Sonoma State University
Information Technology

Organization and Operations Review

December 2008

Final Report

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INTRODUCTION

This is a report prepared by the Pappas Consulting Group Inc. to review and assess the Information Technology (IT) operations at Sonoma State University. The report provides recommendations for restructuring operations while continuing to provide essential services without significant additional resources. We have addressed the manner in which the IT organization and operation may be restructured to better accommodate current and future service needs.

Approach

To accomplish the review of IT, the Pappas Group developed a two-phase project approach. During the initial review phase, we gained a broad-based understanding of the organization and operations of Information Technology. The second phase of the study constituted the delineation of findings and recommendations with the following goals:

- Satisfy the completion of another unit review in conjunction with the University's Total Quality Improvement Program.
- Create supporting material and documentation for WASC accreditation.
- Examine organizational structure alternatives to encourage a culture of institutional change.

Our analysis included the following tasks:

- Obtained and reviewed the strategic themes and initiatives adopted by the Administration and Finance division.
- Reviewed existing policies and processes to identify opportunities for streamlining, modification or elimination.
- Reviewed organizational performance metrics and other recent operational assessments.
- Conducted focus group discussions with deans, faculty, and students.
- Conducted an assessment of each IT operating unit and conducted one-on-one interviews with each of the directors.
- Reviewed funding levels for IT for the past five years.
- Obtained and reviewed organizational models and operational best practices successful at higher education institutions similar to SSU.

Our review included the delivery of an interim report and meeting with the Vice President for Administration and Finance to discuss detailed findings, conclusions and preliminary recommendations.

Key Source Documents

Several important CSU references were used as part of our review. The documents are as follows and are an integral part of our report:

1. Administration and Finance Strategic Plan, 2008-2009, updated October 20, 2008.
2. CSU Academic Technology Baseline, Version 2.4, July 16, 2008.
3. CSU Coded Memorandum AA-2006-41, as amended February 9, 2007, Access to Electronic and Information Technology for Persons with Disabilities.
4. "ITAC Strategic IT Initiatives", June 2008.
5. "Organization of Technology on Campus", David Ernst, Information Technology Advisory Committee, March 20, 2005.
6. SSU Information Security Audit 08-16, CSU Office of the University Auditor, including KPMG Security Assessment.
7. "SSU Academic Technology Needs Assessment Survey", Dean of the Library preliminary report, June 2008.

Organization of Report

This report is divided into four sections.

1. IT Governance and Organizational Structure
2. IT Service Delivery
3. IT Funding
4. Recommendations

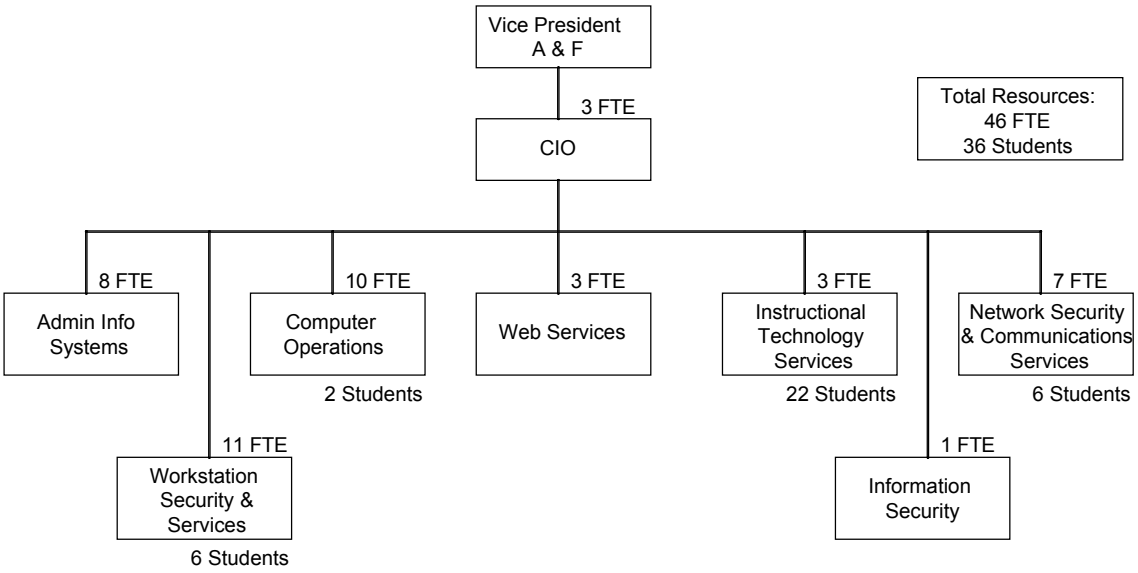
The first three sections have two parts—Discussion and Assessment. The fourth section contains the report's recommendations, prioritized into high, medium, and low categories.

IT GOVERNANCE AND ORGANIZATIONAL STRUCTURE

Discussion

Information Technology (IT) is divided into seven units responsible for delivering the University's IT infrastructure and academic and administrative computing for both data and voice systems. The IT organization is shown in the following chart.

IT
Organizational Chart



IT has a total staff of 46 FTE and 36 students. Five positions have been lost as part of the most recent budget cuts. The staff reductions occurred at the time when three additional positions had been requested and approved - two in Information Security and one for Procurement.

Due to state budget cuts incurred in FY 2003-04 and FY 2004-05, IT has a continuing $800,000 base budget shortfall that must be covered each year from savings realized in other University operations.

In addition to the computer resources controlled by IT, the campus has servers on campus managed by other departments, including the Library, Education, NASA, Computer Science, and Physics.

Assessment

ITAC Recommendations for an IT Organization

In June 2004, ITAC asked Chief Information Officer David Ernst to provide current thinking on organizing Information Technology. CIO Ernst made five recommendations for organizing Information Technology on the CSU campuses. The following table compares Sonoma State with each of the recommendations.

ITAC Recommendations for Organizing Information Technology

ITAC Recommendations Made by David Ernst	Sonoma State Status
1. Name a Chief Information Officer; put him or her on the President's Cabinet and hold him or her accountable for defined outcomes related to IT innovation, service, support and security. Note this is not a recommendation for a specific reporting relationship or organizational structure, but the organizational structure must enable the CIO to meet the objectives for which he or she is being held accountable.	*In Compliance* Sonoma State has a CIO reporting administratively to the Vice President for Administration and Finance who sits on the President's Cabinet.
2. Establish an IT policy and advisory board (staffed by the CIO) to advise the President and Cabinet on IT priorities and related policies.	*Not in Compliance* The campus does not have an active IT Policy and Advisory Board that is advising the President and Cabinet.
3. Develop an Information Technology Plan that aligns with the campus' strategic plan. The IT plan should address innovation, operations, maintenance and refresh, must have specific outcomes, and identify commensurate funding.	*Partially in Compliance* The SSU IT Strategic Plan is contained in the document "Administration and Finance Strategic Plan, 2008-09". The Plan includes all IT areas except Academic Technology (see discussion on page 15). The IT Plan sets priorities, allocates resources, and is reviewed with the Cabinet and Campus Reengineering Committee.

ITAC Recommendations Made by David Ernst	Sonoma State Status
4. Institutionalize IT resources, i.e., treat all IT resources as campus resources. The notion of a 'campus resource' is not to suggest dedicating IT resources to serve a particular program or department is inappropriate. However, it is recommended that all resources should be acquired within the context of the Information Technology Plan, and operated and maintained in accordance with campus and System standards and practices. Note that IT resources that are unique to teaching and research programs require special attention. Therefore, the CIO must work with deans, department chairpersons and faculty to ensure that support for these resources is integrated into the Information Technology Plan; replacement strategies are developed; and production environments are not jeopardized by teaching, learning and research activities.	*Not in Compliance* The CIO does not have broad authority or responsibility over all campus IT resources and policies. It is not clear what are core IT services, available to all faculty, staff, and students, and what are non-core, which need to be provided on a fee-for-service basis.
5. Acknowledge that effectively leveraging the IT resources of the CSU to benefit campus initiatives requires CIO participation in System-wide activities. Presidents must require participation in these activities, and support the related efforts of the CIO.	*In Compliance* The campus CIO is a leader and actively participates in System-wide activities and initiatives.

Other CSU Campuses

For the comparison with other CSU campuses, we used two approaches. The first approach examined the organizational structure of two campuses similar in size to Sonoma State – Humboldt State and Monterey Bay. The other approach used a survey of total IT personnel on four CSU campuses – Bakersfield, Humboldt State, San Marcos, and Stanislaus. The findings for each approach are described below.

<u>Organizational Structure Comparison</u>

We examined the IT organizational structures of two CSU campuses, Humboldt State and Monterey Bay. Both campuses have IT reporting to the Provost.

Humboldt State has 42 FTE staff and 40 students, with a scope similar to Sonoma. Academic Computing (direct support of faculty in the use of information technology to support teaching and learning) has been recently transferred to the Faculty Development Office, reporting directly to the Provost. Web Management is within the marketing and public information unit of the Vice President for Advancement. Humboldt IT has two operating units—Central IT Systems and Services, and Desktop IT Systems and Services.

Monterey Bay has 73 staff and 35 students, with an expanded scope that includes 17 staff FTE CMS functional analysts. It also has nine staff in its Center for Academic Technologies and Services, which assists faculty with their classroom technology needs. Monterey Bay has six departmental units: Network Services, Information Systems Data Warehouse Services, Technology Support Services, Center for Academic Technologies & Services, and Wireless Education & Technology Center.

When Sonoma State is compared to the two other campuses, its staffing level is consistent for similar ranges of services; however, it has more operating units and has the opportunity to consolidate reporting lines and streamline its operating efficiency. At the present time, the SSU IT department has six separate operating units, each with a director, which are too many given the number of staff that it has.

Both Humboldt State and Monterey Bay provide faculty with instructional technology/designer support, which is not provided at Sonoma.

IT Personnel Comparison

We examined the results of a CSU survey reporting the total number of IT personnel on four campuses similar in size to Sonoma – Bakersfield, Humboldt State, San Marcos, and Stanislaus. It is important to note, the staffing levels are for all IT personnel on each campus, rather than just those within the IT department.

The data are shown in the following table.

IT Personnel Comparison
FY 2007/08

	Humboldt	San Marcos	Stanislaus	Bakersfield	*Four Campus AVERAGE*	Sonoma	Sonoma Rank
Number of IT Positions	62	66	41	40	***52***	49	
Target (Budgeted) FTES	7,264	7,394	7,173	6,982	***7,203***	7,609	
Actual FTES	7,252	7,543	7,552	6,892	***7,310***	7,926	
Student Headcount	8,155	9,622	9,493	7,949	***8,805***	8,914	
FTEF (Fall 07)	333	335	370	311	***337***	353	
Campus Operating/General Fund Budget (CSU General Fund Appropriation + Student Fee Revenue)	$96,185,027	$90,207,080	$ 85,823,030	$ 82,151,721	***$ 88,591,715***	$ 86,357,344	
Ratio of Budgeted FTES to 1 IT Position	117	112	175	175	***145***	155	3
Ratio of Actual FTES to 1 IT Position	117	114	184	172	***147***	162	**3**
Ratio of Student Headcount to IT Position	132	146	232	199	***177***	182	3
Ratio of FTEF to 1 IT Position	5	5	9	8	***7***	7	3
Campus GF Funding per Budgeted FTES	$ 13,241	$ 12,200	$ 11,965	$ 11,766	***$ 12,293***	$ 11,349	*

** SSU Funding shortfall compared to 4 campus average = $7,182,896*
($12,293 - 11,349) X 7,609 FTES

Sources:
IT Positions - CSU IT Personell data
Target FTES - CSU CY Reports (http://www.calstate.edu/as/cyr/index.shtml)
Actual FTES and Student Headcount - CSU CY Reports (http://www.calstate.edu/as/cyr/index.shtml)
FTEF - CSU Academic Planning Database (http://www.calstate.edu/es/applications/aa/apdb/apdb_discipline-report-by-campus.shtml)
Budget Info - CSU Budget Office (http://www.calstate.edu/budget/)

The table shows the number of SSU IT positions compared to four campus characteristics - enrollment target, actual student headcount, FTES, and faculty FTE. The SSU campus IT staffing level is at the midpoint (rank 3) for each of the characteristics.

The results of the two analytic approaches show IT staffing levels for Sonoma at a reasonable level compared to other CSU campuses. At the same time, the opportunity exists for streamlining the IT organizational structure, freeing up FTE positions available for reallocation.

Senior Academic Technology Officer

The CSU draft Academic Technology Baseline document discusses the need for a Senior Academic Technology Officer (SATO), responsible for coordinating and integrating support for effective learning and teaching with technology. The SATO has the following responsibilities:

> "Provide strategic leadership and direction for academic technology applications, initiatives, and support services across the broad spectrum of technology functions; provide leadership in planning and policy related to curriculum development, e-learning, and other instructional technology initiatives that facilitate achievement of the institution's strategic goals; and build partnerships among campus academic support units to work collaboratively toward achievement of institutional goals that can be addressed through instructional technology" (Baseline, p.13).

At SSU, Bruce Carpe has the title of Director of Instructional Technology Services with only a portion of the role described in the SATO position. The other parts of the functionality of the SATO position are provided by the Director of the Center for Teaching and Professional Development position that reports to Academic Affairs—Bruce Christie.

This arrangement was organized at the Cabinet level by design since it was generally agreed faculty are best inspired and taught by one of their own, and that production-quality services on a small campus are best provided by the IT department.

At SSU, the responsibilities contained within the SATO position should be accomplished by significant communication between the two positions, which has not happened in the past as much as is needed.

Servers Outside the Control of IT

The CSU Chancellor's Office has recently conducted an Information Security Audit. The audit included a study by KPMG, which included testing of features of the campus security environment. The areas determined to be of highest risk involved servers in other departmental units running independent of IT. At the present time, the campus does not have policies and practices in place to control and monitor remote servers, but is in the process of addressing the issues raised in the security audit. The complete Audit Report will be published shortly on the CSU Internal Audit Web Page.

IT SERVICE DELIVERY

Discussion

The discussion of IT service delivery begins with an overview of each of the six IT operating units with service delivery responsibilities. At the end of the Service Delivery discussion are sections describing the campus Learning Management System, WebCT Usage by Faculty and Students, and Web Accessibility.

Administrative Information Systems. Administrative Information Systems (AIS) has a staff of eight FTE. The unit is responsible for the support of the Common Management System (CMS), including daily application availability, functionality, usability, upgrades and enhancements. The staff act as technical consultants to the business subject matter experts across the campus. AIS supports various campus initiatives, which require interfacing with CMS. These interfaces include LDAP, Bookstore, CASHNet, Blackboard, WebCT etc. AIS supports other administrative applications, including the Facilities Management System, Alumni Development, Health Services, Inventory (asset management), CIHS, and internal IT database applications.

Computer Operations. The Computer Operations unit has ten FTE staff and two students. Its primary function is to provide operational support for the IT data center and its servers. Computer Operations staff support the central storage systems, infrastructure, IT services, and the dedicated application servers. The unit provides operational support and database administrator services for Oracle, MS SQL, MySQL and Filemaker Pro. Operating system support includes installation, hardening, and patching of data center servers and operational support for the SSU identity management system: LDAP. It also provides operation and support of the co-location facility.

Information Security. The Information Security function is limited to one staff FTE, the Information Security Officer. The primary function of the Information Security Officer is to protect the confidentiality of data, the integrity of data, and the availability of important services. Information Security is also involved in identity and access control management.

Instructional Technology Services. Instructional Technology Services has a staff of three FTE and 22 part-time students. It provides campus-wide support for faculty, students, and staff in the following areas: Media Services, Video Production Services, IT Managed Computer Labs, and Video Conferencing Services.

Media Services is one FTE of effort shared by the three staff in the unit and 10 students. It provides campus-wide consultation, support, and equipment for faculty, students, and staff use of audio/visual equipment. Media Services designs, specifies, installs and supports all classroom A/V technology and workstations.

Video Production Services also requires one FTE of staff effort and 3 students. Video Production Services provides services for faculty, students, and staff. It captures, edits, and publishes video of classroom lectures, lecture series, and events such as commencement. It manages the streaming server and publishes live and archived streaming video content to the web. It supports the University's YouTube channel and provides video consultation, training, media conversions and duplication services. It supports the campus SSUTV studio, utilized by the advanced Communications courses and the camera, lighting, sound, and digital editing workstations in the studio. It also supports the SSUTV video feed to the residential halls.

The *IT Managed Computer Labs* and *Video Conferencing* are one FTE of staff effort with 9 students supporting the computer labs. The University has seven general-purpose computing labs, with one open twenty-four hours. The labs have 185 workstations, Windows and OS X servers, software, and printers, all supported by Instructional Technology Services.

Video Conferencing is also supported. The videoconference room is located in Stevenson 1034 and used for distance education courses offered by the Nursing program, the Master's in Social Work program, as well as for general CSU-wide meetings.

Network Security and Communications Services. The Network Security and Communications Services unit has seven staff FTE and six students. Its primary purpose is to provide highly available and stable network, voice, video, and transmission services to the SSU campus.

Specific responsibilities include:

- Plan, design, and fine-tune network and voice systems to provide the best fit between the end users' needs and the capacity and feature sets available through the gear provided in part by the Chancellor's office and in part by the Residence Halls.
- Research, test, implement, and analyze all network security measures on the campus network ranging from switch security features, access lists, packet captures to determine ports which need to be included in firewall rules, monitoring activity against existing rules, and responding to abuse complaints (e.g., port scanning, brute force attacks, copyright violations).
- Proactively monitor, troubleshoot, and resolve network and voice performance issues before they adversely impact the users.
- Protect the majority of the network and voice system users from other user's devices, which may be behaving "abnormally."
- Interpret security advisories issued by the various vendors of network and communication devices to determine whether the campus is susceptible to the security vulnerability, and, if so, whether the patched software poses a greater risk than any available workarounds.
- Follow change control processes to minimize exposing the clients to downtime or instability.
- Document disaster recovery/catastrophic failure measures to bring core services back up as quickly as possible for those voice and network services that are deemed "mission critical."
- Provide network forensic data via syslog and dedicated security event managers such as Cisco CS-MARS and Juniper's NetScreen Manager.

Web Services. The Web Services Office has a staff of three FTE. Most Web Office functions are in one of three overarching service areas: LMS, Web development, and Accessibility. Responsibilities include the following activities:

- Support campus web developers (primarily on IT-hosted servers) – ranging from web account maintenance to web site development.
- Support campus LMS users (faculty, students and staff).
- Coordinate IT work efforts on www.sonoma.edu, www.students.sonoma.edu LMS, and new web services.

- Support faculty in developing instructional materials for the web (HTML, rich media, video, etc.)
- Offer faculty guidance in developing online courses and course materials.
- Participate in University Accessible Technology Initiative efforts.
- Train faculty/staff/students in LMS, HTML, CSS, and accessibility issues in content creation.

Workstation Security and Services. The Workstation Security and Services (WSS) unit has eleven staff FTE and six students. It is responsible for providing: (1) IT user support to the campus community for all IT services; (2) desktop support for Windows and Mac OS; and (3) hardware support services for campus desktop and laptop systems. The IT Helpdesk and the Geoteams are primary responsibilities of the Workstation Security and Services unit.

The staff provide two distinct support strategies with two very different service level targets in support of the campus community. The first is Geoteam. In this scenario, a team of consultants provides direct support to a geographic group of people on campus. Multiple departments comprise the geographic area. The computers are centrally managed by WSS with users solely having enough access to do their work. Geoteam supported departments can expect a service level target response within four hours.

The Helpdesk serves the rest of the campus community. Helpdesk clients are not on managed systems or are centrally managed solely to address patches and viruses. If the issue cannot be resolved during the initial contact with the Helpdesk (by phone or walk-in) the campus client can expect a service level target response within one full working day.

Learning Management System

The University's Learning Management System (LMS) is at the core of academic computing. WebCT has the following components, with responsibility distributed across several University departments and the faculty.

- **Technology**, **architecture, operation, integration and Helpdesk of LMS:**
  Lead: CIO
  This encompasses the servers, database systems, network design (e.g., load balancing), backups, software updates, integration with CMS, integration with library content systems, and end-user support. If this service is ever provided via partners (i.e., outsourced), the CIO will be responsible for signing off on these items.

- **Training:**
  Partners: Director of Web Services, Director CTPD
  This encompasses training faculty in the use of the LMS. The Director of Web Services focuses on details of "how to". The Director of CTPD focuses on the pedagogy of using LMS.

- **Selection of Product:**
  Lead: CIO and Provost, with advice from Directors of Instructional Technology Services, Director of Web Services, Dean of The Library, Director of CTPD.

- **Content:**
  Lead: Faculty
  This is the content specific to a class.

WebCT Usage by Faculty and Students

Use of WebCT by students and faculty has been steadily increasing since the academic year 2003-04. Though reporting is meager and statistics not readily available, two measures indicate steady growth in the use of WebCT. One set of data available is "WebCT Use in Courses". The following table shows steady growth in courses using WebCT from 2003-04 through 2007-08.

Courses Using WebCT
Growth Since 2003-04

Academic Year	Fall		Spring	
	Number of Courses using WebCT	Percent Change from Prior Year	Number of Courses using WebCT	Percent Change from Prior Year
2003-04	119		125	
2004-05	168	41.2	162	29.6
2005-06	228	35.6	265	63.5
2006-07	291	27.6	343	29.4
2007-08	395	35.7	376	9.6

The second data set available is "WebCT Use – Students in Used Courses". Trends also show significant growth, though data for Spring 2008 are preliminary. Data since 2003-04 are as follows:

Students in Courses Using WebCT
Growth Since 2003-04

Academic Year	Fall		Spring	
	Students in Courses using WebCT	Percent Change from Prior Year	Students in Courses using WebCT	Percent Change from Prior Year
2003-04	4,815		4,990	
2004-05	7,437	54.5	7,458	49.5
2005-06	9,654	29.8	10,382	39.2
2006-07	N/A	N/A	9,298	(10.4)
2007-08	10,185	5.5*	7,479 (est.)	N/A

*Change measured from 2005-06.

Web Accessibility

The Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973 require that qualified individuals with disabilities be provided equal access to programs, services, or activities. California Government Code 11135 applies Section 508 of the 1973 Rehabilitation Act, as amended in 1998, to State entities and to the CSU. Section 508 was enacted to eliminate barriers in information technology, to make available new opportunities for people with disabilities, and to encourage development of technologies that will help achieve these goals. The CSU policy statement on accessibility was articulated in Executive Order 926.

In order to meet the needs of individuals with disabilities, the CSU has established the Accessible Technology Initiative (ATI) as described in the CSU Coded Memo AA-2007-04. The CSU Accessible Technology Initiative has three priorities. They are:

- Priority 1 - Web Accessibility of Administrative Web Sites
- Priority 2 - Instructional Materials Accessibility
- Priority 3 - Procurement of Accessible Electronic & Information Technology

The scope of the Pappas review is limited to the current SSU status of Priorities one and three.

The Chancellor's Office had disseminated report format guidelines for the annual reports that were due August 15, 2008. Sonoma State is actively engaged at the campus level and participating in system-wide efforts to meet the requirements of EO 926. Barbara Butler has been appointed the Executive Sponsor for the campus, serving as liaison to the President and Vice Presidents and monitoring compliance activities.

The Chancellor's Office has become much more aware and understanding of the aggressive timelines and the resources required to be in compliance. Through the formation of system-wide committees, a central, system-wide approach is starting to develop and the challenges for small campuses with fewer resources is starting to be recognized.

At this point, Sonoma State is actively participating in the compliance process and meeting its responsibilities.

Assessment

IT Service Delivery Issues

IT delivers mission critical services to the campus. Comments from interviews, focus groups, and the faculty needs assessment survey uniformly describe how important information technology is to meeting the needs of faculty, students and staff. Given the resources devoted to IT, the function performs reasonably well and provides a

reasonable level of service quality. Specific strengths and limitations are discussed below.

IT has many strengths. Professional staff have long years of experience at the University and many of the staff recently hired from outside the University bring much needed experience in current business and technology practices. The network infrastructure and architecture is strong due to investments from the CSU Chancellor's Office. Server operations have been operating with a high degree of reliability (with the exception of the e-mail server in December 2007). Administrative Information Systems are strong due to the commitment the Chancellor's Office and the campus have made to CMS.

At the same time, IT has operational issues that need to be addressed. At the present time, IT does not have a basis for measuring its performance or productivity in any systematic manner. IT does not use or adhere to an information technology management system concept such as the Information Technology Infrastructure Library (ITIL) or the Information Technology Management System (ITMS), which are globally recognized management disciplines for information technology. The Service Delivery and Service Support sections of ITIL are of special importance to the management of IT.

Once in place, the ITIL–based management system will be the means for measuring, tracking and reporting customer service quality; implementing staff training programs; and scheduling for the orderly replacement of computer hardware and software.

Operational Efficiency and Service Improvements

A key strategy for IT to improve operating efficiency and service delivery is to leverage resources of the Chancellor's Office and the other CSU campuses. The CSU Information Technology Advisory Committee (ITAC) is focusing on ways to improve the efficiency and service levels of information technology on the campuses. The ITAC has identified four initiatives that will involve the participation of lead campuses.

The four initiatives are:

1. Green Computing. How can IT change hardware, software, and practices to save energy?
2. Outsourcing Email. How can the entire CSU outsource email to provide better service for less cost?
3. Identity and Access Management. How can the entire CSU benefit from common identity and access management systems?
4. Off-site IT to Support Business Continuity. How can campuses benefit from distributed data centers?

Through active participation in these initiatives, Sonoma State will be able to focus IT capacity and service delivery strategies based on shared, outsourced, and leveraged resources with the CSU Chancellor's Office and other campuses. Both the Library and IT data centers should be actively involved in each of the ITAC initiatives.

Academic Technology Strategic Plan

In Spring 2008, President Arminana issued a directive to the Provost and the CIO to create an SSU Academic Technology Strategic Plan. The Provost and CIO have committed to delivering the Strategic Academic Plan and have established a planning process to do so. The Academic Technology Strategic Plan is scheduled to be completed in the Spring, 2009 Semester.

The Plan will compare the state of academic computing on the Sonoma campus with the current and future baselines for the various initiatives identified in the CSU-wide Academic Technology Baseline draft document. The goal is to create a dynamic, ongoing, 5-year strategic plan for academic technology. The Academic Technology Advisory Council will vet the plan.

Faculty Training and Development

With limited resources, the campus does little to train and support the faculty. Faculty training and development in the use of LMS is, therefore, a critical issue. No resources or special orientation programs are available for new faculty. Students are highly critical of the lack of knowledge many faculty have of how to use classroom technology.

The IT Web Office places high priority on faculty support; however, only two staff are available. SSU does not have instructional designers available to work with faculty, nor does it have production people who can help create learning materials. Faculty are expected to learn on their own with minimal guidance from the IT Web Office.

The campus is currently building a $1 million Faculty Development Fund and another $1 million fund for "Repairing the Academic Base". Both of these newly funded programs are sources for IT faculty training and development.

The draft Academic Technology Baseline document identifies the following Current Baselines relevant to faculty development (See relevant page references to that report for additional information.):

- **Current Baseline**—All campuses should have a structure or organization to provide faculty with instructional technology/designer support. In other words, there must be training that includes pedagogical design with access to the campus unit responsible for providing instructional technology support. This combined organization of coordinated programs should provide faculty recognition, mentoring programs, follow-up training sessions and provide access to shared resources. (p. 18)

- **Current Baseline**—Through a Physical Planning project manager, faculty, instructional designers and technology service providers should meet in the initial stages of planning or remodeling a classroom to ensure needs are effectively addressed. As the needs and requests for learning spaces change, the instructional designers and technology providers need a forum to suggest modifications based on end user requirements and academic technology needs. (p. 19)

- **Current Baseline**—All campuses should make the Rubric for Online Instruction [a set of indicators to design and evaluate online instruction] available for Instructional designers and faculty, or use an equivalent tool. (p. 20)

- **Stretch Baseline**—All campuses must have instructional technologists/designers working closely with faculty to connect the programs to the learning outcomes. **A ratio of one instructional technologist to each 100 faculty is suggested**. (p. 20)

- **Current Baseline**—The Academic Technology consultants should work closely with faculty and staff to connect the programs to the learning outcomes. (p. 20)

- **Current Baseline**—All campuses should establish a unit that provides instructional technology support and services to faculty to integrate technology effectively in the teaching and learning process. (p. 21)

At the present time, the campus is not in compliance with any of the baselines just enumerated.

IT FUNDING

Discussion

We present IT funding from two different perspectives. The first looks at IT funding as part of the General Fund budget over the past five fiscal years. The second examines actual expenditures.

General Fund Budget

As shown in the following table, the General Fund Budget for IT grew from $4,065,717 in FY 2003-2004 to $4,829,707 in FY 2007-2008. Over that period of time, the IT General Fund Budget as a percent of the Total General Fund budget has been in a tight range of 5.01% (FY 2006-2007) to 5.83% (FY 2004-2005). In terms of IT General Fund Budget per Full Time Equivalent Students, IT has ranged from $567 FTES in FY 2006-2007 to $663 FTES in FY 2005-2006.

Source: Vice President for Finance and Administration

IT GENERAL FUND BUDGET

	2003-2004	2004-2005	2005-2006	2006-2007*	2007-2008
Budgeted Salaries	3,056,930	3,049,116	3,141,724	2,870,848	3,365,730
Budgeted Benefits	1,008,787	1,097,682	1,131,021	1,090,922	1,278,977
Budgeted Operating Expense	0	70,000	185,000	185,000	185,000
Total Budget	**4,065,717**	**4,216,798**	**4,457,745**	**4,146,770**	**4,829,707**
SSU Full Time Equivalent Students (FTES)	6,997	6,778	6,728	7,312	7,930
IT GF Budget per FTES	$581	$622	$663	$567	$609

TOTAL GENERAL FUND BUDGET

Tax Appropriations	50,834,400	50,478,074	54,301,344	58,753,854	64,157,344
Student Fees	19,003,242	21,329,200	22,309,200	23,432,200	26,414,200
Lottery Funds	484,076	484,076	484,076	544,076	572,076
Total General Fund Budget	**70,321,718**	**72,291,350**	**77,094,620**	**82,730,130**	**91,143,620**
IT Budget as % of Total GF Budget	**5.78%**	**5.83%**	**5.78%**	**5.01%**	**5.30%**

* Between 05/06 and 06/07 majority of IT Administrative Information Systems personel moved from IT General Fund Budget to IT Reimbursed Activities Budget

IT Actual Expenses

Actual expenses from all funding sources for IT grew from $5,718,923 in FY2003-04 to $6,047,271 in FY2006-2007, as shown in the following table. IT expenses as a percent of total campus operating expenses has been in a tight range, though decreasing from 4.12% (FY2003-2004) to 4.00% (FY2006-2007). In terms of IT actual expenditures per FTES, the range has been from $817 FTES in FY2003-2004 to $841 FTES in FY2005-06.

Source: Vice President for Finance and Administration

ACTUAL EXPENSES

	2003-2004	2004-2005	2005-2006	2006-2007
Salaries	3,490,240	3,329,253	3,344,744	3,424,688
Benefits	1,092,995	1,182,033	1,165,429	1,243,553
Operating Expense	1,135,688	1,102,591	1,134,470	1,217,439
Encumbrances	0	75,683	16,562	161,591
Total IT Expenses	**5,718,923**	**5,689,560**	**5,661,205**	**6,047,271**
SSU Full Time Equivalent Students (FTES)	6,997	6,778	6,728	7,312
IT Expenses per FTES	$817	$839	$841	$827
Total Campus Operating Expenses*	**138,962,568**	**139,848,236**	**141,059,415**	**151,203,555**
IT Budget as % of Total GF Budget	**4.12%**	**4.07%**	**4.01%**	**4.00%**

*Less non cash item of Depreciation

Assessment

The trends for IT, both in terms of the General Fund Budget and actual expenditures, show that funding levels have remained virtually constant as the percentage of their totals and in terms of the Full Time Equivalent Students. More detailed financial analysis by functional area or type of expense is not possible due to the lack of detailed record keeping. A better understanding of the appropriate funding level for IT will be achieved as part of the Information Technology Plan (see Recommendation #1).

While an overall assessment of funding is not possible, specific issues involving the Faculty Workstation Replacement and Classroom Renovation Programs are discussed below.

Faculty Workstation Replacement Program

Faculty workstations are a critical area of concern. Historically, most faculty have not had workstations that meet current technology standards. This limits their ability to perform their academic responsibilities. The Provost has established a funding level of $100,000 annually for a Faculty Workstation Replacement Program. Key features of the replacement program are:

- Computers in the replacement program are for the primary use of faculty and staff (full and part-time) with one per employee.
- Computers will be replaced on an oldest, first basis.
- If a school/unit elects to pass over an eligible replacement, the next oldest equipment from that school will become eligible.

Virtually all campus faculty and staff workstations are expected to be upgraded and current by the end of FY2008-2009 and will be reviewed on a going forward basis.

Classroom Renovation

Converting conventional classrooms, computer labs and other instructional spaces into technology-enhanced spaces is a high priority for the campus. The campus currently has a total of 57 technology-enhanced spaces, consisting of 48 technology-enhanced classrooms and instructional spaces, 7 technology-enhanced departmental computing labs and 2 technology-enhanced conference rooms. There are at least 139 other spaces that need to be considered for technology enhancements.

The Classroom Renovation Committee is responsible for creating a prioritized list of classrooms to be considered for renovation. This list is reviewed and approved by both the Campus Re-engineering Committee and the Campus Space Committee. At present, the Classroom Renovation Committee has identified classroom renovation projects through the 2011-2012 academic year. Of the 13 spaces recommended for renovation, 5 of these spaces will be upgraded.

The draft Academic Technology Baseline document has identified the following baseline for classroom planning:

- **Current Baseline**—Through a Physical Planning project manager, faculty, instructional designers and technology service providers should meet in the initial stages of planning or remodeling a classroom to ensure needs are effectively addressed. As the needs and requests for learning spaces change, the instructional designers and technology providers need a forum to suggest modifications based on end user requirements and academic technology needs. (p. 19)

The campus has begun to utilize the above baseline as part of its classroom renovation process.

RECOMMENDATIONS

The final section of our report contains recommendations for the IT Governance and Organizational Structure, Service Delivery, and Funding issues described previously. Priority levels of High, Medium, and Low are assigned to each recommendation.

Recommendation	Priority
1. Implement CIO David Ernst recommendations provided by ITAC for organizing information technology on the CSU campuses: • Create and engage a campus IT Policy and Advisory Board under the responsibility of the CIO, with the scope of both academic and administrative technology, including the review of the IT Strategic Plan. • Assign authority and responsibility to the CIO for the coordination and integration of all campus IT resources and policies, including the Library and departmental computing areas. • Communicate the difference between core and non-core IT services and establish a fee-for-service policy for non-core IT services.	High

Recommendation	Priority
2. Over time and as a result of employee retirements, reduce the number of IT operating units from six to two, reducing the number of director positions. Reassign IT functions into the following categories: • Technology Infrastructure: network, servers, workstations, web support, security, programming, email services, and voice. • User Services: A & F support, Academic Affairs support, Entrepreneurial Services support, and Help Desk.	High
3. Re-examine IT job descriptions, roles and responsibilities with the intent of shifting staff resources to the delivery and support of User Services.	Medium
4. Reassess roles of students delivering essential services to users. Eliminate use of students in unsupervised situations.	Low
5. The Director of Instructional Technology Services should develop and maintain an "Annual Instructional Technology Operational Plan" in collaboration with the Director of the Center for Teaching and Professional Development. The Plan should address academic technology applications, initiatives, and support services across the broad spectrum of technology functions. It should be consistent with budgetary constraints. It should require approval by the Vice President for Administration and Finance, the Provost, and the CIO.	High
6. Formulate and implement policies and practices that integrate remote servers within the purview of IT security and network architecture.	High
7. Undertake a comprehensive initiative to implement an ITIL-type of structured methodology to manage IT operations. Implementation will require one FTE staff to develop and maintain the program; funding source to be savings realized from recommendation 2 above.	Medium

Recommendation	Priority
8. To the greatest extent possible, continue to lead and actively participate in the ITAC initiatives aimed at leveraging CSU resources to gain IT efficiencies and service improvements. Include the Library Computer Center as part of this recommendation.	Medium
9. Closely monitor the process of the Provost and the CIO for developing the campus Academic Technology Strategic Plan. Devote the necessary resources and take whatever action necessary to ensure the quality of the Plan meets expectations and is delivered on schedule.	High
10. As described in the draft Academic Technology Baseline document, create a structure or organization to provide faculty with instructional technology/designer support. This unit should be coordinated within the Annual Instructional Technology Operational Plan and funded from the Faculty Development fund and the "Repairing the Academic Base" fund.	High
11. Develop an IT financial plan as part of the campus-wide Information Technology Plan. The 'structural' deficit should be permanently repaired instead of being funded annually from 'one-time' funds.	High