the devices and model green concepts like posting all documents to the web and severely reducing their personal use of printing devices. Initially several training classes will be held to help new users master basic operations of the interactive tablet. Web surveys via survey monkey or advanced survey will be developed on a regular basis to help determine if and where pilot user may need further or advanced training with these new devices. A regular user group and/or blog will be established so that further collaboration may continue as users expand and/or struggle with their proficiency. We will track and monitor resource use by estimating the amount of paper/printing each user did not produce. This total can be verified by our print management software and reinforced by the users adaptation to web pages development, pdf attachments and participation in interactive collaborations. Another associated measure is to track the number of staff members who are encouraged by the administrators modeling to become paperless themselves. Monitoring staff participation in developing web pages and paper consumption will be a tangible statistic of success.

The Performance Tracker program will continue to track local common assessment, DRA, state achievement and national assessment scores. The data warehouse will provide administrators with hard numbers that teachers continue to enter and monitor their students progress throughout the year. Teachers can review scores from any web accessible computer. They will be able to track by classroom or subject matter. They will also have the ability to create "focus groups" to more closely monitor struggling students. The district will be able to focus on our AYP areas of concern. Principals and other administrators will have the ability to monitor students by grade levels and by building.

#### **How do we sustain the focus and momentum?**

Administrators will emphasize the educational integration of technology by modeling. They will need to lead by example; more use of technology and multimedia devices during staff meetings, board presentations, PTO meetings and planning opportunities. Building principals and district administrators will need to encourage the use and development of classroom web-resources and on-line grade book applications. They will also need to promote cost effective use of technology. Encourage more digital and less printed forms of communication and assignment development.

Ashland prof dev series 5 classes 3hr each see brd in tech office

### 3.3 Technology Leader/Coordinator Time Commitments

|  | Where are we now? | Where do we want to go? |
|--|-------------------|-------------------------|
| Strategic/Project/Action Planning                | 10%               | 15%                     |
| Acquisitions/Procurement                         | 10%               | 5%                      |
| Deployment/Implementation of Technology          | 5%                | 5%                      |
| Maintenance & Repair                             | 6%                | 2%                      |
| End-user Technical Support & Training            | 9%                | 5%                      |
| Curriculum Alignment & Instructional Integration | 8%                | 15%                     |
| Fiscal Management/Grant Applications             | 5%                | 10%                     |
| Superintendent Cabinet/Executive/Board Meetings  | 25%               | 20%                     |
| Tech Staff Development & Management              | 10%               | 9%                      |
| Policy Development, Monitoring & Enforcement     | 6%                | 6%                      |
| Evaluating New/Emerging Technologies             | 6%                | 8%                      |
| Other  | 0%                | 0%                      |
| <b>Total</b>                                     | <b>100%</b>       | <b>100%</b>             |

#### How will we get there?

Adding an additional technicians has reduced the maintenance, repair and deployment responsibilities of the technology director. Reducing responsibilities in these two areas should afford the technology director time to apply more focus on policy development/monitoring/enforcement, tech staff development and management, fiscal management/grant applications and evaluating new/emerging technologies.

The director's focus should be with the bigger picture/vision of the school district and not the day to day operations. In addition, to the technology director making site visits to other similar districts, he will attend multiple professional development opportunities. These opportunities and visits should help endorse or promote the technology vision of the district.

#### How will we know we are getting there?

Medina schools are making great efforts to successfully integrate emerging technologies into the classroom. In the past two years Medina has deployed an online teacher gradebook and parent/student access module; feedback from parents and teachers have been favorable.

We have continued to advance and modify the construction of Technology Enhanced Classrooms (TEC) across the district. Currently, approximately one half of the district classrooms are at TEC stages. Basic configuration of a TEC is a teacher/classroom station, a student station, a ceiling mounted LCD, A large projection screen, Dry erase board or interactive board, and an interactive pad. With the interactive pad, Instructors can move freely about the classroom. Pads/slates may be passed between students and answers to problems displayed through the wireless and wired technology to the LCD projector. Progress will be evident if we grow to 75-80 percent of district rooms completed to TEC standards by the end of this planning cycle.

The additional presence of emerging technologies in our classrooms will prove that we have taken the next steps toward integrating technology and shifting the technology directors duties.

Reviewing the results of beta survey will also show progress in evaluating data from our job tracking database to show a reduction in technology coordinator repairs.

#### How will we sustain focus and momentum?

Keeping repair request to a minimal level. Continued exploration for emerging technologies that will enhance the integration of technology in medina classrooms and administration. Revisiting the strategic planning process every two years.

Medina is in the process of creating a new strategic plan . One of the goals of all the technology in this plan is to reallocate a percentage of current personnel working hours for technology . The additional hours will benefit the technology department by having building personnel perform basic troubleshooting and preventative

maintenance tasks .

Another initiative to organize the technology department is to incorporate all replacement policies for technology . Both of these tools if approved will continue to help the technology coordinator in his efforts towards reallocating his current duties

## Technology Infrastructure, Management and Support

### 4.1 Networking, Internet & Telecommunications

This section is designed to speak to the network/telecommunications infrastructure necessary to support the technologies in use by the district for administrative and instructional computing. These uses range from EMIS reporting, shared administrative applications, video on demand (VOD), voice over IP (VoIP) telephony, thin client server access, Internet research and others.

With a wide range of new, converging or expanding services relying heavily on a converged network, capacity planning is imperative to the success of subsequent strategies that use the network. For example, a network using thin client connectivity to servers, with heavy Internet access, file and print services, as well as voice over IP, will need careful network capacity planning to introduce video streaming technologies.

#### ACTIVITY 1:

Complete the portfolio of network services and telecommunications services provided. Indicate any changes that you plan to introduce. Use the following scale in answering "Where are we now?"

- **None** - This technology does not currently reside on the network.
- **Some** - There are pieces of this technology residing on the network. It does not exist in all buildings or only in certain places.
- **Many** - This technology is pervasive throughout the district and/or building.

Use the following scale in answering "Where do we want to go"

- **Decrease** - We plan to decrease this technology on the network.
- **No Change** - We plan to maintain the level of technology on the network.
- **Researching** - We are investigating if we want to implement this technology on the network or if we want to increase or decrease this technology on the network.
- **Increase** - We plan to increase this technology on the network.

|  | Where are we now? | Where do we want to go? |
|--|-------------------|-------------------------|
| Thin/Network Clients                                     | Some              | Increase                |
| File and Print Sharing                                   | Many              | Decrease                |
| Internet Traffic   | Many              | Increase                |
| Video Conferencing (IP)                                  | Some              | No Change               |
| Video Conferencing (ATM)                                 | None              | No Change               |
| Video On-Demand (local building/district server)         | Some              | Increase                |
| Video Streaming (Internet)                               | Many              | No Change               |
| Voice Communications - Voice over IP                     | Many              | Increase                |
| Voice Communications - Centrex/PBX                       | Many              | Increase                |
| Remote Access (Dial-up/VPN) to School Resources          | Some              | Decrease                |
| Wireless   | Some              | No Change               |
| Email  | Many              | Increase                |
| Enterprise/Shared Applications (e.g., online grade book) | Many              | Increase                |

#### ACTIVITY 2:

Discuss the impact of the network and telecommunications services activity above on the bandwidth requirements of the LAN, WAN and Internet connection. Record the impact on bandwidth below.

|                    | What is the current impact? |
|--------------------|-----------------------------|
| LAN Bandwidth      | Increase                    |
| WAN Bandwidth      | No Changes                  |
| Internet Bandwidth | Increase                    |
| Telephone Circuits | Increase                    |

### How will we get there?

A 100MB fiber connection was realized and is maintained to the district's ITC site. Monitoring bandwidth utilization occurs from both the ITC and district offices. Currently our ITC is also our ISP and will be pursuing additional bandwidth options for the consortium.

The Medina City School District is growing and is in process of adding two additional elementary facilities. These facilities are in-process of being integrated into the district's 1000MB WAN. We intend to acquire telephone pole rights from our local utility companies to complete these links; however other options such as direct buried and wireless are being explored.

To change or alter services we are restricted to certain rules governed by Ohio K12 Network. To advance our buildings in voice, video and data circuits' it is mandatory to have fiber between facilities. In today's climate it has become difficult to achieve this necessity as we are competing against business and paying business prices while trying to provide a free education. Redundancy is something we are researching, but may not be able to afford. Connectivity certainly has become a necessity for daily operations for many of our non-educational staff. This will soon include our educational staff as companies continue to only offer education resource access via the internet.

Our services may include, but not be limited to, local and long distance phone services, PRI, Centrex, telephone systems, cellular, paging, WAN, voicemail, high bandwidth services from T1s up to 1 Gb, VOIP, internet access, web hosting and e-mail services, portable electronic devices, routers, switches, cabling, firewalls, servers, video conferencing and distance learning, UPS devices, telephone systems, maintenance, and operating system software and miscellaneous components.

### How will we know we are getting there?

The district does occasionally reach utilization of over 100% between our facilities. Monitoring/managing utilization locally is a district routine. The connection to the ITC is managed by the ITC daily. Bandwidth usage during the normal hours of operation, 8am-4pm, is growing but has not exceeded 80% of our current capacity. These days are usually focused around the end of the grading period when a majority of the staff are on-line calculating grades.

Requirements to use web based applications has increased, i.e. online grade books, local assessment, sub-finder, professional development, fiscal, maintenance and technology, calendar, blogs, wikis, tweets and attendance programs, and is a necessity for staff to do their jobs. Integrating Voice and video over our network has been facilitated by using extra pairs of dark fiber we built into the network when it was constructed. This advantage keeps the media separated and allows us more flexibility to keep a higher availability of band width for data. The big three users of our segregated network are security, telephone and data.

As the data is observed daily, the technology staff is able to anticipate future issues. For example, watching capacity of harddrive available space, the department will add additional space if able. If resources are to the point that adding additional space to the hardware is not possible, plans are made to replace the hardware. If replacement is out of the question, a process of informing the user population begins. Initially the user population is made aware of the situation via email. Steps are either written out or explained via a web link of how they must react to assist the district in resolving the issue. In addition, a timeline is put in place to give stockholders ample time to become prepared for the change/upgrade.

### How will we sustain focus and momentum?

At this point, a single system engineer monitors and maintains equipment "UP" time. He tends to 30 servers and an infrastructure that consists of more than 200 switches. We budget funds to purchase hot spare switches each year. These switches can be deployed quickly if there is a closet outage in the district. The broken switches are evaluated and repaired if possible by the engineer or outside firm. We budget two replace or reconfigure approximately 3 servers per year. Virtualization is being explored.

A computer technician is being trained to assist the network engineer with switches and servers to allow better coverage of these systems.

A SAN was completed in the summer of 2006. The SAN has 4.5 TB of disk space to store student, faculty and staff data. Other improvements in email and web services will be in place for the start of school, August 2009. Research on new technology such as a SIFA is a possible solution to our internal database growth and system integration issues.

In the face of rapid loss of disk space on our email server, we have found it impossible to go proceed without implementing automatic delete rules. Users have had an unlimited amount of space for saving email media. During the summer of 2009, users will only be able to store messages for one calendar year. Messages that have not been archived by the users and have reached an age one 1 year will be auto deleted.

## 4.2 Access to Technology

**None** - This technology does not exist in the building(s) and/or district.

**Some** - This technology is in the building(s) and district, but there are only a few in each location.

**Pervasive** - This technology is an integral part of the building(s) and/or district.

|  | Where are we now? | Where do we want to go? |
|--|-------------------|-------------------------|
| Computer to Teacher Ratio (1:n)  | 1:1               | 1:1                     |
| Computer to Student Ratio (1:n)  | 1:5               | 1:1                     |
| Peripherals (e.g. scanner, digital camera)   | Pervasive         | Pervasive               |
| Emerging Technologies  | Early adopter     | Middle adopter          |
| Assistive and adaptive hardware (e.g. Intellikeys, Alpha Smart) and specialized software | Some              | Some                    |

### How will we get there?

As detailed in the 2003 State Auditor's report, Medina City schools is not staffed to it's potential. In addition, during the 2003-04 school year the tech staff was reduced below the levels of the 2003 state audit. Infrastructure within the district is adequate. The district invested in a dark fiber network prior to the year 2000. The district is connected at GB speeds between all educational facilities. The link to the Transportation facility is the only weak link. It is connects between 5-11mbs.

Medina City Schools is served by a network engineer that monitors and maintains over 200 WAN/LAN devices in Multiple locations so that system services are available to our users. The engineer also maintains 30 server boxes that serve over 8600 users. Three technicians monitor the break-fix operations that span 15 facilities. This group is also responsible for the installation and configuration of our 21st century learning environment or what we also call technology enhanced classrooms. From what we have learned by standardizing on equipment and processes, our department has been able to maintain an excellent level of support. Three years ago repairs could exceeded two weeks before they were even observed. Today most requests are handled within a two days. Spreading this department thinner by adding two new elementary school will test how realistic the size of the department vs what they need to support.

When the district pursues a pilot initiative, the first step is to organize a committee to research the options, need and determine funding. Deployment is usually the next big step, which again relies heavy upon a depleted technical and maintenance staff. Once deployed the participants are monitored and supported through professional development and release time.

Our services may include, but not be limited to, local and long distance phone services, PRI, Centrex, telephone systems, cellular, paging, WAN, voicemail, high bandwidth services from T1s up to 1 Gb, VOIP, internet access, web hosting and e-mail services, portable electronic devices, routers, switches, cabling, firewalls, servers, video conferencing and distance learning, UPS devices, telephone systems, maintenance, and operating system software and miscellaneous components.

### How will we know we are getting there?

Using our current inventory data base, we have been identifying our oldest computers and replacing them when funds are available. The sales tax fund has been a slight relief to this issue, but it may only add an additional 100 replacement per year. At the rate of 150 to two-hundred new units/year. It would takes the district over ten years

to phase out our current inventory.

There are several factors that continue to age our systems. The biggest factor that retires our units early is the ever increasing software requirements. Beyond this we have a minor problem with vandalism in the 9-12 grade levels. The district will investigate and use a tool like the Gartner TCO models to reach our desired levels of technology.

Using technologies that involve more students in daily technology use is the district's current focus. Our last SchoolNet Plus funding was refocused towards emerging technology. The focus of the dollars went to purchasing PC tablets and wireless LCD projectors. These devices were scheduled to be installed into educators classrooms that were willing to become part of a professional development initiative that focused on getting newer technology into students hands on a daily basis. This model has continued as we have started to deploy interactive slates/pad into hundreds of our instructional areas.

Our repair tracking database will be used to monitor the "up" time of these devices and teachers will be interviewed multiple times per year to determine best practices with these devices in the classroom. Pursuing and obtaining additional funding resources, like the etech emerging technology grant will allow the district to build tech templates or footprints that keep technology into a students daily educational experience.

Teachers have written grant to obtain interactive response systems. With these tools teachers can instantly assess the comprehension of the subject at any time during the day. Students will be electronically armed with devices that can provide instant anonymous graphical feed back to the teacher and students. This, in addition to grade/subject level common assessment efforts will determine if students are or are not proficient to specific indicators.

The district will pilot a product called assessment builder in the spring of 2006. If the pilot is successful, the district will be able to administer a grade level local common assessment and have it graded within 24 hours. The data will be available through the online Alternate Performance tool once it is scan graded and uploaded. Teachers and administrators will then be able to review the data and run reports that identify trouble areas for individual students and teachers.

#### **How will we sustain focus and momentum?**

Having the strategic plan and CIP strategies the district will be focusing on the these goals. Using the emerging technology and tracking tools, (including being a part of project SOAR) the district can more closely monitor identified and borderline proficient student's progress. Having a dedicated funding plan for technology that revolves around a technology replacement schedule and is supported by an increased technology staff will ensure that our organizations technology needs are met.

### **4.3 Stakeholder Access to Educational Information & Applications**

1. **None:** Our organization does not have this type of electronic system. We maintain paper records.
2. **Minimal:** Our organization utilizes some electronic documents to manage these systems and processes such as spreadsheets or word processor.
3. **Adequate:** Our organization uses database software to manage these systems and documents.
4. **Advanced:** Our organization shares this type of information using industry-adopted data standards and practices (e.g. SIF, XML-Web Services or EDI).

#### **Tool**

|  | Where are we now? | Where do we want to go? |
|--|-------------------|-------------------------|
| Student Information Services           | 3 - Adequate      | 4 - Advanced            |
| Instructional Applications             | 2 - Minimal       | 3 - Adequate            |
| Data Analysis & Reporting              | 3 - Adequate      | 4 - Advanced            |
| Grade Book                             | 2 - Minimal       | 4 - Advanced            |
| Library Automation                     | 4 - Advanced      | 4 - Advanced            |
| Facilities Management                  | 2 - Minimal       | 3 - Adequate            |
| Voice Telephony                        | 3 - Adequate      | 3 - Adequate            |
| Human Resources & Financial Management | 2 - Minimal       | 3 - Adequate            |
| Network Account Management             | 3 - Adequate      | 3 - Adequate            |
| Transportation                         | 3 - Adequate      | 4 - Advanced            |
| Food Services                          | 3 - Adequate      | 4 - Advanced            |

### How will we get there?

New systems coming onboard or being enhanced over the next three years are:

1. SIF (Student Interoperability Framework)
2. Data Analysis, Reporting and collection

The SIF application will allow district data to flow automatically into current applications utilized by the district for daily operations. It will reduce the need of manual extraction and transference of data between district systems. This will not only save time for district personnel, but it will ultimately clean the data and streamline operations that rely on databases that require similar information.

Data Analysis, Reporting and collection: The performance tracker product has added an online feature to its capability. The product has been tested successfully and its potential to get information back to the teacher is the overwhelming benefit. Obstacles that block adoption are cost and available student seats. We believe that at least an additional computer lab in each building would be required to be able to run our student through the pre and post common assessment in a reasonable amount of time. Trying to implement it without the additional labs would almost eliminate computer use anything but OAT and OGT testing. Currently much computer time is consumed by Study Island and SRI. Both applications require all students to be using available unit to complete these requirements. It appears on paper it will be costly to implement this service. It requires a new server and additional licensing. However the return of information back to the teacher is instant. Scanning, filling out and printing bubble sheets would become obsolete. The time to manage the entire process will also be recovered.

### How will we know we are getting there?

Direct and solicited feedback from the administrators, teachers, students and parents who access these new systems will be the best way to determine if the new systems are effective. A single site for information access will be a key indicator that we have arrived. This will decrease the time, effort and number of applications needed to maintain and monitor the district's information needs. Increased student achievement may be difficult to directly correlate to these implementations, but it can be closely monitored through them. They will also enhance the ability of educators and parents to intercede when a deficiency is detected.

### How will we sustain the focus and momentum?

System reviews will occur on a scheduled basis. These reviews will work like a replacement schedule for equipment. Upgrades, enhancements and integrations will need to be scheduled so that they work with current operating systems and computer configurations. We will need to determine the benefits versus the costs of any new services and how they will relate to student achievement. New systems will need to be SIF compliant. Support will be sought through building staff meetings, public forums and Board of Education meetings. Systems information will be published on the district web site.

## 4.4 Educational Software

**Never** - When selecting educational software, this process never occurs.

**Rarely** - When selecting educational software, occasionally this process is followed.

**Sometimes** - When selecting educational software, we typically follow and/or incorporate this process.

**Always** - When selecting educational software, this process is always followed and/or incorporated.

### Selection Processes

|   | Where are we now? | Where do we want to go? |
|---|-------------------|-------------------------|
| Requirements gathering, feature/fit analysis to goal                          | Sometimes         | Always                  |
| Professional development planning for end users and support personnel         | Sometimes         | Always                  |
| Criteria for evaluation developed - including alignment to ACS and curriculum | Rarely            | Always                  |
| Evaluation of demo copies   | Always            | Always                  |
| Implementation pilots   | Sometimes         | Sometimes               |
| Replacement cycle (upgrade, retire, new)                                      | Rarely            | Always                  |
| System requirements / technical and operational support                       | Always            | Always                  |

### How will we get there?

Medina is now focuses on standardizing our main computer (Dell), peripheral (lcd projectors, interactive pads, classroom resposystems), and software programs, (MS Office, Adobe(graphics) across the organization. Some classroom specific applications are utilized depending on the subject and/or department. This is especially true in our Middle School and High School science subjects.

Current district software goals lie in aligning subject/grade level products. Two areas we have focused on are associated with our CIP and AYP goals. Kurzweil, Schoalastic (SRI, Reading Inventory, Read 180, Fastmath and Reading Counts) and Fast ForWord applications are deployed to assist students that are not proficient in the reading/writing and math domains. By focusing on achieving these goals more resources are focused on fewer students. This leaves fewer resources for the vast student population and will limit educational software to basic productivity type applications.

Two future/in-progress goals are to increase student seat availability through a hardware hyperthreading, (N-Computing) and data result retrieval via on-line common assessment. (Alternate Performance). Currently common assessments are completed on bubble sheets and scanned back into the system for on-line viewing. Moving to the on-line assessments, results can be viewed instantly.

Our services may include, but not be limited to, local and long distance phone services, PRI, Centrex, telephone systems, cellular, paging, WAN, voicemail, high bandwidth services from T1s up to 1 Gb, VOIP, internet access, web hosting and e-mail services, portable electronic devices, routers, switches, cabling, firewalls, servers, video conferencing and distance learning, UPS devices, telephone systems, maintenance, and operating system software and miscellaneous components.

### How will we know we are getting there?

The Performance Tracker product allow direct comparisons of multiple assessments. We have been tracking student achievement in the local Diagnostic Reading Assessment (DRA) for several years. The system is also a warehouse for TeraNova, Cogat, OGT and OAT scores. When measured against state and national assessments we can determine if the students are making progress. The district utilizes the data analysis committee, CIP committee, Instruction department and building administration to review all data. Data is compared to prior year preformance and building CIP goals.

### How will we sustain focus and momentum?

A review of student achievement should reflect if there is a tangible relationship between those students who are using the Kurzweil and Fast ForWord products and those who are not. A process of evaluating other products that serve students in the realm of science and reading will be a continued focus for the district. An effort to expand the Kurzweil into the middle school grade levels is also in progress depending on any positive evidence of student achievement. An additional effort will be made to expand the availability of the software to students who are outside of the AYP category, if we find it successful. The momentum has come by realizing that there are many products out there that can be used to help our students succeed. The advance of the scholastic products is an example of this. But the district has learned that an incremental expansion serves the district and limit departments to planned software expansions that begin with a pilot so we understand the potential benefit towards the district. Student achievement, particularly in weaker achievement areas will be the overwhelming factor when considering a change in our educational software system.

## 4.5 Security

1. **None:** Organization does not have any of these policies or securities in place.
2. **Minimal:** The basic functions are present, but not all layers are addressed.
3. **Adequate:** The basic functions are present and all layers are addressed and integrated.
4. **Advanced:** The basic functions are present, all layers are addressed and integrated, and proactive monitoring with security response and forensic log analysis procedures are in place.

|   | Where are we now? | Where do we want to go? |
|---|-------------------|-------------------------|
| AUP (Acceptable Use Policy)                                 | Yes               | Yes                     |
| User Account management and network authentication policies | 4 - Advanced      | 4 - Advanced            |
| Security zones  | 3 - Adequate      | 3 - Adequate            |
| Wireless network security policies                          | 3 - Adequate      | 3 - Adequate            |
| Central log mechanism and review policy                     | 2 - Minimal       | 2 - Minimal             |
| Incident response procedures                                | 3 - Adequate      | 3 - Adequate            |
| Network security  | 3 - Adequate      | 4 - Advanced            |
| Host Security   | 3 - Adequate      | 3 - Adequate            |
| Data security / integrity                                   | 3 - Adequate      | 4 - Advanced            |
| Anti-virus software   | 4 - Advanced      | 4 - Advanced            |
| Spyware   | 3 - Adequate      | 4 - Advanced            |
| Firewall  | 3 - Adequate      | 3 - Adequate            |
| Filtering   | 4 - Advanced      | 4 - Advanced            |

### How will we get there?

All Medina cities schools personnel are required to sign an acceptable use policy in order to use the districts computers and electronic resources. To gain access to the system, users must login through the Novell client. Through this login process, users authenticate and are given rights via the Web Marshall product to gain access to the Internet and system resources. Staff must also sign a web acceptable use policy to post information to district Web server.

Through the Novell login script users can be given access to special Data storage drives. The district maintains several access points in multiple school buildings. All access points are encrypted and intended for district use only.

The Web Marshall serves as an advanced filtering and logging tool. In combination with Novell authentication process the web Marshall will track and log a user's URL history.

Districts server tape backups are made regularly. Tapes are run daily, weekly, and monthly. Archived tapes are stored in alternate locations.

Central Commands Vexira is the districts antivirus program. This program is updated daily. In the past we have used various free wears to monitor spyware. We currently use Malware Bytes as a spy sweeper. Firewall services are maintained at through our A-site, (LGCA)

To maintain individual computer integrity Medina uses an imaging software that does not allow configuration changes, (i.e. adding unlicensed software to district own computers).

Medina deploys a large number of laptops and they are collected several times/per year to ensure system quality. The systems are updated with current software images and PMS is performed.

CIPA compliance is a primary focus of our system security. Emphasis is focused upon user authentication. System users need to comply with the terms of the district's AUP. These decisions have limited some of the flexibility of the educational process, however without them the system is vulnerable to spreading of viruses and mal-ware. The result of less strict security policies ultimately leads to an inoperable system which detracts from the educational process.

### How will we know we are getting there?

Using server logs and reports we can observe the "Up Time" of the system. Web Marshal and other filters will protect our users from inappropriate materials and malicious programs. It will also deny access to unauthorized users. Logging and reporting aspects of these products will produce information that will help technicians and

administrators make informed decisions on how well our security measures are working or if there are holes that need to be addressed.

#### How will we sustain the focus and momentum?

Stakeholders sign an AUP that outlines their responsibilities when using the system. It also outlines what can be expected on the system. Additional policies will be developed by the technology coordinator and district technology committee. These additional policies and practices will be reviewed and approved by the superintendents cabinet and promoted through building staff meetings and district emails.

As far as future security issues, the future is here. User apathy for providing personal security to their own data and systems will be an on-going risk. Users are the first link in security and often the weakest link. Mandatory resetting of passwords will occur across many systems every 120 days. Staff will be encouraged to making passwords more cryptic. Users will need to recertification themselves each year with the AUP. The district has contracted with Public School Works to maintain, host and track professional development and job related duties of our staff. The AUP is one of those documents that staff will need to review each year online.

## 4.6 Technology Support and Management

### Support Ratios (1:n)

|                            | Where are we now? (1:n) | Where do we want to go? (1:n) |
|----------------------------|-------------------------|-------------------------------|
| Support Staff to Students  | 1:2635                  | 1:1000                        |
| Support Staff to Teachers  | 1:225                   | 1:80                          |
| Support Staff to Computers | 1:800                   | 1:500                         |
| Support Staff to Buildings | 1:5.6                   | 1:1                           |

|   | Where are we now? | Where do we want to go? |
|---|-------------------|-------------------------|
| Average Response Time (Days)              | 3                 | 1                       |
| Service Level Agreement (SLA)             | No                | No                      |
| Full-time technology coordinator/director | Yes               | Yes                     |

### How will we get there?

The following statement in ( "." ), is from the previous tech plan but still accurate and more due to the fact that the district has added two addition elementaries. We are also undergoing another audit.

"The State Auditor completed a review of the technology departments staffing level in the 2003 Performance Audit. At that time it was documented that "Medina CSD is servicing more district personnel, students and computers per technician FTE than the peer districts". Since the Audit, the department reduced it's staff by 2.5 FTE because of insufficient funds. One FTE was a full time technician. The other 1.5 FTEs were two technology integration teachers at our middle schools and half a FTE by sharing the technology administrative assistant with human resources department. The State's recommendation for staffing in 2003 was 12 FTEs. However, understanding that this number was/is "out of reach at this time", the state recommended that we work toward a ratio of 1 full-time technician per 50 classrooms, which equals 1 technician per 250 workstations. Based on this ratio, Medina CSD would need seven full-time technicians."

The staff utilizes a electronic repair request system, Track It, and a set facility schedule to respond to technical problems. Each of our five elementary and two middle schools are scheduled for eight hours or repair per week. Medina High School is scheduled for twenty repair hours per week. Technicians remain familiar with all facilities in the district because of the schedule. The current response time for the 2005-2006 school year is just over ten days.

To increase technician time on PC repair, we have entered into some maintenance contracts for printer repair with outside vendors.

Other intangibles that have affected technology services since the levy cuts have occurred because key technology supporters within buildings had their positions eliminated. Approximately one half of the standing district technology committee had their positions cut or changed. This eroded the available support in every facility.

PMS - Preventive Maintenance Schedule could assist in preventing and reducing the number of repairs. Under the current conditions, technicians only work on units that have problems.

A Strategic Plan recommendation is for buildings to re-assign a portion of a current building person duties to the technology department for a few hours per week to aid with trouble shooting and PMS.

Computer ethics and training current staff will also help reduce the number of requested repairs. Instilling ownership of our staff and students toward these tools will reduce down time.

Our services may include, but not be limited to, local and long distance phone services, PRI, Centrex, telephone systems, cellular, paging, WAN, voicemail, high bandwidth services from T1s up to 1 Gb, VOIP, internet access, web hosting and e-mail services, portable electronic devices, routers, switches, cabling, firewalls, servers, video conferencing and distance learning, UPS devices, telephone systems, maintenance, and operating system software and miscellaneous components.

#### How will we know we are getting there?

Building Technology Meetings, District Technology Committee Meetings, Principal Meetings (EARS), and Administrative Meetings, (superintendent's cabinet and MGM) provide conduits to pass information and discuss problems. From these meetings focus can be narrowed and focused on the biggest problems and concerns. Using the BETA and district generated Survey/questionnaires we can determine staff needs and levels of use.

The Track It system will acknowledge the progress if repair time is being reduced. Using Track It to understand if staff is better accessing system resources on and off campus.

#### How will we sustain focus and momentum?

Consistency and communication are key factors in moving forward toward a reduced down time. However, if more support is not provided in the form of additional technicians, I fear that we will remain on the treadmill of focusing on the biggest fire.

An additional tech has been requested for the 2006-2007 school year. Strategic Plan recommendations have current building personnel re-allocating some of their efforts towards technology PMS and troubleshooting

## 4.7 Total Cost of Ownership

**None** - This factor is not accounted for in the cost analysis.

**Some** - This factor has cursory consideration but is not a primary decision driver.

**More** - There is deliberate consideration for this factor, but it may not always be a primary decision driver.

**Extensive** - This factor is always considered in cost analysis and is a primary decision driver.

#### Process

|  | Where are we now? | Where do we want to go? |
|--|-------------------|-------------------------|
| Vendor Relationships   | Extensive         | Extensive               |
| Procurement Plan   | More              | More                    |
| Specifications/Requirements/Fits Analysis                        | Extensive         | Extensive               |
| Integration of donated time, materials or services               | None              | None                    |
| Deployment/Installation plan                                     | Extensive         | Extensive               |
| Initial Training and Professional Development                    | Some              | More                    |
| Evaluation of current external support costs versus new purchase | More              | More                    |
| Loss of institutional knowledge for replaced systems             | Some              | Some                    |
| Phase Out/Replacement cycle                                      | Some              | Extensive               |
| Disposal costs   | Some              | None                    |

#### How will we get there?

In order to better understand and maintain a manageable TCO system a more consistent flow of funding is needed. The sales tax fund will allow the district to better manage this process, but it still falls short of what is needed to effectively maintain a reasonable replacement schedule. Reductions in state funding as well as the

reduction of district funding has made it difficult to establish a consistent program.

Reduction for end of life computers in the district will be the first step. Currently Medina technicians are responsible for over 800 computers each. This is well above recommendations in the Gartner-CoSN Tool. Computer reductions will be instituted towards all units that cannot be upgraded. Units that remain in service with minimal processors and memory will be reduced to word processing units.

Utilizing current staff members in each building to provide technology support in order to better maintain technology equipment in existing facilities has been helpful in reducing basic repair requests. A technology replacement schedule of 5 - 6 years would be optimal, but as our district continues to grow and machines are added, our replacement schedule is still beyond 8 years.

#### **How will we know we are getting there?**

By utilizing our existing technology inventory, the technology director will be able to monitor the number of operational computers and peripherals in the district. At current staffing levels, total cost of ownership or TCO recommendations limit Medina to 1000 computers or 500 computers per technician. This is somewhat unrealistic because the district currently owns over 2400 computers plus peripherals. The department's goal would be to add one technicians and/or reduce our total number of computers to 2000 units.

An established replacement plan/schedule will give the district that defined map to better manage technology equipment. Other technologies such as hard drive replicator systems or software can reduce technical troubleshooting and return units to operation status in a shorter period time.

Monitoring the technical repair database will help in determining if there are fewer repair requests as a result of the strategic plan initiative to utilize building level staff as initial troubleshooters and preventive maintenance technicians. The repair request database can generate historical reports that will show if there's a decrease in the amount of time it takes to complete a repair request. Currently, it takes approximately two days for our technicians to respond and complete a repair request. Other monitoring features built into district hardware will help us monitor the status of the device and schedule repairs or maintenance when required.

#### **How will we sustain focus and momentum?**

Using the Gartner TCO tool, that district technology committee will better understand the district's investment in technology.

## Budget and Planning

### 5.0 Budget

Sound budgeting is important for your technology plan; not only to project future spending and funding, but also to meet requirements for various private, state and federal funding opportunities. It is recommended that a representative from your treasurer's office be involved in completing this phase.

|                                     | Where are we now?   | Where do we want to go? |                  |                  |           |
|-------------------------------------|---------------------|-------------------------|------------------|------------------|-----------|
|                                     | Current Fiscal Year | 2009-10                 | 2010-11          | 2011-12          | Total     |
| Network/Telecommunications Services | 224,832             | 215,700                 | 236,072          | 247,876          | 699,648   |
| Hardware                            | 300,000             | 120,000                 | 150,000          | 200,000          | 470,000   |
| Student Data Administrative Systems | 123,000             | 130,000                 | 130,490          | 134,405          | 394,895   |
| Software                            | 138,000             | 120,000                 | 150,000          | 155,000          | 425,000   |
| Security                            | 36,000              | 37,080                  | 38,192           | 39,338           | 114,610   |
| Technology Staffing/Support         | 360,000             | 370,800                 | 381,924          | 393,381          | 1,146,105 |
| Professional Development            | 5,000               | 10,000                  | 10,000           | 10,000           | 30,000    |
| Consumables                         | 15,000              | 10,000                  | 47,000           | 48,000           | 105,000   |
| Additional                          | 25,000              | 25,000                  | 50,000           | 55,000           | 130,000   |
| <b>Total</b>                        | <b>1,226,832</b>    | <b>1,038,580</b>        | <b>1,193,678</b> | <b>1,283,000</b> |           |

#### *Additional Items*

Replacement and upgrade parts for aged and/or broken computers and technology equipment.

*Provide details about your budget process. How did your committee gather this data? Have you included spending amounts for planned future technology hardware, software, professional development, or other services?*

The technology department receives an annual budget that reflects the prior years expenditures. The budget is determined during the spring of each fiscal year. The funds are designated toward software, online applications service, web hosting, connectivity and maintenance/repair of current district hardware. Since the addition of the Medina County sales tax initiative, a portion of this funding has been designated for Technology upgrade and replacements. Combined with current general funds, is still short of what is needed to maintain a 5 to 6 year replacement program. Our committee believes in a goal of having a 5 to 6 year replacement cycle, however in reality it turns into an 8 to 9 year cycle under current funding. Some of the expenditures estimated in the above chart reflect contributions from other district departments. For example, in the network/telecommunications field, only \$37,400.00 are accounted for by the technology budget. The remaining funds are distributed by the Business office. As for the access to technology, this past year approximately \$300,000.00 were expended from the district for new classroom units. The remaining dollars were spent by individual buildings. The source of these dollars varied from PTO grants to principal funds.

The \$189,156 Network/Telecommunications breaks down into the following, expenditures: Pole attachment rights \$3000, Switch and server maintenance and replacement \$20,000, Connectivity \$14,400, LONG DISTANCE \$3031, telephone service and maintenance \$132248. E-rate assistance will ultimate reduce these expenses by \$55,000. Budgeting for new equipment may be delayed, if equipment is functioning within acceptable parameters. Contingency purchases are made each year. Insurance equipment like LCD projectors and network switches are stocked at the beginning of each school year. These items will be the departments hot spares that are ready to be placed into service when an active devices fails due to age or damage from and electrical strike. In addition, several (at least two) servers are incorporated into the system each year so that older servers can be migrated out of the system. Online applications has been a fast growing segment of the budget. It has more than doubled over the past two years. For FY09-10 the district has contracted with several online based companies to deliver services in excess of 100K. The planning is based on historical data on average life and necessity of a device. Growth is unfortunately keep to a minimum, because there really is not enough contingency for what we have. For SY 2010-11 through 2013, it is a district goal to add at least two technology enhance classrooms per facility per year.

Our services may include, but not be limited to, local and long distance phone services, PRI, Centrex, telephone systems, cellular, paging, WAN, voicemail, high bandwidth services from T1s up to 1 Gb, VOIP, internet access, web hosting and e-mail services, portable electronic devices, routers, switches, cabling, firewalls, servers, video conferencing and distance learning, UPS devices, telephone systems, maintenance,

and operating system software and miscellaneous components.

**How will we get there?**

Technology is mainly funded by the district's general operation fund. A new source of revenue became available to the department in 2008, when the Medina County passed a 0.5% Sales Tax issue. The sales tax revenue was established to support capital based initiatives in all county schools. Technology is one of those areas that will be supported in part by this revenue. During the first year, it funded \$300,000.00 of technological improvements in the district. The second year, funding fell to \$120,000.00. Other resources are the Ohio K12 Network Grant program, E-Rate, SchoolNet Plus, Title 2D, Building PTO groups, Building Fund raising opportunities and SchoolNet Professional Development Grants. Eligible services currently being utilized under the E-Rate program are long distance and local Telephone Service (Verizon), High speed broadband connectivity (LGCA), and new in 2009 is web hosting services (The Impact Group). A Technology Permanent Improvement Levy issue needs to be considered to support hardware upgrade and replacement plans if we hope to achieve a 5-6 year replacement program. The Board of education requested an estimate to continue the program as it exists and approximately \$500,000 would be needed per year to keep the existing level of hardware support. This estimate was based on a six year replacement schedule. It does not include the numbers for the Gartner TCO staff recommendations. Adding two full time technicians would make us more inline with these standards. One of the only options to keep the technology department finances in check is to reduce services. An interim plan remains to reduce the number of supported computers and at the same time add additional student seat via Ncomputing. This will allow the department to further standardize and re-evaluate services that we are able to support. Additions of summer helpers have allowed us to upgrade and advance the technology footprint across the district. Computer "seat" population has risen in the district to 2200 units without a decline in service.

Our services may include, but not be limited to, local and long distance phone services, PRI, Centrex, telephone systems, cellular, paging, WAN, voicemail, high bandwidth services from T1s up to 1 Gb, VOIP, internet access, web hosting and e-mail services, portable electronic devices, routers, switches, cabling, firewalls, servers, video conferencing and distance learning, UPS devices, telephone systems, maintenance, and operating system software and miscellaneous components.