

# *Tucson Unified School District*

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## ***INFORMATION TECHNOLOGY PLAN SCHOOL YEARS 2012-2015***

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## Executive Summary

The purpose of this Technology Plan document is two-fold. First, it communicates for Governing Board approval TUSD's required annual submission to the Arizona Department of Education into the Arizona LEA Tracking System (ALEAT). This information must be approved by public vote of the Governing Board prior to July 1, 2012 and is included in its ready for approval form as Appendix B. Second, this document provides the following important descriptions:

- Overall Technology Strategy for TUSD
- Technology Initiatives and Programs from 2011-12 – Progress Made and Remaining Work
- Technology Initiatives and Programs for 2012-13 – Plans for the Coming School Year and Beyond

The Technology Plan is part of a larger process that represents ADE's requirement to exercise due diligence over No Child Left Behind goals progress, distribution and use of Federal Title and Grant funds, districts officially in improvement, and the E-Rate program. Topics and format are set by the ALEAT system; the plan includes district identification and description information, a technology needs assessment, and high level goals and action steps. It also includes the current status of the Continuous Improvement Plan, again as specified in ALEAT.

In short, the ALEAT-based plan is important for many legitimate reasons, and meets certain key needs for TUSD. However, it is not sufficiently comprehensive, nor does it contain the detail necessary to make it *fully actionable*.

The TUSD Technology Plan – and this document specifically – represents TUSD's approach to developing our technology strategies and initiatives. In it we describe the District's Technology Strategy. Our Strategic Technology Planning Council (STPC) is a group of principals and director level staff who have worked together and with the Cabinet to produce the ALEAT submission (Appendix B), the 2012-15 technology strategy, and the document itself. In conjunction with the STPC, the Technology Advisory Group (TAG), which consists of a broader representation of "feet on the ground" employees (teachers, school office personnel, blue collar staff, and other department staff), provides feedback and input from the end user perspective. Finally, the Technology Oversight Committee is an important part of the review and revision process. Staff coordinate the Technology Plan with the TOC on a recurring basis as it moves toward execution to help ensure both planning quality and process transparency as well as to report on the initiatives progress.

The overall Technology Strategy and individual technology initiatives form the bulk of the plan. At this point in the process the strategy is documented and general descriptions of the initiatives are provided. Individual initiatives at this point are under consideration; between now (end of June) and mid first semester, they are expanded to include specific scope and objectives, more detailed descriptions, estimated budgets, projected schedules project management plans, and execution process metrics.

Submission of this plan, including the attached ALEAT submission and approval by the Governing Board, meets the ADE and Federal E-Rate requirements for a Technology Plan and establishes direction for the District's technology program. As major initiatives outlined in the Plan are prepared



for launch staff will present program and project details to Cabinet, the TOC, and the Governing Board for approval as appropriate.



## 1 Introduction

### 1.1 *Moving Forward –Planning Process and Structure*

TUSD has developed and is maintaining a comprehensive, multi-year Technology Plan that meets the following criteria:

- Addresses *all* technology needs of the district – academic and operational/administrative
- Meets the Arizona Department of Education requirements for Technology Plans, as defined in the ALEAT system
- Addresses requirements of the Federal E-Rate Program
- Is fully aligned with the Superintendent's and Governing Board's goals and priorities
- Is sufficiently detailed as to be actionable
- Is open and transparent to the administration, the Governing Board, and the public

Meeting this objective requires a technology planning process and structure which contains the following key components:

- ✓ Participation by the Strategic Technology Planning Council consisting of a representative selection of Building Principals (all levels), academic directors, and administrative/operational directors and coordinators.
- ✓ Input as appropriate from the Technology Advisory Group, consisting of a diverse selection of teachers, administrators, and operational staff.
- ✓ Close coordination with the Chief Financial Officer and Finance Department staff to ensure availability and proper allocation of funds.
- ✓ Recurring coordination with the Technology Oversight Committee.

### 1.2 *Purpose*

The purpose of this Technology Plan document is twofold. First, it communicates the six components of the 2012-15 TUSD Technology Plan, as required by ADE for the ALEAT system. Collectively, these components comprise what must be approved by the Superintendent and the Governing Board and submitted to ADE by June 30, 2012. Second, the document describes the overall strategy for the Technology Plan as well as the major technology initiatives from previous years, next year, and beyond.

### 1.3 *Scope*

The intended scope of the TUSD Technology Plan includes all major technology initiatives/programs in support of academic and administrative/operational needs of the district. This includes *all* initiatives and programs regardless of funding sources.

### 1.4 *Governance and Approval*

The only part of the Technology Plan that the Governing Board must approve by public vote is the six components that comprise the district's submission to the state's ALEAT system. This approval is planned to occur at the June 12<sup>th</sup> Regular Meeting of the Governing Board.

However, it is important to the integrity of the process that all components of the Technology Plan be developed and approved in a transparent fashion. To that end, the Technology Oversight



Committee is briefed on a recurring basis as details of the plan are developed. The overall strategy, plans, and initiatives are presented to the Governing Board along with the ALEAT documents. While the non-ALEAT aspects do not require a formal approval vote by the Board, it is important that Board members and members of the public are aware of and have the opportunity to comment on the plan in its entirety. Finally, in accordance with state law and procurement policy, each initiative that includes a contractual acquisition of products and/or services whose total value exceeds the appropriate thresholds will be brought to the Governing Board for formal approval prior to contract award.



## 2 Strategic Approach

### 2.1 Alignment with TUSD Priorities

It is essential that TUSD's Technology Plan be aligned with the district's overall priorities and direction as stated by the Superintendent and Governing Board. The 2011-2013 Superintendent's Goals are:

- Achievement
- Student Enrollment
- Dropout
- Desegregation Budget
- Transportation
- Customer Service
- Grants

The Areas of Focus for 2011-2012, which are expected to remain for next year, are the following:

- Curriculum Planning & Management
- Instructional Delivery and Quality Management
- Student Assessment and Achievement
- Communications and Public Outreach
- Budget and Financial Management
- Information and Technology Management

All of the Technology Plan initiatives are reviewed to ensure that they are in alignment with the Superintendent's goals and Focus Areas.

### 2.2 Three Tiered Strategy for Technology

Last year – the first year in the District's renewed focus on technology – we focused on improving TUSD's *Technology Foundation*. Having made *very solid* progress in these areas (see Section 3), we continue to work on rebuilding the foundation while expanding our strategy for the coming year to include more academic and operational support initiatives.

#### 2.2.1 Improving TUSD's Technology Foundation

It was clear from internal assessments and feedback from staff, faculty, and the community that the technology foundation throughout TUSD was in dire need of improvement. Technology foundation includes essential components and mechanisms such as the network and telecommunications infrastructure, end-user computers and associated devices (for staff, faculty, and students), servers that support mission-critical software applications, IT security, disaster recovery, and even office copiers. Many equipment items in these categories were well past their projected end of life and in some cases were no longer supported by the manufacturer. Further, as everyone was well aware, the *capacity* of the technology foundation to support even *current academic and operational needs* – let alone projected needs – was far below what is minimally required. Finally, another essential part of the foundation is the *technology skills and competencies* that employees bring to their work.

Therefore, the STPC and Cabinet's positions were to focus primarily on:





- ✓ Replacing aging infrastructure and other foundation technology equipment;
- ✓ Increasing the capacity of the technology foundation;
- ✓ Improving security, availability, sustainability, and recoverability;
- ✓ Improving communication with students and the community;
- ✓ Assessing and improving technology skills and competencies.

This focus carries forward virtually unchanged into the coming school year and forms the first tier of the 2012-2015 Technology Strategy.

### ***2.2.2 Using Data and Software Effectively***

The core of the work of TUSD leadership is to drive improvements in student achievement, reaching levels of which the District and the Tucson community can be proud. Similarly, compliance with State and Federal Court rulings, as well as our own collective sense of what is right, drive us to ensure equitable access to quality education throughout the entire district. Moreover, we also are driven to achieve these goals while improving efficiencies and reducing unnecessary costs.

Two categories of tools and resources that are essential to the quality of virtually every program in the District are high quality data and software applications. The need for these assets has become especially clear during this school year as instructional and support leaders throughout TUSD strive for answers regarding how to improve. Making decisions regarding program improvements that are based on quality analyses of real data and support systems is vital. We cannot move forward confidently without access to such resources. Evidence-Based Accountability – a term used broadly in education and supported by the Desegregation Special Master – is a quality-oriented practice that underscores the importance of ubiquitous access to data and software support tools.

This tier of the TUSD Technology Strategy contains initiatives that are designed to establish much-needed organizational capability and capacity within our Information Technology organization and throughout the District for managing our mission-critical data and software assets.

In the past, TUSD has not uniformly implemented best practices regarding entry, analysis, reporting, aggregation, integration, etc. of its data. TUSD has hundred's of types of data found in every aspect of the work of the district. Following is a brief and not exhaustive summary of types of data that exist throughout the District:

- Students - who they are, what school they attend, what classes they take, what their grades are, what their attendance is, their assessment results (AIMS and other assessments)
- Teachers - their names, professional development classes they have attended, their compensation, what classes they teach, how their students are doing
- Curriculum and instruction – curricular definitions, core standards, textbook and supplemental materials adoptions, instructional resources
- Assessment instruments – alignment with core standards, test item banks
- Schools and Departments - who works there, their budgets and expenditures, what programs or project they are responsible for, etc.
- Finance – what revenues we get from the state, where have we expended our money, how much Title I/Deseg funding have we spent and on what



- Staff - when were they hired, compensation levels, what bargaining unit they are in, how much vacation have they accumulated, who is their manager, their duties, telephone numbers, etc.
- Capital Assets - what the district has purchased, their ages, what they are worth, who uses them

Currently, the District uses very labor-intensive processes to gather its data from many places (both electronic and paper), and to analyze and report the data to many different groups within TUSD and outside. For example:

- Teachers need data about their students
- Principals need data about their teachers and students, and schools budget, etc.
- Managers need data about their staff, the work that is completed, the assets for which they are responsible
- Leadership needs to know how the students in the schools are doing, how many students are in each school, how successful the different programs are
- Arizona Department of Education needs lots of data about students and programs
- The Desegregation Special Master requires information regarding desegregation spending
- The Federal Government requires data on programs like Title I and IID, expenditures of E-Rate funds

Beyond these data assets there are many, many software applications that are used extensively throughout the District to support important tasks and to collect vital information but are not managed at the District level. These are instructional and site-based applications and they number in the hundreds of titles. Some are well-known – Waterford, Success Maker, Achieve 3000, Read 180, Language 360, and Rosetta Stone, to name just a few of the most common instructional titles. Other titles are almost unknown beyond the sites where they are used. There are a few assessment programs as well, such as DIBELS and ATI, which are used in some schools (DIBELS in manual form is used in all elementary schools). There are also a number of administrative applications used in schools – Blue Bear, School Messenger, etc., as well as numerous applications supporting Operations. Implementing District-level lifecycle management of these software applications can not only ensure more effective use and support, but can potentially achieve a tremendous financial savings in reduced license fees, training efficiencies and other economies of scale.

Therefore, this tier of our strategy is intended to improve our management of data and software. It will take the District some years to fully implement best practice processes and to change the culture regarding data and software management. It is vital that we begin this work now and to begin using these assets to drive substantial improvements in academic achievement and operational efficiency.

### ***2.2.3 Assisting TUSD in Improving Achievement***

As TUSD leaders our commitment to the District and the Tucson community is to drive substantial improvements in academic achievement across all grade levels. During school year 2011-12 TUSD rolled out the Essential Elements of Instruction model District-wide and completed development of curricula in two critical areas – K-8 Math and Language Arts. Follow-up EEI training and monitoring is planned for 2012-13, along with additional curriculum development.

The diagram illustrates the **Data and System Integration Environment** for Curriculum Management. At the center is a white rounded rectangle containing three blue boxes: **Curriculum Management** (top), **Instruction Management** (bottom left), and **Assessment Management** (bottom right), all interconnected by solid lines. This central hub is surrounded by eight other blue boxes, each connected to the center by a dashed line. These boxes are: **Analytics and Decision Support** (top), **Program Evaluation** (top right), **Student Info Management** (right), **Accreditation Management** (bottom right), **Core Curriculum Standards** (bottom, represented by a cylinder icon), **Prof Dev & Teacher Eval** (bottom left), **Content Management** (left), and **Special / Ex-Ed** (top left). The entire system is set against a light blue background with a grey border, and the text **Data and System Integration Environment** is located at the bottom right.

The core functions that drive student achievement are Curriculum, Instruction, and Assessment Management – the “three-legged stool” for achievement. While there are many external and internal triggers for work to be done in those areas, we will also ultimately need to acquire software and data systems to integrate and manage them effectively. Likewise, the functional areas represented by boxes on the outer ring play important achievement related

The software and data systems we currently use to support Student Information Management are not well integrated with each other and in most cases need to be replaced soon. The internally-developed main Student Information Management system – Mojave – is a capable system whose technology has been kept current, but we cannot expect to maintain and grow its capabilities with internal staff. Moreover, it has some significant shortcomings that are critical to driving achievement, such as Master Scheduling and Teacher Gradebook modules. TUSD uses a very old and not supported gradebook application for secondary teachers. It is well beyond end-of-life and results in much frustration on the part of teachers. It also is not capable of supporting standards-based grading. There is no gradebook solution for elementary teachers. There is an elementary report card solution that was internally developed as part of TUSD Stats within the Accountability and Research Department. In addition to having neither the mission nor the resources to adequately support such an application, it also does not support standards-based report card generation. Our Technology Strategy for 2012-15 includes an initiative to develop requirements and gather available product information in preparation for a major Student Information Management RFP and implementation. The intent is to conduct the research and planning in 2012-13 and to conduct the acquisition and implementation starting in the 2013-14 school year.

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- Establish a set of common, standards-based assessments that form a consistent assessment framework across all TUSD schools, K-12.
- Provide the ability to measure and track student achievement growth.
- Provide granular data that appropriately and reliably informs instruction and interventions.
- Establish reliable correlation and predictability regarding performance on the AIMS assessment.
- Support the student performance components of teacher evaluations.
- Provide detailed data to support reporting under the Desegregation Order.

CAS is a multi-year, new program initiative that has not only software and data system components, but also requires creation of the organizational capacity within TUSD to manage such a program. The District does have immediate needs for formative and benchmark assessment data beyond what we currently have. Therefore, the initiative includes a rollout in school year 2012-13 of a District-wide assessment instrument. Academic leaders are currently considering completing the rollout of ATI Galileo to meet this need, but the final decision regarding which assessment instrument to use has not yet been made.

#### ***2.2.4 Project Management for Current and New Initiatives***

Successful implementation of current and new initiatives requires disciplined project management, addressing not only the technology components of projects but all functional aspects as well – academic and non-academic. With some exceptions, disciplined project management and the use of qualified, certified project managers has not been part of the TUSD culture in the past. To address this need the Technology Services Department began creation of the TUSD Project/Program Management Office (PMO) early in 2012. The use of a PMO as a “center of excellence” for project management and program implementation is a best practice used extensively in all industries and professions, including education.

In order to appropriately grow the PMO's capacity, we will staff it on a permanent basis with a relatively small number of certified project managers. We will supplement that capacity using contract PM's, available through State contract or other cooperative agreements, to support projects as they are planned, executed, and completed. The rationale for this “staff augmentation” approach is 1) to establish a core set of resources and common practices, and 2) to be able to manage the ebbs and flows of major projects over time.

As each initiative in the Technology Plan is considered, planned, and approved for implementation, part of the process is to document the plan for project management. The PMO provides assistance and resources for development of the PM plan, and subsequently monitors execution of projects to ensure compliance with approved project management practices. We are at the beginning of developing the PMO and standard PM practices, but will be in a solid position to ensure good project management as each of these initiatives is approved and becomes ready to execute.



### 3 Initiatives for 2011-2014

TUSD selected eight (8) Foundational Technology Initiatives for 2011-2014. Below is a short review of the scope, objectives and expected output of each initiative, as well as an update on their progress this year and the plan for new work in the future. Technology Services has been and will continue to communicate with all stakeholders and consider their input. We keep the Technology Oversight Committee apprised of our plans and the work we have completed. The CIO provides the Governing Board with updates, either during Board meetings or through Friday reports. The STPC receives reports at least quarterly on the progress of the initiatives. The Technology Advisory Group has been updated also on our progress and has been asked for their input on various issues.

#### 3.1 *Network/Telecommunications Infrastructure Upgrade*

##### 3.1.1 *Scope, Objectives and Output*

The initiative will provide new Wide Area Network (WAN), Local Area Network (LAN), Wireless and Telephony to all district sites. All sites currently either have as their WAN fiber, microwave or a T1 line. All of these will be replaced with this project. The data center will have 10Gbps backbone while each school will have 1Gbps to the school and within the school. The telephone infrastructure will be completely replaced with VOIP, but the existing digital handsets will remain, which will save the district money.

The objective is for TUSD to have a comprehensive, updated network and telecommunications system that meets the stated requirements of the district. Positive impact will be felt by all students and staff. Access to online materials, interactive websites, and streaming video will be possible, allowing teachers to incorporate a vast amount of hyper media content into their lesson plans and encourage students to explore different avenues of creation and expression in a project-based learning environment. Teachers will be able to perform administrative tasks in a time-efficient manner, thus increasing the time they can spend on instructional tasks. Department staff will be able to increase efficiency and telephone communications throughout the district will be far more reliable.

##### 3.1.2 *Completed in 2011 – 2012*

TUSD wrote an RFI to initially gather feedback about our needs from the vendor community. This informed our writing of an RFP. The RFP process was successful and TUSD awarded 3 contracts, one for WAN, one for LAN and one for Telephony on March 13<sup>th</sup>, 2012. Additionally, we submitted to the Schools and Library's Division of the Universal Service Administrative Company for E-Rate funding for both the WAN (priority 1 work) and LAN/Telephony (priority 2 work).

From March to June, TUSD and the vendors are planning the details of the work that will be completed. To ensure excellent project management of the project we have hired one of the three vendors to provide Project Management services both between the three companies and for TUSD. This is a very large and complex set of projects that needs time and effort to be successful. To help show a current baseline as well as show in the future, upcoming needed changes, we will complete a full technical capacity assessment for the entire district yearly.



### ***3.1.3 Planned work for 2012-2013***

#### ***3.1.3.1 Wide Area Network***

The WAN is a service that we are purchasing from the vendor. The vendor will be creating a new fiber infrastructure in Tucson to support TUSD. This work has many steps including engineering, receiving appropriate permits, digging and laying the cabling, etc. The vendor will update TUSD on a regular basis on the progress of this work. The aspect of their work that will involve TUSD resources is when they actually connect their network to each district site.

Coordination of that work will be managed by the Project Manager (PM), including working with the current WAN providers. It will take TUSD resources to walk with the vendor at each site so they understand how they will enter the school with the fiber and where they will place required equipment. After equipment is placed, it must be tested and approved by TUSD staff before the site can actually use the new network. This work must be done at each site.

After the network is activated at a site the vendor will then start billing TUSD for the services. The PM will manage all the details of this work, including ensuring that a Project Plan is created, appropriate documentation is given to TUSD, and everyone understands the acceptance criteria.

The vendor stated in their RFP proposal that they expect to be completed in 270 days after award of the contract. This timeline is completely dependent on their ability to get timely permits from Pima County, the City of Tucson and Tucson Electric Company. TUSD has various contingency plans if there are problems meeting the 270 days.

#### ***3.1.3.2 Local Area Network***

About 25 sites will be getting a LAN upgrade this year as part of this project. This includes 14 schools, which are all E-Rate eligible but 13 of which are very unlikely to get any E-Rate funding (due to their relatively high socio-economic status), and all of TUSD's administrative buildings. The PM will be responsible for all the coordination between TUSD and the other vendors. This work is much more complex for TUSD and requires much more of TUSD's time compared to the WAN aspect.

Each site will need to be walked to ensure that the vendor has a complete understanding of where each piece of equipment will need to be placed, and exactly what type of equipment will be needed. There is a lot of coordination with the sites if new cabling is needed to ensure there is little disruption to the district's daily work. The PM will manage all the details of this work, including ensuring that a Project Plan is created, appropriate documentation is given to TUSD, and everyone understands the acceptance criteria.

Besides the 25 sites, all the sites for the following year's work needs to be planned in detail by end December 2012, so the appropriate E-Rate requests can be completed and sent in a timely manner. The PM will coordinate all this work.

#### ***3.1.3.3 Telephony***

About 25 sites will be getting a Telephony upgrade (the same as are receiving new LANs). Though the level of detailed work at each site is somewhat less than what is needed for the LAN upgrades, because the entire Telephony infrastructure is changing there is a lot more planning needed, of which TUSD staff will be a part. The PM will manage all the details of this work, including ensuring





that a Project Plan is created, appropriate documentation is given to TUSD, and everyone understands the acceptance criteria.

Besides the 25 sites, all the sites for the following year's work needs to be planned in detail by the end of December 2012, so the appropriate E-Rate forms can be completed and sent in a timely manner. The PM will coordinate all this work.

## **3.2 End-User Device Lifecycle Program**

### **3.2.1 Scope, Objectives and Output**

The initiative will provide TUSD with an Asset and Lifecycle Management Plan which includes assessing, leasing, implementing, maintaining, replacing/retiring all TUSD's end-user devices. The project will be done in phases, including creating an allocation model.

The objective is for the district to have appropriate and capable end-user devices that meet the needs of staff, faculty, and students. These devices will be refreshed every five years based on the Lifecycle Management Plan.

The outcome is for staff, students and teachers of TUSD to have the end-user devices required to support their work and learning. The technology is available when needed in the classroom for the specific teachable moment. Students will be able to interact with the technology in a manner which maximizes academic learning time and facilitates acquisition of content objectives. Teachers will be able to perform administrative tasks efficiently and effectively and to present learning experiences that engage students and increase student achievement.

### **3.2.2 Completed in 2011 – 2012**

A competitive bid between 3 of the top vendors on State Contract was held and a vendor selected. A detailed plan was created with TUSD and the vendor regarding the processes that would be completed and the communication and documentation that would be performed. About 7,300 desktops and laptops were leased, and delivery and installation to the schools and administrative offices based on the age of the computers is nearly complete. All entering and leaving assets were entered in to a spreadsheet to be given to risk management as well as Asset Management groups. We will survey customers to determine the impact of the computers.

### **3.2.3 Planned work for 2012-2013**

Research how other district's approach computer allocation models. TUSD currently does not have a baseline number of computers in each school which raises equity concerns regarding computer access across the district. Also, it is not uniformly clear that numbers, types, and placements of end-user devices is directly aligned with academic program and operational needs. We will partner with the Technology Advisory Group, the STPC, and Academic Leadership to complete the creation of an allocation model. A process and budget will be created to level the allocation of M&O funded computers in schools so that each school has the proper number of computers allocated to it.

At the same time, we will be working to determine what is really needed in each classroom. For example, a room with desktops might not be appropriate technology for the class or classes in that



room. Implementation of the new Common Core Standards is expected to affect the requirements for end-user devices, so the Curriculum and Instruction Team will provide input to ensure that as curriculum needs are identified so are the corresponding technology needs. This data will be combined with current industry standards and best practices regarding implementation of end-user devices in business and academic settings. Because of the dependency end-user devices have on the network and infrastructure within the district, good communication between the two initiatives will be important. Increased end-user devices means an increase in electrical need as well. Expansion of site electrical capacity will be included in the planning. We will create a process for assessing and eventually changing the End User devices in each room so that it meets the needs of the teachers, and also conforms to the allocation model. This will be a very difficult task.

At the beginning of the year, we will assess the next set of five year old computers and replace them across the district. After the allocation model and needs are identified we expect, if funding is available, to add more computers to some of the schools, or change the type of computers in a school. We will survey customers to determine the impact of the new computers.

### **3.3 Critical Server Replacements**

#### **3.3.1 Scope, Objectives and Output**

The initiative will provide TUSD with an Asset and Lifecycle Management Plan which includes assessing, leasing, implementing, maintaining, replacing/retiring all TUSD's servers. All servers are part of this initiative, though we will begin with those servers managed by Technology Services first. The plan will include assessment of the impact to the software by the new servers and the possible need to upgrade/replace software to enable it to run on the upgraded hardware.

The objective is for TUSD to have the number and types of servers required for staff and students to complete their work and to provide highly performing and reliable platforms for TUSD's enterprise software applications and data systems. These devices are refreshed based on the Lifecycle Management Plan. The outcome is for staff, faculty, and students to be confident that the district's servers are properly managed and providing all required support to academic and operational needs.

#### **3.3.2 Completed in 2011 – 2012**

A competitive bid between 3 of the top vendors on State Contract was held and a vendor selected. A detailed plan was created with TUSD and the vendor regarding the processes that would be completed and the communication and documentation that would be performed. 115 servers were leased, delivered and installed at the schools or Data Center based on the age of the servers and its criticality. Final software installations and testing will be completed prior to July 1. All entering and leaving assets were entered in to a spreadsheet to be given to Risk Management as well as Asset Management groups. We will survey customers to determine the impact of the new servers.

#### **3.3.3 Planned work for 2012-2013**

Current and future requirements for academic and administrative use regarding servers will be gathered. Implementation of new and evolving curriculum is expected to affect the requirements for servers, so the academic planning group (under the Deputy Superintendent) will be included in the





project. Thus, as curriculum needs are identified, the corresponding technology needs are also determined.

This data will be combined with current industry standards and best practices regarding implementation and support of servers in business and academic settings. Because of the dependency servers have on the network and infrastructure within the district, good communication between the two initiatives will be practiced. Since the change in the number or capability of servers means a possible change in electrical need, expansion of site electrical and HVAC capacity is needed, and appropriate funding will be identified.

An area of particular interest is the possibility of consolidation throughout virtualization, with an eye toward eventual deployment of so-called “cloud” based services. This common best-practice approach to server platform management was out of TUSD’s reach prior to the IT Infrastructure Modernization initiative because of the significant bandwidth and telecommunications reliability required. TS staff will coordinate with the TOC regarding best-practices and possible approaches.

In the meantime and going forward, we will research which servers need to be replaced based on their age also and research the type of consolidation we can obtain by using virtualization or moving storage centrally. Because the upgrading of the infrastructure for TUSD will not be completed until June 2014, we must take into consideration the possible negative impact of a limited network capacity at some of the schools. Then we will lease and implement the new servers as needed across the district, followed by conducting a survey of customers to determine the impact of the new servers.

### **3.4 Office Copier and Printer Lifecycle Program**

#### **3.4.1 Scope, Objectives and Output**

This initiative includes all imaging devices throughout the District – academic and business scanners, faxes, printers and copiers. Analysis will include Print Shop operations and maintenance costs. Consideration will be given to reducing the overall number of devices through intelligent and effective consolidation, as well as to outsourcing of equipment ownership and maintenance.

The objective is all TUSD scanners, faxes, printers and copiers are part of a full service model where the district is only paying for per individual use. Additionally, placement of equipment meets staff needs while also reducing costs.

The outcome is that TUSD saves substantial money on scanners, faxes, printers and copiers compared with our current costs, while also saving support time and effort. Users of the devices have modern, fast, multi-functional devices to meet their scanning, faxing, printing and copying needs, and the district reduces its paper use and becomes more environmentally friendly.

#### **3.4.2 Completed in 2011 – 2012**

We began researching the options including leasing equipment, paying based on per individual use of equipment and initial ROI factors. 63 copiers were leased and installed at various sites throughout the district due to urgent needs.



### ***3.4.3 Planned work for 2012-2013***

A . An RFI and Return on Investment study will be conducted to determine how much can be saved with this initiative. An RFP will be published to select a vendor to provide implementation and full service for the scanners, faxes, printers and copiers. The current intent is for the selected vendor to assume management of existing useful devices and to deploy additional devices as necessary each year throughout the district. The District will pay only per individual page/click use. We will coordinate with the schools and vendor to reduce negative impact to the schools and learning by the students during deployment. As the vendor assumes management and/or deploys in each location it will ensure that the equipment is working and staff understand how to use it. We will send out a survey to random schools and departments asking for input on the impact of the new copier type devices. If we are successful our survey will show staff, faculty, and students are confident that the district's copier devices are properly managed and meeting the users needs.

## ***3.5 IT Security and Disaster Recovery Modernization***

### ***3.5.1 Scope, Objectives and Output***

This initiative encompasses the aspects of IT Security in which the district is most exposed as well as a comprehensive Data Backup and Recovery plan. The plan will not only include Technology Services equipment and managed data but all items within the district that require backup and recovery of data. It will also include a more in-depth assessment of security risk and recommendations for remediation. Risk Management, Legal and others in the District will be part of this initiative. The initiative will include coordination with infrastructure security and disaster planning to ensure that what is being done as part of the infrastructure initiative is reviewed and included in this plan.

The objective is for TUSD to adhere to IT industry security standards and have a viable Data Backup and Recovery plan. The outcome is the District is protected from and capable of responding to security threats and disasters in a comprehensive and capable manner.

### ***3.5.2 Completed in 2011 – 2012***

We began researching our current state of backup and recovery. We reviewed the issues we had with the District's last backup solution and how we can improve the information we give vendors during an RFI/RFP process. We gathered substantial amounts of information about the current state of our backup systems and our future needs and drafted an RFI document.

We researched best practices regarding IT Security as well as reviewed data from a high level assessment done the prior year. We gathered information regarding our current state of security and some of our security needs. We began to research some security improvements we can initiate right away.

### ***3.5.3 Planned work for 2012-2013***

An RFI and then RFP will be published for a backup solution and a vendor will be selected. The solution will be tested and implemented district wide.



An IT Security Assessment will be done by a company hired through an RFI/RFP process. Based on the assessment, processes will be changed, policies will be created and software possibly will be purchased to improve the security of the data and systems within TUSD. We will capture metrics regarding our security and backup capabilities both before and after implementation. Success is an improvement in a certain (currently unknown) % of the metrics.

### ***3.6 Professional Development for Minimum Technology Competencies***

#### ***3.6.1 Scope, Objectives and Output***

This initiative will create a process for self-assessment and professional growth regarding the use of technology so that all staff meets TUSD's minimum technology competencies. As base-line efficiency is established and achieved for each employee group, the competencies will be updated to reflect the needs of the respective employee group and changing technologies. The intent is also that competencies will be included in all position descriptions so that new hires will be aware of the required skills. Usage of these skills should be included in the evaluation process. Initially, this project is for administrators within the district, but in future years it will be expanded to include other position types as well as to have more comprehensive competencies.

The objective is to increase effectiveness and efficiency of district personnel and promote the effective integration of technology within the classroom in order to increase student achievement. The outcome is staff in TUSD will have the knowledge and ability to use the technology expected of their position, thus increasing district-wide efficiency and student achievement.

#### ***3.6.2 Completed in 2011 – 2012***

Human Resources and other district personnel worked together to understand the scope and work involved in such a project. We reviewed some of the tools we currently have to help increase staff's capacity regarding technology literacy. We discussed the many obstacles and possible solutions to them, such as phasing the project.

As a first phase, we partnered with Technology Services Training group and the Curriculum, Instruction and Professional Development Department to provide special training for staff that received new computers as part of the End User Devices Initiative. The training covered Windows 7 and Microsoft Office 2010 overview to ensure staff could use the new capabilities of their computers. During the summer, more advanced training will be offered.

#### ***3.6.3 Planned work for 2012-2013***

We will work with Human Resources and other district personnel to create a self-assessment instrument (possibly on-line) as well as create the professional development program. TUSD already has many tools to help increase staff's capacity regarding technology literacy. As this initiative is implemented, an assessment of each person's hardware needs will be performed to ensure outdated equipment doesn't negatively impact the staff's new learning. This will include performance feedback in the staff evaluation process.



### **3.7 Improved Web Presence and Support for Schools and Teachers**

#### **3.7.1 Scope, Objectives and Output**

This initiative will include a needs assessment for district personnel regarding online web presence, and a vendor led web and server architecture plan (server and network topology; included services [blog, wiki, calendaring, etc.], hardware and software options; capacity planning, etc.). This will eventually include all aspects of the district's web presence but the solution will be piloted in order to garner as much input as possible and will be implemented in phases. Web site and page templates, along with easy to use development tools will be used to enable easy execution and ensure consistency of use for the customers.

The object is that TUSD has an integrated, easy to use environment for improving the district's public and internal web presence and for enabling administrators and faculty to develop and maintain websites based on common templates. The new TUSD web services platform is implemented and used in all schools and departments across the district. The output is increased communication to/from students, parents and the community at large about the district, schools, classes, activities, etc. Creation of a virtual work space that will allow both teachers and students to work collaboratively in an asynchronous manner best suited for college and workplace readiness.

#### **3.7.2 Completed in 2011 – 2012**

We visited Peoria USD, which is using one web platform product very successfully and learned how they implemented such a project, including getting end user and Superintendent support. We began to gather information from other districts across the country regarding the platform and processes they used, as well as lessons learned. Additionally, we started gathered information about the issues and needs different TUSD departments currently have and began prioritized them.

#### **3.7.3 Planned work for 2012-2013**

Finish data gathering and prioritizing needs within TUSD. An RFP will be used to hire the initial company to design and create the architecture and templates. Within the constraints of procurement policies and regulations the vendor will help develop the approach for acquisition of any hardware and software needed to meet the project's objectives.

With a vendor partner we will define and plan phase 1 of the project and implement. The vendor might help gather feedback and assess the impact as well as the processes of phase 1. We will start work on phase 2 based on the lessons learned. By the end of this year, we will have planned and built the architecture for the base system, and have at least 1 part of the services up and running successfully. Professional development will be included for staff to ensure an easy transition both for district web masters as well as Technology Services support technicians. Public Relations communication of the new abilities will be included so that the user community is aware of the new and improved web presence. We will send out a survey to random schools and departments and external users (if affected) asking for input on the impact of the new services to learning or their work.



### **3.8 Maintenance of Technology**

#### **3.8.1 Scope, Objectives and Output**

This initiative is intended to provide responsive central provisioning of at least a substantial subset of routine and necessary supplies and maintenance capabilities. This initiative addresses maintenance and supplies for all types of site technology the District currently owns (about 28 different types including PC's, monitors, cabling, phones, projectors, bulbs, etc.). The objective is supplies can quickly be issued and maintenance of equipment is budgeted and managed. The outcome is that schools and departments will have reduced wait times on repairs. Approvals for acquisition of technology equipment will be tied directly to the district's ability to fund maintenance and supplies.

#### **3.8.2 Completed in 2011 – 2012**

Technology Services conducted an assessment of a subset of the maintenance needs of technology within the district. We created an initial budget which will cover fixing desktops, laptops and Promethean board as well as provide needed extra small equipment (cords, connectors, etc.).

#### **3.8.3 Planned work for 2012-2013**

Repair all non-operational equipment throughout the District to get a baseline for a maintenance program. Purchase a small inventory of replacement parts. Technology Services will develop a comprehensive Asset Management Plan that includes end-user devices and all other assets for which maintenance and supplies are required. The team will develop appropriate processes for tying purchase of technology equipment to the ability to fund maintenance and supplies. We will send out a survey to random schools and departments asking for input on the impact of the repaired equipment to learning or their work.

### **3.9 Replace current Enterprise Resource Planning system**

This project was initiated in 2009 but was not included in the Technology Plan until this year. The implementation of the project has changed recently and so is being added to the Technology Plan.

#### **3.9.1 Scope, Objectives and Output**

The full scope of the original project was to replace TUSD's current ERP system, PeopleSoft, with a new commercial system acquired through a competitive RFP process. The competitive acquisition resulted in selection of the Lawson ERP system. The project was to be implemented in a phased approach. Finance and Purchasing were implemented first (in July of 2011) and then Benefits, Payroll and Human Resources were to be added. After significant analysis of existing business processes in those areas, the project team concluded that the remaining modules of the system could not be successfully implemented without first making major changes to the way in which TUSD organizes and executes those processes. Consequently, staff informed that Board that it was suspending further implementation of the Lawson system pending completion of substantial Business Process Redesign work. The revised plan breaks the overall project into five component projects: Finance is responsible for 1) Reviewing, creating the improvement plan and improving the most critical business processes, and 2) Evaluating the Lawson software based on the To-Be recommendations of project 1. Technology Services will manage the implementation of the recently



selected Time and Absence Management Software (TAMS). Technology Services is also responsible for creating a Functional Application Support Team (FAST) that will provide technical analysis and support to the business units that use Lawson, and for managing the implementation of the remaining Lawson modules: Benefits, Payroll and Human Resources.

The objectives are to have streamlined, appropriate process that are supported by the ERP software, staff's use of the system is easier and meets their needs better, and we are able to manage many of the most critical aspects of TUSD's support work effectively and properly. The output is an ERP that works as expected and interacts with other systems, as well as a support structure that improves the districts use of the system.

### ***3.9.2 Completed in 2011 – 2012***

We supported the users regarding their needs for training and improvements in the Finance and Purchasing parts of the system. We began the planning of Phase 2 (Human Resources, Payroll and Benefits) but stopped to do the business process review. The TAMS RFP was completed and a vendor was selected. The assessment project component is scheduled to begin during the summer.

### ***3.9.3 Planned work for 2012-2013***

Complete the assessment of the Lawson product and our implementation thus far. Complete the implementation of the business process improvements work. Resume implementation of the product, subject to the assessment, with the goal of completion in January or June of 2014.

## 4 New Initiatives for 2012-2015

The initiatives in this section are new, starting in the 2012-2013 school year. These initiatives were gathered from the work STPC did regarding strategic and operational drivers, initiatives that are known to be required next year, and initiatives that have been discussed as being needed. This year's Technology Strategy continues the focus on rebuilding the technology foundation, but begins to move TUSD in the direction of adding value on top of that foundation. Specifically, the FY 2012-15 Technology Strategy is organized into the following three tiers, along with their associated initiatives:

- Rebuilding the Technology Foundation
- Managing Enterprise Data and Software Applications
- Improving Student Achievement

### 4.1 *Rebuilding the Foundation*

Last year's overall Technology Strategy was focused entirely on rebuilding the technology foundation of the district. The associated initiatives are the responsibility of departments (primarily TS last year) that provide support to the rest of the district. Accordingly, those foundational departments collaborate with rest of the district during implementation. The district made a great deal of progress in this area, but much work remains to be done, including continuation of projects started last year and several new technology foundation initiatives. This year's Technology Strategy and the following initiatives continue to build on the basic foundation for the district and set the stage for the value-added initiatives that comprise the second two tiers of the strategy.

#### 4.1.1 *Improve School Facility Building Systems*

##### 4.1.1.1 *Description of Need and Solution*

The current building systems across the district are old, disparate, and do not meet the increased needs of TUSD. These various systems include access control, security alarms, surveillance, fire alarms and energy and status monitoring equipment.

##### 4.1.1.2 *Scope*

This initiative consists of improving the building systems throughout TUSD school buildings with an emphasis on entrance security alarms, key card access control, video cameras and tracking. Traditional building systems continue to technologically evolve calling for upgrade and replacement. These solutions will allow monitoring through networked systems.

##### 4.1.1.3 *Objectives*

TUSD has a modern integrated and reliable building and security systems.

##### 4.1.1.4 *Strategy*

Operations will lead this initiative. Research the need and the options. Possibly do an RFI leading to use of the RFP process to select vendors that will implement the selected systems and solutions.

##### 4.1.1.5 *Research Activities*

Research the specific needs on the schools regarding building systems as well as the current best practices for school districts with similar system issues as TUSD. Research and analyze the various vendor options through state contracts or the RFI/RFP process.





#### **4.1.1.6 Acquisition Approach**

Capital planning will we be required to purchase equipment and services as the solutions offer.

#### **4.1.1.7 General Schedule**

The anticipated schedule similar to the following:

- July- December – current development of projects will continue to address needs that can be funded with currently available Bond funds.
- January – June – research for future vendor offering, possibly doing an RFI
- Following year – develop Capital funding plan, create RFP, select vendor and implement plan.

#### **4.1.1.8 Expected budget**

Approximately \$3,000,000 dollars are currently scheduled from 2004 Bond Program. Future budgets will be developed based on success of the currently scheduled projects and the results of the research and RFIs.

#### **4.1.1.9 Impact**

Students and buildings will be protected by a modern, integrated building and security systems at every school. Parents will feel more secure knowing that their students are in safer schools with improved environments.

### **4.1.2 Improve Energy Performance Contracting**

#### **4.1.2.1 Description of Need and Solution**

TUSD's current HVAC (heating, ventilation and air conditioning) systems are not able to reduce the districts energy usage, because they are so antiquated. Additionally, many schools' lighting was not designed with energy performance in mind. TUSD is consequently spending more on energy costs across the district than necessary.

#### **4.1.2.2 Scope**

This initiative consists of improving the HVAC and lighting for all buildings within TUSD. The solution will be networked and controlled by an Energy Management System.

#### **4.1.2.3 Objectives**

TUSD has a Modern Energy Management System supported by new HVAC and lighting equipment.

#### **4.1.2.4 Strategy**

Operations will lead the initiative. Research the need and the options. Use the RFP/RFI/RFQ process to select a vendor that will implement the selected solution.

#### **4.1.2.5 Research Activities**

Research the current situation at each the schools regarding HVAC and lighting. Research the current best practices for school districts with similar energy needs as TUSD. Research and analyze the various vendor options through an RFI/RFP/RFQ process.

#### **4.1.2.6 Acquisition Approach**

Depending on the solution offered, lease – purchase will be used with the amount of District capital investment determined during evaluation.





#### 4.1.2.7 General Schedule

The STPC anticipates a schedule similar to the following:

- June - September – vendors research schools sites and propose solutions
- October – December – Selection of vendor proposal and request board approval
- January – Begin implementation of solution
- February – June – Evaluate additional district sites for additional phases if needed

#### 4.1.2.8 Expected budget

Operations is expecting this effort to be self funding in that the reduced energy cost will pay for updates and generate an overall reduction in energy cost.

#### 4.1.2.9 Impact

TUSD will save money on its energy bills.

### 4.1.3 Upgrade Microsoft Exchange Environment

#### 4.1.3.1 Description of Need and Solution

Microsoft Exchange is the software system that provides email, calendaring, address book, etc. functions to the District staff and faculty. Our current Exchange environment is very old (almost 10 years) and no longer supports the needs of the district. We are running Exchange 2003 on servers that are over 4 years old and do not have nearly the combined capacity required to support an enterprise of TUSD's size. Microsoft will no longer support Exchange 2003 by 2014. Additionally, we currently have no archiving capacity within our Exchange environment and thus can not easily meet the demands we see each year for Public Record requests, particularly involving email messages. There is no anti-virus software on the Exchange servers because the current version of ForeFront (TUSD's Microsoft-owned anti-virus solution) doesn't work with Exchange 2003 and the alternative, Antigen for Exchange 2003, is no longer supported by any company. High volume users don't have adequate storage space and access time for them is slow. Also, our records retention policies require district staff to keep essentially all email messages for many years. Our current implementation also has no failover capacity, so an issue with a server will affect all email users on that server. We no longer have direct links in logged events to MS Technet, hampering our ability to troubleshoot and solve problems as they occur.

#### 4.1.3.2 Scope

This initiative will replace all the current email servers and upgrade the Exchange software. There will be an assessment and possible purchase of archiving/journaling system as part of the initiative. We will research more robust and better access to email through modern communication devices (iPad, smart phone, etc.). This initiative will not include changing email policies or upgrading the client software, Outlook 2010.

#### 4.1.3.3 Objectives

In addition to improved performance and reliability, the objectives of this initiative include being able to respond to Public Record requests quickly and easily and have enough storage for the increased use of email within the district. A goal is the district will meet regulatory requirements for records retention. It will enable the district to have servers that are leased and on a 3-year life-cycle management program. Another objective is to be able to use the newest security and management features to reduce staff time and to have built in redundancy to increase uptime.



#### 4.1.3.4 Strategy

Technology Services will lead the initiative. We will work with Microsoft to research the future expected growth needs of TUSD's email and archiving needs. Then we will evaluate (benefits vs. costs) the need for redundancy, as well as integration with other systems. The equipment and software needed will either be leased or purchased. After implementing email support staff will be trained in all aspects of management of the new system.

#### 4.1.3.5 Research Activities

We will research the needs of the district and the capabilities of the software, as well as a capacity plan for email. We will assess the Archiving/Journaling system and equipment needed as well as the training that will be required. A thorough understanding of an implementation plan that will impact the customers the least will be obtained with help from Microsoft.

#### 4.1.3.6 Acquisition Approach

Acquire new servers based on capacity plan. If approved we will purchase Archiving/Journaling system. We will acquire expertise from Microsoft in planning and implementing the transition from Exchange 2003 to 2010. Additionally, we will purchase and provide training needed to staff as well as for server and email maintenance staff.

#### 4.1.3.7 General Schedule

The STPC anticipates a schedule similar to the following:

- |                                                       |                |
|-------------------------------------------------------|----------------|
| • Plan project                                        | Jul 2012       |
| • Research/analyze future business and capacity needs | Jul – Aug 2012 |
| • Research SW options                                 | Jul – Aug 2012 |
| • Design architecture                                 | Aug – Sep 2012 |
| • Cost needed hardware and software                   | Oct 2012       |
| • Possibly get Governing Board approval               | Nov 2012       |
| • Purchase hardware and software                      | Nov - Dec 2012 |
| • Implement hardware and test                         | Jan 2013       |
| • Implement software and test                         | Jan – Feb 2013 |
| • Cut over some customers                             | Mar 2013       |
| • Cut over all staff in phases                        | Apr – May 2013 |
| • Close project                                       | Jun 2013       |

#### 4.1.3.8 Expected budget

The actual budget for this initiative will not be known until all research and accompanying decisions are made. Below are some very general amounts.

|                  |           |
|------------------|-----------|
| Exchange archive | \$250,000 |
| Hardware         | \$250,000 |

#### 4.1.3.9 Impact

All staff will have working and reliable email, calendaring, and other functions, and all email and related items are able to be stored, retrieved and searched more easily than the current system. There is faster access for high volume users of the email system.



#### **4.1.4 Expand SAN storage**

##### **4.1.4.1 Description of Need and Solution**

Currently the district reached the limits of its high-volume storage that is part of a Storage Area Network (SAN) and yet the need to store large volumes of data continues to increase rapidly. As the district move more and more to database driven decisions we need increase our capacity, for both fast (i.e. volatile) and slow (i.e. static) access storage. Additionally, as the network infrastructure improves the district will be looking to move consolidate storage from the sites to the data center.

##### **4.1.4.2 Scope**

Replace the current SAN storage with faster larger storage that has the tools and management capacity required for the district during the next 3-5 years. We are not including basic Direct Attached Storage (DAS). This project is tied to the Backup and Recovery initiative.

##### **4.1.4.3 Objectives**

Obtain a modern SAN solution that meets the districts growing needs, and can grow with the district.

##### **4.1.4.4 Strategy**

Execute an RFI/RFP process to select the best vendor provided solution for the district. Purchase or lease the equipment, install and use.

##### **4.1.4.5 Research Activities**

Options for SAN devices are varied and often each vendor meets certain specific client needs with somewhat proprietary solutions. We need to understand our needs now and in the next 3-5 years for SAN type storage and then research the vendors offering to understand the best solution for the district.

##### **4.1.4.6 Acquisition Approach**

We will either purchase or lease the equipment.

##### **4.1.4.7 General Schedule**

The STPC anticipates a schedule similar to the following:

- July - September – research TUSD's needs
- October – December – RFI/RFP process and select a vendor
- January - March –Acquire equipment and implementation of solution

##### **4.1.4.8 Expected budget**

After we do the research on the various options we will have a better understanding of the cost. A first order estimate is \$500,000.

##### **4.1.4.9 Impact**

TUSD will be able to easily store and access current and new data, quickly and reliably. The data center will have tools to properly manage the storage to meet the changing needs of the district.



#### **4.1.5 Obtain Asset Management Software and Management Plan**

##### **4.1.5.1 Description of Need and Solution**

Currently, the district has Asset Management software but it is not meeting the needs of the district. This is especially apparent as the district expands the amount of its lower cost assets such as laptops and handheld devices and also deals with increased security concerns. The current management of our assets is not appropriate for a school district our size, and the lack of proper management is become an increasing security concern.

##### **4.1.5.2 Scope**

The scope of the project is to be defined by the many stakeholders, which include Finance, Property Control, School Safety, Risk Management, and Technology Services.

##### **4.1.5.3 Objectives**

To create an asset management plan and acquire a solution that meets the growing and different needs of the district.

##### **4.1.5.4 Strategy**

The department that will lead this project is currently undecided. Research the districts needs and various options, purchase or lease the solution and create a management plan, and then implement.

##### **4.1.5.5 Research Activities**

Research the types of assets we have, what we have to do for asset management by law and what we need to do based on the needs of the district. Research asset management plans at other school districts as well as best practice.

##### **4.1.5.6 Acquisition Approach**

Purchase or lease the appropriate software solution based on the RFI/RFP process.

##### **4.1.5.7 General Schedule**

The STPC anticipates a schedule similar to the following:

- July - September – research TUSD's needs
- October – December – RFI/RFP process and select a vendor
- January - March – Acquire equipment and implementation of solution

##### **4.1.5.8 Expected budget**

After we do the research on the various options we will have a better understanding of the cost. One issue is that we use different funding sources to acquire our assets. These sources often require specific non- mixing of funds as well private use of items (e.g. we have M&O funded, Title funded, CTE/JTED funded assets).

##### **4.1.5.9 Impact**

All assets are properly managed so all laws and district needs are met.



#### ***4.1.6 Acquire and Implement Systems Center Configuration Manager***

##### ***4.1.6.1 Description of Need and Solution***

Our current version of our anti-virus software (Forefront) does not work well with the Windows 7 Operating System. We cannot move to the next version of the software without the Systems Center Configuration Manager. Additionally, TUSD currently does not manage software and configurations on its workstations and servers in the most effective and efficient way possible. Though we have an existing software management solution (Altiris), it is expensive and not fully capable of meeting all the districts needs without purchasing further modules and upgrades. Proposed Microsoft Systems Center Configuration Manager offers an agent-based solution for managing endpoints to ensure security, management visibility, compliance, and reduced help desk escalations, and is ultimately less expensive than our current solution.

##### ***4.1.6.2 Scope***

Implement Microsoft Systems Center Configuration Manager (SCCM). After it has proven it works well remove current desktop management solution. Also, improve the organizational capacity for this work.

##### ***4.1.6.3 Objectives***

Enable ForeFront to be upgraded to the latest version. Improve Technology Services ability to improve security and to manage workstations remotely. Proposed Microsoft Systems Center Configuration Manager offers the following systems management capabilities: hardware and software inventory management, remote software and patch distribution and management.

##### ***4.1.6.4 Strategy***

Technology Services will lead this initiative. We will research what is needed for implementation, acquire software and hardware and implement. We will review our current organizational structure regarding workstation support and make changes that will streamline the work and meet best practices.

##### ***4.1.6.5 Research Activities***

We need to understand the details of this complex implementation, including the training needed, hardware and software needed as well as time. We will research best practices regarding workstation management, use of management software and organizational structure and capacity. This will include engaging Microsoft Services to assist with discovery, planning, deployment, and training.

##### ***4.1.6.6 Acquisition Approach***

Purchase or lease the hardware needed for the initiative.

##### ***4.1.6.7 General Schedule***

The STPC anticipates a schedule similar to the following:

- July – research implementation aspects and organizational aspects
- August - September – acquire needed hardware and software for the first year, begin organizational changes
- October – Implement in a phased approach



#### **4.1.6.8 Expected budget**

After we do the research on the implementation and hardware needed we will have a better idea of the costs. The software is part of our Microsoft Campus Agreement, but at this point we are unsure of possible additional costs. There will be costs associated with vendor implementation, hardware, software, test lab environment, training for skills and competencies, and program management.

#### **4.1.6.9 Impact**

Anti-virus software works on all computers. Technology Services staff can easily push out upgrades, patches, and software to workstations and servers, as well as obtain an inventory of each computer all remotely and centrally.

### **4.2 Managing Enterprise Data and Software Applications**

The solid technology foundation resulting from the first tier of our Technology Strategy provides a strong platform on which the district will launch a number of high-value initiatives to improve student achievement and operational effectiveness. Each such initiative and corresponding program requires reliable access to enterprise data and powerful software applications. Currently, a number of mission-critical functions throughout TUSD are not supported with any real software applications and their associated data assets are largely unmanaged. Further, there are hundreds of software titles (and data that they contain) that exist and are used in schools and departments throughout the district but are essentially unmanaged.

This tier of the Technology Strategy and the following initiatives prepare the district for more complex work that will improve achievement and operational effectiveness. The first two initiatives are about establishing the organizational capability, tools, and profiles to properly manage and make available our current enterprise data and software applications. The second two are specific software application initiatives that are required to provide continuing support to two critical district functions.

#### **4.2.1 Implement Software Applications Management**

##### **4.2.1.1 Description of Need and Solution**

The district has many information systems that support both educational and businesses processes. Technology Services manages a very small number of large information systems like the Mojave (Student Information System), PeopleSoft and Lawson (Enterprise Resources Planning), Destiny (Library Services). Many systems are managed outside of TS like MapNet (Transportation Routing System), WinSnap (Food Services System), MapConn (Operations Work Order System) and SuccessMaker, Read 180, etc. There is no systematic management of our information systems over the complete lifecycle of the application. These important systems need to be managed in order to obtain the benefits desired in a fiscally responsible manner.

##### **4.2.1.2 Scope**

The scope is a detail inventory of the existing information systems in use within the district. Application governance policies will be developed during the first year.

##### **4.2.1.3 Objectives**

Effectively manage the information systems across the district in order to effectively take advantage of the systems.



#### **4.2.1.4 Strategy**

Technology Services will implement this initiative. We will inventory software and create application profiles, review use, establish evaluation protocols, and reduce costs of software used throughout the district. We will determine current inventory and anticipated requirements for systems and data integration to support TUSD mission-critical functions. In first year, we will get organizational capacity and processes in place and institutionalized. This also includes acquiring and implementing foundational tools for managing an integration environment as well as implementing ongoing software license management. The second step will be to review the current processes and procedures in use for planning, building and running our information systems. Create standardized processes that people within the organization can use to effectively procure these new application systems. Develop procedures and processes to gracefully wind down and sunset applications that are no longer needed in TUSD. Build and develop the capability to internally develop applications if none exist on the market.

#### **4.2.1.5 Research Activities**

Research the current applications we have, the needs of staff to use the applications, as well as best practices for application management in school districts. Assess and define the work and staffing needed for the project and then create the schedule and budget. Research will include finding industry best practices for Application Lifecycle Management and Application Portfolio Management.

#### **4.2.1.6 Acquisition Approach**

Possible lease/purchase or internally develop an application management system.

#### **4.2.1.7 General Schedule**

At this time, the amount of work needed and the staffing for the project are unknown, so the schedule has not been set. We intend to complete a great deal of research and information gathering early in the year that will inform decisions around overall scope, cost, and schedule.

#### **4.2.1.8 Expected budget**

Undetermined at this time.

#### **4.2.1.9 Impact**

TUSD provides and supports application software that is appropriate to staff, faculty, and student work and fully manages those applications, ensuring maximum benefit at the lowest possible cost.

### **4.2.2 Implement Enterprise Data Management**

#### **4.2.2.1 Description of Need and Solution**

The district has tremendous amounts of data (nearing 70 terabytes) but does not have adequate plans for data management. Therefore, staff can not easily find the data they need, nor is the data integrated for easy use. The need is becoming more acute as the Desegregation Special Master and Arizona Department of Education, as well as TUSD leadership need data to analyze and drive how district schools are improving academically.

#### **4.2.2.2 Scope**

This initiative includes all data across the district. Initially the focus will be data that is found in systems the district uses such as Mojave (Student Information System), Lawson and PeopleSoft (Enterprise Resource Planning systems), and smaller systems such as Destiny (Library Circulation





and Textbook Management), WinSNAP (Food Services, POS), MapNet (Bus Routing), True North Logic (Professional Development), etc. Eventually it will include data stored in Excel files, Word documents and small Access databases as well as unstructured information (video clips, articles, and other resources)

#### **4.2.2.3 Objectives**

All important data of the district is properly managed leading to easier integration with other data and more meaningful reports. Manage the districts data in a cost effective way that allows easy integration with other data across the district. Maneuver from current dispersed, fragmented data environment to decision-centric data that is accurate, relevant, and timely with new capabilities for data modeling, forecasting, and simulation.

#### **4.2.2.4 Strategy**

Technology Services will lead this initiative. We will create data management processes for the district based on best practices that include data life-cycle management, integration, data quality, and analysis and reporting capabilities. Moreover, we will create a master data management plan for a "single version of the truth." Within the first year, we will get organizational capacity and processes in place and institutionalized but will only address the highest priority data management capabilities.

#### **4.2.2.5 Research Activities**

Define and research the details of the highest priority data management capabilities based on best practices. Research the organizational changes that are needed for successful implementation. Research and assess how to implement the life-cycle management in the most impactful way. Research, analyze and create high priority reporting capabilities, including integrating the needed data.

#### **4.2.2.6 Acquisition Approach**

No specific tools or software products have been researched or evaluated at this time. We expect to do that analysis as part of this initiative, with possible software purchase(s) during the 2013-14 school year.

#### **4.2.2.7 General Schedule**

The schedule for this initiative is yet to be determined..

#### **4.2.2.8 Expected budget**

To Be Determined.

#### **4.2.2.9 Impact**

The most vital data within the district is properly managed and easily accessible in the format needed via reporting or integration with other systems. Staff of TUSD can easily access the data they need, especially regarding assessment, in the format they need. The data has been combined with other appropriate data so decisions can be made, especially that will improve the achievement of students. By responding to user needs for timely data and accelerating TUSD decision-making ability, we are satisfying one of the District's five strategic priorities.





### ***4.2.3 Acquire and Implement Food Services System***

#### ***4.2.3.1 Description of Need and Solution***

The current contract for TUSD's Food Services system is running out. We must have such a system to properly provide and manage food distribution and Point-of-Sales operations to the school sites and purchase by the students.

#### ***4.2.3.2 Scope***

Replace the current Food Services System via an RFI/RFP process.

#### ***4.2.3.3 Objectives***

Acquire a Food Services system that meets the districts needs of warehouse/inventory management, distribution routing, POS (Point of Sale) operations, nutrition based menu creation, and Federal meals regulatory requirements.

#### ***4.2.3.4 Strategy***

Research the need and then execute RFI and RFP for new Food Services System, funded and lead by Food Services Department.

#### ***4.2.3.5 Research Activities***

Research the current needs within Food Services for a management system. Research the vendor offerings.

#### ***4.2.3.6 Acquisition Approach***

Provide a comprehensive RFI to which vendors of food service management systems will respond. Review of functionality and process to determine necessary RFP requirements. Issue the RFP to interested vendors for their proposals. Establish a schedule of proposal presentations and impartial reviews to identify the best possible fit from proposed systems. Assess the overall impact and risk of system change within TUSD's Foodservices department and develop an implementation and training schedule accordingly.

#### ***4.2.3.7 General Schedule***

Overall schedule is to develop an RFI for fall execution, followed by RFI development and execution in the spring.

#### ***4.2.3.8 Expected budget***

To Be Determined. The acquisition is planned to be funded by the Food services Department.

#### ***4.2.3.9 Impact***

The acquisition of a new food service management system will improve sales and meals tracking, account and monetary deposit management, forecasting, route and inventory control, department communications and reporting with Federal and state agencies as well as responding to parental inquiries.



#### ***4.2.4 Acquire and Implement Professional Development System***

##### ***4.2.4.1 Description of Need and Solution***

The current contract for TUSD's Professional Development (PD) and training management system (True North Logic) is running out. We must have such a system to properly keep track of what is being offered, allow staff to sign up for training and keep track of who has received PD.

##### ***4.2.4.2 Scope***

Replace the current PD system via an RFI/RFP process.

##### ***4.2.4.3 Objectives***

Acquire a PD management system that meets the districts needs.

##### ***4.2.4.4 Strategy***

Research the need and then execute RFI and RFP for new System, funded and lead by Curriculum, Instruction and Professional Development.

##### ***4.2.4.5 Research Activities***

Research the current needs within the district for a comprehensive PD and training management system. Research the vendor offerings.

##### ***4.2.4.6 Acquisition Approach***

Purchase, lease or acquire access to a PD system.

##### ***4.2.4.7 General Schedule***

To Be Determined. The current contract expires in April of 2013, so the new system must be acquired prior to that time.

##### ***4.2.4.8 Expected budget***

To Be Determined.

##### ***4.2.4.9 Impact***

Staff and management are able to easily know what PD and training are offered, sign up for the classes, and have records of classes completed.

#### ***4.3 Improving Student Achievement***

During this school year the STPC and Academic Leadership have begun discussions around improving student achievement through a set of initiatives collectively referred to as "The Achievement Management Initiative". In addition to numerous ADE activities and mandates currently in place and on the horizon, the reality in TUSD is that the core functions that affect achievement – Curriculum Management, Instructional Management and Effectiveness, and Assessment Management (the so-called CIA "three-legged stool") – are not directly supported in any meaningful way with software or data management systems. Moreover, legal requirements placed on the district through the Court's Desegregation Order, as well as our desire to achieve full equity of access for students throughout the district, must be supported with appropriate software and data management systems.



There are many components and aspects of the CIA “stool”, and TUSD has a tremendous amount of work to do with respect to purely functional requirements, let alone regarding technology tools and systems. It is critical that we get started now, however, with a small number of key (and significant) initiatives. The following two initiatives are critical foundations for CIA support, Desegregation compliance, and student equity management. They are significant initiatives – especially the first – and require our full attention now.

### ***4.3.1 New Student Information System***

#### ***4.3.1.1 Description of Need and Solution***

Our current Student Information System, Mojave, is nearing feasible end-of-life and does not have some critical components, such as Master Schedule Building, Standards-Based Report Cards, and Teacher Gradebook.

#### ***4.3.1.2 Scope***

Replace our current student information system, secondary gradebook system, and elementary report card system with a single integrated commercial system that meets the districts needs now and in the future.

#### ***4.3.1.3 Objectives***

Understand what the district needs regarding a student information system as well as State requirements, then acquire and implement. Replace the Making The Grade application (Secondary-level Gradebook) and the Elementary Report Card system on TUSD Stats.

#### ***4.3.1.4 Strategy***

Technology Services will lead the scoping and needs assessment of this project during the first year. This is a multi-year project that includes defining the scope, assessing needs, researching options, releasing RFI/RFP, purchase/leasing, and finally implementing.

#### ***4.3.1.5 Research Activities***

Working with multiple groups within the district, in the first year we will research what is needed in a comprehensive student information system by both the district and the Arizona Department of Education. We will research the different vendor options.

#### ***4.3.1.6 Acquisition Approach***

Purchase or lease a system based on RFI/RFP process.

#### ***4.3.1.7 General Schedule***

The overall schedule is not determined at this point. We anticipate spending the entire next school year developing scope and requirements.

#### ***4.3.1.8 Expected budget***

Undetermined at this time. Costs for purchase and full implementation services for commercial student information systems for a District the size of TUSD can be several million dollars.

#### ***4.3.1.9 Impact***

Users of the student information system will find it easier to run their schools, especial using the scheduler, grade book and report card functions.



### ***4.3.2 Implement a Comprehensive Assessment System***

#### ***4.3.2.1 Description of Need and Solution***

The district must assess students, teachers and staff but we currently do not have a comprehensive way to that across the district. One of the most urgent needs is a standardized assessment instrument for students that will show improvements in achievement across the district and across years.

#### ***4.3.2.2 Scope***

The scope still must be completed. We need to understand what's in this initiative and what isn't. Also, how is it related to the need of TUSD regarding Assessments and district-wide deployment of ATI (which is an online assessment system).

#### ***4.3.2.3 Objectives***

Put in place a comprehensive assessment management plan. Develop the ability to deliver formative assessments to students where results can be uploaded to A & R Department for inclusion in a teacher evaluation tool. There may be possibly other objectives.

#### ***4.3.2.4 Strategy***

The department leading this initiative and the details of the strategy are unknown at this time. It is expected the initiative will include research of needs, best practices and support systems for assessment management.

#### ***4.3.2.5 Research Activities***

Work with ADE/PARCC to determine how we need to prepare for online assessments. Student/Teacher/Course Connections (RTTT requirements for ADE) is related to this work. More details will follow after the scope is decided.

#### ***4.3.2.6 Acquisition Approach***

It is most likely that in year 1 the district will need to rollout a district wide online assessment system.

#### ***4.3.2.7 General Schedule***

Unknown at this time.

#### ***4.3.2.8 Expected budget***

Unknown at this time.

#### ***4.3.2.9 Impact***

Staff can easily find the assessment data needed to those that are excelling and those that need more assistance.



## Appendix A – Strategic Technology Planning Council Members

Following is the current membership of the Strategic Technology Planning Council. In general, STPC members are appointed for three year terms. Since this is the first year of the Council's existence, terms of one and two years will be set for some members to avoid a total turnaround in membership after three years.

| Name           | Position/Title                                                 |
|----------------|----------------------------------------------------------------|
| John Gay       | Chief Information Officer                                      |
| Frank Armenta  | Principal of Cholla High School                                |
| Clarice Clash  | Interim Coordinator for High School Curriculum and Instruction |
| Sabrina Cruz   | Principal of Brichta Elementary School                         |
| Kendra Bell    | Director for Elementary Schools                                |
| Kathy Prather  | Director of Career and Technical Education                     |
| Shelly Duran   | Director of Title 1                                            |
| Tina Stevens   | Director of School Improvement                                 |
| Jim Burns      | Operations Business Office Coordinator                         |
| Adrian Sanchez | Assistant Director, Financial Services                         |
| David Scott    | Director of Accountability and Research                        |



## **Appendix B – Arizona Department of Education ALEAT Submission**

The ALEAT submission must be printed and signed by the Superintendent. It is attached as a separate document.