

Appendix B



California State University, Chico

B2000 Technology Plan

January, 2005

Executive Summary

Vision Statement

**The first priority of CSU, Chico's strategic plan is to
"develop high quality learning environments both in
and outside of the classroom."**

The vision of *Beyond 2000* is a technological environment that makes significant contributions to excellence in teaching and learning by 2005. Faculty, staff, and students will spend less time on "instructional overhead" activities (e.g., clerical class management tasks) and increased time on direct learning activities that lead to more productive learning outcomes. Opportunities for diverse learning experiences will grow significantly throughout the curriculum. Learning in an online environment will be available anywhere, anytime. Multiple learning styles will be supported allowing more responsive solutions for all types of learners. Online learning will create enriched learning experiences both inside and outside of the classroom. Technology will enable the campus to transcend some of the constraints imposed by our physical facilities, and the distance education experience will mirror that of on-campus students. Our administrative and learning management systems will support an educational environment that prepares students with critical thinking, technology and lifelong learning skills for their careers and lives after graduation. This vision of high quality learning environments both inside and outside of the classroom will be enabled by a completely rebuilt network environment that reaches beyond the classroom to the wireless devices and emerging technologies that will be a part of everyday student life.

Background

Beyond 2000 builds on the foundation of *Target 2000*, the first campus information technology plan of 1995. If CSU, Chico is to continue to be a vibrant, leading educational institution building on the legacy of *Target 2000*, we must continue to move technology development forward consistent with overall campus goals.

A key element in moving forward is the recognition that CSU, Chico is still in the process of building technology infrastructure (networks, support systems, etc.). The life-span of *Beyond 2000* will essentially see the completion of campus network infrastructure, the implementation of the PeopleSoft integrated administrative system, and a mature learning management system (e.g., WebCT).

These major technology projects will provide the information services and support needed to expand technology-enabled learning. It is our task to ensure that these projects are designed and coordinated to serve the teaching and learning mission of the university.

Target Learning Environment 2005

The success of an academic technology plan is not measured by counting network connections or desktop computers, but rather by the effective use of resources to support successful learning outcomes for students.

By the year 2005, technology at CSU, Chico should support a learning environment with the following characteristics:

- All course management activities (e.g., rosters, prerequisite checks, testing, grading) are supported by course management systems.
- Faculty and students have automated tools which assist in measuring student progress against learning objectives throughout the semester.
- State-of-the-art teaching and learning technology for students and faculty includes access to computing, communication, and collaboration tools.
- Information literacy is embedded throughout the curriculum to build students' critical thinking skills and to ensure successful careers for our graduates.
- Students, faculty, and staff have access to training, help-desk support, and other support services for technology.
- Network connectivity is enhanced so data, voice, and video can be delivered to classrooms or individuals, and wireless connectivity is available in many locations across campus.
- Students who are learning outside of the traditional classroom paradigm generate a significant part of the full-time equivalent student count.
- A wide variety of networked library/information/learning resources including published electronic text and testing materials are available from local, regional, national, and international sources.
- Faculty and staff have ready access to appropriate individual student information allowing a better understanding of student progress and higher quality advising.
- All campus classrooms are networked and have appropriate electronic display equipment.
- Teaching computer labs/studios are available to faculty for instruction and course development.
- Assistive technology increases access to learning opportunities regardless of disabilities.

Goal Area A – Teaching and Learning

A.1 - Use technology to refocus resources on learning

Reduce the time students, faculty, and staff are required to spend on non-learning activities by utilizing improved processes and learning management tools. Also combine changes in pedagogy with software to improve the quality and quantity of education delivered.

Strategy

Ease student clerical and administrative burdens through

- Technology to improve time management (integrated course calendars, assignment alerts, etc.)
- Technology to reduce time required by non-learning activities (registration, advising, travel, etc.)

Ease faculty clerical and administrative burdens through

- Reduction of “technological overhead” (classroom setup, course material preparation, etc.)
- Use of technology to reduce clerical burdens (setting up course rosters, grading, etc.)
- Making instructional technology seamless and ubiquitous

Ease staff clerical and administrative burdens through

- Self-service Web transactions for many faculty, staff, and student processes
- More efficient transactions through technology and process redesign

Increase learning effectiveness with

- Course management software that more accurately tracks individual student progress providing better assessment and accountability
- Improved student outcomes through the use of technology to compress the learning cycle (e.g., using and creating models, simulations, and new testing apparatus to reduce set-up time and increase active learning time)
- Combination of changes in pedagogy and technology to manage increased numbers of students in some kinds of classes while maintaining quality
- Refocusing of human resources on faculty-student contact and communication time

Performance measures

- Faculty, staff, and student satisfaction
- Measurable increases in learning outcomes (e.g., drop, withdrawal, failure (DWF) rate)
- Demonstrated cost savings (e.g., reduced printing costs)
- Utilization of online learning tools (e.g., online syllabus, automated testing and scoring, and e-Paks)

Plan

Time frame	Activities	Status
Spring/ Summer 2004	Develop tool to track growth of WebCT usage	Complete
Spring 2005	Determine what our strategic direction for future LMS development should be	Complete
Fall 2005/ Spring 2007	Implement WebCT Vista	In Progress
Fall 2005	Build an Information Resources functional implementation team for WebCT Vista staff	Complete
Fall 2005- Spring 2006	Develop and implement a course migration and faculty training program for WebCT Vista	Complete
Fall 2005	Form a WebT technical support team to implement and support the new learning management system	Complete
Fall2005	Implement the complete WebCT Vista hardware/software platform	Complete
Spring2006/ Spring 2007	Assist faculty in redesigning WebCT classes	In Progress

A.2 - Train faculty, staff, and students on new technology

The rate of technological change requires a continuing investment in faculty, staff, and student training. All faculty, staff, and students must have access to training in the use of all appropriate technologies from office tools to courseware.

Strategy

- Provide faculty and staff training programs that meet the diverse needs of individuals. Programs should combine traditional workshop training, just-in-time training, and self-service resources
- Complement existing academic courses with online information, just-in-time workshops and point of need instruction to improve information and computing literacy

Performance measure

- Faculty, staff, and student participation
- Faculty, staff, and student satisfaction

Plan

Time frame	Activities	Status
Summer 2004	Refresh and redesign of the ReSEARCH Station in light of testing results and analysis	Complete
Spring 2005	Provide access to computer-based e-learning modules on Microsoft software for students, staff, and faculty. Modules will cover both basic competencies and advanced topics	Complete
On-going	Each semester, Technology and Learning Program will introduce one new step-by-step guide so faculty can easily leverage WebCT course shells without attending workshops	In Progress
On-going	Continue to provide on-demand training workshops in support of instructional activities	In Progress
Fall 2005	Develop and implement a training plan for technical and functional WebCT Vista support staff	Complete
On-going	Develop a technical staff replacement plan for replacements and new positions across Information Resources	In Progress

A.3 - Promote the successful integration of pedagogy and technology

New technology expands learning opportunities; it also requires new pedagogical approaches to improve learning outcomes. Therefore, implementation of any technology plan requires diffusion of successful technological and pedagogical models.

Strategy

- Provide continuous opportunities for training on the successful application of technology in teaching and learning
- Encourage collaboration to identify and share best practices in teaching and learning with technology
- Support technology integration through the provision of grants and funding for such efforts
- Communicate and diffuse successful technology integration efforts through channels such as the Center for Excellence in Learning and Technology (CELT), Technology and Learning Program (TLP), Chico Academic Technology Advisory Committee (ATAC), faculty roundtables, campus grants, special projects, and other means

Performance measures

- Faculty and student satisfaction
- Utilization of appropriate technology
- Increased use of best practice learning models (e.g., Exemplary Online Instruction)
- External recognition of CSU, Chico best practice learning models

Plan

Time frame	Activities	Status
On-going	Enrich WebCT courses through the integration of learning objects, electronic resources, etc.	In Progress
On-going	Continue discussions with faculty on the wise use of technology and effective pedagogical implementation while aligning Chico behind the CSU Academic Technology Planning Committee initiatives	In Progress
On-going	The Center for Excellence in Learning and Teaching presents exemplary online instruction awards	In Progress
2005 / 2006	Support for large course redesign projects and other CELT initiatives	05/06 Projects Complete

A.4 – Create a strong connection between classroom and online learning environments

The university classroom will continue to be the primary location for face-to-face, faculty-student interaction. The use of online technologies and resources can flourish if they are accessible both in and outside the classroom. Thus, effective utilization of digital technology in classroom communication is critical not only to learning within the classroom, but provides continuity outside the classroom as well.

Strategy

- Provide tools that allow faculty members to easily bring material from their desktop computer, learning management systems, and the Web, into classroom presentations and discussions
- Demonstrate the effective use of online technology in the classroom
- Allow students to better communicate with each other and access electronic resources in and outside the classroom

Performance measures

- Increased use of online and digital technology in the classroom
- Faculty and student satisfaction

Plan

Time frame	Activities	Status
On-going (Fall 2004/ Spring 2005)	Conduct semiannual survey of faculty using Smart Classrooms	In Progress (Complete)
On-going (Fall 2004/ Spring 2005)	Improve Smart Classroom ease of use utilizing results from semi-annual survey	In Progress (Complete)
On-going (Fall 2004/ Spring 2005)	Increase number of Smart Classrooms	In Progress (Complete)
Fall 2005 / Spring 2006	Conduct semiannual survey of faculty using Smart Classrooms. Based on results, put a plan in place to improve lighting issues. Continue support for classroom technology	Complete

A.5 – Support and sustain a distributed learning environment

A distributed learning environment opens up new opportunities for both on- and off-campus students. This environment includes online, partially online, and Web-enhanced classes.

Strategy

- Encourage the successful use of synchronous and asynchronous Internet tools. Tools include learning management systems and synchronous class participation tools
- Archive existing courses. Course presentations can be stored and made accessible for planned and unplanned asynchronous viewing
- Develop online courses. The development of fully asynchronous courses requires not only the availability of tools, but faculty and staff development time
- Weave various technologies into an integrated learning environment

Performance measures

- Increased options for local and remote students
- Increased numbers of non-classroom-based students
- Student and faculty satisfaction

Plan

Time frame	Activities	Status
Summer 2004	Installed HorizonLive 4.0	Complete
Spring 2005	Retrofit KCHO space as the 'ATEC Annex' so faculty can sit in front of a computer with a camera and microphone and record lecturettes (i.e. HorizonLive Archives) to be placed inside WebCT courses	Complete

Goal Area B – Information Literacy

Information-literate students have the following characteristics:

- They recognize the need for information and formulate that need into a question
- They identify and prioritize resources available to answer the question
- They access and use resources effectively to find information they need
- They evaluate information they find
- They use technology to communicate what they have learned
- They understand many of the ethical issues surrounding the use of information and use information ethically and legally

B.1 – Assure all students receive an introduction to basic information literacy concepts and skills

Students come to the university with diverse skill levels in using information technology and information resources. A common experience in basic skills ensures that students will have a common skill set early in their academic experience to carry into more advanced coursework. Productivity can be improved because faculty do not have to devote lower-division course time to teaching basic technology and information skills.

Strategy

- Investigate strategies that introduce freshmen to basic technology and information-seeking skills without duplication
- Provide instruction in Introduction to University Life (UNIV001C), CMST 011, English 1, or other large-enrollment general education course(s)
- Provide self-paced information literacy training through Web-based tutorials to ensure point-of-need instruction
- Provide point-of-use/time-of-need library reference services available in the library and on the Web
- Investigate strategies to ensure all students learn and demonstrate mastery of the characteristics of information literacy at appropriate times during matriculation

Performance measure

- Assessment of student learning in targeted courses

Plan

Time frame	Activities	Status
Summer 2004/ Spring 2005	Participate in CSU/ETS partnership to develop a nationally recognized Information Literacy Assessment tool. Serve as beta test site in Summer and a final test site in Spring 2005.	Complete
Fall 2004/ Spring 2005	Pursue the integration of Information Literacy into English 1. Fall 2004, establish learning objectives and desired skill set in partnership with English 1 instructors. Spring 2005, librarian sabbatical will prepare Information Literacy modules for each section. Implementation and assessment Fall 2005	Complete
Spring 2003/ Fall 2004	Re-formulate Information Literacy curriculum used in University 001. Change model so that IL librarians teach the curriculum to all sections. Evaluation at the end of fall 2004 semester	Complete
Fall 2004/ Spring 2005	Develop faculty partnerships to incorporate Information Literacy into curriculum. Target departments include: History, Music, Religious Studies	Complete

B.2 – Assure all students develop knowledge of information content and use for their major and chosen field

Students need to build on their basic skills as they progress through the curriculum. Just as they master increasingly advanced content, they must also master the literature and resources in their fields and be able to find and evaluate information and synthesize it efficiently.

Strategy

- Introduce upper-division students to discipline specific information tools and resources in required courses in the major or the Writing Proficiency courses
- Tie information literacy to research methods courses or offer separate courses in disciplinary information literacy

Performance measure

- Faculty or faculty/librarian assessments of student ability to retrieve, evaluate, and synthesize information into knowledge about the chosen field

Plan

Time frame	Activities	Status
Spring 2004 / Fall 2005	Continue participation in faculty/librarian disciplinary initiatives offered by the CSU Information Literacy Initiative <ul style="list-style-type: none"> ➤ Application for CSU Info Lit Grant was unsuccessful ➤ Served as one of six CSU beta test sites for ETS Information and Computer Competency Assessment in preparation for systemwide testing in fall 2005 ➤ Participated in the first nationwide test of ETS ICT assessment and follow-up sessions with ECT 	Complete
Spring 2004/ Fall 2005	Seek opportunities to expand Information Literacy programs for majors and transfer students <ul style="list-style-type: none"> ➤ New 3 unit course planned by Political Science will be taught by Kathi Fountain, Political Science Librarian ➤ Faculty/Librarian teams continue to expand the number of courses where information literacy is integrated into the curriculum ➤ New initiatives under discussion in History and Religious Studies ➤ Sabbatical project to integrate information literacy into English 130 	Complete, taught F05 In Progress In Progress Complete
On-going	Support library instruction and information literacy <ul style="list-style-type: none"> ➤ Continue to work with Dean of Undergraduate Education, the Director of the FYE and UNIV101 instructors, to successfully integrate and access information literacy in UNIV101 ➤ Serve on First Year Experience Committee ➤ Offered 276 specialized sessions to 7,655 students ➤ Gave a series of 3 information literacy lectures to 21 sections of University 101 ➤ Time of need info lit instruction at reference desk, via email reference and 24/7 real time chat reference 	In Progress In Progress Complete Complete In Progress

B.3 – Assure the campus community understands the ethical aspects of knowledge and information

The campus community needs awareness of the principles of academic honesty in the use of information and understanding of the rights of owners to their intellectual property.

Strategy

- Provide active programs throughout the curriculum to educate students about the principles and requirements of ethical information use, including appropriate citation use and plagiarism
- Develop Web-based materials on ownership and rights
- Facilitate a campus effort to implement an honor code
- Provide uniform enforcement of academic honesty and intellectual property issues across campus
- Develop campus procedures on intellectual property and the rights of use and ownership

Performance measure

- Faculty surveys of student understanding of and respect for academic honesty
- Satisfaction of the university and faculty

Plan

Time frame	Activities	Status
Summer 2004	Update and maintain Web site of copyright information for all formats	Complete
Fall 2004	Sponsor American Library Association Copyright workshop in September 2004 for anyone on campus interested in copyright issues and compliance	Complete
Fall 2004	Implement University 001class solely devoted to academic honesty and plagiarism to be offered to all sections	Complete
Spring 2004/ Fall 2005	Actively engage in the Academic Integrity Initiative, development of campus policy, and continue presence on the Academic Integrity Board	Complete
Fall 2004 / Spring 2005	Continue to work with interested faculty in the use of Turnitin application (Assessment Needed) <ul style="list-style-type: none"> ➤ Administration of Turnitin was transferred to the Online Education Librarian from TLP late in Spring Semester ➤ Library participated in presentations to Graduate Council, Department Chairs, Colleges and Departments on request 	In Progress Complete

Goal Area C – Electronic Resources

C.1 – Provide access to electronic lectures, simulations, images, video, audio, etc.

The university must enable faculty to easily create, store, and locate relevant media content which can then be linked to their courses to enrich the learning environment.

Strategy

- Assist faculty in the selection of externally provided online learning materials
- Provide faculty a searchable media database system that supports multiple formats
- Create processes that allow faculty to easily create and add media to the database and attach it to course materials
- Support and enable faculty to create online presentations
- Create learning media locally when appropriate

Performance measures

- Faculty and student satisfaction
- Utilization of resources

Plan

Time frame	Activities	Status
Spring 2004/ Summer 2004	Complete scope of work required to fulfill conditions of LSTA grant funding for Dorothy Hill Collection.	Complete
Spring 2004/ Summer 2004	Complete Dorothy Hill Accessibility Guidelines, complete design of Dorothy Hill web page and implement web page for public access	Complete
Fall 2004	Accept invitation to join the California Digital Topographic Map consortium that hopes to create a complete digital collection of California Tops	Complete
Fall 2003/ Spring 2005	Partner with ANCR to create a database of the Norris Bleyhl bibliography of early Native American/White relations. Funded by ANCR, Ellen Deering Grant and Friends of the Meriam Library	Complete
Fall 2004/ Spring 2005	In partnership with Friends of the Chico Library and the Friends of the Meriam Library, conduct a demonstration project for scanning and restoring Chico City Directories to create an online database.	Scanning complete, web presence in progress
On-going	Continue to scan, catalog, and create links to historic map and photograph collection and the Chico State Photograph collection held in Academic Technology	8750 images scanned
On-going	Increase visibility and client base of Digital Asset Management. 2003/04 Outcome: doubled the number of faculty clients; trained 4 units to create databases, introduced service to 11 groups, 8 followed up	In Progress

C.2 – Provide access to online books, journals, indexes, and abstracts

These resources are increasingly popular among students and are more important in an online environment where they are offered 24 hours a day, 7 days a week. Access to these library resources will be a constant challenge as the publishing industry adjusts to the new electronic environment and the cost of information continues steep escalation.

Strategy

- Assure access to electronic indexes and abstracts that support learning and inquiry
- Seek out and acquire access to electronic information with content that matches our collection needs
- Integrate electronic information content and formats (e.g., electronic books) as appropriate to the curriculum

Performance measures

- Faculty and student satisfaction weighed against budget constraints
- Use of electronic collections appropriate to the curriculum

Plan

Time frame	Activities	Status
Summer 2004	Whenever possible at no additional cost, trade paper subscriptions for online databases that improve content and coverage of journals	Complete
Fall 2004/ Spring 2005	Implement ILLIAD Interlibrary Loan	Complete
Fall 2004/ Spring 2005	Work with Colleges and Library Advisory Committee to develop and implement the plan to reduce collections spending to cover \$175,000 budget cut and inflation increases	Complete
Spring 2006	Migrate from email to server delivery of Interlibrary Loan articles to eliminate clogging email boxes with large attachments	In Progress
On-going	Target and contact online courses and programs to encourage them to use the services of the Online Curriculum Support Librarian	In Progress

C.3 – Provide pathway/portals that guide users to relevant library and Internet resources

The exploding number and type of resources available over the Internet is a boon to research and a challenge to the user seeking specific information. Mechanisms need to be developed to guide students to research materials appropriate to their course work.

Strategy

- Continue to develop the library ReSEARCH Station as the information gateway to the Meriam Library
- Continue to make full text resources more useful by linking abstracts/citations to the full text
- Link students more directly to course specific materials

Performance measures

- User satisfaction
- Usability testing
- Continuing assessment of other library gateways or new, best practice designs
- Use of ReSEARCH Station

Plan

Timeframe	Activities	Status
Spring 2004/ Summer 2004	Use usability testing and best practice data to overhaul the ReSEARCH Station, implement new site in July	Complete
Fall 2004/ Spring 2005	Implement SFX 3.0 which improves linking, adds new search features and can be used as a content management system for subject pages	Complete
Fall 2005/ Spring 2006	Develop more direct ways to link electronic text to Web CT shells	In Progress
TBD	Enable single sign-on access to the ReSEARCH Station via the Chico State Connection Portal; waiting for implementation of Portal II to investigate feasibility	Future
Spring 2007	Implement new Integrated Library System	Future

Goal Area D – Electronic Learning Infrastructure

D.1 – Provide software, hardware, and networking support for faculty, staff, and students

Support faculty, staff, and students to ensure they are able to effectively utilize desktop and personal computing technologies to meet academic goals.

Strategy

- Provide a help desk single point of contact for all areas of technical support
- Provide effective repair and maintenance of campus computing equipment by providing on-site technical support
- Continue to maintain online documentation and resources
- Implement best practices for support using both traditional and new technologies, e.g., call routing and real-time and asynchronous online support and resources
- Support distance and online education through enhanced support including special evening hours help desk support
- Provide specialized support for assistive technologies
- Provide consultative support to faculty and staff
- Support students via 24 hour access to walk-in support and help desk services
- Provide a robust and secure e-mail system for electronic communication with students

Performance measure

- Faculty, staff, and student satisfaction
- Help desk response time
- Service request time in queue

Plan

Time frame	Activities	Status
On-going	Maintain an Assistive Technology Center to provide appropriate technologies for students with physical and learning disabilities	Complete
Fall 2004 / Spring 2005	Implement a new robust, secure, and scalable student email system to support move from paper-based to electronic-based communication with students.	Complete
Fall 2004 / Spring 2005	Update User Services web site to improve self-help support	Complete

D.2 – Assure faculty, staff, and students have access to secure and maintainable networked personal computing devices

With software development driving desktop configurations at an ever-increasing pace, a systematic approach to providing adequate desktop computers to all faculty and staff is required. To provide needed functionality and reduce the total cost of ownership, a desktop refresh cycle that guarantees an adequate and secure computing device must be implemented. Older machines which cost significantly more to maintain, are less functional, and are non-supported become the user's responsibility. Once they threaten network security or the security of confidential data they will be removed from the network.

Strategy

- Develop a hardware refreshment cycle that reflects a secure and supportable computing environment
- Ensure all new computers acquired are purchased with a three-year warranty
- Develop clear standards for supported versus non-supported hardware and software
 - Provide colleges and departments an inventory of machines that will become unsupported in the following year
 - Machines that compromise the university network, systems, or confidential data will be removed from the network
- Develop a desktop computing environment which allows rapid, central updating as required to maintain security
- Measure cost effectiveness of centralized versus decentralized purchase and support models to decide on which strategy or combination of strategies to implement

Performance measures

- Percentage of computers which are updated centrally
- Total cost of ownership to include purchase, help desk support, and On-going maintenance costs
- Faculty and staff satisfaction

Plan

Time frame	Activities	Status
Spring 2004/ Summer 2004	Implement a project to require the upgrade, replacement, or removal of desktop computers with insecure operating systems (Win 9x and NT)	Complete
Spring 2004/ Summer 2004	Implement a Microsoft System Update Server (SUS) to stage and push Windows critical updates	Complete
On-going	Publish and update supported hardware and software procurement guides	Complete
On-going	Negotiate favorable pricing on desktop computers from supported vendors to provide centralized purchasing advantages in a decentralized environment	Complete
Spring 2005	Upgrade desktop anti-virus software to an enterprise version which provides more effective protection and management	Complete
On-going	Continue improving centralized desktop management of PCs	In Progress
Fall 2005	Begin implementation of centralized management of Macintosh computers	Implementation begun, approx 25% of Macs now in Active Directory
Spring 2006	Research the feasibility of implementing a desktop scanning and patch management system for enhanced desktop security	Phase 1 of research (Cisco) complete

D.3 - Assure effective use of both centralized and decentralized computer labs

Student computing labs are an essential and expensive part of the campus learning infrastructure. Given the growing cost constraints on college and Information Resources budgets it is imperative that expenditures in this area provide the most cost effective student learning environment possible. To assure the wise use of our limited student technology dollars we will implement the following.

Strategy

- Analyze the current computer inventory and usage by students
- Seek ways to share existing labs
- Seek ways to reduce hardware and software costs by combining labs and leveraging our purchasing power
- Identify labs (if any) that may be eliminated
- Analyze opportunities to share lab management
- Review the role of general versus discipline-based student computer labs

Performance measure

- Quality of access, as defined by faculty and student satisfaction, to campus computer labs that meet the needs of the curriculum

Plan

Time frame	Activities	Status
Summer 2004	Eliminate PHSC 128 open access lab and move these stations to the library 4 th floor lab annex where they will be used more effectively	Complete
Fall 2004 / Spring 2005	Analyze lab computer data within each college and collectively across colleges to identify opportunities to reduce costs while maintaining quality of access and meeting the needs of the curriculum (repeat in 2005/2006)	Complete

D.4 - Assure access to appropriate classroom technology

Faculty and students are increasingly reliant on the Internet and computers as part of their learning environment. To accommodate access to these resources during class, the majority of classrooms on campus must be equipped with network access and either built-in display technology or accessible portable equipment. Smart Classrooms require ongoing funding for cyclical refreshes of software and hardware and support/maintenance of existing classroom equipment.

Strategy

- Meet the campus need for Smart Classrooms that include a minimum of data projection and a dedicated, centrally supported computer
- Support department-specific versions of Smart Classrooms where the computing environment is supported by the college
- Develop and implement an efficient, sustainable plan for Smart Classroom support
- Continue to seek new projection, computing, and networking solutions that reduce the price and ease the implementation of Smart Classrooms
- Continue to improve Smart Classroom ease of use and set-up time associated with technology
- Continue to purchase equipment, update software, and provide support for Smart Classrooms
- Provide selective wireless connectivity for portable and hand-held devices in classrooms as required for instruction need

Performance measures

- Faculty and student satisfaction
- Number of Smart Classrooms as a percent of total centrally scheduled classrooms

	No. of Smart Classrooms	Total Centrally Scheduled Classrooms	Percent of Smart Classrooms
Fall 2005	80	145	55%
Fall 2004	70	147*	48%
Fall 2003	70	154	45%
Fall 2002	60	145	41%
Fall 2001	51	145	35%
Fall 2000	30	145	21%
Fall 1999	25	145	17%

* Temporary buildings were removed which eliminated some classrooms

Plan

Time frame	Activities	Status
Summer 2004	Refreshed 12 classrooms with new computers	Complete
On-going (Fall 2004/ Spring 2005)	Conduct semiannual survey of faculty using Smart Classrooms	In Progress (Complete)
On-going	Refresh software on Smart Classroom computers	Complete
On-going	Identify additional 30-40 seat classrooms that require technology	Complete
Fall 2004	Investigate network operating projectors and control systems	Complete
Summer 2005	Refresh 15 projectors, DVD playback in all classrooms, and ten new smart classrooms	Complete

D.5 - Provide an online interface to campus services, transactions, resources, and systems

The CSU, Chico website and portal complement one another by providing access to both general and personalized online services. The portal allows students and faculty to get information and complete transactions with different computer platforms without going through separate sign-on processes. The implementation of CMS Student Administration will facilitate the move to a new university portal which integrates seamlessly with PeopleSoft.

Strategy

- Provide means to develop and implement a virtual enterprise environment
 - Single common user interface to applications, information, and services
 - Transparent integration and seamless interaction between faculty and students, and enterprise information and systems
 - Common campus communication tool
 - Platform for accessing personalized relevant information and managing information overload
 - Standards-based solution utilizing a common directory, security, and taxonomy structure
- Promote self-service technologies to reduce university costs
- Redesign the university portal to most effectively provide information to faculty, staff, students, prospective students, parents, alumni and the community and enhance their perception of the university

Performance measures

- Interoperability
- User satisfaction
- Productivity gains

Plan

Time frame	Activities	Status
Spring 2004	Implement university website refresh with new look and feel	Complete
Spring 2004/ Spring 2005	Design and implement the second generation Chico Identity Management System (e.g., LDAP, Registry)	Complete
Fall 2004/ Spring 2005	Design and implement the second generation Chico Portal – Phase I: Replace current functionality	Complete
Summer 2005/Spring 2006	Design and implement the second generation Chico Portal – Phase II: Add new functionality to uPortal	Phase IIA complete – added PeopleSoft integration, new content for students, faculty and staff
Summer 2005/ Fall 2005	Redesign university website to fit the context of the next university portal and CMS and analyze Content Management Tools to reduce website support costs	Complete
Fall 2007	Implement a Content Management System	In Progress

D.6 – Develop an enterprise-wide learning management system

The current learning management system (WebCT) provides a number of learning tools (e.g., content management, communication, assessment, etc.) and supports minimal integration (receipt of user, course and enrollment information) with the student information system (SIS-Plus). Future generations of the learning management system will see improvements to course tools and more comprehensive reporting of learning activity data to allow continued enhancement of the educational experience.

Strategy

- Continue to support a learning management system as part of the portal and eventually integrate with the new student information system (CMS)
- Ensure faculty and students obtain maximum value from the learning management system by providing training, consulting, resources, idea exchanges, and technical support that encourages adoption and appropriate utilization
- Develop a vision for our second generation learning management system that will best support faculty and students and provide analysis of online learning

Performance measures

- Accurate and reliable support for learning and teaching
- Ease of use for faculty to design courses
- Ease of use for students in their course work
- Decreased required administrative tasks required of faculty and students
- Increased faculty adoption and utilization rates
- Increased faculty and student satisfaction

Plan

Time frame	Activities	Status
Finish CE series Fall 2005	Each semester, Technology and Learning Program will introduce one new step-by-step guide so faculty can easily leverage WebCT course shells without attending workshops	Complete
On-going	Increase exposure of WebCT best practices by sponsoring TILT sessions monthly to increase faculty exposure to peers on related topics. (Faculty present to faculty) and development of Rubric for Online Instruction Web site	Complete
Spring 2005	Examine options for moving to a new enterprise Learning Management System (LMS) solution that will carry CSU, Chico into the future	Complete
Fall 2006 / Fall 2007	Implement new enterprise Learning Management System – WebCT Vista	In Progress

D.7 – Continue expansion and development of the campus voice, data, wireless, and video network (Telecommunications Infrastructure Initiative)

With demand for network bandwidth doubling every 18 months and the convergence of voice, data, and video technologies, a strategy for building and maintaining an infrastructure based on a utility model is an absolute requirement. The network infrastructure must provide adequate network pathways, media, electronics, and communications closets to meet the needs of faculty, staff, and students.

Strategy

- Meet future network demands with a complete build out of the campus network infrastructure (TII)
- Provide effective and efficient network services for voice, data, and video technologies by utilizing the rebuilt network infrastructure
- Build a secure, self-funded wireless service for the campus
- Modernize the current telephone infrastructure to reduce costs and enhance service
- Implement a sustainable funding model to provide support for all network technology
- Develop policies and procedures to effectively manage the network
- Continue development of a network infrastructure to accommodate the needs of remote and mobile (wireless and wired public access point) users

Performance measures

- Improved availability and performance
- Percentage of ports meeting baseline standards
- Reduced costs of telephone service
- Number of wireless users
- Percentage of campus covered by wireless

Plan

Time frame	Activities	Status
Sept 2002/ July 2006	Technology Infrastructure Initiative (TII) Stage 1 (includes underground and building pathways, cables, and outlets)	In Progress
Spring 2006/ Fall 2006	Technology Infrastructure Initiative (TII) Stage 2 (includes implementation of the network hardware)	In Progress
Fall 2004/ Fall 2006	Implement Asset Management software to manage/track/inventory \$12 million in TII infrastructure	In Progress
On-going	Complete TII network upgrades and plan for additional upgrades to be funded separately	In Progress
Fall 2005	Select, develop plan, purchase and implement PBX/VoIP hybrid to replace Centrex services in all campus locations.	Complete
Spring 2006	Complete implementation of a new voice system	Complete

D.8 – Develop a secure electronic infrastructure that protects services and information

Protecting the confidentiality, integrity, and availability of information, systems, and network resources is critical to the educational mission of the university. Maintaining information security is a growing challenge at universities around the world as the volume of malicious activity increases and state and national governments continue to exert pressure through new, more-stringent security policies and laws. An information security program has been put in place to implement new technologies, document best practices, ensure compliance with new laws, and ultimately protect student, faculty, and staff confidential data.

Strategy

- Implement an incident handling procedure designed to allow a timely response to any intrusions and minimize the impact to the campus electronic environment
- Implement appropriate firewalls and Virtual Private Networks
- Install appropriate security software at the network, server, and desktop levels
- Implement appropriate authentication systems for remote/mobile/wireless users
- Strengthen network, server, and desktop computer security policies and procedures
- Increase awareness in the campus community of the importance of information security

Performance measure

- Number and type of incidents
- Number and type of vulnerabilities
- Elapsed time from intrusion to first detection and from detection to resolution

Plan

Time frame	Activities	Status
On-going	Conduct a communication campaign to raise campus awareness regarding information security	In Progress
Fall 2004	Approval of campus Information Security Plan	Complete
Fall 2004	Finalize incident handling procedures	Complete
On-going	Implement procedures, guidelines, and best practices for desktop, server, and network security	In Progress
Fall 2005/ Spring 2006	Conduct a system/server inventory to identify locations of confidential data and assign risk based on the type of confidential information stored	In Progress
Fall 2005/ Fall 2006	Develop an information security training and awareness program for faculty, staff, and students	In Progress
Fall 2005/ Spring 2007	Analyze how confidential information is being used, where it is stored, and what procedures should be in place to ensure it is being adequately protected	In Progress
Spring 2005/ Fall 2006	Improve security of confidential data by focusing on the reduction of decentralized data and elimination of SSNs from business practices	In Progress
Spring 2005/ Spring 2007	Improve campus information security practices on all servers that contain confidential data	In Progress
Fall 2006/ Fall 2007	Significantly reduce confidential data residing on both faculty and staff desktop computers	In Progress

Fall 2003/ Spring 2005	Implement a campus border firewall, providing “first line of defense” for campus servers and desktops. Register all campus servers	Complete
Spring 2005/ Fall 2007	Begin a regular schedule of auditing and vulnerability scanning of campus desktop computers and servers	In Progress
Spring 2006/ Fall 2006	Investigate intrusion detection systems for use at the network level	In Progress
Spring 2006/ Fall 2007	Develop a campuswide PKI (Private Key Infrastructure)	In Progress

Goal Area E – Integrated Administrative Systems

The California State University has engaged in a systemwide project to replace campus legacy administrative systems with a CSU/PeopleSoft best practice solution for financials, human resources, and student administration. This project is known as the Common Management System (CMS) project.

E.1 – Provide students self-service access to information and services that enable and enhance their educational experience

Web based self service allows students to conduct administrative activities such as registration, fee payment, and personal information updates. Rather than visiting a number of offices on campus during business hours, completing forms, and obtaining signatures, they can complete these administrative tasks anytime (24x7), anywhere, and therefore focus more of their time on learning. Information and services provided, such as degree audit, help students make decisions to more effectively and efficiently move them through their academic career.

Strategy

- Implement CMS Student Administration (SA), including the following modules:
 - Academic Advising – degree audit, transcripts, advising
 - Financial Aid - applications, status, awards
 - Student Records – online web registration, student services
 - Admissions – online applications via Mentor, transcripts, transfers, test scores, catalog
 - Student Financials – fees, account status, fee payment
- Continue campus bridge-strategy solutions to provide needed functionality that cannot wait for the full CMS implementation. This includes:
 - Upgrade our Portal solution which integrates CMS student administration and the learning management system (WebCT)
 - Web-enabled data/information access

Performance measures

- Student satisfaction
- Progress toward degree

Plan

Time frame	Activities	Status
Fall 2004	Renumber courses and publish in the 2005/2007 course catalog to help students make more effective progress toward their degree	Complete
Fall 2004	Implement SA Admissions	Complete
Spring 2005	Implement SA Financial Aid, Student Records and Academic Advising	Complete
Spring 2005	Implement 2 nd generation Chico Portal	Complete
Spring 2005	Implement SA Student Financials	Complete
Spring 2006	Plan for CMS 8.9 Upgrades	In Progress
Fall 2005	Complete implementation of core CMS 8.0 Student Administration/Human Resources functionality	Complete
Summer 2006	Complete project plan for the 8.9 upgrades to CMS Student Administration/Human Resources	In Progress

E.2 - Assure faculty have the most efficient administrative tools to support students

It is essential that faculty have consistent and accurate information for advising students and managing courses. Student biographic and demographic data provides faculty and department chairs with information to effectively structure programs and courses to meet student demand.

Strategy

- Implement CMS Student Administration (SA), including the following modules:
 - Academic Advising - degree audit, transcripts, advising
 - Student Records - online grading, student services
- Continue campus bridge-strategy solutions to provide needed functionality that cannot wait for the full CMS implementation. This includes:
 - Upgrade our Portal solution which integrates CMS student administration and the learning management system (WebCT)
 - Web-enabled data/information access and reporting
 - Web-enabled grading
- Provide faculty and department chairs with a better picture (demographic data) of their students

Performance measures

- Faculty satisfaction
- Progress toward degree

Plan

Time frame	Activities	Status
Fall 2004	Implement course renumbering to better reflect grade-level/sequence of course offerings	Complete
Spring 2005	Implement Student Administration (SA) Student Records	Complete
Spring 2005	Implement 2 nd generation Chico Portal	Complete
Fall 2005	Implement SA Academic Advising	Complete
Fall 2006	Evaluate the impact of using student waitlist functionality	In Progress
Spring 2006/ Fall 2006	Plan for CMS 8.9 Upgrades	In Progress

E.3 - Assure staff have access to effective and efficient administrative systems to support the campus mission

Recognizing the value of staff resources and their importance to the campus mission, more efficient administrative tools will be implemented to ensure all resources have the tools they need to do their jobs.

Strategy

- Implement CMS Human Resources (HR), Financials (FIN) and Student Administration (SA) modules
- Continue campus bridge-strategy solutions to provide needed functionality that cannot wait for the full CMS implementation. This includes:
 - Upgrade our Portal solution which integrates CMS student administration and the learning management system (WebCT)
 - Web-enabled data/info access and reporting
 - Continued operation of third-party software system for prospects and evaluation of future options
- Provide campus employees tools to view and update their personal information

Performance measures

- Availability
- Staff, faculty, and student employee satisfaction
- Increased access to data

Plan

Time frame	Activities	Status
On-going	Participate in functional and technical user groups	On-going
Fall 2004	Upgrade FIN Phase I modules (AP, PO, and GL) to the Web version 8.4	Complete
Fall 2004	Implement SA - Admissions	Complete
Fall 2004	Implement SA reporting strategy	Complete
Fall 2004	Implement AdAstra Class Scheduling	Complete
Spring 2005	Implement HR Phase 2 – Time and Labor	Complete
Spring 2005	Implement FIN Asset Management, Accounts Receivable and Bill modules	Complete
Spring 2005	Implement 2 nd generation Chico Portal	Complete
Spring 2005	Student employee time entered online	Complete
Spring 2005/ Fall 2005	Implement SA - Student Financials, Financial Aid	Complete
Spring 2006/ Fall 2006	Plan for CMS 8.9 Upgrades	In Progress
Fall 2005	Evaluate HR self service activities to determine how we can incorporate them into our implementation	Complete
Fall 2005	Implement SA – Academic Advising	Complete

E.4 - Support institutional knowledge management for effective decision making

Information based decision making requires an integrated data environment at every level of the organization. The long term needs of the campus have been identified to include both historical reporting and analytical (decision support) capabilities. These needs require integrating data from multiple sources and extending the range and utility of campus-specific subsystems (e.g., CMS HR, FIN, SA) with data from other campus applications (e.g., cashiers, housing, etc) into a unified campus reporting environment.

Strategy

- Collaborate with the Chancellor's Office to develop a multi-campus reporting strategy
- Customize standard reporting solution to meet campus specific needs
- Develop campus specific views of reporting data for faculty and staff
- Develop views of management data that measure institutional performance to improve executive decision making

Performance measures

- Improved institutional effectiveness

Plan

Time frame	Activities	Status
On-going	Implement campus reporting solution	In Progress
Spring 2005	Chancellor's Office CMS Executive Committee decision on system wide reporting strategy	Complete
Summer 2005	Provide integrated institutional management reporting (e.g., ad hoc, operational and decision making)	In Progress
Fall 2006	Complete rollout server/service monitoring on all enterprise systems providing trending metrics and availability statistics	In Progress
On-going	Improve our enterprise systems reporting infrastructure to meet administrative and academic needs	In Progress