

Formatted: Left: 0.5", Right: 0.5", Top: 0.5", Bottom: 0.5", Width: 8.5", Height: 11"

Formatted: Font: Bold

INFORMATION TECHNOLOGY SERVICES

Program Review / Self Study Report – Fa11 2011

October 31, 2011

Abstract

With an increase in Antelope Valley College demands for information technology services a three year Program Review/Self-Study is required to maintain consistency in the institutional effectiveness of existing and future services offered by the Information Technology Services (ITS) department. This paper will take an integrative approach in analyzing, evaluating, and providing a complete program review of the strategic planning process necessary to adhere to the Mission, Vision, Operational Outcomes, and Institutional Learning Outcomes related to the college. It will also expose different ITS strategies and recommendations on how to effectively manage ITS projects and services from initiation to closure.

Formatted: Right: 0"

Formatted: Indent: Left: 0.44", Right: 0.25"

Table of Contents

Section I. Service Area Description.....554

A. Role – ITS Service Area.....554

B. Employees – Current Service Area665

C. Productivity – Past 3 Year Program Review.....141413

D. Revenue – Past 3 Year Program Review242423

E. Revenue – Past 3 Year Program Review262625

Section II. Self-Evaluation.....272726

A. Employees.....272726

B. Customer Relations323231

C. Quality of Service.....353534

D. Institutional Support.....404039

Section III. Planning454544

A. Accreditation.....454544

B. Trends and Changes484847

C. Operational Outcomes, Goals and Strategies.....494948

D. Resources Needed Short-term (3 – 5 years).....535352

Section IV. Summaries and Recommendations.....616160

A. Significant Findings616160

B. Major Recommendations.....626261

Section I. Service Area Description.....

A. Role – ITS Service Area.....

B. Employees – Current Service Area.....

C. Productivity – Past 3 Year Program Review.....

D. Revenue – Past 3 Year Program Review.....

E. Revenue – Past 3 Year Program Review.....

Section II. Self Evaluation.....

A. Employees.....

B. Customer Relations.....

C. Quality of Service.....

D. Institutional Support.....

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Formatted: Right: 0.8"

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Formatted: Tab stops: Not at 0.46"

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Section III. Planning

A. Accreditation

B. Trends and Changes

C. Operational Outcomes, Goals and Strategies

D. Resources Needed Short term (3 – 5 years)

Section IV. Summaries and Recommendations

A. Significant

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Formatted: Tab stops: Not at 0.46"

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Formatted: Tab stops: Not at 0.46"

Formatted: Default Paragraph Font, Font: (Default) +Body (Calibri), Check spelling and grammar

Section I. Service Area Description

A. Role – ITS Service Area

The role of Information Technology Services (ITS) is described by the service area's Vision, Mission and Goals. The ITS Vision is to provide reliable, accessible, high quality information technology services supporting the district's instructional and operational needs.

The ITS Mission is to provide a stable information technology (IT) infrastructure and protect the accessibility, integrity and availability of the district's IT resources for our students, employees, alumni and community members. We apply our technical competence toward effective management and efficient utilization of these resources, while exploring and appropriately developing emerging technologies to meet the challenges of the district's changing instructional and operational IT needs.

ITS Goals (Operational Outcomes)

1. Ensure transparent reliability of IT infrastructure, district IT equipment, information systems and telecommunications resources.
2. Facilitate secure access to district computers, information systems, telecommunications and other information technology resources.
3. Provide quality technical training and assistance to students, employees, alumni and community members.
4. Proactively collaborate with others to implement emerging IT solutions to meet the district's instructional and operational needs.
5. Collaborate with others to encourage appropriate use and comprehensive standardization of IT resources.
6. Respond to district needs by continuously improving the processes and procedures that facilitate effectiveness in all IT services.

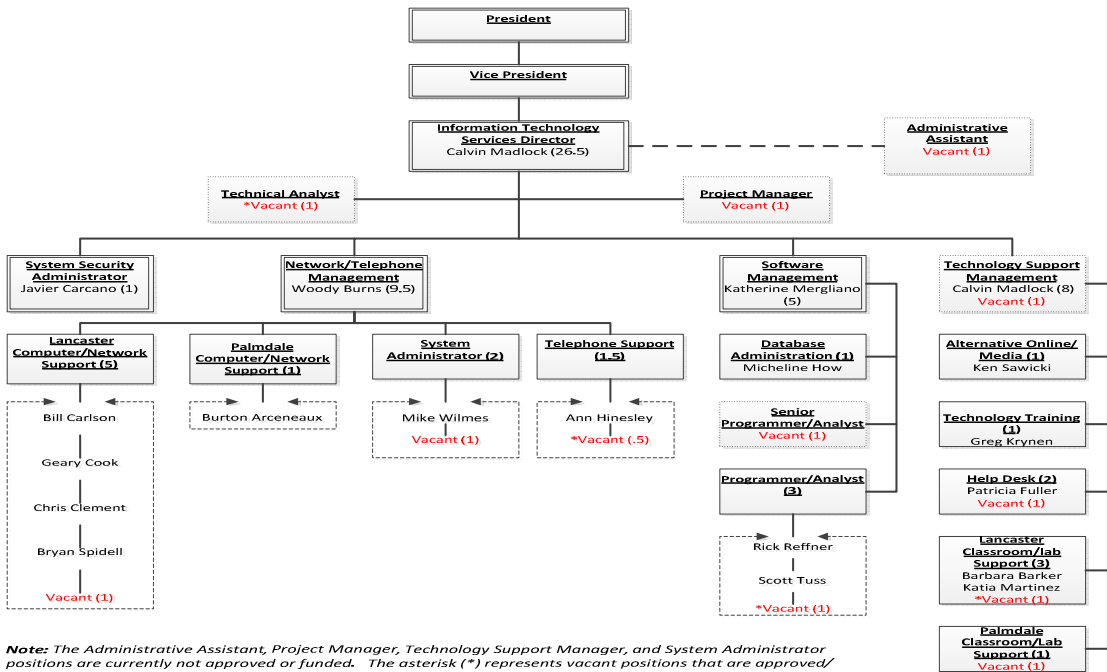
Information Technology Services supports the institutional mission to “place student success and student-centered learning as our number one priority through higher educational standards, innovative programs and services in a professional, team-driven environment” through the operational outcomes identified above. “Information technology is an essential tool for productivity in virtually all career fields, businesses and industries, including higher education. The use of information technology is an essential skill for students in all academic, technical and vocational disciplines. In addition, information technology can be used to enhance the learning environment and provide students with the widest possible array of learning experiences related to a variety of learning styles. Furthermore, the use of information technology by college employees is fundamental to the support of our educational services.”¹ ITS Operational Outcomes 1, 2 and 3 stress reliability, access and assistance provided for students and other campus community members, and therefore support the institutional

¹ Excerpt from the Computer and Information Technology Master Plan 2007 – 2010, section III. Computer and Information Technology Vision.

mission of student success. ITS Operational Outcomes 4 and 5 emphasize collaboration and underscore the professional means essential to supporting and advancing the institutional mission. ITS Operational Outcome 6 underscores the proactive approach to process improvement required to enable success in the IT operations that support the institution.

B. Employees – Current Service Area

Information Technology Services is organizationally structured to meet the District’s instructional and operational IT needs in several areas including Network Management, Computer Systems Management, Technical Training, System Security, and Technology Support (academic services support). Each organizational component is described below along with staffing changes over the life of the ITS Area. Refer below to Chart 1: ITS Area Organization Chart, for a diagram of the current organizational structure:



Note: The Administrative Assistant, Project Manager, Technology Support Manager, and System Administrator positions are currently not approved or funded. The asterisk (*) represents vacant positions that are approved/funded and will be filled within one month. The exception to this is one of the Lancaster Lab Technician, Computers. In addition there are 10 student workers for the Open Computer Labs (Lancaster & Palmdale).

Chart 1: ITS Area Organizational Chart

The ITS Area is currently managed by the Director of Information Technology Services:

Calvin Madlock, Director, full-time in this position since August 2011.

An Administrative Assistant has been identified as a key human resource needed to work under the supervision of the Director of ITS to oversee and manage all office procedures; such as calendar coordination, confidentiality, workflow assignments, meetings, correspondences, minutes of meetings, documentation, record keeping, budget preparation, etc.

Administrative Assistant, vacant full-time position (not approved/funded) since October 2011².

In addition, a Project Manager has been identified as a key human resources needed to work under the supervision of the Director of ITS to initiate, determine scope, prioritize, develop project plans, execute, monitor, and finalize projects with strict timelines to support academic and administrative goals collaboratively, as it pertains to meeting the campus initiatives per the Education Master Plan.

Project Manager, vacant full-time position (not approved/funded) since October 2011³.

In addition, a Technical Analyst is assigned to the Area to perform research and analysis of data using a variety of applications, assist technology users, assess user needs, evaluate vendor software, develop project plans, communicate technology systems and solutions, and perform an assortment of office tasks.

Technical Analyst, vacant full-time position since June 2011⁴.

Network Management

Network Management provides the operational infrastructure upon which all information technologies and telecommunications services are rendered at AVC. Services include telephone and telecommunications infrastructure installation, repair and support; computer and network configuration, installation and support, and enterprise network system configuration, maintenance and administration.

In 1997, when ITS was formed, the only Network Management employee was the Network Manager. The

² The new position (Administrative Assistant) was first proposed during the “Dialogue with the President” ITS Current-State-Assessment on October 18, 2011, along with other senior administrators, faculty, ASO representatives, and college staff. Note: In the past the Clerical II (help desk) and Technical Analyst have shared clerical responsibilities, which is a misuse of college funds.

³ The new position (Project Manager) was first proposed during the “Dialogue with the President” ITS Current-State-Assessment on October 18, 2011, along with other senior administrators, faculty, ASO representatives, and college staff. Note: As of October 2011 approximately 25 ITS projects have been identified, which requires a project manager to drive from initiation through completion to meet college objectives.

⁴ Initially this position was classified as a Clerical III position, but was reclassified in 2006 along with several other Clerical III positions in other service areas following a classification review. Evaluated by ITS manager in August 2011, along with Human Resources to determine that the position is more technical in nature than clerical, and will be utilized as such.

district's demands for network services have grown exponentially and the network and telecommunications infrastructure has increased accordingly, as well as the requirements to provide support for these services. Currently, the Network Management employees include:

Woody Burns, Network Manager, full-time in this position since 1999.

Michael Wilmes, Systems Administrator, full-time in this position since 2007.⁵

Systems Administrator, vacant full-time position (not approved/funded) since 2011⁶

Ann Hinesley, Telecommunications Technician, full-time in this position since 2004, supporting VOIP (Voice Over Internet Protocol) telecommunication (telephone connectivity) for the entire campus.

Geary Cook, Computer Services Technician, full-time in this position since 2004, supporting computers, network and telecommunications services in the following facilities: SSV, Facilities, Performing Arts, Auto, Gym/Athletics, OF1-3, and TE-6.

Bill Carlson, Computer Services Technician, fulltime in this position since 2002, supporting computers, network and telecommunications services in the following facilities: CDC, Fox Field, TE7, Ag lab, all classroom media boxes and all PC Blades used by various computer labs, APL (except labs), T300s, T500s, andTE7.

Bryan Spidell, Computer Services Technician, full-time in this position since 2005, supporting computers, network and telecommunications services in the following facilities: Admin, Bookstore, FA1, FA2, FA3, FA4, Library, LC LS1-LS2, T100, TE1-2, and , BE (except third floor computer labs).

Chris Clement, Computer Services Technician, full time evening shift in this position since 2007, supporting computers, network and telecommunication services in the following facilities: BE third floor computer labs, APL computer labs in rooms 204a & 204b, SSV computer labs in rooms 202, 204 & 236, LH, SC1, SC2, SC3, IMC, ME, plus campus-wide evening support.

Burton Arceneaux: Computer Services Technician, full-time in this position since 2010, supporting computers, network and telecommunications services in the following facilities: Palmdale Center.

Computer Services Technician, vacant⁷ 50% position, supporting computers, network and telecommunications services in the following facilities: [T500s, OF1, OF2, OF3, [LS1, LS2], [T300s]]. The areas previously assigned to this position have been absorbed temporarily by the above named Computer Services Technicians.

⁵ The Systems Administrator position was originally crafted to implement and support web services and was originally called Web Administrator. The position was never intended to develop or manage web content, so the title was changed to clarify this. Since August 2011, the position has been under re-evaluation by the current ITS Director to change the content to match the evolution of the position to its rightfully deemed description and duties.

⁶ The new position (Systems Administrator) was first proposed during the "Dialogue with the President" ITS Current-State-Assessment on October 18, 2011, along with other senior administrators, faculty, ASO representatives, and college staff. The position is necessary to support the upcoming wireless connectivity infrastructure with the Health & Science Building, as well as the expansion of the Palmdale Center.

⁷ This vacant position is earmarked to be filled in November 2011 and will be utilized to help with constant demand of telecommunication needs supporting Palmdale, Lancaster and Foxfield campuses.

Comment [JC1]: Who is currently assigned these areas?

Comment [JC2]: Who is currently assigned these areas?

Comment [JC3]: Who is assigned this area?

Computer Systems Management/Software Management

Computer Systems Management/Software Management provides the student information system that serves as the foundation for all aspects of enrollment services, institutional communication with students, and student access to the educational programs offered at AVC, as well as the integration of student and employee information with other institutional services and support resources. Computer Systems Management services include administration and maintenance of the Banner student information system database, analysis and programming to support augmentations to and integration with the student and employee data housed within the Banner database, mandated report generation (State MIS, Student Aid Commission, National Student Loan Clearinghouse, and many more required reports), and development of utilities to meet district data analysis, enrollment management initiatives, and reporting requirements.

The inception of ITS was in 1997. At that time, the Computer Systems Management/Software Management consisted primarily of contract consultants working with the legacy student information system, POISE, along with a Computer Systems Technician. A Database Administrator was added shortly after forming the ITS Area. To meet the challenge of year 2000 compliance in information systems, a new student information system, Banner, was acquired and the first phase of deployment was in 1999. Successful implementation of this system required extensive contract consulting hours over several years.

Since this time, Banner has emerged into two functionality areas of access points: Banner-Web and Banner-Interactive Native Banner (INB), which is displayed in Chart 2: Banner System Diagram below. Banner-Web allows students to register online for classes, access student schedules, obtain student's grades, student files, etc. Banner – INB, on the other hand, is utilized by administration (A&R, Counseling, EOPS, Financial Aid, DSPPS, etc.) in supporting these same student services.

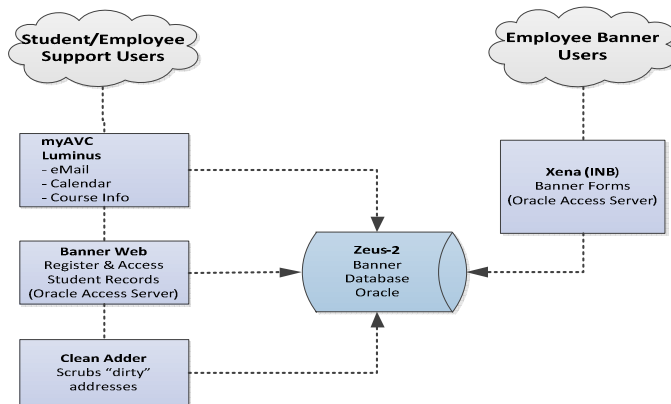


Chart 2: Banner System Diagram

Gradually, contract consultants were replaced by permanent full-time positions as the Banner support requirements solidified.

Current Computer Systems Management/Software Management employees include:

Katherine Mergliano, Computer Systems Manager, full-time in this position since 2001.

Micheline How Sou Chong, Database Administrator, full-time in this position since 2001.

Scott Tuss, Programmer Analyst, full-time in this position since 2002.

Programmer Analyst, full time position vacant since August 2011.

Senior Programmer Analyst, full time position vacant (not approved/funded) since October 2011⁸.

Richard Reffner, Programmer Analyst - full-time in this position since 2010.

Technical Training

Although the Board of Trustees approved the Technical Trainer position in 1999, funding was not made available to fill this position until fall 2006. Technical Training offers extensive formal and informal training opportunities for employees to orient them to information technology services and campus-wide technologies to increase their effectiveness in using campus resources. Individual appointments and department trainings have become commonplace. Technical Training has added dozens of Faculty Professional Development presentations including topics such as Learning Management Systems (LMS), MyAVC, and Content Management Systems. The Technical Training area was essential to the successful rollout of the new VOIP phone system and developed and implemented training throughout the campus to familiarize employees with the new telephone system features and functions.

In addition to training opportunities, the Technical Training area provides many types of learning resources including online tutorials, reference guides and self-paced materials to enhance employee understanding of the IT and telecommunications resources available at AVC. Technical Training has updated the employee technology orientation program and is currently developing a resource manual for employees. This will particularly assist new employees with orienting themselves to the available technical resources and provide them with baseline skills required to use campus technologies productively.

Technical Training has become an important function of ITS, filling in the gap between providing technology resources and enhancing employee productivity. Future technology rollouts, such as the migration to Windows 7 and Microsoft Office 2010, are greatly supported by Technical Training. Technical training is continuously being developed to assist employees with new issues and concerns. Current Technical Training employees

⁸ The new position (Senior Programmer Analyst) was first proposed during the “Dialogue with the President” ITS Current-State-Assessment on October 18, 2011, along with other senior administrators, faculty, ASO representatives, and college staff. Note: The position is needed for staff development and to offload programmer duties from the programming Manager.

Formatted: Font: (Default) Times

Formatted: Default, Space After: 0 pt, Line spacing: single

include:

Greg Krynen, Technical Trainer, full-time in this position since 2008.⁹

System Security Administration

System Security Administration coordinates IT application, systems, network, internet, and intranet security activities that span all other IT services. The System Security area is responsible for the development and maintenance of AVC IT security standards and implementation, wireless infrastructure positioning, security policies, network access control, security education for employees and students, role based security and routing IP traffic, along with the development of security awareness initiatives. In addition, the System Security Administration coordinates with AVC's Risk Management department on the district's IT-based business continuity and disaster recovery planning. Current System Security employees include:

Javier Carcano, System Security Administrator, full-time in this position since 2009.

Technology Support Management

Formally called Academic and Services Support in the last program review, this is the area of ITS that provides direct technical assistance to all AVC IT and telecommunications users, and includes assistance with alternative media and assistive technology, computer lab and classroom support, and operation of the Technical Assistance Center (Help Desk). The Technology Support Management area provides technical assistance to both students and employees. This area serves as the communications and support interface with campus users of IT and telecommunications services at AVC.

Specifically in the area of alternative media and assistive technology, ITS provides specialized support to students with disabilities and ensures that classrooms and computer laboratories are equipped appropriately with resources such as specialized assistive technology software, Kurzweil 3000 (for learning disabled students), Kurzweil 1000 (for blind students), Zoom Text (screen magnification software for low vision students), JAWS for Windows (screen reading software), Braille books, large print books and electronic books, class handouts in non-traditional media, closed captioned video tapes and DVDs.

Despite the key role of communications and support, Academic and Services Support remains a critical shortcoming of the ITS Area. The role of Academic and Services Support Manager/Technology Support Manager is currently filled by the ITS area Director on a somewhat limited basis. Current Academic and Services Support employees include:

Ken Sawicki, Alternative Media Specialist, full-time in this position since 2001.

Barbara Barker, Lab Technician Computers, full-time in this position since 1989,¹⁰ supporting faculty and

⁹ The Technical Trainer position was reduced to at 12 month position in 2010, due to state budget cuts. The new ITS Director is currently re-evaluating this position regarding a justification for the reduction and reconsideration of moving this position back to a 12 month FTE.

¹⁰ The Lab Technician - Computer full-time position was reduced to at 12 month position in 2010, due to state budget cuts. The new ITS Director is currently re-evaluating this position regarding a justification for the reduction and reconsideration of moving this

students using information technology in computer graphics laboratories and classrooms in the APL building. As of July 2011 this position was modified to a 10 month position due to State Budget issues.

Katia Martinez, Lab Technician Computers, full-time in this position since October 2011, supporting faculty and students using information technology in Business and Computer Studies and laboratories and classrooms in the BE building, including the IMC computer Lab.

Vacant as of March 2011, Lab Technician – Computers, part-time (50%) position, supporting faculty and students using information technology in the district’s open computer laboratories in SSV, BE and Palmdale. This position was funded through the Title V grant, funding ceased as of June 2011.

The Technical Assistance Center (Help Desk) is currently staffed by one full time Clerical Assistant II employee. The Helpdesk hours of service is now consistent throughout the Academic year; available Monday-Friday. Current Technical Assistance Center employees include:

Patricia Fuller, Clerical Assistant II (Help Desk Technician), full-time in this position since October 2010.¹¹

Changes in Staffing Over the Past Three Years:

Due to AVC’s rapid growth in terms of students served, employees supported, and technology related resources required by the institution since 2008, ITS area staffing should have increased substantially. However, in 2008 ITS had 23 staff personnel to support the college technology needs. Currently there are only 19 staff personnel in ITS. The ITS department is currently down 4 staff personnel, as of October 2011 in terms of breaking even with 2008 staffing numbers. This subtle reduction in staff has caused an adverse effect in the way technology services are designed, delivered, offered, and implemented thought-out the entire college, making it very difficult to adequately support the increasing technology demands over the last three years.

To complicate matters, the ITS Director (since 1999) resigned in November 2010 causing a broad knowledge gap in supporting the needs of instructional and administration computing. The past ITS Director held the position for over ten years and was only the 2nd ITS Director in the history of AVC. It took four months to replace this position with an interim Director; however the opposing impact would prove to be shattering. The interim ITS Director did not have the luxury to participate in a formal transition plan from the past ITS Director; therefore causing a huge learning curve to overcome. During the interim Director’s short (5 months) tenure ITS lost its long term Technical Analyst/Clerical III staff personnel who resigned in June 2011. This person previously held the position since 1999 and served as a Technical Analyst/Clerical III for the department. This loss caused ITS to lose almost all of its knowledge base -- supporting software maintenance licensing agreements, purchase requisitions, administrative support, and user technical support. The interim Director had a great challenge of balancing clerical, technical and administrative workloads between existing (help desk) staff and other staff personnel. This disparity almost caused Bargaining Unit “working out of class” situations with current staff personnel. These issues were temporarily resolved when a substitute Administrator Assistant was provided for

position back to a 12 month FTE. This reduction will impact the current Lab Technician (Barbara Barker) who originally reported to an academic division (Fine Arts). This position was transferred to ITS in 2003.

¹¹ The Clerical Assistant II (Help Desk Technician), full-time position was earmarked to be reduced to a 50% position effective September 2011, due to state budget cuts. The new ITS Director re-evaluated this position and lobbied to get the position approved/funded for a 100% position effective October 2010.

ITS for the month of July 2011. Finally, the interim ITS Director was replaced with the current ITS director in August 1, 2011, giving the new ITS Director only one week to complete a knowledge transfer.

ITS continued on a downward spiral as the new ITS Director was challenged to immediately assess ITS holistically and deal with the Technical Analyst forfeiture. The issue of Technical Analyst became the biggest challenge for the new ITS Director, which required and immediate and/or appropriate resolution. After an extensive assessment in collaboration with Human Resources the new ITS Director determined that the ITS department is in dire need of an Administrative Assistant. In order to run an effective and efficient ITS operation, balancing support between administrative and instructional computing, an Administrative Assistant was needed immediately to support ITS Operational Outcomes and Guiding Principles. The value and effectiveness of an Administrative Assistant cannot be understated. The Administrative Assistant serves as the backbone that organizes and manages the department day-to-day operations. This person will serve many times as a temporary mirror image of the ITS director. If the ITS director is not available the Administrative Assistant should be able to temporarily coordinate the ITS director's activities. This fact has become increasingly true after reviewing and evaluating the proficiency of other Administrator Assistants throughout AVC.

In the past, the Information Technology Services (ITS) department has not used college funds wisely by attempting to use a Technical Analyst to circumvent administrative/secretarial functions of an Administrative Assistance. Although a very limited amount of clerical duties overlap between these two positions, they are distinct by role and duties; however both are vital to the mission of ITS as a whole. Using a Technical Analyst to perform administrative duties has weakened the Information Technology (IT) infrastructure support -- causing a risk to the accessibility, integrity and availability of district's resources for administration (staff), and instructional computing (faculty & students). For example: The Technical Analyst does all of the research and preparation for a Purchase Requisition (PR); such as quotes and negotiations with the software vendor. The Administrative Assistant will complete the PR process, which includes the processing of the Purchase Order (PO) and the filing of the paperwork. The deficiency in technical assistance is reflected in the Fall/Spring 07/08 ITS surveys, along with the most recent Fall 2011 surveys.

In addition, the Administrative Assistance is not a Help Desk Technician. The Help Desk Technician's job is a vital position, which their primarily responsibility is answering ITS help desk calls -- consuming approximately 75 to 80 % of their time. The remaining time is spent performing general clerical duties and a triage scheme where the Help Desk Technician acts as Tier-0 support, applying general computer fixes; such as resetting passwords, solving general computer issues, etc. The remaining calls are triaged or routed as follows:

- 1) Tier-1 calls routed/assigned to Lab Technicians, Computers,
- 2) Tier-2 calls routed/assigned to Computer Services Technicians, and
- 3) Tier-3 calls routed/assigned to Systems Administrators, Programmer Analysts, Vendors, etc.

The ITS director cannot effectively perform its job function by juggling between Help Desk Technician and Technical Analyst to perform administrative duties, while avoiding Bargaining Unit violations and the basics rights of the employee. In addition, an Administrative Assistant will be increasingly important when bringing up

the new Health Science Building with a wireless infrastructure and the expansion of the Palmdale Center, which was mentioned briefly on page seven of this document.

The Technical Analyst's primary focus is to provide technical user assistance to ITS, faculty, and staff in achieving departmental project and service goals in the configuration, creation, and maintenance of databases and software. In addition, this position must research, prepare, implement and document the purchase requisition process. Also, they must establish and maintain software maintenance replacement schedules, hardware assets replacement schedules, and act as liaison person between ITS and other software application/vendors that have been recently added to the AVC infrastructure; such as SARS, Hershey Singularity (imaging solution), Xtender (imaging solution), myAVC, CCCApply, DegreeWorks, Ad Astra, Blackboard, Pay-For-Print Project, Cloud Email Project, Wireless Infrastructure Project, Palmdale Center Expansion, etc.

The Network Management department currently has a 50% Computer Services technician position vacant since 2009; however this position has been posted to be filled. An additional Computer Services Technician was added to provide support for the Palmdale Center in May 2011, which is currently funded through Title V solo grant. In the Computer Systems Management/Software Management department, one of the three Programmer Analysts employed left the institution and the position is currently vacant. In Addition, a Senior Programmer should be added to relieve the programming manager of routine programming and reporting duties.

The Academic and Services Support/Technology Support area originated with the development of an ITS Staffing Plan in 2006. This department includes two Computer Lab Technician positions that were reassigned to ITS from academic divisions, along with a categorically funded part-time Computer Lab Technician. One of the original two Computer Lab Technicians left AVC and the position remained vacant for more than a year. In addition to these positions, the Alternative Media Specialist position as well as the one Full time Help Desk Technician position currently completes this department. There is no manager position funded for this department, so the ITS Director is filling that role at present.

Comment [PF4]: Update: Content information

C. Productivity – Past 3 Year Program Review

Productivity toward ITS Area Operational Outcomes can be measured quantitatively and qualitatively. In this section, productivity measures are reported or described as they relate to each Operational Outcome.

1. Ensure transparent reliability of IT infrastructure, district IT equipment, information systems and telecommunications resources.

The ITS Area provides network infrastructure services including internet and intranet access, employee and student e-mail services, file sharing and print services for approximately 2,500 computers and 1, 282 telephones. In addition, 44 computer classrooms/labs are supported by ITS, three of which are open to any enrolled student (including one classroom/lab at Fox Air Field and an open computer lab and one classroom/lab at the Palmdale site).

These ITS services are available for use by all district employees and many students. The ITS area continues to monitor all servers for security breaches and attempts to reduce or eliminate the number of breaches that are directly impacting computing uptimes. For the periods indicated in Table 1: ITS Services Uptime below, the district has experienced the following percentage “up time” for the most critical systems:

Services	Up Time	Period of Time Analyzed
Network infrastructure:	>99.5%	060108 -063011
E-mail:	>97.5%	060108 -063011
Student Information System (Banner):	>99.54%	060108 -063011
Portal services (myAVC):	>99.4%	060108 -063011
Telephone services:	>99.4%	060108 -063011
Public web site (www.avc.edu):	100%	060108 -063011
Distance Education server (AVC online.avc.edu):	100%	060108 -063011
Network access to file and print services:	>96.0%	060108 -063011

Comment [MJD5]: Over 100% uptime not necessary

Table 1: ITS Services Uptime

Note: Excludes scheduled outages

2. Facilitate secure access to district computers, information systems, telecommunications and other information technology resources.

The ITS Area serviced 12,547 individual students who visited and used the computers provided in the open computer labs 169,515 times for a total of 196, 707 hours since June 2008. This represents ITS service to 21% of the 60,000 unique students enrolled during this same time period annually. Below, Chart 2: Enrollments Statistics (Raw Data) shows the number of students registering at the A&R window has decreased substantially and now the majority of these students are now registering online instead. This decline in coming to the A&R window is accredited to the increase in self service options offered by ITS including the advancement in technological resources.

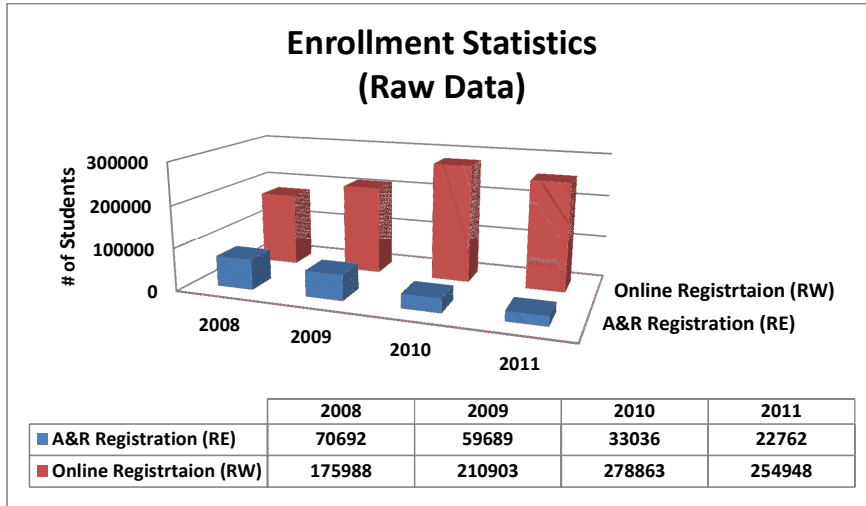


Chart 2: Enrollment Statistics (Raw Data)

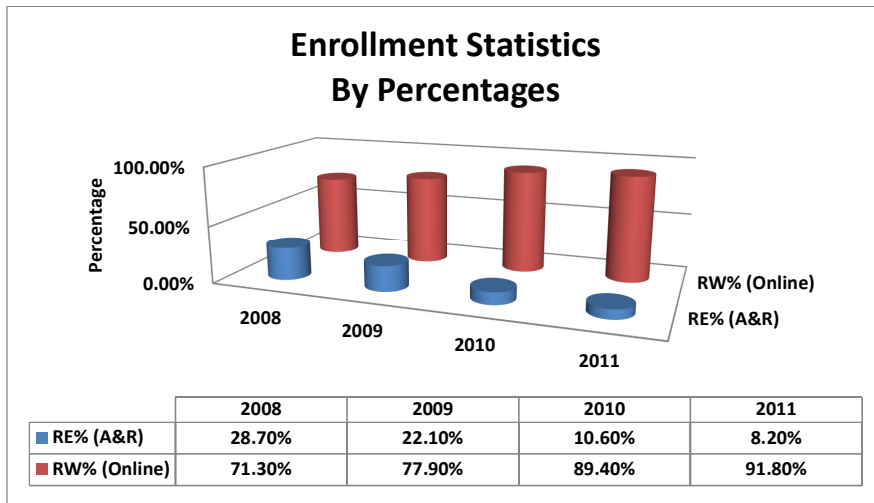


Chart 3: Enrollment Statistics (by percentages)

In addition, of the 60,000 unique students who enrolled since July 2008, currently there are 91.80% of all of these

students using web-based computer systems and services implemented and supported by ITS. As you see above in Chart 3: Enrollment Statistics (by percentages) denotes various online web activities including course registration, online fee payment, and access to student records, course materials for both traditional and online courses, institutional organization pages and information and academic resources such as library and learning center services. AVC has also collected \$6,302,608.73 via online fee payment procedures implemented and supported by ITS from fall 2009 through fall 2011. This shows a \$1,029,000.00 increase in the ITS processing of online student fees compared to the \$5,273,608.73 from fall 2009.

Since 2008, AVC has identified a number of security breaches, primarily involving shared passwords to individual user accounts and illegal use of wireless access point (AP) routers. Within the last two months, ITS has addressed two known security breaches where two of our own employees from separate departments were utilizing someone else's password to access and obtain computer resources. In addition, ITS has confiscated one illegal AP device, which was clearly in violation of the AP3722 Acceptable Use Agreement - Administrative Policy (AP). ITS have not identified any other known breaches involving access to web servers at this time. There were no known students or employees' data compromised by either of the breaches.

No known new breaches have been found in the BannerWeb server at this point since 2008. Remember in 2008, the BannerWeb server was found to have been used as a video repository by an external hacker. The Pathways server administrative password was extracted by an automated process applied over a 2 year period by an external hacker. ITS addressed both of these issues and has protected all servers against such attacks in the future. No student data was compromised by either of these attacks.

Using our new SPAM Appliance server, ITS filtered out an average of 52,760 daily SPAM and unwanted bulk e-mail messages over the past three years. Since implementing the new SPAM Appliance server in 2008, the average number of SPAM and unwanted bulk e-mail messages blocked daily has decreased to 132,275, down 37,725 from 2008. From August 2011 through October 2011, ITS processed 12,306,390 e-mail messages. During this same period, ITS were able to identify the top 4 employee SPAM recipients; (16,929), (15,532), (14,567), (10,736), respectively. Measures have been taken to not only notify these employees but to adjust our SPAM Appliance server settings to avoid excessive downtime, due to the over quotas of space granted for email usage.

ITS supports 86 computers in the Learning Center that provide students with various assistive technologies. In addition, each computer lab supported by ITS includes at least one station with assistive technology installed.

3. Provide quality technical training and assistance to students, employees, alumni, and community members.

Since e-mail and portal services (myAVC) were made available to students in November 2005, ITS has provided documented technical assistance to 25,260 users of these services. Many more undocumented hours of technical assistance have been provided to students who visit the campus and request myAVC password reset services, which we address immediately upon confirming the requestor's identification. 463 hours of myAVC group training were attended by a total of 302 employees within 5 months of the initial myAVC implementation.

Overall, ITS Technical Training has offered 74 formal workshops over the past 2 years. Although on average 24 seats were available in each of these training sessions, only 119 employees participated overall, with at least 16 workshops cancelled due to lack of attendance. Of all of the training 15 were Banner 8 training during the

March/April 2011 timeframe.

Since 2008, ITS has provided technical assistance to students by training in Braille, using and deploying Assistive Technology Software, (JAWS which is screen reading software used by the Visually Impaired), Kurzweil 1000 Optical Character Recognition software used by Visually Impaired students and staff, Kurzweil 3000, O.C.R. software used by dyslexic, and Learning Disabled students, (we have licensing so they may use this software on their home computers), and since we have begun deploying that software, we have issued over 2000 licenses. We also convert college required text books into alternative formats, (Braille, large print, and KESI which is a useable file format for the Kurzweil 1000, and 3000 software), Duxbury, (Braille Translating software), Zoomtext (screen magnification software), and Dragon Naturally speaking. In addition, ITS maintains a database of over 500 books that are shared with the other 109 California Community Colleges, and colleges and universities throughout the United States that are participants and contributors to the shared book database.

ITS Technical Assistance documented responses shows 5,381 employee requests for assistance since June 2008. Employee requests for existing services are down substantially by 3,132 from 8,413 requests reported last program review. The three year comparisons are represented in Table 2: Employee Request Journal below according to type of request logged. In addition, ITS logged 18,578 calls for myAVC assistance, primarily from students, since January 2010.

Item Number	Request Type	Total 2005 - 2008	Total 2008 - 2011
1	AVC Password Change	34	5
2	Blackboard	1	28
3	Fault Email	949	249
4	Fault Network	1660	620
5	Fault PC Hardware	1236	989
6	Fault Printer / Network Printing	1039	519
7	Fault Software / OS	527	797
8	Ghost Lab	27	3
9	Hardware Installation	381	267
10	Hardware Relocate / Assess	315	157
11	Intranet / Network Share Change	18	12
12	Labs Assessment Center	0	0
13	Labs BE	5	14
14	Labs Corp. Comm. Ed.	1	0
15	Labs Learning Center	2	2
16	Labs Library	6	2
17	Labs MAC	1	0
18	Labs Math Science	10	4
19	Labs Tech Ed	4	2
20	Macintosh Miscellaneous	15	7
21	MY AVC	267	82
22	Phones	943	621
23	Setup Computer	208	63
24	Software Install	645	564
25	Training	57	122
26	User Settings	15	102
27	Virus Related	11	37
28	Web Assistance	36	13
29	Total	8413	5281

Table 2: Employee Request Journal

It should be noted that user training has more than doubled over the last 3 years as indicated on item 25 in Table 2: Employee Request Journal. Changes related to User Settings has increased 6 times in the last three years and Virus Related incidents have increased over 3 times in the last 3 years as indicated in items #26 and #27, respectively. In the past year, in addition to assistance provided to individual computer users, ITS provided direct computer lab technician support to 77 faculty members using 430 computers in 20 instructional computer labs, including Windows and Macintosh computers. Direct support of instructional computer labs occurs when a designated computer lab technician is specifically assigned to assist faculty with lab hardware and software

configurations and technical problem solving. Indirect computer lab support is also provided by ITS for all computer labs used by faculty and students, even though designated ITS computer lab technicians are not available to support all labs. There are currently 24 additional computer labs containing 581¹² computers provided by the district without direct ITS computer lab technician support.

4. Proactively collaborate with others to implement emerging IT solutions to meet the district's instructional and operational needs.

Formatted: Indent: Left: 0.5", Hanging: 0.19"

Over the past 3 years, ITS has worked with individual instructors, divisions, departments and student service areas to continue delivering and implementing a number of technology projects and services, including the following:

- Maintenance of the Banner integration with CCCApply, a state initiative to facilitate the community college application process for students, particularly those who may attend more than one community college. The integration between CCCApply and Banner ensures students applying to AVC through CCCApply are automatically loaded into the Banner student information system, providing they have met the necessary admissions requirements. Additionally, error handling provides a means for capturing admissions applications that have errors. Those applications are recorded in a separate table with an error indication whereby Admissions & Records can perform manual assessment of those applications. Additionally, myAVC accounts are automatically created for applicants and information regarding their myAVC account is then emailed to the student.
 - Completed migration and installation of District's administrative and records database, Banner, to new blade server Feb 2011.
 - Implemented SmarThinking, and online tutoring tool assisting students in the development and successful completion of writing assignments.
 - Implemented new processing procedures for credit card payment made via myAVC. This endures the District remains compliant with industry standard requirements for credit card transactions.
 - Upgraded Banner to the California Baseline version 7.8 then to 8.3.1 in Spring 2010.
 - Continual application of patches and upgrades to remain compliant with Financial Aid requirements
 - Processed a total Financial Aid amount \$52,992,167 as of October 06, 2011
 - Upgraded ID Card system, e.g., computer, camera, and software. Re-deployed old ID Card system to Palmdale location.
 - Developed and implemented COTOPS, a Chancellor's Office partnership whereby fees owed to the District can be recovered from State Tax Refunds or Lottery winnings.
 - Implemented HEOA, Higher Education Opportunity and Affordability Act, as required by Federal Law. HEOA, requires instructions of higher education to provide accurate course material information including ISBN and retail price when available.
- Continued to maintain and implement a production instance of DegreeWorks for students.
- Evaluation of content management system evaluation and awaiting funds to purchase
- Upgraded Xtender, District's document imaging product, to version 6.5. Version 6.5 includes a new security feature, Secured Path, thus eliminating the need for DiskXtender.
- Implemented June Nelnet 20, 2011. Used by students who wish to set up a payment plan for tuition

¹² Includes 80 blade PCs.

fees. This process allows the students who are not able to pay in full, to set up an installment plan. This payment plan can prevent students from being dropped for non-payment.

- Implemented Clean Address December 2008. Software tool that scrubs and formats addresses to ensure the address is a valid deliverable address.
- Implemented BOGW in July 2008. On line application for BOG Waiver facilitated through XAP.
 - Implemented required XAP product upgrades/enhancements.
- Implemented HigherOne in February 2009. Tool to disperse students Financial AID refunds. The first refund file was sent on 11-FEB-2009 for \$4,990,570.54. Using data from the disbursement emails, ITS have sent \$114,469,606.69 to HigherOne for disbursing to students.
- Maintenance of the network upgrade (\$1.3 million bond project) to provide increased reliability of network switches, better security, switch and server management.
- Maintenance of computer upgrades using one-time funds (\$137,000), primarily in instructor offices.
- Continued expansion and maintenance of the Palmdale telecommunications infrastructure, including IP telephone, wide-area network and open computer lab for students.
 - Implemented wide-area-network communication with both Palmdale Center and Fox Field instructional sites, providing integration with Lancaster campus telecommunications and network systems and services in 2009/2010.
 - Added 2 computer labs and advanced technologies to Palmdale Center.
 - Reconfigured existing computer lab in Palmdale to new location.
- Maintenance of Fox Field technology, including IP telephone, wide-area network capabilities and condensed and versatile student computer lab.
- Maintenance of computer equipment in Commercial Music lab, Computer Graphics lab, Library Information Competency lab, Math labs and Student Services.
- Maintenance of classroom technology by completing installation of internet connections and computer configurations to support media boxes that had been previously installed.
- Continued maintenance of Document Imaging system to reduce institutional paper records management. Initial usage of this system is in the Admissions and Records area.
- Continued maintenance of Room Scheduling software to maximize facility utilization for classes and events.
- Maintenance of SARS application, primarily used to facilitate Counseling appointment scheduling, but includes other features such as the ability to automatically provide AVC notifications to students via phone.
- Continued maintenance of thin client and blade technology in Counseling, Library, Math and Science, and Assessment. Implemented virtual servers to reduce the quantity of physical servers maintained by ITS staff. These two projects helped reduce the total cost of ownership of district technology through streamlining technical support and by reducing energy requirements.
- Maintenance of the AutoCAD software and assumed responsibility for managing the software licenses - ongoing.
- Maintenance of plotters used by students in the GIS program.
- Provided maintenance to support to the podcasting project coordinated by the IMC.
- Completed Perkins funded computer project from 2010 and initiated 6 new Perkins projects in 2011. These projects will support and enhance the following areas: Business & Computer Studies, Digital Media, Automotive Technology, Aeronautics, Interior Design, Clothing and Textiles. This is budgeted

over 234,000 for the entire 2010/2011 program.

- Continued monitoring and maintenance of emergency telephone system in new parking areas.
- Implemented recommendation/resolution methodology, which is required to meet quarterly with faculty. The faculty groups identified are Administrative Services, Human Resources, Student Services, Business Computer Studies & Economic Development (BCSED), Health & Sciences (HS), IRES, Language Arts (LA), Math, Science & Engineering (MSE), Physical Education (PE), Social Sciences (SS), Technical Education (TE), and Visual and Performing Arts (VAPA). Requirements collected from each group will be carried forward to the IT Committee for review, prioritization, and implementation. This was instituted in Fall 2011 specifically to address Accreditation Recommendation #2.d.¹³

5. Collaborate with others to encourage appropriate use and comprehensive standardization of IT resources.

Standardization of technology provides a strong benefit to the institution by reducing the complexity of the information technology environment for both the users and the support staff. In addition, standardization allows the institution to take advantage of significant discounts and achieve economies of scale in technology procurement, implementation and maintenance procedures. The development of standard procedures and policies for information technology use protects the institution's IT resources including student and institutional data. The following lists examples of standardization that ITS has implemented through collaboration with other AVC areas and/or with outside resources.

- Initiated PC Blade implementation; PC blade technology allows standardization and extreme flexibility for a variety of deployment scenarios. Made test blades available to some faculty and staff for their evaluation and input.
- Developed procedure to facilitate creation of multiple media formats for audio/video instructional materials; set standard configuration in the PC labs to allow access to all industry standard media formats.
- Currently working on a "Wireless Infrastructure Project" to help campus community understand the requirements, risks and necessary measures to ensure secure wireless access to AVC network resources.
- In collaboration with instructors of the Business and Computer Studies division, developed a standard virtual configuration to address the challenge of multiple system boot configurations in the instructional computer labs.
- Restructured Active Directory; Active Directory provides many new standards for resource management, standardized workstation and printer names, and standardized Active Directory organizational structure.
- Training for faculty on the use of myAVC to properly enter grades. This training has several steps the first of which is to familiarize faculty with the myAVC environment. Lack of network security awareness and practices became very evident during these training sessions, which provided an opportunity to inform and educate faculty regarding their obligation to protect student data through appropriate use of the IT resources to which they have access.
- Developed the automated system to deliver the CCCApply information into the Banner database.
- Developed processes to utilize myAVC to deliver information to AVC constituents and as a means of communication (e.g., campus announcements, e-mail instead of paper mail and group collaboration).

¹³ Recommendation #2.d. To meet the standards and to enhance the effectiveness of its technology, it is recommended that the college adjust its technology advisory committee structure to ensure that the needs of administrative and instructional computing are equally well addressed, and that this dialogue then results in equitable priorities, implementation and budget allocations of all technology needs (III.C.1, III.C.1.d.).

- Implemented procedure to ensure appropriate IT training has been received prior to providing access to the production database environment.
 - Continue to collaborate with stakeholders to ensure appropriate access and security are available and maintained for all IT resources.
 - Continue to collaborate with IT users to identify appropriate software and system applications to meet institutional requirements, serving students, faculty, staff and other community constituents.
 - Continue educating users on the proper use of targeted messages via myAVC versus the use of e-mail messages for notifications to large populations or groups of AVC IT users.
 - Identified a need to consolidate two existing document imaging systems to one. The systems being evaluated are Xtender, and Hersey/Singularity. The consolidation of the two will save the district over \$10,000 per year in maintenance cost alone.
 - Pilot project underway to replace the existing aging email system to a hosted cloud base solution. Such as; Google Docs, and/or Microsoft Live.
 - Feasibility study conducted and completed by ITS in 2009 demonstrating a plan to consolidate all printing activities campus wide, which could save the district thousands or maybe tens of thousands of dollars over a period of time.
 - Collaboration with Facilities to consider utilizing the newly maintenance system (Archibus), instead of re-deploying older maintenance intensive system (AAMS), which will cause us to have multiple systems to manage at the same time with limited resources and not putting good use to district funds.
6. Respond to district needs by continuously improving the processes and procedures that facilitate effectiveness in all IT services.

A survey of ITS effectiveness was conducted in Spring 2008, Spring 2009, Spring 2010, and Fall 2011. In summary the Fall 2011 survey results imply that full-time faculty have a higher expectation level for ITS than other groups, which showed more evenly distributed satisfaction ratings. In response to the survey results, ITS worked to continue concentrating more effort on serving faculty in order to improve their satisfaction levels with the services. Some of the changes included redistributing Help Desk coverage for employees so that skilled Computer Services Technicians are available to provide immediate assistance to faculty between the hours of 7:30am and 10:00pm Monday through Thursday, and from 7:30am to 4:00pm on Friday. Also, significant effort has been made to meet and collaborate with faculty assigned to teach in the computer labs supported directly by ITS Computer Lab Technicians, ITS failed shore with a reduction in staff, primarily Computer Labe Technicians, due to budgets cuts. ITS responded by realigning Computers Services Technicians to provide more first level support to instructors in order to coordinate regarding specific requirements in the labs. First level support for instructors is the primarily role of the Computer Lab Technician.

To see the trend analysis and overall summary of the Spring 2008, Spring 2009, Spring 2010, and Fall 2011 surveys, you may refer to Section II. B. 4. in this document. You will be able to see the year by year satisfaction levels among participants. The survey is one tool that provides information regarding district needs and how the ITS Area can improve the processes and procedures that facilitate effectiveness in all IT services

D. Revenue – Past 3 Year Program Review

Formatted: Font color: Auto

Aside from institutional general funds, the ITS Area’s only revenue source over the past five years has been a state categorical program known as the Telecommunications and Technology Infrastructure Program (TTIP). Funds allocated to AVC from this source are shown in the table below:

TTIP Allocations	
Year	Revenue
FY 2007-2008	\$ 45,183.00
FY 2008-2009	\$ 36,036.00
FY 2009-2010	0
FY 2010-2011	0
FY 2011-2012	0

Table 3: TTIP Allocations

TTIP fund allocations have been very limited for the past three years, provided by the state to primarily sustain library electronic database/systems such as EbscoHost, Horizon, etc. The majority of the annual allocations have been used for this purpose each year as directed by the state. The remaining funds have been used to provide technical training to ITS Area employees to maintain their skills in the specific areas they are required to support such as Banner training, network utilities

and firewall software training. In addition the balance of these funds has been used to supplement the general funds allocated to the ITS Area to replace servers, equipment parts or network components.

	FY0708	FY0809	FY0910	FY1011	FY1112
ITS operating budget (excludes personnel)	\$385,995.00	\$456,695.00	\$455,482.00	\$518,585.00	\$518,585.00
District ¹⁴	\$143,080,565	\$143,134,339	\$142,069,622	\$143,058,053	\$140,554,247
% District funds allocated to ITS	0.3%	0.3%	0.3%	0.4%	0.4%

Table 4: District Fund Allocations

¹⁴ Include categorical expenditures and bond fund allocations divided evenly over a 5 year period

While AVC demand for information technology based systems and services have continued to increase, available budget to meet these increasing demands has trended downward. Revenue from TTIP have depleted from \$36,036 in FY0809 to \$0 in FY1112 as indicated in Table 3: TTIP Allocations on page 21. While district allocations to ITS projects increased slightly by 0.1 %, in relationship to the overall budget, it does not make a significant impact to the bottom line and/or industry standards, which is reflected in Table 4: District Fund Allocations. Actually, this slight increase is due primary to an increase in overall software services, licenses fees, and maintenance. The overall software maintenance license expenditures were \$515,365¹⁵, which was less than the projected budget allocation provided as reflected in Table 5: Project Budget Trend (Licenses and Fees) below. Furthermore, there has been no allocation of funds to replace end-of-life equipment as of FY1112.

¹⁵ Excerpts derived from 2011 Working Budget Document, 5310 Maintenance Estimates

E. Revenue – Past 3 Year Program Review

Formatted: Font color: Auto

Budget Account	Item	Projected ¹⁶ FY 11-12 Budget	Expenditures At End of FY 10-11	Expenditures At End of FY 09-10	Expenditures At End of FY08-09	Expenditures At End of FY 07-08
11150 4400 6780000	Software	\$2,613.75	\$2,613.75	\$0.00	\$7,531.00	\$4,124.77
11150 4500 6780000	Non Instructional Supplies	\$9,412.46	\$9,412.46	\$15,862.00	\$14,119.00	\$22,855.74
11150 4530 6780000	Warehouse -office supplies	\$564.81	\$564.81	\$4,500.00	\$4,831.00	\$3,831.54
11150 4561 6780000	Non-Cap Equip, <\$5000, Computer	\$1,204.22	\$1,204.22	\$0.00	\$0.00	\$0.00
11150 4562 6780000	Non-Cap Equip, <\$500, Computer	\$994.45	\$994.45	\$15,000.00	\$18,564.00	\$17,719.88
11150 4592 6780000	Non-Cap Equip, <\$5K, Computer	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11150 5100 6780000	Contract Services	\$9,552.50	\$9,552.50	\$12,000.00	\$1,260.00	\$18,375.00
11150 5110 6780000	Consultants	\$2,015.00	\$2,015.00	\$0.00	\$0.00	\$0.00
11150 5200 6780000	Travel and Conference	\$2,456.36	\$2,456.36	\$3,200.00	\$3,195.00	\$582.57
11150 5300 6780000	Dues and Memberships	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11150 5310 6780000	Licenses and Fees	\$453,339.57	\$453,339.57	\$382,699.90	\$381,275.00	\$265,778.74
11150 5525 6780000	Utilities, Telephone	\$0.00	\$0.00	\$0.00	\$390.81	\$390.81
11150 5640 6780000	Computer Repairs	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11150 5650 6780000	Equipment Repair & Maintenance	\$36,051.07	\$36,051.07	\$13,340.00	\$4,966.00	\$30,741.39
11150 5655 6780000	Equipment Repair Contract	\$0.00	\$0.00	\$8,700.00	\$5,203.00	\$21,397.39
11150 5802 6780000	Freight Expense	\$147.27	\$147.27	\$0.00	\$193.00	\$196.88
11150 5700 6780000	Other Outside Services	\$0.00	\$0.00	\$0.00	\$390.00	\$0.00
11150 5830 6780000	Advertisement	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11150 5840 6780000	Computer/Tech Related Services	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11150 5850 6780000	Postage	\$233.27	\$233.27	\$180.00	\$0.00	\$0.00
11150 6400 6780000	Equipment	\$0.00	\$0.00	\$0.00	\$14,777.00	\$0.00
	Total	\$518,584.73	\$518,584.73	\$455,481.90	\$456,694.81	\$385,994.71

Formatted Table

¹⁶ FY 11-12 Budget was projected by taking the actual expenditures from FY 10-11 and carried forward

Table 5: Projected Budget Trend

Section II. Self-Evaluation

A. Employees

Formatted: Font color: Auto

1. ITS Area employees are actively involved in the selection of full-time and part-time employees. Student employees, primarily hired to monitor computer laboratories or serve as supplemental clerical help in the office, are selected by the respective supervisors and recommended to the Director. ITS area employees and Director participate in the hiring process by sitting on hiring committees for new employees.
2. The number of employees in the ITS Area is not adequate to meet the needs of the institution. According to the staffing ratios provided by the California Community College System Office, for an institution this size, the ITS Area should employ the following types and numbers of employees to meet the minimum support requirements of the students, faculty and staff.

Position	CCCCO TCO Ratio	AVC TCO	AVC Actual	Need to hire
Computer Technicians	1/150 PCs	16.7	4.5	12.2
Computer Lab / Classroom Technical Assistants	1/75 PCs	7.7	3 ¹⁷	3.7
Network / Systems Administration (Database and System Security Administrators)	1/300 PCs	8.3	2	6.3
Network Engineer / Technician	1/500 PCs	5	0	5
Instructional Designer / Technology Specialist	1/100 FTEF	4.3	0	4.3
Webmaster / Web Designer	1/4000 FTES	2.8	1 ¹⁸	1.8
Multimedia Production Specialist	1/200 FTEF	2.2	0	2.2
Instructional Application Developer/Administrator	1/200 FTEF	2.2	0	2.2
Helpdesk Technician	1/5000 FTES	2.3	1	1.3
Technical Management	1/10 ITS staff	2.1	2	0.1
Multimedia Technician (Alternative Media Specialist)	1/300 FTEF	1.4	1	0.4
Technical Training Specialist	1/300 FTEF	1.4	1	0.4
Web Administrator (Systems Administrator)	1/12000 FTES	1	1	0
Communications Technician	1/6000-12000 FTES	1	1	0
Application Development	2/12000 FTES	2	3	-1
IT Director	1	1	1	0
Technical Analyst	-	-	-	1
Administrative Assistant (including clerical support)	-	-	-	1

¹⁷ Includes 1 computer laboratory technician positions that do not report to the ITS Area

¹⁸ Webmaster position does not report to the ITS Area

Technical Services Manager (academic support)	-	-	-	1
Project Manager	-	-	-	1
		61.4	21.5	42.9
CCCCO = California Community College System Office				
TCO = Total Cost of Ownership				
PC = Windows and Macintosh computers, number = 2500				
Lab PCs = Windows and Macintosh computers, number = 581				
FTEF = Full-time Equivalent Faculty, number = 432 (fall 2007)				
FTES = Full-time Equivalent Students, number = 11,279 (annual 2007-08)				
Full-time Equivalent ITS Area employees = 20				

Formatted Table

Table 6: CCC ITS Employee Ratios

The most significant staffing need has been identified in the area of institutional technical support. There are several examples of this inadequacy. However, there has only been one filled position allocated to the ITS Technical Assistance “call center”, established to provide technical assistance to students. ITS Technical Assistance is advertised as available to students for assistance with the myAVC internet portal service, yet this service is staffed by only one employee at present. While ITS provides computer lab technician support to 22 computer labs, as described above, there remain 24 computer labs with no direct ITS computer lab technician support. More significantly is the need for a help desk technician to answer callers on the Computer Services Technician behalf, while they are servicing other customers. In addition, the ITS Area survey results from Fall 2011, indicated a need to improve overall performance satisfaction for ITS.

“In November 2007, a task force was requested by the College Coordinating Council to review the Information Technology Services Area and propose an organizational structure to address the issues of inadequate support to academics and student services, especially in distance education and the labs.”¹⁹ Although in FY 2007-2008, evening technical support was provided for the first time when a Computer Services Technician was hired to serve the institution in the evening hours, no service is currently available during weekend hours either on campus or via telephone.

There appear to be a growing expectation for 24x7 technical assistance, which has been strongly expressed by both faculty and students, however, the institution has made no commitment to staff the ITS Area to accommodate this support expectation. ITS has begun monitoring student system usage as indicated in Chart 4: myAVC Login Count (by date & time) on the next page. You will see that ITS only plotted one week of activity showing the variance in student count, along with trend patterns over a 24 hour period during a typical week in Fall 2011.

¹⁹ Excerpt from ITS Review Task Force -Summary Recommendations, April 30, 2008.

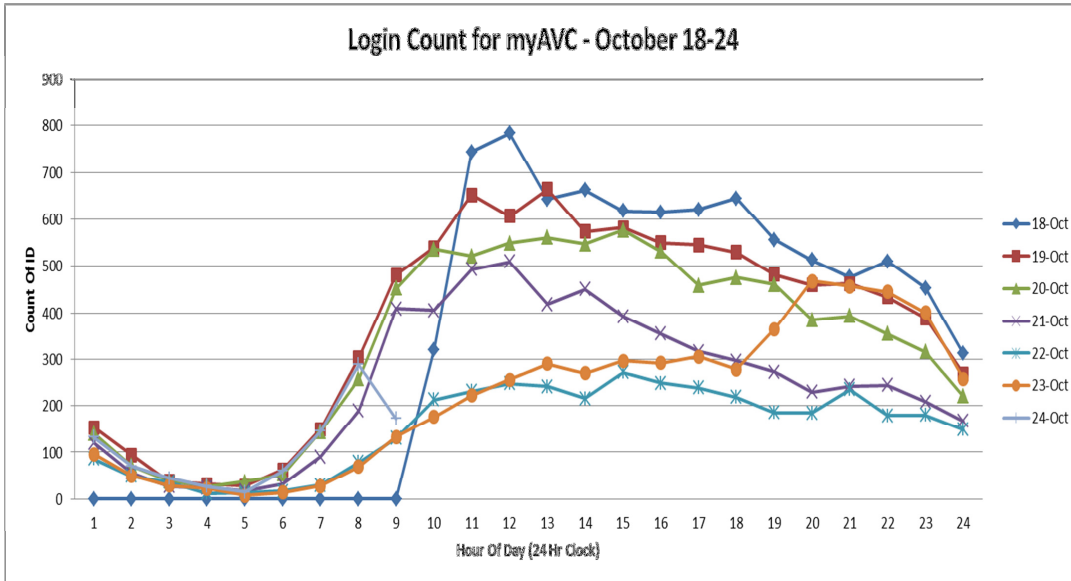


Chart 4: myAVC Login Count (by date & time)

AVC has become institutionally dependent on several major databases, including Banner (test, development, pre-production and production databases), Sun One e-mail and calendar systems, Astra room scheduling, Hershey imaging, Xtender, DegreeWorks, Horizon Library systems, ShoreTel phone system, Help Desk work order, Learning Center time clock and positive attendance, various directory databases for user authentication, and more. However, ITS employs only one database administrator. Most of the databases are minimally maintained at best, since priority is placed on the student information system, Banner, that houses student academic records and associated transactions, and requires the attention of a full-time database administrator.

In addition, a number of significant software applications have been implemented at AVC during the past few years, many of them associated with the aforementioned databases. Some of these applications include SARS, Hershey Singularity, Astra Schedule, Nelnet, HigherOne, DegreeWorks, SiteMaster, EarlyAlert, AVC ID Cards (Palmdale), Xtender, myAVC, Clean_Address, BOGW, CCCApply, Donor Perfect, Blackboard, Horizon, and numerous applications developed by the ITS Area Computer Systems Department to assist users in obtaining their goals.

Several areas of technology specialization require dedicated (or at least designated) staff to implement and maintain the equipment and systems involved. Some examples of such technology include wireless network access, mobile communications and unified messaging, PC blade technology, networked fax services, document imaging and document management, virtual services, “pay-for-print” services, access management, profile and authentication services, social networking technologies, class capture, netcasting and video streaming services, internet applications and many more. Institutional expectations for technical expertise in these areas continue to

increase, but current ITS Area staffing levels simply cannot keep pace with the expectations.

The ITS Area Staffing Plan was submitted to the President in February 2006 at his request and has been reviewed, revised and used annually as part of the budget request process. The ITS Area's personnel budget augmentation requests for FY 2008-2009 included the following positions, which have not yet been identified as approved or funded:

- Academic and Services Support Manager (requested in FY 2006-2007 and FY 2007-2008)
- Help Desk Technicians (2 positions requested – one have been filled as of October 2011)
- Online Media Specialist (requested in FY 2006-2007 and FY 2007-2008)
- Computer Services Technician for Instructional Technology Support (requested in FY 2007-2008)
- Lab Technician – Computers
- Administrative Assistant

3. Several ITS Area employees are actively involved in professional organizations and external activities to benefit AVC. Current and recent organizational affiliations of ITS Area employees included he California Community Colleges Banner Group (3CBG) where participation by AVC ITS Area employees in statewide offices (chair, vice-chair and board members), along with workshop discussion forum and state conference hosting has brought significant recognition to AVC as a state leader in CCC student information system expertise.

The ITS Area Computer Systems Manager participates as an active member of the 3CBG's Configuration Control Board to address Banner problems or add functionality of benefit to all California Community Colleges. This group, consisting of representatives from the California Community Colleges who use Banner, guides development of the California Community College baseline version of Banner by SungardHE's California Community College Solution Center.

The ITS Area Network Manager has been a featured speaker at the state CISOA (Chief Information Systems Officers Association) Conference attended by CCC Chief Information Systems Officers.

In addition, membership in several professional organizations enables ITS Area employees to maintain technical currency. These include Project Management Institute (PMI), SETA, Oracle TechNet, TechRepublic, LumDev, and the IEEE Computer Group.

4. ITS Area employees regularly participate in staff development activities and implement what they learn in the service area. The following list shows the training seminars and workshops attended by ITS Area employees since 2003. Many of these workshops are required in order for the employees to maintain the technical skills needed to support the technology applications and equipment used by the district. Technical practices learned at these seminars and workshops are consistently applied to ITS Area services and systems in response to requirements by the institution's computer, telephone and system users. In addition, many of the listed workshops, such as those addressing MIS changes, provide ITS Area employees with the necessary training to enable compliance with state or other mandated reporting or data maintenance requirements.

Conferences/Training 2003 – 2008

Accountability Reporting for Community Colleges, 2006
Acuta Conference, 2006
Administrative Assistants Conference, 2005
Banner 3CBG Users Conference, annually 2003 – 2007
Banner API Creation & Architecture, 2006
Banner Summit, annually 2003 – 2008
Blackboard Regional Workshop, 2008
BOGW Meeting, 2008 Campus Technology, 2007
CAPED Convention, annually 2006 – 2007
Configuration Control Board Meetings, annually 2003 – 2008
CCCApply Workshop, 2005
CCC Solutions Center Planning Workshop, 2005
System Office MIS Workshops, annually 2003 – 2008
CISOA Annual Meeting, 2005
Dealing with Difficult People, 2006
Enterasys Executive Briefing, 2006
Excel Basics & Advanced Training, 2005
Excel Basics & Excel Beyond the Basics, 2007, 2008
Extreme Data Summit, 2007
Hershey Singularity Training, 2004
Hershey Singularity Conference, 2005
How to Supervise People, 2007
HP Desktop Virtualization Seminar, 2006
Implementing ShoreTel IP System, 2006
International Technology and Persons with Disabilities Conference, 2007
Luminis Training, 2005
MAC Retreat, 2005
Microsoft Training, 2005
MIS Financial Aid Data Workshop, 2005
MIS Regional Training, 2007
Network Security Workshop, 2004, 2007
NMPT Network Security Training, 2007
Oracle Architect Forum, 2006

Conferences/Training 2008 – 2011

Banner Summit 2008, 2010
Luminis Administration, 2010
3CBG 2010, 2011

Training budgets were cut drastically as you can see in Table 5: Project Budget Trend on page 23. As a result, most of the ITS staff attend free online webinars during work hours utilizing their desktops. ITS will begin tracking online webinars starting Spring 2012.

B. Customer Relations

The customer base of the ITS Area includes all users of information technologies provided by Antelope Valley College. Students and employees of the district are primary customers, however, prospective students, community members, members of the Board of Trustees, alumni, vendors, donors, and colleagues from other educational entities are also customers who require services from the ITS Area.

1. The ITS Area facilitates training and presents workshops for district employees on a variety of information technology software applications and utilities. These are scheduled on various days and times, including evening and weekend hours in order to accommodate attendee schedules.

When major information technology services are upgraded or require maintenance, the ITS Area endeavors to schedule outages to accommodate the district's instructional and operational activities. In addition, ITS notifies district information technology users in advance when outages are planned.

ITS Technical Assistance (Help Desk) service is provided 70 hours/week to district employees and more sporadically (based on limited hourly employee funds and schedules) to student users of myAVC and its associated services. Since many AVC services are available online via the internet, students and employees have an expectation of 24/7/365 availability of technical support that current staffing and funding does not enable the ITS Area to provide.

2. One area that ITS could improve according to both the survey results and the ITS Area Review Task Force report, is the area of communication with customers. "...[T]he task force recommends increasing and improving the level of communication²⁰ between ITS and the institution through the establishment and availability of an ITS administrative assistant, located in an area that may also serve as a satellite of the ITS technical assistance center, thereby providing evening and weekend assistance in addition to regular weekday support. The administrative assistant would act as a resource for employees who need information but may not

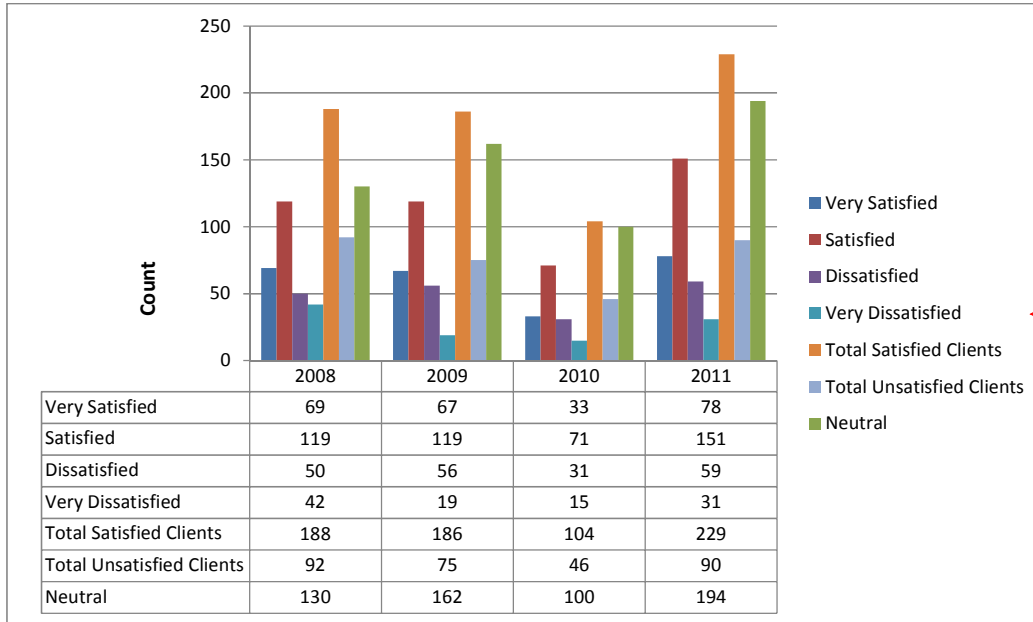
²⁰ This communication should take the form of voice and electronic mail messages to employees regarding significant information technology changes/events, employee orientations and personal/group technology training opportunities, printed and electronically posted reference and technical assistance materials, technical assistance contact information posted in classrooms and labs, and by any other means identified to provide information to the institution regarding AVC information technology services.

need to call for specific technical assistance. The task force believes that a centrally accessible location for the administrative assistant would improve access to ITS information and technical assistance to both students and employees.”

3. Although the ITS Area meets regularly with district operational entities such as Facilities Planning and Maintenance and Operations, as well as with Student Services representatives in the Banner Student Team meetings, ITS have not in the past fared well with building relationships or had well established opportunities for formal interaction with instructional areas to review their plans and discuss instructional technology priorities. While the Information Technology Committee provides a limited opportunity for this kind of dialog, the Committee is focused on broad institutional priorities and faculty comprises only a part of that group. The IT Committee is not designed to serve as a forum for instructional technology discussions, except as a subset of its mission. Similarly, the Distance Education Committee has a focused mission and offers only minimal (and very defined) opportunities for discussion of instructional information technology requirements. The ITS Area could serve the institution more effectively if opportunities for focused discussion of instructional priorities requiring information technology support and service could be established. The ITS Area attempts to understand and address the district’s instructional information technology service requirements by reviewing the Educational Master Plan, discussing specific instructional technology projects with deans, and devising strategies to meet the instructional requirements.

To address these issues immediate steps has been taken to rectify the problem by rearranging the IT Committee’s approach on how these issues are handled. ITS is now meeting quarterly with constituent groups (faculty and administrative) to gather requirements. These requirements are formulated and taken back to the IT Committee to be reviewed, analyzed, prioritized, make recommendations, and scheduled for immediate resolutions.

4. The ITS Area surveyed students and district employees from Spring 2008 through Fall 2011. As shown in the Chart 5: Overall Satisfaction by Count chart below, customer satisfaction as reported from the survey responses improved in the Fall 2011 survey -- total satisfied clients compared to a year ago. While some satisfaction ratings are still low in terms of the overall percentage of survey responses, as seen in Chart 6: Overall Satisfaction by Percentage -- the improvement shows that the ITS Area is working to respond to customer concerns by making changes in service and operations to better meet their needs. In addition, lower satisfaction percentages may reflect higher expectations from some customer categories.



Formatted: Right: 0.5"

Chart 5: Overall Satisfaction by Count



Chart 6: Overall Satisfaction by Percentage

- The ITS Area coordinates with community agencies and organizations as appropriate to support facilities, activities and events requiring information technology services. As an example, the ITS Area Network Department personnel work closely with their counterparts from the Antelope Valley Union High School District to provide support services to the SOAR High School situated on the AVC Lancaster campus. Other examples is the coordination between the ITS Area Telecommunications Technician and the personnel at California State University-Bakersfield (CSUB), who provide telecommunications support to the CSUB facility located on the Lancaster campus, wireless classroom support California State University – Long Beach, and network and security services for Bookstore partner relationships with third party vendors; such as Prism, BBBS, etc.

C. Quality of Service

- The Information Technology Services Area contributes effectively to student access, retention, and achievement of learning outcomes by providing the technology and technical assistance necessary for student access to services and instructional resources. Some of the ways in which ITS quality of service may be defined are described as follows:

- The myAVC internet portal provides students a means for accessing their account information, grades, registration and related services, and a dynamic schedule of classes. In addition, myAVC provides free email accounts and personalized calendar service for students and facilitates communication between AVC service areas, instructors, students and classmates, as well as allowing AVC service areas and instructors to post information that helps foster student success.
 - To enable students to access available network and internet-based resources and services, the ITS Area manages several computer labs open to any enrolled student. In addition, instructional labs supported directly by ITS offer configurations designed to meet the instructors' requirements facilitating the teaching and learning processes in those classrooms.
 - ITS provides a reliable IT infrastructure enabling computer-based and telephony based interaction between students, faculty, and support staff. This includes installing, configuring, integrating, managing, and safeguarding software and equipment for direct use by students, as well as indirectly supporting students by supporting faculty and other college support staff in providing instruction and services to students.
 - For students with disabilities, the ITS Area facilitates access through assistive technology such as Internet Explorer Kurzweil 3000, which many LD and ESL students use to read college text books, because they can take e-notes while reading as well as bookmark important points for future reference.
 - The myAVC technical assistance provided to students facilitates access by resetting passwords, assisting students with site navigation, answering general registration and financial aid questions, instructing students how to access and complete admission and FASFA applications, answering basic Blackboard questions and providing additional support telephone numbers for further assistance. In addition, myAVC Technical Assistance staff provides students with telephone extensions and general information pertaining to other AVC student services, directing them to areas such as Counseling, Job Placement, Career/Transfer Center, CalWORKs, and EOP&S for support or additional information.
2. The Information Technology Services Area recognizes and responds appropriately to external factors such as campus emergency phone services, regulations, agency reviews, and community needs. The role ITS plays in preparing mandated state reports demands constant communication with the California Community College System Office and other regulatory agencies. As regulations and reporting requirements change, ITS Computer Systems responds accordingly to ensure accuracy and compliance with these changes while preserving the integrity of AVC's data. ITS Area employees participate in several key professional organizations (see section II. A. 3) and use this professional contact to stay abreast of developments in the industry that may affect our services. These organizations also serve as resources when we wish to compare best practices or identify solutions to new challenges in information technology. ITS Area employees participate in various external support groups and email lists that provide information regarding regulations and impending review. Also, community needs are addressed by our direct support of projects initiated by the Institutional Advancement office and training provided by the office of Corporate and Community Education.
3. The ITS Area effectively assists faculty in the delivery of instruction, however for special purpose

applications and mid-semester configuration change requests, ITS support of instruction has not been as effective but is now being addressed by the new ITS Director since August 1 2011.

The ITS Area provides a stable and robust computing infrastructure, supporting a wide variety of electronic communication opportunities, as well as a Technical Trainer to assist in developing faculty awareness and proficiency in using available information and telecommunications technologies. Technical training is offered to faculty through the Faculty Professional Development program as well as one-on-one and includes topics such as software application use and implementation for classroom and online delivery.

Computer labs, classroom computer technology and faculty office computers are configured by ITS technicians according to instructional requirements. Under the leadership of the new ITS Director, ITS is currently establishing a documented process for a faculty member to initiate, implement and integrate new technology into the district's infrastructure. In the past, many faculty self-initiate projects independent of ITS and expect ITS Area support, usually at an instruction-critical moment, to make their projects work. The new ITS Director is implementing professional project management principles that requires faculty to work with ITS in advance, giving authority allowing ITS to implement a project lifecycle methodology to support faculty, while holding ITS and faculty accountable.

Computer Services Technicians are assigned to designated facilities to provide technical support to faculty and the instructional information technology they use. These technicians immediately respond to calls for ITS Technical Assistance during instructional hours, with some exceptions based on staff schedules. In addition, Computer Lab Technicians work closely with the faculty who use the computer labs they are assigned to support to ensure preparation of the labs well prior to the start of a semester. In addition, the Computer Lab Technicians monitor and maintain stability in the labs throughout the semester and respond to any calls for assistance from faculty using those labs. Computer Services Technicians work closely with the Computer Lab Technicians and directly with the faculty to maintain proper working order of information technology equipment on a daily basis.

While all classroom technology is not the complete purview of ITS, ITS Area technicians work closely with Instructional Multimedia Center personnel to ensure proper technology operation in classrooms equipped with media boxes and their associated projection equipment. In addition, ITS Area Network Services maintains the services and network infrastructure designed to enable use of videoconferencing technology and other high bandwidth technologies such as video streaming and podcasting support, while the Instructional Multimedia Center personnel directly assist faculty in using these services.

The ITS Area also provides support to instructors using online resources such as Blackboard and myAVC by coordinating integration of these environments with the district's course enrollment data and by providing direct support to faculty who require training or assistance in implementing online materials for instruction.

The Alternative Media Specialist provides support to faculty who need information or assistance to accommodate students with disabilities. The Alternative Media Specialist also offers training in the latest assistive technologies as well as guidance on disability awareness in the classroom in partnership with the Disabled Student Services office.

4. Information Technology Services works to identify areas needing improvement on an ongoing basis and makes an effort to correct problems and improve services based on planning and various sources of performance feedback as described here.

The ITS Area personnel make a habit of listening to and developing an understanding of the district's requirements, staying technically current, being mindful of district technology issues, limitations or concerns and convening to develop solutions to address challenges. We listen to our user community and respond to address their requirements, as funding permits. When district technology users plan to implement new technology-based projects but neglect to collaborate with ITS early in their planning, this creates a scenario for failure or at least for costly surprises that the users had not considered prior to engaging in the new project. ITS would like to partner with district technology users to ensure that new technology plans are implemented thoughtfully, successfully and in a state that is operationally sound for the life of the project.

The Technical Trainer records feedback on training sessions which is then analyzed. Changes to the session content or presentation are incorporated for future training sessions based on this feedback.

The ITS Area has worked with the Office of Institutional Research to conduct customer feedback surveys to identify areas of perceived improvement and perceived inadequacy, and implements near-term plans to address the deficiencies identified by the survey responses. (See section II. B. 4. in this document.) Additionally, the ITS Area maintains a database of help calls, that allows for the identification of users that need assistance or training or equipment that needs repair or replacement. The ITS Technical Assistance service is interactive and provides for immediate implementation of improvements to technology services used by faculty and other district employees. The myAVC Help Desk service provides similar immediate support to students who have technical questions when using myAVC portal services.

When any positive or negative feedback is received, it is shared amongst the ITS Area personnel to consider, assess, evaluate and determine the best course of action to continue best practices or to address problems. Weekly staff meetings are held to identify issues, discuss practices and propose steps to be taken. ITS Area staff members work in conjunction with outside sources/service providers to understand and learn various aspects of systems software and/or to assist in correcting technical issues. We apply methodical and consistent evaluation practices to the services we provide, consider projected services needed due to growth, requirements and the availability of new technology; we train and promote information technology education among ITS Area staff; and we encourage collaboration and cross-training within the service area to maximize our effectiveness as a service organization.

5. The ITS Area employees develop procedures to provide the many services and support activities to the district. These include many procedure based services such as technical assistance, access to technical resources or information, technology project planning and maintenance, procurement and distribution of information technology hardware or software, technology training, technology services status information, open computer lab services to students, and information technology policy development in conjunction with the appropriate participatory governance committees. The ITS Area employees review and revise these procedures as circumstances require. Many of the internally used procedures are described in the following paragraphs. In addition, a number of the procedures developed to assist

information technology users are described as follows:

Technical assistance to district information technology users is provided, tracked and evaluated through a database in which requests for information technology support and assistance are recorded. Requests are recorded based on a standard set of general problem categories and reports are generated to enable analysis and subsequent development of better approaches to providing service and support. Support services and solutions implemented by an ITS Area employee are documented in the database and serve as a resource for additional analysis of common problems and applied best practices.

Access to technical resources such as district network services, computer applications and data is provided through Access Request Forms completed by the requestors. User accounts require appropriate authorizing signatures as well as agreement by the requestor to abide by district data confidentiality policies. Request forms and their associated procedures are published in the Forms & Docs resource in myAVC for access by all district employees. In addition, Human Resources in-processing of new employees facilitates completion of the required forms as appropriate. Requests for reports from the student information system, Banner, are forwarded to the Computer Systems Manager for action. Requests for assistance in relocating office areas or moving personnel are coordinated through the Office of Facilities Planning. ITS will not relocate personnel or set up new office areas without guidance from Facilities Planning and collaboration with Maintenance and Operations.

Technology project planning and maintenance follows a standard application planning procedure, however, this procedure needs to be updated and refined. In addition, the technology project planning procedure has been used as an internal tool within the ITS Area and should be published to enable better planning by district information technology users who wish to implement new technology projects. Communication of the application planning procedure may help address the need for better collaboration with district information technology users who are planning to implement new technologies as discussed in section II. C. 4. above.

Procurement and distribution of information technology hardware or software to district information technology users is facilitated through the ITS Area's Technical Analyst. Quotes for district standard information technology hardware and software are obtained and provided to requestors, along with preparation of all paperwork associated with new information technology procurement. The Technical Analyst oversees the procedure for procuring, receiving, staging, deploying and tracking the status of all computer hardware and software for the district. In addition software licensing is managed through the district's software library, maintained by the Technical Analyst. Requests for computer hardware or software are made via e-mail to the Technical Analyst, making this procedure as simple as possible for the requestor.

Technology training requests are made through the Faculty Professional Development Office or directly to the Technical Trainer. This procedure needs some attention since a catalog of available training opportunities is not currently published and without referrals for training, district information technology users may be unaware of the many opportunities that are available to them to enhance their skills. The status of information technology services such as e-mail, telephone or myAVC portal services is not readily available to users, who must rely on contacting the ITS Technical Assistance or myAVC help desk for status information. A web site is under development to enable us to provide this information to users.

Several computer labs are maintained and operated by the ITS Area and are open to any enrolled student, offering access to the basic computer applications used by students in their education. Lab procedures and operating hours are published and made available to each lab user. Instructors are informed regarding the availability of the labs at the beginning of each major semester so that they can pass the information along to their students. In addition, information about the open computer labs is posted in myAVC in the Academics tab in the Computer Labs channel.

Procedures are developed through participatory governance groups such as the IT Committee to enable secure and acceptable use of computer and telecommunication resources, to help protect district data and provide guidance on the appropriate use of the district's computing resources. These procedures include the Computer Use and Electronic Mail Guidelines, Acceptable Use Policies, Web Page Development Procedures and more. Each of these procedures is developed by a participatory governance committee and reviewed by district constituent representative groups before being accepted and published. Such procedures are published (at a minimum) in the Forms & Docs tab in myAVC under Information Technology documents.

6. The ITS Area operates by a written set of Standard Operating Procedures governing employee work schedules and compensation in accordance with the Federation of Classified Employees' Collective Bargaining Agreement with the district. ITS Area employees adhere to these Standard Operating Procedures.

D. Institutional Support

1. Facilities: Currently, ITS Area employees have office spaces in six different locations throughout campus. This is primarily due to the absence of institutional planning for information technology services as a distinct service area requiring its own facilities and resources. ITS has historically been an afterthought in institutional planning, although in recent years the Strategic Planning and Budget Council has highlighted the significant role that information technology plays in institutional planning by including the Computer and Information Technology Plan among the strategic plans that support the Educational Master Plan as a part of the district's integrated planning process.

While the current ITS Area facilities are utilized to capacity, little additional support has been given to any near-term or long-term expansion of the physical space allocated to the ITS Area, other than planning for a secondary network operations center in the northern area of campus to provide for redundancy and failsafe support of network services through additional equipment. Some minimal work space has been designed into the network operations center; however it was not designed as an office facility to accommodate any growth. The planned network operations center's heating and cooling environment is designed to support computer equipment and not to accommodate the environmental requirements of office personnel. A request in FY 2007-2008 for a small centralized space that could serve as a "counter" for Information Technology Services, to enable access to technical assistance for district employees as well as for students, was not supported. Space planning for the newly hired System Security Administrator involved provisioning a former storage closet as an office.

The challenge of having ITS Area operations spread across several facilities will continue for the foreseeable future since district space in general is in high demand. If additional ITS Area staffing

requests are approved, additional office space will be required. In addition, a former office space is now configured for use as training and meeting space, housing 5 computer workstations used in technical training sessions offered by the Technical Trainer to faculty and staff. This space is far from ideal and limits the effectiveness of ITS Area training initiatives.

With the Health & Science building coming on board in Fall 2012, this could free up space to allow ITS to be co-located in one of the existing building that is currently being utilized.

2. Equipment and resources: Equipment and other resources used to provide information technology services have been acquired over the years, often by other areas, departments or divisions, with little or no input from ITS. Many of these resources are aging or have already surpassed the manufacturers' recommended "end-of-life". A server consolidation plan was recently completed to provide a replacement path for key operational servers, while laying the foundation for ongoing replacement as servers near their end-of-life. For the first time, equipment leasing is under consideration as an option to help sustain the district's technology investment.

Educational Master Plan Assumptions, Challenges and Opportunities # 5 states "Technology needs will continue to change as technology advances, and the college will provide modern facilities with updated infrastructure that supports teaching and learning." The Computer and Information Technology Plan identifies strategies for cost effectiveness and stewardship of the district's information technology resources under Goal #3, which states "Practice good stewardship over our information technology resources to maintain the cost effectiveness of district investments in these resources."

The strategies supporting this goal are:

- 3.1 Plan for and maintain the telecommunications and network infrastructure to facilitate and support growth and changing requirements.
- 3.2 Prioritize information technology spending in accordance with institutional goals, establishing priorities that are practical and sustainable.
- 3.3 Develop a multi-year computer and information technology expenditure plan [Information Technology Services area budget], including planned and budgeted equipment and software upgrades.
- 3.4 Re-deploy usable equipment when feasible and salvage parts from below-standard computers prior to disposal in order to provide the broadest possible access to technology in a cost effective manner."

3. Budget: The 2007 Educause Core Data Summary Report indicated that the median percentage of total campus expenses spent on information technology services for community colleges was 7%.²¹ At Antelope Valley College, in FY0708, the ITS Area's operational budget (excluding personnel) was 0.3% of the district's budget.²² The ITS Area expenditures including personnel for that same budget year totaled \$1,974,073, approximately 1.4% of the district's expenditures. These figures were derived using

Formatted: Indent: Left: 1", First line: 0"

²¹ Educause Core Data Service Fiscal Year 2007 Summary Report, IT Financing and Management, Table 2-10, page 18

²² Refer to budget chart on page 23 of this report.

both district and categorical fund data.

The Educational Master Plan goals are aligned with the goals of the Computer and IT Master Plan, which are supported by the Information Technology Services Area's planned operational outcomes and strategies described in section I of this document. The Alignment section of the Computer and IT Master Plan, section VI, identifies the following Educational Master Plan requirements and links them with the Computer and IT Master Plan goals. These are not in any particular order of priority.

- Technology Support Staff for Instruction and Service Areas
- Wireless Internet / AVC network access for students and employees
- Alternative media and emerging technology development and support
- Online (internet-based) technology support
- Technology modernization, computer upgrades and “smart” classrooms
- Technical Training

Funding for initiatives to support these Educational Master Plan requirements is requested annually through the district's budget augmentation request process. The Technical Trainer, Computer Lab Technician and Computer Services Technician positions funded in recent years all serve to support these identified requirements.

However, quality information technology is expensive to implement and to maintain. The institution's minimal commitment to information technology is reflected in its minimal budgetary commitment (1.4%) to IT projects and resources. A commitment to information technology services in order to meet the Educational Master Plan requirements listed above requires a substantial but carefully planned and managed budget. Some technology investments have been made by isolated divisions or service areas without coordination with or consideration for the institution as a whole. As an example, when a number of classrooms were upgraded to “smart classrooms” with media boxes containing capabilities for computer and network service plus projection, these upgrades were not coordinated with ITS. As a result, a substantial amount of time and money was required to correct the connectivity and operational problems after the project had been “completed”.

4. Technical support: Information technology equipment ages rapidly, so supporting and maintaining the district's investment in information technology requires a steadily increasing budget to maintain operation of key IT software, equipment and services, as well as budget augmentations to enable periodic upgrades of equipment that has reached its “end-of-life”.²³

In addition, the number of skilled ITS Area personnel is insufficient to implement and maintain the technology and software required and requested (and sometimes acquired without notice) by the institutional areas. As described elsewhere in this document, the demand for institutional IT resources and services has trended upward while the ITS Area budget for operations and technical support has trended sharply downward. While the quality and commitment of technical support personnel is high, the number is low compared to the institutional need. As an example, the myAVC portal system providing service to all students as well as to all district employees is a key institutional application, yet it has no permanent employees assigned to provide technical support to its users. Positions to provide this service, along with other needed

²³ See Computer and IT Master Plan strategy 3.3 identified in section II. D. 2 of this document

positions, have been requested through the annual budget augmentation request procedure.²⁴

5. Training: While a Technical Trainer is available to serve institutional information technology training needs, technical training for the ITS Area personnel requires a different level of commitment and often a much more costly investment in advanced technology training workshops and seminars. Only 5 of the 65 workshops, conferences and seminars attended by ITS Area personnel in the last 10 years (listed in section II. A. 4 of this document) realistically provided the advanced level of technology training needed by the ITS Area personnel to enable them to confidently implement and maintain the sophisticated software applications and information technology equipment used by the institution.
6. Staff development activities: While staff development activities such as participation in seminars and workshops for information technology professionals are encouraged, opportunities for the acquisition and expansion of ITS Area employees' knowledge and skills have been limited. This is primarily due to the high cost of such opportunities. However, ITS Area employees are encouraged to take lead roles in implementing new applications, equipment and technology services, affording them hands-on professional development activities in their areas of interest and expertise. In addition, employees are encouraged to participate in regional conferences with their peers from other institutions to share best practices and review solutions to commonly experienced IT challenges.

E. Accreditation Standard III.C identifies the standards for the institution's technology resources. The broad technology resource requirement is that technology resources are used to support student learning programs and services and to improve institutional effectiveness. In addition, the standard includes a requirement that technology planning is integrated with institutional planning.

Accreditation Standard III.C.1. "The institution assures that any technology support it provides is designed to meet the needs of learning, teaching, college-wide communications, research, and operational systems."

Accreditation Standard III.C.1a. "Technology services, professional support, facilities, hardware, and software are designed to enhance the operation and effectiveness of the institution."

Accreditation Standard III.C.1d. "The distribution and utilization of technology resources support the development, maintenance, and enhancement of its programs and services."

Assuring that information technology support initiatives meet institutional needs while enhancing operational effectiveness must be explored before new information technology is acquired. To facilitate information technology related acquisitions, the ITS Area implemented a procedure in 2002 in partnership with the Office of Business Services. When district divisions or departments require information technology resources, they simply send an e-mail notification to the ITS Area identifying the requirement along with their funding source. The purchase requisition and any associated quotes, bids, contracts or other documentation is prepared by ITS and forwarded to the requestor for verification and approval.

Despite the IT acquisition procedure, information technology projects are still often pursued by various individuals, divisions or departments without collaboration with the ITS Area. When the Office of Business Services receives a purchase requisition for any information technology related acquisition that has not been coordinated or reviewed with the ITS Area, that purchase requisition is forwarded to the ITS Area for

²⁴ See section II. A. 2 of this document

verification. The ITS Area's verification process includes a review of the planned acquisition with the requestor to identify the degree to which the requested information technology services or items meet the requestor's objective, an evaluation of the requested services or items for cohesiveness and compatibility with existing infrastructure and support resources, verification that an existing solution is not already in place to meet the request, a pricing and vendor support comparison, and a review of how the requested services or items may affect existing information technology standards, practices or support resources.

Another ITS Area practice that demonstrates how we are meeting Accreditation Standard III. C. 1 is found in the ITS Area's support of 20 instructional computer labs. The ITS Area includes two permanent Computer Lab Technicians whose primary focus is to provide service and support to these labs. Once the instructional schedule for a coming semester is ready for publication, these technicians contact each faculty member assigned to teach in one of the supported computer labs to make sure the lab is configured to support the planned teaching and learning objectives. The technicians complete a thorough review of the configurations of their assigned instructional computers labs and share the information regarding equipment and software applications with the faculty members assigned to teach in those labs. Since this process begins well before the actual beginning of the semester, any required changes can be planned and implemented between semesters, thereby reducing or eliminating impact to the students and faculty. The Computer Lab Technicians continue to provide technical assistance as needed to the faculty members throughout the semester, ensuring that the use of IT in teaching and learning is closely supported.

Accreditation Standard III.C.1b. "The institution provides quality training in the effective application of its information technology to students and personnel."

ITS Area Operational Outcome 3 states "Provide quality technical training and assistance to students, employees, alumni and community members." A Technical Trainer position facilitates quality training for the institution in information technology. See Section I. B., page 4, of this document for a description of the technical training offered to the institution.

Accreditation Standard III.C.1c. "The institution systematically plans, acquires, maintains, and upgrades or replaces technology infrastructure and equipment to meet institutional needs."

Goal 3 in the Computer and Information Technology Master Plan calls for planned ongoing information technology replacement. To address this goal, a budget augmentation request to provide the district with computer and IT upgrades and replacements has been submitted annually since FY 2005-2006 by the ITS Area. However, the institution has not made operational funds available to fund this request, relying instead on one-time allocations and periodic grants that have been infrequently available in varying amounts. AVC has not made a commitment to providing ongoing funds for planned replacements of IT equipment.

Accreditation Standard III.C.2. "Technology planning is integrated with institutional planning. The institution systematically assesses the effective use of technology resources and uses the results of evaluation as the basis for improvement."

As stated earlier in this document, the Computer and IT Master Plan goals are aligned with the goals of the Educational Master Plan. The Information Technology Services Area's planned operational outcomes and

strategies support the Computer and IT Master Plan goals. The Computer and IT Master Plan is among the strategic plans that support the Educational Master Plan as a part of the district’s integrated planning process guided by the Strategic Planning and Budget Council. ITS Area effectiveness is assessed through institutional surveys and planning is adjusted to address requirements identified through survey responses. In addition, ITS Area direction is guided by advice from the Information Technology Committee, a participatory governance committee. The IT Committee is “... charged with alerting and briefing the chairperson of pending issues that may impede, strengthen or otherwise impact upon the information technology area.”²⁵

Section III. Planning

A. Accreditation

The 2004 Accreditation Evaluation Report’s Commendations to AVC opened with the following statement: “To acknowledge the good work that has been done, the team wishes to commend the college and staff for the:

- support services provided the college by the Information Technology division...”²⁶

The 2010 Accreditation Evaluation Report did not fare as well, as indicated in the opening summary report, noting lack of “appropriate supporting documentation that required the team members to first obtain evidentiary documents before judging the college’s compliance with standards”²⁷. In addition, the summary reported that team members reported on “the lack of planning agendas even when the college self-identified areas when additional work was planned”²⁸. This led to 4 current recommendations described in the 2010 Report, with two directed toward ITS as follows:

“Recommendation # 2

To meet the standards and to raise the quality of instructional programs and to instill a culture of evidence across the college the team recommends the following practices be institutionalized:

- a. ...
- b. ...
- c. ...

d. To meet the standards and to enhance the effectiveness of its technology, it is recommended that the college adjust its technology advisory committee structure to ensure that the needs of administrative and instructional computing are equally well addressed, and that this dialogue then results in equitable priorities, implementation and budget allocations for all technology needs (III.C.1, III.C.1.d.).

Recommendation # 3

To enhance the effectiveness of its technology, a variety of different levels of network security should be implemented to permit more flexible responses to instructional computing requests, while maintaining appropriate security for administrative data (III.C.1; III.C.1.d).²⁹

²⁵ Excerpt from the Information Technology Committee Charter and Mission Statement

²⁶ Accreditation Evaluation Report, Antelope Valley College, October 2004, page 4

²⁷ Excerpt from the Accreditation Evaluation Report, Antelope Valley College District, October 18-21, 2010, page 3

²⁸ Excerpt from the Accreditation Evaluation Report, Antelope Valley College District, October 18-21, 2010, page 3

²⁹ Accreditation Evaluation Report, Technology Recommendations, Antelope Valley College, October 18-21, 2010, page 5

Regardless of the recommendations required, the ITS Area continues to play an integral enabling role in providing the resources to support institutional responses to each of the recommendations. The new ITS director will address the two recommendations above by immediately initiating a user based lifecycle methodology and integrate it within the IT Committee to accommodate Recommendation #2.d. In addition, to accommodate Recommendation #3, ITS will expand the Open Digital Campus Program to include; wireless connectivity, flexible network access policies, role based resource access, email/calendaring options, etc.). Both of these initiatives will help in the overall improvement in the areas of planning, communication, student learning outcome development, diversity, human resources, and organizational structure.

Much of the user based lifecycle methodology will adhere to the Strata Report Recommendations for adjusting the Advisory Committee Structure as follows:

- “Provide recommendations to the Strategic Planning and Budget Committee and the Executive Council concerning the application of technology for instructional programs.
- Recommend standards and procedures for the implementation of instructional technology throughout the District.
- Recommend priorities to the ITS Department for instructional computing support.
- Recommend standards for the acquisition of new instructional software and hardware.
- Establish ad hoc groups to focus on specific topics as required: Internet, lab support, network, standards and procedures, computing ethics, software licensing”³⁰.

2004 Accreditation Self-Study planning agendas related to or relying heavily upon ITS included “...communicating through a variety of venues...”³¹; “Publish agendas and minutes... on... websites.”³²; “Evaluate and improve student access to services...online...”³³; “Evaluate the organizational structure...”³⁴; “Hire sufficient ... staff and administrators to provide programs that develop and support student learning.”³⁵; “Evaluate and improve campus publications... online.”³⁶; “Implement online an application option and online orientation.”³⁷; “Provide hands-on assistance to students on how to complete the online application, how to access grades and financial aid status, how to register and drop/add online, how to pay online, and how to find critical information on the web.”³⁸; “Offer web-based ... testing.”³⁹; provide access to services through web pages and streamed videos; “Utilize ... online plagiarism detection...”⁴⁰; “Offer ... credit courses...”⁴¹

³⁰ Excerpts from Strata Information Group, Antelope Valley College, Technology Review, Final Report, October 24, 2008, Page 4

³¹ Planning Agenda for the Accreditation Self-Study, 2004, Dialogue: 1, page 239

³² Planning Agenda for the Accreditation Self-Study, 2004, Dialogue: 2, page 239

³³ Planning Agenda for the Accreditation Self-Study, 2004, Institutional Commitment: 3, page 239

³⁴ Planning Agenda for the Accreditation Self-Study, 2004, Organization: 1, page 239

³⁵ Planning Agenda for the Accreditation Self-Study, 2004, Organization: 2, page 239

³⁶ Planning Agenda for the Accreditation Self-Study, 2004, Institutional Integrity: 2, page 240

³⁷ Planning Agenda for the Accreditation Self-Study, 2004, Student Support: 2, pages 240-241

³⁸ Planning Agenda for the Accreditation Self-Study, 2004, Student Support: 6, page 241

³⁹ Planning Agenda for the Accreditation Self-Study, 2004, Student Support: 12, page 241

⁴⁰ Planning Agenda for the Accreditation Self-Study, 2004, Student Support: 16, 18, page 241

⁴¹ Planning Agenda for the Accreditation Self-Study, 2004, Improving Student Learning: 5, 10, pages 241, 242

online...⁴²; develop websites⁴³; provide e-mail accounts for students⁴⁴; “monitor, maintain and upgrade the... videoconference system...”⁴⁵; “upgrade and maintain student records and administrative database system...”⁴⁶; “...support distance learning...”⁴⁷; “Implement ... Position Control Budget software...”⁴⁸; “Create a database for a variety of recruitment sources.”⁴⁹; provide technology training⁵⁰; “Conduct a focused survey on information technology training needs and develop an employee training plan based on needs.”⁵¹; “Hire additional staff in ITS...”⁵²; “Provide funding (per board approved position, 9/13/1999) for Technical Trainer.”⁵³; improve the “print network” and upgrade older equipment in the Library⁵⁴; “...purchase ...a collection of e-books...”⁵⁵; and “Use National Student Loan Clearinghouse Enrollment Search...”⁵⁶.

In the role of enabler, the ITS Area has provided the resources to fulfill most of the requirements of the planning agendas identified above. It must be noted that many of the recommendation from the 2004 Accreditation Self-Study has been addressed; however we can see that the hiring of necessary staff is not one of these. Some of the ITS Area efforts that contributed to the completion of these agendas are provisioning the web servers and network based services that enable access to web resources provided by AVC, as well as developing interfaces and authentication services to maintain and report data accurately and provide access to only those who are authorized to have access. Some of these efforts are evident in services such as the myAVC portal service with student e-mail accounts, online application, registration, financial aid and records related services, and in the ITS Area support for the infrastructure and data integration for online courses, video streaming, materials publication, online assessment and plagiarism detection.

As discussed earlier in this document, ITS submitted a staffing plan and subsequently reorganized (in 2006) in accordance with that plan, hired a few new positions, including a Technical Trainer, and conducted focused surveys regarding the technology and technology training needs of AVC employees. The period of not having an ITS Director have caused a delay of steady progress.

The Fall 2009 Peer Team Report on Information Technology Services recognized that ITS still does not have enough adequate employees to service all of the needs of the campus. The report goes one to make these specific recommendations

, as well as others as follows:

1. “Fill the Academic and Services Support Manager Position

⁴² Planning Agenda for the Accreditation Self-Study, 2004, Improving Student Learning: 8, pages 242

⁴³ Planning Agenda for the Accreditation Self-Study, 2004, Electronic Communication: 1, 3, 4, 5, page 243 and Planning: 10, page 246

⁴⁴ Planning Agenda for the Accreditation Self-Study, 2004, Electronic Communication: 2, page 243

⁴⁵ Planning Agenda for the Accreditation Self-Study, 2004, Staffing: h, page 245

⁴⁶ Planning Agenda for the Accreditation Self-Study, 2004, Technological: 1, page 243

⁴⁷ Planning Agenda for the Accreditation Self-Study, 2004, Technological: 2, page 243

⁴⁸ Planning Agenda for the Accreditation Self-Study, 2004, Technological: 3, page 243

⁴⁹ Planning Agenda for the Accreditation Self-Study, 2004, Human Resources: 7, page 244

⁵⁰ Planning Agenda for the Accreditation Self-Study, 2004, Human Resources: 10, page 244

⁵¹ Planning Agenda for the Accreditation Self-Study, 2004, Training: g, h, o, p, page 244

⁵² Planning Agenda for the Accreditation Self-Study, 2004, Training: n, page 244-245

⁵³ Planning Agenda for the Accreditation Self-Study, 2004, Staffing: c, page 245

⁵⁴ Planning Agenda for the Accreditation Self-Study, 2004, Fiscal Resources: 1, page 245 and Equipment: 6, 7, page 246

⁵⁵ Planning Agenda for the Accreditation Self-Study, 2004, Equipment: 5, page 246

⁵⁶ Planning Agenda for the Accreditation Self-Study, 2004, Research: 9, page 246

2. Fill the ITS help desk by hiring at least two full time staff. These staff members should be a priority if the institution wishes to meet the needs of the faculty, staff and students of AVC.
3. Fill vacant ITS full-time positions⁵⁷

The ITS Area's Operational Outcomes, measurements and progress on each are described in detail in section I.C. of this document.

Finally, there was a recommendation from Strata Information group regarding a campus-wide IT budget, which required “ Elements of the IT budget that provide basic technology services and that are non-discretionary should be moved to a college-wide, “utility” account. Items that should be considered for inclusion:

- a. Banner and similar campus-wide software maintenance
- b. Blackboard support charges
- c. Server replacement schedule
- d. Lab rollover/replacement schedule⁵⁸

B. Trends and Changes

Changes in the ITS Area since 2008 have included staffing decreases, workload and scope increases, along with operating budget decreases. ITS Area staffing has decreased from 23 FTE employees in 2008 to 19 FTE employees in 2011 as described in section I. B. of this document. Workload and scope increases for ITS can be illustrated by reviewing the increases in the numbers of students and employees served by the district over the past 3 years, along with the increase in the number of computers and telecommunications equipment provided, and the increased number of services and applications supported. Although from 2008 to 2011, ITS provided services to approximately 2% less district employees,⁵⁹ and to 3% more students⁶⁰ per semester, ITS services demand have continued to increase. From 2008 to 2011, the number of computers used at the district increased by 14%. In addition, ever-changing complexity of information technology applications in general continues to challenge the ITS Area to stay abreast of this dynamic industry on all levels. As described in section I. D. of this document, the ITS Area budget has basically remained the same with a slight increase from 0.3% of overall district expenditures to 0.4%.

In the area of compliance with state and federal laws, there has been increased attention in the IT industry over the past 3 years. These changes have required the ITS Area to dedicate more energy to accommodate reporting requirement changes such as those addressing race/ethnicity reporting and privacy protection.

⁵⁷ Fall 2009 Peer Team Report on Information Technology Services recommendations regarding employee hiring

⁵⁸ Excerpts from Strata Information Group, Antelope Valley College, Technology Review, Final Report, October 24, 2008, Page 2

⁵⁹ CCCC Data Mart Headcount report for Fall 2008 showed 871 employees and the same report for Fall 2010 showed 853 employees. Does not include hourly or student employees

⁶⁰ CCCC Data Mart Headcount report for Spring 2008 showed 14,131 students and the same report for Spring 2011 showed 14,527 students

C. Operational Outcomes, Goals and Strategies

The ITS Area's six long-term objectives are embodied in the Operational Outcomes identified in section I. A. of this document, and repeated below for convenience. These are reviewed and updated annually by the ITS Area employees. Following each Operational Outcome below is the associated Computer and IT Master Plan Goals and/or supporting Computer and IT Master Plan Strategies. The alignment⁶¹ of the Computer and IT Master Plan Goals with the institution's Educational Master Plan is discussed in section II. D. 3. of this document.

ITS Operational Outcome 1. Ensure transparent reliability of IT infrastructure, district IT equipment, information systems and telecommunications resources.

Computer and IT Master Plan Strategies:

- 1.1 Develop and implement methods to support and enhance identified student needs related to the use of information technology in the curriculum and in student support areas.
- 1.2 Provide a variety of ways in which students can gain access to information and services, including assistive technology where applicable.
- 1.6 Promote and maintain consistent technical standards for classroom-based technology.
- 1.7 Ensure that technology is accessible to persons with disabilities.

Computer and IT Master Plan Goal #2: Use information technology to improve the efficiency of college operations. Computer and IT Master Plan Strategies:

- 2.1 Maintain minimum functional standards for office and service area computing in accordance with the State Community College System Office baseline standards.
- 2.2 Develop and continuously update a district computer and information technology disaster recovery and business continuity plan.
- 2.3 Strategically use information technology as an operational resource to facilitate communication and provide open access to information.
- 2.4 Use available information technologies to facilitate internal and external communication.
- 2.7 Ensure the availability and reliability of communication infrastructure, including telephone and network services.
- 4.1 Provide adequate technical resources to support computer and information technologies in labs, classrooms, service areas and offices.

ITS Operational Outcome 2. Facilitate secure access to district computers, information systems, telecommunications and other information technology resources.

Computer and IT Master Plan Goal #1: Use information technology to enhance access, learning, retention and student success. Computer and IT Master Plan Strategies:

- 1.1 Develop and implement methods to support and enhance identified student needs related to the use

⁶¹ The Alignment section of the Computer and IT Master Plan, section VI, identifies six Educational Master Plan requirements and links them with the Computer and IT Master Plan goals

of information technology in the curriculum and in student support areas.

- 1.2 Provide a variety of ways in which students can gain access to information and services, including assistive technology where applicable.
- 1.3 Review and revise the district's current IT equipment inventory as needed to assure that the State Community College System Office baseline standards of access to computers for students and employees are met or exceeded.
- 1.5 Ensure that technology is accessible to persons with disabilities.
- 1.7 Ensure that information technology is available to support developing community needs as reflected in the academic programs.
- 2.3 Strategically use information technology as an operational resource to facilitate communication and provide open access to information.
- 2.6 Where feasible and secure, facilitate off-campus access to district information technology resources for employees.
- 2.7 Ensure the availability and reliability of communication infrastructure, including telephone and network services.
- 3.4 Re-deploy usable equipment when feasible and salvage parts from below-standard computers prior to disposal in order to provide the broadest possible access to technology in a cost effective manner.

Formatted: Indent: Left: 0.63", Hanging: 0.25"

Formatted: Indent: Left: 0.63", Hanging: 0.25"

ITS Operational Outcome 3. Provide quality technical training and assistance to students, employees, alumni and community members.

Computer and IT Master Plan Goal #4: Maximize use of the district's information technologies through information technology-related professional development, training and support resources. Computer and IT Master Plan Strategies:

- 4.1 Provide adequate technical resources to support computer and information technologies in labs, classrooms, service areas and offices.
- 4.2 Provide on-going information technology-related professional development and training programs for all district employees where financially feasible.
- 4.3 Continue collaborative approach to addressing technology needs and issues through the district's Information Technology Committee.
- 4.4 Use existing professional development avenues such as the Staff Development and Flex programs to provide information technology-related training opportunities for employees.
- 4.5 Provide discipline-specific training on information technology tools and applications required in the performance of job duties.
- 4.6 Provide specific training related to policies associated with ADA requirements, fair-use copyright law, intellectual property, and other topics related to the institutional mission.
- 4.7 Provide current information to all district employees about what computer and information technology is available throughout the district and how to access and use it.

Formatted: Indent: Left: 0.63", Hanging: 0.25"

ITS Operational Outcome 4. Proactively collaborate with others to implement emerging IT solutions to meet the district's instructional and operational needs.

Computer and IT Master Plan Goal #1: Use information technology to enhance access, learning, retention and student success. Computer and IT Master Plan Strategies:

- 1.1 Develop and implement methods to support and enhance identified student needs related to the use of information technology in the curriculum and in student support areas.
- 1.4 Continually assess the district's IT equipment and collaborate with appropriate administrators when upgrades of outdated or below-standard computers are identified.
- 1.7 Ensure that information technology is available to support developing community needs as reflected in the
 - academic programs.
- 2.3 Strategically use information technology as an operational resource to facilitate communication and provide open_
 - access to information.
- 2.5 Develop processes by which each division/department within the district may create and maintain relevant content for the district's Web site.
- 2.8 Maintain and communicate to all employees the district's "Computer Use and Electronic Mail Guidelines."
- 4.3 Continue collaborative approach to addressing technology needs and issues through the district's Information Technology Committee.
- 4.7 Provide current information to all district employees about what computer and information technology is available throughout the district and how to access and use it.

Formatted: Left

Formatted: Indent: Left: 0.63", Hanging: 0.25"

Formatted: Left

ITS Operational Outcome 5. Collaborate with others to encourage appropriate use and comprehensive standardization of IT resources.

Computer and IT Master Plan Goal #1: Use information technology to enhance access, learning, retention and student success. Computer and IT Master Plan Strategies:

- 1.1 Develop and implement methods to support and enhance identified student needs related to the use of information technology in the curriculum and in student support areas.
- 1.5 Continually assess the district's IT equipment and collaborate with appropriate administrators when upgrades of outdated or below-standard computers are identified.

Computer and IT Master Plan Goal #2: Use information technology to improve the efficiency of college operations. Computer and IT Master Plan Strategies:

- 2.3 Strategically use information technology as an operational resource to facilitate communication and provide open access to information.
- 2.5 Develop processes by which each division/department within the district may create and maintain relevant content for the district's Web site.
- 2.8 Maintain and communicate to all employees the district's "Computer Use and Electronic Mail Guidelines."
- 4.3 Continue collaborative approach to addressing technology needs and issues through the district's Information Technology Committee.
- 4.7 Provide current information to all district employees about what computer and information technology is available throughout the district and how to access and use it.

ITS Operational Outcome 6. Respond to district needs by continuously improving the processes and procedures that facilitate effectiveness in all IT services.

Computer and IT Master Plan Goal #1: Use information technology to enhance access, learning, retention and student success. Computer and IT Master Plan Strategies:

- 1.1 Develop and implement methods to support and enhance identified student needs related to the use of information technology in the curriculum and in student support areas.
- 1.2 Provide a variety of ways in which students can gain access to information and services, including assistive technology where applicable.
- 1.4 Continually assess the district's IT equipment and collaborate with appropriate administrators when upgrades of outdated or below-standard computers are identified.
- 1.6 Promote and maintain consistent technical standards for classroom-based technology.
- 1.7 Ensure that information technology is available to support developing community needs as reflected in the academic programs.
- 1.8 Advance and promote emerging technologies.

Computer and IT Master Plan Goal #2: Use information technology to improve the efficiency of college operations. Computer and IT Master Plan Strategies:

- 2.2 Develop and continuously update a district computer and information technology disaster recovery

Formatted: Indent: Left: 0.63", Hanging: 0.25"

and business continuity plan.

Computer and IT Master Plan Goal #3: Practice good stewardship over our information technology resources to maintain the cost effectiveness of district investments in these resources. Computer and IT Master Plan Strategies:

- 3.1 Plan for and maintain the telecommunications and network infrastructure to facilitate and support growth and changing requirements.
- 3.2 Prioritize information technology spending in accordance with institutional goals, establishing priorities that are practical and sustainable.
- 3.3 Develop a multi-year computer and information technology expenditure plan [Information Technology Services area budget], including planned and budgeted equipment and software upgrades.
- 3.4 Re-deploy usable equipment when feasible and salvage parts from below-standard computers prior to disposal in order to provide the broadest possible access to technology in a cost effective manner.
- 4.3 Continue collaborative approach to addressing technology needs and issues through the district's Information Technology Committee.

Formatted: Indent: Left: 0.63", Hanging: 0.25"

D. Resources Needed Short-term (3 – 5 years)

The ITS Area submitted a staffing plan in February 2006 that projected staffing needs based on anticipated institutional growth and development both in Lancaster and in Palmdale. These projections identified the human resources needed in ITS to maintain service quality at current levels as the institution continues to grow. The staffing plan initially had 5 phases as well as a long-term phase. This plan has been adjusted annually to address changing institutional requirements for IT support and service, and to carry forward those positions from earlier phases that are still needed but have not been funded. Personnel requests submitted as budget augmentation requests have followed this plan annually since the FY2005-2006 fiscal year. As discussed in section II. A. 2. of this document, the ITS Area's personnel budget augmentation requests for FY 2008-2009 included the following positions (and cost estimates, including benefits) in Table 7: Positions Requested in FY0809, which have not yet been identified as approved or funded:

Positions Requested in FY0809	Cost Estimate (including benefits)
Academic and Services Support Manager (requested in FY 2006-2007 and FY 2007-2008)	\$ 100,433.29
Help Desk Technicians (2 positions requested)	\$ 105,618.64
Online Media Specialist (requested in FY 2006-2007 and FY 2007-2008)	\$ 78,648.25
Computer Services Technician for Instructional Technology Support (requested in FY 2007-2008)	\$ 69,895.06
Lab Technician – Computers	\$ 64,109.14
Administrative Assistant	\$ 64,109.14
Total	\$382,380.23

Table 7: Positions Requested in FY0809

A budget augmentation was requested in FY2008-2009 for additional student employees to operate the Open Computer Labs. Also, additional hourly employee funds were requested if the full-time permanent Help Desk Technician positions were not funded.

Augmentations Requested in FY0809	Hours	Cost Estimate
Student Employee Funds	8,140	\$ 73,281.00
Hourly myAVC Help Desk Technician Funds	2,816	\$ 42,249.00
Total		\$115,530.00

Table 8: Augmentations Requested in FY0809

In addition, a budget augmentation was requested in FY2011-2012 for additional student employees to continue operating the Open Computer Labs. ITS was able to acquire funds from Federal Work-Study, and Calworks, in order to accommodate the request as described in Table 9: Augmentations Requested in FY1112. Also, additional hourly employee (district) funds were requested since the full-time permanent Help Desk Technician positions were not funded.

Formatted: Default, Indent: Left: 0", Right: 0", Space After: 0 pt, Line spacing: single

Augmentation Requested in FY 2011-2012	Students	Fall Hours	Int./spring Hours	Summer Hours	Total Hours	Estimate Cost
Student Employee Federal Work-Study Funds	8	2499	2499	432	5430	43,436.00
Student Employee Calworks Funds	2	144	510	90	744	5,954.00
Hourly District Funds	3	966	1020	180	2166	17,324.00
Total	13	3609	4029	702	8339	66,714.00

Formatted Table

Table 9: Augmentations Requested in FY1112⁶²

Beyond additional staffing, other requested resources required maintaining current levels of service and operation are shown in the Table 10: Position Requested in FY0809 below. As briefly discussed in section II. D. 4. of this document, budget augmentations have been requested annually to enable regular upgrades of computer equipment that has reached its “end-of-life”. The request for an ongoing operational computer upgrade augmentation has not yet been funded.

As described in sections I. D. and III. B. of this document, the ITS Area’s operational budget has fluctuated and declined to such a degree over the years that it is now approximately 15% lower than it was in 1999. A budget restoration of \$265,815 should be enacted to address the campuses computer upgrades, as indicated in Table 10: Computer Upgrade Augmentation Request as of FY1112 below. The is the same request from FY0809, which should have been carried forward into FY1112; however this was not formerly proposed nor presented because the new ITS director started in August 1, 2011 and was not able to be a part of the FY1112 budget process. As a result, the expenditures from the FY1011 budget was carried forward and became the FY1112 projected budget.

Computer Upgrade Augmentation Requests as of FY1112	Cost Estimate
Campus-wide Computer Upgrades to provide replacements on an approximate 3 year cycle	\$ 300,000.00
Restoration of Operational Budget	\$ 265,815.00
Total	\$ 565,815.00

Table 10: Computer Upgrade Augmentations Requests as of FY FY0809

Several requests have not been funded or noticed over the past 3 years causing computer resources (software & hardware) to go years beyond the standard end-of-life cycle. The institutional climate and requirements have changed dramatically and in order for ITS to keep up with the current demands – priority should be placed in the items listed in Table 11: Argumentations Requested as of FY1112 (not funded) below to stabilize our overall operational infrastructure. These requests were evaluated by ITS and it is likely that these requests will improved the credibility of the institution.

⁶² Analyzing the Summer/Fall 2011 schedule at Palmdale, ITS may need an additional student worker to cover the lab hours.

Server Hardware Augmentations Request as of FY1112 (not funded)	Cost Estimate⁶³
Oracle Fusion Middleware Upgrade	\$4,560.00
Network File Share Storage	\$20,000.00
ShoreTel Phone System – Maintenance Agreement	\$55,000.00
Hardware Server replacement	\$529,000.00 ⁶⁴
Reporting tool (e.g., Argos, Crystal Reports)	\$41,000.00 ⁶⁵
Professional Development / Technical Skills Maintenance for ITS Area Staff	\$13,600.00 ⁶⁶
Disaster Recovery	\$37,600.00 ⁶⁷
Parts and supplies	\$ 8,283.00
Fax server	\$ 2,279.00
Total	\$697,722.00

Table 11: Server Hardware Augmentations Requests as of FY1112 (not funded)

Much of the computer hardware needs to be replaced due to age. This should have been replaced this fiscal year FY1112 and many servers should be integrated into our private cloud by adding the storage they require. There will also need to be random access memory (RAM) added to the virtual blade servers to be able to assume additional workload. Storage costs would cost about \$19,000.00. As you see, Table 12: Server Hardware Replacement Schedule below shows that much of the hardware equipment has exceeded end-of-life, within end-of-life within a year, or will be within reaching end-of-life in the next 3 years. It is not a matter of if AVC computer systems will; it's a matter of when. In addition, many of the network infrastructures for buildings that were constructed as of December, 2005 needs to be replaced. This equipment was acquired as part of the Measure R bond project and much of it has already reached end-of-life. Due to constant growth the equipment is now obsolete and no longer sold by the manufacturer, so we will need to transition to a new line of products to meet our future need. The total cost to refresh all the specifically identified hardware over the next three years is estimated as \$529,000, which is shown in Table 11: Augmentations Requests as of FY1112 (not funded) above.

Table 12: Server Hardware Replacement Schedule

⁶³ Cost estimates for all of these items could change drastically, due to environmental conditions and market demand at the time of purchase

⁶⁴ Estimates is based on hardware server upgrades over a 3 year period

⁶⁵ Estimates is based on 2009 estimated and must be adjusted based on current quote. Maintenance is approximately 8,000 per year

⁶⁶ Figure represents earliest cost estimate for yearly conferences/training for the Computer Systems Management and Network Management Team

⁶⁷ Figure is an order of magnitude too small today. To preserve mission critical systems will require an investment of approximately \$250,000.00 in equipment and services, plus personnel

Program Review / Self Study Report – Fa11 2011

Description Server/Application	Purchase Year	Replacement Year (every 5 years)	Number of Years to End-Of-Life
Adastra [Adastra]	Oct-02	Oct-07	-4
CleanAdder [Banner]	May-08	May-13	1
Kojak [Telephony]	May-08	May-13	1
LCServer [File server]	Jan-03	Jan-08	-3
LumDB4 [Luminis]	Apr-08	Apr-13	1
MyAVC4 [Luminis]	Apr-08	Apr-13	1
MyMail4 [Luminis]	Apr-08	Apr-13	1
MyCal4 [Luminis]	Apr-08	Apr-13	1
TEServer [File server, Student App Server]	Jan-02	Jan-07	-4
Xtenderdata [Xtender]	Apr-08	Apr-13	1
Finaid [CCC Apply, Bog Waiver]	Jan-03	Jan-08	-3
Eighty bc1500 PC blades {Math Labs}	Dec-06	Dec-11	0
Backups [DR]	Apr-04	Apr-09	-2
ITS Backup DAS [DR]	Feb-02	Feb-07	-4
Xtenderdata DAS [Xtender]	Apr-08	Apr-13	1
Five bc2500 PC blades used by Calworks	May-08	May-13	1
Degreeworks [Degreeworks]	Jun-09	Jun-14	2
Jordie [Singularity]	Aug-08	Aug-13	1
Sirsi [Horizon Library Management System]	Feb-09	Feb-14	1
VH-Fox1 [Virtual Host, Fox Field]	Aug-08	Aug-13	1
VH-NOC1 [Virtual Host, BE NOC]	Aug-08	Aug-13	1
VH-WEB [Virtual Host, NMDF]	Aug-08	Aug-13	1
NetFax [Internet Faxing]	Nov-09	Nov-14	2
Monitor [Systems Monitoring]	Nov-09	Nov-14	2
SARS [SARS Scheduling System]	Nov-09	Nov-14	2
Storageworks [Backup System Manager and SAN Manager]	Nov-09	Nov-14	2
HPSIM [VMware Cluster Manager and Hardware Monitoring]	Nov-09	Nov-14	2
VH-PALM1 [Virtual Host, Palmdale]	Nov-09	Nov-14	2
VH-PALM2 [Virtual Host, Palmdale]	Nov-09	Nov-14	2
VH-PALM3 [Virtual Host, Palmdale]	Nov-09	Nov-14	2
MSA2000 [SAN, Palmdale]	Nov-09	Nov-14	2
Mac [Apple File Services & Apple End Computer ManagementManagement]	Mar-10	Mar-15	3

- Formatted Table ... [1]
- Formatted ... [2]
- Formatted ... [3]
- Formatted ... [4]
- Formatted ... [5]
- Formatted ... [6]
- Formatted ... [7]
- Formatted ... [8]
- Formatted ... [9]
- Formatted ... [10]
- Formatted ... [11]
- Formatted ... [12]
- Formatted ... [13]
- Formatted ... [14]
- Formatted ... [15]
- Formatted ... [16]
- Formatted ... [17]
- Formatted ... [18]
- Formatted ... [19]
- Formatted ... [20]
- Formatted ... [21]
- Formatted ... [22]
- Formatted ... [23]
- Formatted ... [24]
- Formatted ... [25]
- Formatted ... [26]
- Formatted ... [27]
- Formatted ... [28]
- Formatted ... [29]
- Formatted ... [30]
- Formatted ... [31]
- Formatted ... [32]
- Formatted ... [33]
- Formatted ... [34]
- Formatted ... [35]
- Formatted ... [36]
- Formatted ... [37]
- Formatted ... [38]
- Formatted ... [39]
- Formatted ... [40]
- Formatted ... [41]
- Formatted ... [42]
- Formatted ... [43]
- Formatted ... [44]
- Formatted ... [45]
- Formatted ... [46]
- Formatted ... [47]
- Formatted ... [48]
- Formatted ... [49]
- Formatted ... [50]
- Formatted ... [51]
- Formatted ... [52]
- Formatted ... [53]
- Formatted ... [54]
- Formatted ... [55]
- Formatted ... [56]
- Formatted ... [57]
- Formatted ... [58]
- Formatted ... [59]
- Formatted ... [60]

Formatted: Font: 11 pt

Given recent institutional demand for a number of new computer applications and services, in addition to the resource needs identified above, a Senior Programmer Analyst, Computer Services Technician, and Lab Technician, Computers is needed along with another Systems Administrator. These positions would be key to supporting the servers, applications, interfaces, implementation and maintenance of such systems as AMMS (Maintenance and Operations database), SMS (Electronic Lock database), SSO (single sign-on for students and employees), CMS (web content management system), a new LMS (new online course learning management system if Blackboard is replaced), and the Open Digital Campus Program. The Senior Programmer Analyst is needed to fulfill some of the added mandated federal, state, and agency reporting requirements currently assigned to the Computer Systems Manager.

In addition, given the opening of the Performing Arts building in Fall FY1112, and the plan to open the Health & Science building in Fall FY1213, along with recent plans to provide a significant amount of technology support to expand the institution’s facility at Palmdale, a technical support resource is needed for on-site service at that location. At a minimum, a Computer Lab Technician is needed to provide support and daily maintenance and to ensure reliable operation of the IT equipment and applications used at the Palmdale facility. The additional Lab Technician is needed to offer (Tier 1) computer support for instructors in various labs and classrooms in either the Health & Science building in Lancaster or Palmdale Center Expansion, addition more computer labs to support expanded instruction. In addition, an Administrative Assistant is needed to help administrative and oversee all general office coordination. You may see Table 13: Positions Requested as of FY1112 below for a comprehensive list of ITS staff resources needed to meet the immediate needs of AVC technology services.

Formatted Table

Positions Requested as of FY1112	Cost Estimate (including benefits)	Status/Expectation Semester
Programmer Analyst	\$88,283.31	In-progress (Spring 2012)
Systems Administrator	\$93,875.89	In-progress (Spring 2012 – Stem Grant)
Administrative Assistant	\$65,638.12	In-progress (Spring 2012)
Lab Technician – Computers (2)	\$131,276.24	One 100% position <u>filled</u> , one may be reduced to 50% depending on Stem Grant allocation (Spring 2012)
Computer Services Technician (2)	\$107,397.22	One 50% position <u>filled</u> , one 100% position in-progress (Spring 2012)
Technical Analyst	\$67,553.05	<u>Filled</u> (Fall 2011)
Total	\$554,023.83	

Table 13: Positions Requested as of FY1112

Also, there is a need for a Project Manager and a Network Administrator to specifically address multiple district wide projects that are cross sectional. Table 14: Positions Needed but not yet Requested below shows these positions and their associated cost below:

estimates.

Positions Needed but not yet Requested	Cost Estimate (including benefits)
Senior Programmer Analyst	\$ 93,875.89
Project Manager	\$ 96,826.67
Systems Administrator ⁶⁸	\$ 93,875.89
Lab Technician – Computers	\$ 65,638.12
Clerical II (Helpdesk Technician)	\$ 52,773.79
Network Administrator	\$ 93,875.89
Academic Support Manager ⁶⁹	\$103,057.11
Total	\$599,923.36

Table 14: Positions Needed but not yet Funded/Requested

In addition to the preceding resources, physical space for a service area is needed. As described in section II. D. 1. Of this document, the ITS Area staff are located in six different office areas across campus. None of these provides a “counter service” for either students or employees. A location where students and employees could ask for IT assistance or drop off account request forms or equipment to be repaired, would additionally give a physical presence to the service area that is not currently available. Requests for such a space have not yet been addressed. In addition, mobile carts are needed to be able to transport equipment across campus for installation or repairs. The one cart that is currently in use is one of the two carts purchased as refurbished models several years ago and has aged significantly. One of the carts is no longer being used, due to impractical repairs and the other cart does not have a key to its ignition, along with other safety hazards. The estimated cost for the 3 new carts proposed is \$30,722.38, which would be adequate for the current services workload for the next 3 years.

Long Term (7 – 10 years)

Following the phases described in the ITS Area’s staffing plan over the long term, additional positions to meet the growing demand for information technology support are shown in the table below, although cost estimates provided are based on current estimates and would have to be adjusted. These positions will be needed to fill support requirements for the ever growing student and employee populations as well as to support the IT operations and services in new facilities that are planned or currently under construction.

⁶⁸ This position is constantly evolving and should be modified to systems engineer in the future to maintain servers

⁶⁹ This position will support all users and workstations that involve students, faculty, and staff at the college. Also referred to as Technology Support manager in Chart 1: ITS Area Organization on page 5

Positions Needed Long Term but not yet Requested	Cost Estimate (including benefits)
Technical Trainer	\$ 71,598.44
Senior Technical Analyst	\$ 71,598.44
Telecommunications Technician	\$ 65,638.12
Database Administrator	\$ 93,875.89
Lab Technician – Computers	\$ 65,638.12
Technical Analyst (software license management and ad hoc reporting)	\$ 67,553.05
Computer Services Technician	\$ 71,598.44
Programmer Analyst	\$ 88,283.31
Help Desk Technician	\$ 65,638.12

**Table 15:
Needed Long**

**Positions
Term**

While significant interest has been expressed by faculty and students for wireless access to AVC network services, there seems to be movement toward an institutional commitment to this project. There was a Wireless Access Plan prepared in Summer 2007 describing the physical requirements to implement wireless and the equipment needed to serve the Lancaster campus only. The estimated cost for the Lancaster wireless equipment as well as a 50% Systems Administrator to maintain the service was \$245,748.00 in 2007. However, the plan does not identify the required cabling for internal and external placement of access points. Cost estimates for the cabling would be needed prior to proceeding with this project. Also, the plan does not include the Palmdale facility. Additional equipment would be required to provide a similar service at the Palmdale facility or other AVC facilities. There are now plans to develop an RFP to propose a secure a consulting firm to help with the project management and implementation of a wireless solution. The plan will be robust enough to provide wireless connectivity to the new Health & Science building, as well as a phased approach for the entire wireless campus solution.

The many applications and services provided and supported by the ITS Area are operating on aging servers, and without adequate redundancy in cases of failure. In addition, the institution has not implemented a comprehensive, scalable storage management plan such as a storage area network (SAN). These projects are encompassed in a plan that is under development to consolidate the institution’s servers and back-up systems while reducing the Network Operations Center’s energy consumption “footprint”. The goal with the Server Consolidation Project is to address the problem of aging servers and back-up equipment while reaping the benefits of built-in redundancy, scalability and energy cost reduction. This project is anticipated to cost \$500,000.00 to \$1,000,000.00, but can likely be implemented on a lease plan or in phases. Grant funding for this project will be pursued.

Other projects that have been discussed as institutional priorities, but have not received any budgetary commitment include a more comprehensive networked video conferencing system, video surveillance systems integrated with the electronic lock project, and an updated radio communications system.

Finally, a facility to accommodate the growing ITS Area personnel will be required. Some very preliminary discussions regarding the remodeling of the current Student Services building have taken place in the past with a potential accommodation for some ITS Area office space included. However, competition for facility space is

intense and increases as the institution grows.

Section IV. Summaries and Recommendations

A. Significant Findings

Significant findings described in this document include the following:

- In concert with the Accreditation report and other campus constituencies, develop and implement a standard process of the selection, evaluation, prioritizing, purchase, and implementation of information technology.
- ITS is seriously under-funded as shown in the ITS Budget sections where the budget remain the same, meanwhile the cost of technology services (software, hardware, licenses, etc.) continue to increase exponentially
- Funds are needed to implement and equipment replacement plan to avoid emergency purchases and allow ITS to upgrade old technology in an systematic, cost effective manner.
- High expectations are required by ITS s is reflected in the surveys from FY0809 thru FY1112.
- The ITS Area was highly commended for the quality of support services provided to the district in the 2004 Accreditation Commission’s Evaluation Report of AVC.
- A number of key ITS Area positions remain unfunded, despite repeated requests and significant justifications based on institutional priorities.
- The level of technical support provided to the institution, particularly to faculty, students and the educational technologies in use, is inadequate.
- The ITS Area’s operating funds and declining budget allocation as a percentage of district expenditures is insufficient to enable continuing technical support of the institution at existing levels, much less to expand the level of technical support by adding new applications and services.
- Implementation of new IT applications has continued to occur without allocated funding for technical support personnel or ongoing maintenance costs. ITS is often pushed by other areas to implement an IT solution based on the availability of initial one-time or categorical funds. This has resulted in poorly supported applications, overburdened technical support personnel, and equipment with no replacement plan in place.
- The ITS Area facilities are dispersed and inadequate.
- Information Technology equipment and system resources are aging with no sign of institutional support for an ongoing replacement plan.
- Communications between the ITS Area and institutional constituent groups is deficient in both directions. Constituent groups indicate that they are uninformed about ITS Area projects or service changes that may affect them. Information technology projects are often planned and sometimes implemented by district groups or individuals without ITS collaboration.
- At current staffing and funding levels, the ITS Area is unable to keep pace with the increasing expectations of the district’s IT users.

B. **Major Recommendations Actions plans** designed to support the ITS Area’s Operational Outcomes and address the inadequacies summarized as significant findings in section IV. A. of this document is described below with estimated implementation costs and timelines where applicable. As expected, several of these recommendations are also described as unfunded budget augmentations elsewhere in this document.

Recommendation	Estimated Cost	Implementation Timeline	ITS Area Operational Outcome
Fill key ITS Area positions as requested. ⁷⁰	\$554,023.83	Spring 2012	1, 2, 3, 4, 5, 6
Establish a forum for dialog between ITS and faculty regarding support for educational technology.	-	Spring 2012	4, 5
Implement Open Digital Campus Program	-	1 – 3 years	1, 2, 3, 4, 5, 6
Complete (Server, Computer, Software) Replacement Schedules & Upgrades	-	1 – 6 years	1, 2, 3, 4, 5, 6
Allocate ITS Area budget augmentations as requested. ⁷¹	\$697,722.00	3 – 5 years	1, 6
Inform district employees of procedures such as the IT acquisition procedure briefly discussed in section II. E. on page 41 of this document.	-	Spring 2012 ⁷²	3, 4, 5

Formatted Table

⁷⁰ See table of “Positions Requested as of FY1112” on page 54 of this document

⁷¹ See table of “Augmentations Requested in FY1112” on pages 52 of this document

⁷² Post procedures on Information Technology web pages and widely publicize standard procedures each semester beginning Fall 2012

Work with Facilities Planning and Campus Development to identify facilities to accommodate ITS Area personnel and services.	TBD	3 – 5 years	2, 3, 6
Complete and implement Server Consolidation Project discussed in section III. D. on page 56 of this document.	\$500,000.00 - \$1,000,000.00	1 – 6 years	1, 2, 4, 6

Table 16: Recommendation Action Plan Schedule

While the 2010 Accreditation Commission’s recommendations for ITS is also evident in other supporting documents, it give rise to the importance to immediately addressing needs. The hiring of a new ITS Director was a good step in the right direction in meeting the technology challenges at AVC. It must be noted that the existing ITS team has done a remarkable job in maintaining and supporting the campus with its scarce resources, given the increasing reliance on information technology as critical to the institution’s mission; however a stronger commitment in terms of ITS Area resources is needed. The ITS Area Vision is to provide reliable, accessible, high quality information technology services supporting the district’s instructional and operational needs. This program review has identified numerous obstacles to this vision. In addition, information technology underpins every Guiding Principle of the Educational Master Plan as well as providing the foundation on which the operation of any institution of higher education relies. With the immense dependence that the institution has on information technology services, AVC must ensure a stronger commitment to providing the resources necessary to support the operation of the district and to sustain the Educational Master Plan and its Guiding Principles.

Page 57: [1] Formatted Table **Gloria Mills** **6/28/2012 2:05:00 PM**
Formatted Table

Page 57: [2] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**
Font color: Auto, Not Expanded by / Condensed by

Page 57: [3] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**
Font color: Auto, Not Expanded by / Condensed by

Page 57: [4] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**
Not Expanded by / Condensed by

Page 57: [5] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**
Font color: Auto, Not Expanded by / Condensed by

Page 57: [6] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**
Font color: Auto, Not Expanded by / Condensed by

Page 57: [7] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**
Font color: Auto, Not Expanded by / Condensed by

Page 57: [8] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**
Font color: Auto, Not Expanded by / Condensed by

Page 57: [9] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**
Font color: Auto, Not Expanded by / Condensed by

Page 57: [10] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**
Font color: Auto, Not Expanded by / Condensed by

Page 57: [11] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**
Font color: Auto, Not Expanded by / Condensed by

Page 57: [12] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**
Font color: Auto, Not Expanded by / Condensed by

Page 57: [13] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**
Not Expanded by / Condensed by

Page 57: [14] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**
Font color: Auto, Not Expanded by / Condensed by

Page 57: [15] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [16] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [17] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [18] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [19] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [20] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [21] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [22] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [23] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [24] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [25] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [26] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [27] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [28] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [29] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [30] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [31] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [32] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [33] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [34] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [35] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [36] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [37] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [38] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [39] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [40] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [41] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [42] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [43] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [44] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [45] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [46] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [47] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [48] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [49] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [50] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [51] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [52] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Font color: Auto, Not Expanded by / Condensed by

Page 57: [53] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [54] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [55] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [56] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [57] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [58] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [59] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [60] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [61] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [62] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [63] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [64] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [65] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [66] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [67] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [68] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [69] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [70] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		

Page 57: [71] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [72] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [73] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [74] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [75] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [76] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [77] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [78] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [79] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [80] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [81] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [82] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [83] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		
Page 57: [84] Formatted	Gloria Mills	6/28/2012 2:02:00 PM
Not Expanded by / Condensed by		

Page 57: [85] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [86] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [87] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [88] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [89] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [90] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [91] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [92] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [93] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [94] Formatted **Gloria Mills** **6/28/2012 2:02:00 PM**

Not Expanded by / Condensed by

Page 57: [95] Formatted **Gloria Mills** **6/28/2012 2:06:00 PM**

Font: 11 pt

Page 57: [96] Formatted **Gloria Mills** **6/28/2012 2:06:00 PM**

Font: 11 pt, Not Expanded by / Condensed by

Page 57: [97] Formatted **Gloria Mills** **6/28/2012 2:06:00 PM**

Font: 11 pt

Page 57: [97] Formatted **Gloria Mills** **6/28/2012 2:06:00 PM**

Font: 11 pt

Font: 11 pt

Font: 11 pt