Palo Verde College

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This document is also available online at:

http://www.paloverde.edu/technologyplan/

Table of Contents

Executive Summary

This document is intended to guide Palo Verde College in identifying strategic technology issues, help establishing priorities, identify risks and current unknowns, provide a structured plan for achieving these objectives and establish a baseline to which metrics can be applied to measure success. It is intended to provide a roadmap for technology projects in support of the College's goals as well as be responsive to the requirements arising from Strategic Planning and Accreditation related activities.

This is meant to be a living document and intended to be revised to deal with changes in technology and circumstance. A yearly progress report will be written to document significant technology projects and activities and to guide future planning.

This plan recognizes that acquisition and deployment of technology are not the ends but the means to achieving the objectives of Palo Verde College. In addition, it is recognized that effective support structures and training opportunities are essential for the success of technology initiatives.

Planning Process

Maintenance of the Technology Master Plan is under the charge of the Technology Committee and the Information Technology Department. Palo Verde College is committed to a shared governance framework and will strive for a dynamic and inclusive technology planning process. Finalization and evaluation of Technology Plans and Progress Reports is a process that is open to input from campus constituency groups including administration, faculty, classified staff, and students. The Technology Committee will play a key role in overseeing the annual review of the Technology Master Plan with input from constituency groups as well as individual end-users of campus technology. This process will result in updated goals, strategies and objectives so that the Technology Plan will reflect current College needs and be useful as a guide to addressing these issues.

For the development of this plan, technology has been defined to include both instructional and informational technologies and is recognized to be an integral element in support of the defined objectives of Palo Verde College. Strategic technology planning has been recognized as a priority in defining how Palo Verde College can achieve its goals. This plan hopes to address issues raised by this process (see: **Appendix B: Excerpts from District Strategic Planning Activities**).

Palo Verde College recognizes that the purpose of technology strategic planning is to align the framework of campus technology projects and support with institutional goals, directions, and priorities. This process is an endeavor to identify how we currently utilize technology at the college, how we wish to use it in the future and how to make a successful transition from one to the other. The scope of the plan is not limited to the Information Technology Department but is college-wide, with a particular focus on student needs.

This plan focuses on what Palo Verde College needs to accomplish with technology rather than just on the acquisition of technology. Taking into account the environmental context the College exists within, this plan seeks to provide guidelines for technology decisions, lay out an effective management strategy and establish the direction for technology use and management within the college.

The planning process arises from a Technology Vision Statement of how the use of technology would add value in support of the college's mission, philosophy, and goals. This vision, the basis for the Technology Vision Statement, described several aspects of an ideal campus environment where

technology was effectively being used. This plan includes a set of value statements which are simple, direct statements that describe what is determined to be good practice.

These statements will serve as the basic criteria against which decisions will be made regarding the acquisition and application of technology. Included are a group of planning assumptions (Appendix A) that describe the environment in which the college currently exists. These are intended to reflect the environmental factors that have a bearing on the development and implementation of College's technology plans. Goals and strategies are enumerated. Projects in support of these strategies will be listed and tracked in a separate database as detailed in this report.

Technology Vision Statement

Palo Verde College uses technology to support learning and instruction, enhance educational opportunities, personalize student services, increase availability of information and provide effective administrative processes to meet the changing needs of the college community.

Guiding Principles

Successful application of technology at Palo Verde College will:

1. Foster student success through the availability and use of technology.
2. Increase availability of technology to students and provide access to resources across social, economic, geographic and physical barriers.
3. Consider ease-of-use in the adoption of any new technology and strive for transparency.
4. Encourage and support innovation through the use of technology.
5. Be proactive in the application of technological solutions.
6. Be implemented along with appropriate technical support staff to meet the demands of the new technology resources and programs.
7. Recognize the need to provide ongoing training and support opportunities for faculty and staff to effectively use technology.
8. Maintain, monitor, and manage technology performance standards to meet the infrastructure needs of the college community.
9. Be accompanied by quality technical support.
10. Be successfully managed by investing in/developing technology management frameworks to reduce Total Cost of Ownership yet enabling a high degree of service with available support staff.
11. Increase the availability and ease of access to reliable and comprehensive data and information for decision making and planning purposes.
12. Be enabled by a collective effort to analyze, automate and re-engineer workflow and business processes when appropriate. The goal is to increase efficiency and ability to provide additional services to staff and students.
13. Support the college mission and objectives.

Goals

1. **Information Systems:** Complete implementation of ongoing Information Systems Projects, facilitate increased access to information and acquire systems to provide needed capabilities.

2. **Student Access**: Provide access to learning opportunities through technology and provide electronic access to student support services.

3. **Curriculum:** Increase the use of instructional technology in the curriculum.

4. **Virtual Community:** Use technology to foster a sense of community on campus and ease coordination and communication.

5. **Technical Support:** Provide high quality technology support for all instructional programs and administrative services.

6. **Network Infrastructure and Services:** Continue building infrastructure, resources and services to meet current and future technology and information needs.

7. **Planning:** Ensure efficient and effective use of technology resources through planning.

8. **Computer Labs:** Provide and support computer labs to meet student needs.

9. **Equipment:** Provide technology equipment to meet the needs of Palo Verde College.

10. **Professional Development:** Ensure the successful use of technology through ongoing staff development opportunities for all employees.

11. **Outreach:** Collaborate and share technological resources with the outside community.

Strategies

Below are Palo Verde College's Technology Goals and Strategies. The goals are long-term, major targets related to the success of the college. Strategies are activities and resource allocations designed to achieve the long-term goals. These goal statements and strategies are based on the technology vision, guiding principles and planning assumptions.

Information Systems

Goal #1. *Complete implementation of ongoing Information Systems Projects, facilitate increased access to information and acquire systems to provide needed capabilities.*

Strategies:

1.1. Support information needs of Student Services.

1.2. Support information needs of Instruction Office.

1.3. Support information needs of Administrative Services.

1.4. Support information needs of Institutional Researcher.

1.5. Support information needs of faculty groups.

1.6. Establish and enforce security and privacy measures for access to data.

1.7. Pursue identification, protection, utilization and integration of data assets.

Commentary:

The majority of data utilization efforts to date have focused on reporting systems mainly targeted at satisfying the information needs of those outside of the college such as MIS reporting to the Chancellor's Office, California Student Aid Commission, etc. The increased availability and utilization of information to those within Palo Verde College is now a goal. A major theme of the activities outlined in this Technology Plan is to improve the utilization of data resources in the decision making processes of the college.

Initiatives to identify specific information collection, processing and reporting needs within departments will be undertaken on an ongoing basis. There is often a significant workload associated with complex collection or reporting needs. Therefore, a process will be created to determine specific needs, provide a detailed scope of work, and track progress toward this completion of these goals. (See Goal #7 and Appendix G)

Student Access

Goal #2. *Provide access to learning opportunities through technology and provide electronic access to student support services.*

Strategies:

2.1. Provide online access to student support services Including admissions, registration, advising, bookstore, etc.

2.2. Provide email services to all applicable students.

2.3. Provide resources and support for classroom videoconferencing, archival and streaming applications.

2.4. Improve web site and services by striving to increase amount of material on College website, improve usability and make an indispensable tool for current and prospective students.

2.5. Utilize technology to ensure library, instructional and student services resources are available to users both on and off campus.

2.6. Evaluate accessibility of campus electronic material to students with disabilities.

Commentary:

The question is often raised, "When can we register students online?" The activities associated with Goals 1 and 6 provide the foundation upon which an array of online services can be built. These information and network architectural components need to be in place to provide reliable, manageable and secure online services to students, such as online admissions and registration. There is a high degree of interaction and dependency between other IT projects. Many of these are critical, yet invisible when trying to look at the larger picture. These interactions are reflected in the attached project Gantt charts and task lists.

There is significant planning and analysis to be done in order to successfully assemble these services. The existing business processes of the college are heavily geared toward the movement of paper and personal interaction between both staff and student. There is critical work to be done in the analysis of existing business processes and how these will interact with a system where transactions are performed in an online fashion. The formation of working groups consisting of representatives from the involved areas will also be critical to determine the fit between existing business processes and what is required to support online services.

Providing online services and supporting online classes will move IT operations closer to a 24/7 model. Changes in infrastructure, staffing and culture will be required to support this and must be taken into account in planning processes in order to ensure success.

The Cost estimate for purchase of additional Jenzabar modules is listed below. Note that these are based on late 2004 pricing and it was indicated that additional discounts may be available in 2005. Also this should be considered a ceiling as not all of the components listed here will necessarily be required as there are certain architectural unknowns, such as the interaction between the CCCApply admissions data collection system and the EX admissions system.

	List	Implementation/ Training	Maintenance
Admissions	**$ 4,235**	**$ 12,800**	**$ 762**
Accounts Payable	**$ 3,388**	**$ 4,800**	**$ 610**
Accounts Receivable	**$ 3,388**	**$ 8,000**	**$ 610**
JICS Academic Suite **(includes CRM Student and CRM Faculty/Advising)**	**$ 54,450**	**$ 12,600**	**$ 9,801**
Project Management		**$ 2,500**	
Total	**$ 65,461**	**$ 40,700**	**$ 11,783**

Summary

Software	**$ 65,461**
Services	**$ 40,700**
Maintenance	**$ 11,783**
Total	**$ 117,944**

Curriculum

Goal #3. *Increase the use of instructional technology in the curriculum.*

Strategies:

3.1. Ensure adequate Audio/Visual capabilities are available in all needed instructional facilities.

3.2. Provide support for distance learning initiatives.

3.3. Support the integration of technology into the curriculum.

Commentary:

At Palo Verde College, we believe that to offer students the ability to achieve, you must provide access to the technology necessary for them to succeed. Providing support for the integration of technology into the curriculum is a major focus. One of the ways we currently do that is to provide Audio/Visual capabilities in the form of an instructor PC, DVD/CD/VHS audio/video players, and LCD projection units capable of projecting a computer display, or video image, onto a pull-down screen up to 20 ft away, regardless of lighting. This allows students the ability to get a better "view" on the curriculum being taught, and encourages a more interactive teaching environment with the instructor. We are in the process of purchasing and equipping fully-functional "Media Carts", complete with instructor PC, the Audio/Visual equipment we currently utilize, as well as a state-of-the-art projection system. This will provide a "Portable Media Center", available to any instructional area upon demand. This would give us total functionality in any area including those not amenable to permanent installations.

In an attempt to offer more comprehensive distance learning opportunities for our students, we have purchased and deployed Polycom Video Conferencing equipment in both our Main and Needles campuses. This gives us the ability to link our students from two different campus locations into one "classroom" allowing two locations to become one teaching environment. This breaks down the geographical barriers and gives our students even more educational opportunities by allowing low enrollment classes to make by splitting enrollment among campuses. Our continued growth will require the use of such technology, and we will continue to support it as a teaching tool.

Another way of integrating technology into curriculum is to arrange for a more interactive environment for learning. We are in the process of acquiring a software-based demonstration system. One feature of this system is to allow the instructor full control over the student's desktop PC, either individually, or as an entire class. This function has many uses including; limiting student distraction by locking out the World Wide Web during demonstration and classroom study time, allowing contact with the internet when research or curriculum requires it, or simply locking student keyboards and mice. This motivates the student to focus on their educational lessons more effectively which further ensures their success. Along with that particular feature, an instructor can also "mirror" their display with the student display, allowing for a more interactive demonstration as well as monitor student progress. This software would be fully manageable by the instructor, giving them the desired administrative abilities they need to create a more effective learning plan.

Virtual Community

Goal #4. *Use technology to foster a sense of community on campus and ease coordination and communication.*

Strategies:

4.1. Use technology to improve communication and access to information for adjunct professors.

4.2. Build a Palo Verde College online community with content that is useful, informative, engaging, usable and fun.

4.3. Provide uniform access to LAN/Intranet resources for all students, staff and faculty regardless of location.

Commentary:

The Technology Department has identified the need for full and uniform access to LAN/Intranet resources for all students, staff and faculty. Currently the dominant motif for file sharing and information exchange is via email. By implementing Exchange server, providing secure remote access to LAN resources, providing training on other options such as file sharing we can improve the exchange of information and increase collaboration. Efforts will be made to increase the percentage of adjunct professors who are included in email and other access methods. One possible way to resolve this would be to have an online request form that could be submitted via the website.

Currently we have in place on the Palo Verde website discussion forums that can be used and accessed by anyone with access to the internet and a username and password for the website. These forums can range from simple discussions between students and professors or discussions between Palo Verde constituency groups (i.e. CTA, CSEA). They can be very useful, informative and cut down on the use of paper.

By deploying Exchange we will be able to provide improved capabilities for sharing files, sharing calendar information, coordinating activity and fostering a greater sense of community. Security is always an issue when access to LAN/Intranet resources is needed from outside locations. In order to provide greater access to resources on the main campus we have acquired a Cisco firewall, DMZ, VPN and Monitoring software to provide this in a controlled fashion.

Technical Support

Goal #5. *Provide high quality technology support for all instructional programs and administrative services.*

Strategies:

5.1. Create a multi-faceted and accessible technology support system.

5.2. Formalize support procedures and creation of system to track, resolve and follow up on all support requests.

5.3. Secure collegial buy-in on utilizing and adhering to this support and tracking system to ensure quality support and provide service metrics.

5.4. Survey departments and users to ensure technical support needs of College are being met.

5.5. Provide adequate and easy to use training resources and opportunities for technical support personnel to ensure up-to-date skill sets.

5.6. Improve communication with college community regarding current and future technical capabilities.

5.7. Reduce service calls with automated and remote recovery solutions of computers and files.

Commentary:

A project management database has been developed outlining major technology initiatives and critical paths. This information currently resides in Microsoft Project and a separate help desk

program. However, this is an incomplete management framework. The IT Department is dominated by the dissimilar and opposing demands of linear project implementation and ad hock support needs. Tracking these two activities using separate project management and helpdesk software has proven to be a less that adequate solution.

The IT Department has identified and acquired a product called TeamHeadquarters to track both of these activities in a unified system. The system is currently undergoing installation and configuration. This system will enable comprehensive tracking of support issues, improve response and follow-up, ensure accountability, and provide improved departmental work assignments and project management capabilities. The system will be able to balance workloads within the system to provide meaningful data for scheduling and estimating as well as support and performance metrics.

Many of the activities detailed under Goal #6 have and will continue to have a positive impact on the support performance of the IT Department.

Network Infrastructure and Services

Goal #6. *Continue building infrastructure, resources and services to meet current and future technology and information needs.*

Strategies:

6.1. Acquire and build frameworks and toolsets to enable reliable and recoverable network services.

6.2. Ensure consistent, adequate and modern network services and access at all College facilities.

6.3. Enable individual user to connect remotely via a secure connection for the use of college recourses from any location.

6.4. Provide videoconferencing and video distribution capabilities at all needed locations.

6.5. Provide organized reliable file services and sharing for individuals and departments.

6.6. Monitor, improve and respond to network and information security issues.

6.7. Enable software to be installed automatically to specific users or be available *on demand* without requiring users to contact IT staff.

Commentary:

Significant effort has been expended in the last year in building the necessary network infrastructure. The current and projected IT projects will require very large amounts of storage, greater speed, high reliability, and high security. Because of this nearly all systems have been replaced or upgraded significantly.

Storage:

We have increased storage capacity, speed and reliability while simultaneously reducing initial expense and total cost of ownership. This was accomplished in numerous ways. A primary component was the purchase and deployment of two Storage Area Network (SANs) devices. Just one SAN holds 1000s of gigabytes of storage that is shared by numerous

servers. The storage the servers get from a SAN is called a “Virtual Drive”. It’s called virtual because the storage the server gets from the SAN *appears* as a regular hard drive, even though it is actually on the SANs, *not* the server. Because of this we were able to purchase fewer, servers with less storage. Fast and reliable storage is then assigned to each server *as needed.*

Storage, Reliability, Recovery:

SANs are built from the ground up for one purpose, large amounts of very reliable fast storage. They have numerous redundant systems that enable them to continue running in the event of a hard drive, processor, network card or power supply failure. Many of which can be replaced without shutting the system down. If a server with a virtual drive assigned to it from a SANs fails we merely assign that drive to a different server with minimal down time.

Zero Server Downtime, virtually:

Hard drives are not the only virtualization we have completed. Many of our main servers are now “Virtual Servers”. Virtual Servers run on real servers like Microsoft Word runs on windows. One real server (the host) can run many virtual servers. This reduces initial expense and lowers total cost of ownership by consolidating many servers onto one host server. Server failure is no longer the disaster it once was. The Virtual servers are installed onto a Virtual drive (provided by the SAN) on the host servers. If a real server completely fails we merely assign the storage the host was using on the SANs to different host server and startup the virtual server on the new host server. Virtual servers reside inside a single file on the host server. In addition to regular backups of all servers, copies of files containing virtual servers can be copied to other storage devices like any other file.

Recovery:

In addition to the built-in recovery options in Windows Server 2003 (with shadow copy) and Windows XP (with restore points), we are implementing numerous recovery options. Some of the backup and or recovery systems and tools we are deploying are; Retrospect Backup Software including Open file and bare metal disaster recovery, large automated tape backup libraries capable of backing up every system we currently have, Recovery Manager, Symantec Ghost, Altiris, Virtual Machine Snap Shots, SANs hard drive Snap shots, and Winternals Administrator’s Pak. These tools give us numerous recovery options depending on the situation. From restoring a single file to an entire system.

Ensure consistent, adequate and modern network services and access at all College facilities:

All of our network infrastructure and phone systems are currently being upgraded and extended to other facilities. Having the same network and phone systems at all facilities will help ensure a consistent user experience. Remote facilities will have nearly all the same recourses as the main campus.

Enable users to utilize college recourses from any ware:

Parts of our infrastructure upgrades include a Firewall that can facilitate Virtual Private Network (VPN) connections. This will enable remote users to connect to the main campus and use recourses at the main campus just like they were plugged directly to our network. The connection is secure because it requires the remote user to have special software

installed and configured by the IT department and is triple encrypted to provide a high degree of security.

Planning

Goal # 7. *Ensure efficient and effective use of technology resources through planning.*

Strategies:

7.1. Develop operational plans as needed to achieve the goals and strategies of this Technology Master Plan.

7.2. Improve the planning process for technology infrastructure at new as well as renovated facilities.

7.3. Develop a plan for the effective management of computer labs.

7.4. Formalize technology project development and implementation processes.

7.5. Develop an annual review process to continually assess the current and future needs of technology at Palo Verde College.

7.6. Support the improvement of student, instructional and administrative service processes through the planned applications of new technology.

7.7. Identify and implement ways to conserve energy for technology use.

7.8. Provide adequate and stable funding for technology.

7.9. Develop a Total Cost of Ownership (TCO) Plan for technology acquisition, support and lifecycle management.

Commentary:

The district currently takes advantage of aggressive academic pricing programs available through such vendors as Dell Computer, CDWG and the Foundation for Community Colleges. Significant costs savings has been realized through these programs.

Palo Verde College will strive to maintain current and adequate computing resources but will also make efforts to mitigate the direct and associated costs of acquiring and supporting technology. To further this goal, the Information Technology Department in conjunction with the Technology Committee will provide recommendations, policies and budget proposals to the Budget Committee and College Council.

The district is currently in an excellent position regarding adequate and current hardware and software systems and facilities for many areas due to the fairly recent construction of Phase One of the new campus in 2001. In order to address any remaining deficiencies and maintain this position moving forward, the technology committee will formulate guidelines to govern the acquisition and lifecycle of technology within the district.

The technology project management methodology will be improved through the disciplined utilization of Team Headquarters and the ongoing maintenance of this Technology Plan.

Computer Labs

Goal #8. *Provide and support computer labs to meet student needs.*

Strategies:

8.1. Ensure computer labs are configured to meet the needs of the students across all College facilities.

8.2. Optimize lab operations and procedures to provide highest degree of service and match program needs.

8.3. Provide access to assistive technology for students with disabilities in computer labs and the library.

8.4. Communicate current information about technology services and labs hours to all students.

Commentary:

There will be continual effort to implement the most current technology possible, as well as looking into the future to better address the educational needs of our students. Some of the ways we currently provide this technology are by making available the most commonly used and up-to-date software application programs, such as Microsoft Office 2003. We also provide high-speed access to the Internet, allowing students the ability to actively research and gather much needed information on the subjects they are studying.

Our current lab management tools allow us to optimize lab operations by deploying and managing subject-specific software programs in an automated fashion. Using Symantec Ghost, we can remotely install and un-install software, based on class requirements to just a few computers, or the entire classroom, in just a fraction of the time it would take to install software manually. To ensure our lab computers are always available and operational to their peak ability, we utilize a client management tool entitled, Winternals Defrag Manager, to automate the task of defragging the hard drives on each computer at a strategic time, thus allowing each machine to run as efficient as possible. Another program we utilize is Altiris Client Management Suite. With its powerful managing abilities, we can remotely restore a damaged client's operating system back to an operational state from anywhere within our network, all in a matter of minutes. Put all of this together, combined with Symantec Anti-virus protection, we have the tools needed to provide our students with the access to reliable computer resources.

When it comes to Assistive Technology, we seek to provide the best possible solutions to our students, regardless of accessibility limitations. The computer labs and college library are available with special, height-adjustable desks to provide for wheelchair access. We also provide handicap-specific keyboards and mice to students requiring them, and larger computer monitors to students who are sight-impaired. We have recently begun using two new programs, Window-Eyes and JAWS that will actually scan text from a book and read it back to the student. This allows a student who is totally blind the ability to fully access their subject material. Our goals with such Assistive Technology will continue to expand as student learning demands increase, and as we become aware of new technologies and needs. Our goal is to meet the needs of our students, regardless of limitations.

We can effectively communicate available technical services class times, room number assignments, and current application software programs available for use in all, or specific computer labs to students via our website or by free-standing kiosks, located in key student-accessible areas. We are working toward providing students with individual student login accounts allowing specific-subject related software to be installed on demand to any computer to which they have access. We are also working on deploying network-based "Roaming" profiles which would allow students the flexibility to retain the use of on-site file storage, and the ability to access their work from any location where student accessibility is allowed. It would also provide for more individualized management of network resources by setting up log-in times and restrictions based on classroom, library, and college hours.

Equipment

Goal #9. *Provide technology equipment to meet the needs of Palo Verde College.*

Strategies:

9.1. Establish and keep current baseline standards for technology purchases.

9.2. Coordinate the purchase and distribution of technology in order to maximize return on equipment investment and simplify support issues.

9.3. Develop plans for the systematic addition and replacement of technology equipment.

Commentary:

The College will strive to purchase and provide systems and services that exceed current demands in order to adequately meet future requirements without delays for upgrades. By working with all departments and students we will gain an understanding of current needs and their vision of what role technology will play in their future. The systems and services provided must also have the lowest Total Cost of Ownership (TCO), the maximum return on investment and be as simple as possible to deploy and use. These principles will be applied throughout the college.

Part of planning for new systems and services includes the retirement of current inventory. To maximize the return on investment of prior purchases and lower current TCO, many systems and services will be retired in stages. For example, when a system or service no longer meets the requirements of an individual, department or facility, we repurpose the system or service to meets the requirements of another area. This process is repeated until the system or service no longer meets minimum requirements of any area.

Professional Development

Goal #10. *Ensure the successful use of technology through ongoing staff development opportunities for all employees.*

Strategies:

10.1. Write a Technology Training Plan.

10.2. Increase the availability of technology training opportunities.

10.3. Provide opportunity for knowledge exchange and feedback on current information systems.

Commentary:

The College will develop and maintain an Technology Training Plan. As changes in technology occur, the training plan will be updated to respond to these new needs.

Some possible formats for technology training opportunities that have been discussed are:

- Weekly or Monthly training labs
- Flex Day training
- User Groups
- Brown Bag Training Days

These opportunities can be useful for both the beginner and expert by providing a forum for asking questions and receiving feedback for future trainings. These training opportunities can help facilitate the implementation of technology in the classroom, providing both formal and informal training opportunities as well as providing an opportunity to assess technical needs. In addition to training, user groups focused on the different information systems would provide a useful forum for the exchange of ideas and needs assessment.

Outreach

Goal #11. *Utilize technology to collaborate and share information with the community.*

Strategies:

11.1. Provide technical services to support Palo Verde College Foundation and Alumni Association.

11.2. Provide support for the publication and communication efforts of College Departments and student organizations.

11.3. Evaluate feasibility of College Radio Station.

11.4. Support delivery of College communication and public relations messages to students and community.

Commentary:

The Palo Verde College website is currently used as a portal for those who are seeking admissions or general information about Palo Verde College. A technology support help desk is also currently available but is due to be enhanced with the recent purchase of Team Headquarters. College news is posted regularly to the website and this serves as a conduit to inform student, faculty, staff and community groups about the events and initiatives of the college. Ongoing efforts will be undertaken to improve this communications channel and make it more accessible to the target audience. The IT department will continue to support the electronic publication and communication

efforts of the various college departments and student associations as well as the Palo Verde College Foundation and Alumni Association.

Alternative communication channels will be investigated such as kiosk systems placed in build lobbies or at key locations within the city of Blythe and Needles, creation of a college radio station, steaming Internet audio video, etc. These options may increase the opportunity for communication within the college as well as with the communities the college exists in.

Maintaining the Technology Master Plan

The strategic technology plan described in this document will enable Palo Verde College to focus on how technology can and should be used to further its mission and objectives. Successful implementation of this plan will be affected by several key factors.

A process of communication, revision and feedback will be required for the creation of a successful and meaningful Technology Master Plan. The Technology Committee should take the lead in this endeavor and be actively involved in both information dissemination and in gathering feedback to the plan from the various college constituencies.

The Information Technology Department has primary responsibility for ensuring that the institution's overall mission and objectives for the use of technology are achieved in coordination with other campus departments and committees. A mission statement was developed to clearly describe the role of this department to provide leadership, technical expertise, and technical support services for the college. The office consists of four full-time and one half-time positions. In addition, temporary and student workers are sometimes utilized. (**Appendix E**)

Finally, in order for this process to be truly successful, Palo Verde College must develop a process to actively review this plan on an annual basis. This process should revisit the planning assumptions and measure the college's accomplishments against the Technology Master Plan. A Technology Plan Progress Report will be written and modified on an ongoing basis as planning assumptions are updated and corresponding goals, strategies, and objectives are modified. Data for this report will be maintained mainly utilizing the TeamHeadquarters system. This type of ongoing process will ensure that the Technology Master Plan remains current and is tied to the college technology goals and strategies.

Appendix A: Assumption Statements

The following statements describe identified internal and external factors affecting technology use at Palo Verde College.

A. Student-related Assumptions:

1. There is a wide range in technical skill levels among students.
2. There is often a lack of preparation for college success among a significant number of new students.
3. Students are diverse.
4. Students increasingly expect to have convenient access to all services.
5. Students expect to be employable upon completion of certificate programs.

6. Student interest in technology is increasing.

7. Student need for information competencies is increasing.

8. More students will use electronic communication and information resources to complete their course of study.

9. DSPS students have more inclusion in the college due to technology.

10. Students expect Palo Verde College to have up-to-date technology.

11. Students will increasingly need access to a variety of technologies in order to effectively compete for transfer to four year schools and for employment.

B. Faculty and Staff-related Assumptions:

1. Faculty and staff have a wide range of technical capabilities and interests.

2. Technology places new demands on faculty and staff.

3. Faculty and staff have a wide range of learning styles that should be reflected in staff development opportunities.

4. Recruitment and retention of technology specialists (faculty and staff) is challenging because of competition from industry and geographical location of College.

5. Faculty and staff often not fully utilizing technology resources currently available.

6. There is a lack of widespread sharing of best practices across the college.

C. Technology Support-related Assumptions:

9. Technology support will be stressed by the demand imposed on it by new programs, additional technologies and additional facilities.

10. The demand for technology support is increasing.

11. The demand for continuous technology training is increasing.

12. Increasing the use of technology throughout the curriculum increases the need for technical support.

D. Technology-related Assumptions:

13. Technology can enhance instruction and expand opportunities for access to information.

14. New technologies such as video streaming and desktop video-conferencing are anticipated to become more commonplace in the next three years.

15. The use of more wireless, mobile devices is anticipated.

16. All current classrooms are network-ready.

17. There is a growing expectation of availability of LCD projectors for any classroom space.

E. Resources-related Assumptions:

21. The state of the economy will affect funding of California Community Colleges.

22. State funding for technology augmentations are not assured.

23. Palo Verde College cannot depend solely on private or bond funding.

24. The energy crisis could have an effect on many aspects of the Palo Verde College community.

F. Community-related Assumptions:

28. California expects measurement and standards of learning outcomes.

29. Palo Verde College must be aware of public opinion/perception and make efforts to maintain a good reputation in the community.

Appendix B: Excerpts from District Strategic Planning Activities

The strategic planning activities conducted in late 2004 and early 2005 recognize the importance of technology in achieving the objectives of the College. The following tables are excerpts from the documents produced during these activities that are related to technology issues or concerns. They are presented here unedited as a reference item. This Technology Plan hopes to address the issues presented here.

Initiative 1	Instructional Programs	
Goal	Well-defined two year programs leading to certification, graduation and transfer, defined by departments and advisory committees and supported by the institution and its technology as a whole	
Current State: **2**. Despite the system-wide availability of hardware, software and databases, accessibility and exchange remain poor		**Desired State:** **2.** Immediate access to appropriate records and data from faculty/staff desktop through an inter-departmental interface.
Objective 2:	Immediately hire an employee who can access and make available to others student data	

Initiative 2	Recruitment and Enrollment	
Goal	Attract and retain the maximum number of students to ensure fully funded enrollment	
Current State: **3**. Non-integrated network system		**Desired State:** **3.** A fully functional network management system with integrated department modules
Objective 2:	Purchase and implement another module of the network management	

Initiative 3	Student Success
Goal	Increased number of graduates, knowledge of services, percentage of transfers,

	employment, program completions and retention

Current State:	**Desired State:**
1. Tracking system is not fully implemented. The system is not available to all areas that need it. There are limitations to the current systems.	**1.** Track students both within the college and after they graduate/transfer and/or transition to the workforce.
Bridges:	**Barriers:**
Tracking technology is currently available	Lack of tech. support staff.

Objective 1:	Hire more technical people
Objective 5:	Implement the tracking system

Initiative 4	Organizational Development
Goal	An institution that meets the needs of all students and personnel, and one in which people have a sense of belonging and an understanding of the organizational structure.

Current State:	**Desired State:**
2. There is little evidence that people have a widespread understanding of the roles of others.	**2.** Individuals understand and are able to communicate their roles and the roles of others within the organizational structure.
Objective 2:	Develop and implement orientation process for new hires. All current new hires should go through the process by the end of 2004
Objective 5:	Develop and distribute surveys that determine the needs of students

Initiative 5	Technology
Goal	Ensure state-of-the-art information technology/media are used by a highly skilled college community

Current State:	**Desired State:**
1. Faculty/staff not fully utilizing resources currently available	**2.** Faculty/staff continuously trained to evaluate their technology needs and to utilize available resources. Overcome technology phobia
2. Have to manually mine data	**2.** Have data available to all concerned

	employees
3. Online services inadequate	**3.** Offer online services to include email, registration and course completion
4. Inadequate manpower	**4.** At least two more full time technical persons(database/media)
Bridges: Current technical persons will enable change process	**Barriers:** Lack of employee commitment for software/computer training
Computer software and hardware evolving to become more user friendly	Inadequate incoming student/employee computer skills
Current network infrastructure capable of handling required load	Insufficient manpower/budget for maintaining technology and increasing technical awareness for IT department
New equipment to upgrade current facilities	Bilingual website, software, instructions
Sufficient computer access for students on campus	Dynamic changes in technology
Phase II construction projects	Inadequate facilities for vocational student
	Need more efficient way to communicate to students
	Technology committee doesn't meet regularly
Objective 1:	Ensure that we have a technology training plan
Objective 2:	Secure external funding including federal/state grants
Objective 3:	Ensure adequate IT staff to meet current needs

Appendix C: Technology Projects Gantt Chart

See attachment.

Note: a full-sized version of this Chart is available on the website at:

http://www.paloverde.edu/technologyplan/

Appendix D: Information Technology Department

Mission Statement

The mission of Information Technology & Services is to provide leadership and guidance, service and support, education and technical expertise required to establish and maintain information technology systems for the college community in accordance with the values, vision, mission and goals of Palo Verde College.

The IT Department will accomplish its mission by providing and coordinating information technology to our user base, which includes students, individual faculty and staff members as well as campus departments.

The department's primary responsibilities are in the areas of

- providing information technology and services to our user base
- developing and maintaining college database and information systems
- developing and maintaining network and security infrastructure
- developing, implementing and recommending standards for information technology
- coordinating the acquisition of information technology
- providing direct support to our end users in a timely and consistent fashion

Department Vision

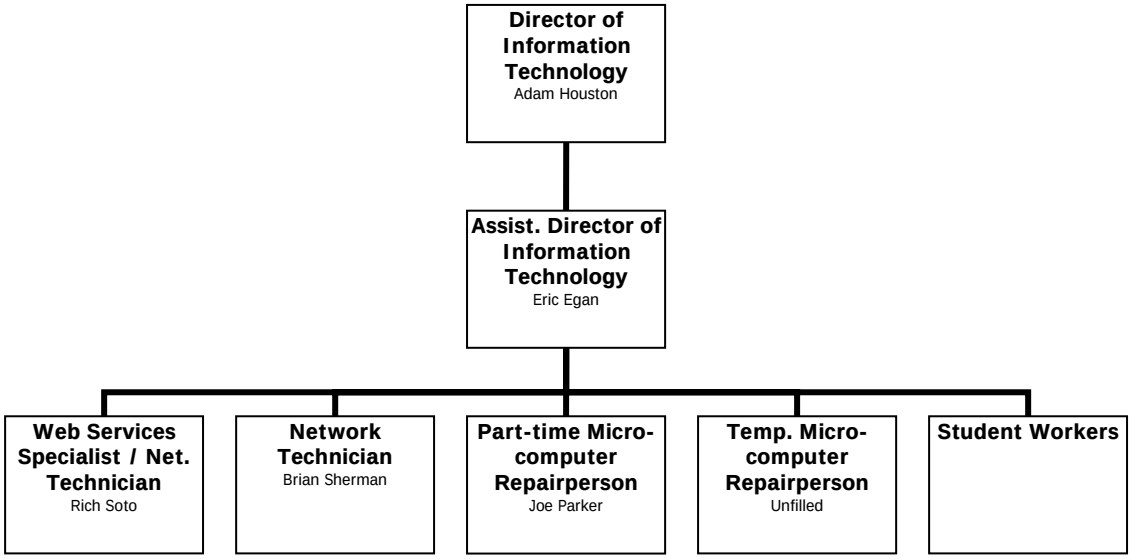
To provide the best technology services to our user base through the effective utilization of existing and new technology. The IT Department will implement and support technologies and processes that will increase access to information, improve service to our user base and improve the quality of education at Palo Verde College.

Strategic Goals

- Implement enterprise initiatives to provide access to college and student information via campus website, in-line admissions and registration and student portal functionality.

- Effectively manage and improve access to college data-systems to ensure information is readily available to be utilized in decision making processes.
- Assist faculty with the integration of technology into curriculum.
- Provide technical support for college distance learning initiatives.
- Maintain a customer-driven culture within the department to ensure users' IT needs are well defined and consistently met.
- Establish and IT management and coordination structure to achieve an enterprise approach to managing IT resources in order to improve service to users and streamline department operations.

Department Structure



Appendix E: Background Information on Jenzabar Modules

Jenzabar EX

Jenzabar EX Overview

A total campus solution, Jenzabar EX provides an out-of-the-box, easy-to-implement suite of applications ranging from Admissions to Alumni Development. Designed for institutions seeking an easily managed environment, Jenzabar EX is Web-enabled, provides robust navigation and communication tools every constituency you serve, and is fully capable of handling all your administrative and student information needs, including e-learning, course management, and e-commerce.

Built on an industry-standard Microsoft® platform, Jenzabar EX provides easy navigation for users who are familiar with using point-and-click functions, tabs, drop-down windows, and Help screens. Utilizing emerging technology, the system provides further data access to advisors and students on the World Wide Web.

Web Functionality

Self-service web functionality is delivered through Jenzabar's Internet Campus Solution and Jenzabar's Constituent Relationship Modules (CRM's). Each optional CRM is tightly integrated with Jenzabar's back-end ERP solutions.

Delivered as a series of flexible portlets within Jenzabar's Internet Campus Solution, the following CRM's are available for Jenzabar EX:

- CRM Candidate
- CRM Constituent
- CRM Events Management
- CRM Faculty
- CRM Staff
- CRM Student

Systems & Modules

The following describes the modules and system features of Jenzabar EX.

- Core
- Accounts Payable/Receivable
- Admissions
- Advising
- Alumni Development
- Communication Management
- Enterprise Reporting
- Financial Aid- PowerFAIDS Interface
- General Ledger
- Nontraditional
- Payroll and Personnel
- Purchasing
- Registration
- Student Life

Core

Using a familiar Windows® environment, Jenzabar EX's core system contains powerful system features including unlimited capacity for data management and number of users. The rich functionality of the system's Common Module totally integrates all offices on campus by sharing critical data used across the institution, and ensures records are kept up to date. Keep system running 24 hours a day, with no downtime needed for backups.

Data security includes access permissions at the operating system, database, and applications levels. The institution can control access by office, individual, or functional area.

Accounts Payable/Receivable

- Multiple accounts payable subsidiaries
- Vendor 1099-MISC amounts
- 1099 forms
- Filing on magnetic media
- Multiple addresses for each vendor

Admissions

- Requirements tracking
- Interfaces with SAT, ACT, CEEB tapes, student search disks
- Notepad "to do" lists
- Microsoft® Word interface
- Locate prospects
- Communication Management
- Schedule interviews

Advising

- Academic advising information
- Institutional requirements
- Student course history
- Current academic progress
- Credit & grades inquiries
- Student requirements

- Degree plan information by:
    - Courses taken
    - Courses needed
    - GPA for courses taken
    - Electives taken and needed

Alumni Development

- Plan Upcoming Campaigns
- Research Funding Sources For Grants
- Produce Planned Giving Proposals
- Create Personalized Correspondence
- Record Pledges and Gifts

Communication Management

- Track every contact with individuals or organizations
- Automatically schedule and time the creation of letters on the dates you want them
- Manage name and addresses that vary with time
- Merge letter and label files compatible with Microsoft Word

Enterprise Reporting

- Standard Reports - Jenzabar EX includes the Sybase® reporting tool InfoMaker®. This powerful reporting tool has an easy-to-use interface that helps you generate informative, decision-ready reports. With InfoMaker, you do not need to understand database languages, and you have access to templates for instant report layout, seamless connectivity to databases, and point-and-click query construction.
- For executive-level reporting, Jenzabar offers the QuikView reporting tools. QuikView is a set of services and data manipulation tools especially created and designed to assist your institution in its efforts increase institutional effectiveness and receive the "embedded" benefits of an integrated administrative management information system. QuikView tools enable you to measure an institution's performance from many perspectives as well as track costs, make historical comparisons, and recognize trends.
- Campus Intelligence - Data Marts

Financial Aid - PowerFAIDS Interface

- Seamless Interface to PowerFAIDS
- Autoload ISIR, CSS/PROFILE, and external data
- Flexible budget construction Academic period definition Need analysis
- Automated award packaging
- Electronic ISIR, history correction, and Pell grant
- payment support
- Loan origination for FFELP/FDSLP
- Automated disbursement

General Ledger

- General Ledger application
- Financial Budgeting
- Federal/State compliance
- Accounting standards compliance
- FASB, NACUBO, and AICPA reporting regulations

Nontraditional

- Market programs and courses to targeted groups
- Manage non-traditional resources
- Track profitability of each course
- Share information with Development
- Customizable reports, labels, mail-merged letters, and cross-tab statistic reports
- Create reports using: Powersoft® InfoMaker®, Microsoft® Access

Payroll and Personnel

- Web registration
- Federal, state wage, and tax reports
- Fringe benefit, deduction, and accrual benefit criteria
- Specify pay periods per year
- Federal, FICA, EIC, W-2 tax tables

- Federal, state, and local tax rates
- Direct deposit transfers via magnetic media (NACHA standards)
- Voluntary deductions
- Employer contributions
- Timecard generation
- Check calculator
- Fringe benefit distribution process

Purchasing

- Alternate approvers
- Purchase requisitions
- Purchase orders Group requisitions
- Track purchase orders and receiving
- Charge purchase order and requisition items to department accounts
- Prevent payment of invoices for items not marked as received

Registration

- Student entry
- Course entry
- Block registration
- IPEDS
- Right-to-Know retention reports
- National Student Loan Clearing House student enrollment verification
- Ad Astra course/event scheduling
- Satisfactory academic progress reports

Student Life

- Student Activities
- Residence Life
- Student Health

- Vehicle Management
- Violations/Sanctions

Third Party Interfaces

Jenzabar EX has the following Third Party Interfaces.

- Ad Astra
- PowerFAIDS

Technology

The following describes the technology components of Jenzabar EX.

Technology	*Description*
Design:	Jenzabar EX is a Windows® client/server-based system.
Platform:	Windows 2000®
Database:	Microsoft® SQL Server or Oracle®
Platform Server:	Intel® Pentium III XEON Dual 700 MHz or above Dual processors RAM - 1 GB or greater
Client PC:	Intel® Pentium III 500 MHz or above RAM - 128 MB or greater Operating Systems: Windows 2000®, Windows NT®, Windows 98® Office Applications: Microsoft Office®

Appendix F: Background Information on TeamHeadquarters

See attachment.