Program: Computer Services **Planning Year:** 12-13
Last Year CPPR Completed: Program Review (Pre CPPR) was done January 2007

Unit: Computer Services **Cluster:** Administrative Services

- **GENERAL INFORMATION AND PROGRAM OUTCOMES**

A. General Description about the Program

1. Computer Services
    i. Supports all areas of technology at Cuesta
        1. Network infrastructure (servers, storage, network)
        2. Cuesta's Administrative Software System (aka ERP) and its ancillary systems support
        3. Computer support
        4. Technology Training
        5. Instructional multi-media support
        6. Web Site support
        7. Help Desk
        8. Video Conferencing

2. Brief summary of program history

In 1990 the department consisted of 3 classified staff and 1 Director. The sole responsibility of the department was to support Administrative software systems. (Student, Fiscal, HR and Payroll) The systems consisted of 2 stand alone systems that were accessed via terminals connected to the college main computer.

Computer Services staffing and responsibilities increased over time as technology became increasingly important for the functioning of the college and essential for instruction. The department currently has 1 Director, 1 Supervisor and 18 classified staff supporting technology at the San Luis Obispo and North County campuses and limited support at the South County Center.

The current permanent classified staffing is:

- 5 Network Support staff
- 4 Administrative Software Support staff
- 4 PC Support staff (1 at North County Campus, 3 at San Luis Obispo)
- 2 AV / Instructional Multi-Media Support staff
- 1 Web Support staff
- 1 Technology Trainer
- 1 Help Desk

The department now supports a college-wide network. The network infrastructure is critical to the day to day activities of the students and employees. Both the North County Campus and the South County Center employees have the same access to our services as if they reside on the San Luis Obispo campus.

In 2006 Cuesta embarked on a project to implement an integrated Administrative software system. The base modules were implemented within 2 years. Our previous system was no longer supported by the vendor. The new system provides Cuesta with the foundation for additional functionality in order to meet our customer's expectations and new requirements.

Cuesta currently has approximately 2000 computers on our college-wide network. The computers are used in the classroom and in college offices.

Since the last Computer Services Program Review, the AV department was moved from reporting to the Director of the Library to Computer Services. The evolution of instruction multi-media became computer centric, so it made sense to reorganize the reporting in order to better serve instruction.

The college web site it critical to the college. Our first web site was launched in the mid 1990s with numerous major renovations since then. Cuesta is currently in the process of implementing current technology to develop a marketing focused web presence.

3. <u>Current status of service including changes and improvements since 2007 program review</u>
   The last Program Review for Computer Services was done in 2007. Annually a technology report has been created that has much detail on projects and service improvements. The following is a list of some significant projects and improvements since 2007.
   - Developed permanent video conference locations at both NC and SLO campuses to increase accessibility for all faculty and staff to attend events and meetings (2011-2012)
   - Audio/Visual department was reorganized to report to Computer Services in order to better serve the multi-media needs in the classroom.. This has allows for implementation of classroom multi-media stations to be installed in numerous classrooms (2008)
   - Completed the implementation of the core modules of the new Administrative Software system. This includes numerous ancillary systems such as room scheduling, document imaging, forms printing, address validation and numerous report to support enrollment management and schedule creation (2007- 2008)

- Implemented a common portal system for employees and students. This includes course shells in myCourses which are automatically created for every credit class. This system provides on-line communication tools between all students and faculty in a class (2007 – 2008)
- Supported the implementation of Curricunet, a Course Outline management system. This system is a web-based front-end system to our Administrative Software system. It allows faculty to develop their course outline and supports the workflow of course approval at Cuesta (2010-2011)
- Due to new regulations on credit card security and processing, Cuesta outsources this part of our student registration system. This integrates with our Administrative Software system so that it is seamless to our students (2009)
- Implemented wireless network access at locations at both North County and San Luis Obispo sites. North County has site coverage at N6000, N2000, N2400, N3100 and N3200. SLO has coverage in areas that have been remodeled or new buildings such as Science complex, Library, Student Services, Cultural and Performing Arts Center, Cafeteria and courtyard. Approximately 25% - 30% of San Luis Obispo Campus has wireless coverage (Buildings 2500, 2200, 2300, 2800, 2100, 8100, 8000, 3100, 3200, 7900, 5100, 5400, and 5400 Courtyard)
- Completed the implementation of standardized software installation on all lecture classroom computers. This process has improved the reliability and instructor expectation of the software available in their classroom (2009)
- Replaced computers in numerous classrooms. Took opportunities to lessen inventory by consolidating student lab classrooms. (Summer 2009)
    i. Used one time funds allocated by Planning and Budget to update Biology AT lab and 40 lecture stations (Summer 2011)
    ii. English Division and Language and Communications Division removed 1 student computer lab from services and share an existing student computer lab (2010)
    iii. Library remove a student lab from services (2010)
- Renovated instructional media presentation system in Humanities forum (Summer 2011)
    i. Used one time funds allocated by Planning and Budget for this project
- Cultural and Performing Arts Center was opened January 2009. This facility has a state of the art theater, numerous classrooms and additional teaching spaces. Wireless access was installed along with numerous multi-media instructional stations.

- North County Learning Resource Center was opened January 2012.
    i. This building includes the permanent data center for North County that will provide a site and technology for data backup and recovery in case of disaster (Summer 2012)
    ii. A computer lab for student is available in the Library. This lab includes both windows and Mac computers in order to meet all students' needs.
    iii. Cuesta's first Learning Commons was opened in this facility. This is a new approach to supporting the learning needs of the students.
    iv. Eight lecture classrooms with current technology multi-media stations are available for instruction.
    v. The facility also houses an employee professional development center to support employee training. This room also provides a permanent video conference site so that North County employees can participate in college meetings and events held at the San Luis Obispo campus.
    vi. A large lecture classroom is part of this building. State of the art multi-media is being implemented in order to not only support standard class lecture functions, but also to provide large specialty presentations
- Made necessary network changes in order for employees at South County Center to have the same access to Cuesta applications and services as those at the San Luis Obispo and North County campuses (Fall 2011)
- Made numerous improvements to the network infrastructure in order to meet Cuesta's needs
    i. Implemented Virtual Server technology. This allows for better utilization of server hardware along with giving the Network staff tools to work more efficiently (2008)
    ii. Upgraded security between Cuesta and the Internet in order to a) have a supported system and b) provided additional functionality and security to take additional steps to provide a secure network (2011)
    iii. Increased the capacity of our data backup system. The amount of data that is stored on our network continues to increase. Having reliable backup of all the data is part of a college-wide disaster recovery plan (2010-2011)

- Provide the necessary technical support in order for Cuesta to migrate from Blackboard as its campus standard Learning Management System to Moodle. (2011-12)
- Provide technical support on the project to redesign Cuesta's web site. Cuesta's new web site is implementing a content management system that will allow employees to easily update

their part of the web site. The content of the web site will focus more on the marketing of the college. To this end, the Marketing department is leading this project. (2010-2012)

- Identified a free resource in order to provide a repository for Cuesta's videos that can be streamed via the Internet. EduSteam is a state funded program that not only provides a secure repository for video, but is a resource for colleges to share their instructional videos. (2011)
- Supported a pilot project grant funded in the Nursing department for students to use iPod Touch devices in the nursing program. The pilot project started in 2011 and goes through 2013. The goal is that this tool helps the student become more efficient and accurate in their work (2010-2013)
- Made the necessary changes to support a centralized IT budget at Cuesta (on going). This includes adding coding to all technology purchases so analysis can be done on technology spending (July 2009).
- Reallocated funds that were spent in some departments for Adobe software licensing to support instruction to a central site license that provides adobe software college wide (2011)
- Identified a revenue stream to help fund Cuesta's on-going technology needs. In 2011 45% of the revenue that Cuesta receives from the Medi-Cal Administrative Advising program will be used for central funding of technology at Cuesta
- Worked with Foundation to improve the process for awarding grants for technology projects. Computer Services makes sure that when applications are awarded, the funding will cover the complete cost of the project. (2011)

4. <u>Reference to relevant statutory authority/program regulation and related compliance issues</u>

   Cuesta continues to be required to meet new and existing State and Federal reporting requirements. Some recent examples are Gainful Employment (Federal), PERS (State), Employee Compensation (State), MIS reporting (State). More detailed information about a few of these follows.

   - Gainful Employment reporting is a new federal requirement in order to let students know how long it will take to get a specific degree or certificate, what the total cost will be and what the employment prospects are for a person with that degree or certificate. This is an annual report and a public web site with this information. In addition to Computer Services resources, this project requires resources from Academic Affairs, Research, Admissions & Records, and Financial Aid.

- Employee Compensation is a new state requirement for reporting all employees' complete compensation, including base pay, benefits, insurance, additional pay, etc. This information will be published on a State web site. This will be an annual requirement. In addition to Computer Services resources, this project requires resources from Human Resources, Benefits and Payroll offices.

Vendors require upgrades to their products. Upgrades can come about for numerous reasons.

- New functionality available to end users
- New reporting requirements and therefore additional data is collected
- Support current technology
- Address a security threat

Due to the number of software applications and hardware installed at Cuesta this is a critical responsibility of many Computer Services staff members. Some examples are:

- We currently schedule 2 large upgrades to the Administrative Software system a year, once in the Spring before Summer registration begins and once in the Fall before Spring registration begins. These upgrades provide new functionality that staff needs to evaluate to determine if and when it will be implemented at Cuesta. This work not only includes Computer Services staff, but also staff in numerous departments such as Financial Aid, Admissions & Records, Academic Affairs, Counseling, Assessment, Fiscal Services, Purchasing, Payroll, Human Resources and Benefits.
- Cuesta's campus standard software is Microsoft Office (Word, Excel, PowerPoint). In addition many of our servers run Microsoft products. Because of this large installation we have a very robust process for testing patches to Microsoft products with both the users and on our servers. This is done numerous time throughout the year based on releases from Microsoft.

In recent years, due to the proliferation of identity theft, new regulations were put in place when accepting payment via credit card. Due to these new regulations it was in the best interest of Cuesta to outsource credit card processing. When a student wants to pay their enrollment fees via a credit card, the system seamlessly directs the student to a 3rd party site so that the acceptance of the card along with the back-end processing is done by a vendor who is contracted to meet all the regulatory requirements.

5. <u>Description of primary relationships, internal and external to the college</u>
   - External
     - Computer Services has relationships with numerous vendors, they include hardware vendors, software vendors, service

vendors and consultants. The relationship includes understanding the changes in their products and how that will affect Cuesta's technology architecture and ultimately the services that it provides the students and employees at Cuesta.

- The Administrative Software system is used by 25 California Community College District encompassing 37 colleges. An organization has been formed (3CBG) of these colleges to work together to better serve our institutional customers and to provide a single voice to our vendor. The programming staff that supports the system and the Director of Computer Services are active members of this organization.
- Within 3CGB there is a group made up of technical staff that meets on a regular basis to discuss technical issues that all the colleges share in order to maximize the work efficiency amongst our members. In addition the group gives guidance to the Solution Center on what projects it should prioritize from the 3CBG membership perspective. The Solution Center is an organization that is a part of the vendor's development team whose sole purpose is to make enhancements to the base system to meet the needs of the California Community College customers.
- The Administrative Software system vendor has an advisory group that meets twice per year. The advisory group provides input to the vendor's executive team to given input on their future products and strategic directions. Cuesta's Director of Computer Services sits on this advisory board representing not only Cuesta, but all the California Community Colleges who use this system

- Internal
  - In order to support the Administrative Software system at Cuesta, there is a team of both technical staff and staff that are most knowledgeable about each affected department on campus. The staff that are in the other departments on campus are called Functional Leads. On a regular basis Computer Services staff works with the Functional Leads on issues that affect both our production system and new upgrades and functionality. In addition the Functional Leads meet as a group to discuss issues that pertain to all areas on campus. Computer Services staff are active members of this group
  - There are a large number of projects that have been submitted to be worked on in order to enhance our Administrative Software system. On a monthly basis, the Director of Computer Services and the three Vice Presidents meet to discuss and prioritize the projects. This priority defines what new projects the staff that support the Administrative software system will work on.

- There are two shared governance committees that the Director of Computer Services has a chair or co-chair role, the Technology Committee and the Web Committee. Computer Services staff have also participated on numerous other shared governance committees over the years. In some cases they represent Computer Services interests, in some cases they represent their employee group's interest.
- In order to support the approximately 50 student computer labs at Cuesta a process to work with a single person who is responsible for each lab has been developed. This process includes a lab planning worksheet that identifies what software in installed in each lab. It is the responsibility of the division chair or faculty to update this information so that the computer support staff can have the required software ready at the beginning of each term. This process is done two times a year, before Spring term and again once to encompass Summer and Fall terms.
- This process has expanded to incorporate the software required on computers in lecture classrooms. Some divisions require specific software beyond the campus standard titles. A single point of contact in the division has been established to work with Computer Support staff, much like the contact for student computer labs in order to facilitate communication and provide for a consistent teaching environment for instruction
- For many of Cuesta's technology projects, there is an end user (or many end users) that are involved from the beginning to define the requirements from the end user point of view (i.e. what does the project need to do for them). Each project is a partnership between Computer Services staff who are the experts in the technology, and the end user who knows what functionality that they want. Due to the number of projects that Computer Services has undertaken over the years, Computer Services staff has worked with numerous employees on projects.
- Both the Technology Trainer and User Support staff have daily interaction with employees. The Technology Trainer surveys employees each term to determine their training needs. The survey not only asks the topics, but also the day, time and modality that would best work for them. Over the years in order to meet the needs of the diverse learning styles online documentation as well as on-line interactive training modules has been made available. This allows customers to have access to the material when they need it.
- Director of Computer Services recently worked with the Foundation staff and the Foundation Board to become a part of their process to award Foundation Grants. Previously, for numerous reasons some applications were awarded that didn't cover the complete cost of the project. Some changes have been

made to the process to prevent this from happening. With each cycle results are reviewed and necessary adjustments are made.

B. Program Goals: Broad statements about what this program will accomplish – its anticipated development and achievements

Goals from the 2012-2017 Technology Plan

- Cuesta College's primary technology is sustained by an annual centralized budget independent of the IPPR process and designed to maintain inventory and staffing at a standard which serves the work of the College.
- Cuesta College's campus network infrastructure meets current and anticipated work needs and is sufficiently funded and staffed.
- Network applications are consistently available to users.
- Cuesta College's data and network servers are protected against security breaches
- Cuesta College will maximize the capacity of Banner to improve processes and data collection.
- Cuesta College has integrated student support systems to minimize hurdles to matriculation (admissions, orientation, assessment and testing, counseling, and student follow-up), and goal completion (certificate, graduation, transfer).
- Cuesta College is wirelessly accessible in all areas of all buildings on all campuses.
- All classrooms at all locations have an appropriate configuration of multi-media support for instruction and learning.
- Cuesta College will consolidate the number of student computer stations to match student demand with instructional necessity, while simultaneously improving the level and support for student computing.
- The College evaluates current and emerging technologies and incorporates those which will improve institutional effectiveness and student learning.
- The College's website is regularly updated and accessible by all platforms, including smart phones and tablets. Internal portals are easily navigated.
- The Learning Management System (LMS) is accessible by mobile devices such as smart phones and tablets.
- Cuesta College provides appropriate technology training in order to accomplish necessary job-related responsibilities.
- The College provides training for new and existing instructional technology, including Cuesta's learning management system and other online instructional tools
- The student experience at Cuesta incorporates instruction in current technology. The experience includes the necessary support resources for both online and face to face courses**.**

C. Program Outcomes: List the program outcomes established for your program

Administrative Service Cluster has the following Outcomes:

1. Administrative Services will provide the operational support needed to ensure the success of Academic Affairs, Students Services, and all other college programs as assessed by surveys staff and students.

2. Administrative Services will ensure Financial Accountability and Solvency as assessed by annual audits, System Office reports, legal compliance, and/or credit ratings.

3. Administrative Services will ensure campus safety, cleanliness and aesthetics as assessed by surveys of staff and students.

4. Administrative Services will provide effective internal operations as assessed by annual audits.

5. Administrative Services will provide appropriate and legal facility maintenance and development as assessed by inspections and certification by regulatory agencies.

6. Administrative Services will provide efficient institutional access as assessed by surveys of staff, students and community.

7. Administrative Services will ensure proper risk management as assessed by annual claims ratings.

The following are Computer Services Outcomes that support the listed Administrative Services Cluster Outcomes

1. Computer Services will support the college department needs as it pertains to the Administrative Enterprise Resource Planning systems and maintain all necessary regulatory changes. (Supports Administrative Services Outcomes 1 and 7)
2. Computer Services will effectively and efficiently maintain technology hardware for the District. (Supports Administrative Services Outcomes 1 and 4)
3. Computer Services will effectively and efficiently install technology software for the District. (Supports Administrative Services Outcomes 1 and 4)
4. Computer Services will coordinate and implement the District's Technology Plan (Supports Administrative Services Outcomes 1, 2 and 6)
5. Computer Services will effectively and efficiently maintain a secure network (Supports Administrative Services Outcomes 4 and 7)

- **PROGRAM CONNECTIONS TO COLLEGE MISSION, VISION AND VALUES, STRATEGIC GOALS AND COLLEGE PLANS**
  The following is a copy of Appendix A of the 2012-2017 Technology Plan Spring 2012 Update which lists all the Initiatives of the Technology Plan and which Institutional Objective it supports. The Initiatives found in the Technology Plan will focus all college technology projects for the coming years.

		1.1 Increase Transfer Directed Students	1.2 Increase Degree Certificate Directed Students	1.3 Increase DE Completions	1.4 Increase ESL Course Success	1.5 Increase Basic Skills Course Success	2.1 Increase 24-40 age students	2.2 Increase local High Schools students	3.1 Decision Making Handbook	4.1 Implement Integrated Planning Manual	5.1 Event Participation Business and Civic Leaders	6.1 Event Participation K-12 and Universities
Theme	**Student Support and Success**											
Initiative 1	The student experience at Cuesta incorporates instruction in current technology. The experience includes the necessary support resources for both online and face to face courses**.**	X	X	X	X	X						
Initiative 2	All classrooms at all locations have an appropriate configuration of multi-media support for instruction and learning.	X	X	X	X	X	X	X				
Initiative 3	Cuesta College has integrated student support systems to minimize hurdles to matriculation (admissions, orientation, assessment and testing, counseling, and student follow-up), and goal completion (certificate, graduation, transfer).	X	X	X	X	X	X	X				
Theme	**Sustainability**											
Initiative 4	Cuesta College's primary technology is sustained by an annual centralized budget independent of the IPPR process and designed to maintain inventory and staffing at a standard which serves the work of the College.			X						X		

		1.1 Increase Transfer Directed Students	1.2 Increase Degree Certificate Directed Students	1.3 Increase DE Completions	1.4 Increase ESL Course Success	1.5 Increase Basic Skills Course Success	2.1 Increase 24-40 age students	2.2 Increase local High Schools Students	3.1 Decision Making Handbook	4.1 Implement Integrated Planning Manual	5.1 Event Participation Business and Civic Leaders	6.1 Event Participation K-12 and Universities
Initiative 5	Cuesta College's campus network infrastructure meets current and anticipated work needs and is sufficiently funded and staffed.		X	X						X		
Initiative 6	Network applications are consistently available to users.	X	X	X	X	X	X	X		X		
Initiative 7	Cuesta College's data and network servers are protected against security breaches.	X	X	X	X	X	X	X		X		
Theme	**Technology Access, Currency, and Innovation**											
Initiative 8	Cuesta College is wirelessly accessible in all areas of all buildings on all campuses.	X	X	X	X	X	X	X				
Initiative 9	The College evaluates current and emerging technologies and incorporates those which will improve institutional effectiveness and student learning.	X	X	X	X	X	X	X				
Initiative 10	The College's website is regularly updated and accessible by all platforms, including smart phones and tablets. Internal portals are easily navigated.	X	X	X	X	X	X	X	X	X	X	X
Initiative 11	The Learning Management System (LMS) is accessible by mobile devices such as smart phones and tablets.	X	X	X	X	X	X	X				

		1.1 Increase Transfer Directed Students	1.2 Increase Degree Certificate Directed Students	1.3 Increase DE Completions	1.4 Increase ESL Course Success	1.5 Increase Basic Skills Course Success	2.1 Increase 24-40 age students	2.2 Increase local High Schools Students	3.1 Decision Making Handbook	4.1 Implement Integrated Planning Manual	5.1 Event Participation Business and Civic Leaders	6.1 Event Participation K-12 and Universities
Theme	**Employee Professional Development**											
Initiative 12	Cuesta College provides appropriate technology training in order to accomplish necessary job-related responsibilities.	X	X	X	X	X						
Initiative 13	The College provides training for new and existing instructional technology, including Cuesta's learning management system and other online instructional tools.	X	X	X	X	X	X	X				
Theme	**Stewardship / Efficiency**											
Initiative 14	Cuesta College will maximize the capacity of Banner to improve processes and data collection.	X	X	X	X	X	X	X		X		
Initiative 15	Cuesta College will consolidate the number of student computer stations to match student demand with instructional necessity, while simultaneously improving the level and support for student computing.	X	X	X	X	X	X					

- **PROGRAM DATA ANALYSIS, ASSESSMENT AND IMPROVEMENTS**

Budget Data

In Spring of 2010 the Technology Committee presented a document titled "Cuesta College Technology Proposal: Allocation, Support and Renewal" to the Planning and Budget committee that proposed a technology funding model based on the national average of Community Colleges. The model is based on a percent of total college budget. In 2010-11 Cuesta's total technology expenses were 5.36% of the total budget compared to 8.4% that is the national average.

Funding for IT Staff

Following the national average funding survey listed above, the average expenses for technology support staff should be $2.27 million. In 2009-2010 Cuesta's expense for technology support staff was $1.77 million, approximately $500,000 below the national average.

Cuesta FY09-10 Expenditure	Industry Norm Expenditure
$1,767,833	$2,271,756

Funding for Computers

Previous to FY 09-10 Cuesta didn't have a way to track all technology expenditures. Purchases were made using individual department budgets and due to the accounting coding that is prescribed by the State, technology purchases for equipment was in a larger category titled Equipment that included non-technology equipment. Starting July 1, 2009 coding was added to equipment purchases so that reporting can be done to identify different categories of technology purchases across the college.

Using the data collected in FY 09-10 shows that $146,000 was spent on computers, $106,000 replacing old computers and $40,000 on new computers. Given our current inventory of computers, there is a one-time cost to bring our inventory to a minimum of 5 years old of $675,000 and an annual cost going forward of $322,000. Note that adding computers to our current inventory increases the annual cost going forward and decreasing inventory will lessen the annual costs going forward.

Cuesta FY09-10 Expenditure	Annual budget required to support a replacement cycle
$39,748 (adding to current inventory)	$321,787
$106,626 (replacing current inventory)	

NOTE: In addition, there will be a one-time cost to bring our current inventory to the currents age standard

Funding for Infrastructure

The network infrastructure is all the "behind the scenes" technology that allow users to do such things as, login into the network with a secure password, print to a shared printer, store files, access shared applications, access their email, access the Administrative software system and access the Internet. The infrastructure also includes the necessary technologies to securely store off all the data on an hourly or daily basis. When the term infrastructure is used, it includes servers, storage, network equipment and wireless access.

Using the data collected in FY 09-10 shows that $47,000 was spent on the network infrastructure.

Cuesta FY09-10 Expenditure	**Annual budget required to support a replacement cycle**
$33,778 (adding to current inventory)	Infrastructure: servers - $70,000
$13,845 (replacing current inventory)	Infrastructure: switches, wired and wireless access: $186,000
	Infrastructure: storage: not yet completed
	Infrastructure; Administrative Software system servers: not yet completed

Funding for Classroom Multi-Media systems

Since 2008 when the Audio/Visual department was reassigned to Computer Services, there have been numerous projects to install current technology instructional multi-media stations. The stations include a critical piece, a user-friendly integrated control switch. Previous to this effort, an instructor needs to use numerous remote controls, and in some cases know what order to use them, in order for the display on the computer to be displayed to the students. An integrated control switch is a single box anchored to the lecture station with consistent and easy to understand buttons for the instructor to control the different devices available to them in the classroom. This is a fairly new effort so most dollars have been to install these system, as noted below. Note, that there is a life expectancy for this equipment and an annual replacement fund needs to be established.

Cuesta FY09-10 Expenditure	**Annual budget required to support a replacement cycle**
$69,076 (adding to current inventory)	268,771
$1,472 (replacing current inventory)	

Workload Data

In the Fall of 2010 Computer Services moved to a new work order tracking system. At this time all outstanding work orders from the previous system were moved to the new

system, all with approximately the same creation data. Give this migration it is difficult to accurately analyze staff work load data before this time. Data from 2011 will be used.

Work orders for support staff generally fall into two categories: Task and Project.

Administrative Software System Support Staff

For the Administrative Software Support staff a task is usually a problem that is affecting the production system. In most cases this tasks priority over a project that the employee may be working on. Some examples of a task are; an unexpected error message is displayed during a process that someone is running, giving an employee different access to specific functions in the system or the system didn't work as expected from past experience.

A project in most cases is making a major change or enhancement to the system. Within projects, some are mandatory or regulatory and usually comes with a pre-defined deadline.

Current staffing for Administrative Software support is 4 employees. Their work load statistics is as follows:

Project Data	
Requested Projects as of March 6, 2011	171
Projects Completed in 2011	80
New Projects Requested in 2011	81
Task Data	
Requested Tasks as of March 6, 2012	53
Tasks completed 2011	643
New Tasks Requested in 2011	656

As stated above, in most cases tasks take precedence over projects due to the fact they are affecting the production environment. In many cases they are not a large time commitment, but they take away focused time that is needed to complete projects. Depending on the solution a task may take a significant amount of time. Tasks interrupt planned work.

The data shows that staff respond to tasks, as they should, given that the number requested closely matches the number requested (643 versus 656)and the backlog a relatively small number (53) Averaging the work per staff member, each staff member completed 160 tasks and only 20 projects in 2011. The rate of projects matches that of projects requested. As more projects are completed, that adds to the production environment and therefore potentially increases the number of tasks requested and therefore lessen the time available for new projects.

The Student Success Taskforce report that has been approved by the Board of Governors and is currently in the Legislature implies many new technology projects that will be

mandated. It is anticipated that some of these projects will replace some of the requested projects, but some be new projects that will take priority over projects already requested.

Network Support Staff

Like the Administrative Support Staff, Network Support staff tasks usually are problems with the production environment. As with the other staff, a problem with the production environment takes priority over work on projects. The network touches all facets of the college, including instruction. Instruction tasks take priority over non-instruction tasks.

Projects in the Network Support area can include implementing new technology such as virtual servers or upgrading existing systems to provide new functionality

Current staffing for Network support is 5 employees. Their work load statistics is as follows:

Project Data	
Backlog of Requested Projects as of March 6, 2011	93
Projects Completed in 2011	45
New Projects Requested in 2011	48
Task Data	
Requested Tasks as of March 6, 2012	167
Tasks completed 2011	712
New Tasks Requested in 2011	734

As stated above, in most cases tasks take precedence over projects due to the fact they are affecting the production environment. In many cases they are not a large time commitment, but they take away focused time that is needed to complete projects. Depending on the solution a task can take a significant amount of time. Tasks interrupt planned work.

PC Support Staff

PC support staff differs from both Network and Administrative Support staff in that the majority of their work is in the task category. There are currently 4 permanent PC techs, 1 at the North County Campus, 3 at San Luis Obispo, and 4 student employees or volunteers; 1 of which is at the North County Campus. The student employees are in the computer field of study. Working in Computer Services gives them work experience to enhance their learning experience.

Project Data	

Backlog of Requested Projects as of March 6, 2011	17
Projects Completed in 2011	18
New Projects Requested in 2011	15
Task Data	
Requested Tasks as of March 6, 2012	168
Tasks completed 2011	2,105
New Tasks Requested in 2011	2,092

As stated, the majority of work done by the PC support staff is tasks. The work effort of a task is usually measured in hours or days as opposed to projects which can be weeks or months of work.

The tasks completed in 2011 for the 4 permanent staff are over 500 per staff member. Given the number of computers in Cuesta's inventory, this is 1 work order per computer per year. In addition to the tasks, there are regularly scheduled projects to support classroom computer labs each term. This task can take many weeks of a PC Tech time in order to update all the classroom computers to provide the necessary software for the coming term.

Cuesta's computer inventory is approximately 2000, with 1200 used for instruction. The ratio of permanent PC support staff to computer is 1 PC tech per 500 computers. In previous times there was a 1 PC tech per 250 computer ratio at Cuesta. Our experience is that this is a sustainable ratio of staff per computer.

Multi-Media Support Staff

The Multi-media support staff serves the following functions:

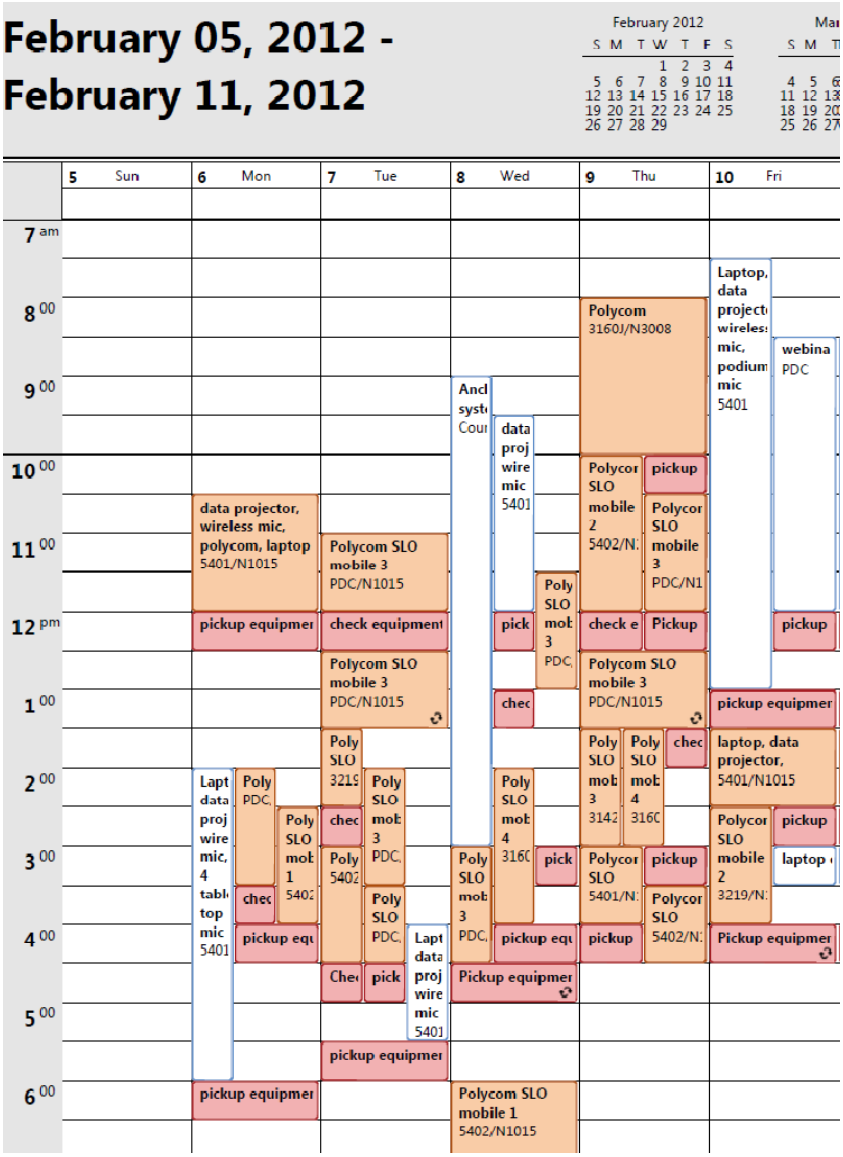
- Supporting the currently installed technology in the classroom. This includes quickly responding to problem reported by instructors when the technology is affecting the delivery of the curriculum
- Providing setup/testing and removal of equipment for events such as Board meeting, special events and college-wide video conferences. Video conference setup for college meetings is currently a large part of the staff work load.
- Installing current technology multi-media instruction stations in classrooms. This work began in 2008 after the audio-visual department was moved to Computer Services. Due to the nature of this work, much planning happens during a term with the actual work happening during the short window between terms.

Currently the PC support staff at the North County campus also provides all multi-media support at that campus.

Project Data	
Backlog of Requested Projects as of	33

March 6, 2011	
Projects Completed in 2011	39
New Projects Requested in 2011	46
Task Data	
Requested Tasks as of March 6, 2012	29
Tasks completed 2011	315
New Tasks Requested in 2011	316

Due to how employees work with the facilities' department to schedule rooms and the associated equipment that they need for a meeting or event, not all requests for equipment setup and removal results in a work order in Computer Services system. The following is a screenshot of a week showing the scheduled events that require work by the multi-media staff. Note that the video conference setup usually involves staff at both North County and San Luis Obispo campuses.



As with other areas, the support staff the first priority is to support any problems that affect instruction. In addition there are scheduled events that support the other areas of the campus. It is currently a very high expectation of all employees that staff at both the North County Campus and San Luis Obispo campus can simultaneously participate in all meetings and events at Cuesta.

For the past two years the Technology Committee has administered technology survey to all faculty. In the survey sent out Spring 2011 a question concerning the support of classroom technology was added "If you experienced any problems with technology in your classroom, please rate your level of satisfaction with the response by Computer Services in resolving the problem". The results were:

75% were Very Satisfied or Satisfied

14% were Neutral
10% were Unsatisfied
1% were Very Unsatisfied

Technology Training

This activity supports all employees of the college. There are dedicated hands-on classrooms for this activity at both campuses. The new Learning Resource Center at North County will have a new training facility for that campus starting Spring 2012.

Each term a survey is sent out college-wide in order to determine the training needs of the employees. The survey asks the topic along with day/time that is preferred. From this data existing classes are scheduled or new classes are developed. Over the years new modalities of delivery have been developed. In addition to in person classes offered at both the San Luis Obispo and North County campuses training has been provided via licensed web-based system, quick reference material available via Cuesta's web site, both written and video, and one-on-one individual training.

Data for face-to-face classes is as follows:

	Number of Classes Taught	**Number of Students Taught**
Summer/Fall 2007	42	113
Spring 2008	35	90
Total 2007-2008	**77**	**203**
Summer/Fall 2008	86	423
Spring 2009	41	96
Total 2008-2009	**127**	**519**
Summer/Fall 2009	60	164
Spring 2010	27	79
Total 2009-2010	**87**	**243**
Summer/Fall 2010	33	59
Spring 2011	44	107
Total 2010-2011	**77**	**166**
Summer/Fall 2011	42	88

After each class a survey is sent to each participate in order to get feedback. These results are from all the classes delivered during since February 2008

How would you rate this class?

Rating	**Number**	**Percent**
Excellent (Exceed expectation, highly recommend)	237	72%
Very Good (met	86	26%

expectations, recommend)		
Satisfactory (fell short of expectations, but still worthwhile	8	2%
Needs Work (disappointing, offered little useful information)	0	0%
Waste of time (contained nothing of value)	0	0%
TOTAL	331	100%

Web Support

Web support includes the support of numerous web-based applications. In addition the public web site (www.cuesta.edu), Cuesta provides a portal for all students and employees. The portal integrated with the Administrative Software system along with other 3rd party systems. The technology provides tools to give the users a single-sign-on experience with other applications. With a single logon to the portal the user can gain secure access to multiple applications. Cuesta has also identified a campus standard web-based workorder / ticket system that is used by various departments at Cuesta. The implementation of this system in departments falls in this area.

Project Data	
Backlog of Requested Projects as of March 6, 2011	23
Projects Completed in 2011	20
New Projects Requested in 2011	33
Task Data	
Requested Tasks as of March 6, 2012	24
Tasks completed 2011	220
New Tasks Requested in 2011	215

As with other areas in the department, this position balances keeping production systems current along with working on new projects. The number of requested and resolved tasks shows the work of supporting the current production systems with regular changes. For the past year the Marketing department has been leading an effort to revamp the public web site (www.cuesta.edu) with current content management technology. Learning this new technology in order to support the new web site has been a new large project. Once this new technology is in place, some of the task request will lessen.

Equipment Inventory Data

Infrastructure

Cuesta's computer network on the San Luis Obispo campus was initially installed in 1998. The term infrastructure in this context means the fiber cable that connect all the building and the network switches that connect the fiber that comes into the building with the cable that is within the building and connects each computer to the network. In 1998 the switches were current technology. To put this in perspective of the technology, in 1998 most home computers accessing the Internet were using a 56k modem.

Over time, when funds became available, some of these original switches have been replaced with current technology. New buildings that have opened since then also have whatever the current technology was at the time of the building. Example is technology in the Fine Arts and the High Tech Building is from 2001, when the buildings were opened. The Cultural and Performing Arts building was opened in 2009 and includes wireless. Computer Services is currently working with a vendor to provide a cost and a plan to replace all of Cuesta's network switches over a period of time.

When Cuesta originally installed the fiber cable between buildings, growth and future change in technology was considered. The majority of the cost of the project was the labor to install the cable, not the cable itself. There are two types of fiber, multi-mode and single mode. In 1998 multi-mode met the data transmission needs of the college; given that, only multi-mode fiber was terminated and therefore currently working. Single-mode cable was installed but not terminated. This was installed with the expectation that it would be needed years later. When that time came, this fiber would be terminated. It is now time to terminate the single-mode fiber that is laying in conduit across campus. Computer Services has a cost estimate from a local firm of $158,000 to do this work. This work needs to be done in conjunction with the replacement of the switches in order to have a current technology network solution at the San Luis Obispo campus.

Servers

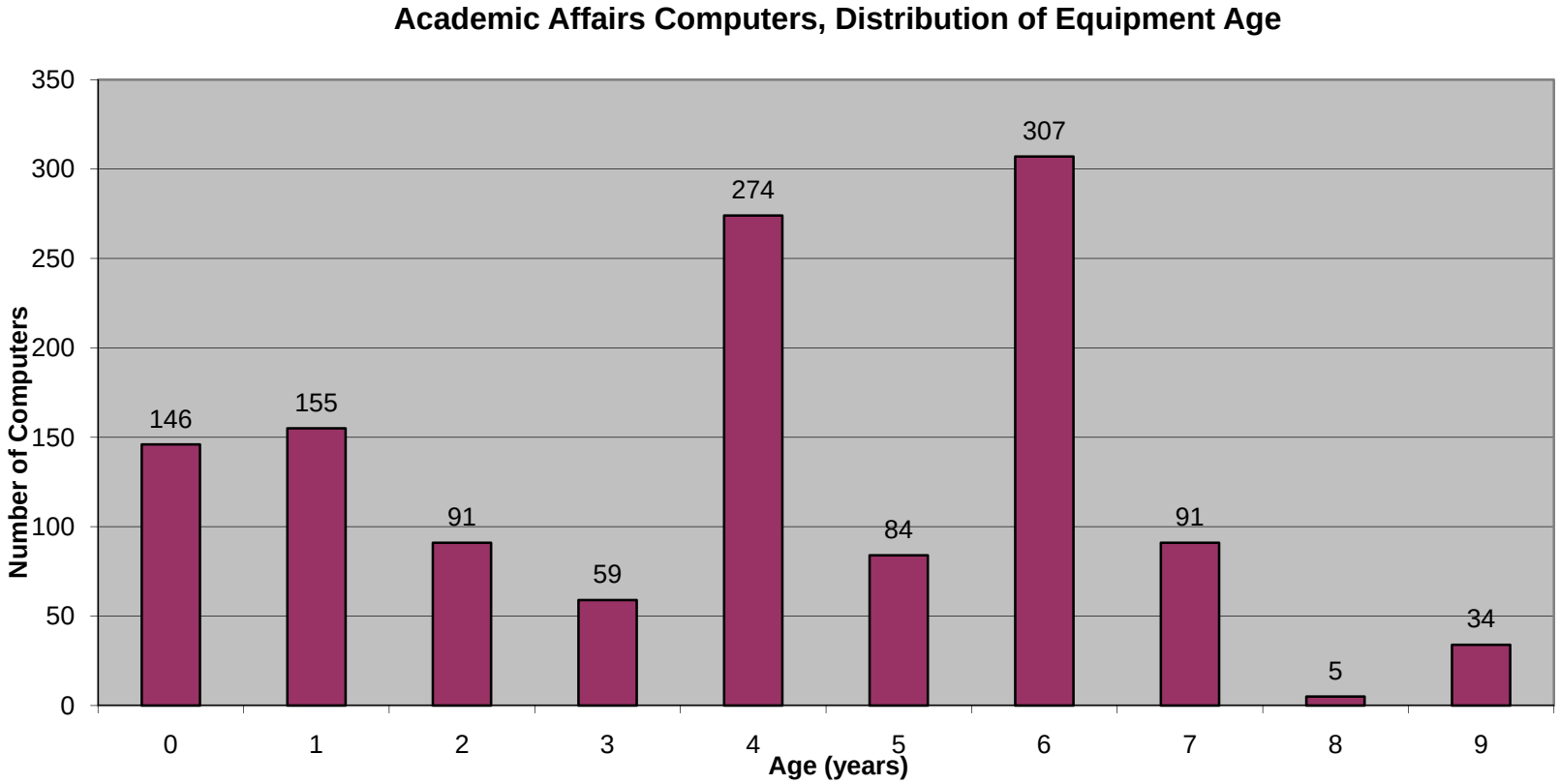
Cuesta currently has approximately 40 physical servers and another 50 virtual servers. Virtual server is a technology that allows to better utilize a single physical machine. A single physical machine can support the work of numerous servers using this technology. There are additional benefits of this technology for the support staff workload in making servers available with less time and effort.

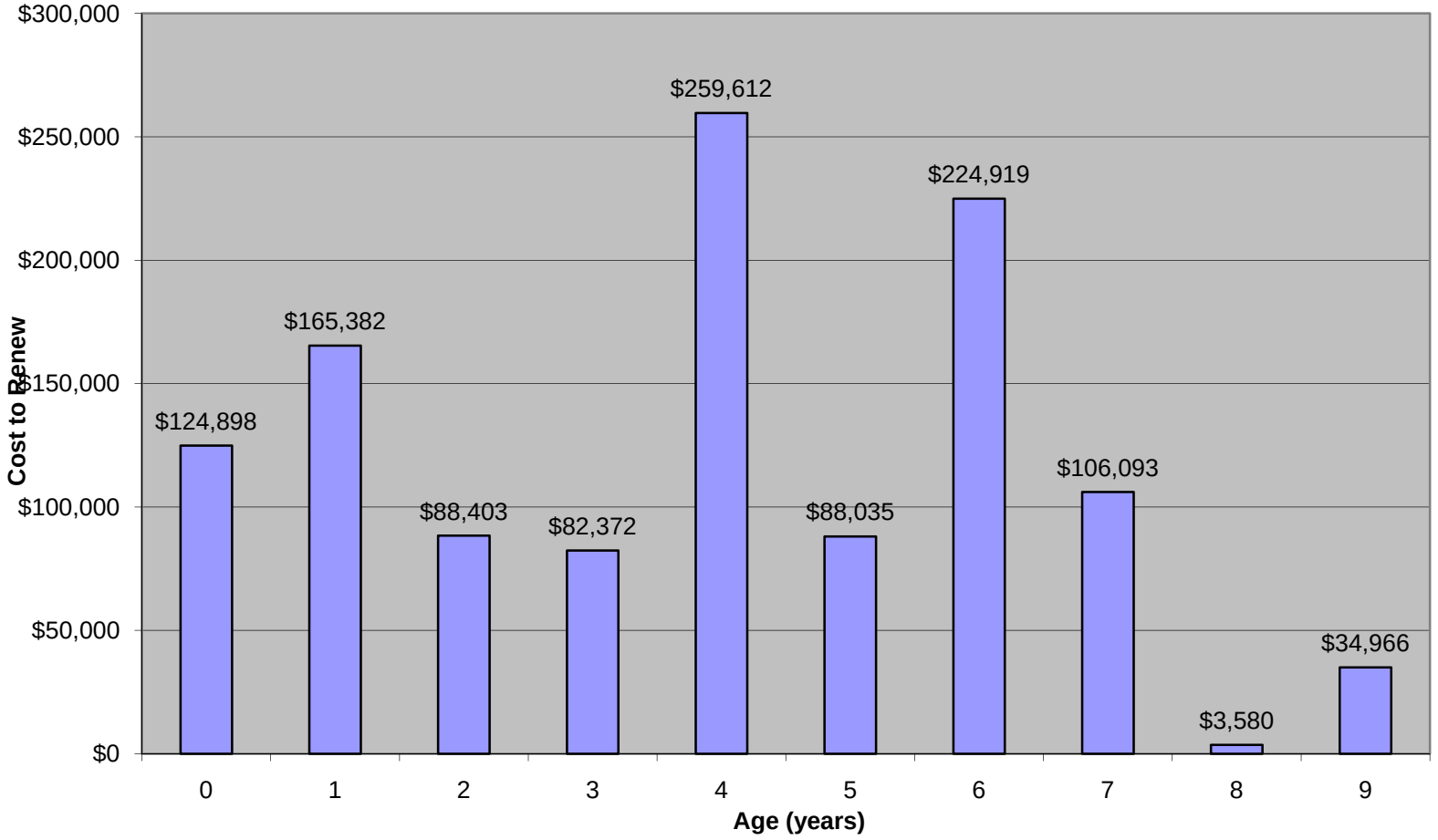
Storage

Cuesta has over 70 hard drive packages in three arrays connected by fiber optic cables that provide over 30 terabytes of data storage. I critical pieces of data storage is the regular backup of the data in case the need to recover any data that is corrupted or worst case, lost due some sort of disaster. It is critical that the amount of data storage that is available to the customers keeps ahead of the demand.

Computers

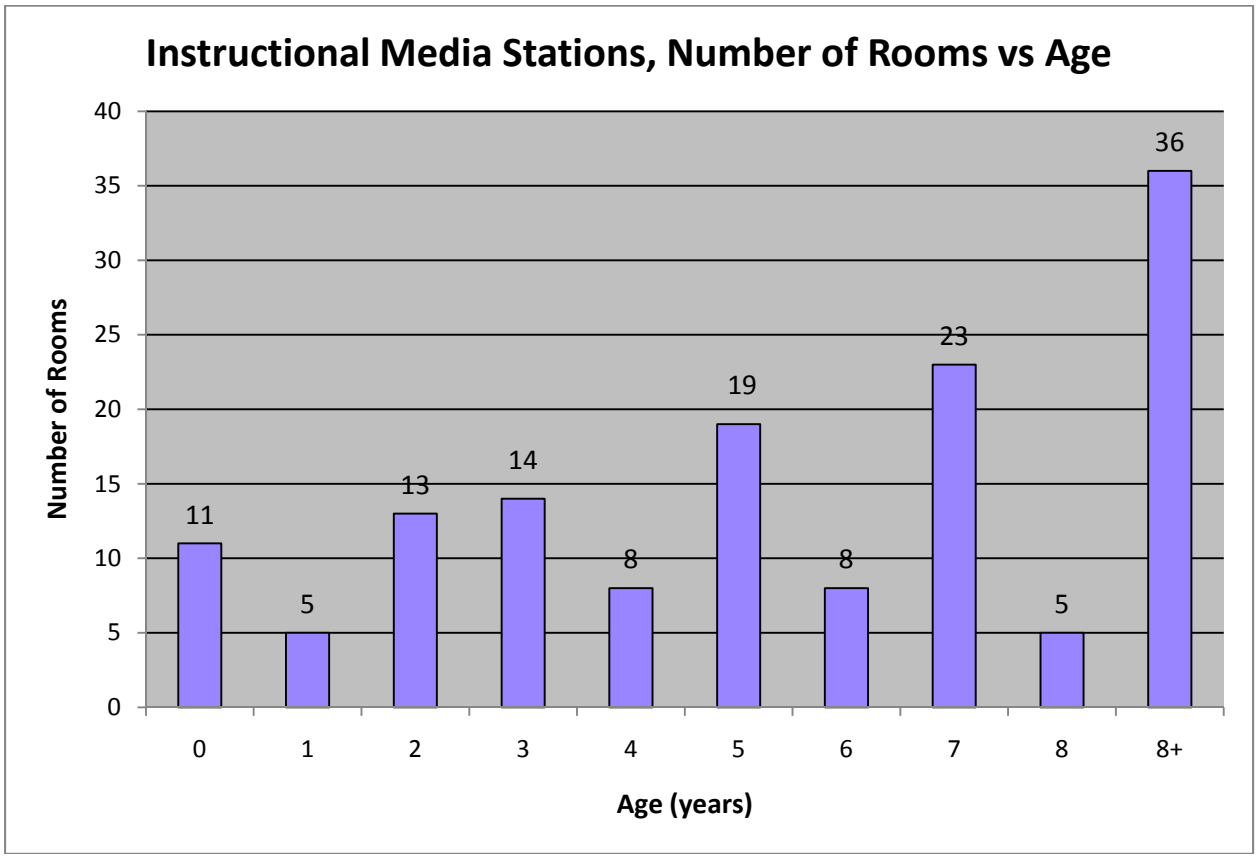
The current inventory of computers at both the North County and San Luis Obispo campus is approximately 2000. Of those 2000, 1200 are used under the Academic Affairs area of the college. This includes computers in the student labs, those used for lecture, and the library. The following charts show the age and cost to replace the computers in Academic Affairs.




Academic Affairs Comptuers, Cost by Age
$300,000
$250,000
$200,000
$150,000
$100,000
$50,000
$0
Cost to Renew
$124,898
$165,382
$88,403
$82,372
$259,612
$88,035
$224,919
$106,093
$3,580
$34,966
0
1
2
3
4
5
6
7
8
9
Age (years)

Multi-Media Instruction Stations

Since 2008 there has been an effort update old technology instruction stations with current technology and with a user-friendly control system. The following is the current age of the multi-media technology in classrooms.



B. Give interpretations of Data and Identify Areas for Change to Facilitate Program Quality and Growth

Budget Data: Analysis

Staff

When looking at the Cuesta expenditure for Computer Support staff versus the Industry norm, there is a $500,000 gap. The backlog of work load supports the fact that there is more work that what the current staffing levels can provide.

The Computer Services IPPR worksheet lists the immediate need for staff to help address this situation. This goes against the current reality of Cuesta's budget situation, but the data supports this request. The estimate of the staff requested in the immediate category is approximately $525,000.

Administrative Systems support staff:

There is always an option to look at paying consultants to help with some of the backlog of tasks. The reality is that any work done by a one-time funded consultant will add to the day-to-day support of existing staff.

An example of how a single one-time implementation adds to the on-going work load is as follows:

- Cuesta currently participates in the California Community College Student Application project (CCCApply)
- A vendor is contracted by the Chancellor's office to develop and support a single student application that is used by all CCC students.
- Cuesta has developed an interface to download the data from this system and add all the necessary fields to the Administrative Software system. Cuesta has had this interface for over 5 years.
- Annually, under the direction of a State-wide steering committee, changes/modifications are made to CCCApply. With each update the following happens:
    - Both Technical staff and staff in Admissions and Records review the documentation that specifies the changes that are being implemented
    - They work together to decide how these changes may affect current processes.
    - The required programming changes are made by technical staff
    - A&R staff have to test the changes in the system
    - Any processes that are used or depends on this data need to be tested.
    - Current reports are accessed and any required changes are

made
    - Any new reports required based on the changes are designed and written
- NOTE: the timeline for this work is defined by CCCApply. They define when the new documentation on the coming changes is released and when the change will be implemented
- Once the changes are "live", A&R staff spends extra time monitoring the new process and the data to verify that there are no errors.
- NOTE: In 2014 a new CCCApply system will be put into product. This is a total re-write of the system by a new vendor using different technology.

Network Support Staff:
Cuesta continues to look for opportunities to provide applications by off-site vendors. This is commonly called Software as a Service (SaaS). Some recent examples of this are:

- Cuesta is in the process of moving from BlackBoard as the campus standard Learning Management System to Moodle. Moodle is an open source application. Open sources means that the application is not provided by a vendor, but by the community at large. Some people consider this "free". The software may be of no initial cost, but the ongoing staff time to support the system can be very costly. Cuesta evaluated many options for the new Learning Management System and chose a vendor, RemoteLearner, who hosts Moodle. The cost of this is much less than our BlackBoard costs without adding significant and on-going work to the Network Support staff.
- Community Programs vendor that supports their registration system introduced a new product that was the SaaS model. The vendor was discontinuing support of their previous system that was installed on Cuesta servers. Community Programs took the opportunity to evaluate other vendors and have converted to a SaaS vendor for their registration system
- When Cuesta was evaluating providing all enrolled students with a Cuesta email account, part of the evaluation was Gmail. This was the solution that was implemented. This removes the additional staff and hardware cost associated with supporting email for over 40,000 active students. Note: Students get an email account when they apply to Cuesta and it remains active they are not enrolled at Cuesta for 2 consecutive terms.

It is not appropriate for all software to be hosted outside of Cuesta, but it is evaluated on a regular basis. This can lessens the need for hiring additional network support staff to support new applications.

Computer Support Staff;

The current inventory of computers has a few issues that affect the support staff

- The number of computers exceeds a sustainable support staff to computer ratio.
- The age of computers that Cuesta still has in services adds to the work effort for some tasks

The current ratio of computers to support staff is 1/500. In an era when temporary employees were encouraged, there was a ratio of 1/250 within Computer Services. Experience indicates that this is a sustainable ratio. This ratio can be achieved by either a) increasing the number of computer support staff, b) decreasing the number of computers that are supported or c) a combination of the two.

The age of Cuesta's inventory adds to the work effort for some tasks. Current software applications usually expect a reasonable age of computers for it to work effectively. There are times when a new software upgrade will negatively affect the work of an employee. At that point a computer support staff is called into see what type of adjustments can be made to the computer or the software to help with this. In some cases additional memory can be added, which is a cost it both time and money.

Multi-media support staff

Cuesta is in a growth phase for this technology. Since 2008 Cuesta has been installing multi-media stations. In addition the use of video conference equipment grew in the last few years. In order to address some of the staff work load a few changes have been made:

- Permanent rooms for video conferencing equipment have been identified in 2011. This will lessen the time required for staff to move, setup and take down of equipment to support meetings and events between campuses. Due to funding that was available via the North County Learning Resource Center, additional stations were purchased for North County. This will reduce the work effort for staff.
- Data projectors have the capability of connection to the college network. This provides tools for management of these devices remotely. An example is that the hours that a bulb has been used can be monitored replaced before it affects instruction.

Until all the identified classrooms have been upgraded with current technology equipment, there will be many projects required to implement the new systems. Due to timing, much planning needs to be done during the term, with the short window between terms for the work to be done.

Equipment Inventory: Analysis

Infrastructure (switches, servers and storage)

This is not a one-time cost. In 1998 Cuesta installed switches throughout the San Luis Obispo campus with one time funds. There was no on-going funding source to replace them as they aged. Cuesta has made due with one-time funds, to replace the switches when possible. When replacing servers, Cuesta has been moving toward replacing a single physical server with a server that can support multiple virtual machines.

Computer Services recently finished a cost model for switches and servers. The cost model shows how much annual budget needs to be allocated in order to replace the existing inventory on a regular cycle. This supports Initiative 5 in the Technology Plan.

Annual Cost to replace servers on a regular cycle	$71,000
Annual Cost to replace switches, wired and wireless on a regular cycle	$186,500
Storage	TBD

Previously Cuesta was using a model developed by Gartner Group for the California Community Colleges for these annual cost estimates.

For the last 15 years, Cuesta has not put the necessary funding in the annual budget. The results are that work has been done, but not in an efficient and strategic manner.

The Technology Plan Initiative 5 supports having a budget to support a planned replacement cycle for the infrastructure equipment.

<u>Computers</u>

Again, computers are not a one-time cost. Initiative 4 of the Technology Plan states that a process outside of the current Integrated Program Plan and Review (IPPR) process needs to be established so that regular replacement of college computers occurs. In addition Initiative 15 of the Technology Plan states that Cuesta needs to consolidate the number of student use computers so that the support of the systems improves. The annual cost to keep our current inventory current is:

Annual Cost to replace computers on a regular cycle	$322,000
One time “balloon payment” due to lack of regular replacement funding	$675,000

The listed "balloon payment" may be reduced by not replacing the old computers but instead more fully utilize the current technology systems. This decision will be based on usage data along with the needs of the curriculum.

Multi-media Instruction Stations

Initiative 2 of the Technology Plan states that a prioritized list of classrooms needs to be established for this work. It is important that Cuesta realize the long term cost of these classrooms and fully utilize the classrooms that have this equipment installed. As with all technology there is an annual budget that needs to be established in order to replace the equipment on a regular cycle.

Annual Cost to replace Multi-media equipment on a regular cycle	$269,000

Note: as we increase the inventory of multi-media stations, the annual replacement cost will increase.

Improvements to on-going funding

In 2010 Cuesta began participating in the Medical Advocate Advising program which will provide an on-going revenue stream for the college. In Spring 2011 Budget and Planning committee approved that 45% of the revenue will be allocated to support the ongoing replacement cost of technology at Cuesta

In March 2012 Cuesta's Foundation Board approved allocating up to $100,000 annually to support Cuesta's initiatives listed in the Technology Plan. The initiatives listed include developing a replacement cycle for technology, both infrastructure and computers.

This funding will help move Cuesta to a centralized model for technology replacement and support strategic technology decisions from a college perspective.

Technology Training: Analysis

Technology Training

Currently there is only data being collected for face-to-face classroom training. As more training is provided via online resources (documents and video) this data needs to be captured to know how much they are being used. Over the past few terms the participation in the classroom trainings has declined. The customer survey results indicate that employees want training, but the reality is that they either don't or can't attend training classes. Given

the lack of data collection of the other modalities it is impossible to know if these other modalities are filling the need. The survey results of those that *do* attend face-to-face training indicate 98% Excellent of Very Good rating.

The reality is that we must support different learning styles in order to effectively provide training for all employees. We will continue to look for cost effective ways of providing the required technology training to all Cuesta employees.

C. Summarize Assessment Results for Program Outcomes

- Computer Services will support the college department needs as it pertains to the Administrative Enterprise Resource Planning systems and maintain all necessary regulatory changes.

  The workload table of the Administrative System support staff shows the volume of work completed in 2011, along with the backlog

Project Data	
Requested Projects as of March 6, 2011	171
Projects Completed in 2011	80
New Projects Requested in 2011	81
Task Data	
Requested Tasks as of March 6, 2012	53
Tasks completed 2011	643
New Tasks Requested in 2011	656

The projects that are worked on are prioritized by the three Vice Presidents who meet on a monthly basis on this topic. This gives visibility into the work that is and is not being accomplished. The projects completed supported the following departments

Department/Area	**# of completed projects**
Technical*	19
Academic Affairs	17
Mandatory/Regulatory**	16
Student	12
Finance	9

HR/Payroll	4
Financial Aid	2
Police	1

***Technical:** This includes projects that affect the underlying technology of the system.
Some examples are:

- Updating the plug-in software from Jinit to Java, this was moving from an old technology to a new technology that is required for the system to run.
- Implementing new features in order to improve the data recovery and data cloning process

****Mandatory/Regulatory:** This count includes both changes to other systems that we interface to as well as new regulations imposed by the State and Federal Governments. Some examples are:

- As explained in a previous section, the State Student application (CCCApply) has annual updates. The changes and timeline are dictated by the other system.
- Gainful Employment reporting is an example of a new regulation imposed by the Federal Government. This is new legislation that requires consumer-type data to be provide to the student on the total cost (time and money) in order to achieve a degree or certificate.

The current level of Administrative Software support staff is not sufficient to meet the needs of the college based on the requested projects. In addition the Student Success taskforce describes numerous new technology projects. New state legislation is already being proposed to support the goals of the Student Success taskforce.

As explained previously, the current level of support staff is not able to sustain the implementation of new projects to support departments. More and more staff time is needed to support existing systems and meet new regulatory requirements. Computer Services IPPR lists additional staffing in order to meet this objective in the future and to support Initiative 14 of the Technology Plan.

- Computer Services will effectively and efficiently maintain technology hardware for the District.
- Computer Services will effectively and efficiently install technology software for the District.

The wording of these two outcomes needs to be improved. They are vague and not measurable. These will be re-worded.

In addition, there should be an outcome specifically address the support of technology in the classroom.

a. Computer Services support staff support technology in the classroom in order to minimize negative impact on instruction.

For the past two years the Technology Committee has administered technology survey to all faculty. In the survey sent out Spring 2011 a question concerning the support of classroom technology was added "If you experienced any problems with technology in your classroom, please rate your level of satisfaction with the response by Computer Services in resolving the problem". The results were:

75% were Very Satisfied or Satisfied
14% were Neutral
10% were Unsatisfied
1% were Very Unsatisfied

There was space for addition comments for this question. The responses will be reviewed to look for ways to improve. In addition Computer Services management is investigating a survey tool that can be used to get immediate response from the customer who submit tickets that are instructional emergencies.

- Computer Services will coordinate and implement the District's Technology Plan

  The Technology Committee worked on the 2012-2017 Technology Plan beginning in January 2011. The Technology Committee used the Core Principles in the 2011-2016 Educational Master Plan in the development of the Technology Plan. The Technology Plan was approved by the Technology Committee in October 2011 and was subsequently presented to the following committee: College Council, Academic Senate, ASCC, Strategic Planning, and Planning and Budget. The 2012-2017 Technology Plan was approved by the Board of Trustees at the February 2012 meeting. In Spring of 2012 an updated 2012-2014 Strategic Plan was developed which included new Institutional Objectives. The Technology Plan was updated to document how its initiatives support the Institutional Objectives.

  On an annual basis, beginning 2012-2013 academic year the goals and action items listed in the Technology Plan will be reviewed for progress and any necessary updates based on new goals and objectives identified by

either the Strategic Plan or the Educational Master Plan evaluations and updates.

- Computer Services will effectively and efficiently maintain a secure network.
  Maintaining a secure network is never "complete". It is an on-going process. The most obvious assessment of having a secure network is that no security breaches occur.

  Computer Services has many tools and processes in place to minimize the risk of a security breach. Even with all these in place, there was one breach at Cuesta. This breach did not put any data at risk. It was a disruption to some email services and required support staff time identify the problem and put a solution in place.

  In Fall 2009 Cuesta's email system was used by spammers to send out hundreds of thousands of spam email. This was the result of a few employees responding to email phishing that resulted in their passwords being made available to spammers. The initial response was for the employee to immediately change their password. After investigation Computer Services had to remove the web-based access to employee email. This was the system that was used to send out the spam. There was not a technical solution to impede this system to possible spammers. Computer Services initiated a college-wide education campaign to employees on how to identify phishing email and what do to if you respond to such email. A monitoring process was implemented on the server to notify network support staff if a large number of emails are sent from an employee's email account. The loss of web-based access to employee email is a hindrance to easy access from off campus. Computer Services hopes to reinstate this functionality with a new release of Cuesta's employee email system that is scheduled for the coming year. Since the removal of the web-based access to employee email has been removed Cuesta's email has not be compromised by spammers.

  As noted, this is an on-going and constantly changing objective. The problems, the tools and the processes are constantly changing. This is a critical issue for any organization that dependant on technology. Given this, this program outcome should remain in order to report on security breaches, the response and the assessment of that response in the future.

- Analysis of Program Outcomes to Broad Program Goals
  (Linking Goals from the Technology Plan to the Program Outcomes and any specific actions that have been accomplished:
  Format:
- Technology Plan Goal
    - Computer Services Program Outcome

- All classrooms at all locations have an appropriate configuration of multi-media support for instruction and learning.
    - Computer Services support staff responds to technology problems in the classroom in order to minimize negative impact on instruction.

      Based on the response from the Spring 2011 Faculty Technology Survey there is room for improvement in this area. Cuesta continues to install current technology multi-media instruction stations which include a single box to control all input devices such as computers, document cameras, blue tooth and all output devices such as data projectors. These systems are much more user friendly than numerous remote controls. As these are available in classrooms the reliability of the technology will improve.

- Cuesta College has integrated student support systems to minimize hurdles to matriculation (admissions, orientation, assessment and testing, counseling, and student follow-up), and goal completion (certificate, graduation, transfer).
    - Computer Services will support the college department needs as it pertains to the Administrative Enterprise Resource Planning systems and maintain all necessary regulatory changes.

      The data shows that in the last year 12 projects were completed to support the Student module in the Administrative Software system. The Student module is where these functions reside within the Administrative Software system. The majority of the projects completed were not centered around the student module.

      There are indications that there will be new mandates that will result in new projects and systems in this area of the college. The current workload to keep the current system running and updated is prohibitive to taking on new projects in the foreseeable future.

- Network applications are consistently available to users.

- Cuesta College's data and network servers are protected against security breaches.
    - Computer Services will effectively and efficiently maintain a secure network

      This requires on-going work and diligence. There is always room for improvement in this area. The addition of monitoring tools will help improve this area.

- Cuesta College will maximize the capacity of Banner to improve processes and data collection.
    - Computer Services will support the college department needs as it pertains to the Administrative Enterprise Resource Planning systems and maintain all necessary regulatory changes.

Department/Area	**# of completed projects**
Technical*	19
Academic Affairs	17
Mandatory/Regulatory**	16
Student	12
Finance	9
HR/Payroll	4
Financial Aid	2
Police	1

Over 40% of the projects completed were to address technical or mandatory changes, not directed to improve the work of the college.

There are indications that there will be new mandates that will result in new projects and systems. The current workload to keep the current system running and updated is prohibitive to taking on new projects directed by departments in the foreseeable assuming no change in staffing occurs.

D. <u>Recommend Changes and Updates to Program Funding Goals Based on Assessment of Program Outcomes</u>

The current model that Cuesta uses for funding technology needs to change. The problems identified are:

- Current level of Administrative Software support staff isn't sufficient to meet the daily work of keeping a production system working and the required changes imposed by outside entities (vendors, State government, and Federal government) along with

the new functionality requested departments at the college. This can be achieved in numerous ways, either increasing support staff or changing the support model.

- Current funding allocated for technology is insufficient to replace systems often enough to keep them at a current standard. Additionally, because the budgets that comprise this funding are distributed across organizational units, the use of these funds is sometimes not well coordinated between departments. The model for the purchase of technology needs to change to take into account ongoing replacement costs and to be better leverage shared resources.
- The decision on funding classroom technology needs to be made beyond a single Division. Cuesta needs to maximize student usage of all student facing technology.

Recommended Additions/Changes to Program Outcomes

i. Computer Services will support the college department needs as it pertains to the Administrative Enterprise Resource Planning systems and maintain all necessary regulatory changes.
    a. Recommend that this Program Outcome remain

ii. Computer Services will coordinate and implement the District's Technology Plan
    a. Recommend that this Program Outcome remain.

iii. Computer Services will effectively and efficiently maintain a secure network
    a. Recommend that this Program Outcome remain

iv. Computer Services will effectively and efficiently install and maintain network infrastructure (servers, storage and data communication) for the District.
    a. Recommend this as a new Program Outcome

v. Computer Services will effectively and efficiently install and maintain desktop computing environment (PCs and peripherals) for instructional and non-instructional use for the District.
    a. Recommend this as a new Program Outcome

vi. Computer Services provides technology training on new and existing technology to all Cuesta employees.
    a. Recommend this as a new Program Outcome

vii. Computer Services maintains current, functional and appropriate web programs and applications to support all areas of the college.
    a. Recommend this as a new Program Outcome

viii. Computer Services will effectively and efficiently maintain technology hardware for the District.
    a. Recommend that this Program Outcome be removed.

ix. Computer Services will effectively and efficiently install technology software for the District.
    a. Recommend that this Program Outcome be removed.

- **ANTICIPATED SERVICE CHALLENGES/CHANGES**
    - Reduced budget at Cuesta
      The State budget for California Community Colleges is on a downward path with currently no realistic timeline for a recovery. As with any organization, systemic changes need to occur to get through these times. Computer Services will need to do its part to facilitate any necessary changes. This situation can be looked at an opportunity to make cultural changes at Cuesta that will not only serve it during these reduced budget times, but will help sustain it when the budget improves.

      In addition, many departments are looking to implement technology in order to provide the necessary services to our students and meet our regulatory requirements with their limited staff. This puts more workload on the existing technology support staff in all areas of the department.

    - Administrative Software system
      The vendor is moving their product to a more current technology platform for their base modules (HR/Payroll, Student Financial Aid and Fiscal). This means that the infrastructure (servers and software) that supports this system will need replacing. This new technology will take many years to be fully implemented by the vendor. The anticipated timeline for the first module that will support this new technology is late 2012 or early 2013. This also means that the current support staff will need to get new skills in order to support the new system.

The vendor is also moving their portal product to a new technology. This is the product that is myCuesta. This will be a large project due to the fact that all the offices that provide the content for the current channels in myCuesta will need to be trained on the new technology. This also implies new servers and new technology to support by technology staff. In addition, new functionality and technology will be available with this new platform. This new system will provide new opportunities to implement new tools, functions and features for our customers.

The vendor has recently released a framework to support the development of applications for mobile devices (iPad, iPhone, Android, etc). Having apps available for these platforms is an expectation of our students and employees. This implies a new set of technology to implement and support and to have the necessary trained support staff to develop and maintain the technology.

In 2012 the vendors that provide Administrative software systems to 80% of the California Community Colleges merged to create a single new company. The current information from this new company is that there is no change to the products that the previous two companies offered or to their product roadmap. Looking back on what changes happened to other companies that combined indicate that there will be some product changes. This can only be a 'wait and see' posture for Cuesta at this time.

As noted in previous sections, the Student Success taskforce implies many new systems. It is yet to be seen how these will be funded and implemented. The implementation could be using a centralized model where the system is supported by staff outside of Cuesta technical staff. No matter where the system is located, additional on-going support by both technical staff and staff in other departments on campus is implied.

The funding for support staff is not anticipated to grow significantly in order to keep up with the backlog of work requested. There is a small group of California Community Colleges that are exploring a centralized model for supporting the base system. The base system may include the Student, HR/Payroll, Fiscal and Financial Aid modules. Cuesta may decide to participate in this effort, or at least monitor the progress and results of the project. The goal is to remove the burden of system maintenance from the college so that existing staff can provide new services for their college.

- Technology that improves support and reduces cost.

Cuesta continues to monitor changes in the technology landscape that could reduce the on-going cost and support at the college. For example, there are options to move applications to be hosted outside of Cuesta. Cuesta has taken some opportunities for this already.

One organization that is active in this is CENIC. CENIC, the Corporation for Education Network Initiatives in California, was formed in order to look for economies of scale to obtain cost-effective technology solutions for the California Community Colleges. In January 2012 they began offering Voice over IP (aka VoIP) to all California Community Colleges. This is current technology phone system which includes additional functionality and uses data network for voice traffic. CENIC will continue offering centralized technology to California Community Colleges in order to reduce support at each campus and to get the best possible cost model. Cuesta will continue to monitor their offerings along with other vendor's offerings.

- Customer expectations that Cuesta will quickly implement and fully support new technology
  The landscape of technology continues to change. The most recent examples are tablet and e-books. Both of these markets are not yet mature so there is still opportunity for change in the market leaders and their products. It is difficult to maintain the current technology as required to keep customers productive and to spend the required staff time to evaluate how new technology will be implemented and supported.

- Changes in infrastructure technology
  In simple terms, the network infrastructure's job is to store and deliver content (applications and data) in a secure and reliable manner. Changes on the horizon that will affect this include:
  - Moving more data and applications off site or to the "cloud". This requires reliable and sufficient capacity for data to travel. Currently Cuesta has a single connection to the Internet. As we add to our reliability on services outside of Cuesta, there needs to have a fully redundant Internet connection.
  - Moving the desktop computing processes (applications and operating systems) from the desktop computers to servers. This is commonly known as thin client. The advantage of this architecture is more flexibility deployment of applications and lower staff support costs. The downside of this architecture is that there is more reliance on the servers and the network. If a single server has problems it could affect a large number of desktop computers. The potential to move to this new architecture in the future underscores the need for modern

network infrastructure and an upgraded data center at the San Luis Obispo campus.

- As tablets, e-books and other mobile devices become more prevalent with our students and employees, this will add to the network traffic. As mobile devices become more prevalent, so does the opportunity for security breaches. As with any new technology, once they become main stream, the viruses, malware etc are soon to follow. Cuesta staff will need to determine new tools and processes in order to minimize the risk of these new threats to the college network.

- New regulations and reporting
  Not only does the Student Success taskforce outline new reporting requirements, recent history indicates that the Federal Government is also imposing new regulations and reporting in order to increase accountability.

- College-wide Collaboration tools
  In Spring 2012 the Accreditation Steering Committee requested the installation a collaboration software system in order to support their work effort. The product is called SharePoint. It is a very powerful system that has great productivity and communication potential for the college. If this product is implemented to its full potential, it will change the culture of Cuesta. This will require much technical training for many areas of Computer Services including Network Support, Technology Training and Web Support. For this system to succeed, there must be acceptance and buy in college-wide.

- Reorganization of AV support to Maintenance Operations and Grounds.
  As stated in this report, since the previous Computer Services Program Review the decision was made to incorporate the AV staff with Computer Services in order to better serve the college. Due to reorganization to address Cuesta's current budget constraints, it has been decided to move AV support to the Maintenance Operations and Grounds department. This is not the only reorganization being made to address the budget issue at the college. As with the other organizational changes at the college, it will have some impact to service at the college. Everyone involved is committed to make every effort to minimize this impact.

- Sole occupancy buildings in South County
  Cuesta continues to explore options for having buildings under their control to provide programs and services in South County. No matter where they are located this implies an additional location that will

require support of the installed technology; in the classroom, in offices, and the necessary infrastructure.

- New buildings at North County or San Luis Obispo campuses Historically new buildings add to the inventory of technology. This equipment adds to the workload of computer support staff, classroom support and in some cases network support staff. In addition, the equipment funded with one-time building funds add to the on-going liability to keep technology current.

- **PROGRAM DEVELOPMENT FORECAST**

  Given many factors listed in previous sections, there is opportunity for change and improvement in the support of technology at Cuesta. Some of the change will be imposed on Cuesta by outside entities including the goals listed in the Student Success taskforce report. It is clear that the current staffing levels and current funding doesn't meet the forecasted need.

  The goals listed in the 2012-2017 Technology Plan will guide the work and projects of the college.

  - Cuesta College's primary technology is sustained by an annual centralized budget independent of the IPPR process and designed to maintain inventory and staffing at a standard which serves the work of the College.
  - Cuesta College's campus network infrastructure meets current and anticipated work needs and is sufficiently funded and staffed.
  - Network applications are consistently available to users.
  - Cuesta College's data and network servers are protected against security breaches
  - Cuesta College will maximize the capacity of Banner to improve processes and data collection.
  - Cuesta College has integrated student support systems to minimize hurdles to matriculation (admissions, orientation, assessment and testing, counseling, and student follow-up), and goal completion (certificate, graduation, transfer).
  - Cuesta College is wirelessly accessible in all areas of all buildings on all campuses.
  - All classrooms at all locations have an appropriate configuration of multi-media support for instruction and learning.
  - Cuesta College will consolidate the number of student computer stations to match student demand with instructional necessity, while simultaneously improving the level and support for student

computing.

- The College evaluates current and emerging technologies and incorporates those which will improve institutional effectiveness and student learning.
- The College's website is regularly updated and accessible by all platforms, including smart phones and tablets. Internal portals are easily navigated.
- The Learning Management System (LMS) is accessible by mobile devices such as smart phones and tablets.
- Cuesta College provides appropriate technology training in order to accomplish necessary job-related responsibilities.
- The College provides training for new and existing instructional technology, including Cuesta's learning management system and other online instructional tools

The required change in technology that is supported will also require professional development for existing staff. In some cases revamped or new job descriptions will be required.

- **OVERALL BUDGET IMPLICATIONS**

  (Will be reflected in college planning and budget process)

  Elements:

  A. Personnel
  B. Equipment/furniture (other than technology)
  C. Technology
  D. Facilities

A. SIGNATURE PAGE

Faculty, Director(s), Manager(s), and/or Staff Associated with the Program

All full-time director(s), managers, faculty and/or classified staff in the program must sign this form.

Division Chair/Director Name	Signature	Date
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