

2008-2011



CSU STANISLAUS INFORMATION TECHNOLOGY PLAN

OFFICE OF INFORMATION TECHNOLOGY AUGUST 2008

California State University | Stanislaus

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Introduction

The most recent information technology (IT) plan was issued in 2003 as the *California State University, Stanislaus Academic Technology Plan*. It spoke primarily of academic technology initiatives; a comprehensive plan incorporating all aspects of information technology had not been developed.

Significant progress toward fulfilling the aspirations of the 2003 plan has been achieved. Addressing unrealized objectives and establishing a refreshed view of institutional priorities and technologies is the task of this new plan.

The dynamic nature of the institution during the past several years provides an important backdrop for understanding the evolution of this document. A new president took office in 2005; a new provost and chief information officer in 2006. The academic organization was reestablished around six new colleges, and new deans and other senior administrators were brought on board to establish a new leadership direction.

And, at both the university and system levels, new institutional strategic plans under development now provide the context for future information technology planning.

PRESENTATION STRUCTURE

The environment for planning is presented first, beginning with a CSU system-level perspective and concluding with a status review of the 2003 plan.

This is followed by sections which align with the five major service areas of the Office of Information Technology (OIT): Learning Services, Information Services, Technology Services, Client Services, and the CMS Project. Within each of these, specific areas of focus are described along with associated initiatives for the 2008-2009 year and new investments to be made.

Following this high-level presentation are detailed descriptions of areas of special interest intended to illustrate the breadth of issues faced by contemporary information technology organizations.

The presentation order of this information is not meant to establish priorities for action, nor are the plan's contents expected to be static. The rapidly changing nature of technology as well as the dynamic environment of higher education argues for a plan that is continuously reviewed for relevance, for alignment with evolving university and community needs, and for fiscal appropriateness.

The plan is therefore intended to provide guidance for a rolling period of three academic years. It will be reissued each year to take environmental changes into account, and to permit an annual assessment of progress.

Planning Environment

CSU SYSTEM

In May 2008 the CSU Board of Trustees adopted *Access to Excellence* as the system-wide strategic plan for the next ten years. It identifies three major domains of importance: (1) increasing student access and success; (2) meeting State needs for economic and civic development, through continued investment in applied research and meeting workforce and other societal needs; and (3) sustaining institutional excellence through investments in faculty, innovation in teaching, and better access to student research and service. It also identifies ten goals for action:

- Reduce existing achievement gaps
- Plan for faculty turnover and invest in faculty excellence
- Plan for staff and administrative succession and professional growth
- Improve public accountability for learning results
- Expand student outreach
- Enhance student opportunities for “active learning”
- Enhance opportunities for global awareness
- Act on the CSU’s responsibility to meet post-baccalaureate needs, including those of working professionals
- Increase awareness to grow expectations for degree attainment
- Strengthen cross-sector (P-16) strategies and structures

Access to Excellence cites the need to develop strategies to promote adaptations in pedagogy to improve student learning – technology providing one vehicle for accomplishing this goal.

CSU SYSTEM INTEGRATED TECHNOLOGY STRATEGY

Access to Excellence recognizes that information technology has had a transformative influence on higher education during the last decade. During that time, the CSU has pursued a system-wide Integrated Technology Strategy (approved by the Board of Trustees in 1996) to ensure that “all CSU students, faculty, and staff can communicate with anyone, from anyplace, at any time,

through access to the full range of national and international information resources.”

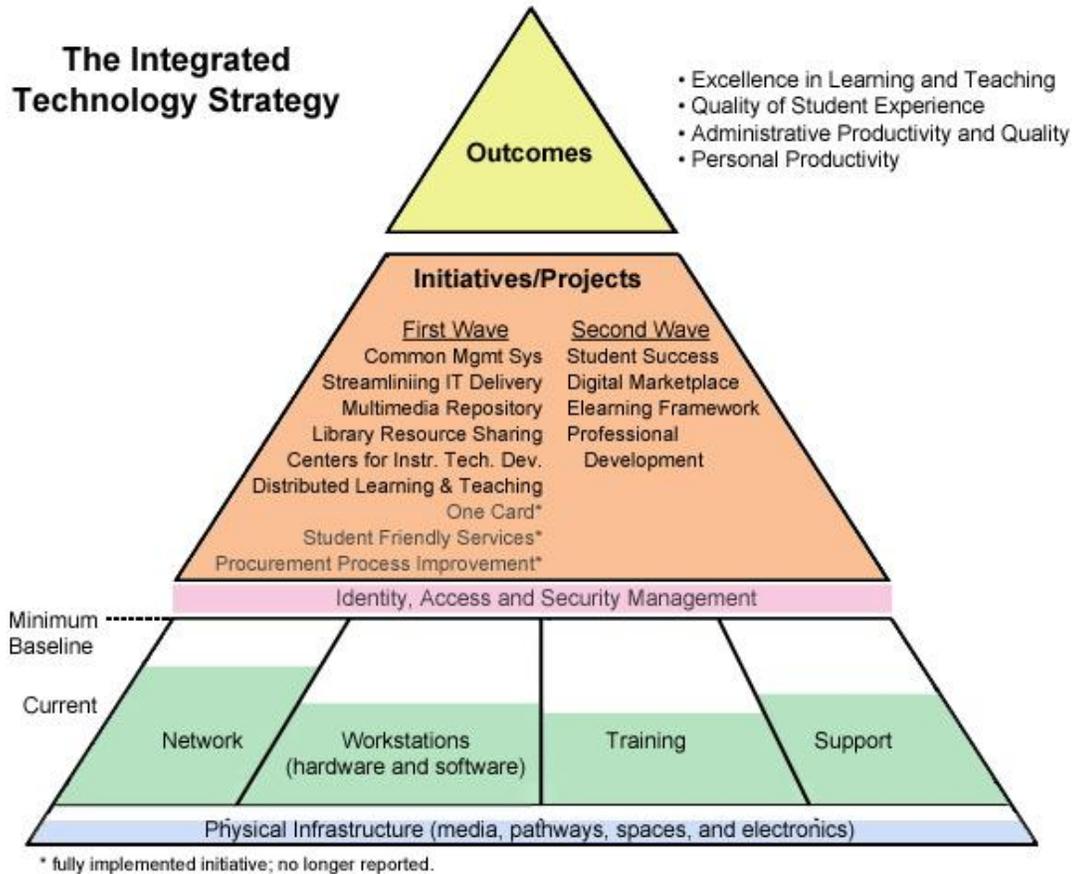
The planning framework established in 1996 continues to guide the CSU’s approach to information technology management, and is illustrated by the pyramid figure on the following page.

The IT policy, hardware and software foundation needed to enable successful implementation of the initiatives and outcomes depicted by the pyramid has been largely realized throughout the CSU campuses. This is conveyed by the green areas at the base of the pyramid (“Minimum Baseline”).

The pink layer of the pyramid has recently been added in recognition of the growing importance of identity and security management.

First wave initiatives are either complete or well on the way; second wave initiatives, and more to come, are now the focus of planning and development efforts.

The outcomes have been achieved to some degree throughout the duration of the plan, but more work must be done to determine the most effective way to measure progress.



CSU STANISLAUS

The latest CSU Stanislaus strategic plan was approved in May 2007. *Framing the Future* describes three key themes and associated actions:

- Student engagement, development, and student achievement
- Support for teaching and learning, scholarship and service
- The University and the community

Priority attention during the 2008-2009 academic year is focused on seven particular action items:

1. Continue to provide excellent undergraduate and graduate programs in the liberal arts and professions
2. Develop new programs that demonstrate the greatest centrality to the University's mission, the highest quality of academic rigor, and expectations for student learning

3. Ensure a comprehensive and accurate student advising program to articulate clear degree pathways and emphasize student accountability
4. Recruit and retain a diverse and engaged faculty
5. Support the professional development, growth, and achievement of the University's staff
6. Provide accessible, comprehensive library resources and services to support the research and scholarship of students, faculty, and staff
7. Provide appropriate campus technology services to all members of the campus community, while maintaining the primacy of technological support for academic programs

Although information technology plays a part in the achievement of all of these actions, the Stanislaus campus plan provides specific implementation guidance for the last one:

- Provide agile, robust, and ubiquitous technological services
- Improve service delivery through accessibility and expanded communication
- Improve faculty and student access to campus information and appropriate technology tools
- Recruit technical staff in sufficient numbers and with appropriate skills

And, it proposes the following effectiveness indicators:

- Technological support measures
- Technology assessment through support unit review process
- Faculty, staff, student satisfaction, and graduating seniors' surveys

In addition to this action item, several others from the Stanislaus campus plan deserve special recognition. One, the third on the priority list above, concerns student advising. Using the capabilities of the new student administration system component of the PeopleSoft system, the first steps are being taken to provide online degree audit service for students.

Another is to "Continue the development of the Stockton Center." IT initiatives at Stockton are presented in the Stockton Center section of this document. Lastly, the plan seeks to "Increase organizational efficiency and effectiveness" by improving the integrity of institutional data and data systems while streamlining administrative operations and enrollment management processes.

OFFICE OF INFORMATION TECHNOLOGY

In order to be effective, OIT's information technology plan must align with the directions and priorities established at the campus and system-wide levels. While the campus and system-wide strategic plans were being developed, OIT's day-to-day operations were being informally guided by the values and objectives described in this plan. With the publication of this document, the strategic direction that has been evolving is given a formal voice, and the organization presents itself as ready to undertake the challenges that lie ahead.

EDUCAUSE, the higher education association for information technology, conducts an annual survey of the top-10 IT issues most important for institutions to resolve for strategic success. For 2008, the list includes:

- 1) Security
- 2) Administrative / ERP Information Systems
- 3) Funding IT
- 4) Infrastructure
- 5) Identity / Access Management
- 6) Disaster Recovery / Business Continuity
- 7) Governance, Organization, and Leadership
- 8) Change Management
- 9) E-Learning / Distributed Teaching and Learning
- 10) Staffing / HR Management / Training

These issues currently dominate the professional dialogue in higher education IT circles, and they naturally are of concern to CSU Stanislaus. Most are cited in the campus and system-wide plans, though some, such as disaster recovery and change management, appear absent. All are integral parts of a reliable IT service delivery program, and must be addressed along with more visible elements of institutional concern.

2003 ACADEMIC TECHNOLOGY PLAN

Highlights from the 2003 plan and measures of progress as of summer 2008 are outlined below according to the plan's original divisions.

"Investment in the professional growth and achievement of staff is essential for the University to achieve excellence of operations and to fulfill its mission as a learning organization."

CSU Stanislaus Strategic Plan

Curriculum

The importance of discipline-specific computer labs to provide access to technology resources for students and faculty was highlighted in the plan. Responsibility for sustaining and supporting these labs over time was described as belonging to the individual colleges and departments, rather than OIT. Although details vary among labs, there is generally insufficient base funding to sustain these facilities adequately. Instead, one-time grants or other cash funding is relied upon for the purpose. The availability of staff support for these labs varies as well, resulting in an inconsistent student experience.

The need to support distance learning was acknowledged in the plan. The campus has made significant progress incorporating new learning management software into the curriculum, but the transition to Internet-based learning has not become a widely-accepted alternative to traditional televised distance courses.

The lack of funding and support to ensure compliance with the requirements of the Americans with Disabilities Act was noted in the plan. The new Accessible Technology Initiative recently undertaken by the CSU Chancellor's Office is beginning to address this concern at the system-level, but it remains an unfunded mandate on the campus. Nonetheless, the effort to address the problem has gained significant momentum and raised campus awareness significantly.

The need to develop and sustain information competency and computer competency skills for students was described in the plan. Although relatively little has changed in this area, the university will participate in the newly named "iSkills" ICT Literacy Assessment program of the Educational Testing Service. The initial results from this survey will provide a baseline against which future progress in this area can be measured.

Professional Development

Faculty professional development support is critical to achieve effective use of technology in the classroom or an online setting. The 2003 plan called for various incentives and recognitions for faculty to integrate technology into their offerings which have largely not been implemented. However, in 2007 a \$3,000 stipend was made available to faculty willing to participate in a pilot study of the eCollege learning management system platform. Also, changes to the charge of the University Educational Policies Committee have been proposed to encourage recognition of the work involved in developing technologic innovations in the promotion and tenure process.

Support for faculty training in this area is provided by OIT staff working in cooperation with the Faculty Development Center, and training opportunities in related technologies are regularly offered each semester. An annual “Tech Fair” is hosted by OIT for the entire campus. OIT and the FDC have jointly sponsored a lecture by a visiting faculty expert in the use of podcasting techniques. And, OIT has acquired an “island” in the *Second Life* virtual environment for experimentation by faculty interested in the use of virtual spaces to host educational and collaborative experiences.

Infrastructure, Hardware, Technical Support, and Software

The plan speaks to the lack of sufficient base funding to acquire and sustain technology in the most cost-effective and technically-useful fashion. It also calls for the AVP/CIO to be a signatory on grant applications to ensure proper coordination of resources acquired through external funding. Significant progress has been made in this area at the campus level, but statewide budget constraints have resulted in the loss of millions of dollars in previously expected central funding for academic technology initiatives.

The requirement for additional technical support and training for technical staff was emphasized in the plan. Unfortunately, staffing remains inadequate to meet the increasingly complex needs of faculty and students. In this as well as most other areas of staffing within OIT, the university falls far behind its peers in the number of FTE staff available to provide direct support to constituents. Technology support at CSU Stanislaus remains essentially a “9 to 5” operation at a time of “24 by 7” need.

Infrastructure requirements described in the plan included those which were under-funded in prior years, those which could help integrate technology across all disciplines, and areas for system-wide action. Among them:

- *Upgrade faculty and computer lab / library computers on a three-year cycle:* Only limited base funding has been available to achieve this objective, although borrowed funds have been used to finance a portion of the need.
- *Ensure all necessary classrooms are equipped with a baseline configuration of audio / visual equipment (“smart classrooms”) and that the equipment is upgraded on a five-year cycle:* Only limited base funding has been available to achieve this objective.
- *Provide stipends to faculty to integrate technology into the curriculum:* This was done as an inducement for faculty to participate in the eCollege pilot program, and continues to a limited extent for use of Blackboard.

- *Provide wireless network access throughout campus:* This will be achieved during 2008-2009.
- *Improve communication of information related to technology:* A new emphasis on this objective has been highlighted through organizational changes within OIT.
- *Library systems must be upgraded, and additional computers be made available for student access:* The library has installed a new state-of-the-art library management system, and additional computers have been installed in the library with support from OIT.
- *Establish a connection to Internet2:* Although funding is inadequate to fulfill this objective, there is also no well-articulated academic requirement to do so.
- *Enable the use of streaming media for large numbers of campus users:* The necessary technology will become available during the current academic year on a limited basis.
- *Implement a student technology fee:* Not approved. The Chancellor's Office plan (currently unrealized) was to substitute, starting in 2008-09, additional central base IT funding promised as part of the state budget "compact" with the governor.
- *Implement central Chancellor's Office funding to provide for ongoing maintenance of campus infrastructure technology:* Although funding provided by the Chancellor's Office is frequently the source of initial campus capital technology funding, ongoing maintenance of this technology continues to be a campus responsibility in most cases.

Monitoring and Evaluation

Collection of data to help measure outcomes achieved through implementation of the plan recommendations was emphasized. Data is now available for many of the areas cited – for example, Blackboard usage statistics, campus-wide personal computer inventory records, and student use of computer labs. Other measures such as Help Desk call volume and satisfaction surveys have not been tabulated, but new software currently being implemented will facilitate this process in the future.

A survey of student and faculty technology needs has not been administered as suggested by the plan. Also, the various methods of assessing the effectiveness

of the integration of technology into the curriculum have not been pursued as envisioned in the plan.

Funding and Budget

Funding for technology continues to fall far short of requirements. Among the many areas of need cited in the plan, there has been limited progress. Only one new position out of eight requested was funded, and most hardware and software requests were either not met, or were realized by using one-time or borrowed funds instead of a new base budget allocation. However, the funding situation has changed dramatically as a result of a broadcast spectrum licensing agreement which is described in the Clearwire Partnership section of this document.

OIT Organization

MISSION

The Office of Information Technology advances the university's mission through the provision of technology services to all members of the university community.

VISION

OIT strives to create a high-quality, reliable, secure and responsive technology environment to support students, faculty and staff in the pursuit of their educational and work objectives. We seek to enable innovative uses of information technology in instructional, administrative and social applications in harmony with the overall mission of the university. The staff and financial resources required to provide our services must be sustainable over time. Our contributions to the life of the university will be respectful of our differences while building upon our common best interests.

ADVISORY GROUPS

Existing groups such as the CMS Steering Committee and the Technology and Learning Subcommittee of the University Educational Policies Committee provide a forum in which many important technology issues can be discussed and considered. But, a single group with a university-wide perspective is required to help provide focus for the increasingly wide-range of opportunities which

information technology enables, and to provide guidance for policy and procedure development intended to support and enhance the mission of the university.

Therefore, a new OIT Advisory Council has been established to serve in this role, with representatives drawn from all campus constituencies. There is also a need for regular communication with an operational-level group of campus technical support staff about the latest technology initiatives being undertaken on a campus-wide basis. The focus of this group, to be called the OIT Technology Forum, will be on technical implementation details and operational policies and procedures as they evolve over time. Topics will be wide-ranging and include matters of general interest to both academic and administrative departments.

OIT UNITS

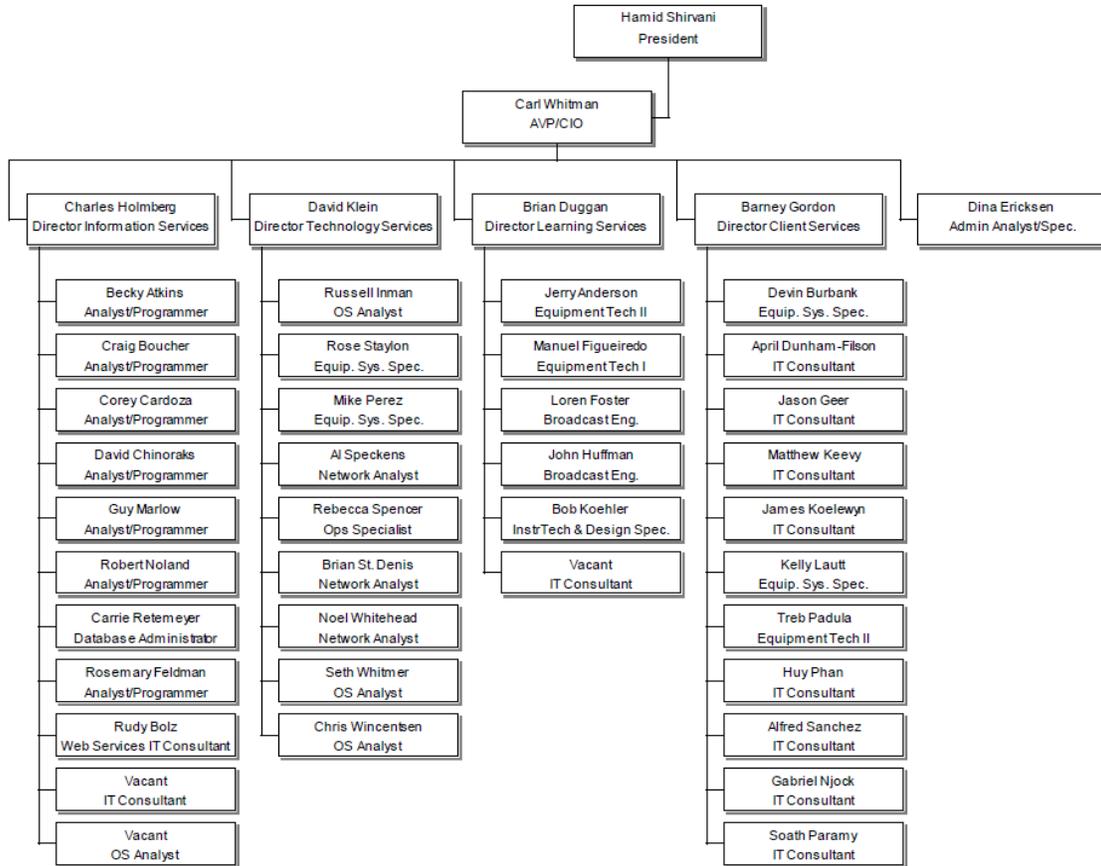
The Office of Information Technology is organized into four major units reporting to the Associate Vice President and Chief Information Officer (CIO). The CIO reports to the president and holds university-wide responsibility for providing leadership for all aspects of campus information technology including academic, instructional and administrative technologies and their associated supporting infrastructure and services.

In order to emphasize OIT's service role, the descriptive names assigned to each functional unit within OIT have been updated, and individual subdivision distinctions eliminated. The term "services" is now the common link among all OIT units. Additional changes have been made to enhance our ability to meet the constantly evolving requirements of implementing and maintaining complex new technologies, and to align the focus of our limited staff resources with key institutional priorities in areas such as online education, access to enhanced technology services, security, and administrative support.

OIT's scope of responsibility includes:

- Administrative business systems such as PeopleSoft
- Academic systems such as Blackboard
- Classroom technology supporting teaching and learning
- Support for distance education programs using multimedia technologies
- Technology training for faculty and staff
- Information security
- Central server management
- Campus-wide data, voice, and video network management
- CSU system-wide IT program coordination

An OIT organization chart appears below.



Learning Services

The former Mediated and Distance Learning (MDL) group within OIT continues to be charged with supporting the faculty in its efforts to offer a high-quality educational experience to students, whether they are in a classroom on the Turlock campus, at a distance at our Stockton or Merced facilities, or at their home but connected via the Internet. Technology is driving dramatic change within this area. At its inception, "distance learning" meant the offering of classes at one of several remote learning centers located throughout the university's service area via private television broadcasting using a service known as ITFS. Today, ITFS is being replaced with Internet-based technologies and video

conferencing, offering a more flexible and feature-filled way of delivering educational content.

Learning Services incorporates the Faculty Multimedia Center, MDL, the television studio, and all distance and online learning system administration.

Service Focus

- Enable the development and delivery of fully online courses and degree programs by providing instructional design and implementation support to faculty
- Enhance classroom instruction by providing access to and support for online course materials, collaboration tools, assessment methods, and multimedia technology
- Provide access to classroom-based instruction at strategic alternate off campus locations using interactive audio / video technologies

2008-2009 Initiatives

- Increase one-on-one support for faculty to assist in transitioning existing courses to an online format, or to develop entirely new courses for the online environment
- Enhance support for making course content fully accessible to students with disabilities

New Investments

- Upgrade distance learning classrooms to use high-definition video conferencing equipment and large-screen flat-panel monitors
- Expand capabilities to provide live streaming video broadcasts and recording of classroom presentations for subsequent Internet retrieval
- Add one additional instructional designer position and fill existing vacant position
- Expand an existing half-time broadcast engineer position into a full-time position with an emphasis on media production

Information Services

Staff within the Administrative Computing support group who provide programming and data base management support for Banner, PeopleSoft and other administrative systems possess the same skill sets needed to provide similar technical support for academic systems such as Blackboard and other applications used within academic departments. In recognition of this, the scope of this unit will expand to include all computer-supported applications within the university. To facilitate this change in emphasis, certain computer room operational responsibilities formerly assigned to members of this group will be assumed by Technology Services.

In addition, because this area is the focus of many security-oriented concerns, it will also take on the responsibilities of the Information Security Officer (ISO) role. The ISO works in conjunction with other ISO's throughout the CSU system to develop policies and procedures related to maintaining the security of CSU institutional resources.

As the technology supporting the creation of Internet web sites has become mainstream and therefore more accessible to people outside of the traditional information technology profession, there has been a growing recognition that web site design and content publishing is more the province of communication professionals than technical professionals.

In light of this, some OIT staff devoted to web site production have been transferred to the Communications & Public Affairs office in order to support its efforts to improve the university's brand image through the design of new web sites and publications conveying a consistent visual and content message in print and electronic formats. Under the direction of that office, a web support team is being developed to serve many of the needs of academic and administrative offices. OIT will continue to be responsible for selected administrative web sites, web server hardware and operating system software support, user account provisioning, and content management system integration with existing administrative and academic systems. OIT will also be responsible for monitoring compliance with the university's web site accessibility policies

Service Focus

- Understand and help to optimize the administrative functions and workflow of university academic and business offices, meeting needs for process automation and record retention by implementing vendor-written and custom-developed software solutions

- Help to define and promote use of appropriate security, accessibility and compliance policies and procedures
- Maintain the integrity of the university's data infrastructure and promote effective and timely access to analytical management reports
- Assess the impact and potential value of new and emerging technologies

2008-2009 Initiatives

- Support the implementation of the Student Administration modules of the PeopleSoft software
- Help to define and implement campus-wide information security policies and procedures
- Begin implementation of a campus-wide, shared document management system capable of supporting the full life-cycle of university business information
- Define an architecture and reporting strategy for a data warehouse to serve as a repository of legacy Banner data as well as new management information derived from the PeopleSoft system
- Evaluate available alternatives for a campus-wide web content management system

New Investments

- Acquire an appropriate data warehouse ETL (extract-transform-load) data manipulation tool, as well as reporting software which can easily be used to produce executive-level management summaries of critical institutional data as well as day-to-day operational reports
- Implement a document management system using tools and capabilities delivered as part of the Microsoft SharePoint technology product suite

Technology Services

To ensure consistent management of server hardware and operating system software across the variety of platforms in use, all computer room and telecommunications operations have been consolidated into the former Networking and Communications group. The computer room will be significantly

upgraded to improve its reliability, security, and overall capability. A single large UPS (uninterruptible power supply) serving the entire facility has been installed; air conditioning, power and security improvements are being implemented and new equipment racks and other improvements are on order or planned.

Service Focus

- Develop and sustain a technology infrastructure capable of providing the foundation for campus-wide data, video, and voice creation, manipulation, transmission, storage, and reproduction
- Help to ensure the continuity of the university's educational mission in the event of a catastrophic disruption of normal activity
- Plan for and manage the evolution of infrastructure technology to maximize its contribution to the university's mission within a sustainable financial framework

2008-2009 Initiatives

- Foster academic creativity and administrative productivity by enabling all faculty, students and staff to have access to adequate network resources to share information, store data securely, and manage large files which cannot or, for security reasons, should not be stored on local computer storage media
- Provide a common network backup system capable of replicating copies of critical information in the event of a physical disaster
- Provide 100% wireless coverage for all campus facilities – indoors and out – and upgrade existing network equipment as needed throughout campus to keep pace with growth in network usage
- Implement a campus-wide video distribution capability

New Investments

- Acquire a large-capacity storage area network (SAN) to provide a common repository for all institutional data and to serve as a cornerstone of a business continuity infrastructure

- Acquire a common network backup system (hardware and software) capable of replicating copies of critical information in the event of a physical disaster
- Add additional computer servers to support applications such as:
 - Online courses, streaming video, and classroom presentations
 - Enhanced electronic mail services
 - Web servers for both institutional and departmental sites
 - Improved network security and operational management
 - Data warehouse and management reporting
- Acquire wireless network equipment (hardware and software) to complete the wireless campus installation and provide the necessary software tools needed to effectively manage the network
- Acquire an “appliance”-based hardware-software system to provide a highly reliable, high performance network name resolution, addressing and event logging system
- Acquire a video encoding and transmission system to provide access to broadcast television content to any local campus network PC

Client Services

The functions formerly assigned to Academic and Instructional Technology Services, the Help Desk, and the Instructional Media Center have been consolidated into a unified Client Services group. Client Services is the public face of OIT, and is responsible for desktop technical support, classroom and computer lab support, training and communications outreach, as well as coordination of all OIT web site content.

Service Focus

- Be a comprehensive source of easy-to-understand and reliable technical information
- Provide in-person and remote technical assistance for both software and hardware problems encountered by all members of the university community

- Provide academic program support through management of multiple general-purpose student technology labs and classrooms

2008-2009 Initiatives

- Implement a comprehensive three-year replacement cycle program for all faculty, staff, and OIT-managed lab and classroom computers, including equipment acquisition and disposal and software image management
- Improve OIT communications through enhancement of the OIT web site and the development of specialty publications
- Enhance the professional abilities of the Help Desk staff through appropriate training and access to enhance software problem diagnostic and management tools

New Investments

- Personal computers for approximately 200 faculty and staff
- 228 personal computers (Apple and Dell) for OIT-managed computer labs and classrooms

CMS Project

As the Common Management Systems (CMS) project transitions from its implementation phase to ongoing-operations, the executive sponsorship of the project for the Stanislaus campus has moved to OIT.

Virtually all of the required core modules of the PeopleSoft software have been implemented; it is now time to ensure that the new capabilities available through expanded use of the system will be tightly integrated with other OIT initiatives and focused on our most important institutional priorities.

Service Focus

- Provide project management services to support implementation of the PeopleSoft software suite
- Begin to evaluate the utility, priority, and level of effort associated with future implementation of optional licensed PeopleSoft components

2008-2009 Initiatives

- Complete implementation of the remaining core application modules
- Begin a gradual transition to broader IT project management responsibilities in support of all OIT service areas

New Investments

- Consulting services and back-fill staffing necessary to complete implementation of core modules, with an end date of June 2009

Clearwire Partnership

As noted in other sections, the university has been licensed by the Federal Communications Commission (FCC) since 1981 to use microwave transmission technology to broadcast televised classes to a variety of locations throughout the Central Valley using the capabilities of a microwave broadcasting technology known as ITFS (Instructional Television Fixed Service), now renamed EBS (Educational Broadband Service). Changing FCC regulations and the development of new technologies have made it financially desirable for the university to lease its broadcast spectrum to commercial providers of wireless Internet service.

In October of 2007 the university issued a Request for Proposals to lease its EBS spectrum. The eventual winning bidder was Clearwire Corporation, which is building the first nationwide “fourth generation” mobile Internet wireless network. The Clearwire network will eventually provide an enhanced ability to use wireless Internet service to reach members of the CSU Stanislaus community who live in remote areas in which no other high-speed Internet access is available.

Under the agreement, the university will receive compensation in the form of one-time payments, ongoing monthly payments for as long as 30 years, a limited amount of no-cost service, and discounted service for all members of the CSU Stanislaus community. The annual revenue received during each of the first five years will be over \$1.1 million, increasing in subsequent years.

When coupled with existing OIT budget resources, this level of funding is sufficient to meet the needs described in the 2003 Academic Technology Plan, providing ongoing financial support for all campus-wide information technology infrastructure requirements, including:

- 3-year replacement program for faculty and staff computing equipment
- Purchase of computing equipment for newly-created faculty and staff positions
- 3-year replacement program for student computer / classroom lab computing equipment
- Replacement or new installation of “smart” classroom audio-visual technology
- Replacement of media equipment used to support distance learning and video / television production
- Replacement of audio / video media equipment used in facilities such as Snider Hall
- Software licenses used by a majority of faculty, staff, or students
- Central server and data storage management hardware and software systems and ongoing enhancement and maintenance
- Wireless and wired network expansion and ongoing enhancement and maintenance
- Improved hardware and software capabilities to support the needs of students with disabilities
- Data warehouse and associated analytic reporting software tools
- Furnishings used in computer labs (desks, chairs, etc.)

Providing central base funding for these needs from an external revenue source will result in a reduced need for increased IT funding from the state general fund and relief to individual campus department budgets. Internal resources which would have been needed for IT support can be reallocated to other institutional priorities.

Accessible Technology

The system-wide Accessible Technology Initiative (ATI) has established a timeline and procedures for fulfilling the mandate of CSU Executive Order 926 to ensure that all CSU programs, services, and activities will be accessible to students, faculty, staff, and the general public. As applied to information technology, the implementation of the executive order focuses on instructional materials, web sites, and procurement. By 2012, all websites are to be accessible, all instructional materials in electronic formats are to be accessible, and all purchases of technology are to conform to accessibility standards – and alternative means of access must be provided for any exceptions.

Since the ATI work plan was defined in September 2006, the Stanislaus campus has made meaningful progress in each of these areas, but the results have been limited by resource constraints. To help focus greater attention on achieving ATI goals, responsibility for coordinating the effort within OIT has been assigned to the Director of Information Services, and additional financial resources will be allocated to improve the quality and availability of assistive technologies on campus.

Few if any CSU campuses have sufficient resources to fully meet the formal expectations of the ATI initiative. Assistance from the Chancellor's Office is essential, and is expected to be provided through the efforts of the ATI staff now in place. Sharing of the unique contributions of each campus will also facilitate achievement of ATI objectives, and will be promoted by the CO through the creation of campus Centers for Excellence to take advantage of expertise resident on each campuses to produce tools and resources that all campuses will be able to use.

There are no special budget funds to support the ATI effort outside of those traditionally allocated to the Disability Resource Services office. OIT will therefore allocate a portion of its budget to support campus-wide acquisition of accessible technology tools for student use, and administer a program to contract for captioning services when needed.

Web Sites

A software tool has been licensed for system-wide use which facilitates the evaluation of existing sites to determine non-compliant design elements. OIT uses this and other tools to ensure CSU Stanislaus web sites are accessible.

For newly created sites, standard templates have been created which result in accessible sites when properly used. As existing web sites are updated, previous content is moved into the new template format to achieve compliance.

Because web site development is of interest to many offices and content creators are distributed throughout campus, use of an enterprise-wide content management system could help ensure accessible sites as well as provide an easier method to provide distributed access to web site content.

Procurement

Procedures are being developed in consultation with the Purchasing Office to ensure that all technology purchases are reviewed for accessibility compliance based on the dollar threshold established by the Chancellor's Office. A new policy to require that OIT approve all information technology purchases would greatly facilitate this process.

Instructional Materials

An Instructional Materials Accessibility Policy was approved by the Academic Senate in April 2008. OIT will provide funding for hardware and software to upgrade and expand technology used by the Library and Disability Resource Services for the production of instructional materials for use by students with disabilities, as well as new equipment (workstations, scanners, etc.) for student use in two special accessible technology lab areas.

The Chancellor's Office has negotiated an agreement with Automatic Sync Technology (AST) for a bulk pre-purchase of captioning, transcribing and combined captioning/transcribing services. OIT will provide limited funding for use of this external service by faculty.

OIT will continue to offer workshops for faculty on accessibility issues, and will take steps to raise awareness in order to improve attendance.

Accreditation Review

CSU Stanislaus is currently conducting its reaccreditation self study, a process which will conclude with the educational effectiveness site visit in March 2010. Supporting the collection and dissemination of data used in the review is an important effort which OIT supports through a variety of technologies. But of

greater significance is OIT's contribution to the teaching, learning and research mission of the university as evaluated by the review.

Several of the outcomes of the Capacity and Preparatory report and process are directly related to OIT's role: refinement of a sustainable institutional research infrastructure; refinement of institutional capacity and systems for quality assurance; refinement of the role of the Library and information technology in support of teaching and learning; and development of increased capacity in related areas.

Assessment

Recent campus efforts to prepare for the most recent accreditation review by the Western Association of Schools and Colleges (WASC) have focused attention on the need to assess the effectiveness of our academic programs and administrative activities. Developing and refining the capacity to measure student learning and to integrate effectiveness strategies into daily operations is an ongoing process which should be an element of any information technology initiative.

Audit Compliance

This area has become increasingly important as the CSU emphasizes greater accountability and transparency in its administrative procedures. Recent financial and IT audits of the Stanislaus and other campuses have revealed vulnerabilities and procedural weaknesses which need to be corrected. In a few cases improvements are relatively easy to implement and carry a low cost. But in most instances, achieving compliance with stringent audit requirements is a time-consuming process requiring considerable negotiation with affected members of the university community.

Within OIT, responsibility for correcting audit findings is shared by all members of the management team. Coordination of our response to audits is assigned to the Director of Information Services, working in conjunction with the university Internal Auditor.

Business Continuity

An updated plan to provide continuity of IT operations is needed in the event of a physical disaster at the Turlock campus. Fortunately, an important element of the continuity plan is already in place – diversely routed Internet connectivity paths on the Turlock campus which connect to the state-wide CENIC (Corporation for Education Network Initiatives in California) Internet network.

Detailed in the Stockton Center section of this document is another key part of the plan, a high-capacity dedicated communication link between the Turlock and Stockton campuses that is independent of CENIC. This link will enable the use of a remote data center located on the Stockton campus as a “hot site” from which critical IT functions can be provided if necessary. The building-blocks of the infrastructure and support systems needed to make this possible are gradually being acquired as resources permit.

Classroom Technology

Each year, several classrooms have been transformed into “smart” classrooms equipped with a variety of technology tools, including projectors, screens, audio equipment, document cameras, DVD/VCR players, and integrated control systems. By the end of fall 2008, all 82 classrooms on campus will be equipped with an appropriate suite of technology tools.

Having reached the milestone of 100% smart classrooms, attention must now shift to allocating sufficient funding to refresh the technology on a regular basis, and to extend its capability to provide new functionality. An example is the use of video capture equipment to record classroom presentations for on-demand playback at a later time, and distribution in multiple formats such as podcasts and streaming video.

In April 2008, OIT made an initial investment in this technology by equipping three distance learning classrooms on the Turlock campus with the Mediasite recording system and server application for maintaining an online library of classroom video content. This system will also permit live webcasting of campus events using a portable device which integrates with the back-end server technology.

The presence of inconsistent control systems, varying podium designs, and multiple brands of equipment acquired over many years creates an often

frustrating experience for faculty members as their classes move from room to room. OIT will propose a standard podium design and integrated control system based on the most successful installed configuration currently in use, and extend this model over time to all classrooms.

Data Warehouse and Reporting

As the final core modules of the PeopleSoft system are implemented, attention will turn to the implementation of a comprehensive data warehouse to be used as a repository of institutional data which can serve as the foundation for an easy-to-use but powerful management information reporting system. CSU Stanislaus will work with other CSU campuses to evaluate available options. Reporting tools previously used with the legacy Banner system (e.g., Brio) will be updated or replaced to take full advantage of a new system incorporating data from both the Banner and PeopleSoft systems.

Information Security Program

The CSU is enhancing its information security program by developing a set of system-wide information security policies and supporting standards. In fall 2007 the CSU contracted with a consulting firm to assist in the development of these policies and standards in order to promote and encourage the appropriate use of information assets in accordance with applicable laws and regulations and university requirements.

At Stanislaus, a detailed review of the draft documents is being conducted by the OIT Advisory Council. Comments received from members of the campus community will be compiled for submission to the Chancellor's Office. As the policies and standards evolve, OIT will implement required changes and assist members of the campus community incorporate needed security changes into their daily activities.

A comprehensive information security policy for the campus should be in place as a result of these efforts by spring 2009. Complementing the policy will be a web-based information security awareness training tool for use by all faculty, staff and auxiliary employees in the CSU.

Topics that will be addressed by the policy are highlighted in the table on the following page.

Topics Covered by the Policies and Standards

- | | |
|--|--|
| <ul style="list-style-type: none">• Roles and Responsibilities• Risk Management• Privacy• Personnel Security• Security Awareness and Training• Third Party Service Providers• Information Technology Security• Configuration Management | <ul style="list-style-type: none">• Change Control• Access Control• Asset Management• Information System Management• Security Incident Management• Physical Security• Business Continuity and Recovery• Legal and Regulatory Compliance |
|--|--|

Learning Management Systems (LMS)

Blackboard has been the campus learning management system of choice for several years, most recently through an agreement which provided for remote hosting of the software and supporting course data at a Blackboard-operated data center. Although convenient at first, this outsourcing presented obstacles to integrating the software with other campus systems. Declining service quality and rising costs, coupled with availability of improved in-house resources, has created the opportunity to reduce annual expenses by returning the software to campus hosting.

The CSU system-wide contract with Blackboard expired in 2008, triggering a broad review of the market for alternative systems. The evaluation of learning system products was conducted with the requirements of the system-wide accessible technology initiative in mind. Only one product qualified for purchase based on accessibility criteria, making it difficult to justify a long-term contract renewal with Blackboard.

A one-year extension of the Blackboard contract was negotiated, setting the stage for a decision during 2009 regarding the long-term direction of learning management systems both on the Stanislaus campus as well as throughout the CSU system.

OIT will encourage faculty to consider alternative software platforms for future adoption, in particular the system sold by ANGEL Learning and the open-source Moodle software.

Library – OIT Integration

On more and more campuses, libraries and information technology organizations are moving closer together in their efforts to meet student and faculty needs for access to information resources through technology. At CSU Stanislaus, OIT and the Library have worked together to create the “Collaboratory,” a drop-in computer lab adjacent to the Reference Desk where students can access a variety of productivity and curricular software. The Library naturally benefits from other campus-wide OIT services such as wireless networking and Internet access.

Of particular note is the recent implementation by Library staff of a new integrated library system providing an online catalog as well as circulation, acquisition, and bibliographic maintenance modules. OIT and Library staff will jointly implement a patron authorization capability for the new system which will utilize a common directory source for ID and password validation.

OIT and the Library will also partner in 2008 on improving student access to accessible technology resources. New equipment will be installed to upgrade existing facilities used by students with disabilities to gain access to information in alternate formats as required by the nature of their disability.

Perhaps the most significant opportunities for future Library-OIT collaboration can be found in finding ways to work together to improve student information literacy, support faculty efforts to create online courses, and enhance efforts to integrate technology into the classroom experience.

Online / Distance Education

The university has a long history of offering televised distance learning classes at its remote facilities, but the use of online course delivery mechanisms is relatively new. Each college has been asked to initiate development of at least one online degree-completion program during the 2008-2009 academic year. In order to support this expansion of the online curriculum beyond individual courses, the institution must create a comprehensive plan to assure a high quality academic offering. Such a plan must go beyond technology concerns to address special needs for student services in an online environment and assessment measures appropriate to the delivery mechanism.

The university has traditionally offered “live” or synchronous distance learning classes at a variety of locations throughout the Central Valley using the capabilities of a licensed microwave broadcasting technology known as ITFS (Instructional Television Fixed Service), now renamed EBS (Educational Broadband Service). The decision to lease the EBS broadcast spectrum to the Clearwire Corporation has created a need to replace the over-the-air broadcast transmission technology with an alternate technique for transmitting course content to remote receive sites.

As enrollment patterns and course offerings have changed over time, the number of remote sites hosting televised classes has declined. Now classes originating at the Turlock campus are transmitted only to the Stockton campus and the Merced Tri-College Center (a partnership with Merced College and UC Merced). Beginning in fall 2008, all classes will rely on IP (Internet Protocol)-based technologies for video and audio transmission to remote sites.

To ensure the success of this transition and improve the classroom experience for students and faculty alike, a new high-definition video conferencing system will be installed in the Turlock, Stockton, and Merced facilities during 2008-2009. This equipment will be augmented by the capabilities of the Mediasite system for both synchronous and asynchronous course offerings, as well as through the use of learning management systems such as Blackboard.

The use of online course delivery mechanisms is relatively new. Each college has been asked to initiate development of at least one online degree-completion program during the 2008-2009 academic year. In order to support this expansion of the online curriculum beyond individual courses, the institution must create a comprehensive plan to assure a high quality academic offering. Such a plan must go beyond technology concerns to address special needs for student services in an online environment and assessment measures appropriate to the delivery mechanism.

“We are one University with a commitment to access and quality at multiple sites: our main Turlock campus, the Stockton Center, the Merced Tri-College Center, and the expanded service area made possible by distance education and e-learning initiatives.”

CSU Stanislaus Strategic Plan

Stockton Center

Support for the Stockton Center campus is an important part of OIT's service, and Stockton plays a prominent role in the IT business continuity plan. Distance education classes, library services, networking support and access to standard university applications (e-mail, PeopleSoft) are all part of the Stockton service portfolio.

Communication Link

Effective with the fall 2008 semester, a substantial improvement in communication capacity to the campus was implemented using multiple approaches.

A dedicated 1 billion data bits per second (Gigabit) backbone link was installed between Turlock and Stockton, giving Stockton the kind of connectivity previously only found between Turlock campus buildings. This change, coupled with extending the campus IP address space to include Stockton devices, will address many performance and reliability issues which have hampered Stockton technology in the past.

The statewide Internet provider CENIC also upgraded its Stockton link from a T-1 circuit (1.5 million data bits per second) to a T-3 (45 million data bits per second) circuit. Not only does this change increase Internet capacity to Stockton, it makes possible (along with the Gigabit circuit described above) redundant network paths between Turlock and Stockton for both campus and Internet network traffic in the event of a failure in any interconnected link.

Telephone System

There is a need to improve telephone service at the Stockton campus, which currently incurs monthly costs for maintaining traditional telephone lines that are not part of the main campus system. There will also be a need within a few years to replace the system on the main campus. With this in mind, OIT plans to address the Stockton need through a combination of existing and new technologies. Current plans include deploying equipment at Stockton on a small scale which will allow OIT staff to gain experience with VoIP (voice over Internet protocol) equipment for subsequent use on the main campus.

Video Services

Web sites like “YouTube” showcase the popularity of video as a tool for conveying news, entertainment, and opinion. The widespread availability of high speed Internet service and low-cost hardware and software for capturing and manipulating images has added video production capabilities to the portfolio of every computer user.

The network infrastructure on the Stanislaus campus is well-suited for video distribution using IP-based technologies, and the recent addition of a high-capacity link extends that capability to the Stockton Center. A more traditional coaxial cable distribution system is also in place, although most programming options are only available within the residence halls.

Several means of producing video content are available on campus. Although emphasis has traditionally been placed on classroom video production for distance learning purposes, existing and new facilities can be used in other ways and greater use should be encouraged.

DISTANCE LEARNING CLASSROOMS

Three classrooms on the Turlock campus are specially equipped to originate and receive live video and audio of classroom presentations, enabling a faculty member teaching at Turlock to simultaneously address students at the Stockton Center and the Merced Tri-College Center. This approach to providing access to selected courses for students at distant locations has been in use at the Stanislaus campus since 1981, when the first ITFS broadcasts originated. The ITFS technology used television images transmitted over a private microwave broadcast network of towers, antennas and reception equipment installed in multiple sites throughout the six-county service area, with separate audio transmission facilities.

TELEVISION STUDIO

In 2002 proceeds from a franchise agreement between the City of Turlock and the local cable television provider made it possible for the university to construct a television studio in Demergasso-Bava Hall.

Agreements are in place for Channel 2 in Turlock (on Charter cable) and Channel 96 in Modesto (on Comcast cable) to broadcast content produced by the university..

MEDIASITE

During 2008 three classrooms were equipped with the Mediasite system for capturing and distributing multimedia classroom content. This combination of software and hardware allows live presentations to be captured and synchronized with PC-generated content such as PowerPoint slides. The resulting video can be streamed to the Internet in real time while being recorded for future playback. A remote production unit was also acquired, so Mediasite recordings can be produced at any location on campus.

VIDEO FURNACE

Video content created by the broadcast and cable television networks as well as campus productions can be distributed to all PCs connected to the campus network through use of the Video Furnace system. Previously, a connection to the campus cable TV network and a television set would have been required to view this content. Video Furnace is platform-independent; any computer with a web browser can use it. The viewer software transforms a computer into a television without any special hardware or software required. Initially, this system will be used to provide two channels of television content to all campus PCs – one for viewing productions intended for Channels 2 or 96, and one for broadcasting a commercial service such as CNN or NBC.

CABLE TELEVISION

An existing contract for residence hall cable television service will end in September 2009. Bids for a new contract will be solicited with the expectation that an enhanced channel lineup will be provided at a lower cost. In addition to providing entertainment programming for the residence halls, service should be made available to all campus buildings. In some cases this will require installation of additional equipment to provide cable access where required. Rights to distribute selected channels over the data network for viewing on personal computers will also be negotiated.

SECURITY

IP network-based web cameras used for video monitoring can be an important public safety tool to promote a safe and secure campus. OIT will collaborate with Facilities and Public Safety to deploy a small-scale system to monitor several sensitive areas on campus (for example, the corporation yard and computer room) using network cameras and activity logging servers. The system

architecture will permit ready expansion to other campus areas as may be determined in the future.

Warrior Card

As a by-product of the student administration system conversion from Banner to PeopleSoft, a new university ID card is being issued to everyone on campus. This new “Warrior Card” already serves multiple purposes, since it can be used as a declining balance debit card to purchase goods and services from local merchants as well as from on-campus facilities. This program should be extended, and further opportunities for integration of the card with campus lab printing and copying facilities will be examined.

CSU System-wide Initiatives

Support for system-wide and local campus strategic plans is provided through several information technology initiatives which are managed and funded through collaborative efforts of individual campuses and the Chancellor’s Office. This includes common management systems, academic technology services, technology infrastructure services, and information security management.

CMS STUDENT ADMINISTRATION SYSTEM

The student administration modules of the PeopleSoft system will be used for the first time at Stanislaus during the fall 2008 semester. Among future priorities, implementing full support for academic advising (degree audit) is particularly important to meet the university-wide emphasis on this area.

CMS FINANCIAL INFORMATION SYSTEM

The financial information modules of the PeopleSoft system have been in use at the Stanislaus campus since 2005. Current activity is focused on an upgrade of the core system to release 9.0. Work is also planned in the area of contracts management, online requisitions, and workflow enhancements.

A revision of the original implementation plan for financial systems is currently underway to consolidate the multiple separate campus implementations into a

single system-wide “Common Financial System” to be used by all 23 campuses and the Chancellor’s Office.

CMS HUMAN RESOURCES SYSTEM

The human resource modules of the PeopleSoft system have been in use at the Stanislaus campus since 2003. Current activity is focused on additional modules: time and labor, benefits administration, and absence management.

CMS SYSTEM-WIDE DATA CENTER

Provide a shared data center environment hosting each of the 23 campuses and the Chancellor's Office PeopleSoft systems. Currently this service is outsourced to the Unisys Corporation in Salt Lake City, Utah.

CSU / STATE CONTROLLER’S OFFICE 21ST CENTURY PROJECT

This project involves the conversion of the California State Controller’s Office payroll system to new software (SAP). The schedule calls for the CSU to begin using this new payroll system by June 2010.

CSU / STATE CONTROLLER’S OFFICE 21ST CENTURY HR DATA WAREHOUSE PROJECT

The conversion to a new State payroll system also necessitates the creation of a new HR data reporting warehouse. The initial design includes two primary data marts: employment history and payroll history. Legacy data from the current PIMS / CIRS systems will also be converted and loaded into the new data marts.

VIRTUAL LIBRARY

The Virtual Library is an umbrella term used to describe all of the unified efforts taken by the CSU librarians to offer enhanced and cost-effective shared library services to all CSU campus libraries. All CSU libraries contribute to a common collection of electronic resources and have access to system and institutional collections through federated search services.

INSTITUTIONAL REPOSITORY (IR)

CSU libraries are pursuing a low-cost strategy based on open source software to design, implement, and sustain electronic collections of scholarly works created

by the students and faculty at all CSU campuses. At Stanislaus, the university library is actively pursuing development of our local IR, Stanislaus ScholarWorks.

DIGITAL MARKETPLACE (DM)

The Digital Marketplace prototype system enables faculty to quickly find relevant, vetted digital learning resources for course development and provides a convenient, "one-stop-shopping" experience for students to acquire those resources via the web.

MERLOT

MERLOT (Multimedia Educational Resource for Learning and Online Teaching) is an online community service which provides a searchable collection of peer reviewed and selected higher education online learning materials contributed by its member institutions which can easily be incorporated into faculty designed courses. MERLOT is managed by the CSU Center for Distributed Learning.

INFRASTRUCTURE TERMINAL RESOURCES PROJECT (ITRP)

ITRP is a multi-phase project which seeks to ensure that each CSU campus has at least a minimum baseline network configuration installed and available for use by the entire university community. It includes funding for network switches, routers, wireless components, CENIC Internet service, and network security devices such as firewalls and intrusion detection systems.

Since ITRP defines a baseline network architecture, the Stanislaus campus incurs expenses for any extensions to the network not defined by the CO. For example, exterior wireless coverage is not part of the ITRP design, but is included as part of OIT's wireless strategy for the campus.

IDENTITY AND ACCESS MANAGEMENT INITIATIVE

The Chancellor's Office is developing a federated identity management architecture and set of services which include both technical and policy components to facilitate the management of electronic identities for individuals affiliated with the CSU.

The *CSUconnect* Federation provides the organizing vehicle to support a unified identity and access management infrastructure across the CSU system that enables authorized campus individuals to use their local campus digital identity credentials to gain access, as appropriate, to resources and services throughout

the system through adherence to a common set of standards, identity attributes, data and data definitions, and identity management practices.

EMERGENCY WEBSITE PROJECT

The Chancellor's Office sponsors an emergency web site backup service for use by the campuses, managed by the Public Affairs group. If the campus network infrastructure, server equipment, or both are not operational, an alternate facility is available to perform the function of providing information updates regarding the emergency.

EPORTFOLIO PROJECT

An electronic portfolio (ePortfolio) is a personal record of academic achievement maintained in electronic format and commonly made accessible to a community of interested parties via the Internet. ePortfolios are currently used by a variety of CSU campuses and are being developed by a group of campus participants who are cooperating in developing a Community of Practice to support this effort.