FCMAT
FISCAL CRISIS & MANAGEMENT ASSISTANCE TEAM
CSIS California School Information Services

Santa Barbara Unified School District

Technology Review

July 2, 2012

Joel D. Montero
Chief Executive Officer

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CSIS California School Information Services

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David E. Cash, Ed.D., Superintendent
Santa Barbara Unified School District
720 Santa Barbara Street
Santa Barbara, CA 93101

Dear Superintendent Cash,

In August 2011, the Santa Barbara Unified School District and the Fiscal Crisis and Management Assistance Team (FCMAT) entered into an agreement for a technology review. Specifically, the agreement stated that FCMAT would perform the following:

> The district is requesting FCMAT to provide a comprehensive analysis of the district's current state of technology including hardware, software, professional development, departmental staffing, student assessment and accountability requirements and the use of technology. The FCMAT team will evaluate the workflow of the technology department and create an organizational workflow diagram to assist in the analysis. The team will interview site principals, department directors and classified staff to gather data regarding the types of software applications and hardware utilized at the district. The team will review and analyze the district's Technology Master Plan and Educational Master Plan and make recommendations, if any.

1. The technology review will include an analysis regarding the level of support for the following:

   a) Network administration

   b) Website development and support

   c) E-mail support for district and site level staff

   d) Student attendance system

   e) Financial reporting system

   f) Hardware installation and setup

   g) Application software used at district and site levels

h) Technology in the classrooms and student data assessment and accountability protocols

2. Review the job descriptions and staffing of the technology and assessment and accountability departments. This component will also include any site-level support and its impact on the both departments.

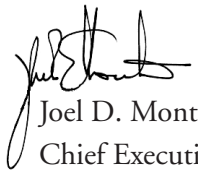
3. Review district board policies on the use and integration of technology for district-level and site-based instructional strategies. This component should include any obstacles or barriers that prevent the use of effective technology.

4. Based upon the support level required by the district's technology and assessment and accountability departments, provide staffing comparisons of districts of similar size and structure.

5. Review the design network regarding safeguards of the data residing on the systems in the event of a catastrophic event or security breach. Review the processes or planning that exist to upgrade the hardware and software assets to remain current with today's technology. Provide recommendations regarding professional development training and technical expertise of both departments to form a single department.

This final report contains the study team's findings and recommendations in the above areas of review. We appreciate the opportunity to serve the Santa Barbara Unified School District, and extend our thanks to all the staff for their assistance during fieldwork.

Sincerely,



Joel D. Montero
Chief Executive Officer

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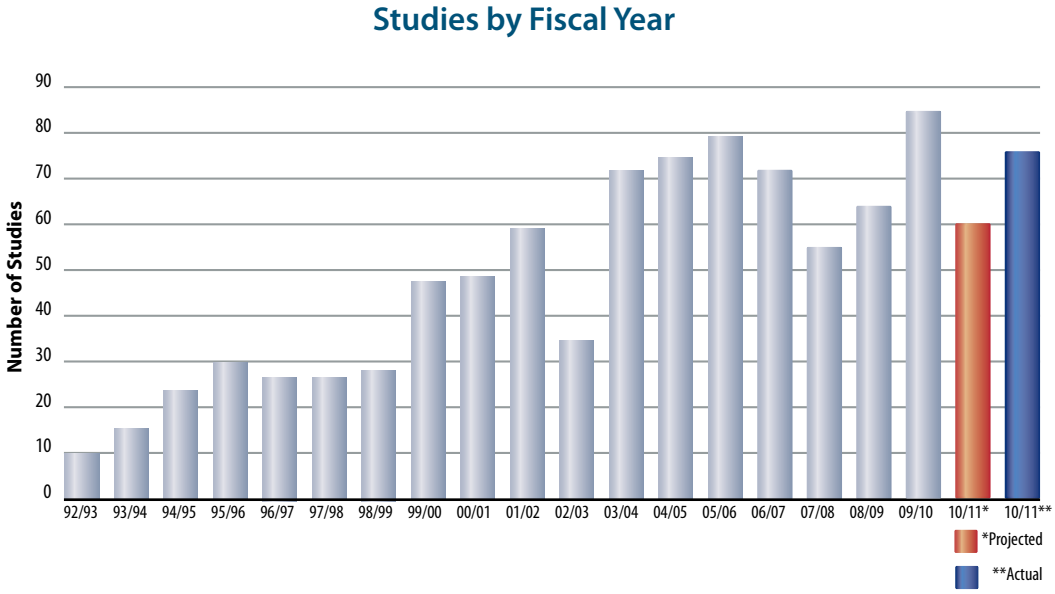
About FCMAT

FCMAT's primary mission is to assist California's local K-14 educational agencies to identify, prevent, and resolve financial and data management challenges. FCMAT provides fiscal and data management assistance, professional development training, product development and other related school business and data services. FCMAT's fiscal and management assistance services are used not just to help avert fiscal crisis, but to promote sound financial practices and efficient operations. FCMAT's data management services are used to help local educational agencies (LEAs) meet state reporting responsibilities, improve data quality, and share information.

FCMAT may be requested to provide fiscal crisis or management assistance by a school district, charter school, community college, county office of education, the state Superintendent of Public Instruction, or the Legislature.

When a request or assignment is received, FCMAT assembles a study team that works closely with the local education agency to define the scope of work, conduct on-site fieldwork and provide a written report with findings and recommendations to help resolve issues, overcome challenges and plan for the future.



FCMAT also develops and provides numerous publications, software tools, workshops and professional development opportunities to help local educational agencies operate more effectively and fulfill their fiscal oversight and data management responsibilities. The California School Information Services (CSIS) arm of FCMAT assists the California Department of Education with the implementation of the California Longitudinal Pupil Achievement Data System (CALPADS) and also maintains DataGate, the FCMAT/CSIS software LEAs use for CSIS services. FCMAT was created by Assembly Bill 1200 in 1992 to assist LEAs to meet and sustain their financial obligations. Assembly Bill 107 in 1997 charged FCMAT with responsibility for CSIS and its statewide data management work. Assembly Bill 1115 in 1999 codified CSIS' mission.

AB 1200 is also a statewide plan for county office of education and school districts to work together locally to improve fiscal procedures and accountability standards. Assembly Bill 2756 (2004) provides specific responsibilities to FCMAT with regard to districts that have received emergency state loans.

In January 2006, SB 430 (charter schools) and AB 1366 (community colleges) became law and expanded FCMAT's services to those types of LEAs.

Since 1992, FCMAT has been engaged to perform nearly 850 reviews for LEAs, including school districts, county offices of education, charter schools and community colleges. The Kern County Superintendent of Schools is the administrative agent for FCMAT. The team is led by Joel D. Montero, Chief Executive Officer, with funding derived through appropriations in the state budget and a modest fee schedule for charges to requesting agencies.

Introduction

Background

The Santa Barbara Unified School District, recently formed by a Thompson Bill unification (under which a high school may unify with one elementary district rather than all of its feeder districts) of the Santa Barbara Elementary and Santa Barbara Secondary school districts, serves approximately 15,324 students at 22 campuses in the city of Santa Barbara and surrounding metropolitan areas from Goleta to Montecito. The district's mission is to ensure educational success through high expectations and a commitment to excellence and to empower all students to reach their full potential as responsible, ethical and productive citizens in a diverse and changing world. The district aspires to establish a foundation that supports an efficient and effective use of technology districtwide. The objective of this report is to guide the district in developing resources and programs that support the implementation of new technologies while standardizing and maximizing current technologies.

Study Guidelines

In August 2011, the Santa Barbara Unified School District requested that FCMAT conduct a comprehensive review of the district's current technology. The study agreement specifies that FCMAT will perform the following:

> The district is requesting FCMAT to provide a comprehensive analysis of the district's current state of technology including hardware, software, professional development, departmental staffing, student assessment and accountability requirements and the use of technology. The FCMAT team will evaluate the workflow of the technology department and create an organizational workflow diagram to assist in the analysis. The team will interview site principals, department directors and classified staff to gather data regarding the types of software applications and hardware utilized at the district. The team will review and analyze the district's Technology Master Plan and Educational Master Plan and make recommendations, if any.

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2. Review the job descriptions and staffing of the technology and assessment and accountability departments. This component will also include any site-level support and its impact on the both departments.

3. Review district board policies on the use and integration of technology for district-level and site-based instructional strategies. This component should include any obstacles or barriers that prevent the use of effective technology.

4. Based upon the support level required by the district's technology and assessment and accountability departments, provide staffing comparisons of districts of similar size and structure.

5. Review the design network regarding safeguards of the data residing on the systems in the event of a catastrophic event or security breach. Review the processes or planning that exist to upgrade the hardware and software assets to remain current with today's technology. Provide recommendations regarding professional development training and technical expertise of both departments to form a single department.

FCMAT team members visited the district and conducted interviews with staff on January 9-10, 2012. During this visit, team members also toured Santa Barbara High School, Santa Barbara Junior High School, and the district's technology services department at the district office.

Before and during FCMAT's visit the team collected and reviewed documents needed to assess the district's staffing and organizational structure, and the roles and responsibilities of its technology staff. Documents reviewed and discussed in interviews included but were not limited to the district's education plan, technology plan, system information, operational policy and procedures application, and board policies and administrative regulations.

FCMAT interviewed staff members throughout the school district from as many areas of service as time would permit to ensure the inclusion of perspectives from a broad and representative range of staff members.

Study Team

The study team was composed of the following members:

Marisa Ploog, CPA
FCMAT Fiscal Intervention Specialist
Bakersfield, CA

Andrea Alvarado*
Sr. District Fiscal Services Officer
Merced County Office of Education

Susan E. Holliday, Ed.D.*
Executive Director, Technology
and Information Services
Capistrano Unified School District

John Lotze
FCMAT Technical Writer
Bakersfield, CA

Robert Stout, CNE6/A+/CCTO*
Network Engineer III
Kern County Superintendent of Schools

Greg Lindner*
Director of Technology Services
Elk Grove Unified School District

Phil Scrivano*
Chief Instructional Technology Officer
Las Virgenes Unified School District

*As members of the study team, these individuals were not representing their respective employers but were working solely as independent contractors for FCMAT.

Executive Summary

Most school districts are challenged by growth and change in technology use and support in all areas. As reliance on advanced technology increases, so do demands on the resources required to implement, support, maintain and replace these tools. Effective implementation of technology requires a strong, well-structured technology department that can plan for and support the integration of technology into the curriculum and help improve the district's academic programs.

The district's technology services department performs a wide range of technology-related duties but struggles to fully support the district's technology infrastructure, including the migration to districtwide wireless connectivity, a new financial system, and a new web-based e-mail and document storage system. Technology advances in the classroom present technology staff with further challenges in the areas of acquisition, configuration, implementation and support. A large volume of fast-paced projects initiated without a well-developed strategic plan for implementation and support have contributed significantly to the fragmentation in technology services.

The district should develop, update and clearly communicate a well thought-out plan that defines the parameters for technology use in all areas, from administrative operations to the classroom. Each area and its environment should be thoroughly examined and considered before technology is acquired or implemented within it. Thoughtful consideration should be given to both the potential benefits of any proposed equipment, software or delivery system and to the potential demands that it may impose on the district's current and future resources. In the absence of a well-constructed plan, unexpected deficiencies will likely arise.

The district has split its technology leadership between two positions, one of which is focused on instructional support and the other on network support and data analysis. Interviews with staff made it apparent that there is a significant disconnect between the activities of the two leadership positions in the technology department. Operational inefficiencies, confusion and frustrations were among the issues staff shared during interviews.

The lack of a single formally trained technology leadership position has hampered the district's capacity to build the foundational elements of a well-designed technology structure needed to guide, implement and support the technologies required for daily operations and classroom instruction. The lack of a clear and formal leadership structure also makes support of the district's vision for technology challenging. Staff members identified an absence of alignment between the district's vision for technology and those responsible for its implementation and management. There are significant inconsistencies in technology infrastructure and support districtwide.

The district should focus on establishing a centralized technology structure led by one formally trained leader who is a member of the district's cabinet. This person should be accountable for directing a collaborative team that supports the district's curriculum and technology integration needs. Mandates such as common core assessments developed by the Smarter Balanced Consortium, and the need to provide students, staff and community members with access to network resources, make technology services a cabinet responsibility.

Staff and administrators indicated that there is insufficient communication regarding technology districtwide. Implementations of new standards and systems are poorly planned, communicated and executed. Inadequacies in all areas of implementation make it a challenge for users and technology staff to adapt to changes. All changes to district technology standards, systems and processes should be developed through a collaborative process that includes meetings with stakeholders to share the vision and ensure that all affected parties have been considered. The district

should develop standards for making technology services more efficient districtwide, focusing on one common structure for all sites and departments.

The district's technology department has been working for three years to implement wireless connectivity on all school campuses using bond funds. However, school campuses still do not have reliable wireless infrastructure in place campuswide, and many have no wireless connectivity. Some of the factors contributing to this lack of success include a lack of planning; lack of an adequate deployment strategy; insufficient project leadership, accountability and follow-through; and changes in administrative staff.

The district lacks documentation that defines and identifies its technology infrastructure. The technology staff could not provide written technology equipment and software inventories. This lack of documentation makes it difficult to effectively consider expansion or other changes to the existing system, or to easily troubleshoot issues when they arise. The district should develop and maintain up-to-date written records of all of its technology infrastructure, equipment and software. To accomplish this, the district should engage an experienced outside consultant to conduct an in-depth districtwide audit of technology infrastructure and equipment. Once established, this inventory documentation should be updated as equipment is purchased, repurposed or disposed of. Software license inventories should be well documented and maintained to ensure that the district is in compliance with all licensing requirements.

The district should conduct a similar but separate audit of its wireless connectivity project. Based on the results of that audit, the district should develop a written deployment strategy and implementation plan before proceeding with the wireless project.

The technology department does not have documented operational policies and procedures for administering the district's network. It is best practice to have network policies that define who has access to various network resources for use and/or management of the system. The district also lacks documented access controls and passwords. The district should establish documented operational policies and procedures for managing and administering its district network, and establish uniform password policies across all systems.

Subsequent Events

Subsequent to FCMAT's fieldwork, the superintendent reported that considerable progress has been made on the district's wireless project. FCMAT reviewed additional documentation provided by the district indicating further action by the district's director of facilities and operations and the department of research, evaluation and technology. Board agenda items preceding FCMAT's fieldwork indicate that the district has progressed in identifying deficiencies related to electrical and data support in its wireless migration project. This documentation noted that the district communicated that the original plan brought before the board was incomplete and would have left the district with a wireless system that would be unable to support the demands of the common core standards and the district's technology program.

The technology strategist and coordinator of technicians reported that subsequent to FCMAT's fieldwork the district engaged the services of new electrical contractor who worked with the district's facilities and technology staff to evaluate the status of copper and fiber cabling deficiencies on each campus, and an implementation strategy was developed and is under way. In addition, the information technology services team is replacing all of the district's switches with Aruba switches to ensure compatibility systemwide. These installations, including network authentication and configuration, are being performed in consultation with Aruba and a network consultant hired by the district.

The district is also contracting for outside assistance with the installation of the remaining Apple TV and flat screen technology in classrooms during the summer to ensure proper installation, configuration and functionality.

The status of these efforts has not been assessed by FCMAT beyond the review of supporting documentation presented to the board.

Findings and Recommendations

Infrastructure

The district's technology staff have not documented its network infrastructure The network infrastructure consists of an interconnected group of computer systems linked by components of a telecommunications architecture such as networked computers, routers, cables, wireless access points, switches and backbones, as well as network protocols and network access methods. District and school site staff indicated that several schools have independently expanded the network infrastructure or designed and established independent network infrastructures to support instructional activities at their schools. The district also lacks a written implementation plan for an expansive wireless access project that is under way. Documenting the network would facilitate troubleshooting and future infrastructure design. Planning for future growth is hampered by the lack of documentation and resulting lack of knowledge regarding the configuration of the district's network.

The absence of documentation regarding the district's technology infrastructure and the lack of a written implementation plan for its wireless expansion prevents FCMAT from making specific assessments regarding the adequacy of the district's network structure and its capacity to support the district's goals. However, visits to two school sites and a tour of the district's technology department indicate that the district has adequate connectivity between its schools and the district office, with a 40 mb connection to each of its elementary schools and a 100 mb connection to each secondary school.

The district has been working to implement wireless connectivity at all school campuses using bond funds. Removing old network switches and installing new Aruba switches for this wireless project has been a challenge for the district's technology department and has taken considerable time with only marginal success. After three years of work, many school campuses have no wireless connectivity and others still lack a reliable campuswide wireless infrastructure.

A lack of consistent project leadership is the major factor contributing to the lack of success in the district's wireless installation. Specific deficiencies include the following:

- Failure to identify and hold accountable one consistent project manager to lead the project
- Lack of specifications
- Lack of a clear vision for addressing the curriculum needs and deliverables to sites
- Lack of a clear written deployment strategy
- Miscommunication between departments, leadership and staff

The wireless project includes replacement of all network switches and installation of wireless access points throughout each school. The facilities department is in charge of work related to the installation of conduit and cabling, whether performed by district staff or contracted through outside sources. The technology department is responsible for installing access points and configuring switches. Conflict between the technology and facilities departments has slowed the progress of this project. Facilities staff indicate that technology staff have interfered with the wireless infrastructure work performed by contractors at school sites and have not monitored the work being completed, while technology staff indicate that facilities staff have not properly

monitored the contractors' work, leaving technology staff unable to proceed with the installation of new wireless equipment.

It is best practice to ensure that a single deployment plan with strict specifications for deliverables is in place prior to the start of work. Conducting a study to assess the current status of its wireless connectivity and to plan and document the remaining deployment before any work continues would also be beneficial.

Identifying and assigning a single project manager to be responsible for leading and overseeing the project would also be beneficial. Responsibilities of a project manager typically include providing the administration with timely progress reports, and accountability for the project's progress.

The district would also need to develop a written deployment strategy based on the results of the wireless study and deliver an implementation plan for completing the wireless installation on all campuses. Hiring an independent consultant or collaborating with another school district that has completed a similar project to scrutinize the plan before implementation would also be beneficial. A properly developed plan will clearly define the current status of implementation at each campus, provide a clear list of specific implementation steps needed at each location, specify how the work is to be performed, include timelines for each phase, and include a schedule for follow-up.

The district has uninterruptible power supply (UPS) devices (which provide temporary power from batteries in case of a main power failure) in many but not all of its network closets. In addition, the UPS units in place are not configured to alert staff when a power outage occurs or when an error is detected.

It is best practice to ensure that all UPS equipment is tested annually on a set schedule. For example, in February a technician is assigned to test all UPS systems, compare documentation to the previous tests, and make recommendations to the leader of technology by March 1. This would benefit the district by ensuring that the equipment is functioning and batteries are replaced before they fail.

Maintaining power in the primary data center is critical to district operations. The district's network supports almost all district operations, including administrative functions and instructional programs at each school. Thus the network needs an adequate electrical supply with safeguards to provide temporary backup power in case of a power failure.

The district's main data center does not have a backup generator, which makes the district's network vulnerable to inadvertent shutdown. At a minimum, the district needs a backup generator for its primary server room at the district office.

One wiring closet is located in a break room, and a microwave oven and refrigerator are connected to the same circuit as the network equipment. Industry-standard practices include limiting access to wiring closets to only a few technology and facility staff members, and isolating electrical circuits for network equipment to ensure that they power only that equipment, thus protecting them from other electronic devices or power disruptions.

Many of the network wiring closets inspected have inadequate ventilation and/or cooling. One closet had a nonfunctional air conditioning unit, and staff reported that it was not known when it would be fixed. Proper cooling and ventilation helps safeguard equipment against environmental threats and overheating.

The district's primary data center is cooled by only one air conditioning unit, and it lacks a device to monitor the center's temperature and humidity. It is best practice to have redundant air conditioning units for locations such as this to ensure that proper temperatures are maintained and equipment protected in case of a primary cooling unit failure. Having a temperature and humidity sensing device that e-mails or text messages the appropriate staff when the temperature or humidity exceeds or drops below a certain level is also a standard best practice. Industry best practice is to have this system, the generator, or the UPS units also alert staff when operating on generator power.

The district lacks a thorough understanding of and documentation detailing its technology equipment and infrastructure. The district would benefit from an in-depth audit of these resources and an accompanying analysis of the network's sufficiency to support its current and future needs.

The district recently began changing to a voice over internet protocol (VoIP) telephone service at several schools. VoIP uses the network and internet for voice communications. Like the wireless connectivity project, the change to VoIP has been slow and lacks a well-developed plan for implementation, accountability and leadership. Implementation has been hindered by the lack of a single project manager.

District staff indicated that five sites have converted from analog telephone systems to VoIP and that some issues arose during implementation because some schools had already implemented their own wireless connectivity. The district has since found that the switches it purchased for the VoIP system can be replaced by the ones used for the wireless project, so it will not need dual switches at the schools that have wireless connectivity. The unused VoIP switches will be moved to other schools. Staff members interviewed gave positive feedback regarding the new VoIP telephone system.

Once a VoIP system is in place, it relies on the Microsoft server's Active Directory system as well as on routers, switches, and sometimes wireless access points. Technology department staff are managing configuration of the VoIP systems, but facilities personnel are managing cabling, additions, moves and changes to the system. Because cabling is a function of building maintenance it is best to leave this responsibility with the facilities department but give responsibility for the VoIP system to the technology department once it is in place to ensure that similar duties and competencies remain in the same department.

Recommendations

The district should:

1. Assess the current status of its wireless connectivity, and develop and document the remaining implementation.
2. Identify and assign a single project manager to be responsible for leading and overseeing the completion of its wireless connectivity project.
3. Based on the results of the wireless project assessment, develop a written deployment strategy and implementation plan for completing the wireless installation on all campuses. Consider contracting with an independent consultant or consulting with another school district that has completed a similar project to scrutinize the plan prior to implementation. Ensure that the plan clearly defines the current implementation at each campus and provides

clear steps for further implementation at each location, how the work is to be performed, timelines for each phase, and a schedule for follow-up.

4. Assess its UPS devices and configure them to notify staff when main power is lost or when an error is detected.

5. Ensure that all UPS equipment is tested and documented once a year on a predefined schedule. Documentation should indicate each device's location, function, load, and time required to deplete the battery's charge by 50%. Based on this information, replace batteries before failure occurs.

6. Install a backup generator for at least its primary server room at the district office. Ensure that it meets the following standards:

    - The generator's size is based on the electrical load of the technology equipment, air conditioning and lighting in the server room.
    - One 110-volt 20-ampere circuit from the emergency power electrical panel back to the generator to provide lighting and power for generator maintenance that may happen at night during a prolonged outage.
    - A fuel supply sufficient to sustain power for 48 hours.
    - The ability to run a 15-minute self-test once a week and report via e-mail and text message any faults or failure to start. Fuel for the generator should be checked by a service company every 60 days.

7. Ensure that all of its network closets are locked and have limited access.

8. Inspect electrical circuits to ensure that circuits for network closets are isolated and dedicated to network equipment. Isolate electrical circuits as needed to ensure that they are used to power only network equipment.

9. Ensure that its network wiring closets have proper cooling and ventilation

10. Install a redundant air conditioning unit and a temperature and humidity sensor in its primary server room. Ensure that the sensor notifies staff if temperature or humidity levels are too high or too low. Ensure that the sensor, the generator or the UPS units notify staff when they begin operating on generator power.

11. Contract with an experienced outside consultant to conduct a districtwide in-depth audit of its technology equipment and infrastructure. This audit should be separate from the wireless study recommended above and should identify all network connectivity, wiring, equipment and environmental factors, and should be accompanied and supported by an analysis of the network's sufficiency to support the district's current and future needs.

12. Give responsibility for the VoIP system to the technology department once the system is in place to ensure that similar duties and competencies remain in the same department. Ensure that the facilities department continues to be responsible for cabling.

13. Identify one project manager to lead and oversee the VoIP migration. The project manager should develop a written plan for implementation that identifies the current status of telephone systems, the sites that have converted, the sites that still need conversion, and a distribution plan and timeline for the remaining migration based on the age of analog equipment. Ensure that the project manager provides the administration with timely progress reports and is held accountable for the progress of the project.

Technology Plan

School districts develop technology plans to describe their use of educational technology for a five-year period. A technology plan outlines multiyear strategic goals for the deployment and use of technology, and its primary purpose is to provide direction for the future use of technology. A plan typically focuses on the use of technology to support the curriculum and delineates the objectives and strategies for classroom technology, individual student technology, technology required to support school and division operations, and the technology infrastructure. Effective technology plans are grounded in instruction and include elements to advance operational efficiency.

FCMAT reviewed the district's technology plan for July 1, 2008 through June 30, 2013. The director of research, evaluation and technology is formalizing an updated version of this plan dated July 1, 2011 through June 30, 2016 as a result of the district's recent unification. FCMAT also reviewed the draft of this updated plan.

District technology staff could not provide written documentation describing the district's network infrastructure, and a lack of documented equipment inventories prevented FCMAT from adequately evaluating the district's progress based on its technology plan for July 1, 2008 through June 30, 2013. The technology plans reviewed did not contain any references to network design or safeguards for the data residing on the systems in case of a catastrophic infrastructure failure, natural disaster or security breaches.

The district's technology plan contains little or no documented long-range planning for infrastructure, hardware and software districtwide, and it does not have standards for technology infrastructure, hardware and software for all of its operational areas and school sites.

Districtwide technology standards for all operational areas, including school sites, classrooms, labs and libraries, are needed to ensure consistency and equity. These standards can also assist technology staff in providing quality, timely support. It is best practice to identify and allocate resources to meet the developed standards, including a long-range plan for maintenance and replacement. Effective standards will detail what hardware, operating systems, and software is to be supported and for how long.

Recommendations

The district should:

1. Update its written technology plan to include a plan for system and data recovery in case of a catastrophic infrastructure failure, natural disaster or security breach. This should include doing the following:

    - Document the network, including TCP/IP mapping, lease time, and deployment.
    - Document electrical power and air conditioning needs.
    - Create a plan that shows what data is backed up and when. This plan should include a backup every 24 hours both locally and to an off-site storage system, snapshots for virtual servers four times per day, and a once-a-month backup to storage device or media that can be placed in a district safe or bank safe deposit box.

- Once per year, restore all data from a remote backup to a system that will enable comparison and a quality check of the backup. Document and make changes as needed.

2. Develop technology standards for all operational areas and school sites. These standards should consider districtwide infrastructure, hardware and software for classrooms and labs.

3. Ensure that its technology standards are based on enterprise solutions rather than consumer-level technology.

Technology Acquisition, Installation and Implementation

Hardware

Except for its procedures for processing purchase orders, the district lacks policies and operating procedures for the acquisition of technology. The district has a decentralized approach to hardware purchases: each school site purchases hardware and software with no formal standards in place. Site purchases of technology are usually initiated by requesting that the technology department obtain a quote for the desired equipment or software. The technology department then identifies a vendor and specifications for the purchase, obtains a quote and forwards it to the site. The site is then responsible for creating a purchase order, which is routed through the designated channels for approval in accord with the district's purchasing procedures. This routing includes approval from the technology staff member who assisted in the original inquiry for product. However, the practice of having the technology staff identify and provide equipment specifications is inconsistent.

The district also has no formal policies or documented operational procedures for configuring technology. No preventive maintenance or replacement policies have been established to help sustain operations or programs that depend on technology, and the district lacks an adequate replacement plan for its network infrastructure. Although the district continues to expand its use of technology in classrooms, staff indicated that the district has no documented plan for replacing devices. Hardware is replaced when it fails or when it is too old to be effective, and each school is responsible for the acquisition and supplemental support of technology from its individual site budget. Consequently, equipment types and configurations vary greatly from one school to the next. Industry best practices include having equipment replacement policies and plans, placing all responsibility for technology with the technology department regardless of whether technology is paid from site budgets, and standardizing hardware districtwide.

Having a standard list of common devices purchased by site and departmental staff would help reduce the time needed to research and consider each individual purchase requisition. A standard list of equipment also helps ensure that technology support staff are sufficiently knowledgeable regarding the devices being installed and the standard configurations needed to ensure that they function on the network.

Although a standard list of equipment and technology makes purchasing, installation and support much more efficient, it does not eliminate the need for some research for less common requests. In the case of such requests, it is best practice for the technology department to be responsible for researching and specifying equipment that is compatible with the district's infrastructure, taking into account the availability of infrastructure resources to support the equipment at the location where it will be installed, the technical ability of staff to support the equipment, and the needs of the end user. Consideration of each of these factors will help ensure that classroom and educational needs will be met.

Software

As is the case with hardware, software is typically purchased with little or no review by the technology department. Staff at school sites sometimes informally e-mail one technician in the department and ask about software, but there is no formal review process. The technology department is sometimes asked to review large system purchases, but not always.

This lack of an established software adoption policy and technology purchasing standards contributes to difficulties in support and system management and results in unsustainable technologies. School staff need support to research software and determine if it is compatible with the hardware they have. Further, significant licensing considerations exist with the purchase and deployment of software. Many software applications limit the number of devices on which they may be installed or accessed at any given time. It is a best practice to establish strict measures to account for software licenses and control installations to ensure compliance with licensing terms.

As is the case with hardware, it is best practice to develop a list of standard software that all sites can select from when requesting software purchases. Standardization of software helps reduce training costs and improves the opportunity to receive quantity discounts when purchasing.

A list of standard software is best created from the collaborative efforts of the technology and curriculum departments to ensure that instructional needs are met. Although it is likely that not all schools will use the same software applications, all software applications should be reviewed to identify their minimum system requirements, configuration needs and the level of user support that will be provided if the site chooses to move forward with the purchase. An effective software acquisition policy will also take into account licensing requirements, renewal costs, and tracking of software inventory and licenses.

Installation and Implementation

The district's ability to effectively implement and use technology is hampered by ineffective communication between the technology department and other departments and school sites. The district lacks a clear understanding of the status of technology projects because of inadequate technology leadership, communication and follow-up on technology projects. The technology department also does not always cooperate in implementation and support efforts when installation or configuration support is needed for new equipment installations. Staff indicated that site technicians are often ill-equipped and lack the tools needed to work on technology at school sites. Technology staff members assigned to address technology issues at a site often cannot complete their work because they do not have the passwords needed for configurations. Staff also indicated that although technology staff are supposed to configure all new devices prior to the installation at the sites, this does not always happen.

District technology staff have not established or documented standards for system hardware and software configurations, including standard desktop computer configurations; rather, equipment is ordered based on an individual's desires or needs. It is standard industry practice to require that all purchases have a three-year warranty and a manufacture guarantee that parts will be available for three years, and enterprise equipment often comes with such warranties and parts availability; however, warranties for consumer equipment are normally considerably shorter and availability of parts is often only guaranteed for one year.

Although the district has identified Aruba switches as its standard for network switching and wireless connectivity, no formal documentation of this standard could be provided.

A recent informal district e-mail to site staff stated that the district had established a new standard for classroom technology that includes a flat screen television and an Apple TV device for each classroom. This standard was established and communicated by the district's technology strategist and coordinator of technicians position in isolation from the district's technology department and was not preceded by a formal plan for implementation, configuration and support. The district could not provide FCMAT with a formal written plan for implementation, although the director of research, evaluation and technology indicated that a draft plan was being developed.

The implementation of this new standard without proper planning creates some significant challenges. Effective planning would have identified the benefit to the district's instructional delivery, the amount of training required and the level of ongoing support needed before acquiring and implementing the new equipment or software. It is a best practice to thoroughly research all new technology, including reviewing documentation in educational journals and/or use by other school districts.

This configuration needs further research to ensure proper operation on the network and to avoid being limited to a single vendor.

It is best practice to give the technology department the responsibility of evaluating the technical considerations for the configuration of all proposed hardware and software before it is acquired or installed, and to add items to the list of standard equipment if they prove feasible.

Recommendations

The district should:

1. Make all technology infrastructure the responsibility of the technology department, and inform site administrators that network infrastructure is a district office service to each site.
2. Ensure that it has equipment replacement policies and planning in place by incorporating policies and standards into its technology plan to allow for planning and continuing design of network infrastructure.
3. Establish a list of standard technology equipment that may be acquired by departments and sites. This should include specifications for the most common types of equipment, including but not limited to the following:
    - teacher laptop computer
    - teacher desktop computer
    - district office desktop computer
    - student computer
    - classroom printer
4. Make the technology department staff responsible for evaluating each technology hardware and software item prior to purchase to ensure its quality, ability to function in the district's network environment, feasibility of configuration, and feasibility of support needed after acquisition.

5. Establish a formal software testing, review and authorization process that requires the technology department to review and test larger systems and review and approve all software purchases in advance.

6. Develop a standard list of approved software that all school sites can follow for the purchase of software.

7. When technology items are requested that are not included in the standard list, ensure that the technology department is responsible for researching and specifying equipment that is compatible with the district's infrastructure.

8. Establish strict measures to account for software licenses, and control software installations to ensure compliance with all licensing agreements.

9. Ensure that the technology department receives, configures and installs all new technology acquisitions. Ensure that configurations are based on established standards.

10. Ensure that evaluations of technology items are based on enterprise standards and take into account how the equipment or software meets the district's curriculum needs.

11. Research proposals for new technology based on other districts' practices, Santa Barbara County Office of Education recommendations, informal collaboration with neighboring districts, and recommendations from professional organizations or publications such as the California Educational Technology Professionals Association's (CETPA's) DataBus journal.

Network Administration, Data Security and Network Monitoring

Policies, Procedures and Configurations

The district does not have documented policies and procedures for administering its network. Network administrative policies define who has access to secure resources on the network and the parties responsible for managing the secured systems. Without documentation it becomes difficult for a district to maintain security, consistency and network reliability.

Most network equipment and security functions operate using text-based configurations that can be stored and loaded on new equipment in the event of hardware failure. Effective network documentation typically includes the location of stored configurations and procedures for updating stored configurations when changes are made. Critical configurations include all routers, core switching equipment, common switch configurations that include virtual local area network (VLAN) information, and wireless access points and associated equipment.

Recommendations

The district should:

1. Develop, document and implement policies and procedures for managing and administering its network.
2. Document all equipment containing configuration data, including routers, switches and wireless access points and associated equipment.
3. Store configurations in a secure location that is readily accessible to both engineering employees and technology leaders.

Access Controls and Passwords

Although the district has requirements for passwords, technology staff indicated that the district has no formal documented password policy. Staff reported that user passwords are required to be eight characters long and must include one special character. An effective password policy is needed to prevent passwords from being guessed or cracked by others seeking to gain access. It is a best practice to have a uniform password policy that allows users to use the same password for multiple systems and services, making it easier to remember, but that requires the passwords to include upper case, lowercase and numeric characters. It is also a best practice to require network passwords to be changed regularly, and for a technology staff member to document all password changes in the following format: device name, location, internet protocol (IP) address, username, password.

A systemwide password change for all users would help the district ensure the security of its network and teachers' grade data. Penal Code section 502(c)(4) makes it a felony for any person to access and, without permission, alter, delete or destroy data on a computer system. This would include unauthorized grade changes. However, local district attorneys often hesitate to proceed with charges when there is a lack of password security that results in students or others having

relatively easy access to a teacher's grade data. In addition, the district should guard against the changing of any grade except under the conditions authorized by Education Code section 49066.

A best practice is to notify all users four weeks in advance that a systemwide password change will occur on a specified date. The initial password change should ensure that each employee has a unique password. The Los Angeles County Office of Education's and Ventura County Office of Education's technology services departments recommend using the employee identification number listed on users' paychecks because it is unique and not associated with any other personal user information. Once the initial password change is made, users are given the ability to change their own password. Effective parameters include reasonable password requirements, such as passwords must contain seven characters and at least one number or non-alphabetic and non-numeric character such as #. Regular password changes ensure that each professional is taking part in network and grade security.

Security restrictions that limit some technology support staff members' access to network resources are creating inefficiencies. Part-time technicians are given limited network access permissions to perform administrative network duties and computer configurations. As a result, they are frequently unable to perform assignments, making it necessary for a full-time technician to complete the task at a later time. This creates unnecessary delays in projects as well as considerable frustrations on the part of site staff, who find it difficult to understand why technology staff cannot complete a scheduled task. It is best practice for a technology supervisor to determine what is necessary to complete a project and ensure that technicians are adequately equipped with the tools and permissions needed to complete the tasks, including any passwords needed to configure hardware and network connections.

Recommendations

The district should:

1. Establish and document a uniform password policy across all systems.
2. Institute a systemwide password change for all users.
3. Ensure that technology staff members have the tools and passwords needed to complete assigned tasks.
4. Ensure that its technology department changes all passwords for network devices and servers four times per year. Schedule this task, assign it to one or more employees, and ensure that the passwords meet the following criteria:
    - Minimum ten characters
    - Must include upper and lower case letters
    - Must include numbers
    - Must include shift characters such as "#"
    - Advisable to use a theme for each change, such as forest trees, states, and planets
      Example: C1l8f15rn81#,(California) in which vowels in the state's name are replaced with a number indicating that letter's position in the alphabet, and the non-numeric, non-alphabetic shift character "#" is used.

When network passwords are changed, the assigned technology staff member should document the changes in the following format: device name, location, IP address, username, password.

Two copies of the changes should be made, placed in separate envelopes, and given to the technology leader. The technology leader should give one envelope to the superintendent for storage in a secure off-site location, and retain one envelope in a location where it can be accessed at any time if needed. This procedure will ensure that no critical service to the district can be interrupted by the absence of one individual.

System and Data Backup

Backup of data throughout the district is not centralized or standardized; multiple employees perform backups of various systems. Technology staff could not provide a formal documented backup retention policy. Data is being copied to external hard drives and tapes, which are then stored in different locations including the Santa Barbara Junior High School basement, which is locked. At Santa Barbara High School a technician takes the backups home for off-site storage. A formal written backup and retention policy is needed to ensure that the data on the district's servers is safeguarded from inadvertent loss should a system fail. The absence of an adequate backup policy and procedure subjects the district to substantial risk of data loss.

It would benefit the district to explore the use of software such as Backup Exec or EMC Networker that verifies the integrity of the data being backed up, catalogs the backed up data and allows quick data recovery. Backups should not be taken to an employee's residence. It is best practice to back up all critical systems daily and assign an employee to place the backups in an off-site fireproof location such as a district safe at a different district site or a bank safe deposit box.

The district also lacks a data recovery plan. This will make it difficult to restore data or, in the case of a complete server failure, to restore data in a timely fashion. An effective data recovery plan will identify all systems that record and/or document critical data. Major technology applications that typically need to be backed up and restored in case of failure include internet access, accounting systems, student information systems and e-mail systems.

Recommendations

The district should:

1. Develop and implement a formal, written standardized and centralized backup strategy and retention policy that requires all systems to be uniformly backed up and the backup stored in an off-site location such as a safe at another school or bank safe deposit box.

2. Develop and implement a written data recovery plan that includes server backup requirements.

Network Monitoring

The district does not routinely monitor its network or network equipment. Monitoring of the network and network equipment is important to maintain connectivity to classrooms and the resources the district provides. Monitoring the network as a proactive measure helps ensure timely response to issues and minimizes their effect on a district's business operations and classroom instruction. Monitoring software is available that can log and alert technology staff to error conditions such as server outages, security breaches, network infrastructure outages, high use and virus outbreaks.

Recommendations

The district should:

1. Develop and implement network monitoring procedures using software that can log and alert technology department staff to error conditions.

Technology Systems

Operating System and Software Updates and Patches

The district's technology staff have set desktop computer operating systems to automatically download patches and updates from the internet (an operating system, or OS, is the software that runs the computer and allows other software applications to be installed and used). Updates and patches to servers are downloaded and installed manually by technology staff. OS patching fixes problems in the operating system software and mitigates security issues that have been detected. The strategy used for desktop OS and server patching is appropriate in this environment. The district could not provide any documentation to verify that procedures are in place for routine software patching.

E-mail

The district recently migrated its e-mail service from Microsoft Exchange to Google's free e-mail tools for schools and has standardized all employee e-mail addresses using the @sbsdk12.org domain. E-mail backup and filtering is managed by Google using its G-mail application for e-mail. It is good business practice for the district to review the contract related to this service annually to ensure that the terms and conditions are acceptable. Although during interviews one staff member reported using Microsoft Outlook for e-mail rather than the Google application, in that case Microsoft Outlook is used as a client (a program that retrieves e-mail) to access the staff member's Google mail account because the district no longer uses Microsoft Exchange e-mail servers. Most staff interviewed indicated that they are satisfied with the Google e-mail system. It is best practice to ensure that all staff use a single e-mail platform that is supported by technology staff.

The technology department has administrative access to and manages the e-mail system. Technology staff are able to set up distribution groups, archive e-mail for legal purposes, and create and delete accounts. The district uses Postini for e-mail archiving, which allows the district to store e-mails in a central, searchable location for up to 10 years.

There is no evidence of a formal procedure for requesting or establishing a new e-mail or network account, or for ensuring that acceptable use policies (AUPs) have been signed and accounts set up correctly. The district also has no documented e-mail retention policy that states how long it will retain e-mails.

Recommendations

The district should:

1. Ensure that all staff use one e-mail platform that is supported solely by the technology department.
2. Establish formal procedures for requesting and establishing a new e-mail or network account, ensuring that they are set up correctly, and ensuring that each user reads and signs an AUP.
3. Establish and implement a written e-mail retention policy that aligns with board policies regarding document retention.

4. Have its legal counsel review the Google contract annually.

Attendance

The district uses the Aeries student information system (SIS) for all student attendance records. Staff reported that they feel comfortable with the system and that users are able to learn quickly on their own, with support by phone, or by accessing the Aeries help website.

Implementation of the Aeries tools that support attendance recording is inconsistent from site to site. Individual schools report and record attendance using their own processes and protocols rather than a standard districtwide procedure. This has resulted in inconsistencies in attendance accounting practices that contribute to reporting discrepancies which may hinder timely state reporting and/or cause delays in attendance notifications to parents/guardians. A well-defined districtwide procedure and process for attendance recording would improve reporting and create more efficient operations at the site and district office.

Teachers at the high schools take attendance electronically each class period using the Aeries browser interface (ABI). The high schools also use an automatic dialer to deliver automated telephone messages to parents notifying them of a student's absence. The middle and elementary schools use a variety of methods to record attendance, but ultimately all attendance is entered into Aeries by front office personnel. The use of ABI provides an opportunity for integration with reporting tools, which in turn can provide consistent recording practices and timely parent notification. ABI also has the ability to use electronic teacher signatures to validate attendance in accordance with state requirements. The use of online attendance recording also reduces paper records and waste.

Establishing a uniform districtwide practice for recording daily and/or period attendance through Aeries ABI would increase efficiency in attendance reporting. In addition, establishing a uniform attendance recording practice would allow the district to implement an automated system that integrates with Aeries and provides automated telephone, e-mail or online messages to parents to inform them of their students' tardiness and absences. Full implementation of an automated call system saves staff time by reducing or eliminating manual reporting efforts and telephone calls to parents.

Eagle Software, the creator of the Aeries application, is deploying the next generation of Aeries, called Aeries.net. This update has several improvements to the software's current web portal offerings including refined user setting options and expanded parent and student portal components. From a technical perspective, moving to Aeries.net will reduce the demand for desktop computer support because it is a web-based application. Further, security settings have been improved to provide individual user settings rather than the current group settings.

It would benefit the district to explore the upgrade options for this software because Aeries will no longer continue supporting the older version of the software. If the district chooses to update to the new software, it would need to review and discuss each new feature to develop a collaborative implementation plan and conversion process. If the district does not choose to implement the new software, it would need to explore alternative solutions and establish a plan and timeline for implementing them.

The district's business office has a staff position that supports school site staff in attendance-related tasks. Standardized tools for training have been developed and are updated when system

updates take place. Materials are crafted to support users at all knowledge levels, including specialized information sheets for those who need more guidance. Staff reported that the transition to Aeries was challenging because some gaps in the trainings resulted in errors, but progress and training continue in an effort to standardize and thus streamline the use of Aeries among school sites.

The business office reports good support overall from technology staff when issues arise. The main frustration staff indicated was a lack of adequate communication between departments when changes are made. An e-mail distribution list for all staff who use the student information system could help improve communication.

Recommendations

The district should:

1. Adopt a formal, standardized process for attendance recording using systems such as ABI, and implement this process districtwide. Evaluate, select and implement a districtwide autodialing absence calling solution that integrates with the student information system.
2. Explore the feasibility of and options for upgrading its SIS software from Aeries to Aeries.net, and discuss a potential migration plan, or develop plans for another SIS solution if it does not choose to upgrade to Aeries.net.
3. Ensure that technology personnel establish an e-mail distribution list that includes all staff who use the SIS, and use the list to notify all users when the system will be updated, when updates are complete, and regarding any planned downtime.

Finance

The Santa Barbara Unified School District is a fiscally accountable school district that operates and maintains a financial system independent of the county office of education. The district migrated to the Quintessential School Systems (QSS) software running on a Linux operating system in July 2011 but did not appoint a project manager to manage the transition. Staff indicated that the transition to QSS has been difficult for the business office.

The district did not include the transfer of previous years' financial data in the purchase of the new QSS system and as a result all past financial system data is maintained on the previous California Education Computer Consortium (CECC) system. Navigating between two systems can be cumbersome and inefficient. As users become less familiar with the former financial system, or the system becomes inaccessible, accessing the historical information will likely become more challenging.

The district reported that it receives poor customer support from the vendor of the QSS financial system, making the transition more difficult. It would benefit the district to identify a project leader and assign this individual to re-establish the relationship with QSS and work to develop solutions based on feedback from user groups.

The district has one technician who is primarily responsible for supporting the QSS system. When only one staff member is skilled in a specific area, problems can arise when that person is

absent. Technology staff members do not have formal training in maintaining and supporting QSS software, SQL database software or the Linux operating system. Experience in these areas is essential to supporting QSS and other programs.

District staff have not attended the annual QSS User Group Conference or become active members in the QSS user group community to broaden their knowledge and network with other users to get help and support with issues that may arise.

The district does not manage a test QSS system and did not purchase the additional hardware needed to operate one. The district would benefit from installing software updates on a test system before installing them on its working system. This would allow changes in the software to be examined in a mock-up environment before they affect the system in use.

The district also lacks a formal process to ensure that all QSS users have read and signed an acceptable use policy (AUP) and that user accounts are set up correctly with the proper access.

The district lacks an automated system that requires users to change their passwords on the QSS system regularly, such as every 90 days. The district also lacks a process to send out product update release notes to all QSS users and hold a review meeting if necessary before implementing new changes so that the impact of the changes and any necessary training can be addressed.

Recommendations

The district should:

1. Move financial data for at least the five previous fiscal years to its new QSS financial system to ensure ease of access, reporting and budgeting.
2. Designate a project lead to re-establish relationships with QSS and manage the remaining implementation of the QSS financial system. The district should form a user group to identify system challenges and have the project lead work with this group and develop viable solutions and timelines to ensure full system migration and implementation.
3. Identify and cross-train a second employee to back up the current technology staff member who supports the QSS system. Send both of these employees to QSS user conferences, SQL training, and Linux training.
4. Ensure that district staff attend the annual QSS User Group Conference and become active members in the QSS user group community to develop relationships with other users and thus receive help and support with technical issues.
5. Acquire and install hardware for a QSS test environment, and install and troubleshoot software updates on the test system before installation on the working system.
6. Distribute and review product update release notes prior to any QSS software upgrades.
7. Establish a formal process to ensure that employees who use the QSS software have read and signed AUPs, and that their user accounts are set up correctly with the proper access.

8. Implement a password change application for the QSS software that requires users to change their passwords every 90 days.

Student Assessment and Accountability

The district conducts benchmark assessments and numerous state-mandated assessments districtwide in a consistent and uniform manner. Evidence indicates that school sites value the benchmark assessments as a way of monitoring student performance and are using them effectively to modify instruction to meet students' needs.

School sites use EduSoft to analyze assessment data and clearly indicated that they are pleased with it. In addition to EduSoft data, the technology department provides site administrators with Statistical Package for the Social Science (SPSS) data analysis reports for further analysis of California State Testing (CST) and State Testing and Reporting (STAR) test scores and school performance. Employees' perspectives varied regarding whether site administrators consistently value these reports or whether the SPSS reports are providing additional insight into student performance or duplicating some of the information that EduSoft reports provide.

Report cards and implementation of the Aeries Grade Book module vary significantly from site to site. Grades are recorded in a variety of systems, including Microsoft Excel, Aeries ABI and Data Director. Staff also use an assortment of software systems for grade recordkeeping, including Easy Grade Pro, EDU 2.0 (only used at Dos Pueblos High School), Edline (implemented at most middle schools) and ABI. Using a wide variety of tools such as this requires parents, students and teachers to access multiple websites with multiple user accounts. For example, if a parent has one child in elementary school, one in middle school and one in high school, the parent could need more than five different logins to a variety of systems to access their children's grade progress and attendance records. In addition, because grade reporting is not standardized among elementary schools, the historical data is not equivalent, which makes it difficult to track academic progress if a child transfers from one school to another. Using a single system districtwide for grade recording and report cards would allow effective reporting, improved operational efficiency and a more effective use of fiscal resources.

Aeries has the option of providing a standards-based report card for all elementary schools that is recorded in one system that parents can access online, and other tools are also available that integrate with Aeries (e.g. Grade Book, Parent Portal and Aeries Browser Interface) to allow the student information system (SIS) to be the master source of student data and records.

Having a standardized report card system and grade book solution would allow the technology department's SIS team to provide efficient support and would provide improved automation between the Aeries SIS and the selected grade reporting and grade recording tools. This automation would in turn reduce manual entries and simplify uploading of student data into the systems, and provide the ability to generate new student accounts automatically. Access for students, teachers and parents would also be streamlined to require fewer logins, which would help improve parents' awareness of their children's performance.

Because of recent changes to E-Rate regulations, the district has the option of receiving E-Rate discounts on a web hosting solution that could include, but need not be limited to, a grade recoding component. This solution could provide standardized grade recording and e-mail services as well as website services for district, school site, and teacher web pages.

Recommendations

The district should:

1. Examine how SPSS and EduSoft are used, and align the reporting from these systems to eliminate duplications and thus provide greater efficiency and clarity to school leaders regarding which data sources best help guide school sites' curricular goals.

2. Establish a committee to evaluate options for a standardized districtwide report card, and/or grade recording and reporting system that integrates with Aeries. This should be done in time to take advantage of next year's E-Rate deadlines.

   Based on the committee's research, identify and adopt a standard grade recording and reporting system by grade level that meets the needs of all schools districtwide and that provides parents with easy online access to all of their children's records.

3. Pursue E-Rate discounts for an affordable, hosted website, e-mail and grade recording content management solution. After the transition to the new website solution is complete, the superintendent or designee should require each department and site to be responsible for maintaining up-to-date content on their assigned areas of the district's web presence.

Instructional Technology

As in many school districts, the use of technology for instruction varies from school to school. As a result, adoption and integration are often based on teachers' desires, abilities and access to technology. The district recently updated its Local Educational Agency Plan (LEAP), which outlines clear objectives and steps for integrating technology with instruction to support the curricular goals identified in the plan. The LEAP identifies staff development plans and specific educational technology programs that are in use or being adopted. Teachers have access to a variety of technologies including LCD projectors, document cameras, laptop computers, classroom desktop computers, computer labs, hand-held response systems, printers, television monitors and iPads. However, access to these resources varies among schools.

Wireless connectivity is available on some campuses for mobile devices, but the connectivity is intermittent on most days, which limits teachers' and students' use of mobile devices. Because of the disparity of access to tools and wireless connectivity from site to site, teachers integrate these technologies based on what they have access to and what they know to be reliable.

Lack of consistent adoption of technology, including mobile devices in all classrooms, is associated to some degree with teachers' frustrations regarding timely technical support, ineffective guidance on how to resolve issues, and inconsistent wireless coverage and access. Until recently, teachers were unable to track requests for technical support and the status of repairs. The district recently implemented an automated help desk application called MyTechDesk, which has been somewhat helpful in increasing the ease of support requests and tracking. However, MyTechDesk

has not been implemented uniformly at each school site or by the technology department, making it of limited use.

The district's technology plan lacks baseline standards for hardware, software, wireless connectivity and technical support for each school. Establishing such standards as part of the plan would provide a basis for increased access and support as well as the staff development needed to ensure that the standards are met.

Teachers and administrators are excited by the new classroom standards that the district's technology leadership has shared but indicated frustration that they impose a one-size-fits-all approach and would like flexibility and/or multiple options when adopting technologies, while abiding by technical standards. School sites have successful programs in place; however, rather than allowing for purchases to continue and increase these programs, purchase requests for netbooks and other such items are being denied in favor of iPads. Requests for purchases of new computers for labs, which are heavily used, are being denied randomly, and requests for purchases of Microsoft Office licenses for those labs are no longer approved because of a new plan to move entirely to the free open source solution, Google Docs.

A survey or analysis of technology assets could help the district document current classroom technologies and identify needs in order to establish a minimum standard of items needed for teachers to perform their job functions successfully, such as student attendance, report cards, and delivery of standards-based instruction. Items needed might include an up-to-date computer or tablet, LCD projector or monitor, document camera, or networked printer. The district would need to clearly define the term "up-to-date."

The implementation of Google Docs is innovative, can help reduce costs, and includes online access to online word processing and other applications. However, the district needs to align and implement the change to Google Docs in a manner that does not hinder the success of existing programs. Because of a lack of planning, school sites are confused regarding the district's implementation of Google Docs. School sites are expected to adopt the new vision and understand the benefits, but they lack the resources and staff development to adopt and implement Google docs for document sharing and development.

The district uses the Destiny application consistently and districtwide to manage its libraries and textbooks, resulting in a well-managed textbook inventory system. Only the secondary schools have a full-time librarian at each school, which is now a common situation in many districts because of the state's fiscal situation and the loss of categorical funds that could be used to help support elementary school librarians.

Librarians at the middle and high schools receive stipends to provide teacher training and technical support for site-adopted applications such as Edline, Google Docs and G-mail, MyTechDesk, Aeries and others. These librarians meet monthly, work well as a team and have done a highly effective job of collaborating on the development of training materials and support plans for implementation of Google Docs for students and teachers at their schools. However, their initiative lacks a defined implementation or staff development plan. They have supported the initiative through their own efforts with some success but feel frustrated with the lack of leadership, support and direction. A more uniform implementation and staff development plan is needed, especially at the elementary schools. Google can also provide direct support for educational adoption and configuration for implementation.

The district has not provided its elementary schools with a plan or support in adopting the Google platform. Because of a lack of planning, accounts created for students under the age of

13 are often disabled by Google in an effort to comply with provisions of the Health Insurance Portability and Accountability Act (HIPAA). Obtaining support from Google and creating documented implementation and staff development plans for this initiative would help reduce these issues and increase adoption districtwide.

The district has issued a directive that computer labs are obsolete and the equipment for them will no longer be replaced. This directive does not align with the schools' curricula or with other divisions' curricular goals and investments. For example, the educational services division has invested in Renaissance Learning's Accelerated Reader (AR) application to support reading and comprehension assessment. The implementation of AR is ideally carried out in a lab and/or by using a group of computers in the classrooms. AR software is not currently available for the iPad or iPod. Many schools also use READ 180, which is a significant investment and a critical tool that helps language learners and struggling readers close the achievement gap, and that has been identified as an important intervention in the district's LEAP. READ 180 has robust minimum technical requirements and implementation expectations that require a classroom with a computer lab or mini lab.

Recommendations

The district should:

1. Develop individualized site-based staff development opportunities to support teachers' current access to technology and its integration into the curriculum.

2. Analyze and update its technology plan to determine a baseline standard for hardware, software, wireless, and technical support for each school and for classrooms and computer labs. The technology plan should reflect program goals and be aligned with future technology acquisition policies.

   Selection of a baseline standard for classrooms should be developed with the input of a technology committee that includes teachers and/or a staff representative from each site.

   Once a baseline is established, a plan to support increasing this access based on district standards and resources should be defined and communicated as well as matched with appropriate staff development. Adoption and implementation plans should be cognizant of fiscal resources and respect effective programs currently adopted.

3. Pause the expansion of the transition to a Google platform until a clear adoption plan and staff development plan have been identified and documented.

4. Develop a written implementation plan for the transition to Google Docs based on careful collaboration and consideration of existing instructional program needs. Ensure that the plan is clearly communicated to and discussed with those affected by the change. This implementation plan should include all of the following:

   - A list of equipment necessary to complete the conversion
   - The costs associated with the initial conversion
   - A list of ongoing or future resources necessary to maintain implementation

- Information about the financial resources that will fund the implementation of the plan
- A clear transition plan
- A timeline for completion

5. Contact Google to identify a dedicated resource to support implementation of Google Docs.
6. Identify a project manager to lead the transition to Google Docs who is accountable for the implementation plan and for communicating the progress of implementation and revising the timeline as needed.
7. Create a staff development plan to better support teacher implementation and student use of Google Docs and other applications that may be adopted.
8. Update its technology plan to reflect the goals of programs such as AR and READ 180 while aligning future technology acquisition policies with existing successful programs in mind.
9. Adopt formal policies regarding instructional and administrative software. Work to limit and prioritize software choices to ensure successful implementation, technical support and staff development.
10. Ensure that it has a concurrent plan for sustaining professional development before implementing any new technology and applications. The plan should encourage pilot programs that allow testing of technologies, which will build capacity and provide ongoing support for teachers.
11. Ensure that its technology leaders and educational leaders meet and communicate regularly, collaborate, and align initiatives to ensure that support and resources are available to sustain adopted programs.
12. Conduct a survey or analysis of its technology assets to identify current classroom technology, and develop a plan to provide teachers with a minimum standard set of instructional technology items necessary to perform their jobs successfully.

Nursing

The district has four nurses on staff to meet students' health needs. Nurses use the Health Master software application to document student health information and medical orders. A recent transition to a web-based version of this application created some challenges because some nursing staff were apprehensive about using a web-based application for this data. As a result, new data was entered into the old server-based system after the historical data was moved into the new web-based system. This resulted in missing student information in the new web-based system after conversion. This matter was resolved when a technically proficient member of the nursing staff disabled passwords to the old system, which forced all staff to use the new system. A lack of communication between the vendor that supports the Health Master application and district staff has also made the transition difficult.

Although the district initially equipped school sites with computers for nurses, maintenance and update of this hardware became the responsibility of each site. Because of this, the available technology varies among sites, and nurses rely on mobile devices for system access. Access to student data, including medical orders, is essential to the effective execution of nursing duties. Nursing staff have found it difficult to access students' medical data on the web-based system because of inconsistent network connectivity for mobile devices. School sites that have not fully transitioned to reliable wireless connectivity need to ensure that nurses have access to a computer that is adequate for accessing the tools they need to perform their duties.

The Aeries SIS has a health module that directly links to a student's record. If a student has health issues, the student's record is flagged for teachers and administrators to view at all times. In addition, the Aeries Parent Portal allows parents to view this information and communicate with the nursing staff and health clerks as health issues arise. There is no additional charge for the use of this module, and use of it would provide for all student information in one database. Use of this module could reduce software costs and the need for technology support. Training can help staff become comfortable with this module's use and ensure that health information remains secure and confidential.

Security is often a concern when managing students' records. However, establishing clear user permissions to ensure that access controls are in place and access to sensitive or confidential student information is limited can help alleviate these concerns and mitigate risk.

Recommendations

The district should:

1. Develop and implement a plan to ensure that all nurses have access to the district network and Internet while in the field.
2. Consider using the Aeries health module. If it is implemented, train staff thoroughly in its use, and implement clearly defined user permissions to limit access to confidential and/or sensitive information.

Food Service

The food service department depends on technology and network connectivity for daily operations. The technology department manages server updates for the food service department, which take place two to three times per year and have posed no difficulties. The food service department pays for approximately 0.3 full-time equivalent (FTE) technology support technician positions.

Food service staff indicated that they believe most of the district's technology support for food service is adequate, but support technicians are overwhelmed with requests for assistance as evidenced by the fact that responses to requests are not always timely and are sometimes lacking altogether.

The food service staff have attempted to use the newly implemented help desk system but have found it to be somewhat unresponsive. Staff members report that they are unaware of the status of tickets submitted or when they will be attended to. One help desk ticket submitted to address remote access issues has gone unresolved for more than 75 days. Food service staff need

remote access to manage food service terminals from the food service department, thus reducing the need for travel within the district when issues arise on site. Remote access tools have not functioned properly since the food service department transitioned to new hardware for its point of sale (POS) stations, limiting the ability of the food service director to resolve technical issues remotely.

The district uses the NutriKids point of sale (POS) software to track meal counts and sales each day. This application is used to efficiently record transactions in serving lines, manage student accounts, plan meals and manage free and reduced-price meal eligibility. The system is highly dependent on consistent, reliable technology.

The food service program operates approximately 65 POS terminals districtwide. Recent hardware upgrades and connectivity to the new wireless system proved challenging for the technology department. Although the food service department coordinated with the technology department for the purchase of new computers so that installation and crossovers could take place during the summer break, the orders were not placed in time and installation was not complete when school began.

In addition, configurations and installations were not tested to ensure that each station was functional and connecting properly to the wireless network access point. Food service department staff reported that the wireless network access continues to experience delays in synchronizing transactions with the server, which makes it possible for students to process additional transactions under the same student account on the same day at other POS terminals, resulting in duplicate meals served. These duplicate meals have reportedly caused a significant loss in food service revenue since the transition.

The district also provides food service to the neighboring Montecito Union School District. Staff reported that the wireless network connection at this remote site is also contributing to discrepancies in data because the system is not synchronizing data with the server in real time.

Staff also indicated that although the NutriKids and Aeries applications synchronize data with each other nightly, there are discrepancies in student data which result in state reporting discrepancies.

Recommendations

The district should:

1. Ensure that technology staff work with the food service staff to identify and resolve all connectivity issues related to the nutrition services software to mitigate any further loss of revenue. The technology department should provide remote access tools to ensure that technicians can resolve technical issues remotely.

2. Connect POS systems to the district network using network cables to provide a faster connection and prevent delays in data synchronization and the resultant duplicate meals and revenue loss.

3. Develop and implement procedures for routine reconciliations of student information residing in Aeries and NutriKids every 24 hours. Reconciliations should be conducted and discrepancies resolved in a timely manner to ensure that reporting to state and federal entities is accurate and on time.

4. Ensure that the technology and food services departments develop a plan to cross-reference data reports annually and align and match the reporting of this data to prevent discrepancies in reporting to state and federal programs.

Technology Service and Help Desk

The technology services department recently started using a free web-based work order management system called MyTechDesk (http://www.techsets.org/Article.aspx?p=mytechdesk), which is offered by the California Department of Education's MyTechSets project.

A quality work order management system is beneficial to the effective management of daily operations in a technology department. When properly implemented, a work-order system will greatly improve tracking and control of work order requests, allow for greater organization and prioritization of assignments, and assist in assessing the productivity of support teams. Improved communication and access to work order status and equipment repair history are also beneficial byproducts of a properly implemented work order system.

The district did not use a work order system to manage technology needs prior to the implementation of MyTechDesk and, because it was implemented informally without a collaborative process, input from a variety of parties or a formal implementation plan, both technology staff and users throughout the district use it only sporadically. The district also does not have a help desk telephone number or an e-mail link to the MyTechDesk system.

The MyTechDesk software is adequate for receiving, requesting and following up on technical help requests; however it has some drawbacks. For example, to submit or follow up on a help desk ticket, each user must log in to the system. This requires users to remember how to access and maneuver within the system, which can be perceived as cumbersome. Users may also forget their login information if they do not use the system often.

Numerous staff indicated that technology staff and site technicians do not use the work order system consistently and continue to respond to telephone calls, e-mail requests, task lists and informal in-person requests. The lack of consistent use of the work order system by both staff and technicians creates significant inefficiencies in managing daily technology support duties.

Some site staff reported that they have started using the help desk more often but also always create and give technicians an additional to-do-list when they arrive on site to respond to the help desk work order. This bypasses a formal work order system, which creates inefficiencies by hampering the technology department supervisor's ability to prioritize and assign work.

Effective implementation of any new system requires a well-established plan with a single project manager who is responsible for deployment and a timeline for the transition; training for users to help them use the new system and understand its purpose and benefits; development of a transition timeline and districtwide communication regarding it; and a requirement that all staff use the system as intended and adhere to established procedures. A lack of these elements has contributed greatly to sporadic use and ineffective implementation of the MyTechDesk work order system.

The district would benefit from configuring its help desk system to not require users to log in to submit a request ticket, or using a different system if this is not possible. Some systems can be configured to allow users to submit a request via a web page or by sending an e-mail to a help desk address. Networking with other local educational agencies regarding work order

solutions can provide valuable and realistic information about various options. For example, the Las Virgenes Unified School District has implemented an effective web help desk solution, and its staff recently gave presentations at the California Educational Technology Professionals Association (CETPA) conference regarding the successes and challenges of changing a district culture of service to customers using this work order system.

Installing and implementing an online work order system is often more about a cultural shift on the part of users than about the mechanics of using the system. An effective work order system will meet the needs of the technology department while being easy for staff to learn and use. The cultural shift involves moving users away from directly contacting technicians via telephone, e-mail or in person to use of the online system. This requires cooperation and participation by all staff districtwide. The change begins when administrative staff and office managers accept and begin using the new system.

Currently, school site office managers often decide the disposition of work orders. This can exclude the person who needs service from the process, resulting in frustration and a loss of credibility. Having every user submit their own work order can ensure that users remain informed regarding the status of their work order ticket, the technician to whom their request has been assigned, and any questions or delays associated with the work.

To ensure responsiveness to users, it is best practice for a technology department administrator to review help desk request tickets daily and meet with technicians once a week to review open tickets and workload, overdue tickets and common solutions to problems based on data that shows the most common issues technicians are working on. Effective meetings also often include the setting of goals such as trying to reduce the weekly open ticket workload to less than 100 tickets.

The district also lacks a consistent, formal documented process for requesting and establishing new user accounts for e-mail, the financial systems and other technology applications.

Recommendations

The district should:

1. Fully implement a central technology work-order system to manage all technology service requests districtwide.
2. Work with MyTechDesk support to investigate the possibility of creating simplified help desk request options for users, such as the following:
    - A web page that identifies users by their Active Directory (AD) account so that they do not have to log in to the web page to request assistance.
    - An interface that accepts e-mail from district employees and automatically enters it into the appropriate fields to create a help desk request.
    - A district-developed web form to assist users in submitting help desk requests.
3. If MyTechDesk is not able to provide adequate and user-friendly help desk request solutions such as those listed above, research and implement other help desk software.
4. Network with other school districts that have functioning help desk systems in place regarding effective help desk solutions.

5. Develop a formal implementation plan for any help desk system it chooses to use. The plan should be developed by a committee that includes employees from all operational areas of the district so that the needs of all types of users are considered prior to deployment. A single project manager should be assigned to lead the deployment and should communicate the status of implementation

6. Establish a single telephone number and e-mail address for urgent support requests and a process for the technology department to determine their priority. Identify a staff member to enter these requests into the help desk system and assign them to technicians.

8. Implement a formal, documented process for requesting that a new user account be established.

9. Ensure that any help desk system implemented informs users via e-mail regarding the status of their request.

Intranet and Public Websites

The district's website is managed by staff in the communications department. The district's public website is well designed, easily navigable and contains a large amount of information. The district uses Drupal, an open source content management system, for their intranet. Drupal is designed to manage intranet websites and applications, and approximately 500 staff members use it to manage their site and departments. The district does not have a formal approval process for managing information posted on the intranet; however, most of the employees who are given accounts are those who would provide that approval, such as department heads, principals and vice principals.

Some of the district's school sites use Facebook to share information with parents. Most use it as a fan page, meaning that comments are not allowed; however, some sites allow comments. The district lacks formal processes and policies to guide school site staff in the development of their web pages or the use of Facebook. Because many school sites independently locate a web hosting service and sign up for it, a variety of companies host various schools' public website content. It is best practice to develop a standard hosting arrangement, either on district servers or through one single company that has been formally evaluated and approved.

School sites use a variety of tools to maintain both schools' and teachers' websites. The middle schools use Edline, one high school recently adopted and uses EDU, and many elementary schools use Dreamweaver or similar software.

Using a wide variety of tools such as these makes maintaining and updating teachers' and schools' websites difficult and labor-intensive. It is best practice to use a single content management solution that make websites simple to maintain and accessible from any computer on the Internet. This helps to create a uniform web presence with universal access and management, and creates a consistent and controllable environment by providing the opportunity for multiple contributors and editors to manage the district's and schools' public web presence. A single content management system simplifies cross-training, increases long-term sustainability and provides a single platform for districtwide communications in case of emergency or other unique circumstances.

The district backs up its website content on the server and on a local workstation but has no formal backup policy or procedure to ensure that this content is backed up consistently and safely. It is important to back up data in the event of a server crash, a hacked system, or in case the district needs to investigate past information or activity.

The district has not pursued the possibility of E-Rate discounts for web hosting services, but could benefit from this if it is eligible. This would require going out to bid for those services and consolidating the services.

Recommendations

The district should:

1. Establish a districtwide standard for the use of Facebook
2. Select and mandate one web content management solution to ensure a consistent and controllable environment by providing the opportunity for multiple contributors and editors to manage the district's and schools' public web presence. Pursue E-Rate discounts and options when selecting this solution.
3. Develop standard backup procedures for its website content and for all other systems.

E-Rate

The district has an E-Rate consultant to help it meet annual E-Rate requirements, complete applications, and maintain and update mandatory records. With support from the consultant, the district receives E-Rate discounts on both telecommunications (E-Rate's Priority 1) and internal connections (E-Rate's Priority 2), resulting in significant savings in hardware acquisitions and Internet and telephone service contracts. A collaborative team made up of staff from the technology, facilities and purchasing departments meets regularly to discuss and develop E-Rate plans. The team also coordinates regularly with the E-Rate consultant to prepare annual E-Rate applications.

A recent E-Rate 470 application allowed the district to purchase and install VoIP telephone systems. Hardware purchased using E-Rate funding is being tagged and inventoried properly, which is essential for proper auditing and accountability.

The district keeps few paper copies of formal E-Rate records on file at the district office. Although it is not uncommon for the consultant to retain these and make them available to districts upon request, the district should also keep copies. E-Rate records kept for auditing purposes typically include 470 and 471 applications, requests for proposals (RFPs) and associated evaluation rubrics, vendor communications, contracts, and documentation of any board actions related to E-Rate activities.

Recommendation

The district should:

1. Work with its E-Rate consultant to develop and maintain on-site records of E-Rate activities for auditing purposes.

Technology Department Staffing and Organization

Adequate staffing levels and the experience of personnel in any district's technology department are critical factors that contribute to the successful integration of technology throughout a school district.

The ability to implement, sustain and support technology is highly dependent on the leadership and skill of a technology department's administration and its support staff. The district's technology department leadership and direction is split between two different staff members, both of whom lack formal technology training and the broad technical experience needed to lead and guide the district's technology department.

Most school districts build technology over time based on the implementation of new technologies and the increasing amount of data required for state and federal reporting. Unfortunately, technology additions in the classroom are frequently implemented without thorough research to ensure that the district's infrastructure and support staff are adequately equipped to manage and support the new technology items.

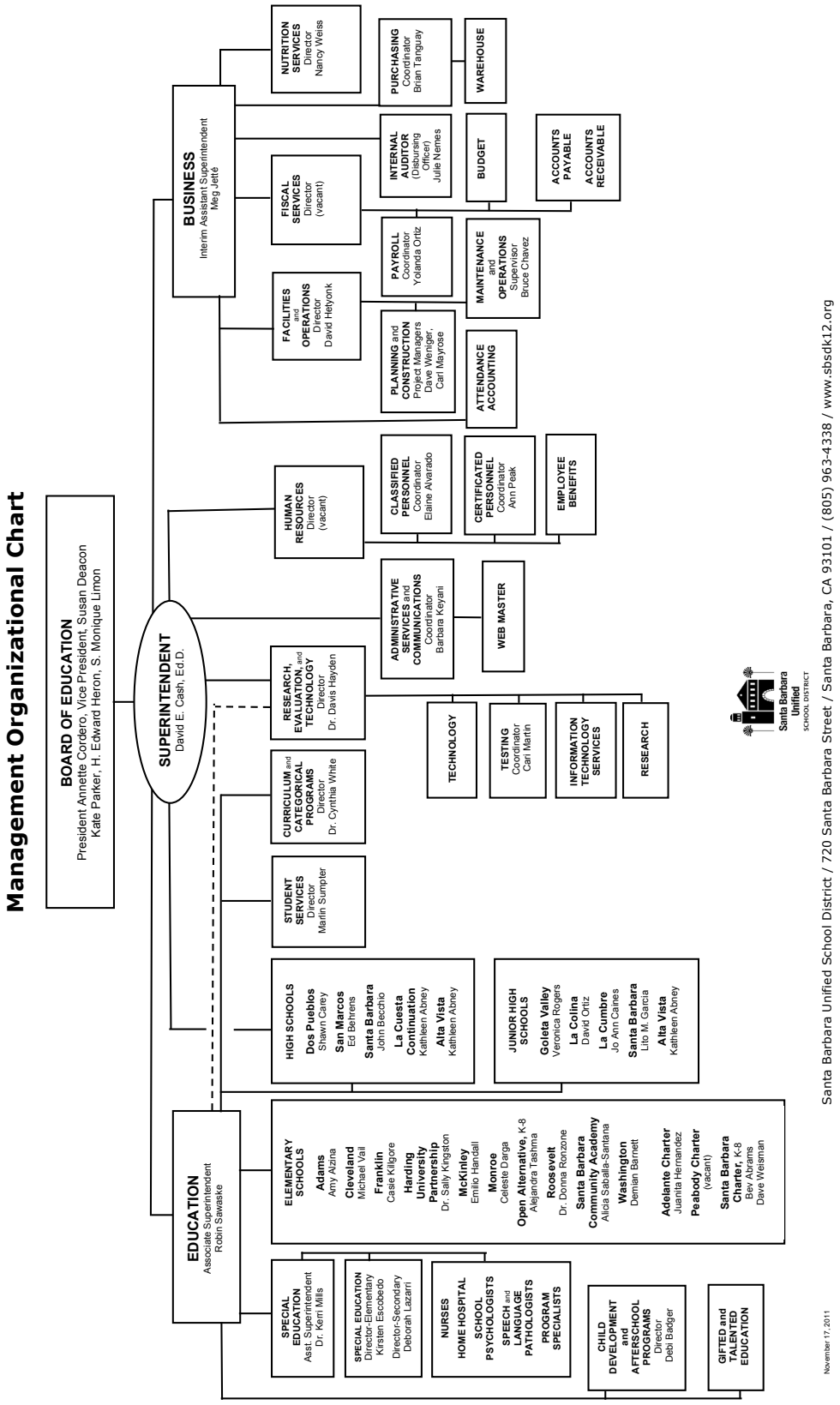
The district is approaching the end of its first year as a unified school district. Although there are often considerable benefits to unification, it also comes with some restrictions. One issue that arises after the reorganization of a school district is the permanency of classified employees. Education Code (EC) Section 45121 states the following:

> Persons employed in positions not requiring certification qualifications in districts, all or part of whose territory is included in a unification of districts, shall continue as employees of the unified school district for not less than two years, and shall not, by reason of any unification, be deprived of any benefit which they would have had had the unification not taken place. In determining the rights of such employees, their salaries, accumulated leaves, and other rights shall be determined as of the date the unification election was conducted. No increase in benefits not previously conferred, granted by the governing board of any district, all or part of whose territory is included in a unification of districts, after such unification election, shall be binding on the governing board of the unified district, except that benefits granted in the districts comprising the new unified district which does not become effective until the second succeeding first day of July shall be binding on the governing board of the unified district. Nothing herein contained shall preclude the governing board of the unified school district from making any reasonable reassignment of the duties of such employees. The governing board of the unified district shall establish a system of uniform salaries, employee benefits and working conditions for employees performing like services in conformity with the provisions of this section.

As indicated in EC 45121, the governing board of the new unified district retains the right to negotiate salary and benefit costs to a higher or lower level, except in the case of classified staff, who have a right to continued employment for two years at the pay and benefit levels in effect at the time of unification. Thus it is essential that the district plan and coordinate any restructuring in compliance with EC 45121. Although the district must retain all classified staff for two years and compensate them at the same levels and with the same accumulated leave and other compensated rights, it is not precluded from making reasonable reassignments of duties.

District Management Structure

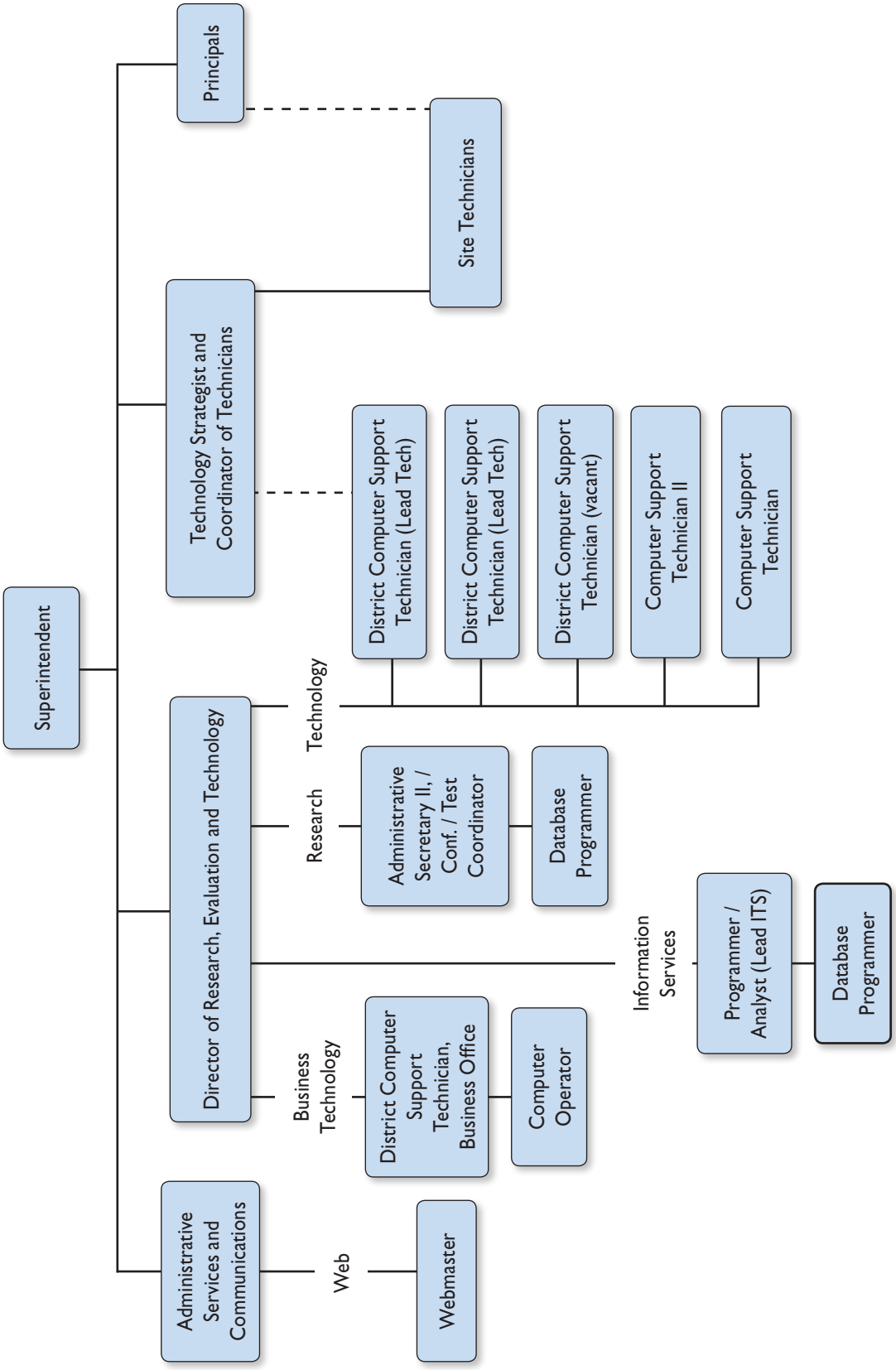
The chart below shows the district's present management structure and reporting hierarchy.



Technology Department Organization and Work Flow

The chart below shows the district's technology department's present organizational structure and work flow.

Current Organizational Structure for Technology



Technology Staffing

District leaders have described the district's technology structure as being composed of staff members from other departments working on technology rather than being directly staffed in a formal technology department. The staffing list provided by the district below shows the staff members assigned to support technology.

Santa Barbara Unified School District Technology Department Staffing and Support Staffing

Department	Position	Hours Per Day	FTE	Funding Distribution
Teacher	Technology Strategist & Coordinator of Technicians	FT Teacher w/ release & addl. .4 FTE	0.400	Site (Teacher) Funded - General Fund Unrestricted
Site Technicians	Dos Pueblos HS - Tech Support/Network Administrator			Categorical - Site funded
Admin	Director, Research, Evaluation & Technology	8	1.000	District Funded - General Fund Unrestricted
Admin	Administrative Secretary II	8 hours / 70%	0.700	District Funded - General Fund Unrestricted
Evaluation	Test Coordinator	8 hours / 30%	0.300	District Funded - General Fund Unrestricted
Technology	District Computer Support Technician (Lead Tech.)	8	1.000	District Funded - General Fund Unrestricted
Technology	District Computer Support Technician (Lead Tech.)	8	1.000	District Funded - General Fund Unrestricted
Business Tech	District Computer Support Technician, Business Office	8	1.000	District Funded - General Fund Unrestricted
Technology	Computer Support Technician	8	1.000	Categoricals with about 50% SpEd
Technology	Computer Support Technician II	8	1.000	District Funded - General Fund Unrestricted
Business Tech	Computer Operator	4	0.500	District Funded - General Fund Unrestricted
Info Systems	Programmer / Analyst (Lead ITS)	8	1.000	District Funded - General Fund Unrestricted
Info Systems	Education Data Specialist	8	1.000	District Funded - General Fund Unrestricted
Info Systems	Database Programmer	8 hours / 90%	0.900	District Funded - General Fund Unrestricted
Research	Database Programmer	8 hours / 10%	0.100	District Funded - General Fund Unrestricted
Web	Webmaster	8	1.000	District Funded - General Fund Unrestricted
Site Technicians	Adams - Computer Specialist	15 hours/week	0.375	Site funded
Site Technicians	Franklin - Computer Release Teacher and Support	8 hours / 35%	0.350	Site funded
Site Technicians	Harding -	20 hours/week	0.500	Site funded
Site Technicians	Monroe - Technology Specialist	6 hours/week	0.150	Site funded
Site Technicians	La Cumbre JH - Computer Support Technician I	8 hours / 50%	0.500	Site funded
Site Technicians	SBJH - Computer Support Technician I	8	1.000	Site funded
Site Technicians	San Marcos HS - Computer Support Technician III	8	1.000	Categorical - Site funded

Department	Position	Hours Per Day	FTE	Funding Distribution
Site Technicians	Santa Barbara HS - Computer Support Technician III	8	1.000	Site funded
Librarian	Library Systems/Website assist/directory mgmt./ account setup/training		1.000	District Funded
Business	Attendance Accounting (Site support & training / CalPADS support)			District Funded
Business	Director of Facilities & Operations (Telecommunications)			District Funded
Business	Purchasing Coordinator (E-Rate)			District Funded
	Total FTE		17.775	

Staffing Comparison

Technology support staffing varies widely among California school districts, but the most common structure in districts similar in size to Santa Barbara USD includes a technology leader such as a director of technology or chief technology officer (CTO) who reports to one of three cabinet-level positions: the administrator for business services, the administrator for education services or the superintendent.

To develop a comparison of technology service staffing, FCMAT obtained data from seven other California K-12 school districts: Alameda Unified, Las Virgenes Unified, West Covina Unified, Walnut Valley, Central Unified, Santa Clara Unified and Canejo Unified.

Although comparative information is useful, it should not be considered the only measure of appropriate staffing levels. School districts in California are complex organizations and vary widely in demographics, available resources and the committed use of those resources.

As a result, careful evaluation is necessary when reviewing the results of the comparisons. Generalizations can be misleading if significant circumstances related to each district are not taken into account.

The following table lists the student enrollment, grade level and number of sites of the comparison districts as reflected on the Ed-Data website (www.ed-data.k12.ca.us) for the 2010-11 school year. Additional data regarding specific technology services staffing was obtained through direct inquiry with each district in the comparisons. All of the comparison districts are of similar size, have similar technology needs and are large enough to require enterprise-level technology solutions. The Santa Barbara Unified School District is one of the largest in the comparison in size and staffing as well as in the total number of staff who support technology.

District Staffing Comparison Data

District	Grade Level	Enrollment*	Staff Level Expressed in FTE	Total Tech Staff	District Level Staff (Other than Technicians)	Technician Site/D.O.	Technicians	SIS	Financial System	Help Desk
Alameda USD	K-12	10,494	10.50	10.50	7	>.5 site / 3 D.O.	3.5	Aeries	Apta	MyTechDesk
Las Virgenes USD	K-12	11,393	16.00	16.00	11	D.O.	5	Aeries	LACOE	Web Help Desk
West Covina USD	K-12	14,665	8.00	8.00	6	D.O. (Network Admin.s)	2	Aeries	Escape	Spice Works
Walnut Valley USD	K-12	14,719	17.50	22.00	8	14 Site (Partial FTE)	14	Aeries	LACOE	MyTechDesk
Central USD	K-12	14,817	8.125	10.00	7	PT Site 2 D.O.	3	Aeries	FCOE	AutoTask
Santa Barbara USD	K-12	15,324	17.775	22.00	12	8 Site / 2 DO	10	Aeries	QSS	MyTechDesk
Santa Clara USD	K-12	15,383	14.00	14.00	6	D.O.	8	Aeries	QSS	Kaseya
Canejo USD	K-12	21,091	19.021	22.00	7	14 Site	15	Zangle	ESCAPE	E-chalk

*Enrollment source data 2010-11, Ed Data (www.ed-data.k12.ca.us)

All other source data: District direct inquiry

Based on the districts surveyed, the span of control and the number of staff supporting technology throughout the Santa Barbara Unified School District is comparable to districts of like size and demographics. The number of site-based technology support technicians varies among school districts; however, most districts use site-based technicians for classroom and lab support and not for configuration and repair of technology equipment. Every comparison district surveyed employs a director or chief technology officer with broad experience in technology, and supports that position with a network administrator

Detailed Position Comparison

The following table provides detailed information regarding positions that directly or indirectly support technology in Santa Barbara USD and each of the seven comparison districts surveyed.

District	Santa Barbara USD	Alameda USD	Las Virgenes USD	West Covina USD	Walnut Valley USD	Central USD	Santa Clara USD	Canejo USD
Grade Level	K-12	K-12	K-12	K-12	K-12	K-12	K-12	K-12
Enrollment	15,324	10,494	11,393	14,665	14,719	14,817	15,383	21,091
No. of Sites	22	20	15	16	15	19	25	27
Direct Technology Support	**FTE (^) and position description**							
Department Administration / Chief Technology Officer / Director of Technology	(1.0 FTE) Director of Research, Evaluation & Technology (.4 FTE) Technology Strategist & Coordinator or Technicians	(1.0 FTE) Director of Information & Technology Services	(1 FTE) Chief Instructional Technology Officer	(1.0 FTE) Director of Technology Services	(1.0 FTE) Technology Director	(1.0 FTE) Director Technology	(1.0 FTE) Director of Information Technology	(1.0 FTE) Director, Technology Services
Administrative Secretary	(.7 FTE) Administrative Secretary II	(1.0 FTE) NEW OPEN POSITION (Excluded from FTE total)	(1.0 FTE) Secretary					
Technology Network/ Hardware	(3.0 FTE) District Computer Support Technician	(1.0 FTE) Network Administrator	(1.0 FTE) Network Administrator (1.0 FTE) Network Systems	(2.0 FTE) Network Administrator	(1.0 FTE) Technology Support Specialist (1.0 FTE) Network Systems Specialist (1.0 FTE) NEW OPEN POSITION - Network # Engineer (Excluded from FTE total)	(1.0 FTE) Computer Support Specialist	(1.0 FTE) WAN/Internet Administrator	(1.0 FTE) Network Engineer

District	Santa Barbara USD	Alameda USD	Las Virgenes USD	West Covina USD	Walnut Valley USD	Central USD	Santa Clara USD	Canejo USD
District Computer Support Technicians	(2.0 FTE) Computer Support Technicians (.5 FTE) Computer Operator	(2.0 FTE) Educational Computer Technician		(3.0 FTE) Computer Systems Support Specialist	(1.0 FTE) Lead Electronics Technician (1.0 FTE) Electronics Technician (1.0 FTE) Education Technology Specialist	(1.0 FTE) Computer Technician	(1.0 FTE) Local Area Network Administrator (3.0 FTE) Senior Technician (5.0 FTE) Technician	
Student Information Systems (SIS) , Data & Testing	(1.0 FTE) Education Data Specialist (1.0 FTE) Programmer Analyst (1.0 FTE) Database Programmer (.3 FTE) Testing Coordinator	(1.0 FTE) Data Systems Manager (1.0 FTE) Systems Analyst (1.0 FTE) Student Information Systems Specialist (1.0 FTE) Data Specialist	(1.0 FTE) Student Data Specialist	(1.0 FTE) Computer Programmer Analyst	(1.0 FTE) Student Information System Support Specialist (1.0 FTE) Database Analyst	(1.0 FTE) Instructional Technology, Student Information & Assessment Coordinator (1.0 FTE) SIS Manager (1.0 FTE) SIS Help desk	(1.0 FTE) Database Administrator (1.0 FTE) Application Support Specialist	(1.0) Database Administrator (4.0) Systems Analyst
Site Technicians	(4.875 FTE) Site Technicians		(5.0 FTE) Site Technicians	Services provided by Network ad-ministrators	Primarily site funded: (4.5 FTE) Elementary (1) 3-5 hour/ 10 month (3.0 FTE) Middle (1) 8 hour / 10 month (2.0 FTE) High School (1) 8 hour / 11 month	(1.125 FTE) Site funded library media support technicians (3 positions @3hrs./180d)		(1.5 FTE) Site Technician II (10.188 FTE) Site Tech
Library Media Tech	(1. 0 FTE) District Librarian	(2.0 FTE) Achievement & Assessment (>.5 FTE) Library Media site support district wide	(5.0.0 FTE) Media Specialist	Site Librarians - general services			(1.0 FTE) Coordinator, Education Technology and Library Programs	(.333 FTE) Technology Coordinator (Cert. 2 per.)
Total Direct Technology Support	16.775	10.50	15.00	7.00	17.50	8.125	14.00	19.021

District	Santa Barbara USD	Alameda USD	Las Virgenes USD	West Covina USD	Walnut Valley USD	Central USD	Santa Clara USD	Canejo USD
Other District Support								
Web Master	(1.0 FTE) Webmaster- Under the direction of Admin. Svc. & Communications	Former webmaster position restructured to administrative support position noted above.	Managed by EdTech Department	(1.0 FTE) Webmaster - Coordinator, Instructional Technology (Ed. Svc.)	Managed by district technology staff	E-chalk	Hosted - Supported by Public Relations Dept.	District administrative assistant support- District primary website - all content managed at site level
E-Rate	Purchasing Coordinator	Consultant / Tech Director	Consultant / CTO	Consultant / Tech Director	Consultant / Tech Director	Consultant		Consultant/ Tech Director
Communications / Phones	Director of Facilities & Operations	IT first line response / Analog phones support outsourced.	(1.0 FTE) Telephone Services	Technology & external consultant - digital (non-VoIP)	Managed by district technology staff / Analog	Outside vendor support	Hosted - Supported by PC technicians	Analog / MOT supported
Attendance	Attendance Accounting - site support, training and student data reporting		Managed by EdTech Department	Managed by district technology staff - Pupil services staff support day to day and student data	Managed by district technology staff			
TOTAL INDIRECT TECHNOLOGY SUPPORT	1.000	0.000	1.000	1.000	0.000	0.000	0.000	0.000
TOTAL FTE	17.775	10.50	16.00	8.00	17.50	8.125	14.00	19.021

As indicated earlier, the district lacks a single technology leader with a clear vision of the role of technology in relation to the district's overall vision, goals and objectives. The director of research, evaluation and testing (also listed as the director of research, evaluation and technology in the district's staffing table above) shares many daily technology department duties with the technology strategist and coordinator of technicians. The district's job description for the director of research, evaluation and testing position does not include the duties related specifically to technology. The duties of this position are primarily focused on data assessment, administration and reporting on state tests, analysis of student test results and oversight of the student information system. The director of research, evaluation and testing reported that the level of staffing support committed to technology has changed over the last five years and has diminished with the appointment of the technology strategist and coordinator of technicians position.

Because technology serves all district operations and structures, including the instructional program and students, it is critical for the district to have a single technology leadership position, such as a chief technology officer (CTO), preferably at the cabinet level, to unify and guide these efforts in accord with the district's vision. A sample chief technology officer job description is provided in Appendix B.

It is also a best practice for all of the funding for a district's technology infrastructure, maintenance and configuration to be allocated to the technology department and administered by that department's leadership. This normally includes the district technology leader approving and signing all technology purchase orders. However, this is not occurring in the district's case.

The district recently appointed a certificated staff member to be a teacher on special assignment (TOSA) and fill the position of technology strategist and coordinator of technicians. This position was created to meet a need for instructional technology leadership, vision and support. In addition to full-time daily classroom instruction duties, this position has taken the lead in furthering a vision for instructional technology. Although the district could provide no formal job description for the TOSA position, the human resources department reported that this position is based on a 1.0 FTE teaching contract and the provision of release time to support technology, and an additional 0.4 FTE for duties related to professional development for teachers, administrators, classified staff and board members regarding technology, coordination of technology service requests and repairs, and oversight of technology purchasing. Human resources staff indicated that this position also oversees and directs the work of staff members responsible for configuring the district's network.

Although these contributions are vital to the effective use of technology in the classroom, it is equally vital that the vision for instructional technology be compatible with the district's existing network structure and that all conflicts that new technology may present be considered and resolved prior to the expenditure of district resources for new equipment. Thus if the district retains this position, it is essential that the employee in the position confer regularly with the technology department leader. It may be beneficial for the district to consider changing this position to a fully released (1.0 FTE) coordinator or TOSA educational technology position to help improve communication between divisions and alignment of projects as well as to support site administrators in delivering individualized staff development. It would be consistent with best practices to have this position report to the CTO position, and for the duties of overseeing and managing staff members who support the district's network and managing day-to-day service requests to be reassigned to the CTO position.

If the district fully implements a help desk system as discussed earlier in this report, it would need to incorporate into an existing position the duty of managing help desk requests through

one central system of support tickets and, with the guidance of the CTO, assigning requests to technicians.

With the exception of the technology leadership, technology staffing at all levels is adequate compared to districts of similar size and type. However, the current staffing is not structured to allow staff to function as a cohesive team under one leader. Many job descriptions are out of date and do not closely address what the staff members assigned to these positions do daily.

Recommendations

The district should:

1. Consider creating a full-time coordinator or TOSA position for educational technology to improve the adoption and implementation of new technologies by helping improve and increase communication between divisions and alignment of projects, and support site administrators in delivering individualized staff development.
2. Have the position of research, evaluation and testing resume responsibilities focused solely on the areas listed above, and have this position report either directly to the CTO or reassign it to report to the associate superintendent of education.
3. Review and update site technicians' job descriptions to ensure that they match these staff members' daily duties. Work with the applicable employee bargaining unit to negotiate any changes in salary schedule placement and ensure that all revised job descriptions are approved by the governing board.
4. If a help desk system is fully implemented, assign 0.5 FTE to staff a web-based help desk.
5. Revise all technology department job descriptions as needed to form a cohesive and efficient technology team.
6. Consider creating and staffing a single technology leadership position, preferably a chief technology officer (CTO) position. This should be a cabinet level position to help provide cohesion between administrative and educational technology. Ensure that the CTO position is provided with clear guidance regarding the goals for rebuilding the technology department into a cohesive and highly functioning entity. The CTO should do the following:
    - Evaluate current technology staff serving in administrative assignments and assess how these roles fit into technology. It is likely that these positions should be reassigned based on the specificity of the assigned duties.
    - Audit all major projects in progress such as the wireless infrastructure, VoIP telephone system, student information system, financial system migration, and food services system.
    - After obtaining a thorough understanding of staff responsibilities and department needs, thoroughly assess job descriptions and match them to existing staff and assigned duties to ensure efficiency. Work with the applicable employee bargaining unit to negotiate any changes to salary schedule

placements and ensure that all new and/or revised job descriptions are approved by the governing board.

- Develop a clear plan for staffing assignments and responsibilities, and present it to the superintendent and cabinet for review

7. Ensure that all technology infrastructure, maintenance and configuration funding is allocated to the technology budget and administered by the leader of the technology department. All technology purchase orders should be approved and signed by the technology leader before being processed by the business services department.

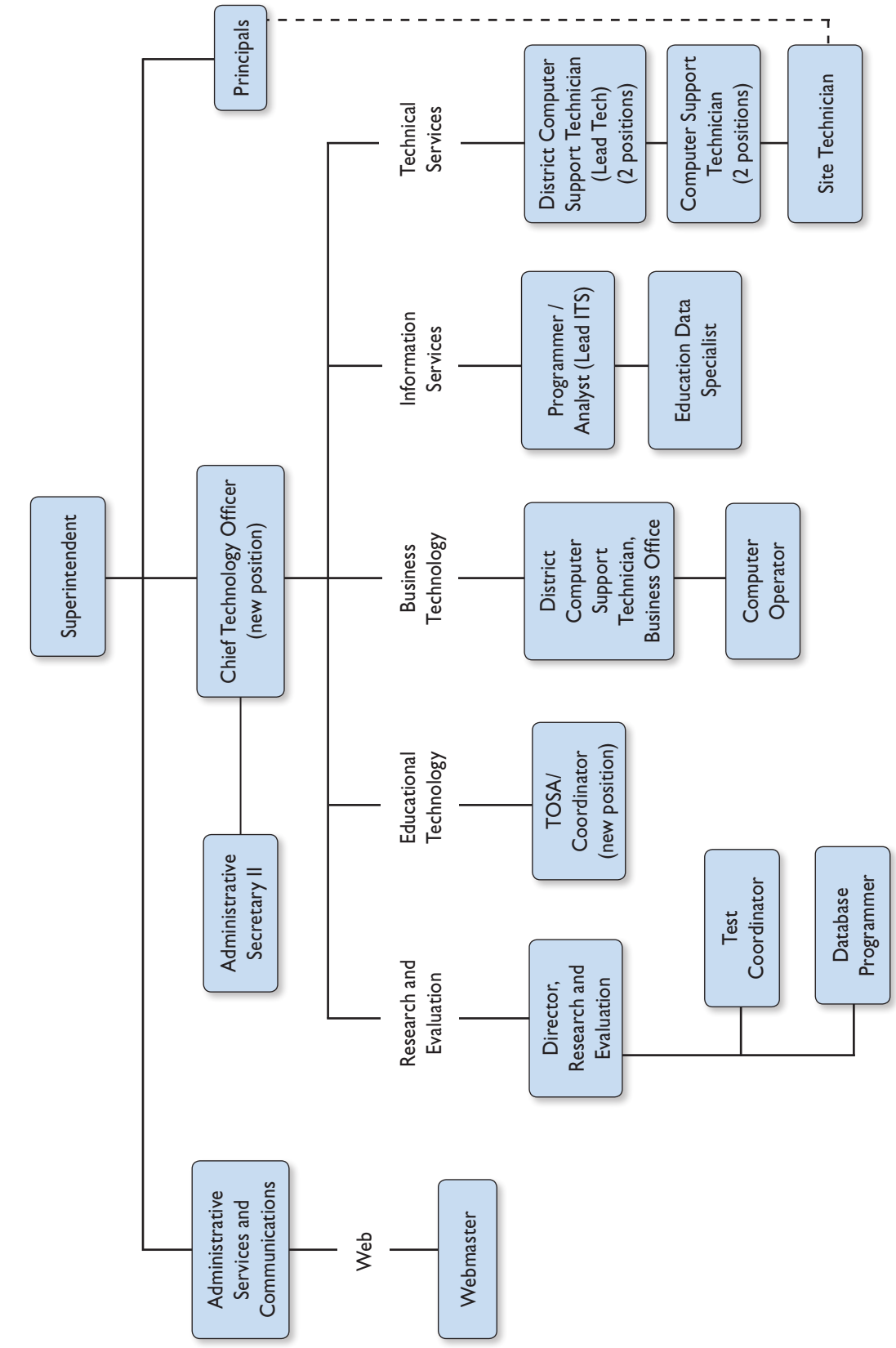
8. Consider following the below timeline when restructuring the technology department and assessing projects:

    - Four months to audit the status of current projects;
    - Two months to present and approve a departmental restructuring plan;
    - Six months for full implementation.

9. Conduct an evaluation of the new CTO position within the probationary period for that position, and another within 24 months, using the effectiveness of departmental restructuring, staff management, project management, and leadership as criteria for evaluation.

10. Consider structuring the functions of the technology department as shown in the following functional organizational chart:

Proposed Organizational Structure for Technology



11. Because of the recent unification, consult legal counsel to ensure that all staffing changes and reassignments in any restructuring plan developed are in compliance with Education Code Section 45121.

Professional Development

The district's technology users receive little professional development in the area of technology use and integration other than what is provided directly by the school sites, typically by a librarian or teacher. These trainings are effective and successful, but vary from site to site, and in some cases are absent, especially if site leaders do not recognize this area as a priority. There is also a lack of district support or direction: the district does not offer staff development to support the use or integration of technology into instruction or learning at school sites.

The Santa Barbara County Office of Education offers workshops and electronic resources in the area of technology integration, but these trainings and resources are rarely used and are often cost-prohibitive for school sites. Because of this situation, school site leaders are left to develop professional growth opportunities for their staff, and any school that does not have a technologically proficient teacher or librarian to help provide these workshops is left without training and/or is unable to fully adopt district initiatives.

Effective professional development would increase integration of technology with instruction and could reduce the need for technology support. Systematically planning and implementing professional development for every new software or hardware deployment is a best practice. Effective professional development models make full use of the various resources available across different district departments and from vendors. Professional development regarding technology can be combined with professional development for curriculum and instruction and other departments to take full advantage of limited resources.

The district's Local Educational Agency Plan (LEAP) identifies technology curricular goals with detailed professional development and integration to support teachers' use of technology for teaching and learning. However, as indicated earlier in this report, the district's technology plan is not aligned with its LEAP and thus its direction and resources in this area are not unified. Aligning these plans would benefit the district, as would including a coordinator or TOSA position for educational technology to support district and site goals by delivering training and other technology support. Having designated staff in this area would provide the district with a way to share its vision and goals consistently and accurately, and provide site-based training to school sites that lack resources.

The district's technology staff do not receive formal professional development or ongoing training. Training of technology support staff is essential to ensure that technicians have the ability to support technology and software that is integrated into the classroom. As indicated earlier, staff have a particular need for training in the areas of SQL, QSS, Aeries and Destiny.

Recommendations

The district should:

1. Make professional development in the area of technology a high priority.

2. Update its technology plan to align it with the LEAP's curricular goals, and provide the staff development necessary to support delivering those goals.
3. Ensure that it has a concurrent plan for providing sustained professional development before implementing any new technology. The plan should encourage pilot programs that build local capacity and provide ongoing support for teachers. Coordinate efforts with curriculum and instruction and other departments to make the most effective use of limited resources.
4. See Recommendation 1 on page 49 under Technology Department Staffing and Organization.
5. Ensure that technology staff members receive regular and focused training, including additional training on SQL, QSS, Aeries and Destiny.

Board Policies

Board Policy (BP) 4040 and Administrative Regulation (AR) 6163.4 addressing students' and employees' use of technology were updated in 2010 to include recent state requirements regarding cyber-bullying and appropriate use of websites and blogs. However, these ARs have not been updated with additional language to support security and end users' understanding of their expectation of privacy. Specifically, AR 4040 has not been updated to include language that prevents users from installing unapproved applications or attempting repairs or network maintenance without proper authorization. AR 4040 also does not clearly outline a password protocol to support security measures and does not include subsections stating that there is no reasonable expectation of privacy and that online activity and personal files on district technology are subject to review without prior notification.

AR 6163.4 regarding students' use of technology has not been updated to include the recent addition and future expansion of wireless infrastructure. This AR will need to include additional language that supports security and network reliability by preventing students from attaching personal devices to the district's wireless network without prior authorization. The student and employee ARs also do not contain a liability waiver or release of liability clause regarding damage or loss of personal devices when they are being used on campus during school hours for educational purposes.

Board Policy (BP) 3400, Management of District Assets, and AR 3440, Inventories, are up to date; however, the district's compliance with this board policy is lacking. The district is required to inventory items that have a useful life of one year or more, cost $500 or more per unit or are purchased with federal funds. In addition, the Code of Federal Regulations Title 34, Section 80.32 requires that a physical inventory be completed at least once every two years.

Interviews with staff members indicated that the district has poor inventory control in all areas related to technology. District personnel indicated that inventory of hardware is limited and that inventory maintained in the district's financial system has not been reconciled to a verified physical count. Staff reported that the district has not conducted physical inventories in accordance with Education Code section 35168, which states the following:

> The governing board of each school district shall establish and maintain a historical inventory, or an audit trace inventory system, or any other inventory system authorized

> by the State Board of Education, which shall contain the description, name, identification numbers, and original cost of all items of equipment acquired by it whose current market value exceeds five hundred dollars ($500) per item, the date of acquisition, the location of use, and the time and mode of disposal.

Inquiries to district staff regarding inventories of hardware and software produced varying results. Although staff reported that purchases of items valued at $500 or more are required to be shipped to the central warehouse where asset tags are affixed prior to final delivery and installation, reports vary regarding whether this policy is consistently applied. Further, staff other than those in the district's business office seemed to lack an understanding of the importance of an equipment inventory or concern about whether one exists. The director of research, evaluation and technology reported that department had no equipment and/or software inventory, though one site technician shared that the department maintains an inventory in a spiral notepad.

Proper network maintenance, troubleshooting and security require that all devices that connect to the network be documented. It is best practice for a district's technology department to maintain and routinely update detailed inventory records of equipment districtwide. Many technology devices are mobile and need to be routinely tracked. Updating inventories helps ensure proper asset tracking, and creating and maintaining inventories of software licenses can help ensure that any use restrictions are documented and adhered to.

Recommendations

The district should:

1. Update AR 4040 and AR 6163.4 to include language regarding unauthorized repair, security, lack of expectation of privacy, and prior authorization and release of liability for personal use of devices on campus and on the network.
2. Maintain and routinely update detailed districtwide inventory records of equipment.
3. Conduct a physical inventory of its equipment with an original cost exceeding $500, and reconcile counts to inventory records.
4. Review and implement district policy and administrative regulations to ensure that the inventory is kept current, in accordance with the California Education Code and the Code of Federal Regulations.
5. Implement an automated system to create and maintain an inventory of software licenses and version history to ensure compliance with licensing requirements and restrictions.

Appendices

Appendix A

Sample Technology Department Staffing and Position Descriptions

Appendix B

Sample Job Descriptions

Appendix C

Study Agreement

Appendix A

Sample Technology Department Staffing and Position Descriptions

Chief Technology Officer

Cabinet level position that oversees all aspects of technology districtwide. Creates vision and leadership to achieve the district's goals as they relate to technology. Reports to the superintendent or the leader of business service or education services.

Media Specialist

Teacher(s) on special assignment; reports to the CTO. This position provides an interface between the teaching staff and technology needs of the district. This position interfaces with the curriculum department, teachers, principals, library staff, and the community.

Network Administrator

Manages and oversees all aspects of the technology infrastructure. Develops, designs and coordinate the deployment of new technologies. Oversees engineers. Reports to the CTO.

Engineers

Maintain network systems. One for network infrastructure, one for business and network services, and one for communications (VoIP) and low voltage systems. Report to the network administrator

Technicians

Provide user support. The number of technicians should be based on the number of sites and the number of supported devices at each location. Report to the network manager.

Appendix B

Sample Job Descriptions

Las Virgenes Unified School District
Network Administrator

BASIC FUNCTION:
Under the direction of the Chief Instructional Technology Office, administer all LVUSD core server applications such as the student information system, email, communications systems, and various instructional-based application servers. Manage the district Internet content and email Spam filters. Plan, organize, and direct technical support functions as related to district certificated and classified staff, network systems, hardware implementation, security functions, personnel, and maintenance repairs.

REPRESENTATIVE DUTIES:

Insure reliability of core education technology systems
Coordinate core system changes with appropriate support staff to assure uninterrupted computer services to the organization and its customers
Plan, organize, coordinate and implement core district technology
Manage a wide array of applications and technology services
Develop and maintain internal documentation
Develop and maintain a schedule of quarterly password changes on all equipment under supervision of this position
Develop and maintain a schedule of quarterly testing and documentation of all disaster data backup and recovery
Effectively implement security practices and procedures as directed by the Chief Instructional Technology Officer
Other duties as assigned

KNOWLEDGE AND ABILITIES:

Knowledge Of:
Aeries student information system
Zimbra email system
Microsoft operating systems including server and IIS (web services)
Macintosh operating systems including server and network directory services
Linux operating systems including server and web application
Dell Blade technology and "ISAN" storage devices
Back up and restoration of data
Web Help Desk administration and deployment
Deployment of enterprise level hardware, software, and policy enforcement
Barracuda Spam Filter
SonicWall Internet filtering
Blackboard ConnectEd

Ability To:
Communicate effectively both orally and in writing
Follow oral and written directions
Establish and maintain effective relationships with others
Clearly document work performed
Effectively participate in working groups or committees
Learn new skills and adapt to changes in technology

Continuously update personal knowledge of industry-leading education technology
Follow budget management principles
Drive a car
Effectively prioritize and execute projects
Effectively interact with vendors
Prepare and follow work plans and time lines for projects and proposed systems
Learn new skills and adapt to changes in technology
Follow budget management principles

EDUCATION AND EXPERIENCE:

Any combination equivalent to: Bachelor's degree with major coursework in Computer Information Systems/Computer Science AND three (3) years of increasingly responsible experience in the support of core technology systems. Prefer at least two (2) years experience with each of the listed applications above. One year of related work experience may be substituted for each year of education.

WORKING CONDITIONS:

Office environment. Subject to classroom, playground and community settings, which may include inside and outside environmental conditions. Subject to driving between sites.

PHYSICAL ABILITIES:

Perform duties that require fine dexterity and extreme muscle control, involving various body postures. Specific vision abilities required by this job include color vision, close vision, depth perception and ability to adjust focus. Ability to lift up to 80 lbs. Ability to sit, walk, reach, stoop, climb, bend, kneel and be mobile for extended periods of time. Facility to hear and understand speech at normal room levels and other sounds as it would relate to an office environment. Drive a car.

LAS VIRGENES UNIFIED SCHOOL DISTRICT
JOB DESCRIPTION

CLASS TITLE: Chief Instructional Technology Officer

BASIC FUNCTIONS:

Under the supervision of the Superintendent of Schools, this Cabinet level position will provide leadership and evaluation of the technology and accompanying methodologies used within the District; help the District transform its culture to one rooted in research based strategies that more fully integrate technology for instruction, communication, assessment and operations, and implement the Board's vision and dynamics for 21st Century learning.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Ability to adapt existing technologies to new uses and envision natural relationships between emerging technology resources that can benefit delivery of educational opportunities and District operations
- Enable the District to offer technology-based and online learning opportunities for its students and explore revenue-generating programs for the District
- Ability to understand ramifications of technology use, and develop medium and long-range plans for technology lifecycles
- Ability to design and implement staff development programs
- Ability to disaggregate data in order to facilitate data-driven decision making to guide instruction, improve student achievement and promote RtI (Response to Intervention)
- Ability to work effectively and communicate with all LVUSD's stakeholders (certificated, classified, management, students, parents, government and community), in order to understand needs and resolve issues
- Ability to explain, in non-technical terms, what various types of technology do and why each can be essential to 21st century learning
- Ability to develop a K-12 standards-based technology skills/acceptable use curriculum
- Ability to communicate and keep the District compliant with legal and ethical issues associated with the use of technology (e.g., cyber ethics and digital citizenship, record keeping, archives, privacy, child protection, public access, and copyright)
- Ability to implement State and Federal academic requirements for testing, compliance and reporting
- Coordinate and manage the resources necessary to implement and maintain a comprehensive technology strategy

KNOWLEDGE AND ABILITIES:

- Possess an understanding of organizational dynamics and best practices for implementation of current strategies to support teaching, learning, communication and operations
- Ability to apply life and career skills such as transparency, communication, working collaboratively, flexibility, and ability to manage and motivate others

- Ability to understand and implement components of the National Technology Plan and ISTE standards
- Possess a clear understanding of stakeholder needs/demands that can be supported by technology

- Ability to supervise personnel (both teaching and support) in the implementation of District and site technology initiatives

EDUCATION AND EXPERIENCE:

- Bachelor's degree (Master's degree preferred)
- Extensive coursework and/or extensive experience in current technology systems and applications
- Experience in both the private sector and public education setting helpful

LICENSES AND OTHER REQUIREMENTS:

- Administrative Credential (or eligibility to obtain through testing)
- California Driver's License

WORKING CONDITIONS:

Environment:

- Subject to classroom and school site settings, which may include inside and outside environmental conditions
- Subject to driving between sites

Physical Abilities:

- Sitting and standing for extended periods of time
- Dexterity of hands and fingers for operating office equipment, carrying, pushing or lifting classroom equipment and supplies
- Bending at the waist, kneeling or crouching
- Seeing to observe students in classroom activities
- Hearing and speaking to communicate with others
- Moving around a classroom or school site environment freely and independently enough to work with staff members naturally and unobtrusively

Las Virgenes Unified School District - July 27, 2010

Appendix C

Study Agreement

FCMAT
FISCAL CRISIS & MANAGEMENT ASSISTANCE TEAM
CSIS California School Information Services

FISCAL CRISIS & MANAGEMENT ASSISTANCE TEAM
STUDY AGREEMENT
August 22, 2011

The FISCAL CRISIS AND MANAGEMENT ASSISTANCE TEAM (FCMAT), hereinafter referred to as the Team, and the Santa Barbara Unified School District, hereinafter referred to as the District, mutually agree as follows:

1. BASIS OF AGREEMENT

The Team provides a variety of services to school districts and county offices of education upon request. The District has requested that the Team provide for the assignment of professionals to study specific aspects of the Santa Barbara Unified School District operations. These professionals may include staff of the Team, County Offices of Education, the California State Department of Education, school districts, or private contractors. All work shall be performed in accordance with the terms and conditions of this Agreement.

In keeping with the provisions of AB1200, the County Superintendent will be notified of this agreement between the District and FCMAT and will receive a copy of the final report. The final report will be published on the FCMAT website.

2. SCOPE OF THE WORK

A. Scope and Objectives of the Study

The scope and objectives of this study are to:

The District is requesting FCMAT to provide a comprehensive analysis of the district's current state of technology including hardware, software, professional development, departmental staffing, student assessment and accountability requirements and the use of technology. The FCMAT Team will evaluate the workflow of the technology department and create an organizational workflow diagram to assist in the analysis. The Team will interview site principals, department directors and classified staff to gather data regarding the types of software applications and hardware utilized at the district. The Team will review and analyze the District's Technology Master Plan and Educational Master Plan and make recommendations, if any.

1. The technology review will include an analysis regarding the level of support for the following:
   a) Network Administration
   b) Website development and support
   c) Email support for district and site level staff
   d) Student Attendance System
   e) Financial Reporting System
   f) Hardware installation and setup
   g) Application software used at district and site levels
   h) Technology in the classrooms and student data assessment and accountability protocols

2. Review the job descriptions and staffing of the technology and assessment and accountability departments. This component will also include any site level support and its impact on the both departments.

3. Review District board policies on the use and integration of technology for district level and site based instructional strategies. This component should include any obstacles or barriers that prevent the use of effective technology.

4. Based upon the support level required by the district's technology and assessment and accountability departments, provide staffing comparisons of districts of similar size and structure.

5. Review the design network regarding safeguards of the data residing on the systems in the event of a catastrophic event or security breach. Review the processes or planning that exist to upgrade the hardware and software assets to remain current with today's technology. Provide recommendations regarding professional development training and technical expertise of both departments to form a single department.

B. Services and Products to be Provided

Orientation Meeting - The Team will conduct an orientation session at the School District to brief District management and supervisory personnel on the procedures of the Team and on the purpose and schedule of the study.

On-site Review - The Team will conduct an on-site review at the District office and at school sites if necessary.

1. Exit Report - The Team will hold an exit meeting at the conclusion of the on-site review to inform the District of significant findings and recommendations to that point.

2. Exit Letter - The Team will issue an exit letter approximately 10 days after the exit meeting detailing significant findings and recommendations to date and memorializing the topics discussed in the exit meeting.

3. Draft Reports - Sufficient copies of a preliminary draft report will be delivered to the District administration for review and comment.

4. Final Report - Sufficient copies of the final study report will be delivered to the District administration following completion of the review.

5. Follow-Up Support – Six months after the completion of the study, FCMAT will return to the District, if requested, to confirm the District's progress in implementing the recommendations included in the report, at no cost. Status of the recommendations will be documented to the District in a FCMAT Management Letter.

3. PROJECT PERSONNEL

The study team will be supervised by Anthony L. Bridges, CFE, Deputy Executive Officer, Fiscal Crisis and Management Assistance Team, Kern County Superintendent of Schools Office. The study team may also include:

A. To Be Determined	***FCMAT Fiscal Intervention Specialist***
B. To Be Determined	***FCMAT Consultant***
C. To Be Determined	***FCMAT Consultant***

Other equally qualified consultants will be substituted in the event one of the above noted individuals is unable to participate in the study.

4. PROJECT COSTS

The cost for studies requested pursuant to E.C. 42127.8(d)(1) shall be:

A. $500.00 per day for each Team Member while on site, conducting fieldwork at other locations, preparing and presenting reports, or participating in meetings.

B. All out-of-pocket expenses, including travel, meals, lodging, etc. The District will be invoiced at actual costs, with 50% of the estimated cost due following the completion of the on-site review and the remaining amount due upon acceptance of the final report by the District.

Based on the elements noted in section 2 A, the total cost of the study is estimated at $18,000.

C. Any change to the scope will affect the estimate of total cost.

Payments for FCMAT services are payable to Kern County Superintendent of Schools - Administrative Agent.

5. RESPONSIBILITIES OF THE DISTRICT

A. The District will provide office and conference room space while on-site reviews are in progress.

B. The District will provide the following (if requested):

1. A map of the local area
2. Existing policies, regulations and prior reports addressing the study request
3. Current or proposed organizational charts
4. Current and two (2) prior years' audit reports
5. Any documents requested on a supplemental listing
6. Any documents requested on the supplemental listing should be provided to FCMAT in electronic format when possible
7. Documents that are only available in hard copy should be scanned by the district and sent to FCMAT in an electronic format
8. All documents should be provided in advance of field work and any delay in the receipt of the requested documentation may affect the start date of the project

C. The District Administration will review a preliminary draft copy of the study. Any comments regarding the accuracy of the data presented in the report or the practicability of the recommendations will be reviewed with the Team prior to completion of the final report.

Pursuant to EC 45125.1(c), representatives of FCMAT will have limited contact with pupils. The District shall take appropriate steps to comply with EC 45125.1(c).

6. PROJECT SCHEDULE

The following schedule outlines the planned completion dates for key study milestones:

Orientation:	***March, 2012***
Staff Interviews:	***to be determined***
Exit Interviews:	***to be determined***
Preliminary Report Submitted:	***to be determined***
Final Report Submitted:	***to be determined***
Board Presentation:	***to be determined***
Follow-Up Support:	***If requested***

7. CONTACT PERSON

Name of contact person: Eric D. Smith, Deputy Superintendent

Telephone: (805) 963-4338 x 289 FAX: (805) 963-1916

E-Mail: esmith@sbsdk12.org

9/23/11

Dr. David E. Cash, Superintendent — Date
Santa Barbara Unified School District

August 22, 2011

Anthony L. Bridges, CFE — Date
Deputy Executive Officer
Fiscal Crisis and Management Assistance Team