Information Technology Services

ANNUAL REPORT

2014 - 2015

CSUSB

Information Technology Services

Strategic Priorities

FACULTY DRIVEN
INNOVATION
&
RESEARCH

BUSINESS
INTELLIGENCE
&
ANALYTICS

STUDENT
SUCCESS

BEST of CLASS
SUPPORT

Contents

Executive Summary

Introduction

Building on the momentum propelled by organizational change and leadership in 2014-15, the Information Technologies Services (ITS) Division continues to advance its services and support to the University community on three important fronts 1. World Class Customer Service and Support to students, faculty and staff 2. Fostering and Supporting Faculty-led innovation and research 3. Improving operational efficiency in all areas of the institution through the effective use of technology. The President, the IT Governance Executive Committee and the University leadership team have provided tremendous support to ITS in its initiatives supporting the campus community. This report will summarize measureable/verifiable evidence of the work the ITS team has accomplished this past academic year in collaboration with key constituent groups, to support the academic mission of CSUSB.

Progress

World Class Customer Support Services & Support

The Technology Support Center established in 2014 has continued to raise the bar on providing services and support to students, faculty and staff on a 24x7x365 basis. All the staff in the TSC went through technical as well as customer service training sessions and have been provided the right tools to provide effective technology support. Processes such as the issuance of OneCard and creation of accounts have been streamlined in order to promptly establish user access to Campus resources once students, faculty and staff are registered into the system. The process of creation of accounts in different critical campus systems such as Blackboard, PeopleSoft and E-Mail has been automated, significantly reducing the time it took for campus constituents to gain access to these systems.

Information Technology Services partnered with Blackboard User Support Services (USS) last spring to enhance technology support on the evenings and weekends. Blackboard USS provides level 3 support to Blackboard learning management system (LMS) and level one support for about one hundred other applications. The customer satisfaction of the University community has steadily risen due to these strategic initiatives.

At the Palm Desert Campus, the new Assistant Director of Technology Services, Ms. Patricia Weyand is building her team and streamlining processes to provide best of class support and services to the students, faculty and staff at the PDC. As the Campus continues to grow, the ITS Team is well poised to becoming routinely proactive and innovative.

The Project Management and Assessment Office was established by Mr. Felix Zuniga with the goal of providing project and resource management and assessment for all projects that are led

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by ITS as well as projects that are led by other organizational units across Campus that ITS supports.

Fostering and Supporting Faculty Led Innovation and Research

The Academic Technologies and Innovation department under the leadership of its new director Dr. Michael Chen has established new frontiers in supporting our faculty in multiple areas as it relates to teaching/learning and research. In Collaboration with the Teaching Resources Center (TRC) and its director Dr. Kim Costino, the Faculty Sandbox established in fall 2014 serves as a center where faculty come and experiment with new technologies and fearlessly innovate. A newly established position, Instructional Technologist along with the Instructional Design Team provide support to faculty led innovation in the Sandbox as well as in the classroom.

The Academic Technologies and Innovation Team has partnered with faculty on securing several Chancellor's Office academic technology grants totaling over $100,000 on key areas of teaching with technology, quality assurance and virtual labs. A new Faculty Associate position has been established within ATI to strengthen the relationship and collaboration with our faculty.

The Academic Technologies and Innovations subcommittee of the IT Governance Executive Committee is in the process of merging with the Distance Learning subcommittee of the Faculty Senate to provide broader input and consensus on academic technology initiatives across the institution.

The ATI team continues to evolve and reorganize to best position themselves to support that exceeds expectations of our faculty.

Operational Efficiency

There were several ITS led and collaborative projects that have been completed or ongoing to improve efficiency across the University and to provide predictive analytics for proactive decision making.

Enterprise Workflow Management System: The University partnered with Hyland Software to upgrade the Hershey's document management system to OnBase workflow management system. The first phase of the project upgraded and consolidated our current Hershey's databases. This phase was completed in February 2014. The second phase of the project adds workflow and automate many of our manual and form-based processes. The third phase which is currently underway integrates OnBase with PeopleSoft for seamless access to OnBase from PeopleSoft screens.

Comprehensive Network Upgrade: The ITS Team worked with the Chancellor's Office in a comprehensive upgrade of our wired and wireless networks at the San Bernardino and Palm Desert Campuses. This upgrade has significantly improved connectivity and response times for network, server and Cloud based resources. This project was completed in November 2014.

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Upgraded Connectivity to the Internet: Our redundant 1GB connectivity circuits to the Internet were upgraded to redundant 10 GB circuits through CENIC. These new circuits will provide significant performance increase for resources internal and external to the campus. These new circuits now allow us to do significantly more work with the research computing networks through XSEDE and Internet2. This project was completed in September 2014. The PDC received a second 1GB redundant circuit in August 2014.

Office 365 Migration: All the mailboxes in our current Microsoft Exchange environment were moved to Office 365 on the Microsoft cloud. In addition to providing better performance on the mail processes, Office 365 provides a wide range of services for faculty and staff including: web conferencing, 25 GB of OneDrive file storage (soon to be 1 TB), spam and malware protection, Office Web App, audio calling using Lync-to-phone. This project was completed in May 2015.

Blackboard Hosting: Our Blackboard Learning Management System was moved to managed hosting through Blackboard. The hosted environment ensures that Blackboard runs optimally, is at the current version and is always available for the Campus Community. This project was completed in September 2014.

Identity Management System (IDMS): The Campus Community will be migrated to a new IDMS, which will offer superior identity management and security features and allow the ITS team to commission and decommission accounts more efficiently. This project went live in April 2015. It is expected that all students, faculty and staff will reclaim their accounts by the end of September 2015.

Education Advisory Board – Student Success Collaborative: The ITS Team worked with different teams of stakeholders across the campus to implement the EAB SSC Predictive Analytics tool that aids advisors, faculty, and staff to provide proactive advising services to our students. This tool was successfully piloted by the College of Business and Public Administration, the College of Natural Sciences and the EOP offices in Fall 2014 and will go live date of Fall 2015 along with Grades First integration into the SSC Platform.

New MyCoyote Portal: All internal-facing authenticated resources were faced behind the MyCoyote portal allowing students, faculty and staff to access all their resources with a single sign on authentication. The portal is hosted with the CampusEAI Consortium Cloud service. This project went live in December 2014.

Web Migration: The Web Team at ITS is working with the University Advancement Team in the comprehensive redesign and migration of the University Advancement website. The new website is being created using the Drupal content management system and is hosted on the Pantheon One Cloud. Following this migration, the entire University web presence will be redesigned and moved into Drupal and Pantheon One in stages over the next 18 months.

Enterprise Data Warehouse Project: The goal of this project is to provide a single source of current, reliable and accurate data access for the campus community for institutional intelligence driven decision making. Based on a report by consultants from Illuminomics, the ITS team and

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the Institutional Research Team along with advice from the Institutional Data Team, partnered with CSU Fullerton and consultants from Thought Focus in building and launching an enterprise data warehouse in April 2015. The warehouse now undergoing validation testing and is expected to be released to the Campus community in fall 2015.

Data Center UPS Upgrade: The Data Center UPS was upgraded December 2014.

VoIP Upgrade: The Voice over IP Upgrade project was completed in November 2014. This project will provide advanced features such as mobile access, advance voicemail projects and will aid in our desktop unification and BYOD initiatives.

Information Technology Services

Dr. Samuel Sudhakar
VP/CIO

Felix Zuniga
Director of Project Management/Assessment

- **Janette Flores** — Administrative Support Coordinator

Lenora Rodgers
Director of Administrative Computing & Business Intelligence

- **Cynthia Perez (T)** — Administrative Support Coordinator
- **Muriel Vita** — FS Project Manager
- **Andrea Beechko** — FS Budget LCD
- **Jenny Casillas** — Administrative Analyst
- **Rich McGee** — Analyst/Programmer
- **Luisa Hawkins** — Analyst/Programmer
- **Ron Rodriguez** — Analyst/Programmer
- **Vacant** — Analyst/Programmer
- **Joe Estes** — Analyst/Programmer
- **Vanessa Wang-Rekem** — Analyst/Programmer
- **Tiffany Chiang** — Analyst/Programmer
- **Anthony de la Loza** — Analyst/Programmer
- **Bryan Gateb** — Analyst/Programmer
- **Linh Tran** — Operating Systems Analyst
- **William Yates** — Analyst/Programmer
- **Doris Selva** — Administrative Analyst Specialist
- **Danny Vasquez** — Administrative Support Coordinator
- **Jacquelyn Almonte** — Analyst/Programmer
- **Nancy Tong** — Analyst/Programmer

Gerard Au
AVP for Operations & Customer Support

- **Sonia Miranda** — Administrative Support Coordinator
- **Patricia Weyand** — Assistant Director for Technology (PDC)
- **Vacant** — Director of Distributed Technology Services
- **Jim O'Linger** — Director of Enterprise Systems & Technology Support

  - **Lisa Adams (T)** — Administrative Support Coordinator
  - **Dee Bowen** — IT Consultant
  - **Mike Fredette** — IT Consultant (CEL)
  - **Hector Gamon-Cervantes** — Equipment Systems Specialist
  - **David Garcia** — Operations Specialist
  - **Jonathan Hamblen** — IT Consultant
  - **Vacant** — IT Consultant
  - **Aaron Oxendine** — IT Consultant
  - **Jennifer Poron** — Equipment Systems Specialist
  - **Michael Portillo** — Equipment Systems Specialist
  - **Roger Robles** — IT Consultant
  - **Randy Rouch** — IT Consultant
  - **Jaime Hernandez** — Equipment Systems Specialist

Khalil Daneshvar
Assistant Director Enterprise Systems

- **Chad Cordero** — Operating Systems Analyst
- **Hong Cullen** — Analyst/Programmer
- **Ben Derry** — Operating Systems Analyst
- **Brandon Sierra** — IT Consultant
- **Dung Vu** — Analyst/Programmer
- **Idalia Flamenco** — IT Consultant
- **Shaun Geer** — Operating Systems Analyst

David Hatch
Network Analyst

- **John Muir** — Network Analyst
- **Darin Pain** — Operating Systems Analyst
- **David Vasilia** — Network Analyst
- **Martin Garcia** — Equipment Systems Specialist
- **Rick Conway** — Network Analyst
- **Marie Thomson** — Operations Specialist
- **Lonelle Minesinger** — Operations Specialist
- **Heather Hopkins** — Operations Specialist

Michael Casadonte
Manager Web Services

- **John Baumann** — IT Consultant
- **Joel Fite** — IT Consultant
- **Ajay Kotian** — IT Consultant
- **Agustin Castro (T)** — IT Consultant

Karina Alvarado — Executive Assistant

Gabby Guzman — Associate Budget Analyst

Candace Johnson — Assistant Budget Analyst

Dr. Javier Torner
Director of Information Security & Emerging Technologies

- **Elsa Lopez** — Administrative Support Coordinator
- **Michelle Behne** — Administrative Analyst Specialist
- **James Macdonell** — Operating Systems Analyst
- **Laura Carrizales** — Administrative Analyst Specialist
- **Rosa Padilla** — IT Consultant
- **Sunny Lin** — Operating Systems Analyst
- **Russell Jackson** — Operating Systems Analyst
- **Eddie Szumski** — Operating Systems Analyst
- **Annel Martin** — IT Consultant Health Center

Gerardo Garcia-Sotelo — Operating Systems Analyst

- **Carmen Carswell** — Operations Specialist
- **Gene Young** — Equipment Systems Specialist
- **Jim Henriques** — Operations Specialist

Andy Chander — Operating Systems Analyst

- **Steve Cuddigan** — Analyst/Programmer Health Center
- **Patrick Chinpanich** — Operating Systems Analyst
- **Adrian Piceno** — Operating Systems Analyst

Michael Chen
Director of Academic Technologies & Innovation

- **Shelley Campbell** — Administrative Support Coordinator
- **Steve Waldman** — Assistant Director

  - **Steve Burdick** — IT Consultant
  - **Andy Gildore** — IT Consultant
  - **Tom Richards** — Broadcast Engineer
  - **Jonathan Brooks** — IT Consultant
  - **Daniel Herrmann** — IT Consultant
  - **Adrian Enciso** — IT Consultant
  - **David Alaniz** — IT Consultant
  - **Joeleen Monclova (T)** — IT Consultant

- **Mihaela Popescu** — Faculty Associate
- **Vacant** — IT Consultant
- **Garrett Trask** — IT Consultant
- **Mauricio Cadavid** — Instructional Designer
- **Vacant** — Instructional Designer
- **Vacant** — Instructional Designer
- **Takiya Moore** — Instructional Designer
- **Vacant** — Instructional Designer
- **Leon McNaught** — IT Consultant
- **Christine Fundell** — IT Consultant

T= Temporary Staff
T6 = Temporary 6 Months
N = Non State Funded Staff

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Updated 7.13.15 (KA)

Academic Technologies
& Innovation

Academic Technologies & Innovation

Faculty and Instructional Design Support

Highlights of faculty and instructional design projects

WASC Accreditation: This was perhaps one of the most significant projects ATI worked on this year. With the WASC review and reaccreditation visit, ATI was instrumental in providing both technical and personal support to all delegates. This support included access to Blackboard courses, creating credentials for their access, answering questions on Distance Learning and online courses, and being available for any technical assistance they needed. **Results:** CSUSB received its re-accreditation.

Online FAR for Academic Personnel: ATI has been actively engaged in a long-term project with Academic Personnel by developing a one of a kind online FAR submission process. ATI has worked with several departments on campus (ITS, AP, Faculty Senate, Library, and others) to develop the online submission online using Moodle. In addition, eight group workshops, and 15 individual hands-on were provided to faculty who are in their retention/promotion track. Furthermore, training was provided for chairs, and review committee members. **Results:** 27 faculty members (2-year and 1-year) successfully completed their FAR online; and currently working on the next AY 2015-2015 review.

Faculty Spring Showcase: This year, ATI held its first annual Faculty Spring Showcase competition; replacing its predecessor OODL Awards. **Results**: 11 faculty members competed in this year's event, and six of them received awards in two categories: Innovative teaching and technology use.

NBCLearn: Another important project we began this year is our collaboration with NBC, and the initiative to start using NBCLearn as part of our Blackboard resources for faculty and students. NBC provided four webinars to 7 faculty members, and we are currently working on scheduling a visit during our Summer Institute at the end of summer.

The Innovator's Series: The innovator's series was developed to showcase those on the campus who excel at technology integration. Presenters were asked to give a one hour showcase/lecture on their experience and application of technology within their discipline or their approach to instruction. **Results**: There were four presentations with an average attendance of approximately 10 faculty members each session.

Course Redesign with Technology grants: ATI assisted faculty in securing more than $100,000 in grant funding for course redesign from the chancellor's office that included Proven Adoption, Virtual Lab, and Quality Assurance. Through these grants, we also brought Quality Matters training to campus. In two full-day workshops, we had 35 faculty members certified to apply Quality Matter standards to online course development.

Affordable Learning Solutions (AL$) and OTAP is another CO initiative that ATI facilitated on campus. With funding support from the chancellor's office, ATI worked with faculty in researching and adopting open source and alternative instructional materials to lower student textbook costs. **Results:** There were 8 faculty participating in the AL$ projects and 13 in OTAP projects.

App Chat: was developed to provide an open forum discussion amongst CSUSB faculty members regarding applications used in curriculum design, instruction and student interaction. Faculty members and staff from the Academic Technologies & Innovation office brought new technologies each session to share and discuss.

Moodle: ATI continues to provide Moodle support to more than 20 faculty members from Arts and Letters, Social and Behavioral Science, and World Languages. In addition, we support several communities of practice that service nearly 1000 students. As a result of this support, and Moodle evolution, ATI is currently increasing its Moodle capacity, while also upgrading to a more sophisticated and stable system.

SurveyMonkey: ATI is always aware of campus needs, and for the past 4 years, ATI has provided support with the use of surveys in Survey Monkey. There are currently 27 surveys being used for class evaluation, program evaluation, project evaluation, and even as a check-in and check-out system.

Supporting Innovation: Over the past year, ATI has been bringing new technologies to the campus, encouraging faculty to discover new ways of approaching both classroom and online/hybrid instruction. A few examples of these technologies are Double Robotics' 'Double', 3D printing technology and very recently, the light board. The Double Robotics has been successfully implemented in an array of situations from distance education and campus tours, to meeting presentations and workshop attendance, among others.

Other Projects with ATI staff:

- TRC Upper Division writing center
- Story Tellers Workshop
- SOAR online communities
- Academic Advising videos
- International Programs Application process
- MBA Advising Community
- Faculty Summer Institute
- ATI – Student Accommodation
- ATI – Instructional Materials
- Graduate Interns
- Blackboard Student Orientation Course
- Professional Development
- Gamification
- Arabic Language and Culture promotional video

- Ecology Restoration course/community of practice
- Blackboard Archive Restoration
- NAVSEA Course Restoration
- Classroom Technology Site Visits

New Workshops offered:

- Course Development (F'14)
- Mobile Technology
- Camtasia Screen Capture
- TechSmith Relay
- Bb Dashboard and Performance
- Innovator Series
- Story Tellers Series
- Blackboard Interactions
- Blackboard Grading
- Blackboard Content
- Quality Matters Session 1
- Quality Matters Session 2
- Quality Matters Session

Online Program Support

ATI provided support to full online programs both on the state and on the CEL support side. Program support includes assistance to dean/chairs, faculty, staff, and students. This support also includes software, training and LMSs (Blackboard and Moodle). Summary of programs supported in the last academic year.

- 12 fully online programs supported
  - 8 State programs (Education, Nursing, Business, Science)
  - 4 CEL Support programs (Business, Education, Criminal Justice, Social Work)

Course Design Support:

Over 400 courses supported between the four instructional designers this academic year.

- 231 unique course sections
- 48 courses with continuing support
- 27 new online course developments
- 17 course redesigns
- 10 new courses

Faculty Support

ATI provided support to more than 450 faculty members (approximately 195 unique faculty members). This group of faculty members includes both Blackboard support (181) and Moodle support (14).

These faculty members represented the following colleges:

Faculty Support by College

College	Percent
CBPA	23%
Arts & Letter	29%
SBSCI	16%
Education	19%
NSCI	6%
CEL	7%
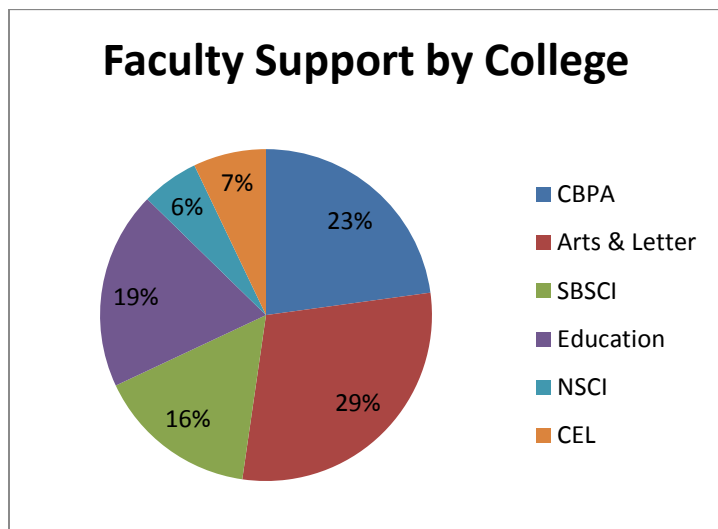
Blackboard Usage Data

ATI end of year numbers 2014-2015

Totals

	All courses		CEL
Fall	353	Total	
	144	Fully online	43
	209	hybrid/blended	
Winter	284	Total	
	126	Fully online	40
	158	Hybrid	
Spring	248	Total	
	117	Fully online	35
	131	Hybrid	

Chart data:

	Hybrid	Online	All
Total	498	387	885
Spring	131	117	248
Winter	158	126	284
Fall	209	144	353
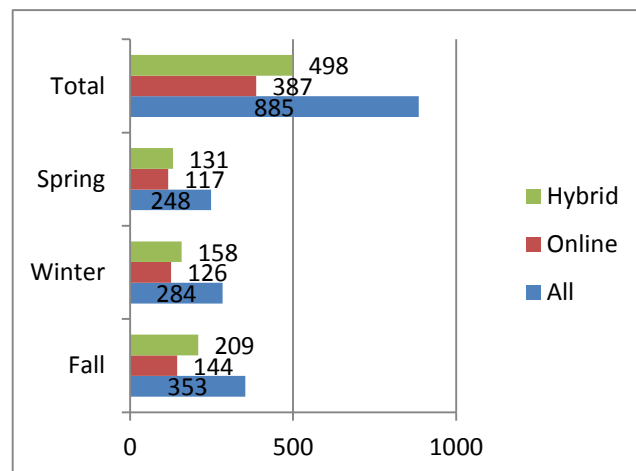
	Fall	Winter	Spring	Total
All	353	284	248	885
Online	144	126	117	387

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| Hybrid | 209 | 158 | 131 | 498 |

Moodle Usage Data

Courses	18	(online = 4, hybrid = 5, other = 9)
Faculty	14	
Students	~850	(includes 400 students from SAIL)
Communities of Practice	12	

Supporting Innovation

Over the past year, ATI has been bringing new technologies to the campus, encouraging faculty to discover new ways of approaching both classroom and online/hybrid instruction. A few examples of these technologies are Double Robotics' 'Double', 3D printing technology and very recently, the light board. 'Double' is a small segue that uses one or more iPads and/or a web browser to provide for a more interactive telepresence experience. Instead of having a static camera, 'Double' is able to move about a space and interact within group discussions or on a one-on-one basis. 'Double' was deployed in various ways to expose the campus body to its functionality. These included campus tours, the library, various staff/faculty conferences and very recently as a stage camera for the Theater Arts department. The feedback has been mixed, with some individuals seeing it as a positive addition, while others not so much.

ATI is in the process of developing a light board. This technology will allow for supplemental videos to be recorded for use to supplement classroom instruction. These recordings will allow the faculty to teach while facing their audience, cue up important graphics, as well as annotate over these graphics. ATI has visited several campuses including UCSD and UCR to see how they were using the light board and to learn from what they have already encountered with it. We are currently building the board and expect it to be fully functional before the beginning of Fall 2015.

Instructional video production support

ATI instructional designers provided instructional video support for faculty that included recording, editing, and post production. Closed captioning is a service that ATI continue to support as we strive for universal design and accessibility of all instructional materials and contents.

Assistive Computing and Resources Center

Off-Campus Community Services

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2014/2015 marked the completion of ACRC's off-campus partnerships with the Department of Veterans' Affairs and the Department of Rehabilitation. ACRC's off-campus program ran for 14 years and assisted thousands of individuals with disabilities who utilize assistive technology in the Inland Empire region.

ACRC Lab (PL1104)

In the last fiscal quarter of 2015 ACRC removed all restrictions to lab access. Historically, only students registered with Services to Students with Disabilities had access to lab resources. Since April 2015, any student can utilize ACRC and the results have been encouraging. User logins have steadily increased since April. ACRC will continue to reserve a portion of lab machines for use to SSD student's to ensure that there is always available capacity.
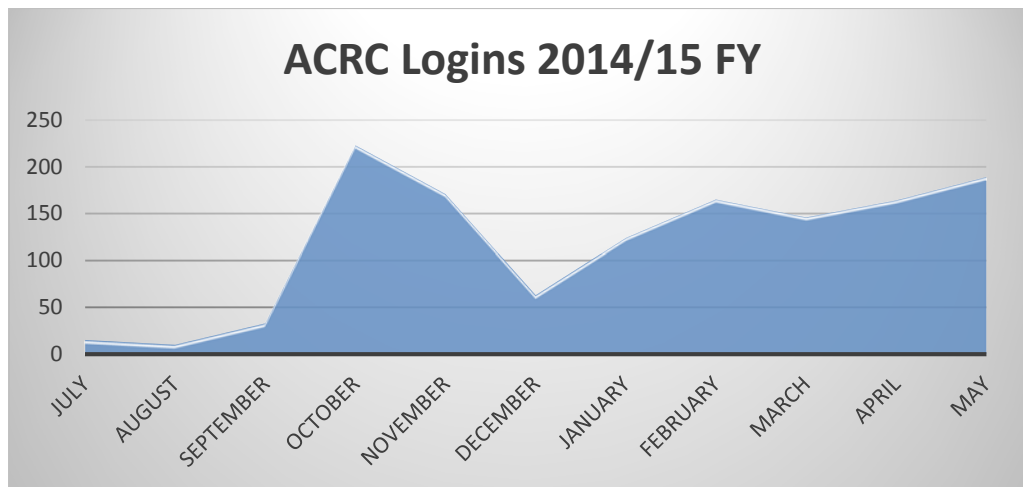
The above chart displays lab logins per month for the fiscal year period of July 1st 2014 through May 31st 2015. July, August, and December breaks traditionally attract less student use. April marked the removal of lab usage restrictions.

With this new initiative we are servicing students that may benefit from assistive technology who do not have the required documentation to receive assistive technology services. Additionally, general students are being exposed to the world of assistive technology and disabilities while using the ACRC lab.

"ACRC has made a positive impact on my life by working with me …on multiple occasions to show me first-hand how technology can help me overcome my learning disabilities, and I am truly grateful…" Jacob Santiago CSUSB PDC Student
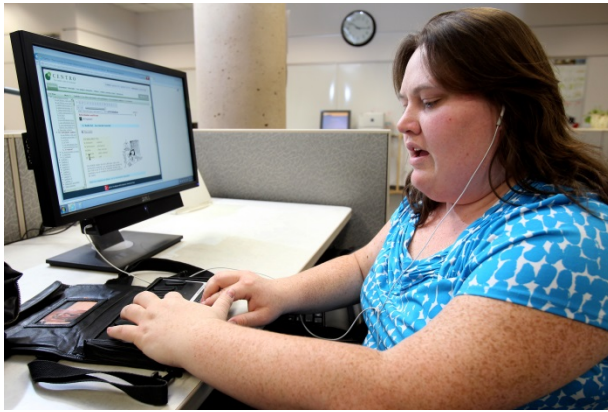
ACRC student Jasmin Kotsay working on homework with the use of Braille Note and JAWS screen reading software.

Palm Desert Campus

Replacement of aging equipment with three electrically adjustable mobile assistive technology workstations at the Palm Desert Campus. Each workstation has a PEARL scanning camera, and features the standard campus-supported assistive technology.

Current Initiatives

- iPad/Smart Pen
- Academic Printing Incentive
- Advisory Board
- Low Vision Awareness Day
- Accessibility Standards and Guidelines working group for campus electronic documents and multimedia
- Palm Desert Assistive Technology Lab proposal
- Accessible Technology Initiative

As we shift our focus back to on campus activities ACRC is excited to develop new initiatives and programs to better serve the campus community and stay on the forefront of assistive technology and accessibility.

Classroom Technology Support

The Classroom Technology Support group is responsible for more than 220 SMART classrooms at CSUSB. SMART classrooms are technology-enhanced classrooms that integrate a variety of technology tools that can enhance the teaching and learning experience. The primary objective of ATI staff is to provide technical support, maintenance, upgrade existing hardware/software and signal infrastructure of classroom technology. Academic Technologies and Innovation is in the process of removing SMART classroom technology older than 5+ years and upgrading the classrooms with a new cabling infrastructure to support digital projection (new media devices

are using digital connectivity like DVI and HDMI, replacing the analog display connectivity like VGA). This group also supports other spaces to include conference rooms and venue spaces.

Classroom Technology Support highlights and accomplishments during academic year 2014/2015:

SMART Classroom Upgrade Project 2014/15 received funding to support technology upgrades to the following building: Palm Desert Campus' Indian Wells classrooms (10 rooms); Chemical Sciences classrooms/labs (9 rooms); Biological Sciences classrooms/labs (13 rooms); Social and Behavioral Sciences second floor classrooms will receive computers (10 rooms); College of Education classrooms receive computers (35 rooms); and, Pfau Library second floor classrooms with computers (16 rooms). Installation is currently in progress and completion date is set for September 2015.

- In collaboration with the Teaching Resource Center (TRC), the group provided technical support faculty to innovate and experiment with the new "Sandbox" technologies.
- In collaboration with the Social and Behavioral Sciences technicians, ATI consulted and supported the installation of enhanced technology in three of SBS conference rooms (SB-302, 402, 424).
- In collaboration with Athletics, the ATI group consulted and provided logistical support to outside vendor for the Coussoulis Arena sound system upgrade.
- Upgraded the University Enterprises Corporation Boardroom media projection system to digital HD, and including web conferencing capabilities.
- In collaboration with Kinesiology faculty member Dr. Dabbs, ATI group consulted and installed new classroom technology in HP-B04 for the new Biomechanics lab.
- In collaboration with College of Arts and Letters, ATI group consulted and installed new classroom technology in VA-121.
- A new podium was installed in UH-106 lecture hall to replace outdated podium. New podium provides greater integration of new technology into the podium.

Special Events

The Classroom Technology Support group supported 549 events over the past year. These events have a broad spectrum of both the size of the space used, as well as the nature of ATI's involvement. For example ATI would offer support for numerous small conference meetings being held in both office and classroom spaces. These events typically require USB cameras and Skype/Lync support, in addition to supporting the display technology in these spaces. On the other end of the spectrum, ATI offered staffing and technology support for numerous events held in large venues such as the Coussoulis Arena, the Obershaw Dining Hall and the Student Union's Event Center space. These events required the coordination and efforts of several ATI, as well as CMS, staff to support the planning of the logistical details in order to promote a smooth execution of the event's proceedings.

Special Events highlights during the academic year 2014-2015:

World Languages & Literature's Arabic Banquet: ATI provided staff and technology for this event being held on the Pfau Library lawn. It is a celebration for all the students involved in the Summer Language Intensive program as well as their families.

Summer Concert Series: ATI offered technology that allowed for this series to be a success, considering its limited budget. It attracts people from the surrounding areas to a night of free music and entertainment.

Library Summer Movies on the Lawn: ATI offered the necessary support to ensure these events went successfully. These were held on the library lawn during the evening hours and would require evening staff support.

Mexican Consulate: As part of the Mexican Independence Day celebration, ATI offered technology and staff to support this event that attracted several hundred people who came to celebrate this holiday. This included a live stream from the Mexican President, which was displayed on our projection screens.

President's Convocation: This annual event was held in the Student Union's Event center. ATI supported the technology and provided staff from both ATI and CMS to ensure the event was a success.

WASC Accreditation: ATI supported technology in several meeting spaces in order to allow WASC, CSU personnel, the Chancellor's office and others to have videoconference meetings.

Native American Day Celebration: ATI provides the projection technology for this event being held on the Lower Commons patio. It brings several hundred guests to this event.

Walk to Remember: This event drew in just around 800 people to bring awareness and support to those families who have been affected by the loss of a child. ATI has supported this event for the past several years.

ED Tech: This is an annual conference is held in the COE. ATI supported the technology in various classrooms for this event.

Strategic Planning Town Hall: ATI supported various town hall events held in the Obershaw Dining Hall, the SU's Event Center and PL-4005. This included the coordination of several ATI staff, using technologies such as iPads and laptops, portable LED displays, USB cameras and audio and video support between the months of November 2014-May 2015.

Grad Summit: Hosted by the President's office, this event used several classrooms in University Hall for which ATI offered on-hand technical support throughout the day for the both audio and video technologies.

CSUSB Philanthropic Foundation Board of Directors' meetings: ATI offered audio and video support at both local and off campus locations including the San Bernardino Country Club.

Winter and Summer Commencement Ceremonies: ATI and CMS, along with off campus vendors to support audio, video and captioning technologies for the celebration of thousands of CSUSB students who were graduating.

Presidential Scholar's Event: ATI provides audio and video technology and support for this annual event held in the Coussoulis Arena.

Black & Latino Graduations: These events were held in the Coussoulis Arena. ATI provided the sound system as well as video projection support for the two events. The combined participation brought in more than 3000 people.

Supporting Distance Learning

Academic Technologies and Innovation has three rooms designed for real-time interactive video conferencing to support course broadcast between CSUSB main campus and Palm Desert Campus.

Distance Learning highlights and accomplishments during the academic year 2014-2015:

In Spring 2015, one new video conferencing system was installed in the Pfau Library to update outdated equipment.

For academic year 2014/15, there were 26 video conferencing courses:

Distance Learning Interactive Courses

Summer 2014

- 2 Classes: 1 COMM, 1 PSYCH

Fall 2014

- 4 Classes: 2 COMM, 1 HSCI, 1 IST
- WRPI Video Conference with Chancellor's Office

Winter 2015

- 9 Classes: 2 COMM, 2 HSCI, 1 PSYCH, 1 CJUS, 3 EELB

Spring 2015

- 8 Classes: 1 COMM, 1 HSCI, 1 FIN, 1 CJUS, 1 SCM, 3 EELB
- 6 Week Grant Writing Session Workshop
- 1 US GOV Video Conference, 1 Israel Video Conference with PDC
- WRPI Presidential Oversight Committee Video Conference with Chancellor's Office
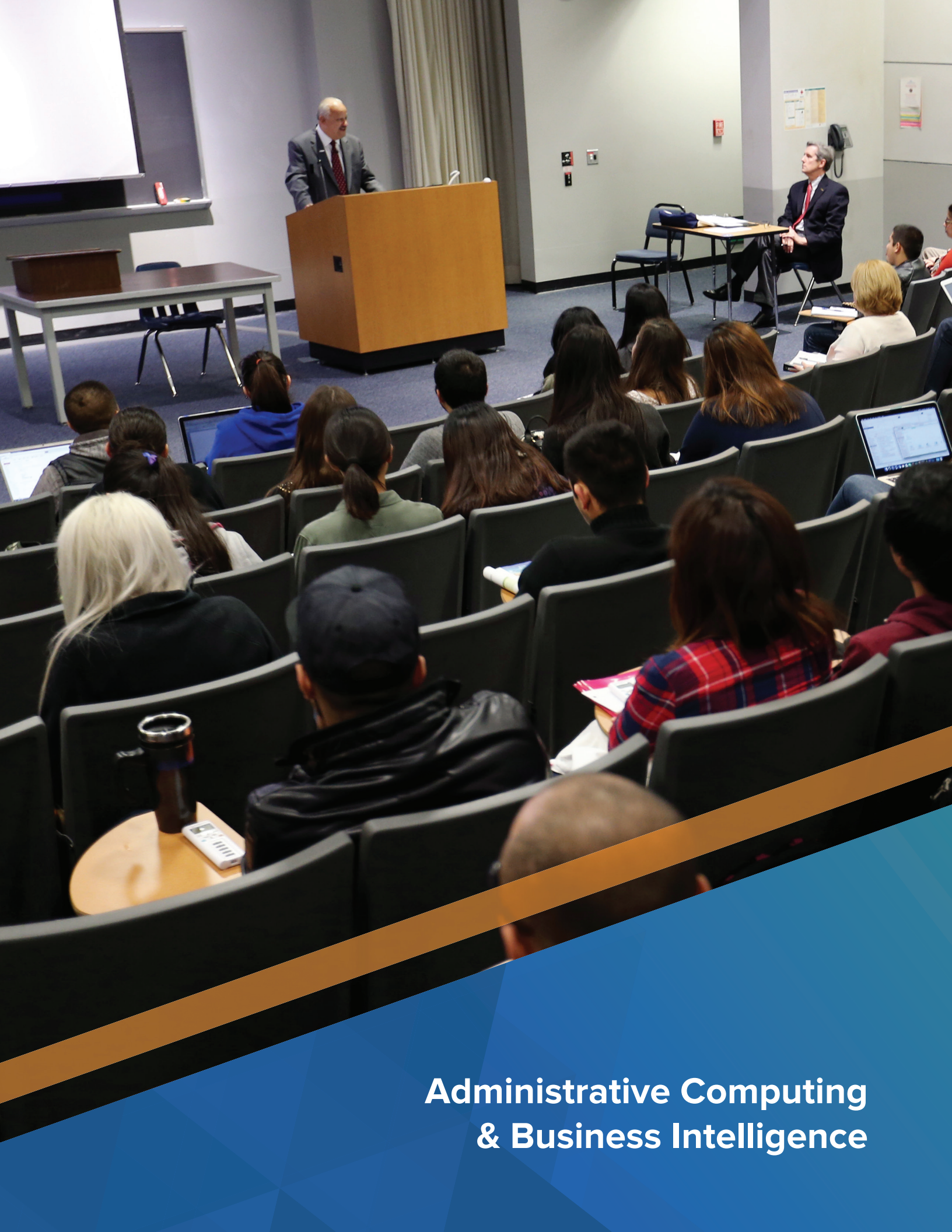
Administrative Computing
& Business Intelligence

Administrative Computing & Business Intelligence

Mission

Administrative Computing and Business Intelligence, a division of ITS, develops, provides support for, and manages various campus enterprise software applications on a variety of hardware platforms. Support is provided for all CSUSB Administrative Systems. ACBI strategic plan cultivates functional and technical team members that thrive and succeed in a culture of change, involvement and continued learning. ACBI fosters the integration and adoption on the enterprise software applications of today -- and tomorrow -- by engaging developers and administrative users together in various trainings that align professional growth with the IT strategic plan. ACBI teams excel as individuals while driving the campus toward an information rich technology vision of the future.

The following is a report that summarizes the most significant highlights, accomplishments, and support provided during the academic year 2014-2015

Highlights

During the academic year (AY) 2014-2015, the ACBI team worked collaboratively with other divisions of the university to upgrade/implement several major administrative systems.

Schedule Planner Went live in October 2014 in time for winter quarter 2015. Schedule Planner is an advising and registration tool. It allows students to plan their registration based on their unique schedule.

Schedule Planner usage as of June 19, 2015

Total Unique Users: 3,856
Total Logins: 10,563
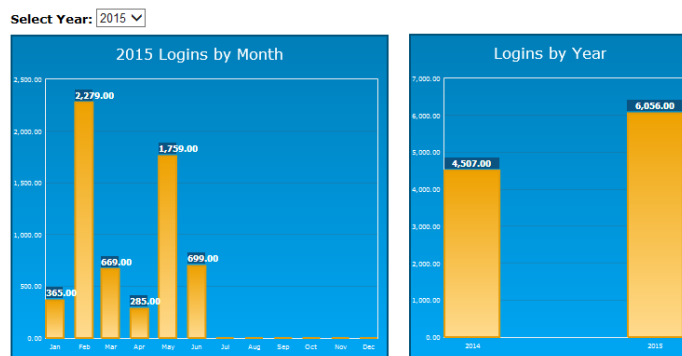
MyCoyote Portal, went live December 2014. MyCoyote is your one-stop-shop for grades, registration, Blackboard, e-mail, PAWS and much more utilizing single sign on authentication.   Improvements to the portal are continually being made to improve the services for students, faculty and staff. The first phase of the project was to concentrate on replacing the current PeopleSoft portal and add some additional services. The portal is still growing and will be adding more services soon.

We have had over 600,000 MyCoyote Logins
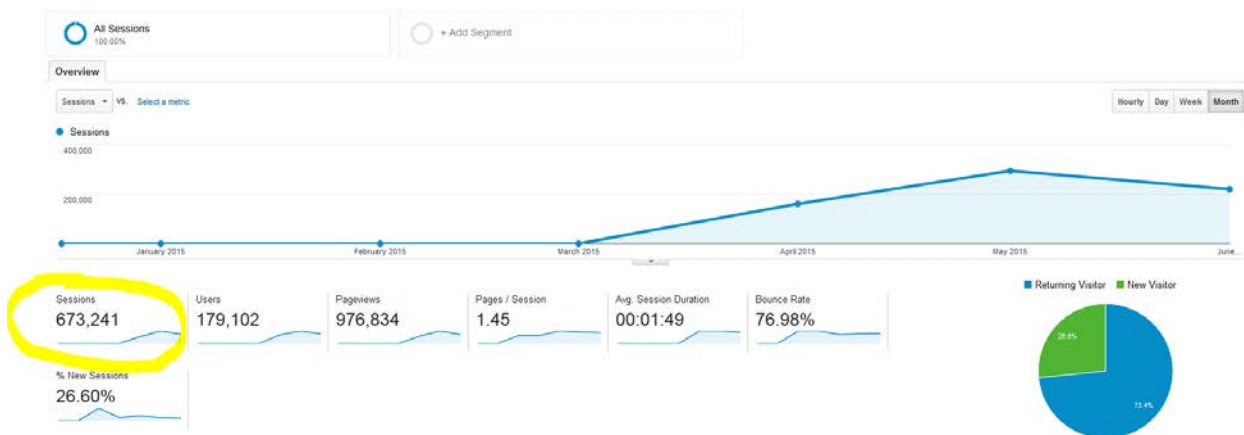
CFS 9.2 MP1.0 Upgrade for the Financial PeopleSoft System upgraded December 2014.

UEC/Student Union Project POI Type Automation – In December 2014, ACBI created a way to provide the non-state employees access to the resources they need such as IDMS, internet, email, one-card, Blackboard and many others.

Advance Web Modifications – In December 2014, ACBI teamed up with the Advancement Office to create a new design and better functionality of the Ellucian Web System.

Alumni Discovery project – The Advancement Office worked with Student Affairs and ACBI to capture Club and Athletic data in PeopleSoft and Advance.

Tracking System for High Impact Practices (HIPs) Created a system in PeopleSoft to aid in the tracking of high impact practices in January 2015.

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T2 Parking Upgrade Project Passed Faculty and Staff data for pre-populating the parking system for easier tracking of decals and for pre-populating online forms.

New SOAR Registration System created in PeopleSoft went live March 31st for Fall 2015 registration. This allowed for seamless integration to PeopleSoft data.

CONCUR Travel went live March 2015 with a pilot group and plans to have everyone on the new travel system before the end of 2015.

Coyote First Step/Early Start Program went live April 2015 which underwent major modifications to improve the student experience. Worked collaboratively with Student Affairs, Student Finance, and the College of Extended Learning.

CoyoteID - TridentHE Identity Manager System – From Aegis Identity. Work collaboratively with ITS divisions to interface with all administrative systems. Began allowing Faculty and staff to activate their accounts in April 2015.

Click here to activate your new account.

Summer 2015 – Self Support – Went live May 2015 modified all systems to be self-support instead of state-support. Worked collaboratively with Student Affairs, Student Finance, and the College of Extended Learning.

EAB-SSC Education Advisory Board/Student Success – In final phases. Next will be team acceptance testing and then deployment. This project is a joint effort where ITS has teamed up with Student Affairs to provide predictive analytics for student success.

Training/Business Process Guides and videos – our training, BPG's and videos are continually be updated as our administrative systems goes through upgrades and enhancements.

Current and Future ACBI Projects

During the academic year (AY) 2015-2016, the ACBI team will be teaming up with other departments of ITS and the Campus community to upgrade/implement several major administrative systems.

25Live Event Scheduling and Course Curriculum Management

- Event Scheduling – August 1, 2015
- Course Curriculum – September 1, 2015

PAWS Degree Audit Upgrade

- u.Achieve upgrade – August 31, 2015
- Batch Audit Process – August 31, 2015
- Transferology & u.Direct -TBD

CONCUR Travel System

- Pilot Group – College of Education – Live in April 2015
- Other groups – September 2015

Enterprise Data Warehouse Project – Fullerton

- Security – User Groups using PeopleSoft Roles
- Admissions & Degree data
- Enrollment data
- Student Financials
- Financial Aid
- Finance

Grades First Project

- PeopleSoft Advisor Implementation
- PeopleSoft data extract testing

EAB-SCC Grades First Integration

- Technical Calls to start June 19 2015

MyCoyote Portal enhancements

- College of Extended Learning Tab
- Campus Life Tab
- Advising
- Additional quick launch tabs: CONCUR, Career Center, PAWS Degree Audit
- Messaging
- Other enhancements: PeopleSoft Bundle: Portlets for PeopleSoft, Gmail, Blackboard

CISP Projects

- PeopleSoft 3Cs CommGen Batch Process Implementation
- PeopleSoft SEVIS Implementation

Finance Data Warehouse Phase II

- **June – July 2015:** Testing for P2.0
- **August – December 2015:** Campus rollout of P2.0; parallel environments (legacy & P2.0)
- **July – November 2015**: Train-the-trainer sessions
- **December 31, 2015**: P2.0 cutover

Advancement Projects:

- Clean Address project by Runner Tech
- Reeher Data Modeling project

PeopleSoft Grade import project:

- Set for a go-live for Fall 2015 grades
- July 2015 OTR Testing
- August 2015 Focus group involvement. Faculty from each college
- September to October 2015 – testing, create BPG's, possible video, training, presentation
- November 2015 – Advertising, add information to grade roster communication
- December 1, 2015 – go live for Fall 2015 grades

Other Projects:

- OrgSync
- CBORD
- Class Climate – upgrade and Single Sign on
- PeopleSoft Photo import
- UEC – Streamline data
- Streamline provisioning processes
- PeopleSoft MP17 Testing
- Training, BPG's, Videos
- Testing new processes such as Class Mode in PeopleSoft
- Clearing House Modifications
- Skillport – UEC Project

Support

ACBI coordinates with campus Subject Matter Experts (SMEs) to help administrative users adjust to changes through creative training course designs engaging enterprise software applications through Instructor Led and One-on-One hands-on training. We also offer information rich tutorials to massive campus users in support of self-services. More than 80% of the ACBI's time is spent maintaining the Administrative production systems. PeopleSoft is continually providing maintenance packs that need to be applied to production in a timely manner. Administrative users need help with business processes that change. Hours are spent by our team and the administrative teams to test these modifications and enhancements. The Chancellor's Office is continually requesting new reports to be developed and maintained.

Technology Operations & Customer Support

Technology Operations & Customer Support

Introduction

In its second year of operation, the department of technology operations and customer support continued providing world-class services to the campus community. In addition, 2014-15 marked a year of significant technology advancement for the department. A number of high-impact projects were completed, including:

- Blackboard migration to a managed hosting (cloud) platform
- Campus CENIC internet connection upgrade
- Campus Cisco VoIP upgrade
- Campus data center Uninterruptable Power Supply (UPS) replacement
- Campus System Center Configuration Manager (SCCM)
- Campus virtual environment hardware upgrade
- Campus-wide Common Network Infrastructure (CNI) upgrade
- Campus-wide wireless infrastructure upgrade
- Microsoft Exchange to Office 365 migration
- OnBase workflow management system
- Telecommunication Distribution Frame assessment
- TSC evening/weekend partnership with Blackboard Student Services

Technology Support Center and Enterprise Application

Through staff attrition, the Technology Support Center was faced with a significant gap in meeting the campus' technical support needs during the night and weekend hours. As approved by IT Governance in November 2014, the Technology Support Center partnered with Blackboard Student Service in April 2015 to enhance the campus' 24x7 technical support while yielding saving to the campus. This partnership provides campus full support of the Blackboard platform as well as over 100 software titles.

Technical support tickets

While there is a general increase in the call volume to the Technology Support Center, the number of support tickets moderately decreased. The was due to the increased amount of knowledgebase articles available on the Technology Support Center website, so users can search for and resolve common issues quickly.

	Call Volume			Online Tickets		
	2013-2014	2014-2015	% change	2013-2014	2014-2015	% change
Fall	4,821	4,888	**1.39%**	1,925	2,480	**28.83%**
Winter	4,834	5,440	**12.53%**	2,198	1,971	**-10.32%**

| Spring | 7,540* | 4,222 | **-44.01%*** | 2,150 | 1,863 | **-13.35%** |
| Summer | 3,481 | In Progress | | 1,178 | In Progress | |

*Call volume in Spring 2014 was significantly higher due to an active shooter drill.

Email migration (Phase II)

The campus e-mail consolidation initiative to merge several e-mail systems onto a single campus-wide Microsoft Exchange platform was completed by Spring 2014. As such, it provided the campus an opportunity to further utilize cloud solutions for campus email delivery. Beginning Fall 2014, Enterprise Application began migrating user accounts from an on-premises Exchange platform to a cloud-hosted Office 365/Exchange Online platform. Close to 4,500 campus accounts were migrated to the Office 365 platform by the end of June 2015.
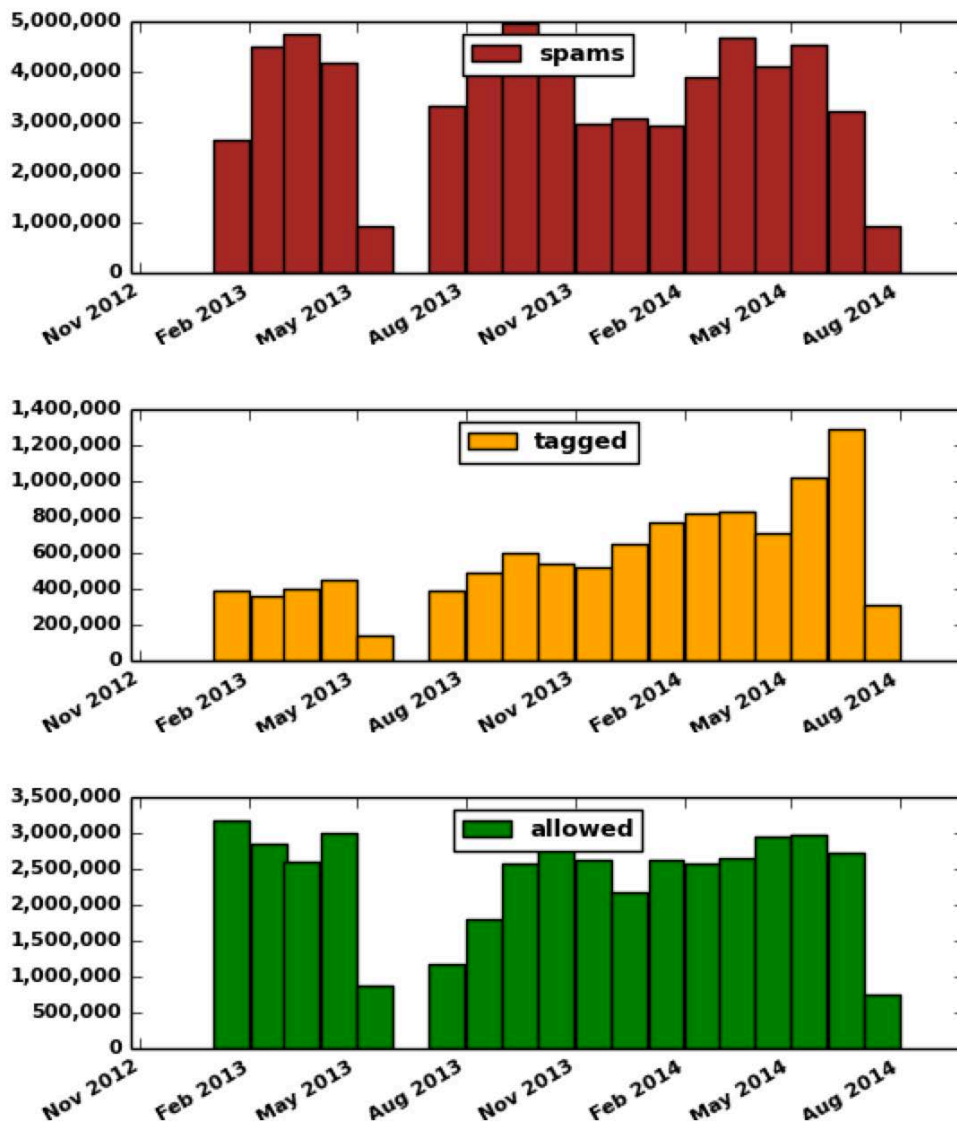
Blackboard

Over the Summer 2014 quarter, CSUSB migrated from a self-hosted Blackboard system to a managed hosted system. This was the first of many cloud system migrations within IT Services. The project was completed successfully by September 2014. Along with the migration, Blackboard was integrated with PeopleSoft in order to automate course creation and course assignment of faculty and students.

New module for Follett Discover was installed so that students can access an online bookstore directly from Blackboard. In addition, modules for Library resources for both faculty and students were also installed. We also added the Community Engagement. We also worked with SOAR to be able to automatically populate students into the SOAR Blackboard course for students who are unable to attend SOAR in person.

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Blackboard Statistics

| By Course			
	2013-2014	**2013-2014**	**% change**
Fall	1,287	3,920	**204.58%**
Winter	1,290	3,925	**204.26%**
Spring	1,288	3,979	**208.93%**
Summer	328	1,252	**281.70%**

Telecommunication and Network Services

2014-15 was a year of significant change for telecommunication services and network services. The group saw the completion of three major campus wide projects.

The network services team worked very closely with the Chancellor's Office on completely upgrading the wired network infrastructure on both the San Bernardino Campus and Palm Dessert Campus. As part of the system-wide Common Network Infrastructure (CNI) upgrade, the campus replaced over 300 network equipment and migrated over 12,000 network ports to the gigabit Ethernet standard. The campuses' wireless network infrastructure was also upgraded as part of CNI.

The telecommunication services team successfully completed a VoIP platform upgrade in November 2014. The upgrade will provide campus the ability to deploy additional telecommunication features such as voicemail-to-email, softphones, and unified communications. The campus also moved towards a consolidated cellular carrier model, which yielded an average decrease of 16% per line.

Network traffic

In the last academic year (2013-14) CSUSB reached a saturation point for the campus' 1Gb CENIC network circuit to the Internet. The campus' redundant Internet connection through CENIC was upgraded to 10Gb in September 2014. The following figure shows the network bandwidth utilization for the campus on a monthly basis since the migration to the 10Gb CENIC circuit.
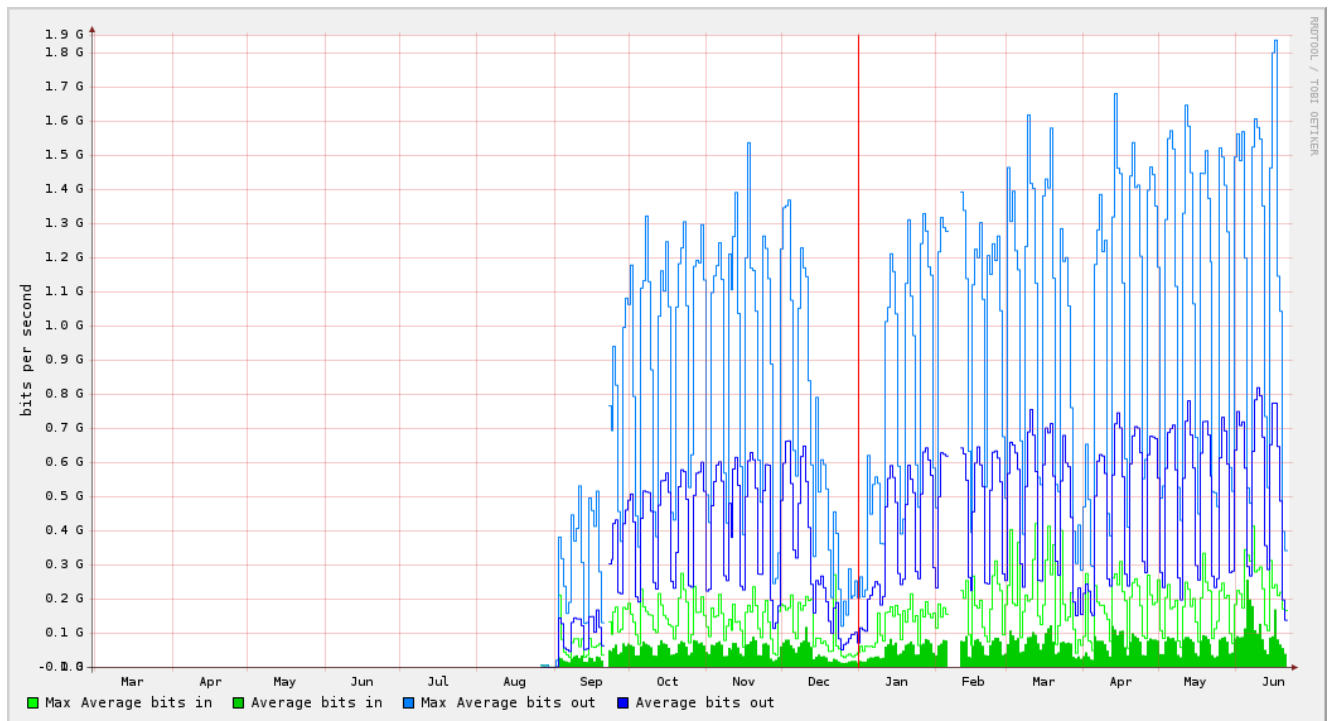
Wireless network

CSUSB took significant measures to enhance the campus wireless network. In addition to the comprehensive wireless network upgrade, several network management tools were installed to better control access. As such, the wireless network management tools discourage rogue and misconfigured devices from connecting to the network while preserving access to legitimate users. Therefore, the number of concurrently connected devices increased by over 14%, providing campus more reliable connectivity to the wireless network.

	Spring 2014	Spring 2015	% change
Unique Devices	61,050	45,064	-26.18%
Concurrent Devices	8,018	9,169	14.35%

Phone and voice services

While the total number of campus phone lines slightly increased, there is a general decrease in campus call volume. TNS work orders continue to increase year-to-year by about 11%.

	2013-14*	2014-15**	% change
Outgoing Call Volume	724,476	652,816	-9.89%
Campus Phone Lines	3,578	3,856	7.77%
Work Orders	1,725	1,916	11.07%

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Data Center

While there is a focus on migrating many critical campus services from an on-premises to a cloud platform, the Data Center's aging infrastructure were upgraded to meet the campus' increasing needs. The data center power improvement project replaced multiple 225A electrical panels and replaced the uninterruptable power supply with a 130kVA unit that provides the data center 40 minutes of backup power at full load. In addition, over twenty power distribution units (PDUs) were installed and over 500 power cables were upgraded to distribute power across the data center and provide redundancy to all equipment housed in the data center.

SOTE

With the increased number of courses being SOTE'd last year, IT Services worked closely with Academic Personnel to

|	Overall			Paper			Online		
	2013-14	2014-15	% change	2013-14	2014-15	% change	2013-14	2014-15	% change
Fall	74,457	76,309	**2.48%**	71,389	71,631	**0.34%**	3,068	4,678	**52.48%**
Winter	67,959	65,149	**-4.14%**	64,487	60,769	**-5.77%**	3,472	4,380	**26.15%**
Spring	64,300	60,929	**-5.24%**	61,163	56,052	**-8.35%**	3,137	4,877	**55.47%**

Virtual environment upgrade and usage

Data Center's virtual environment infrastructure was also upgraded to better serve the campus' growing virtualization needs. IBM servers from 2009 were retired, as they were not meeting hardware specifications of the new VMware version releases. These three servers were IBM M2 servers that were replaced by brand new DELL R820 servers. The M2 servers will be repurposed in our development and testing environment.
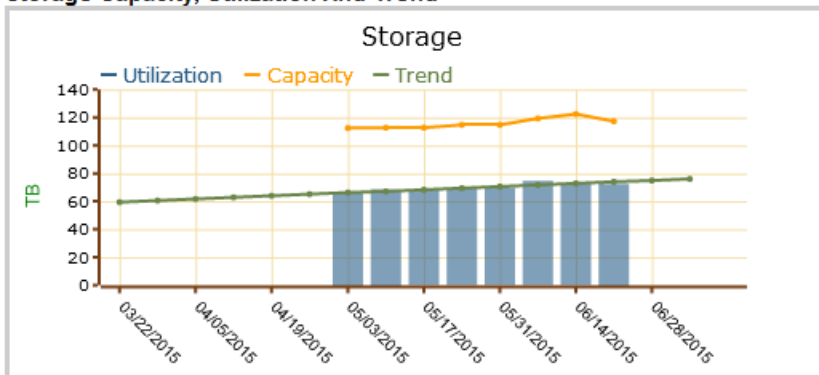
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CPU Capacity, Utilization And Trend
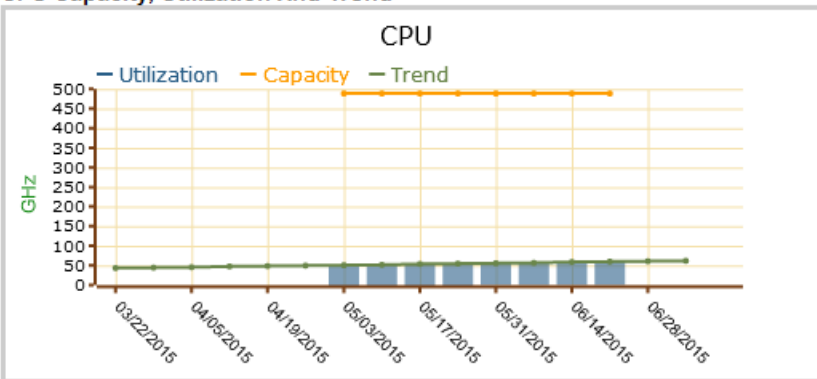
Memory Capacity, Utilization And Trend
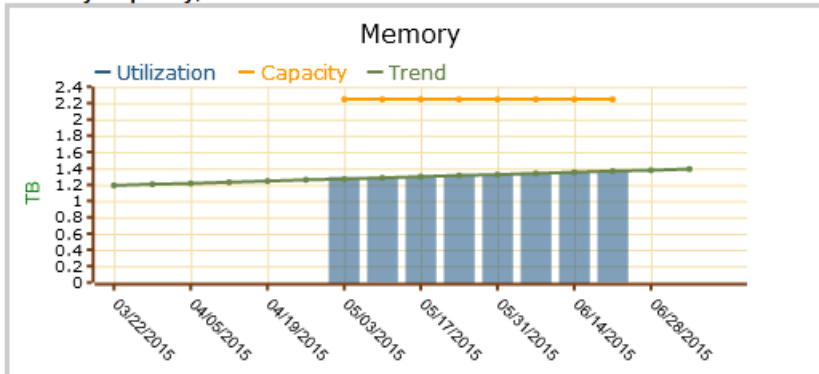
Storage Capacity, Utilization And Trend

NCS exam scoring system upgrade

After last year's NCS exam scoring system upgrade, the data center tem is collaborating with ATI and ISET to implement a solution to deliver the NCS scanned test to our faculty members on a fast, efficient and secure fashion. The solutions being evaluating include OneDrive and direct upload to blackboard grade book.

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	2013-2014	2014-2015
Fall	364	264
Winter	379	381
Spring	350	244
Summer	127	In progress

Going Forward

2015-16 will be another exciting year for the department of technology operations and customer support. We will continue to provide world-class customer service, with the target of beyond-world-class services to the campus. Aside from that, we will work towards bringing additional and emerging technologies to CSUSB to ensure student success, operation efficiency, and to provide system stability.

Network and wireless enhancement

The network services team will continue improving the campus wired and wireless network management, while focusing on providing additional coverage for outdoor wireless in the 2015-16 year.

- Increase outdoor wireless coverage on campus.
- Connectivity enhancement to University Village.

Enterprise and cloud services

To better align with the division's strategy of increased utilization of cloud services, Enterprise and Cloud Services will:

- Continue migration to cloud services.
- Disaster recovery site in Palm Dessert.

Voice, telecommunication and billing enhancement

CSUSB will deploy additional telecommunication features such as:

- Voicemail to email.
- Jabber/Unified communication.

Information Security
& Emerging Technologies

Information Security & Emerging Technologies

The Information Security and Emerging Technologies Office (ISET), promotes the confidentiality and privacy, integrity, availability and accessibility of university information resources. The ISET office promotes through collaboration, training and awareness the adoption of information security and accessibility standards and best practices with the goal to provide reliable and robust information technology services in support of the university mission.

The following is an abbreviated list of the highlights and achievements of the ISET during the 2014-2015 academic year.

INFORMATION SECURITY GOVERNANCE AND COMPLIANCE

- This year, thanks to the active participation of the members of the Subcommittee in Information Security, Compliance and Emerging Technologies, the CSUSB standards in Safeguarding Confidential Information, Access Control, and Information Authorities and Custodians were revised and updated.
- A new campus standard in Web Application Development was developed and approved. This standards provides a framework for the secure development of campus web applications.

NETWORK SECURITY

- **Network Firewalls** - The ISET staff collaborated with TNS in the transition of the campus firewalls from the Juniper ISG to the new SRX edge firewalls provided by the Chancellor's Office as part of the campus network upgrade.
- **Network Intrusion Detection System - Gigamon** - in response to the campus network upgrade, the network tap for the campus intrusion detection system was upgraded and finalized the configuration and deployment December-2014.
- **Network Intrusion Detection System** - as part of the upgrade of the campus network intrusion system a network intrusion probe was configured and deployed at PDC in April-2015.

ENTERPRISE APPLICATIONS

The ISET staff played an important role in the deployment of several enterprise applications increasing the functionality, usability and access to university resources. Among the most important enterprise applications, include the campus portal (MyCoyote) and the new Identity Management System for the campus providing additional functionality and security options to the campus end users.

- **MyCoyote Portal -** MyCampus Portal – CampusEAI Consortium – Work collaboratively with all the division on the services and configuration of the new MyCoyote portal. The new MyCoyote Portal was placed in production December-2014.

- **Identity Management System -** The new identity management system for the campus was configured and deployed into production in April 6, 2015. The new system included the deployment of additional self-service options facilitating the on-boarding and claim account process.

INFORMATION SECURITY ACCESS CONTROLS

- **Absence Management Self-Service -** collaborate with ACBI to set up the security roles for self-service and reports for access as part of the campus wide deployment.
- **Cloud Application** - the ISET staff collaborated in the implementation of access controls for the new MyCoyote Portal, CampusEAB, OnBase, GradesFirst, CollegeNet, and Concur.

IDENTITY MANAGEMENT SERVICES

- **Single Sign On -** The following additional applications were integrated into the campus single-sign-on facilitating their integration into the new campus portal (MyCoyote) and the access to end users:
    1. CampusEAB
    2. GradesFirst
    3. CollegeNet (Event/Classroom Scheduling)
    4. CollegeSource (u.Achieve)
    5. PeopleSoft
    6. Concur
    7. OnBase
    8. Agent of Change
    9. Enterprise Data warehouse project

WEB ACCESSIBILITY

- In the area of Web accessibility significant progress was made, the CSUSB IT Accessibility Policy and the Web Accessibility Standards and Guidelines were revised and updated providing a solid foundation for the consistent implementation of accessibility requirements on campus websites.
- **Web Accessibility -** conducted a web accessibility gap analysis and risk assessment using the CSU-CO guidelines and developed a three years Web Accessibility Plan for the campus.
- Training Sessions: This year web accessibility training materials were revamped to reflect new accessibility requirements, and 18 workshops were conducted providing training to 36 participants, including 4 workshops that were provided to a vendor (Kwall).
- **Web Accessibility Assessments -** In addition to the periodic campus web accessibility assessments conducted during the year, assessments were conducted in the following campus projects:
    - 25 Live
    - MyCoyote Portal

- Campus Identity Management System
- AHEAD
- Grades First
- SiteImprove

In addition, the accessibility assessments were conducted for 22 vendor VPATS and EEAAP :

BUSINESS CONTINUITY

- **ITS Business Continuity Plan** - worked in close collaboration with all the department in ITS to update their business continuity plans and conducted training on business continuity planning an impact assessment, update and set up a schedule for testing ITS critical functions during the Summer-2015
- **ITS Communication Framework** - working in close collaboration with the Project Management office developed a communication framework and procedures for the communication and escalation of critical IT events to the campus constituents. ITS division

EMERGING TECHNOLOGIES

- **Mobile Apps:** In collaboration with the Department of Computer Sciences and Engineering developed, tested and published the following apps: CSUSB Mobile App V3, campus Dining App and, the Red Folder App which was deployed across the CSU.

CURRENT PROJECTS AND FUTURE INITIATIVES

- **Multifactor Authentication-** In an effort to mitigate the risk compromised credentials on applications using single-sign-on, the campus is deploying a multi-factor authentication solution, that is, requiring something the user knows (User-ID/password) and something they have (mobile device, USB token, etc). The most popular and common of the additional "factors" has been the mobile device, which the majority of the users have. For this purpose we tested and we are in the process of deploying DUO - a multi-factor authentication solution that has established significant discount through InCommon and Internet2. This solution will be deployed in groups, starting with users accessing critical systems, such a systems administrators. The deployment of DUO for this group will take place Summer-2015; their feedback will be used to decide on the next group of users.
- **Cloud based Anti-Spam Gateway -** As part of the planning for increasing availability of email, now that we are finalizing the email migration for faculty/staff to the cloud, the next step is the migration of the email gateways and anti-malware solutions. The campus has been assessing four possible SaaS solution. One of the requirements of the selection criteria is the protection against malware and in particular "phishing" attacks to campus users. The solution will be used for both incoming and outgoing email and will be providing email routing for several email domains (@csusb.edu, @coyote.csusb.edu, @alumni.csusb.edu). The SaaS solution is planned to be deployed by the end of August-2015.

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- **Securing Personal Identifiable Information (PII)** - In an effort to mitigate the risk for unauthorized disclosure of personal identifiable information, the university is joining the CSU in the deployment of a tool that will facilitate the detection and removal of personal identifiable information from university computer. The tool allows employees and the university to conduct assessments and be proactive in the management of PII.
- **Digital Content Accessibility** - in alignment with the university commitment to accessibility, a campus Standard and Guidelines for digital content are scheduled to be developed. This include the deployment and training of a digital content assessment tool to assist the campus community to publish accessible digital content on their websites.
- **Mobile Device Management** - in response to the campus the explosion on the use of mobile devices to conduct university business, a mobile device management solution will be investigated. The solution is expected to provide mechanisms to facilitate the access of mobile device users to university information.
- **Business Continuity Tool** - upgrade the current business continuity application tool to a new and improve Kuali Ready BCP application for the campus. The new version will provide greater security, additional functionality and enhancements to the user interface.

Creative Media Services

Creative Media Services

Creative Media Services provides the campus community, design and support of a variety of media from web development, photography, media design, and video production. CMS offers a wide array of services that the university relies on every day. Creative Media Services provides media solutions for web, print and video.

Creative Media Services- Video Production

The Creative Media Services video production team provides the CSUSB campus community with professional quality academic and promotional video production services, live web streams and video archiving of campus events. Academic video productions vary, from simple classroom video clips to web-based learning objects. Promotional projects have ranged from short achievement-oriented videos, highlighting university support and accomplishments, to complex scripted productions used for University advancement and recruitment. For 2014/15, The video production team completed a total of 331 videos.

Video Production highlights and accomplishments during academic year 2014/2015:

June Commencement 2014

The June Commencement was broadcast over the Internet and onto video screens inside the Coussoulis Arena for the 5 graduating classes over the course of two days. The web broadcast provided distant friends and family the opportunity to see their loved ones go through the commencement while also promoting the University to a worldwide audience via the web.

Winter Commencement 2014

The Winter Commencement was broadcast over the Internet and onto video screens inside the Coussoulis Arena for the 2 graduating classes. The web broadcast provided distant friends and family the opportunity to see their loved ones go through the commencement while also promoting the University to a worldwide audience via the web.

Entrepreneurship Awards

Assisting the Department of Business for the yearly Inland Empire Entrepreneurship Spirit Awards the CMS video department edited a total of 32 videos for the program that was held at the Riverside Convention Center for an audience of 900.

Modern China Lecture Series:

The Modern China Lectures hosted by Professor Jeremy Murray is a series of lectures by visiting experts in the study of the modern Chinese society at CSUSB.

Conversations on Diversity:

The CSUSB Diversity Committee invites guest speakers to discuss various topics of cultural diversity to the student body and staff. These one-hour lectures are always informative and thought provoking.

President's Showcase

President Morales hosted the first of it's kind "President's Showcase" highlighting the Mind, Body and Spirit in education at CSUSB. The event held in the Coussoulis Arena consisted of both live event and edited video presentations. CMS produced 19 videos related to the show.

Student Assistant Training:

The CMS video department could not exist without the exceptional hard work and dedication from the student assistants that perform all the tasks duties associated with all CMS video production. We hope to expand their training and further develop their skills for future jobs in the television industry.

Lessons from Legends:

CSUSB Palm Desert Campus offered a learning opportunity for its students to be part of a 10 week class that brought in some of the top business leaders in the country to talk about their success and failures. The students had unprecedented access to ask questions and meet the legends. 10 full-length lectures and 10 short marketing clips were produced from the series.

Town hall and Open Forum meetings:

Over the past year we have shot 7 town hall meeting and 9 open forum meetings. These live video productions were produced for the CSUSB Budget, Strategic Planning and Campus Master Plan. Another 9 open forums were produced for the Human Resource Department.

Nixon and the Native Americans:

Professor Thomas Long hosted a discussion and live webcast at the Nixon Presidential Library on the topic of President Nixon's work with the Native American tribes during his presidency. This two day summit was webcast to the CSUSB webpage and the Nixon Library's webpage.

CSUSB Virtual Tour:

Thirteen virtual tours of tours department on the campus where produced and located to the CSUSB Home page.

http://www.csusb.edu/virtualtour/

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Community Connections:

A four camera produced show with interviews from President Morales and special guests from the community or faculty that discuss topics of interest.

CSUSB 50ᵗʰ Anniversary:

The team is involved production of the CSUSB 50ᵗʰ Anniversary Celebration video. This video will tell the 50-year long story of the university from the people that first broke ground on this small campus at the foot of the San Bernardino mountains to the thriving California State University that is has become today.

Creative Media Services-Media Design

Providing campus-wide graphic design support is the primary objective for the Creative Media Services Media Design team. Over 150 design projects were completed during 2014/15 with support provided for several campus entities including; AFROTC, Philosophy, Coyote Radio, Office of Student Research, Graduate studies, HAC, Strategic Planning, Parking Services, College of Education, Purchasing, Office of Student Research, Office of Graduate Studies Emergency and Risk Management, PDC Health Center, ITS, Anthropology, Kinesiology, Administration and Finance, Academic Scheduling, RAFFMA, Facilities Services, Coyote Advertising, and the Technology Support Center.

Additionally more than 20 websites were designed and several logos were created for GEAR UP, National Cyber Security Studies, Physics, Asian Faculty and staff, Psychology, and Neuro-feedback.

Media Design highlights and accomplishments during the academic year 2014-2015:

- Arts & Music Festival
- 50th anniversary executive committee
- Presidents Showcase
- Commencement
- Adobe Boot Camp training sessions
- Student Health Center promotion
- Campus calendar

Creative Media Services- Web Development

The web development team offers services in the area of design, development, site hosting and web accessibilities. The team is responsible for the CSUSB homepage as well as academic departments, administrative offices, campus institutes and centers to promote a uniform web presence that reflects a positive image of the university. The web development team is in the process of the implementation the campus' web content management system.

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Web Development highlights and accomplishments during the academic year 2014-2015:

The web development team launched 20 websites during 2013/14:

- University Diversity Committee
- Department of Communication Studies
- Faculty Mentoring Network
- Student Success Initiative
- Strategic Planning
- Health Professions Advising Center (HPAC)
- Neuro-feedback
- Counseling & Psychological Services
- American Studies
- LGBTQA Student, Faculty, Staff Association
- Title IX & Gender Equity
- Ombuds Services
- Student Health Center
- Title IX & Gender Equity
- Spanish Language Proficiency and International Cultural Experience for Healthcare Professionals
- Careers in Education Week
- Orientation and First-Year Experience
- Police
- Emergency Management & Business Continuity
- Gear Up

Upcoming Initiatives

Launch of University Advancement websites in Drupal CMS in July 2015. The web team has also begun work on Phase I, which includes the main campus website, the president's website, and other key elements of the campus' web presence, such as the campus directory and staff/faculty profiles.

Creative Media Services- Photography

Creative Media Services offers photographic support for campus-sponsored events that need promotional, educational or archival images. The photographic team develops digital images that support web, print or archival format. The team maintains an archival photo database accessible to the university community. This year, Photography team supported over 750 events. These events were on and off campus. Events ranged from studio portraits, to supporting the 5 Academic Colleges, PDC, Athletics, Public Affairs, University Enterprises Corporation and Advancement.

Photography highlights and accomplishments during the academic year 2014-2015:

- SAIL Multimedia slide show- Student Assistance In Learning (SAIL) Program
- SOAR Multimedia slide show- Student Orientation, Advising and Registration
- Best of 2014 Multimedia slide show- CMS Production
- DisAbility Sports Festival- College of Natural Sciences
- End of the Year Athletics video– Athletics
- EOP Multimedia slideshow- Educational Opportunity Program
- Promotional Multimedia slideshow- College of Education
- First Day of Classes Multimedia slideshow- CMS Production
- Commencement Web Galleries/Slideshow- CMS Production

Maintained a 90,000 digital asset photo archive.

Currently working with the Water Resource Institute on digitizing and captioning over 60,000 aerial photographs. These digital photographs are maintained under the auspices of the WRI and the PFAU Library. Using estimates approved by CSUSB Advancement in the past, this project has brought approximately $2,626,840 of additional value to the Pfau Library Collection. $400,000 of this value has come in the last 4 months, while we have increased the value of the Pfau Library archives by $1,000,000 in value over the last 12 months.

Enhanced the Creative Media Services by introducing, Zenfolio a new web hosting service. This cloud-based service allows the university to display event photos, distribute, sell, and store the digital assets (csusb.zenfolio.com).

Palm Desert
Campus

Palm Desert Campus

The Palm Desert campus was officially established in 2002 and by 2006, it has expanded to three privately funded building and one theater. The current enrollment is …. Offers a private college atmosphere with an emphasis on making everyone on campus, from students to staff to faculty a Raving Fan by providing World Class Customer service.

Introduction

The year 2014-2015 was a year of change, and growth. A new Dean and Assistant Director of IT had been appointed, providing leadership and direction needed for current, and future growth, of the campus. The City of Palm Desert gifted 122 acres, surrounding the campus, with the hopes that this would one day become the 24th CSU. We have a long road ahead of us, and we are dedicated in making this an enriched, technologically innovative learning environment for our students. After all CSUSB is the only 4 year public university in the Coachella Valley and we want to support our community and beyond with exceptional scholars, that will be ambassadors for the CSUSB-Palm Desert Campus.

Together and Apart

CSUSB-Palm Desert (PDC) is in a unique position, as we share services with the San Bernardino campus and because we are 74 miles apart, we stand apart.

Network Upgrades

In the Fall of 2014, we partnered with Alcatel-Lucent and in conjunction with San Bernardino, upgraded all of the switches in our respective networks. Some of the work was done together and some was done here on site. It was a successful undertaking, with a great collaboration between the campuses and resources.

After the switch upgrade, we replaced and added Access Points, to bolster our wireless network, while educating our students on the benefits of Eduroam and the secure authentication that will give them the added mobility of a wireless connection across not only our PDC campus, but San Bernardino and other campuses that participate in Eduroam.

Desktop Upgrades

244 new computers were imaged and deployed, thanks to a collaborative efforts from the IT staff in San Bernardino and the IT team at PDC. Our end users enjoyed the upgrade to Windows 7 and we were able to join all the computers on campus to the csusb.edu domain.

Phone Upgrades

An upgrade to our Call Manager for our VOIP phone system, with the anticipation of utilizing Unified Messaging.

Classroom Technology

Installed new display monitors in the three classroom building, so we can keep the students update on the various activities on the campuses and important dates for registration and enrollment. Later in the year, we tested the new presentation software, REACH, and installation of the wireless POE adapters will make them fully functional from a web interface.

Notable Projects:

- Switch upgrade (referenced above) It was difficult projects as it took place during the Fall 2014 Qtr and had to be coordinated with classroom computer accessibility. The project included a Core migration and replacing all the switches in six different closets.
- Enhanced wireless network by upgrading 22 Access Points (AP) campus wide. Added an additional 3 AP's for a special Student Download Day, which was held on Feb. 26, 2015 in the IW building.
- Image and deploy 182 computers, including the 4 classroom computer labs, library media center, all staff computers. That projects also spawned the process for a standardized naming convention, backing up and installing faculty and staff files and applications and use of GPO's to manage local accounts.
- Staff computer image and deployment, including backing up of important documents, creating new user profiles and training users on the new AD authentication process. This also had to be coordinated around the school schedule and staff availability.
- iPhones for PDC IT team, to improve communication. Up until then, there was not consistent or reliable method of communication.
- Motorola Walkie Talkie system for improved campus wide communication and disaster recovery. 8 walkie-talkies were ordered and provisioned with a range to include .5 mile radius, in addition to 5 other channels that can be used locally and off site.
- Migration to Office 365, PDC was the pilot campus for this project. We were able to provide the project manager with valuable insight and information for this project. All staff and faculty were migrated without incident.
- Added over 300 computers to csusb.edu domain, including Macs
- Deploy current OS and Adobe Muse and After Effects to Graphic arts lab
- Upgrade Call Manager
- Replace all Audio/Video and Computer Equipment in Oliphant Auditorium. This was done to improve overall experience in the auditorium, streamline the process as well as install DVD format for international video files, and adaptability for all types of mobile devices, from the iPhone to Windows 8 laptops.
- Replace audio mixer in Indian Wells Theater.
- Complete, and maintain, inventory of all computer, audio/video equipment at PDC.

- Upgrade computers in the RMSC
- Dispose of old and unusable computer equipment on campus, clean up closets and work areas. Redeployed to San Bernardino or salvaged over 300 computers, based on CSUSB procedures and policies.
- Deploy new SIM man in Nursing lab, including highly complex simulated human body model and corresponding software.
- Upgrade Go Print system, working in conjunction with San Bernardino staff.
- Provide training for Office 365, for faculty and staff
- Configure and install new laptop and ticket printer in IWT Box Office
- Test various methods for Distance Learning, including Dell Chromebox, Skype, Lync, Logitech Conference cam, Adobe Connect.
- Set up KVM and imaging area in RG 103, to assist with mass imaging, replacing old sneaker net process.
- Deploy Dual Monitors for Admin staff and Front desk area, for ease of processing student records and cash transactions.
- Update BIOS on all computers for WOL
- Test GPO's for WOL, and local accounts, as new Microsoft security patches revealed vulnerabilities in the old GPO configurations.
- Strive to deliver World Class Customer service
- Hire new ITC consultant, John Harrell.
- Piloted SCCM for application deployment in a controlled environment.

What's Coming:

- Complete deployment of SCCM to manage all computers on campus.
- 4 fixed kiosks for securely charging laptops and other mobile devices.
- New Marquee
- New parking kiosk with web-enabled, state of the art, security camera.
- Powermat charging stations in the Rancho Mirage Student Center.

Academic Year 15-16 Work in Progress

Your Information Technology Services team in collaboration with the campus community is pursuing several projects that will enhance technology services and create value for our students, faculty and staff. They include:

Cloud Based Anti-Spam Gateway: As part of the planning for increasing availability of email, now that we are finalizing the email migration for faculty/staff to the cloud, the next step is the migration of the email gateways and anti-malware solutions. The campus has been assessing four possible SaaS solution - McAfee, Comodo, Barracuda and Profpoint. One of the requirements of the selection criteria is the protection against malware and in particular "phishing" attacks to campus users. The solution will be used for both incoming and outgoing email and will be providing email routing for several email domains (@csusb.edu, @coyote.csusb.edu, @alumni.csusb.edu). The SaaS solution is planned to be deployed by the end of August-2015.gateway with an intelligent SPAM filter that will sanitize incoming and outgoing e-mail messages.

Multi Factor Authentication: In an effort to mitigate the risk compromised credentials on applications using single-sign-on, the campus is deploying a multi-factor authentication solution, that is, requiring something the user knows (User-ID/password) and something they have (mobile device, USB token, etc..). The most popular and common of the additional "factors" has been the mobile device, which the majority of the users have. For this purpose we tested and we are in the process of deploying DUO - a multi-factor authentication solution that has established significant discount through In common and Internet2. This solution will be deployed in groups, starting with users accessing critical systems, such a systems administrators. The deployment of DUO for this group will take place Summer-2015; their feedback will be used to decide on the next group of users.

Desktop Unification Pilot: With the recent upgrade of our VoIP telecommunications infrastructure, several communication features have become available including voice to text, mobile apps for desk phones. The desktop unification pilot will allow the ITS team to explore the possibility of integrating desk phones, laptops and mobile devices such as iPad into a single mobile device which can be docked to allow access to desktop monitors, and USB/HDMI devices.

25Live Event Scheduling and Course Curriculum Management: This project is a collaborative effort of ITS, Academic Scheduling, Special Events and San Manual Student Union. It is a web-based event scheduling, publishing, e-commerce, and accounting application. 25Live provides the convenience of web access, easy to use space and resource availability checking, event request, scheduling, editing, and e-commerce capabilities, as well as comprehensive data and security management and system configuration capabilities. Its Publisher component allows you to easily publish classes and events to completely customizable embeddable calendars on our website(s). The Events portion will be going live in August 2015 and the Course Curriculum Management rollout is planned for late Fall 2015.

PAWS Degree Audit Upgrade: u.Achieve: This project will provide students and advisors with an easy-to-read progress report that allows for "what if" planning and creates a clear picture of the degree requirements necessary for graduation. This will replace our existing Degree Audit

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(DARwin). We are also including a batch audit request system to allow other departments to request multiple audits at one time. The plan is to go-live in mid-September 2015.

CONCUR Travel System: Working with the Finance Department to provide a more robust traveling system to replace the current Connexxus Travel System. This will allow better travel and expense process for employees (i.e. booking travel and reconciling charges). Workflow is built into the system. Unify the travel and expense policy compliance. Gain better visibility to travel and expense spending. Leverage our buying power with our suppliers and lastly eliminate the need to collect, manage and store paper receipts. As a pilot several departments went live in May 2015. We hope to have other groups live with CONCUR in September 2015.

ATI space renovation: Academic Technologies & Innovation is renovating its space to better serve faculty in course development support and technology innovation. In the renovated space, there is a faculty training space, a collaboration station, a place to engage faculty in discussion, and a video lecture capture room, all supported with instructional designers, instructional technologists, and smart classroom technologists.

Faculty summer institute on learning technology: ATI will offer a 3-day faculty summer institute on learning technology to help faculty integrate and adopt instructional technology solutions into teaching. It will include presentations, discussions, hands-on training, and demonstration of emerging technologies.

SMART Classroom Upgrade: ITS is in the process of a classroom technology upgrade project to enhance the technology in a number of classrooms and laboratories both at the main campus and Palm Desert Campus. This year's goal is to upgrade the cabling infrastructure to support digital signal, in addition, add new computers, AV control and projection systems. The following building will receive the upgrades: Palm Desert Campus' Indian Wells classrooms (10 rooms); Chemical Sciences classrooms/labs (9 rooms); Biological Sciences classrooms/labs (13 rooms). The following buildings will have new computers installed: Social and Behavioral Sciences second floor classrooms will receive computers (10 rooms); College of Education classrooms will receive computers (35 rooms); and, Pfau Library second floor classrooms will receive computers (16 rooms). Installation is currently in progress and completion date is set for September 2015.

Outdoor Wireless Improvement: With the completion of the campus wireless upgrade, IT Services will begin expanding coverage of outdoor wireless. The first phase of this expansion will be around the PE and Arena area. Additional areas will be planned throughout the upcoming academic year.

Digital Signage Implementation: The campus has purchased a license for REACH digital signage management system. This unified system will allow for push emergency notifications to all digital signs on campus simultaneously. Likewise Colleges or departments can create advertisements that can be shared with other areas on campus. ITS is working with Colleges and Departments across Campus in getting all digital signs on the same system.

Enterprise Data Warehouse Project The goal of this project is to provide a single source of current, reliable and accurate data access for the campus community for institutional intelligence driven decision making. The project has been implemented in the development phase. The Institutional Research and ITS Teams are working to validate the data with the intention of releasing Phase I of the EDW to the Campus Community in the fall.

EAB-SCC Grades First Integration: EAB-SCC acquired Grades First to provide a complete package for Student Success combining the analytics of EAB with the advisor/student appointments available with Grades First.   Currently both of these systems is running separately but we plan is to go live with the combined system in Spring 2016.

MyCoyote Portal enhancements: Continue to enhance the MyCoyote Portal by adding a Campus Life tab and the College of Extended Learning Tab.   We are working with the Undergraduate Office to add an Advising link to the student tab. In the Quick launch area of the MyCoyote portal we are adding more services such as CONCUR, Career Center, PAWS Degree Audit. We are working towards using the Messaging capabilities in the portal to better communicate to the campus community. Other enhances include adding portlets for PeopleSoft such as a view of the students class schedule, student finance data and more. We are working on other portlets for g-mail and Blackboard. We are striving to provide students and employees with one place to go to find whatever they need to succeed at CSUSB.

Web Migration: The Web Team at ITS is working with the University Advancement Team and the Web Redesign steering committee in the comprehensive redesign and migration of the University website. The first phase of this project, which was the redesign of the Advancement website was completed in June. Following this, the entire University web presence is being redesigned. Phase I of this project will go live in Fall 2015, followed by subsequent phases in the next six months to a year.

Academic Technologies & Innovation Goals

Online Design

- The ATI Team under the leadership of the new Director, will foster and support faculty led innovation in support of the academic mission of the University.
- Work with the Provost, the Teaching Resources Center, the Deans and Department Chairs in increasing the number of online and hybrid learning courses
- Introduce and Support student engagement technologies and mobile technologies to improve student success
- Work with the faculty sandbox to experiment with and implement cutting edge technologies for student engagement and success.
- The ATI design team will provide support in the Blackboard Learning Management System (LMS) managed hosting through Blackboard. The hosted environment will

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ensure that Blackboard runs optimally, is at the current version and is always available for the Campus Community.

- Proposal to increase the ATI design team with two additional instructional designers.

Classroom Technology Support

- Twenty-four HD projection systems will be installed in University Hall classrooms during the summer of 2014.
- Re-evaluate the process of funding classroom technology. Propose baseline funding for SMART Classroom Refresh program.

Distance Learning

- For Summer 2014, the ATI team and PDC IT team will upgrade two distance learning classrooms in the Rogers Gateway building at the Palm Desert campus.
- The Media Services team is also in the design stage of a distance learning classroom in the Social and Behavioral Sciences building. The room will be available for distance learning courses for Fall 2014.
- Work with the Deans in discovering and implementing new distance learning modalities

- The CSU Chancellor's Office is conducting a Request for Proposal (RFP) to identify a new videoconferencing service for use by CSU campuses. The ATI team is involved in this RFP process. A new videoconferencing service will be available for academic 2014-15.

ACRC

- Pilot iPad program will launch in Fall 2014. Ten iPads will be available to collected metrics to evaluate program's impact.
- Three new accessible workstations will be operational for Fall 2014 at PDC.

Technology Operations and Customer Support Goals

Network and wireless enhancement

The San Bernardino and the Palm Desert Campus will complete the network infrastructure by Fall 2014, along with the upgrade to redundant 10GB internet connection for the San Bernardino campus. The new network infrastructure will pave the way and provide the bandwidth needed for the many cloud migration project taking place. In additional, the following improvements will be made:

- By Fall 2014, a new redundant 1GB internet connection will be installed for the Palm Desert Campus to provide much needed back up for the PDC.
- A new redundant microwave network infrastructure will be put in place by Fall 2014 to provide University Village significant increase of bandwidth to students.
- Both campuses' wireless infrastructure will be upgraded throughout the 2014-15 academic year, with approximate 35% to be completed by Fall 2014 and the remaining to be to be completed by Fall 2015.

Enterprise Systems upgrade

By Fall 2014, several key enterprise systems, including Blackboard and Exchange, will be migrating to the cloud in order to provide more reliable services to our users. IT Services will also bring additional value-added features offered through the Microsoft O365 migration, including OneDrive Pro cloud storage, Lync video conferencing and unified messaging system, Sharepoint Online, to name a few.

- System Center Configuration Manager (SCCM) will be implemented beginning Fall 2014 to allow campus to better manage system and software updates, application rollout, and to provide inventory management.
- Hyland OnBase Document Management and Workflow project will begin digitizing paper records and documents in Fall 2014, and will also include an enterprise workflow management tool in the future.
- Unifying the campus' learning management system will also take place beginning Fall 2014. Many departments including HR, EH&S, Parking, ISO have different learning management systems. Campus will greatly benefit from unifying these systems onto Learner Web and the systemwide Skillport training system.

Voice, telecommunication and billing enhancement

CSUSB will also undergo a significant upgrade of our VoIP platform in Fall 2014. The new system will provide new features such as call recording, visual voicemail*, message notification, desktop message access (voicemail to email), holiday schedule and greetings, etc.

The campus' telephone billing process will also be reassessed, and a recommendation is due to the campus IT governance group by Spring 2015, with a targeted implementation for 2015-16. This goal is to fully assess the current telephone billing process and create a more sustainable and efficient model for voice and telecommunication billing for CSUSB.

Administrative Computing & Business Intelligence Goals

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- Absence Management - Self Service – On-going project started last year. Currently working with pilot group.
- TridentHE Identity Manager System – From Aegis Identity. Work collaboratively with ITS divisions to interface with all administrative systems.
- MyCampus Portal – CampusEAI Consortium – Work collaboratively with ITS divisions to interface with all administrative systems. This will replace our existing MyCoyote portal.
- OnBase Imaging System – First phase to replace all existing systems should be complete by the end of 2014.
- U.Achieve Project – CollegeSource completed the encoding review and are in the middle of reviewing the technical aspects of your upgrade.
- Advance Web Leap modifications – Majors changes needed to provide the Advancement Office with the data they need.
- Reheer – Working with the Advancement Office to integrate the Advance System to provide predictive modeling, new innovative tools to improve fundraising.
- PeopleSoft PDL module – begin migrating test score processing to the PDL module.
- Course Scheduler - expected to go live for Winter 2015 registration.
- **Online Academic & Event Management** – RFP's being reviewed.
- College of Extended Learning – Look into software to support their division
- Alumni Discovery Project – The Advancement Office is teaming up with Student Affairs and ACBI to capture club and Athletics data in PeopleSoft and Advance.

Information Security & Emerging Technologies Goals

- **Identity Management System - Upgrade -** TridentHE Identity Manager System – Aegis Identity. Work collaboratively with ITS division on the replacement of the current identity management systems. The expected day for the new IDMS to be moved to production is September 1, 2014.
- **MyCoyote Portal -** MyCampus Portal – CampusEAI Consortium – Work collaboratively with all the division on the services and configuration of the new MyCoyote portal. September 1, 2014 is the expected day for the new MyCoyote Portal to be made available to the campus.
- **Network Intrusion Detection System - Gigamon** - in response to the campus network upgrade, upgrade the network tap for the campus intrusion detection system. It is expected to get the new interface fully configured and operational by December 31, 2014.

- **Web Accessibility -** conduct a web accessibility gap analysis and risk assessment using the CSU-CO guidelines and develop a three years Web Accessibility Plan for the campus incorporating the new web environment. It is expected to have a tentative plan ready by September 15, 2014.
- **Authentication services business continuity** - research, implement and test an automated fail over to AWS for authentication services, in particular CAS/Shibboleth. This project is expected to be completed by June 30, 2015.
- **Absence Management Self-Service -** collaborate with ACBI to set up the security roles for self-service and reports for access as the pilot project implementation with the College of Natural Sciences is extended to other colleges. This is a year-long project with an expected completion date of June 30, 2015
- **ITS Business Continuity Plan** - conduct an impact assessment and review, update and test ITS critical functions. This project will start during the Summer-2014 and it is expected to be completed by June 30, 2015.

Creative Media Services Goals

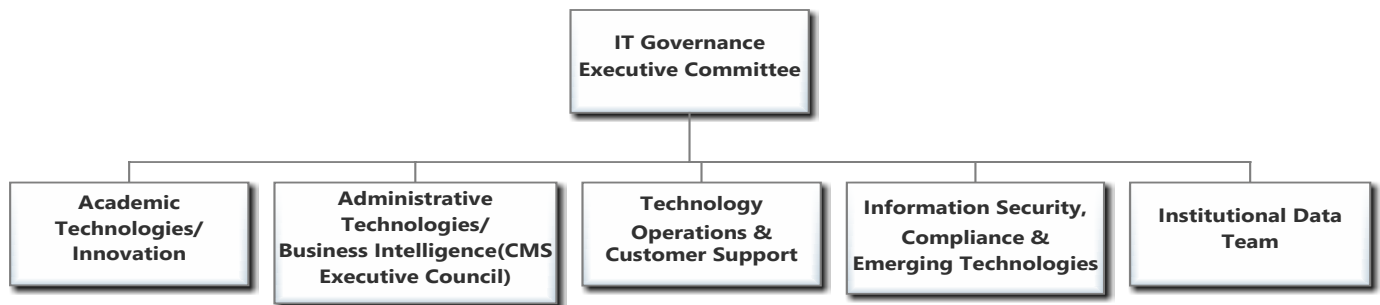- Launch of University Advancement websites in Drupal CMS in August 2014. After University Advancement pilot project is completed, the web production team will begin the implementation of the development of campus, administration divisions and colleges, websites.
- The web development team is working with faculty to create a "University Faculty Mentoring Network" website. Launch date is fall 2014.

Appendix A -
IT Governance at Cal State San Bernardino

The IT governance structure establishes the strategic, operational, and technical decision-making process required to ensure IT enables the University to excel in its mission. IT governance provides strategic leadership, establishes campus-wide IT priorities and policies, and is accountable and transparent to the University community. The following diagram illustrates the structure for IT governance at CSUSB. The IT Governance Executive Committee will form sub committees to set agendas that cover the topics of interest as depicted below and form task forces as needed to address particular areas:

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                    ┌─────────────────────┐
                    │   IT Governance     │
                    │ Executive Committee  │
                    └─────────────────────┘
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Academic Technologies/ Innovation	Administrative Technologies/ Business Intelligence(CMS Executive Council)	Technology Operations & Customer Support	Information Security, Compliance & Emerging Technologies	Institutional Data Team

General Responsibilities of the IT Governance Executive Committee

The IT governance executive committee is responsible for the following:

- Establishing and communicating a campus-wide IT vision that supports the University mission and goals
- Establishing IT policies that support strategic, campus-wide IT priorities
- Defining technical architecture and standards for the University
- Establishing best practices and tools for IT across campus

IT Governance Values

For IT governance to be successful, the committee must hold the following values:

- Transparency — Governance committee and processes must be clear. How decisions are made and who has input rights and decision-making rights must be readily apparent to campus.
- Communication — Communication must occur into, out of, and across the committee and with campus.

- Accountability — Sub Committees and task forces must be held accountable for delivering on their responsibilities. Clear escalation paths for issue resolution must be defined.
- Assessment – Making sure that measureable objectives are met within the agreed upon timelines
- Responsibility — Governance structure must focus on results rather than implementation and project management.
- Appropriate representation — Constituency groups across campus must be represented.
- Active support — Governance structure requires staff to support the process. Agenda setting, meeting logistics, issue tracking, and communication are all essential aspects of active support.

Agenda Setting

Members of the executive committee propose agenda items to be discussed in their respective committees. Agenda items can also be suggested by anyone in the CSUSB community (non-committee members) by directly contacting a committee member, a committee chair or the CIO's office. Agenda items for the committee meeting are vetted through the committee's co-chairs. The committee chairs meet monthly to coordinate the timing of committee efforts and ensure proper communication, inclusion and prioritization.

The agenda for meetings fall into the following broad categories:

- Project Status Updates
- Problems/Issues to be addressed
- New Project Proposals
- Horizon Projects

Reporting

The IT governance structure is supported by administrative and communications personnel who report to the Chief Information Officer.
Notes for each regularly-scheduled IT governance meeting are available on the committee web pages. In addition to the meeting notes and executive summaries, IT governance progress and updates are communicated via the CIO's Weekly Update. Any policy related materials are posted on the CIO website.
Some decisions and projects may need additional communications due to their scope. These communications will be determined on a case-by-case basis.

Projects

The IT governance executive committee focuses on setting direction and ensuring accountability rather than implementation responsibilities or IT project management. The

Committee can, however, ask for and receive presentations and updates on projects from any project teams or steering committees as needed.

Funding Continuum

Projects are funded through four mechanisms; local funding, aggregate funding, aggregate funding with partial central support, and common good funding. Local funding is derived completely from the unit employing the service or administering the project.
Aggregate funding involves the cooperation and coordination of funding through multiple units to save money by buying a service in bulk. By aggregating funds and purchasing power among and across units, the service can typically be acquired at a lower cost. When a service funded aggregately is identified as essential to a majority of units across campus, it may qualify for partial funding from the central IT budget.
Common Good services are available to and serve all campus units and members. Common Good services are funded entirely through the central budget.

Subcommittees and Task Forces

Subcommittees are defined as ongoing groups responsible for issues and decisions in a certain area of IT at the University. Task forces are defined as time-bound groups assigned specific problems to solve or tasks to accomplish.
The IT governance executive committee can form subcommittees and task forces as needed. Existing committees may be asked to establish formal relationships with the IT governance executive committee.
There is an intermittent need to create task forces to investigate issues and explore different IT solutions. Task forces can be appointed by the IT governance executive committee on an as-needed basis. The task forces meet for a set timeframe to accomplish specific objectives related to resolving an issue or implementing an IT strategy; they are not be considered standing or ongoing governing bodies. Task force membership can consist of IT governance executive committee members or any qualified personnel identified by IT governance executive committee members.

Customer Steering Committees

Customer steering committees serve as representative customer groups that work with IT project teams to determine the best course of action and to provide accountability for IT projects at the University. Customer steering committees help project teams:

- Develop a project charter that directs the project towards what customers need most from the service
- Create a thorough and effective communication plan to distribute information to affected customers across the University
- Refine the project plan and be accountable for changes to that plan
- Direct research about the project or service at the University and peer institutions
- Deliver the projects and services that the University truly needs

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Customer steering committees may be called upon to present information and updates to IT governance executive committee.

Committee Membership

Co-Chairs: Dr. Andrew Bodman, Provost & Vice President for Academic Affairs, Dr. Samuel Sudhakar, Vice President for Information Technology Services & CIO

Members:

Vice Presidents – Dr. Doug Freer, VP for Administration and Finance, Dr. Ron Freemont, VP for University Advancement, Dr. Brian Haynes, VP for Student Affairs

Associate Vice President – Mr. Gerard Au, AVP Technology Operations & Customer Support

Faculty Senate – Dr. Ted Ruml, Chair, Faculty Senate, Dr. Kurt Collins, Professor of Art

Colleges – Dr. Jamal Nassar, Dean, College of Social and Behavioral Sciences, Dr. Lawrence Rose, Dean, College of Business and Public Administration, Dr. Jay Fiene, Dean, College of Education, Dr. Kirsty Fleming, Dean, College of Natural Sciences, Dr. Terry Ballman, Dean, College of Arts and Letters

College of Extended Learning – Dr. Tatiana Karmanova, Dean, College of Extended Learning

Faculty Teaching Resource Center – Dr. Kim Costino, Director TRC and Professor of English

Staff (IT + Academic) - Mr. Ian Jacobs – IT Consultant, College of Business and Public Administration, Mr. Jim O'Linger, Director, Technology Support Center

Students– Mr. Alfredo Barcenas, President, Associated Student Incorporated, CSUSB.

Appendix B - IT Governance Executive Committee Sub Committees

Sub Committees

IT Governance Sub Committees are charged with the investigation of university wide technology initiatives that increase access, solves problems, facilitates the teaching/ learning process and improves efficiency. The membership of the sub committees are cross functional and cross institutional. They serve in an advisory capacity to the IT Governance Executive Committee (ITGEC) and bring recommendations for approval by the ITGEC.

Academic Technologies & Innovation:

Co-Chairs: Director of Academic Technologies & Innovation and Director of the Teaching Resources Center

Charge: The ATI Sub-Committee will be responsible for gathering and representing faculty perspective on questions related to teaching, learning or researching with technology, so that ITS can provide the kind of support that faculty most need. To this end, the sub-committee will be responsible for recommending mechanisms by which faculty are able to stay current on the latest research, scholarship, and best practices regarding instructional technology, distance education, instructional design, online and hybrid program and curriculum development (including course redesign) and online and hybrid pedagogies; for creating and implementing a process for faculty to experiment with, pilot, and ultimately make recommendations about technology tools, software licenses, etc. that the university should purchase for faculty use; and for gathering feedback from faculty on the effectiveness of the technology currently being employed.

CMS Executive Council

Co-Chairs: Director of Administrative Technologies & Business Intelligence and Director of Records, Registration & Evaluation

Charge:

- Business Intelligence Driven Decision Making
- Predictive Analytics
- Enterprise Data Warehouse
- Institutional Data Management
- Data Ownership and Access
- Common Management Systems Projects

Technology Operations and Customer Support:

Co-Chairs: AVP for Technology Operations & Customer Support and College Tech Leader

Charge:

- Best of Class Customer Support
- Infrastructure
- Cloud Technologies
- Web Technologies
- Centralization and Standardization
- End User Empowerment
- Operational Sustainability and Excellence
- PDC Technology Enhancements and Support
- High Performance Computing
- Research Networks
- Enterprise Applications Development

Information Security, Compliance & Emerging Technologies:

Co-Chairs: Director of Information Security and Emerging Technologies and Dr. Tony Coulson

Charge:

- Information Security and Privacy
- Identity Management Systems
- Technology Accessibility
- Emerging Technologies Research & Development
- Single Sign On and Portal Development and Enhancements
- Security and Compliance Audits
- Disaster Recovery & Business Continuity
- Information Technology Policies and Procedures
- Sensitive Data Security Audit
- Data Center Operations Audit

Last Updated May 2014

Appendix C - ITS Budget

Information Technology Services

2014-2015 Baseline

Positions							
Management	2	1		3	2	2	10
Staff	3	8	13	21	31	13	89
Total	5	9	13	24	33	15	99

Last updated: 7/30/2014

Description	VP	ISET	CMS	ACBI	TOCS	ATI	Total Budget
Personnel Services- Regular							
Management (601822)	309,996	128,712		163,992	92,628	200,676	$896,004
							0
Staff (601826)	179,356	459,492	762,521	1,434,761	1,727,898	685,939	5,249,967
Shift Differential					9,059		9,059
Total Personnel Services-Regular	$489,352	$588,204	$762,521	$1,598,753	$1,829,585	$886,615	$6,155,030
Personnel Services-Temp							
Temp Management (601823)				230,532	100,176		$330,708
Temp Help (601302)			14,851	115,599	58,191		188,641
Student Assistants (601303)		3,000	68,271	8,000	4,851	7,157	91,279
Total Personnel Services- Temporary	$0	$3,000	$83,122	$354,131	$163,218	$7,157	$610,628
OTPS							
Supplies & Services	5,000	27,729	20,232	99,383	72,991	6,264	$231,599
Supplies & Services- Computer Expenses					135,000		135,000
Supplies 7 Services- Telephone Expenses					132,901		132,901
Telephone (604001) and Cell (604806)	2,400	750	4,000	10,300	6,400		23,850
Travel In State (606808)	3,000	2,500		17,000	4,000		26,500
Travel Out of State (606002)	2,000						2,000
Membership, Dues, Subscriptions (660874)	3,597						3,597
Info Tech Hardware (616002)				50,000			50,000
Info Tech Software (616003)		4,000		214,450	260,773		479,223
Network Security (Info Tech Maintenance 616800)					40,500		
Info Tech Maintenance (616800)				40,000	16,827		
Equipment (619001)				10,000	146,675		
Contractual Services (613001)				300,000			
Division Reserve	94,686						94,686
Total OTPS	$110,683	$34,979	$24,232	$741,133	$816,067	$6,264	$1,733,358
Total Budget	$600,035	$626,183	$869,875	$2,694,017	$2,808,870	$900,036	$8,499,016

Appendix D - ITS Roadmap

Academic Technologies & Innovation

Faculty Innovation Center

Classroom technology refresh support

Incubator classrooms

Media storage for lecture capture

Faculty Institute on Learning Technologies and year-round faculty development activities

Learning Commons

Technology Operations and Customer Support

Technology Support Center

Vendor Hosted Evening Technical Support

Campus-wide Remote Support System

Student Innovation Center

Campus-wide Secure Cell Phone Charging Stations

Adobe Creative Cloud Software for 2,500 users

Ongoing Training for all TSC & EA/DC Staff

Campus-wide Desktop Refresh

Enterprise Applications

VDI/Desktop as a Services (DaaS)

Standardization of Campus Computing Labs

Standardization of Campus Digital Signage

Blackboard Managed Hosting

Lynda.com (Expansion to Campus-wide)

Active Directory Upgrade

Enterprise Workflow Management System

Infrastructure

Data Center

Data Center UPS Replacement

Data Center Infrastructure Upgrades (HVAC, Security, Fire Suppression)

Data Center Office Renovation

Centralization of Campus Data Centers

Centralization of Campus Servers

Cloud Hosted Infrastructure

Telecommunication and Network Services

Network Infrastructure Enhancement

Network Redundancy (Power, Dual-Home Wireless)

1Gb to Desktop

10Gb Computing Center - Research Computing

VoIP Call Manager Upgrade

Wireless Infrastructure Enhancement (Outdoor Wireless)

Campus Mass Notification System Replacement

Administrative Computing & Business Intelligence

CSUSB Portal - Increase functionality

CollegeNet - Event Scheduling and Course Curriculum

u.Achieve Implementation funded by CSU CO, Annual fees by ACBI Go-Live June 2015 (College Source)

DARS Batch – includes license and implementation services (College Source)

u.Direct (College Source) Start June 2015, complete in 12-24 months

AAWS - Admissions - Transitory Applications thru PeopleSoft Phase I

AAWS - CEL - Application for Open Univ and Non-Degree thru PeopleSoft Phase II

Data Warehouse

SEVIS on PeopleSoft - need functional consultants

SOAR on PeopleSoft

Grade Upload process either SAIP or Excel Upload to PeopleSoft

Replace ACBI Web applications with PeopleSoft applications

All PeopleSoft training to be moved to SkillPort/LearnerWeb

CHRS Project - Move HR to a CSU consolidated database. Need consulting services

Scheduling tool for colleges to use for course offerings CourseLeaf (CLSS)

Work with OnBase team for imaging and workflow

 Add more Dashboards such as HR Work Center

Oracle 12C upgrade

Web Commencement on PeopleSoft

CashNet eCommerce

Replace Existing Travel System with CONCUR. Funded outside of ACBI

CashNet Library interface, like we do for housing

Mobile Apps/Computer Science collaboration - Fund Student Assistants and some events

Mobile Apps - All applications to be mobilized. All Functions of Student, Faculty Center, HR Functions including Absence Management, T&L

ID Photos on PeopleSoft

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PeopleSoft HCM SA 9.2 upgrade - CSU CO have not established schedule

Athletic database enhancements to include enrollment

Revamp our Transcript from Crystal to XML

Advancement Reheer project

Alumni Community online module (on hold)

Hardware refresh for ACBI

Information Security & Emerging Technologies

Information Security - Operations

Intrusion Detection Probe - PDC

Hosted Email Security Solution

Mobile Device Management Solution

Web Security Gateway

Web Application Firewall

Security Event and Incident Management - SEIM

Information Security - Compliance

Email Journaling - eDiscovery

Information Security Data Analytics

Continuous monitoring for Systems configuration and patching

Operational Threat Modeling

Governance, Risk and Compliance (GRC)

Accessibility

Web Assessment Tool – Site Improve

Digital Documents Assessment Tools

Web Assessment Tool - CommonLook Desktop

Web Assessment Tool - CommonLook PDF and Word

Web Assessment Tool - CommonLook Clarity Cloud

Emerging Technologies

Multifactor Authentication

Hybrid Cloud Management

Load Testing Environment

Encryption Management

Project Management

Basecamp

Comprehensive Project Reporting Tool

Palm Desert Campus

Retrofit classroom labs desks and power adapters.

Golf Cart for IT use

25 27"iMAcs (replace current inventory)

Smart boards for classrooms and labs (approx. 50) including installation and training

Auto redirect of Documents, created by user logged in, to designated area in cloud storage

Security badges on lanyards or clips for Vendors with names and dates of visit recorded in a database

Proximity switches on all classroom doors

CSUSB-PDC staff/faculty ID badges with access to areas based on proximity switch permission.

Receiving Area

Security cage for equipment

Touch screen for appointments in Front Admin Area

Yearly staff development for new technology

Yearly training and certificate for IT techs

Touch screen throughout campus with current classroom assignments and 'You are here' corresponding map

Wireless computers in hallways

Chairs with built in Power and USB outlets

Device management from single console (Updates, patches, Imaging, App Usage and Inventory)

My Coyote ID cards to allow access to classrooms based on enrollment

My Coyote ID App with Biometric authentication

Web Master for PDC

Senior Tech for Escalation and Advanced troubleshooting

Technical documentation for all processes at PDC

Online/Hybrid Classrooms

Est Metrics for Performance evaluation, to identify trends for support, app usage, app upgrade

Develop partnership with Apple and Microsoft to pilot new technology

Student Tech support Center: " My Coyote Oasis"

Est a rolling 3 year computer replacement plan

Web camera w/ headsets and mics for all faculty and staff

Appendix E – VTI Grant Funding

Dear Campus Community,

The Vital Technology Initiative (VTI) grant proposals were due on March 20th. We received 39 grant proposals totaling $1.85 Million. The VTI Committee reviewed these proposals and deliberated on funding recommendations. Following are the projects that will be funded for the upcoming fiscal year starting on July 01, 2015. Awardees will be contacted for a presentation that will explain their responsibilities for spending, implementation, assessment and reporting requirements. We appreciate everyone who participated in this grant process and we congratulate the awardees:

Title	Amount to Fund	Notes
Proposal ID: 128 Project Title: Library Laptop Lending Expansion ($55,280)	$ 55,280.00	Full Funding
Proposal ID: 65 Project Title: Streaming Media for Students ($15,000)	$ 15,000.00	Full Funding
Proposal ID: 80 Project Title: Laser scanning confocal microscopy for enhancing student training in biological imaging technology ($80,000)	$ 80,000.00	Full Funding
Proposal ID: 60 Project Title: 3D Team Render server ($4,383.72)	$ 4,383.72	Full Funding
Proposal ID: 89 Project Title: Star Track ($27,466)	$ 27,466.00	Full Funding
Proposal ID: 105 Project Title: Multimedia Language Center Computer Upgrade ($34,591.34)	$ 34,591.34	Full Funding
Proposal ID: 87 Project Title: Smart Board Enhancement for Visual Geoscience Learners ($16,000)	$ 16,000.00	Full Funding
Proposal ID: 88 Project Title: Efficient/Personalized Computer Workstations for PDC/SBC Distance Learning ($70,980.20)	$ 30,000.00	Partial Funding
Proposal ID: 95 Project Title: Multi-Instructional, Research & Community Service Recording System ($26,903)	$ 26,903.00	Full Funding
Proposal ID: 136 Project Title: Innovation Lab ($52,372.77)	$ 52,372.77	Full Funding
Proposal ID: 116 Project Title: Decal Printer for Ceramics and Glass Surfaces ($16,168.68)	$ 13,000.00	Partial Funding
Proposal ID: 114 Project Title: Software Development of Mobile Applications: Next Phase ($117,160)	$ 58,000.00	Partial Funding
Proposal ID: 118 Project Title: Advanced handheld Global Positioning System (GPS) technology ($60,183)	$ 60,183.00	Full Funding

Proposal ID: 78 Project Title: CSUSB Writing Centers Collaborative Support Initiative for English Language ($100,000)	$ 20,000.00	Partial Funding; *Funds for Equipment Only*
Proposal ID: 121 Project Title: Clinical & Assistive Technology Expansion Phase II – ($74,000)	$ 30,000.00	Partial Funding
Proposal ID: 101 Project Title: Theatrical Lighting Augmentation and Replacement ($101,000)	$ 50,000.00	Partial Funding
Proposal ID: 134 Project Title: The Institutionalization of HIP Undergraduate Research and Creative Activities ($39,317.84)	$ 39,317.84	Full Funding
Proposal ID: 119 Project Title: Logic Lab Computer Upgrade ($26,199)	$ 17,502.33	Partial Funding
Proposal ID: 108 Project Title: CBPA raspberry pi ($10,000)	$ 5,000.00	Partial Funding

Vital Technology Initiative Mission

The Vital Technology Initiative will be allocated in a manner beneficial to all students by providing them with technology experiences that:

- Enhance the technological resources at California State University, San Bernardino to support student success
- Broaden/enhance the quality of the academic experience through the use of technology in support of the curriculum
- Provide additional student access to technological resources and equipment needed in support of instruction
- Maintain and enhance the technological competency of students as it relates to their academic endeavors

Appendix F - MAP - ITS - Campus Support Efficiency Proposal

Introduction

CSUSB has been providing technology support services to its students, faculty and staff in a progressively advancing manner over the past decade, first housed under the Library as the Information Resources and Technology (IRT) Division, and most recently as separate division called Information Technology Services (ITS) under the leadership of a Chief Information Officer and Vice President. Although many technology services are provided to the campus community and supported from the ITS Division, each College has its own IT staff who provide technology support to students, faculty and staff in their local areas. In addition to providing desktop/laptop, printer and specialized software support services and lab support to Colleges, the local IT staff also maintain servers and data centers which house resources used by College constituents.

Challenge(s)

1. Each College makes its own decision to implement commodity software such as Anti-Malware and other desktop software that might not necessarily be compatible with other Campus systems
2. Duplicate and shadow IT systems as pointed out by the IT Consultants report in 2013
3. IT Staff in Colleges maintain servers that have sensitive data that might not be protected in a proper fashion (As cited by the Information Security Audit)
4. Computers and Servers in Colleges are not a part of the CSUSB active directory domain, making it impossible for the ITS Team to push updates and secure the machines from vulnerabilities
5. College IT staff normally work the day shift, leaving the evening support to the ITS Team. The handoff does not provide seamless support to students, faculty and staff in Colleges
6. Cost inefficiencies due to standalone purchase of products & services
7. Projects delayed due to workload of College Techs
8. Professional development and advancement opportunities for College IT staff are limited.

Alternatives

1. Continue to work with the Technology Advisory Group (TAG) team to standardize commodity software, hardware and systems, and on support initiatives

2. Appoint Managers of Information Technology Services in each of the Colleges (No increase in FTE) and have them report to the Deans with a dotted line reporting relationship to the Director of Distributed Technology Support Services.

Impact(s) if we do nothing:

1. Continue the level of services and support we offer to the Campus community with no real measure of impact to student success
2. Increase in costs of equipment and labor over time

Recommendation

I recommend that we appoint Managers of Information Technology Services in the College of Business & Public Administration, College of Social & Behavioral Sciences, College of Education, The College of Arts & Letters, The College of Natural Sciences and the Library, who will/continue report to the Deans/Associate Deans, with a dotted line reporting relationship to the Director of Distributed Technology Services.

Cost: $$ (One time or recurring): $96,000 + Benefits

Rationale
As the technology support and service needs of our Campus constituents continues to rise, we need the central ITS Team working with the local College support teams to foster and support innovation, improve operational efficiency and customer support, while reducing fixed operating expenditures, and supporting the academic mission of CSUSB. With the efficiencies, that ITS has already achieved through centralization of IT Support services in administrative divisions such as Admin & Finance, Student Services, and Academic Affairs, the University can build on this success and duplicate this model.

Assessment Plan and Key Performance Indicators (KPI):

1. Improved customer satisfaction measured by student, faculty and staff surveys
2. Standardization of commodity software and hardware across the University
3. Reduction in Information Technology Services budget

Appendix G - MAP - University Anti-Malware Solution Recommendation

Introduction

California State University currently has a variety of anti-virus solutions across the enterprise. Even though a majority of Colleges and Business Units, use Sophos as their anti-virus solution, there are other anti-virus solutions deployed across the decentralized organizational units across the University. There is a central console to monitor virus infections from machines that have Sophos, but no decentralized users with delegated access control.

Challenge(s):

- Lack of central visibility of virus and malware attacks across the University
- Timely signature updates to mitigate zero day vulnerability attacks
- Multiple licenses and costs incurred by different organizational units

Alternatives:

- Continue with the same license and deployment structure
- Standardize on the best of class anti-malware software across the University

Impact(s) if we do nothing:

Open organizational units and the University to virus/malware attacks and resulting vulnerabilities to University systems and data.

Recommendation:

- TAG Team to Conduct a thorough and compressive evaluation of anti-virus solutions in the marketplace
- Bring a recommendation to the IT Governance Sub Committee for Technology Operations & Customer Support
- Bring a Recommendation to IT Governance Executive Committee

Cost: $$ (One time or recurring): $40,000/$30,000

Rationale:

A standardized best of class anti-malware solution will help the University protect its systems and data in a timely fashion and allow the ITS Staff to focus on serving students, faculty and staff

Assessment Plan and Key Performance Indicators (KPI):

- Improved Zero Day Vulnerability detection and mitigation
- Proactive actions to prevent infections based on system trends

Appendix H - MAP – Powermat Wireless Charging Spots

Introduction

Usage of wireless devices on campus has increased significantly over the last several years and technology trend shows a drastic increase in mobile and "smart" devices connecting to the campus wireless network. Maintaining battery life on these devices becomes a challenge for users.

Details

Year-over-year increase of wireless devices connected to the campus network is approximately 16% (March 2014 vs March 2015). As of March 2015, 63.52% of the devices connected to the campus wireless network are "smart" devices (smartphone, tablets), a 22% increase over the same period last year. With more and more information moving onto digital and mobile-compatible platform, it becomes more critical that user devices are available anytime, anywhere.

Challenges(s)

There are limited charging stations on the San Bernardino and Palm Desert campus. Students and users often have to seek power outlets in order to charge their "smart" devices. While some electrical upgrades have been made to areas such as the Student Union lobby, there are still areas in campus such as the Library study spaces that significantly lack charging capabilities.

Alternatives

Campus units can install additional line-voltage (110V) electric outlets across campus to provide students more charging capacity. However it will be more costly to upgrade existing electrical infrastructure.

Impact(s) if we do noting

Student usage of electronic/mobile devices for education and social purposes may be hindered. As course materials, assignments and social engagements become more and more mobile-friendly,

Recommendation

- Pilot 25-50 wireless charging stations with Powermat across campus between Summer and Fall Quarters and provide Rings for check out – **Cost: $6,500-15,000**
- Assess usage and user feedback and expand pilot program to additional campus locations.
  a. 250-500 charging spots across campus – **Cost: $65,000-150,000**
  b. Partner with ASI to fund additional rollouts and to provide Rings for students
  c.

Assessment

1. Connected session and usage of charging spots
2. User engagement as measured by social media interaction
3. User feedback
4. Branding and image for the University

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Appendix I - MAP - Multi-Factor Authentication

Introduction

The current method of authenticating users for access to an applications is the traditional User-ID and password combination. This method has been found to be highly vulnerable to phishing attacks regardless of the password complexity, and as we expand to use cloud based applications, it becomes more difficult to detect when a User-ID/password combination has been compromised.

Many organization are providing mechanisms where an additional "factor" is required to verify authentication, that is, requiring something the user knows (User-ID/password) and something they have (mobile device, USB token, etc). The most popular and common of the additional "factors" has been the mobile device, which the majority of the users have.

The use of a muti-factor authentication (MFA) or one-time password (OTP) also mitigates some of the risks associated with users using the same password across many sites or services.

Challenge(s)

The most significant challenge on the deployment of one more "factor" for authentication is end user training and acceptance. Most of the technological challenges have been resolved facilitating its implementation and deployment.

Alternatives

There are no other viable alternatives to prevent the use of compromised credentials and at the same time allow users to access information from mobile devices. Any other alternatives for an additional factor, such as an external two-factor or biometrics, become more complex and present additional challenges to the end user.

Impact(s) if we do nothing:

If we do not address the inherent vulnerabilities in the current authentication approach, the impact could range from increasing liability and penalties to the university for the unauthorized disclosure of information to restricting employee's access to information significantly impacting services to faculty and students.

Recommendation:

Increase the current authentication mechanism (User-ID and password) for access to administrative systems containing sensitive information to a two factor authentication, where the second factor is the user's mobile device.

Cost: $$ (One time or recurring)

The cost of providing the Duo application as a service multi-factor authentication to all employees is $12,500, through an offering to members of the Incommon Consortium and Internet2.
This cost is an annual recurring cost.

Rationale

In response to the increasing number of phishing attacks, requirements to prevent unauthorized disclosure of sensitive information, and the use of many mobile devices to access information, it becomes necessary to change the authentication mechanism currently used to access university administrative systems. This proposal is to modify the current authentication method by adding one more factor for authentication.

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Assessment Plan and Key Performance Indicators (KPI):

Assessment Plan. The deployment for the use multi-factor authentication will be implemented for employees only and starting with selected application, before deploying for accessing all campus applications. End-user feedback on the adoption and acceptance of the solution will be collected through the use of anonymous surveys.

Key Performance Indicator:

- Increase access to university resources by extending the use of multi-factor authentication to campus applications
- Reduce the number of security incidents due to unauthorized access to university systems using user's compromised credentials

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Appendix J – MAP - Faculty Innovation Center Design and Renovation Project

Introduction

Academic Technologies and Innovation is a newly formed department in Information Technology Services, bringing together services such as instructional design, online program and course development, faculty training, smart classroom technologies, video and Web conferencing support, and accessible technology solutions. Instructional designers will join other ATI staff in the basement of Pfau Library (PL003/005). The current layout and space allocation is from the Audio-visual era of media services and is configured to serve analogue media needs of the past. Moving forward, ATI will be a front-facing ITS department with an expanded portfolio of services and ATI members will have increased interactions with their primarily faculty customers, but also with students, and staff on a daily basis.

Challenge(s)

- Current space design does not provide an inviting environment for customers (mostly faculty) seeking consultation, course development and design, and training assistance.
- Services provided to the campus community are not visible and difficult to navigate.
- When faculty members consult with Instructional designers and instructional technologists, they need to be able to have conversations without interference and/or disruptions.
- There is not a space where faculty dialogues and discussions are facilitated around technology integration and adoption topics.
- Different ATI services are not logically arranged in the current space design and will result in cross traffic in areas where customers are receiving service.

Alternatives

- Redesign the current space (PL003/005) and reassign staff work areas to provide for better flow of services and activities.
- Open up the front of the current space for faculty activities and interactions leading to increased visibility and promotion of ATI services.

- Provide private consultation spaces for faculty to work with designers and technologists.
- Create spaces for faculty project development and training
- Create spaces to promote faculty interest in emerging technologies and innovations in teaching.

Impact(s) if we do nothing:

- Ability for ATI to provide quality services will be impacted.
- Faculty will feel uncomfortable in seeking consultation services and open discussions where their conversations are not private.
- Traffic generated by different ATI services and activities will negatively impact one another
- Faculty members will feel discouraged in seeking ATI services
- Faculty will not have a space to experiment with and be exposed to the latest technology breakthroughs and trends.

Recommendation

Redesign the current ATI staff space to create a faculty innovation center and build ATI support staff work areas around it.

Value proposition:

Faculty Innovation Center is a place for faculty to engage in discussions with one another and to explore innovative ways to integrate technology solutions into classrooms as well as online teaching activities. It will augment and expand the Faculty Sandbox functionality with ATI support staff work areas built around it.

Rationale:

Faculty members need a space outside their actual teaching spaces and office environment to test their ideas on how to integrate and adopt emerging technologies. It is best if technologists and instructional designers who stay current with the newest trends and technologies are close by and can provide immediate assistance and consultation in this space.

Cost: $$ (One time or recurring)

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One-time: $355,000 - $375,000

- Renovation of the space and re-configurable furniture and environment
- Technology infrastructure to support: mobile, display, 3-D, virtual environments, augmented reality, gaming, video/Web conferencing and tele-presense, lecture capture, digital content creation and distribution

Recurring: $50,000/year

- Acquisition of emerging and promising software, hardware, and systems for innovation and experimentation by faculty

Assessment Plan and Key Performance Indicators (KPI)

- Increase in number of contacts/meetings between faculty and ATI staff
- Increase in faculty technology training participation
- Evidence of technology adoption and integration in classroom and online activities
- Variety of faculty engagement activities
    - Webinar hosting
    - Faculty showcase/presentations
    - Brownbag series
    - Vendor demo activities
    - Faculty summer institute on emerging technologies
- Increased ATI service level and customer satisfaction

Attachments

1. PL003/005 space configuration and design concept drawing
2. C.P.D.C. Architect blueprints and draft cost estimates
3. Furniture concepts and samples (to be provided)
4. Technology infrastructure (to be provided)

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Appendix K - MAP - Incubator Classroom and Active Learning Space Design Project

Introduction

Most classrooms on campus were designed and furnished for lecture-based pedagogy and content delivery methods. There is a strong movement in academia toward team-oriented, project-based active learning methods. Faculty on our campus are already embracing this movement and adopting activities to promote active learning. However, the physical layout and furnishing of the classrooms impose severe limitations. In order to explore alternative space design options, there is a need for an experimental classroom space that can be set up in different ways with flexible desks and chairs along with technology options to maximize the support for mobile, social, and online learning.

Challenge(s)

- Existing classrooms on campus do not provide a supporting environment for team-based active learning activities.
- Existing classroom furniture does not provide the flexibility to accommodate different layouts of the same space.
- Instructors do not have the time to rearrange classroom layout in existing classrooms.

Alternatives

- Create an incubator classroom space where ATI support staff can help an instructor to quickly re-configure the layout to support the active learning pedagogy implementation.

Impact(s) if we do nothing:

- Our efforts to promote and support innovations in teaching will be negatively impacted.
- CSUSB will fall behind peer institutions in learning space redesign efforts.

Recommendation

Designate PL015 as an incubator classroom and equip it with flexible furniture and technology solutions.

Value proposition:

The incubator classroom is a space where instructors can experiment with different learning space layouts and technology solutions that are not typically found in regular classrooms.

Rationale:

Faculty members need a space outside their actual teaching spaces and office environment to test their ideas on how to integrate and adopt emerging technologies in teaching. It is best if technologists and instructional designers who stay current with the newest trends and technologies are close by and can provide immediate assistance and consultation in this space.

Budget request (One time or recurring)

One-time: $85,000

1. Technology integration   - $40,000
    a. Up to 5 displays (combination of projector, LCD display and interactive board
    b. Audio enhancement
    c. Matrix switching
2. Flexible classroom furniture - $35,000
3. Physical improvements   - $10,000
    a. Power
    b. Data
    c. Painting and whiteboard
    d. Lighting

Recurring: $10,000/year

- Acquisition of emerging and promising software, hardware, and systems for innovation and experimentation by faculty

Assessment Plan and Key Performance Indicators (KPI)

- Number of courses taught in the incubator classroom
- Increase in active learning activities made possible in the space
- Evidence of technology adoption and integration in classroom
- Student feedback (by survey/course evaluation)
- Increased ATI service level and customer satisfaction

Attachments

5. PL015 space configuration and design concept drawing
6. Vendor estimates for furniture with details

Appendix L – MAP - ATI SMART Classroom Upgrade Project

Introduction
Academic Technologies and Innovation is responsible for more than 220 SMART classrooms at CSUSB. SMART classrooms are technology-enhanced classrooms that integrate a variety of technology tools that can enhance the teaching and learning experience. The primary objective of ATI staff is to provide technical support, maintenance, upgrade existing hardware/software and signal infrastructure of classroom technology. This proposal is an ongoing request to refresh SMART classroom technology older than 5+ years and upgrade the cabling infrastructure to support digital projection (new media devices are using digital connectivity like DVI and HDMI, replacing the analog display connectivity like VGA). A standard refresh classroom: New computer and monitor, AV control system, projection system, new cabling infrastructure, switching system, and other audio/visual accessories.

Challenge(s):
Determining the priority of buildings/rooms that require new technology.
Determining the technology needs to support effective learning.
Standardizing of technology within classrooms.
Incorporating new technology into existing technologies.

Alternatives:
Prolong the life of current technologies: Increase memory to existing computers. Continue to use older AV control systems for switching of media. Using older AV control systems will limit the number of devices to four, whereas new AV controls provide more flexibility in the number of devices to be switched.

Impact(s) if we do nothing:
Frequency of hardware failure will increase as equipment ages.
End user (faculty and student) complaints will increase of slowness of hardware failure.
End user complaints will increase that the technology in the classroom is not able to support digital display (HDMI) from portable devices.

Recommendation:
ATI is recommending a number of buildings with SMART classrooms to be upgraded with new technology. As noted below, the equipment in these buildings have not been refreshed in over 5+ years. The upgrades will consist of complete system upgrade (support digital projection) to upgrading just the computer in the SMART classrooms (see attached for details). Buildings:

 LOCATION (# of Rooms)NOTES
Indian Wells @PDC (10)Original installation 2005
Chemical Sciences (9)Original installation 2006
Biological Sciences (13)Original installation 2007
Physical Sciences (15)Upgraded in 2008
Social & Behavioral Sciences (10)Upgraded in 2008
Pfau Library (11)various dates from 2006-2011

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University Hall (23)Phased upgraded 2013/14.

Cost: $$ (One time or recurring)
The total cost for the SMART Classroom Refresh Project is estimated at $373,250.00(see attached). The SMART Classroom Refresh Project will be a recurring request. Future requests will be required to support other SMART classrooms, both at CSUSB and PDC, with aging equipment and outdated cabling infrastructure.

Rationale
Faculty members require the latest technology tools available to support effective teaching and learning. The proliferation of digital content, whether it is TV broadcast, DVD or Blu-ray, requires the media devices to display in a higher resolution. The current SMART classrooms use analog signal, therefore, the classrooms will require upgrading to support digital signal to meet the demand of digital content.

Assessment Plan and Key Performance Indicators (KPI)
Feedback from faculty on the technology upgrades in the classroom. This will include the number of service calls issued to the refresh classrooms. Survey faculty on SMART classroom technologies. Work with the Academic Technology and Innovation committee on ways to assess classroom technologies.

Appendix M - MAP - ITS Division Workstation Refresh

Introduction
The Information Technology Services division computer workstations, most of which are HP Z210s purchased in the 2010-2011 fiscal year, have reached their 4-year-old mark. ITS' goal is to provide and support a 4-year computer workstation lifecycle not only within the division, but eventually campus-wide as well. What is key during a refresh project is non-disruptiveness and controlling the impact on Users, Network & Bandwidth, IT resources and Data integrity.

An initial workstation inventory is performed by the Technology Support Center, in coordination with ITS department technicians and ITS department management. Each machine is assigned to a refresh cycle based on campus computing demands, age of existing equipment and compatibility with current operating systems. Departments maintain the ultimate responsibility of determining where new machines are to be deployed. Machines requested in addition to initial inventory are granted only with department manager and ITS management approval. Priority is given to staff machines which are out of compliance with information security standards.

Challenges
Extensive planning/coordination to determine the number of total new computers needed.

- Physical Space Constraints in storing the new computers while they wait to be deployed.
- Data Migration Risks are inherent with implementing a hardware refresh of this magnitude.
- Avoiding User Downtime is imperative. There are tools that will be used to minimize the downtime.

Alternatives
Leasing new workstations. This option can be used if there are limited funds available for a full purchase,

- Maintaining old workstations and operating systems,
- Network integration of several different versions of operating systems,
- Driver incompatibilities between systems and
- Maintenance costs including parts, staff repair time and end-user down time.

Impact if we do nothing
Support and Maintenance Costs increase over time.

- Negative Impact on Productivity by end-users who have to wait for computers to be repaired.

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- Securing Data Integrity on older computers becomes more difficult as hard drives fail over time.
- Inflated Power Costs are associated with older PCs because they are not utilizing the latest energy tools.

Recommendation

The Technology Support Center is recommending that the ITS division replace all staff workstations with the current computer standard provided by Dell corporation. We are also recommending purchasing 10 replacement workstations for the SAIL program. They are currently supported by the TSC but have no budget for computer replacements. As mentioned earlier, most of the computers in ITS are 4-years-old now, but some are even older. When calculating the appropriate refresh cycle, we need to determine at which point does it become cheaper to replace a PC as opposed to running & maintaining an old one. The TSC is spending increasing amounts of time servicing these older PCs. We are also recommending purchasing the best Dell 9020's with 16Gb of RAM and a 256Gb solid state drive. With both personal and department documents moving to a cloud-based storage solution, large local drives are no longer needed.

Cost (one-time or recurring)

With approx. 120 workstations needing replacement, at a cost of approx.. $995 per computer, the total cost is estimated at $119,400.

Rationale

To determine when it's time to perform a hardware refresh, a Total Cost of Ownership (TCO) assessment needs to be performed. There are several costs involved in a TCO assessment: PC acquisition, PC deployment, software and patch deployment, Support Center costs, increased desktop support costs, out-of-warranty repairs, additional upgrades and disposal costs. By purchasing these new computers, ITS will be able to better manage its computing resources and will have more productive employees.

Assessment Plan and Key Performance Indicators (KPI)

Understanding of true cost for replacement and ongoing maintenance of computing devices

- Increase in employee production
- Fewer calls and emails to the Support Center

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Appendix N - MAP - Secure Mobile Device Charging Stations

Introduction

With nearly all campus community members now bringing mobile devices on to the campus, we have a need to provide them with secure charging stations that will allow them to lock up their devices while they charge them. This will allow the faculty, staff and students to go to other areas of the library/college/campus and come back to a fully charged phone/device. These can be mounted to tabletops and/or walls.

By inspiring and supporting innovative uses of new technologies, ITS can become the leading visionary division on campus. These secured mobile device charging stations are state-of-the-art tools that will assist faculty, students and staff.

Challenges

- Campus community members are on campus numerous hours a day, leaving them with dead mobile devices.
- With so many mobile devices on the market, it is difficult to supply charging venues for them all.
- Non-secured charging stations are a prime candidate for theft and damage by other students.

Alternatives

- Provide nothing and leave the campus community to their own devices.
- Provide non-secured stations and risk theft liability suits.

Impact if we do nothing

- Community members are left with dead phones and tablets.
- ITS does not meet this important campus need and is not seen as an innovator.

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Recommendation

The Technology Support Center recommends purchasing multiple secure charging stations to be placed in every large building across campus, including the Palm Desert Campus. This will lead to a total of 20 secured charging stations campus-wide.

Cost (one-time or recurring)

These stations run from $1,000 to $2,000, depending on the type of structure. We are recommending purchasing the $2,000 models as they provide additional types of charging options (including phones, iPads, tablets and laptops). I'm still working on the pricing, but with 20 stations, this one-time cost is estimated at $40,000.

Rationale

While this is a one-time cost, the benefits to the campus community are many. These stations will allow ITS to provide world-class customer service.

Assessment Plan and Key Performance Indicators (KPI)

We must assess and coordinate the distribution and setup of these stations with college technicians and Facilities Services for deployment and securing them to the ground or to a wall. We plan on using surveys and on-site observation to monitor the use of these stations.

Atlas from goCharge

This free-standing kiosk is a new addition to the goCharge fleet, and has quickly become one of our more popular units for both purchases and rentals. It's a sleek, versatile kiosk, complete with ten (10) lockers (8 for phones and 2 for tablets). The easy-to-use lockers provide a safe and secure environment for your device while it's charging. The 5' tall Atlas looks beautiful wrapped in branding and comes with an optional 28" HD television which sits atop the kiosk. Four lockable casters on the bottom of the unit make this 150 lb. kiosk easy to move.

Appendix O - MAP - ACBI - Consulting Services to support new applications in PeopleSoft

Introduction:
There are many applications that have been requested from ACBI. I would recommend that we contract some of the work to a 3rd party consultant. The first task we could have them work on is the GradesFirst project. Additional projects could be the PeopleSoft Grades import project. The ACBI Team will oversee all work performed by the consultant.

Details:
See attachments.

Challenges(s):
The user is requesting a quicker deadline than we can accommodate with our current staff.

Alternatives
Without consulting services, there will be delays in implementing new projects. Wait for ACBI to hire additional PeopleSoft Analyst/Programmer.

Impact(s) if we do noting
Delay in implementing new PeopleSoft projects.   Nigel was involved in our HCM/SA implementation is very familiar with our campus needs.

Recommendation:
Hire Nigel Ho, special consultant for 200 hours @ $100 an hour – **Cost: $20,000 and an additional $2,000 for travel costs if needed. Timeline would be from February 2015 through December 2015 or until funds are exhausted.**

Total Cost: $22,000 on time cost.

Appendix P - MAP - Night-time Help Desk Outsourcing

Introduction

CSUSB has been providing a 24x7 help desk since 2007. While the campus is one of the very few CSU campuses that provide a 24x7 help desk, there is a growing gap between the level of support CSUSB provides, compared to what is needed due to the growing demand of online and hybrid learning.

Blackboard Student Services is an outsourced help desk solution under a Master Enabling Agreement (MEA) through the CSU Chancellor's Office. It provides support for their Blackboard Learning Management System (LMS), along with over 100 different applications and technologies associated to online learning experience, such as Microsoft Office, Google Apps, browsers, and VPN. The Student Services solution also offers self-service support, as well as personalized experience by tracking user's past requests. In addition to an increased level of services, significant savings can be realized with this outsourced after-hour solution.

Details

Based on data from January to August 2014, less than 5% of the monthly call volume to the Technology Support Center occurs during the night hours, defined as Monday through Friday 10pm to 7am and Saturday and Sunday 7pm to 7am.

Month	Total Monthly Calls*	% Night Calls Per Month	Avg. Night Calls Per Week
January 2014	64 (1,754)	3.65%	16
February 2014	68 (1,479)	4.60%	17
March 2014	64 (1,285)	4.98%	16
April 2014	148 (4,859)	3.00%	29.6
May 2014	45 (1,122)	4.01%	11.25
June 2014	54 (1,567)	3.45%	13.5
July 2014	60 (1,172)	5.12%	12
August 2014	60 (805)	7.45%	15
Average:		**4.53%**	**16.29**

*Night & Weekend calls out of the monthly call volume

Two Operating Specialists support the Technology Support Center night shifts. The operating cost, including benefits is as follow:

Operating Specialist	Shift	Annual salary with benefits
Night (Weekday)	Mon-Fri 10pm-7am	$71,074
Night (Weekend)	Sat, Sun 7pm-7am	$62,610
Total:		**$133,684**

Challenges(s)

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1. Current night and weekend staff provide only basic level-one support, such as password reset, and issue escalation.
2. Increasing "on-demand" support needs for advanced issues, particularly for online programs, that the campus is not able to meet after-hours.
3. Staff retirement and attrition within the Technology Support Center created voids to staffing needs.

Alternatives

1. Continue to staff the Technology Support Center on a 24x7 basis by providing only level-one support to the campus.
2. Gradually reduce support for the Technology Support Center to 7am-10pm Monday through Friday, and 7am-7pm Saturday and Sunday when staff attrition occurs.

Impact(s) if we do noting
CSUSB can continue to operate under the current operation model. However, with limited skills and knowledge on more advanced systems during off-hours, the Technology Support Center can only provide level-one support, often leaving issues pending until level-two and level-three technicians return during normal business hours.

As the campus continue to grow and the demand for more advanced online- and hybrid-courses increases, there is an increasing demand to provide "anytime, anywhere" support to faculty and students to ensure academic excellence.

Recommendation

- Pilot Blackboard Student Services during after-hours, covering Mon-Fri 10pm-7am, and Sat/Sun 7pm-7am shifts. Current personnel covering the nighttime shifts can be resigned to provide level-one support to the Technology Support Center during normal business hours.
  Cost: $99,641 annually plus $10,750 one-time cost*
  (Minimum savings to campus: $23,293 annually)

	Year 1	Year 2	Year 3
Blackboard Student Services*	$110,391	$99,641	$99,641
In-house**	$133,684	$136,357	$139,085
Savings	**$23,293**	**$36,717**	**$39,444**

  * Blackboard proposal assumes nighttime support as 7am-7pm daily. CSUSB's nighttime support is considered to be 10pm-7am Mon-Fri, and 7pm-7am Sat/Sun. Potential saving is greater.
  ** Assuming 2% increase in salary and benefit for year 2 and 3.

- Assess key performance indicators over a 12-month period and provide stakeholders (President Cabinet, IT Governance, Faculty Senate) a report on further recommendations or future expansion of the program.

Appendix Q - MAP - Cisco Unified Communications Manager (VoIP) Upgrade Project

Introduction

Cisco Unified Communication Manager is the campus' Voice over IP (VoIP) telephony platform composed of multiple applications such as Communications Manager (CallManager) calling platform, Unified Contact Center Express (UCCX) call routing system, and Unity Connection voicemail system. There are currently 3,750 campus telephones that run on this critical platform.

Challenge(s):

- The campus' Voice over IP (VoIP) telephony system is aging. The system, put in place in 2007, is over 7 years old and does not have many of the features to unify communications.
- The two campus' calling systems run on separate platforms, and are not standardized or unified, which is difficult to maintain.
- There is no failover between the two campuses VoIP telephony systems.

Alternatives:

- Migrate to a fully cloud-based VoIP platform.
- Leave existing VoIP platform with the risk of failing hardware and no failover in the event of a failure.

Impact(s) if we do nothing:

- The campus could be faced with major down time for a critical system, impacting campus communications and safety.
- New features such as voicemail-to-email, softphones, and unified communication cannot be run on the current system.

Recommendation:

Upgrade and standardize the existing hardware for the VoIP telephony system to virtualized hardware, which will allow the two campus' system to be managed jointly and also serve as failover to provide redundancy for this highly critical system. Through a 3-year Enterprise Licensing Agreement (ELA), it will provide campus regular updates and upgrades to the system. Funds will be allocated from IT Services trust funds.

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Rationale:

IT Service also analyzed the cost of migrating to a fully cloud-based VoIP solution and have reached out to cloud-based VoIP vendors such as 8x8, Inc. for pricing information. Based on the quoted price, the cost to move to a fully cloud-based VoIP solution is approximately 328% of the cost to maintain a in-house system. In addition significant hardware cost and staff time to upgrade all campus phones to meet the cloud-based VoIP solution standard makes it infeasible.

Pricing Plan	List Price	Volume Price`
Metered Plan - Unlimited internal calls - 250 minutes in/outgoing calls to US, Canada - 2.9 cents thereafter plus LD tolls	$15/line/month	**$10/line/month** **$120/line/year**
Unlimited Plan - Unlimited internal and in/out calls to US, Canada - Unlimited LD to 8 other countries - LD rates apply to other countries	$39/ line/month	**$20/line/month** **$240/line/year**
Global Extension - Unlimited internal and in/out calls to US, Canada - Unlimited LD to 40 countries - LD rates apply to other countries	$69/line/month	**$40-45/line/month** **$480-540/line/year**

Based on the number of current active phone lines on campus, the annual cost for a cloud-based VoIP system will cost the campus over $1M per year. The amortized annual expenditure with the proposed recommendation is approximately $313k.

Usage Type	Number of Lines	Usage Plan	Volume Price
Classroom/Lab/Courtesy Phones	475 (approx.)	Metered Plan	$57,000/year
Average Users	2,500	Unlimited Plan	$600,000/year
High Usage Users	775		$372,000-418,500/year
Total	**3,750**		**$1,029,000-$1,074,500/year**

Assessment Plan and Key Performance Indicators (KPI)

- Consistencies on system upgrade and maintenance
- Ability to failover during system outage
- Features available to end users

Key Stakeholders

- CSUSB Faculty, Staff and Students
- Department UCCX auto attendant users

Project Team

- Gerard Au, AVP of Technology Operations and Customer Support (Executive Sponsor)
- Felix Zuniga, Director, Project Management and Assessment, CSUSB
- Stephanie Ross, Telecom Systems Analyst, CSUSB (Project Lead)
- Darin Pain, Equipment Systems Analyst, CSUSB
- David Vasilia, Network Analyst, CSUSB
- Patricia Weyand, Assistant Director for Technology, PDC
- Earl Wilson, Network Analyst, PDC
- Malissa Arballo, Project Manager, SIGMAnet
- Tim Femister, Sales Engineer, SIGMAnet
- Peter Yu, Sr. Principal UC Engineer, SIGMAnet
- Eric Cisneros, Tier 2 UC Engineer, SIGMAnet
- Zeina Ammar, Account Manager, SIGMAnet
- Stephen Monteros, VP of Operations, SIGMAnet
- Beau Kinsey, Director of Engineering, SIGMAnet
- Stan North, Sr. PMO Manager, SIGMAnet

Key Milestones

February – March, 2014	Assessment and cost benefit analysis
March 18 – May 29, 2014	Bill of materials and bidding process
June 16, 2014	Contract awarded and PO issued by CSUSB Purchasing
August 25, 2014	Project kick off
September 18, 2014	Project plan finalized
October 20-21, 2014	Voice gateway upgrade
October 27 – November 12, 2014	Onsite and remote installation and implementation
October 29, 2014	Informacast system upgrade
November 3-7, 2014	Voicemail system (Unity), Emergency Responder (CER), Unified Contact Center (UCCX) data migration
November 8, 2014	Call Manager cut-over
November 9, 2014	Unity voicemail cut-over

November 10, 2014	Documentation and user guide development
November 12, 2014	Project close-out and training

Impact to users

Date	System Changes	Impact	Status
October 20-21, 2014 (after 5pm)	Upgrade voice gateway and router memory and firmware	Campus analog phone lines may be temporarily unavailable. **Impact: Minimal**	Completed
October 27 – November 9, 2014	System freeze dates due to data migration to new system.	No system changes to Call Manager, Voicemail system (Unity), Emergency Responder (CER), Unified Contact Center (UCCX). **Impact: Minimal**	Completed
October 29, 2014	Informacast upgrade	Campus VoIP emergency notification system Informacast will be unavailable for a system upgrade. **Impact: No impact to end users**	Completed
November 8, 2014	Call Manager cut-over	Campus phones will be unavailable momentarily when phone reboots and receive new updates. **Impact: Minimal-Moderate**	Completed

| November 9, 2014 | Unity voicemail cut-over | Campus voicemail system may be unavailable when user data is migrated.

Impact: Minimal-Moderate | |

Project Detail

February 20, 2014	Initial discussion	CSUSB IT Services Cisco System
March 2014	Cost benefit analysis	CSUSB IT Services
March 2014	Develop bill of materials	CSUSB IT Services Cisco System
March 18, 2014	Prepare bid documents Request for bid	CSUSB IT Services CSUSB Purchasing
May 29, 2014	Project bidding ends. CSUSB Purchasing to review all bids	CSUSB Purchasing
May - June 2014	Internal budget request and funding	CSUSB IT Services CSUSB Budgeting Office
June 16, 2014	Contract awarded	CSUSB Purchasing
August 2014	Project pre-discovery Delivery of materials	SIGMAnet
August 25, 2014	Project kick-off meeting Statement of work review	SIGMAnet CSUSB IT Services
September 2, 2014	Pre-planning and schedule review	SIGMAnet CSUSB IT Services
September 3, 2014	Approve planning forms	SIGMAnet CSUSB IT Services
September 15, 2014	Discovery, access, and design review On-site walk through	SIGMAnet CSUSB IT Services

September 18, 2014	Final review of project plan	SIGMAnet CSUSB IT Services
October 8, 2014	Upgrade telephone firmware	CSUSB IT Services
October 20-21, 2014	Voice gateway upgrade	SIGMAnet CSUSB IT Services
October 27-31, 2014	UCS Server installation CallManager and Unity configuration UCS set up	SIGMAnet
October 29, 2014	Informacast Upgrade	SIGMAnet CSUSB IT Services
November 3-7, 2014	Call Manager, UCCX, Unity data migration Handset and SIP phone testing	SIGMAnet
November 8, 2014	Call Manager cut-over	SIGMAnet CSUSB IT Services
November 9, 2014	Unity voice mail cut-over	SIGMAnet CSUSB IT Services
November 10, 2014	Day 1 support, documentation and user guide development	SIGMAnet CSUSB IT Services
November 12, 2014	Project close out and training	SIGMAnet CSUSB IT Services

Appendix R - MAP - Digital Signage Migration

Introduction

Digital signage is much more than just an electronic version of posters or billboards. When deployed properly, it uses content — from virtually any source — to connect to a wide variety of dynamic displays for a highly impactful, interactive communications experience. Digital signage can inform and influence passersby, promote and explain upcoming events and provide directions to anywhere on campus, while also bringing cohesion, a similar look and feel, to better promote the universities brand.

Challenge(s)

CSUSB has over 53 monitors currently in use throughout campus, each of which is currently managed independently through the use of a variety of different types of software/hardware. Gaining buy-in and support throughout campus, is anticipated to be a challenge. Additionally, executing this type of migration will require constant coordination and collaboration with several colleges and departments throughout campus. In any case, the chosen solution will be integrated throughout the university, thus streamlining the way the university communicates via its digital signage displays. In the end, allowing CSUSB to migrate seamlessly throughout campus, will call for the deployment of a new integrated solution and migration of existing services with minimum impact to campus users once executed.

Alternatives :

Possible alternatives are the following:
- Do nothing
- Research other alternatives in migrating digital signage throughout campus

Impact(s) if we do nothing:

CSUSB will need to make significant ongoing investments throughout campus in regards to acquiring new integrated hardware/software that will bring some much needed structure campus wide and will further contribute towards the universities absence of any cohesion toward its digital signage efforts. Although each department and collage will continue to operate and manage their digital signage independently, there will be no way to communicate or utilize their displays in the unfortunate case of an emergency. Further impacts are as follows:
- Continued to incur the cost of software licensing, hardware maintenance and personnel costs, at the college and/or department level.
- Relying on existing technology such as, Blackboard Connect for voice calls and SMS; the use of Informacast, to broadcast voice messages to VoIP devices such as desk phones, to inform campus community of any campus related warnings/emergencies.

Recommendation:
Over the past couple months, a Digital Signage Steering Committee (DSSC) was formed, has been met with prospective solution providers/vendors, evaluated them, worked collaboratively with each other and has submitted its recommendation to Dr. Sudhakar. It is the recommendation of the DSSC to implement a digital signage strategy that enables each department to effectively inform and connect with existing students, faculty, staff and visitors to CSUSB, through all mediums, in a better, more effective way. Below are some added benefits in do so:

- **Value:** Students, Faculty, Staff and Visitors will be informed effectively, more clearly while on campus (with the opportunity to expand and enhance the experience through the use of Touch Screen implementation technologies, Way Finding, QR codes, RSS feeds, LIVE Video Feeds, etc.)
- **Value:** From an internal marketing perspective, implementing this solution will bring cohesion to the look and feel of each monitor on campus throughout the universities 53 different locations – currently each is managed independently and can varies in look. (lacking standardization)
- **Value:** Be able to administer through our network, WARNINGS/EMERGENCIES through the use of one integrated system and/or solution. (Campus Safety)

Cost: $$ (One time or recurring):
Cost below ultimately depends greatly on what vendor is chosen. Each vendor (and their solution) has a different price structure and/or offers different price packages. Each option varies in price.

- One-time cost - Software and Licensing: Varies between vendors; from $19,555.00 – $41,130.00
- Annual Ongoing/recurring cost: Varies between vendors; from $10,000.00/yr - $27,000.00/yr
- Optional Cost - Professional services and training: Varies between vendors; $4,000.00/yr to $9,000.00/yr
- Optional Cost - Maintenance: Varies between vendors; on average 18% of software cost

Rationale:
By streamlining CSUSB's digital signage efforts, students, faculty, staff and visitors will have enhanced information accessibility at all times, promote organized collaboration and secure content through all departments utilizing digital signage. These functions are essential, as CSUSB seeks to improve the universities brand, its efficiency, share knowledge/information and reduce risk and liability.

Assessment Plan and Key Performance Indicators (KPI):

Implementing this plan, will improved efficiency and awareness, as measured by end user satisfaction and experience. Help build brand cohesion throughout the university, reach campus community in an emergency situation and potentially reduce costs – budget impacts.

Appendix S - MAP - Splunk Syslog Receiver

Introduction

Splunk is a syslog receiver and report generator. It enables us to consolidate our logs and search through them and catch network issues that otherwise would be unnoticeable.

Details

For the past several years, TNS have been using a free version that allows for 500MB/day of flows. Using a trial license, we were already able to find several devices that were generating huge amounts of logs that had previously been invisible.

Challenges(s)

With the addition of Clearpass to the environment, we are unable to add that to the free version of Splunk as Clearpass generates far more than 500MB per day of traffic (upwards of 3.5GB). With the Splunk Enterprise license and a 5GB/Day license, we would be able to add Clearpass to the log system and we can generate valuable alerts and reporting that are not available on the free version.

While we have other programs that receive the logs from devices (OmniVista for Alcatel devices, Clearpass and Airwave for the Aruba devices), they fall short on the diagnostic side. They are great for looking for a specific user/port/issue, but they cannot alert or report based on more complex needs. Splunk is able to pull in the logs and manipulate them to give us a clearer picture of what is going on, before we get alarms and/or complaints from users.

Alternatives

The Security Office is creating a syslog server using other tools. However, they have been working on this for several years and still have not achieved a running system. Their system in development is also primarily used to monitor other systems on campus, rather than a production network environment.

Impact(s) if we do noting

The current trial license will expire and we will fall back to the free version, hence we will not be able to monitor logs from Clearpass. It will continue to work well for network devices, but without the alerting and reporting features. Clearpass has reporting and logging built into the system, but does not have the capability to take multiple logs and combine them. Such as the alert we created for if any machine has multiple authentication issues within a certain time frame.

Recommendation:

Purchase the 5GB/day Enterprise perpetual license. We can go down to a lower GB/day amount, but it is cheaper the larger the number and we know we will hit 3.5GB, and we may send more logs to the box from other devices.

Cost: $13,875.00 one time. Annual support renewal is $3,000.

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Appendix T - MAP - vSphere ESXi (C2 Cluster) Host Replacement

Introduction
The current CSUSB Data Center vSphere environment hosts more than 200 VMs. The underlying hosts operate in two clusters, C1 (Production/Dev) and C2 (Level 1 Data).

Details
The C2 cluster is operated by older generation of Intel based IBM servers. The existing hardware has reached the end of service life and is no longer supported by IBM and VMware. The Data Center team proposes to replace current hardware with new Dell servers.

Challenges(s)
The C2 hosts are increasingly prone to hardware failures, leading to reduced up-time for the vSphere environment. Between September 2014 and January 2015, we have experienced three instances of host failures. While high-availability systems were rebooted onto other hosts resulting in minimal down time, the last incident lead to significant loss of productivity for a development OnBase system.

- October 26, 2014. C2-ESX2 failure, resulting in approx. VMs rebooting onto other hosts.
- November 10, 2014. C2-EXS2 failure, resulting in 20 VMs rebooting onto other hosts.
- January 10, 2014. C2-ESX3 failure, resulting lost of productivity (4 days) for OnBase.

Alternatives
ITS can replace the hardware with the option to choose between the Intel and AMD line of hosts. While AMD hosts usually come at a lower price point, it is uncertain if there are compatibility issues to specific virtual machines. In order to provide a seamless migration of VMs, we recommend selecting an Intel based platform.

Impact(s) if we do noting
The C2 cluster hosts critical virtual machines for various departments across campus. In order to provide world-class customer service to our clients, we need to maintain a very high uptime in the vSphere environment. By continuing to use the existing hardware, we will seriously compromise our uptime and put the Data Center in violation of our SLAs with various campus departments.

Recommendation
Replace the current C2 hosts with three Dell R820 hosts – **Cost: $53,000**

Additionally, install two Dell R820 hosts at Palm Desert Campus for replicating the DC vSphere environment. This would provide the campus with additional disaster recovery/business continuity capabilities for on premises virtual servers – **Cost: $62,000 additional**

Dell R820 Server for PDC Hosts	$35,000
ESXi License	$20,000
SRM License	$ 7,000

Appendix U - MAP - Aruba RFProtect Add-On

Introduction

Aruba RFProtect is an add-on license for the Aruba Controllers. It enables the controller to do advanced Wireless Intrusion Protection and Spectrum Analysis functions. RFProtect uses the APs themselves to monitor the airwaves and adjust frequencies as needed to avoid congestion and protect the system from interfering devices.

Details

The Aruba RFProtect add-on protects the wireless network from Intrusive attacks whether purposeful or incidental, and will also enable "tarpitting" which locks rogue and ad-hoc devices off of the network, prohibiting our clients from connecting to them. With the current trial license, it has proven that users in the resident halls have greater success in connecting wirelessly.

Challenges(s)

With increased demand for broader wireless coverage on campus, we need a valid method of determining the cause of wireless connectivity issues. Many of the issues that users are experiencing are related to congestion of the wireless spectrum. This gives us a tool to help pin-point trouble spots so we can work around them. It also automates "rogue tarpitting" so a bad device can be shut down immediately, without having to manually run a report and to intervene.

Alternatives

The controllers have a manual process for us to drop off rogues devices, but it uses "deauth packets" rather than "tarpitting." The difference is that the deauth packets drop the client from the rogue device while tarpitting prevents the rogue from being an AP completely. We currently have no alternative to spectrum analysis and would have to purchase a separate system, which is upwards of $40k.

Impact(s) if we do noting

We will continue to do our best with the existing tools. As the wireless becomes more important and pervasive, it becomes more and more difficult to do this job manually. Currently, we do not have visibility into the spectrums themselves to be able to determine interference from non-802.11 devices.

Recommendation

Purchase 768 RFProtect licenses (a 512-AP and a 256-AP license). We currently have 699 APs, so a 768 license will allow us to have 69 spare licenses for growth. We currently have about 100 physical APs as spare and will be deployed gradually in areas that need to be "filled-in."

Cost: $16,879.90 one-time (512-license pack $10,802.90 plus 256-license pack $6,077). Annual maintenance will be $2,290.00/year.

Appendix V - MAP - Aruba Clearpass 25k Upgrade

Introduction

Aruba Clearpass serves as the authentication portal for campus wireless and authenticated wired connections. Currently, we have two 5k appliances that were purchased last year, which meets the average day authentication load for campus. However, there are challenges during peek periods.

Details

The campus, as well as several other CSU campuses experienced significant impacts on certain days of the year (first day of quarters, finals week, etc) that drove the 5k appliances beyond their limits. Aruba techs recommended that we upgrade to the 25k box to handle these abnormal peak times. As wireless usage continues to grow on campus, there will be an increasing need to maintain reliable connectivity.

Challenges(s)

As we deploy the extra 100+ Access Points that the CO gave us, more people will be in wireless range than ever before. This is the number one reason for needing the extra computing power in Clearpass. We had not anticipated receiving so many extra Access Points from the CO, allowing us to place wireless coverage in areas that had not had it previously. In addition, number of wireless devices connected to our wireless network is increasing exponentially.

Alternatives

Remove the exiting 25k box and rely on the 5k boxes to keep us running.

Impact(s) if we do noting

The 25k appliance we have now is a loaner and will need to be returned to vendor if we do not intend on purchasing. We will then run on two 5k appliances, which will be fine for normal operations during the year. However, there is a very real possibility that services will be affected during peak times and users will not be able to log into the wireless network in a timely manner. Users on eduroam should be impacted less, however, Captive Portal users (CSUSB-ACCESS) will experience more significant impacts.

Recommendation

Migrate to two 25k boxes. While there may not be an immediate need for the middle-of-the-quarter usage, we anticipate significant increase of wireless usage year-after-year. Aruba has worked with the CO to establish significant discount and trade-in of the 5k appliances, which equates to approximately a 55% discount. An investment in the larger appliance now will allow us to take advantage of the discount and to prepare for the increased wireless coverage and usage.

Cost: $58,500 one-time. Annual support maintenance will be $10,500.

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Appendix W - MAP - Data Center UPS Project

Introduction

Find a solution for the successful replacement of the obsolescent uninterruptible power supply (UPS) that has been serving the CSUSB's Data Center for over 20 years. The UPS supplies clean power for the university's central computing systems and provides limited back up power to the data center in an event of a power outage. Replacing components of the UPS and the monitoring of this system's health has become a counter-productive task that is placing many vital computer systems at risk of being affected by loss of power, in the event that the UPS system should fail.

Challenge(s):

- The electrical engineer indicated that the UPS replacement could render the Data Center without electrical power for several hours.
- A shut down or loss of power would result in unacceptable downtimes for a wide range of essential systems provided to the university at large.
- Creating a direct electrical bypass to the backup generators in case the UPS system needs maintenance or to be replaced in the future.

Alternatives:

- Remove all important and vital computer systems from the CSUSB Data Center and relocate to other locations with adequate resources. This would require a monumental task of having to do re-architecting of many computer systems, including but not limited to network segments, firewalls, distributed databases, and the Virtual Environment that hosts over 200 virtual servers.
- Replace the UPS system.
- Leave existing UPS components with the risk of no back-up in the event of a major power failure.

Impact(s) if we do nothing:

- Without the replacement of the UPS, the task of properly securing power to the university's central data center will continue to place many critical systems at risk.
- The monitoring of the UPS system has become a major challenge with a reduction of staff and service hours in the Data Center.

Recommendation:

Replacement of the UPS system with a built-in by-pass system going directly to the power generator:

- An electrical engineer will need to be engaged to properly design the replacement as well

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as to design an external service bypass for the UPS and place 2 A/C units on the emergency generator as requested.

- The engineer will need to ensure that everything is designed per code and that the University's system needs in the data center are properly accounted for in the new power plan design.
- Engineers, electricians and the IT Services team will work to develop a plan and procedures for minimizing power loss to the systems in the Data Center during the UPS replacement.
- Facilitate exercises to expose potential gaps.
- Aid in the development of strategies to strengthen recovery plans and systems resiliency.
- ITS staff should collaborate with partners to conduct multiple briefings regarding the UPS migration process and how it will affect the occupants of the Data Center.
- An information campaign will be created that included information on what to expect before and during and all phases of the project.
- Status updates will be posted on the internal campus network and will also be available on-site.
- Written Incident action plans will be created and utilized during periods of increased risk.
- These plans will include organizational roles and responsibilities.
- Proven incident management practices will be demonstrated and evaluated during the planned event.
- Existing plans and procedures will be reviewed, tested, and revised.

The replacement of the UPS would require several key steps with inherent risks:

- CSUSB Facilities Services will select the winning bid from the State's procurement process and awards the contract.
- The contractor will need to return signed contracts to the University along with proof of insurance and bonding information back to CSUSB Facilities Services.
- Once contracts are in place, a planning meeting between IT Services essential staff, the electrical engineer, and contractor to lay out the plan and schedule for construction.
- An implementation plan detailing requirements and policies we need the contractor to follow is to be developed in conjunction with the contractor.
- The contractor will submit shop drawings and the type of UPS they are ordering and installing. The electrical engineer and Facilities project manager will review and approve based on requirements established during project design.
- The approved UPS will be ordered and any prep work will be planned and executed.
- The external power bypass will need to be in place prior to removal of the existing UPS system. This work will be coordinated by CSUSB Facilities Services Department.
- The new UPS system will be installed and all work will be overseen to ensure proper operation an plan execution.

CSUSB Facilities will be involved with any inspections to make sure all work is being done properly and to code with maximum safety precautions taken.

Rationale:

At present, the Data Center's Virtual Environment contains over 200 virtual servers, approximately 120 physical servers, various types of network equipment, and an array of data storage devices for clients across all division of CSUSB. All these systems are dependent on a healthy and stable UPS system. A failure in the UPS could result in huge losses to the university.

Benefits:
- New UPS offer operations stability and improvement in manageability.
- Refresh of an obsolete UPS system.
- Improvements in strategies for resiliency and emergency recovery for business continuity in the event of a disaster.

Assessment Plan and Key Performance Indicators (KPI)

- Power systems downtime
- New UPS system uptime
- Planned communication regarding planned power outages
- Successful install of UPS Bypass to power generators

Key Stakeholders

- CSUSB Faculty, Staff and Students
- CSUSB Data Center Tenants

Project Team

- Dr. Sam Sudhakar, VP of IT Services and CIO (Executive Sponsor)
- Gerard Au, AVP of Technology Operations and Customer Support
- Felix Zuniga, Director, Project Management and Assessment
- Keith Rogers, Lead Electrician, CSUSB Facilities Services
- Miguel Martin, Project Manager, CSUSB Facilities Services
- Fernando Gutierrez, CSUSB IT Services Data Center
- Andy Chander, CSUSB IT Services Data Center
- Patrick Chinpanich, CSUSB IT Services Data Center
- Steve Cuddigan, CSUSB IT Services Data Center
- Shaun Geer, CSUSB IT Services Data Center
- Adrian Piceno, CSUSB IT Services Data Center
- Gerardo Sotelo, CSUSB IT Services Data Center
- Gene Young, CSUSB IT Services Data Center
- Edward Burtch, Electrical Engineer, P2S Engineering

- Brent Galbreth, Baker Electric
- Todd Sanders, Baker Electric

Data Center UPS Migration Project Mile Stones

Mar 3, 2014	Initial planning meeting	Data Center Facilities Services
Mar 14, 2014	Planning and design meeting with P2S Engineering	Data Center Facilities Services
Apr 1, 2014	Initial design review	Data Center Facilities Services
Apr 17, 2014	Prepare bid documents	Facilities Services
May 23, 2014	Project bidding ends. CSUSB Purchasing to review all bids	Purchasing
June 2, 2014	Contract awarded	Purchasing
Jun 10, 2014	Job start meeting with vendor to discuss scope of work and details	Data Center Facilities Services Baker Electrical
Jul 17, 2014	Project review meeting to establish project schedule and details	Data Center Facilities Services Baker Electrical
Aug 11, 2014	Data Center tenant informational meeting	Data Center DC Hardware Tenants
Aug 12-14, 2014	Identify high-risk equipment with only single power source and mitigate risk - Identify and inventory all DC hardware - Purchase rack-mountable UPS systems - Purchase smart PDU's to support single power source hardware	Data Center
Aug 14, 2014	Final review of circuit switch schedule (CSUSB to provide to Baker Electrical)	Data Center
Aug 21-26, 2014	Mitigate risk on high-risk systems - Install rack-mountable UPS systems - Install and configure smart PDUs	Data Center DC Hardware Tenants
Aug 21, 2014	Final Review of Circuit Switch Schedule (Baker to provide to CSUSB for Sign-Off)	Baker Electrical CSUSB Facilities
Aug 25, 2014	Complete Server Farm Network Migration	TNS

Aug 26-28, 2014	Test hardware's redundancy and rack-mountable UPS systems	Data Center DC Hardware Tenants
Sep 2-4, 2014	Final review meeting with Data Center tenants	Data Center DC Hardware Tenants
Sep 10, 2014	Electrical circuits to be migrated to by-pass switch	Baker Electrical Facilities Services
Sep 11-15, 2014	Remove and replace UPS system	Baker Electrical Facilities Services
Sep 16-17, 2014	Test and accept	Data Center Baker Electrical Facilities Services
Sep 30, 2014	Data Center A/C units to be added to power generator	Facilities Services

Data Center UPS Migration Project Mile Stones (Revised December 08, 2014)

Mar 3, 2014	Initial planning meeting	Data Center Facilities Services
Mar 14, 2014	Planning and design meeting with P2S Engineering	Data Center Facilities Services
Apr 1, 2014	Initial design review	Data Center Facilities Services
Apr 17, 2014	Prepare bid documents	Facilities Services
May 23, 2014	Project bidding ends. CSUSB Purchasing to review all bids	Purchasing
June 2, 2014	Contract awarded	Purchasing
Jun 10, 2014	Job start meeting with vendor to discuss scope of work and details	Data Center Facilities Services Baker Electrical
Jul 17, 2014	Project review meeting to establish project schedule and details	Data Center Facilities Services Baker Electrical
Aug 11, 2014	Data Center tenant informational meeting	Data Center DC Hardware Tenants

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Aug 12-14, 2014	Identify high-risk equipment with only single power source and mitigate risk - Identify and inventory all DC hardware - Purchase rack-mountable UPS systems - Purchase smart PDU's to support single power source hardware	Data Center
~~Aug 14, 2014~~ Dec 8, 2014	~~Final review of circuit switch schedule~~ Final review on cut-over procedure	Data Center
~~Aug 21-26, 2014~~ By Dec 17, 2014	Mitigate risk on high-risk systems - Install rack-mountable UPS systems - Install and configure smart PDUs	Data Center DC Hardware Tenants
~~Aug 21, 2014~~ Dec 8, 2014	Final Review of Circuit Switch Schedule (Baker to provide to CSUSB for Sign-Off)	Baker Electrical CSUSB Facilities
Aug 25, 2014	Complete Server Farm Network Migration	TNS
~~Aug 26-28, 2014~~ Dec 16-17, 2014	Test hardware's redundancy and rack-mountable UPS systems	Data Center DC Hardware Tenants
~~Sep 2-4, 2014~~ Dec 16, 2014	Final review meeting with Data Center tenants	Data Center DC Hardware Tenants
~~Sep 10, 2014~~ Dec 18, 2014	Electrical circuits to be migrated to new panel B	Baker Electrical Facilities Services
Dec 18-23, 2014	Data Center to run on normal power	
~~Sep 11-15, 2014~~ Dec 18-23, 2014	Remove and replace UPS system	Baker Electrical Facilities Services
~~Sep 16-17, 2014~~ Dec 22-23, 2014	Test and accept	Data Center Baker Electrical Facilities Services
Sep 30, 2014	Data Center A/C units to be added to power generator	Facilities Services

Detailed step-by-step procedures for December 18-23, 2014

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Dec 18, 2014 6am	Baker to power new B/BB panel with power generator *Data center can be powered fully by one panel	Baker Electric Facilities Services
Dec 18, 2014 6am-9am	System owners and data center techs to migrate half of the equipment power source to new panel B/BB *Systems will be powered by old panel and new panel B/BB. Momentary power loss to single-sourced equipment	System owners Data center techs
Dec 18, 2014 9am	Data center to confirm with Baker that all equipment power source is fully on new panel B/BB	Data Center Baker Electric
Dec 18, 2014 9am-12noon	Baker and Facilities to cut off power to the data center and install new breaker and bypass switch to connect new panel A and new panel B/BB to building power *Systems will be powered by generator and new panel B/BB only	Baker Electric Facilities Services
Dec 18, 2014 12noon	Baker and Facilities to restore power to data center and panel A *Systems will be powered by building power on new panel A and generator on new panel B/BB only	Baker Electric Facilities Services
Dec 18, 2014 12:30pm	Baker and Facilities to power down generator (Panel B/BB will temporarily lose power) and transfer panel B/BB to building power *Systems will momentarily be powered by building power on new panel A only. Momentary power loss to single-sourced equipment	Baker Electric Facilities Services
Dec 18-23, 2014	Baker to dismantle and remove existing UPS, reinforce flooring, and install new UPS *Systems will be powered by building power on both panels	Baker Electric

Dec 23, 2014 or sooner (date/time TBD)	Baker to switch over panel B/BB temporarily from building power to generator *Systems will temporarily be powered by building power on new panel A only. Momentary power loss to single-sourced equipment	Baker Electric
Dec 23, 2014 or sooner (date/time TBD)	Baker and Facilities to cut off power to the data center and connect new UPS to panel A and panel B/BB *Systems will be powered by generator on new panel B only	Baker Electric Facilities Services
Dec 23, 2014 or sooner (date/time TBD)	Baker and Facilities to restore power to data center and panel A will be on UPS/building power *Systems will be powered by UPS/building power on new panel A and generator on panel B	Baker Electric Facilities Services
Dec 23, 2014 or sooner (date/time TBD)	Baker and Facilities to transfer power on panel B/BB from generator back to UPS/building power *Systems will be powered by building power on new panel A only. Momentary power loss to single-sourced equipment	Baker Electric Facilities Services

Migration Schedule – Panel A (Deleted December 08, 2014)

Panel	Circuit	Time Needed	CIRCUITS EFFECTED	RACK	VOLTAGE
A	1	7:00 AM	NONE	A40	208
A	3		NONE	A40	208
A	5	NO WIRE	NONE	NONE	NONE
A	7	7:15 AM	PNL A 7,9,11 PNL B 13,15	A30	120/208
A	9		PNL B 10,12	A30	120/208
A	11		SUB PANEL C	A30	120/208
A	13	7:35	NONE	C10,C40,C50	120
A	15	7:45	NONE	?	120
A	17	7:55	NONE	D40	208
A	19		NONE	D40	208
A	21	8:10	NONE	?	120
A	23	8:20	NONE	D10,20,30,E10	120
A	25	8:30	NONE	?	120

A	27	8:40	NONE	C20	120
A	29	8:50	NONE	?	120
A	31	9:00	NONE	E60,E70	120
A	33	9:10	NONE	D10,D20,D30	120
A	35	9:20	NONE	?	120
A	37	9:30	SUB PANEL D	E80,F10,E01,E02,E60	120/208
A	39		SUB PANEL D	E03,E03,E05,E06,E40	120/208
A	41		SUB PANEL D	E07,E08,E13,E14,E15	120/208
A	2	9:45	CIR 6,8	A30	208
A	4			A30	208
A	6		CIR 2,4	A20	208
A	8			A20	208
A	10	SHUT DOWN W/ AT 7:15	PNL A 7,9,11 PNL B 13,15	A10	208
A	12	SHUT DOWN W/ AT 7:15	PNL A 7,9,11 PNL B 13,15	A10	208
A	14	10:00	SUB PANEL F	D60,B50,B60,A20	120/208
A	16		SUB PANEL F		120/208
A	18		SUB PANEL F		120/208
A	20	10:15	NONE	D10,D20,D30,D40,E50	120
A	22	10:25	TWIN BRKR SAME PIPE	?	120
A	24	10:35	NONE	A10	120
A	26	10:45	NONE	D40	208
A	28		NONE	D40	208
A	30	11:00	TWIN BRKR SAME PIPE	?	120
A	32	11:10	NONE	E05,E06,E07,E08	120
A	34	11:20	NONE	F10,E01,E02,E03,E04	120
A	36	11:30	NONE	E05,E06,E07,E08	208
A	38		NONE	E05,E06,E07,E08	208
A	40	11:45	NONE	E05,06,07,08,09,10,11,12	120
A	42	11:55	NONE	?	120

Migration Schedule – Panel B (Deleted December 08, 2014)

Panel	Circuit	Time Needed	CIRCUITS EFFECTED	RACK	VOLTAGE
B	1	12:00	NONE	A40	208
B	3		NONE	A40	208
B	5	NONE	NONE	NONE	NONE
B	7	12:15	CIR 14,36	B10	120/208
B	9			B10	120/208
B	11			B10	120/208
B	13	SHUT DOWN W/ AT 7:15	PNL A CIR 7,9,11,10,12	?	120
B	15	7:15		?	120
B	17	12:30	NONE	D40	208

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B	19		NONE	D40	208
B	21	12:40	NONE	E17,E18,E19	120
B	23	12:50	NONE	?	120
B	25	1:00	NONE	?	120
B	27	1:10	NONE	E10	120
B	29	1:20	NONE	?	120
B	31	1:30	NONE	?	120
B	33	1:40	NONE	E30	120
B	35	1:50	NONE	E70	120
B	37	2:00	SUB PANEL E	E01-E08,E10,E13-E19	120/208
B	39		SUB PANEL E	F10,E20,E30,E40,E50	120/208
B	41		SUB PANEL E	D50,C30,C10	120/208
B	2	2:15	CIR 6,8	A30	208
B	4			A30	208
B	6		CIR 2,4	A20	208
B	8			A20	208
B	10	SHUT DOWN W/ AT 7:15	PNL A 7,9,11,10,12	A10	208
B	12			A10	208
B	14	SHUT DOWN W/ AT 12:15	CIR 7,9,11,36	C10	208
B	16	2:30	NONE	?	120
B	18	2:40	NONE	D40	208
B	20		NONE	D40	208
B	22	2:50	NONE	E05,E06,E07,E08	208
B	24		NONE		208
B	26	2:40	NONE	E10	120
B	28	2:50	NONE	?	120
B	30	3:00	NONE	E20,E30	120
B	32	3:10	NONE	?	208
B	34		NONE	?	208
B	36	SHUT DOWN W/ AT 12:15	CIR 7,9,11,14	D50	120
B	38	3:20	NONE	E30,E60	120
B	40	3:30	NONE	E10,E40,D10,D20,D30	120
B	42		NONE	E20,E30,D10,D20,D30	120

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Appendix X - MAP - Cellular Phone Carrier Standardization

Introduction

CSUSB has 154 mobile devices currently managed by IT Services. The annual spending for cellular services for the University is approximately $90k ($88,019 for FY1213). The 154 devices are spread over three carriers: Verizon (107), Sprint (31), and AT&T (16). There are significant savings if we move towards a one-carrier and per-minute plan for low-usage users.

Details

ITS proposes to standardize cellular carrier for all University-provided cellular lines to lower costs, and to manage resources more effectively. It is proposed that low-usage users be moved into a per-minute (6¢/min) plan, while keeping high-usage users in their existing plan. The estimated savings to the University is 22% ($1642.41/month, or $19,708.92/year). The following is the cost-saving analysis by division, based on the last 3 months of minute usage. All cellular lines will continue to have an unlimited data plan.

	3-mo. Avg* (Current)	Proposed * (Based on 3-mo. avg usage)	Savings*
Academic Affairs (38)	$1,571.59	$1,162.52	$409.07
Administration (60)	$2,199.26	$1,585.32	$613.94
IT Services (36)	$1,858.10	$1,321.27	$536.83
President's Office (8)	$367.41	$362.41	$5.00
Student Affairs (6)	$222.80	$184.79	$38.01
University Affairs (6)	$248.47	$208.91	$39.56
Campus wide	**$6,467.63**	**$4,825.22**	**$1,642.41**

*per month

Challenges(s)

- Devices from other carriers (Sprint and AT&T) are not compatible with Verizon. New in-kind replacement for these devices will incur a one-time upfront cost. (The cost is still being assessed.) However, this cost can be offset by device buy-back with the existing carriers.
- Although Verizon has the most comprehensive cellular network, certain users may have poor coverage at certain locations.
- Users who travel internationally may need to have a world-phone to utilize GSM network that is typically available outside of the US.

Alternatives

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- Continue to use our current approach and stay with multiple carriers.
- Move back into a decentralized model where each unit manages their own contract. (Not recommended)

Impact(s) if we do noting

CSUSB can continue to operate under the current cellular account model, however, this is not the best use of resources for campus. Savings from cellular usage can offset any administrative costs of managing cellular accounts centrally.

Recommendation

Pilot the standardization within IT Services (36 devices) to assess cost savings and ROI for moving into the one-carrier approach. Potential savings for ITS is $536.83/month, or $6441.96/year.

- Propose the change to the IT Governance Executive Committee and Administrative Council for feedback.

Appendix Y - MAP - Blackboard Managed Hosting Project

Introduction

Blackboard Learning Management System has been a resource for faculty and students at CSUSB since 2001. About 70% of our faculty use Blackboard for either fully online course delivery, hybrid courses, or as supplements to their face-to-face class. The adoption and use of Blackboard continues to grow as a student engagement and resource tool as faculty focus on student learning and success at CSUSB.

Challenge(s):

- While resource allocation for Blackboard has been increased and Blackboard has been upgraded since the unplanned down time in spring 2013, there is a growing need to allocate more resources in personnel and hardware to continue to support Blackboard usage and growth.
- Lack of redundancy in support personnel who are experts in Blackboard system administration.
- Growing need for enterprise applications support for the campus community.
- Performance of timely upgrades of the system for continued system stability and new features.

Alternatives:

- Train other staff within ITS to support Blackboard administration.
- Buy new hardware to support the growing needs of the Blackboard user community.
- Host Blackboard on the Blackboard Cloud with the Blackboard Managed Hosting Service.

Impact(s) if we do nothing:

- Possibility of lagging behind in patches as enterprise system administration staff are challenged to support other enterprise systems.
- Lower level of service to campus units that require support of other enterprise applications.
- Possibility of a decrease in our ability to provide service for Blackboard because of competing demands.

Recommendation

Host Blackboard on the Blackboard cloud with Blackboard's Managed Hosting Service.

Rationale:

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Given that Blackboard is a valuable student success and faculty resource on Campus, we want to make sure that Blackboard runs optimally, that we have the current version, and that it is always available for campus use. Three out of the eleven CSU campuses – San Diego, Long Beach and Dominguez Hills are now hosting with the Blackboard Managed Hosting Service.

Assessment Plan and Key Performance Indicators (KPI)

- Blackboard performance and uptime, timely upgrades
- Timely response from the Enterprise Applications Team

Key Stakeholders

- Academic Senate
- IT Governance ATI Sub Committee
- Students

Project Team

- Dr. Sam Sudhakar, VP of IT Services and CIO (Executive Sponsor)
- Gerard Au, AVP of Technology Operations and Customer Support
- Dr. Amy Leh, Interim Director, Academic Technology and Innovations
- Dr. Kim Kostino, Director, Teaching Resource Center
- Jim O'Linger, Director, Technology Support Center and Enterprise Applications
- Felix Zuniga, Director, Project Management and Assessment (Project Manager)
- Aaron Smith, IT Consultant - Blackboard Administrator (Technical Lead)
- Edward Szumski, IT Consultant
- Sunny Lin, Operating Systems Analyst
- Ben Derry, Operating Systems Analyst
- Edgar Chabolla, Instructional Designer
- Mauricio Cadavid, Instructional Designer
- Adrienne Lewis, Blackboard Project Manager

Process

Moving Blackboard to the cloud with Blackboard's Managed Hosting Service will require some down time for the migration process. In order to minimize impact to users, the project team discussed several options for migrating course information from the current self-hosted system to the Blackboard Managed Hosting system. The goal is to minimize down time to active courses over the Summer 2014 quarter while meeting the project timeline of having all courses live on the Blackboard Managed Hosting system by Fall 2014. The team believes a batch approach is the best way to accomplish this goal. Thus, IT Services will work with Blackboard to move courses into the Blackboard cloud in three batches. No course sites will be moved while they are actively in use, including Summer 2014 courses.

- Batch 1 (July 2-7, 2014) – Future courses (Fall 2014 courses)
- Batch 2 (July 21-24, 2014) – Inactive/Archival courses (Spring 2014 and prior)
- Batch 3 (Oct 21-24, 2014) – Remaining courses (Summer 2014)

While no courses will be moved while they are actively in use, faculty will not be able to make changes to inactive courses while they are being moved. These down times have been schedule well beyond the beginning and end of an academic quarter in order to minimize impact. Any changes made during the "freeze periods" will not be reflected in the Blackboard cloud. Extensive communication will be made to the campus community via e-mail and the ITS website to keep our stakeholders informed.

Key Milestones

Mar 2014	President Cabinet approved funding for moving Blackboard to the cloud
Apr 16, 2014	IT Governance Executive Committee approval
May 9, 2014	Contract with Blackboard Managed Hosting approved and signed by Chancellor's Office
Jul 7, 2014	Fall 2014 (Batch 1) courses "go live" on Blackboard-hosted server
Jul 24, 2014	Spring 2014 and older courses (Batch 2) "go live" on Blackboard-hosted server
Oct 24, 2014	All courses (Batch 3) "go live" on Blackboard-hosted server

Impact to users

Date	System Changes	Impact
Jun 30, 2014	Enabling CAS Single Sign On (SSO) on current CSUSB-hosted Blackboard server during the weekly Monday 2am-6am maintenance window.	Login screen will appear slightly different to users, allowing the system to utilize SSO to pass token from one system to another. **Impact: Minimal**
Jul 2-7, 2014	Fall 2014 courses will be "frozen" as we need to archive and export all Fall 2014 courses. After July 7, all Fall 2014 courses will be live on the cloud-based Blackboard-hosted server.	Faculty members (15) teaching Fall 2014 courses and already have a Blackboard course will be unable to make any changes during the long weekend while their courses are being moved into the cloud.

		Impact: Minimal
Jul 21-24, 2014	Blackboard to import all inactive courses (Spring 2014 and older) into the Blackboard-hosted server. Faculty will not be able to make any changes to these inactive courses.	Any changes to Spring 2014 and older courses will not be reflected in the cloud. Impact: Minimal
Oct 21-24	Blackboard to import remaining courses (Summer 2014) into the Blackboard-hosted server. During this period, Summer 2014 courses will be unavailable.	Students and Faculty will not be able to make any changes or to view their Summer 2014 courses until all courses are fully in the Blackboard cloud. Impact: Minimal

Project Detail

Phase 1 – Setup and Testing	
Jun 5	Kick-off meeting
Jun 5-12	Blackboard will begin setting up CSUSB managed hosting site
Jun 12	CSUSB will provide Blackboard with building block
Jun 13	CSUSB will provide Blackboard with SSL certificate
Jun 13	CSUSB to provide Blackboard with several test course to load onto managed hosting environment
Jun 18	Blackboard to provide CSUSB credentials to customize managed hosting environment
Jun 18-30	CSUSB to configure managed hosting environment, test SSO
Jun 30	CSUSB will enable CAS on current self-hosting environment

Phase 2 – Migration of Inactive Courses	
Jul 2	Freeze date for all Fall 2014 courses. CSUSB will batch archive Fall 2014 and deliver (SFTP or overnight) batch file to Blackboard
Jul 3-6	Blackboard to load Batch 2 (Fall 2014) courses on managed hosting environment
Jul 7	Fall 2014 courses go live on managed hosting environment
Jul 7-18	CSUSB will test Fall 2014 courses

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Jul 21	CSUSB to provide Blackboard with Batch 2 courses to load into managed hosting environment
Jul 24	Blackboard to complete importing Batch 2 courses
Jul 24	All courses other than Summer 2014 live on managed hosting environment
Jul - Aug	CSUSB to test migrated course, functionality, SIS integration

Phase 3 – Migration of Remaining Courses	
Oct 20	Freeze date/shut down of self-hosted Blackboard. CSUSB will batch archive remaining courses (Summer 2014) and deliver (SFTP or overnight) batch file to Blackboard
Oct 21-24	Blackboard to load remaining courses (Summer 2014) onto managed hosting environment
Oct 24	All courses fully live on managed hosted environment
Oct 24	Redirect URL from http://blackboard.csusb.edu to http://csusb.blackboard.com