

INFORMATION TECHNOLOGY SERVICES

ANNUAL REPORT

2016-17

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Executive Summary



Samuel Sudhakar

Vice President for Information Technology Services & CIO

I am pleased to present to you the Information Technology Services Annual Report for 2016-17. The ITS team has made great strides in fostering consensus, building collaboration, and enhancing communication across all Campus stakeholders. The University Strategic Plan, the Quarter to Semester Conversion (Q2S) project, and the Graduation Initiative 2025 drive the ITS Strategic Plan implementation. We have made significant progress in creating value to our Campus Community and look forward to continuing our journey towards becoming a routinely proactive and innovative ITS organizational unit serving the academic mission of California State University, San Bernardino.

Introduction

The Information Technology Services team took its next steps towards fulfilling the academic mission of the University by putting together the ITS Strategic Plan Implementation for 2016-2020. The plan laid out the objectives and strategies that the team will accomplish over the next four years in collaboration with the campus community. I am happy to report that we are on track towards the completion of the year one goals.

We continue to keep our ears to the ground listening to our students, faculty and staff and understanding how information technology tools and services can create value for their day to day tasks and aid their personal and professional accomplishments. We held two student forums where we heard from students about the challenges they face with several of the manual processes they have to go through to complete their administrative tasks, the lack of communication and the modality of communication with regards to the software and services that ITS provides to the student community. We also worked with a class of communications students to learn how to better tell our story and promote the services that ITS provides to students.

We held a faculty forum where we heard from faculty about scaling up the support services we provide to our adjunct faculty and services for our faculty on evenings and weekends. We will work with our faculty colleagues and academic leadership to determine the best ways to provide these services. I continue to attend academic department meetings and meet with Deans and Department Chairs to continue to provide solutions to teaching and learning and operational efficiency needs.

The ITS Team is involved with the Quarter to Semester (Q2S) Conversion process and is using this as an opportunity to work with the campus community to streamline and automate administrative processes. The CourseLeaf Curriculum module, which is one of the process efficiency projects, which when implemented will transform the current paper based process into a time efficient online process. As the faculty transform their curriculum the ITS team will be fostering and supporting their efforts to infuse technology and student engagement tools into their curriculum.

The Graduation Initiative 2025 has given the ITS team another opportunity to engage and partner with the campus community in helping our students meet their academic goals and fulfill the GI2025 targets. The ITS Team is collaborating with several units across the campus including Institutional Research on Rapid Data Analytics, Student Affairs on process automation and removing administrative barriers and academic affairs on the development of quality hybrid and online courses to reduce course bottlenecks and improve access.

Highlights

We made significant progress on several key areas of our operation, We:

1. Partnered with Institutional Research in forming the University Analytics team which will transform business intelligence and analytics into actionable insights to enhance student success and graduation rates.
2. Partnered with the Mobile Applications Development (MAD) Team to purchase and implement a mobile applications development platform that will allow us to deliver mobile applications at a faster pace to the Campus Community.
3. Partnered with Academic Affairs and Student Affairs in initiating the development of a Student Success Ecosystem that will help students navigate through their academic progress at the University.
4. Rolled out three task forces – Communications Task Force and Career Development Pathways Task Force to address Campus Climate survey recommendations and are in the process of implementing the recommendations. In addition, we have initiated a task force to improve operational efficiency.

World Class Customer Support Services & Support

The Technology Support Center Team and the Distributed Technology Services Team worked together in establishing protocols and putting processes in place to provide consistent and timely services to students, faculty and staff across the Campus. The full implementation of the standardized naming convention and the system center configuration manager (SCCM) has ensured that computers connected to an Active Directory receive timely patches and updates to their software and that vulnerabilities are identified and addressed before they are exploited.

A task force of ITS and College Information Technology Consultants are working on identifying the next generation Information Technology Service Management (ITSM) solution that will enable us to scale up the services we provide to our campus community.

The Technology Support Center expanded its hours to 6am – Midnight, Monday through Friday to better accommodate the needs of our students, faculty and staff. The Team is working on opening the Pfau Library Wedge 24 x 7 x 365 by Fall 2017.

The new Information Technology Services website went live in June. The new site is service focused and will allow the campus community to easily find services and support offered by ITS.

Fostering and Supporting Faculty-Led Innovation and Research

The Academic Technologies & Innovation (ATI) team welcomed on board Dr. Bibiana Diaz to lead the Affordable Learning Solutions (AL\$) and Professor Kurt Collins to provide leadership to faculty led research initiatives such as Virtual Reality and the Internet of Things (IoT). The ATI team continues to foster and support faculty led innovation and research on several fronts including software licensing and technology pilots such as 3D Printing and the One Touch Recording Studio.

The collaboration with the Teaching Resource Center (TRC) and the John M. Pfau Library strengthened this year with several new initiatives including quality assurance in online courses (QOLT), course redesign using technology (CRT). Dr. Monty Van Wart became the first faculty member in CSUSB history to get his course Quality Matters (QM) certified.

<http://news.csusb.edu/2017/04/25/csusb-online-course-receives-the-universitys-first-quality-matters-certification/>

The inaugural ITS Tech Talks program was well received and exposed faculty and staff to different vendor solutions and services provided by the ITS Team in support of the academic mission of the University.

The ATI Team is working on partnering with Internet2 and the Pacific Research Platform to bring computing, storage, and networking resources to support faculty research initiatives.

Operational Efficiency

There were several ITS-led collaborative projects that continue to improve operational efficiency throughout the Campus. Building on the momentum created by the implementation of the OnBase workflow management system, the ITS team automated several processes throughout the university including the Delegation of Authority form for the Division of Administration and Finance. We worked with the Registrar's Office in taking the Faculty Grade Change form online and we are in the process of working with the Registrar's Office take the Graduation Check process online.

We are working with the Admissions and Financial Aid Offices in identifying and roadmapping processes that can be automated.

We formed an Operational Efficiency Task Force (OETF) which is looking at the ways in which we provision, maintain and upgrade the servers in our Data Center. The goal of the task force was provide recommendations for:

- The effective use of monitoring software on ITS Systems to monitor utilization, efficiency, performance and security
- Strategy and Standards for Patch Management of Physical and Virtual Servers
- Strategy for Standards for virtualization of existing physical servers
- Ownership and management of applications servers
- Strategy for Cloud Utilization
- Strategy/timeline for consolidation of servers from across administrative and academic units
- Implementation of ITIL framework
- Working across departments ISET/TNS/ECS
- Identify other areas to improve operational efficiency

The task force has provided an initial slate of recommendations which we will be implementing this summer. The outcome of these recommendations is to make our Data Center efficient and Cloud ready.

The upgrade of the Campus and Data Center firewalls to the Palo Alto Networks (PAN) technology and the implementation of the ProofPoint Anti-Virus/SPAM solution has allowed the ITS Team to continue to protect Campus resources from external and internal threats and expand the services it provides to students, faculty and staff.

Looking Ahead

We are looking forward as a team in collaboration with the campus community to pursue the following initiatives this coming academic year:

- Implementation of the Year Two objectives of the ITS Strategic Plan
- Growth and Expansion of Hybrid and Online Courses and Programs and the Affordable Learning Solutions (AL\$) initiative
- Mature the University Analytics Initiative to provide actionable insights for the Campus Community
- Fully develop and communicate the Student Success Ecosystem
- Deliver the CSUSB Assist and Graduation Check on MyCoyote and Mobile Platforms
- Partner with the Pacific Research Platform to expand our support to faculty led research
- Work on Virtual Reality, Internet of Things (IoT) and Smart Campus Initiatives.
- Establish a team within ITS to work with the Campus Community on process automation projects
- Formulate a Five-Year Roadmap for Cloud Migration
- Establish Tech Zones at the SMSU and other parts of the Campus
- Continue to work on the People First initiative at ITS

Vital and Expanded Technologies Initiative

The Vital and Expanded Technologies Initiative (VETI), formerly Vital Technology Initiative (VTI), provides Student Success Initiative (SSI) funds to campus departments and colleges to purchase and implement technology products and services that positively impact student success. Allocation of funds is determined through a competitive grant process which is open to all campus units and Associated Students Incorporated (ASI)-recognized student organizations. The VETI committee, comprised of six students and five employees, reviews the grant proposals and deliberates funding. For fiscal year 2015, the process was streamlined to include reporting and assessment metrics that measure and report the effectiveness of the funded projects in contributing to student success.

The Vital and Expanded Technologies Initiative won a University Business Models of Excellence Award for Summer 2016.

VETI grant proposals were due on March 24th. We received 54 grant proposals totaling \$1.02 Million. The [VETI 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, 2017. 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:

Vital and Expanded Technologies Awards

Proposal ID	Proposal Title	Amount to Fund	Notes
4	PDC Advising and Student Engagement (\$6,000)	\$4,500.00	Partial Funding; Laptops plus 3 iPads
34	Simulation as a Multidisciplinary Team Approach in Health Care Programs in an Urban University Setting (\$55,000)	\$52,000.00	Partial Funding; Only to fund student assistant (personnel)
51	The HUB (Helping to Understand Business) (\$65,000)	\$65,000.00	Full Funding
54	Lasers for Cutting, Etching and Engraving (\$81,708)	\$66,000.00	Partial Funding
58	Natural Sciences Peer Advising Center Computer Upgrade/Proactive Academic Advising Outreach (\$16,044)	\$14,000.00	Partial Funding
78	Laboratory for Instructional Technology Phase 1: Video Recording Studio (\$9,628.21)	\$9,628.21	Full Funding
81	Public Speaking Lab/Studio (\$25,875)	\$15,094.00	Partial Funding- Fund 1 unit
89	Visual Literacy Working Stations (\$26,000)	\$26,000.00	Full Funding
92	Thesis Digitization, Part 2 (\$20,000)	\$10,000.00	Partial Funding
97	Operation K.I.C (Keeping it Connected) (\$39,232.28)	\$39,232.00	Full Funding
98	Virtual Reality Lab for Producing Engaging Instructional Content (\$36,131.72)	\$36,131.72	Full Funding

Proposal ID	Proposal Title	Amount to Fund	Notes
100	PDC - Coyote Radio Station (\$17,425)	\$17,425.00	Full Funding
101	CSUSB Mobile First Strategy: Standardization and Streamlining of Mobile Application Development (\$100,000)	\$100,000.00	Full Funding
112	A new scanning electron microscope for exploring the micro-universe (\$99,000)	\$79,500.00	Partial Funding
113	CSUSB and PDC Assistive Technology Software Licensing, Version, Support and Maintenance Unification (\$30,598)	\$30,598.00	Full Funding
115	WorkAbility IV Technology Initiative (\$12,310)	\$12,310.00	Full Funding
119	Increasing computer use in Biology classes with "instant computer labs" (\$59,042)	\$58,000.00	Partial Funding
125	Graduation Requirement Check (Grad Check) Online Submission (\$20,000)	\$20,000.00	Full Funding
126	Instructional Engagement at RAFFMA for ALL CSUSB Students (26,557)	\$4,975.00	Partial Funding; Designated for The Museum System (TMS)
132	(PE 133-134) Kinesiology Laboratory: Physical Activity and Pedagogical Success Laboratory (\$89,736)	\$89,736.00	Full Funding
134	24/7 Study Area (\$46,350)	\$46,350.00	Full Funding
135	Beyond the Mono, Behold the Stereo: real-time true colour stereoimaging and quantitative analysis of microscopic specimens (\$60,000)	\$49,500.00	Partial Funding
		\$845,979.93	TOTAL AWARDED
		\$941,637.21	TOTAL REQUESTED
		\$846,000.00	TOTAL ALLOCATED 17-18

Deadline Dates:

1. Purchase all hardware and software by December 22, 2017
2. Submit a progress report that includes appropriate assessment metrics by Feb 01, 2018
3. Submit a full report of progress and assessment by April 15, 2019

For more information on the Vital and Expanded Technologies Initiative, please visit:

<https://www.csusb.edu/its/about-its/vice-president-cio/initiatives>

ITS Strategic Plan Year 1 Updates

Mission

Our mission is to support student, faculty and staff success by providing world class customer service, fostering faculty-led innovation and research, and enhancing operational efficiency through the effective use of information technologies.

Core Values

- Fairness & Equity
- Transparency
- Integrity
- Innovation
- Consultation
- Collaboration
- Communication

Trustee Initiatives (TI)

1. Tenure-Track Faculty Hiring
2. Enhanced Advising
3. Augment Bottleneck Solutions Initiative
4. Student Preparation
5. High Impact Practices for Student Retention
6. Data-Driven Decision Making

Summary

Year one of the ITS strategic Plan is complete, This vision of where the ITS vision should go has guided many new initiatives within the division. The 5 goal areas of the ITS Strategic Plan are:

GOAL
01

E-Learning

Online and Hybrid Course Development, Faculty Support, Instructional Design, Learning Management Systems, Faculty Communication Portals, E-Textbooks, Chancellor Office Initiatives, Next Generation Distance Learning/Video Conferencing, Classroom and Student Engagement

- **1.1.1** Increase by 20% Video the collection of video tutorials, FAQ's user guides for faculty that are easily accessible on the web. – Mihaela Popescu
 - » *In process. We have started developing JMP tutorials and FAQ for the campus.*
- **1.2.1** Develop self-assessment tool for students to assess their readiness for online learning. – Mihaela Popescu
 - » *Completed, available at <https://www.csusb.edu/ati/students/intro-online-learning-tips-success/online-readiness-self-assessment>*
- **1.2.2** Develop series of "Getting Started Online" video tutorials for students. – Mihaela Popescu
 - » *Completed, please see <https://www.csusb.edu/ati/students/online-learning-support>*
- **1.2.3** Provide in-class LMS orientation to students at the instructor's request. – Mihaela Popescu
 - » *We are working on a process and delivered two trainings already.*
- **1.3.1** Establish a working group to evaluate, plan and implement an accessible website for online support for faculty and students. – Michael Chen
 - » *Completed. An ATI working group was established in March 2016 to create a new website that provides online support for faculty and students. In only 5 months, the ATI working group, in collaboration with the web development team, evaluated, planned and implemented an accessible website.*

- **1.3.2** Establish a communication plan and process to help increase campus awareness of the CSU and CSUSB software, instructional technology tools and services, training opportunities. – Michael Chen
 - » *We have organized 14 workshops this quarter, out of which 4 involve new technologies and vendors.*
- **1.3.3** Participate in at least one new faculty orientation session annually. – Mihaela Popescu
 - » *Completed. We have established contact with Academic Personnel to be part of the new faculty orientation process and participated in one new faculty orientation this year.*
- **3.2.1** Number of workshops featuring new technologies and vendors. – Mihaela Popescu
 - » *In progress*
- **3.3.1** Create and administer an annual faculty survey. – Michael Chen
 - » *In Progress. The survey is undergoing revision through ATDL and should be ready for distribution during Spring Quarter.*
- **3.3.2** In collaboration with TRC, develop a process for recommending, pilot testing, adoption, and full integration of learning technology services, tools, and solutions. – Michael Chen
 - » *In progress*

GOAL
02

iCoyote

Mobile Everything, Improve Classroom Technologies, Electronic Forms, Student Communication Portals, Enterprise Workflow Management, World Class One-Stop Services and Collaboration Technologies.

- **1.1.1** Implement app improvements for CSUSB Mobile and Blackboard apps – David Nimri, Lenora Rodgers
 - » *We are working with the Math department on implementing WebWork, which is an online learning tool. We are testing the new Blackboard Learn mobile app for any issues that may arise and have found none to date. Researching the ability to use mobile devices to check in for attendance. Vendors such as Quickly and iClicker have interfaces that work within Blackboard.*
- **1.1.b.** Fixing Blackboard (BB) app through Blackboard services. – Jim O’Linger, David Nimri
 - » *New Blackboard app released fixing all the issues that students requested as feature improvements in the Blackboard/CSUSB mobile app.*
- **1.2.1** Students should be able to access additional course related material through Blackboard or MyCoyote. – Jim O’Linger, Lenora Rodgers
 - » *Brandon Sierra has linked Openstax as well as resources from the Chancellor’s Office to Blackboard giving students additional course materials at no cost. Occurs when new courses are created/provisioned (starting summer).*
- **1.4.1** Verify that the responsive design website for events can be read by screen readers. – Michael Casadonte
 - » *The CSUSB campus events calendar was implemented with a responsive design. The next phase will be testing for readability on mobile devices. Leon McNaught will be conducting that test. <https://search.csusb.edu/events>*
- **4.2.1** Live chat features from website so students can ask common questions. – Michael Casadonte, Jim O’Linger
 - » *We’re looking at using the Kayako Cloud Chat integration with our Drupal-hosted websites for Financial Aid, Admissions and others*
- **4.3.1** Electronic key smith machine to speed up key access – Jim O’Linger
 - » *The online key system is up. We’re finishing up their new website and hope to make it available by early December.*

University Analytics

Institutional Intelligence, EAB, Enterprise Data Warehouse, Financial Data Warehouse, Predictive Analytics, End User Empowerment Intelligence.

- **1.1.1** Consolidate and minimize the number of systems/application used for conducting university operations. – Institutional Research/ITS
 - » *Working with the Institutional Data Team to continue to identify databases that contain student engagement information with the goal of bringing them into the Institutional Data Warehouse*
- **1.1.2** Increase linkages between university databases. - Institutional Research/ITS
 - » *The Institutional Data Team continues to explore other databases that need to be linked such as Financial Aid*
- **3.1.1** Organize at least 3 annual workshops in conjunction with the Institutional Data Team about the use of data models for teaching, advising and curriculum re-design. – Institutional Research/ITS
 - » *Workshops are being conducted for faculty in collaboration with the Institutional Research Team. IR collaborated with ATI on faculty members application workshop for course redesign grants. IR is scheduled to share the OBIE to advisors in BPA and other colleges.*
- **3.2.1** Create common data element dictionaries and business process guides for the use of the data models. – Institutional Research/ITS
 - » *Discussion Scheduled for Institutional Data Team meeting*
- **3.2.2** Increase opportunities to intern in offices using data analytics. – Institutional Research/ITS
- **4.1.1** Establish collaboration on policy issues with Faculty committees, ATDL. – Javier Torner, Sam Sudhakar, IR
- **4.2.1** Develop/deploy training modules on data access and ethical use. – Javier Torner, Sam Sudhakar, IR

Stable & Secure Infrastructure

Next Generation Wired and Wireless Networks (Indoor and Outdoor), Cloud Architectures, Information Security & Privacy, University Policies, Distributed Technologies, User Provisioning and Authentication Systems, Green Technologies.

- **1.1** Access to virtual computing infrastructure to support teaching, research, and productivity needs. -Gerard Au, Javier Torner
 - » *Virtual Desktop Infrastructure has been in pilot with several campus departments. The proof of concept has been tested and can be rolled out at a larger scale.*
- **1.2.1** 100% of online programs will have access to virtual computing resources as they are developed. – Gerard Au, Javier Torner
 - » *Virtual computing resources already available for students as a POC. Will need to look at its scalability.*
- **Obj. 3** Deploy mobile and wireless platform to provide seamless access and communication -Gerard Au
 - » *TNS is piloting user-based firewall access between wireless network and campus.*
- **3.1.2** 100% outdoor coverage along Coyote Walk by the end of 2017 and 100% across populated campus locations by 2020. -Gerard Au
 - » *TNS explored current infrastructure and there is no existing pathways that can support additional outdoor access points. There are plans to install outdoor access points when temporary classrooms come online in December 2017.*
- **3.1.3** Enhanced cellular coverage across various carriers for both campuses. – Gerard Au
 - » *Crown Castle/T-Mobile is in process of installing cell site on campus. Expected go-live date is Summer 2017.*
- **3.2.1** A common app that will support colleges/ departments to communicate and engage with students, faculty, and staff. – Lenora Rodgers

iEngage

Inland Empire Regional Broadband Consortium (IERB), Riverside County Digital Divide Project, Collaboration with SBCUSD on GearUp and Other Programs. Engage with the Office of Community Engagement on Community Technology Projects.

- **1.1.1** Create survey and plan for dissemination by October 2016 – Felix Zuniga
 - » *Created the survey with the feedback from the iEngage committee / Office of Community Engagement.*
- **1.2.1** Complete campus/community data collection process by November 2016 - Felix Zuniga
 - » *Sent out the survey to the OCE partners and gathered feedback.*
- **1.3.1** Use findings to inform and guide community engagement objectives 2-4 - Felix Zuniga
- **1.3.2** Review progress towards objectives and alignment with report findings on a quarterly basis - Felix Zuniga
 - » *In progress.*
- **3.2.1** 100% of ITS Leadership have at least one active mentee – ITS Leaders
 - » *Program is in development, Leaders are partnering up with students as mentees.*
- **4.1.1** Hold 3 seats for community partners at Tech Training on a quarterly basis – Jim O'Linger
 - » *Planning on hosting a session with the community partners where ITS focuses on the top 3 requests from the community: Microsoft Office, Security, Social Media.*
- **4.2.1** Create a policy/procedure for facilitating this process – Jim O'Linger
 - » *Working with the ITS Training team to secure a process to facilitate training with the community partners.*

Enterprise Wide Projects

Enterprise Projects

The PMA office often collaborates with multiple ITS departments in order to successfully implement new technology for the campus. The work required for these projects could not be done by one group alone, below are some examples of the projects that required multi department and multi-divisional cooperation in order to be completed.

Division Highlights

AlertUs

In 2016, Several ITS departments collaborated to implement, test and install the Alertus emergency communication system campus-wide. Alertus has been pushed to most of the computers on the campus domain. Using the Microsoft System Center Configuration Manager (SCCM) tool, the AlertUs software was pushed onto over 3,500 computer systems campus-wide, including faculty, staff and lab computers. There were several emergency alerts that went out to the campus community using this tool. The Tech Support Center, Project Management Office and The Distributed Technology group collaborated with Strategic Communications the CSUSB Police and Campus Emergency Communications group to streamline communications in the event of an emergency.

AlertUs was successfully used for the following:

- **Great California Shakeout** - 10/20/2016 - # of Total Device Activations - 821
- **CSUSB Power Outage** - 02/06/17 - # of Total Device Activations - 101
- **Northpark Elementary Active Shooter** - 04/10/17 - # of Total Device Activations - 1251

Handshake Career Center System

The Career Center replaced its existing system student job system with Handshake. This required new data feeds from PeopleSoft, placement in the MyCoyote Portal, and integration with new features live InterviewStream. ACBI, ISET, PMA and the TSC worked collaboratively with the Career Center and Handshake to assure accurate data from PeopleSoft. This project was completed in February 2017.

ITSM Evaluation

A team consisting of every department in ITS and college techs are working together to evaluate a campus wide service fulfillment solution or ITSM (Integrated Technology Service Management) System. The goal will be one service fulfillment system for the campus eventually. Taking a look comprehensively at our knowledgebase, service catalog, and workflow requests are all involved in the selection of an ITSM tool. We are also looking at integrating Change Management, Resource Management, and Project Management into the same system. The DTS, PMA and TSC departments are leading the charge on this important project.

Online Computerized Information Access (CIA) Form

The online CIA was deployed September 29, 2015 and started with the online applications for about 40 different applications. This year, a significant number of components applications have been incorporated on the CIA process bringing the total number to 61 different components. In addition, several changes to the reporting which improved the approval process. This project was a collaboration between the Enterprise Applications and ISET Teams.

Qualtrics

The ACBI team led the way on implementing Qualtrics for the entire campus, with Qualtrics, the entire campus community can conduct surveys and view the data with an enterprise level account. ACBI collaborated with ISET and the ITS Marketing team to continue to push out this technology to the campus.

Zoom

Zoom continues to be a popular system on campus, since the implementation request came from the Chancellor's office, many more people are using the product. To date, we have over 7000 users of the system on campus which includes Faculty, Staff and Students. The ATI team along with Project Management and the ITS Marketing team have made for a successful roll-out of this communication tool.

Usage of Zoom has increased tremendously across campus. ATI recorded all sessions in 4 full-quarter courses with Zoom, 24 open forum events, 11 academic events, 4 non-academic events, and 6 interviews. ATI also supported 6 of CBPA's pilot Zoom classes with all students taking courses in our facilities and all instructors teaching from out of state.

Highlights

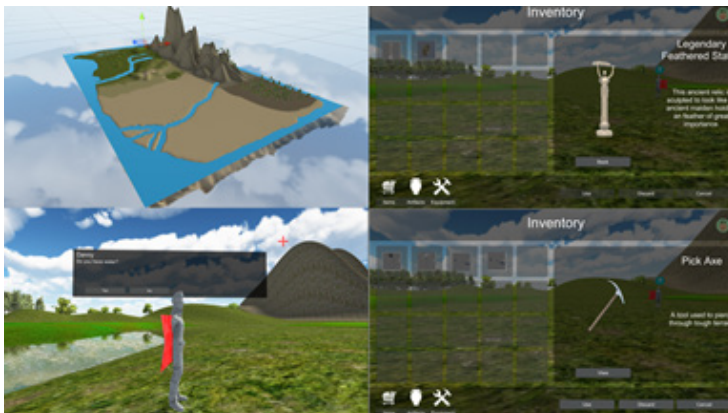
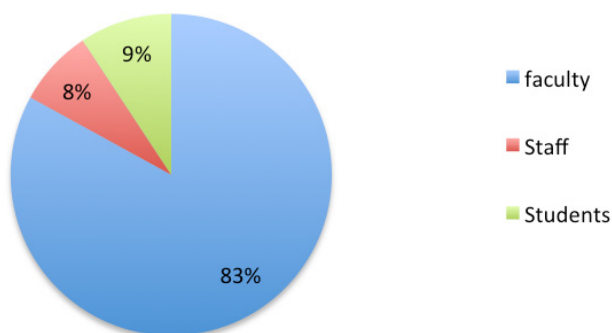


Figure 1. Project Ambrosia: Screenshots of the universe and a player

- First online course receiving national QM certification
- Dr. Bibiana Diaz joined ATI as Affordable Learning Solution (AL\$) Coordinator
- Dr. Kurt Collins joined ATI as Faculty Fellow for Research & Development
- Cross-departmental efforts in VR development
- ATI in collaboration with the Chancellor's Office and the Teaching Resource Center organized a day-long regional workshop on adaptive learning technologies attended by 18 faculty from CSUSB and other CSU campuses

Instructional Design and Supporting Faculty-led Innovation

ID service clients



Instructional Designer Work Distribution

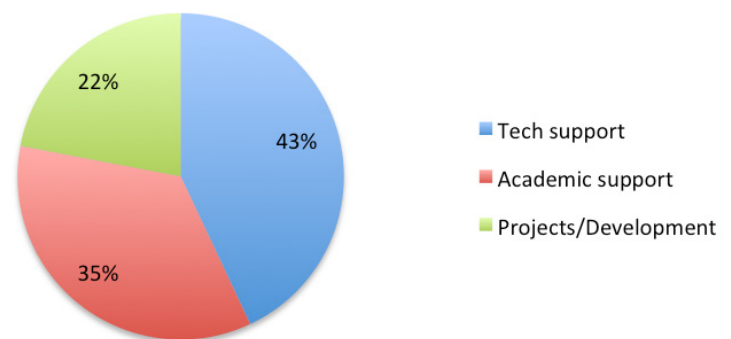


Figure 2. Distribution of work based on designer and clientele

Numbers That Matter

- 20 faculty members from 13 departments participated in the AL\$ Initiative in their effort to adopt more affordable instructional materials. 807 students were impacted with a total saving of \$107,310
- ATI assisted 9 faculty from 6 departments in obtaining Course Redesign with Technology grants from the Chancellor's Office for a total of \$119,662
- 31 faculty members attended two ATLAS.ti workshops
- 28 faculty members attended two summer institutes
- 98 faculty members attended 18 ATI workshops
- Two Spring showcases: Spring Faculty Showcase and Affordable Learning Solution Faculty Showcase in partnership with Pfau Library and the Teaching Resource Center attended by 53 faculty and administrators
- Video projects – 178
 - » Academic – 77
 - » Non-academic – 101

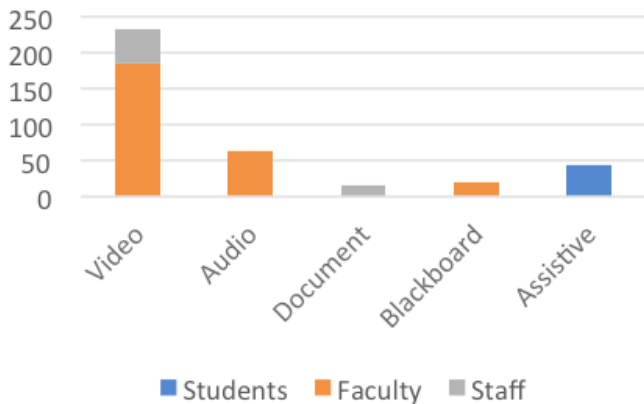
- Lecture capture videos (YouTube) – 66
- Assistance provided: 634 faculty, 59 staff, 71 students, 167 courses
- Service breakdown: Tech support 43%, Academic support 35%, Projects 22%
- 10 new courses developed

Accessible Technology Initiative at CSUSB

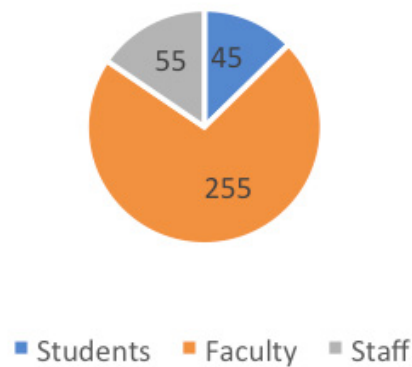
This year was especially important for the Accessible Technology Initiative at CSUSB, as the position of Coordinator was established to provide strategic guidance towards improving success indicators reported annually to the Chancellor’s Office. The initiative facilitates improvements in three priority areas:

- Web
- Instructional Materials (IM)
- Procurement of Information Communications Technology (ICT)

Accessibility Services by Customer Type



Customer Breakdown



Accessibility Services and clientele breakdown.

VETI funded initiative

ATI will deploy an ATAC accessible workstation in every public access lab on campus, including PDC

Blackboard training online module

During the summer, ATI instructional designers led by the Faculty Associate will design an online Blackboard training module freely available to the campus. The module will present a campus-specific overview of the Blackboard interface, along with instructional design training on how to set up basic Blackboard functions. We intend to pilot this module to incoming new faculty in Fall 2016.

2016 Vital Technology Initiative/Student Success Initiative Award: Assistive Technology Access for ALL CSUSB Students

Last year the VETI/SSI awarded \$82,772 for our proposal to increase the number and quality of fully accessible assistive technology workstations around CSUSB and PDC. Information Technology Services provided funds to carry out the proposal resulting in an expenditure of \$93,569.73 The funds provided 20 workstations with our full complement of assistive technology hardware and software, additional ergonomic input devices including fully adjustable furniture.

Distance Learning and Classroom Support

In 2016-17, the ATI Classroom support team provided technical support, maintenance and upgrade of technology in the classroom.

- Four new classrooms in the College of Education were enhanced with technology during the Spring quarter.
- The team provide Audio/Visual consultation for the design phase of the new Dining and Housing Complex and College of Extended Learning building.

Wiring in PL-013 was updated to all CAT5 cables to centralize the control systems and better manage of DL classes. We also upgraded the old wire connections in the 3 studios of Coyote Radio.



Looking Ahead

ATI will implement a media storage and management platform by Fall 2017 so that all lecture capture and instructional videos will be stored and managed centrally and integrated in the Learning Management System. We will again organize the faculty summer institute on learning technologies.

VETI Funded Activities

ATI received VETI funds to further pursue development in virtual reality games and to expand support for accessible technology initiatives.

Active Learning Space Renovation

ATI will complete the renovation of a second active learning space in PL013 during the summer. This is a larger classroom and will allow instructors to facilitate active learning activities with up to 100 students.

Administrative Computing and 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 of 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 2016-2017

Highlights

During the academic year (AY) 2016-2017, the ACBI team worked collaboratively with other divisions of the university to upgrade/implement several major administrative systems.

Collaborative Projects include: Handshake Implementation

COE Credential Tracking and Reporting Module in PeopleSoft - Replaced old Filemaker homegrown Credential System with a PeopleSoft Bolt-on system. Started evaluation in December 2015 and completed 3/30/2017. This project was successful due to great teamwork with the College of Education.

Online Grade Change Form in PeopleSoft - This is an online form with workflow to replace a paper form. Started in April 2016, presented to Faculty Senate on April 11th, 2017, and presented to the IT Governance on April 19th, 2017. The form will be in production in June 2017.

U.Direct (Coyote Planner) - Road maps to Graduation, went live in April 2017 for a specific group of 4-year pledgers in CBPA. Workshops for students and advisors with the pilot group have been given. For Fall Quarter, the plan is to expand the usage of the Coyote Planner.

XML Transcripts to replace Crystal Transcripts that is no longer available in CS 9.2 - Completed in March 2017.

WEBCOM June 2017 - Modifications such as printing tickets for the Palm Desert Campus. Completed February 2017.

ESP/CFS 2017 - Modifications for the 2017 Early Start Program and Coyote 1st Step. Completed April 2017.

SOAR 2017 - Modifications for the 2017 year. Completed April 2017.

Oracle 11g to 12c database upgrades

- CMS Website & Training Registration System
- ACS Application Management System (AMS)
- HR LEARN System & Admin Tool
- Teaching Resource Center Event/Grant Tracking System
- U.Achieve (PAWS)
- Advance database

Directory information in PeopleSoft - ACBI working closely with other areas in ITS to move the Faculty/Staff directory information from the current TelDat system to PeopleSoft. This will allow titles and department information to be maintained by HR. Allow easier access to the directory information in PeopleSoft.

Training Database history repository - Created a repository of training records in PeopleSoft.

College of Extended Learning – PeopleSoft updates - Develop a campus bolt-on process to run after CSU's process to remove the MMR hold for online program students as well as to update Immunization States field (set to temporary exempt) and the Expiration Date field (set the expiration date to the end of process running quarter so this student will be picked up by CSU's process quarterly to re-exam). Also for the College of Extended Learning, we created a process for CEL to upload students to BlackBoard.

Q2S Fit Gap Sessions with ERPA Consultants - Q2S Fit Gap Sessions with ERPA Consultants - April 27th through May 2017, ERPA was on campus to meet with all areas affected by Q2S. We covered all the processes that we currently do in PeopleSoft. They met with Student Records, Student Financials, Admissions, Financial Aid, and Technical.

On-Going Projects

CSU Apply (Liaison International), an Online Application for Admission Replacement Project - Rollout for Winter 2018 quarter (Open June 1, 2017). This application will replace the Mentor Application.

EMS – Event Management System - Events is live with EMS and has rolled this out to ASI and will roll out to Yasuda Center next. The Student Union is live with EMS. Palm Desert Campus is working to get their events in EMS. Academic Scheduling has populated EMS with the academic data plus added some additional fields needed for academics. Academic Curriculum and Scheduling office begins training appropriate employees on using EMS for class section classroom assignment and transitioning away from Astra Schedule. Departments will be required to locate/relocate classrooms for class sections beginning fall 2017 term (through the 2nd week of instruction) using EMS. Spring 2018 schedule production begins on October 16 – training must be completed by all academic department schedulers prior to this date.

ALMA Unified Library Interface - ACBI's involvement with ALMA is to feed employee and student data to it from PeopleSoft. We are also working to interface CFS PeopleSoft to ALMA to pay invoices. Future projects involve other areas of ITS to pay student fees through Cashnet.

CIM– CourseLeaf Curriculum Management - As part of the Quarter to Semester Conversion, CIM is a tool that streamlines the entire process of entering, editing, storing, and managing course and program proposals. CIM takes the entire process online. Data will flow from and to PeopleSoft.

CS9.2 upgrade and HR Split - Starting June 19, 2017 and go-live December 18, 2017 – CS and HR Split and CS will upgrade to version 9.2. There is a code freeze during this time. The ACBI Team has been working on developing tools to help with the upgrade and split. Because this affects the technical team the most, we had already started planning our strategy. CSUSB has joined the CMS Central status calls since we are the last wave 1 campus.

Common Human Resources System (CHRS) Project - This program is designed to create a single HR Data Management system for all of the CSU. It includes upgrading to the latest version of the PeopleSoft HR Application and providing a consistent baseline of technology. In addition, the program will deliver a shared HR data warehouse that will centrally developed and maintained. Timeline:

- 2016-17 – Design of the new CHRS System – In Progress
- 2017 – HR Split from PeopleSoft Student System – June – Dec 2017
- 2018-19 – Redefining Processes and Cleaning Up of Data in the HR Systems
- 2019-2020 – Migration to the new CHRS System begins
- 2020-2021 – CSUSB Moves to the new CHRS System

Enterprise Data Warehouse Project - Provide data for Institutional Research Office and others who need to do data analysis. One place to have access to delivered reports with drill down capabilities for:

- Integration of DARS (Degree Audit & Reporting System) within the data warehouse to provide better analytical tools to student success.
- DARS Overview rolled out to all college advising teams (including UGS).Degree Audit
- Functional use of DARS reporting for summer 2017 GIG and General Education course push.
- Active use of Coyote First Step Dashboard for student identification.

Looking Ahead

This year ACBI is focusing on Student Success, Analytics, and the Graduation Initiative 2025 by adding services to our students, faculty, and staff to communicate better and to offer tools to help them to succeed.

Portal and Mobile application evaluation - The ACBI Team has been evaluating portal and mobile platforms. We've had demos for CampusM from ExLibris which provides both a portal and mobile solution in one. We are also evaluation the ModoLabs mobile platform and GreyHeller for a PeopleSoft mobile solution.

Mobile Applications - With the Graduation 2025 Initiative in mind, we are looking to develop a “Graduation Tracker” to help students track their progress to graduation.

Quarter to Semester (Q2S) for Fall 2020 - With the Q2S Fit/Gap sessions behind us, starting June 2018, the ERPA Consultants will return to CSUSB to help us with the implementation. Conversion for Fall 2020 will be in May 2020.

Highlights



24/7 Study Area

On May 30, 2017, it was with great pleasure that the Associated Students Inc, The Pfau Library, the Student Affairs division and the Information Technology Services division announced the grand opening of the 24/7 Study Area in the first floor of the Pfau Library Addition! The Study Area's extended hours began at midnight, May 30th, and remained in effect until the end of the Spring quarter. COYOTE-ID CARDS ARE REQUIRED in order to enter the Study Area between midnight and 6 a.m., with the only available access being the south entrance of the Wedge. The enhanced security presence ensured student safety. The PL-1109 computer lab was also be open during these extended hours.

The 24/7 Study Area VETI Grant Proposal

The VETI grant proposal to upgrade the computer systems in the new 24/7 Study Area was approved. The purpose of this project is to bring the computers that are in the PL-1109 open lab up to date in order to provide the best technology available for the new 24/7 Study Area for students that will be operational in the upcoming months. This will be the only 24/7 open lab/study area on campus. Information Technology Services (ITS) has already spent over \$77,000 on new furniture, flooring, and renovations on the Pfau Library Addition, first floor for the 24/7 Study Area. By providing 24/7 access to the Study Area and lab, ITS will also incur staffing costs for the night-time support personnel. By funding the computer refresh project with VETI monies, it will allow the Information Technology Services division to fund other technology projects also intended on assisting with the Grad Initiative 2025 and other technological innovations for students. According to the Chancellor's Office [Graduation Initiative 2025 website](#), a key objective is "ensuring technology is part of every CSU student's learning environment. Effective use of technology has been shown to improve retention in courses with the highest failure rates."

From March, 2016 to March, 2017, the PL-1109 lab saw over 40,000 logins during its current business hours. By providing this 24/7 study area and access to almost 100 computers, including up to 15 ADA-accessible computers, ITS is demonstrating its commitment to our students' graduation goals and those of the Chancellor's Office Graduation Initiative 2025.

Completed TSC Projects

The Technology Support Center continued to provide world-class desktop support and services to over 1,000 staff members across campus. We began the Domain Migration for the Finance and Administration Division, the Student Health Center, and the Undergrad Studies. The TSC also completed the following projects during the 2016-2017 fiscal year:

- Collaborated on the implementation of Alertus Campus wide.
- We implemented the new GoPrint Cash Value Machines campus-wide and are already in use.
- We led the Kayako Cloud ticketing system testing.
- A new campus weather station is being setup for production use this summer.
- We established a new Facilities Management Key System online for campus-wide use.
- We installed new Payment Kiosks for the Bursar Office and the SMSU.
- A new iOS Management Software tool called Casper was implemented.

- TSC staff performed a VDI Upgrade for CEL, ITS Training, Health Center, and SBS use.
- Upgraded Blackboard version from April 2014 to Q4 2015 CU2
- Added Mathematica and Autodesk campus licenses to our existing licensing server for student use.
- Upgraded the OneCard stations in the TSC and PDC to newer hardware and OS
- The TSC improved the GoPrint system that is used campus-wide. We upgraded 8 of the GoPrint cash value machines around campus and at PDC. We also brought up a new GoPrint area in CE-114 and we are bringing another area up in UH-347.
- From March, 2016 to March, 2017, the PL-1109 lab saw over 40,000 logins.

Housing

We refreshed 35 Staff Computers in Housing and assisted in expanding and improving wireless access in the Serrano Village area. Working with Web Services, we created a Housing “Connect Device to Campus Network” webpage for student self-help.

ITS Training Services

The ITS Training Services Office serves the campus community by providing technical training for required courses such as security and PeopleSoft training. We also provide other technical training such as Zoom, New Employee Technical Orientation (NETO) for new employees, Communication in the Workplace: Active Awareness, Financial Aid, Qualtrics, and many others. From 6/1/16 - 5/22/17 we have served:

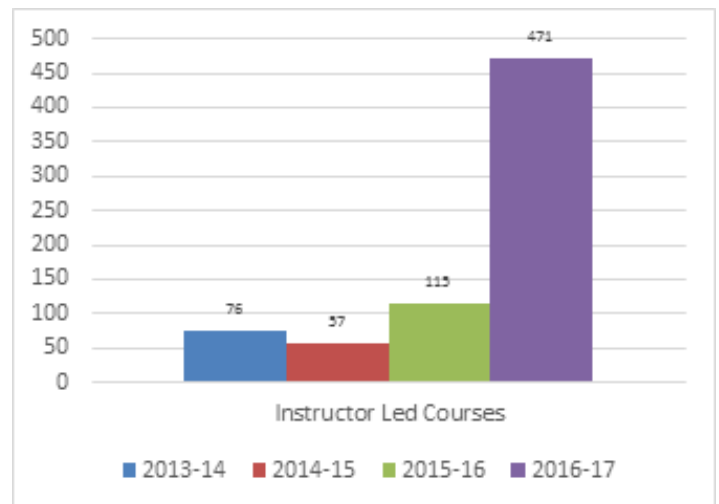
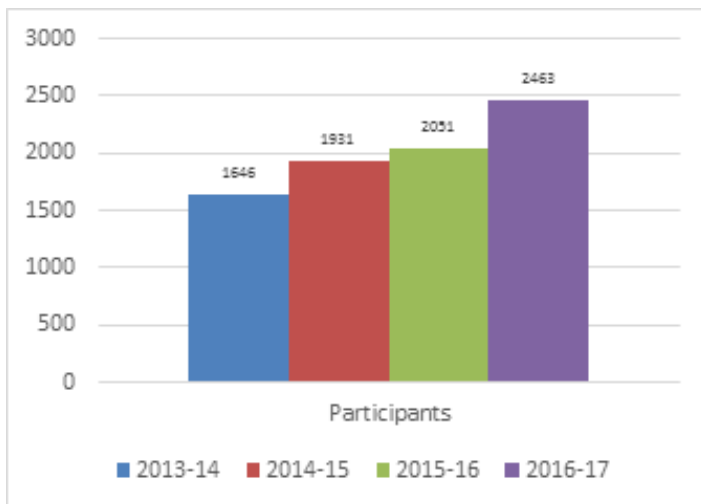
Instructor Led offered: 471 sessions, with 893 attendees

One on One sessions offered: 106, with 108 attendees

Online training requests: 1769, with 1272 attendees

Walk-in training requests: 190 attendees

For a total of **2463 training attendees served** in the past year:



Technology Support

The Technology Support Call Center handled over 16,000 calls from June 1, 2016 - May 31, 2017. The busiest weeks were the first two weeks of the Fall 2016 quarter, where we answered over 600 calls each week.

Kayako Ticketing System

The TSC has increased the technical user licenses to 125 users. From June 2016 through May 2017, over 9,300 tickets were created in Kayako. Below is a department representation of these tickets, sorted by number of tickets opened:

Department	Total Tickets
Technology Support Center	1936
University Hall	1090
NCS Scanning	1056
Student Health Center	711
Housing	701
Faculty/Staff Email	619
Web Services	452
Course Copy	369
MyCoyote	322
Blackboard Technical Issues	273
Blackboard	248
GoPrint Support	224
Facilities	158
ITS Training Services	140
Identity Management	137
Email Support	104
General	99
Enterprise & Cloud Services	93
PDC Support	86
Student Email	67

Department	Total Tickets
Administrative Computing & Business Intelligence	66
Office 365 ProPlus - Subscription	61
Distributed Technology Services	58
Wireless Guest Access Request	46
Password Reset	33
Information Security and Emerging Technology	28
Course Merge	25
TSC Projects	24
Licensing	18
PeopleSoft Mods	15
Student Password Reset	14
Classroom Technology	11
Sharepoint Online	8
College of Extended Learning	6
College of Social and Behavioral Sciences	6
TOTAL Ticket Count for 2016-2017:	9304

Enterprise and Cloud Services (ECS)

Highlights

Relocation of physical servers

Approximately 15 physical servers were relocated at the server room from TNS row to row B. The logistics of the move were done in coordination with server tenants to minimize service interruption. This relocation allows ECS staff to record all the physical infrastructure including power, network and application hosted on each physical server.

Inventory and consolidation of the Server Room physical equipment Project

Server room physical servers were labeled and identified on row B. A runbook is being created that includes the tenant contact information, location and system hardware information. Gathering credentials or adding the servers into a domain to access them is part of the plan on this project.

Virtual Desktop Infrastructure (VDI)

ECS was designated as the new liaison for campus VDI support. VDI Horizon infrastructure is serving over 15 departments and multiple users and computer labs across campus. Currently there are 210 provisioned VM's ready to be used. Now various campus departments are currently exploring this technology and considering it as a replacement for their existing technology.

- Migration of College of Extended Learning (CEL) to VMware Horizon, 80 endpoints
- Migration of College of Social Behavioral Science (SBS) to VMware Horizon, 30 endpoints

Enterprise Backup Infrastructure Upgrade

Enterprise and Cloud Services migrated from an outdated IBM Tivoli backup system onto a VEEAM backup infrastructure. The VEEAM backup infrastructure is used to backup all our virtual infrastructure. A second instance of the VEEAM will be deployed using a MS SQL instance on Azure to test the performance of the application with the SQL instance.

Our storage capacity was growing dramatically and we were out of compliance with TSM license. Before the procurement of the VEEAM, our license agreement with TSM was for 68 TB of backup, nothing beyond 68 TB was cost effective; here is a quick comparison of the two:

	TSM	VEEAM
Backup Size	220 TB (minimum requirement) support is included.	Unlimited capacity for the 6 current hosts. Support is included.
Annual Cost	\$198,000	\$23,729.89

Today we are backing up more than 140TB and more than 200 VM Servers, and demand is rising.

The VEEAM backup and recovery system was deployed and implemented to back up our virtual environment. Cloud solutions are currently being tested. Azure, Phoenix Nap and Offsite Datasync are the companies that we are currently working with. Price for backup, replication and hosting have been provided for Phoenix Nap and Offsite Datasync. This alternate backup solution offers additional features that will benefit our clients including systems recovery time.

ECS Alarm System

ECS is in the process of installing panic buttons and relocate two motion sensors in PL022 to be able to arm the alarm. The sensors that are to be relocated both are in PL022. One will be facing the front double door and the second one will be facing the single door that gives access to PL024 server room. PL024 will be open 24x7 to other colleges and campus techs therefore the area will need to have a physical access protection in place.

ECS Equipment Decommission & Sealed Bid

The third sealed bid of our decommissioned equipment is now in progress. ECS is coordinating this project with our IT division Finance department, Property Office and PDC campus.

VMware Sandbox Development Rack

ECS is currently developing a test environment. This environment is being built using hardware from several working decommissioned systems. The environment is intended to be used to implement, develop and emulate solutions that can be applied to production systems once they are fully tested.

- 3 HP servers (Hosts) from CSBS and 3 IBM M2 servers (Hosts) were repurposed to accomplish this task.
- The development rack emulate the production environment as it has a C1 and C2 VMware clusters running VMware version 5.5.
- Both clusters are using RAM memory extracted from other systems.
- Each of the C1 hosts has 192 GB RAM
- Each of the C2 hosts has 256 GB RAM.
- The idea of this project is to provide an environment where department admins can test applications and upgrades in complete isolation from the production environment. The development environment is only configured to the development VLAN 362. As a future proposed direction will be to have all the development environment currently hosted within the production clusters moved to this new environment.
- The 12 TB of storage used by this development environment is also repurposed.

ECS Generator Web card installation and Configuration

Install a wireless web card device to the ECS power generator so it can be monitored via web. Once the web card is installed, the card will record the generator activity as well as to send TXT alert notifications if it gets into operation. The quote was provided and has been approved, only waiting for procurement.

Cloud Migration

Exploring the Cloud Storage using Microsoft Azure.

Hardware Maintenance, Upgrade and Troubleshooting:

- SAN Troubleshooting, major maintenance work was done to compellent storage.
- Installation of 820 Controller
- SAN Expansion for VEEAM Backup
- Installation of two new Physical Servers for ACBI

Further development of the DEV VMware rack adding systems to clusters and establishing storage common to the VMware vSphere infrastructure.

Software upgrades

- Upgrade to VSphere 2012 Version 6.00
- Migration from TSM to VEEAM Backup Application

Kayako Fusion Upgrade

Built a new server for Kayako Fusion on the latest CentOS 7, Nginx, and PHP platform.

OnBase and Workflow

- Graduate Studies Admission Decision Workflow
- Center for International Students and Program Office Imaging System
- Delegation of Authority Form
- Total upgrade and enhancement of Study Abroad
- Enhancement to CIA Form
- Imaging system for EOP

Highlights

Wireless Network Re-architecture

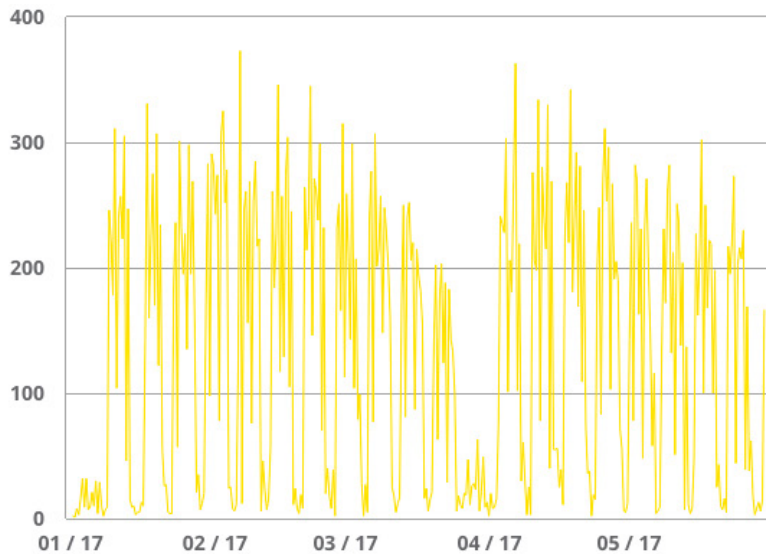
As proposed and approved by IT Governance Executive Committee in August 2016, TNS retired the legacy CSUSB-ACCESS network and introduced a new CSUSB-Visitor network where guest users can self-register, streamlining the process to gain wireless access. Combining with outreach at SOAR and at other events, IT Services ensured that students are educated on how to connect to eduroam so they can remain connected across campus. In addition, the wireless re-architecture also allowed Telecommunication and Network Services to re-engineer eduroam to use private IP addresses, returning scarce public IP address so they can be reallocated for other campus needs.

Key Performance Indicator:

- Average daily concurrent eduroam user increased by 27%
- Eduroam-connected user increased from over 80% to over 94%
- 66% decrease in the number of users who are not “always connected”

Outdoor Wireless Expansion (Phase II)

Phase II of the campus outdoor wireless expansion increased the number of outdoor wireless access points on campus to nineteen by June 2016. Based on the results from the March 2016 student survey, majority of the expansion focused on outdoor and parking areas, and a portion of the athletic fields. Improved outdoor wireless coverage included the newly opened Parking Lot N, Parking Structures East/West, the Pfau Library and SMSU. Additional outdoor wireless expansion is being planned for the 2017-18 academic year.



	LAST	MIN	MAX	AVG
Total Clients	166 clients	1 clients	373 clients	132 clients

Network Firewall Replacement

As part of the system-wide Common Network Initiative (CNI) project, CSUSB replaced the existing border and server farm firewalls with the next generation firewalls from Palo Alto Networks. Jointly managed by Telecommunication and Network Services, and Information Security and Emerging Technology, these advanced firewalls provide intrusion detection and prevention, stopping a significant number of attacks to and from campus servers and workstations. During the San Bernardino and Palm Desert Campus firewall replacement, CSUSB converted 72% and 64% of firewall rules respectively to next-generation application ID based firewall rules. Over 220 legacy rules were removed, further tightening campus network security. On a one-week sample, the border firewall blocked nearly 38,000 known threats.

Threat Severity	Number of Threat Blocked
Critical	5,994
High	8
Medium	31,895

Cellular Service Expansion

TNS worked closely with our cellular broker, Crown Castle, to increase cellular coverage for two major vendors -- AT&T and T-Mobile. This will be the first T-Mobile cellular site on campus and will bring enhanced coverage to campus. The three new T-Mobile cellular towers are expected to be online by Fall 2017. Additionally, campus is also working with Verizon Wireless to bring additional coverage to campus to meet the growing demands.

Courtesy Phone ADA Mitigation

As a result of the Jackson Lawsuit, IT Service completed the ADA mitigation for all campus courtesy and classroom phones. Mitigation for University Hall Payphone was completed in the 2015-16 academic year, while the remaining 75 courtesy and classroom phones identified as out of compliance with ADA standards were replaced with slim line phones to meet ADA guidelines.

UCR-PDC Writing Center

In collaboration with the Palm Desert IT Services team and UC Riverside, TNS brought wired and wireless connectivity to the UC Riverside Palm Desert Campus location.

Telesoft Upgrade

TNS completed an upgrade of our internal work order system to enhance security of the system. The department is also working closely with other ITS departments on evaluation the next generation of IT Service Management system.

Operational Statistics

Network Services

Continued increase in network utilization resulted in the average peak usage on the campus CENIC circuit to from approximately 2.0Gbps to approximately 2.8Gbps, approximately 35-40% increase year over year.

Wireless Network

The two wireless enhancement project completed in 2016-17 yielded a significant increase in number of connected users.

Distributed Technology Services

Mission

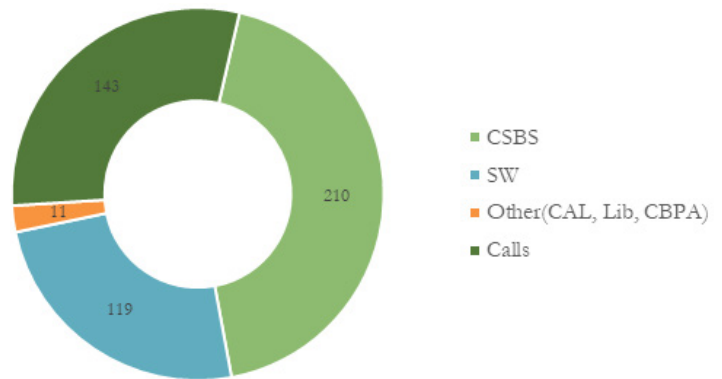
Distributed Technology Services (DTS) was formed by the colleges, for the colleges as an organic process. DTS provides collaboration, communication, and technical support for the colleges. Additionally, DTS created a collaborative team called the Standard Operating Procedures (SOP) working group. The SOP group is made up of technical representatives from each college and ITS with the goal of creating better standardization, transparent and equitable support, and identifying further efficiencies within the system.

College Support

Conducted with collaboration of college techs, the DTS team provided a total of 282 support and answered calls at the TSC from faculty, staff and students.

Project

Conducted with collaboration of college techs, the DTS team took lead and assisted on multiple projects at many colleges in the university.



1. College of Social and Behavioral Sciences

a. Printer Standardization

- i. **Project:** Standardize printer for Office, Labs, and Departments
- ii. **Impact:** Faculty, staff, and students of CSBS; 700+ users.

b. Inventory

- i. **Project:** Evaluate a new inventory platform. (Snipe-IT)
- ii. **Impact:** CSBS IT Department; 8 users

c. Social Work SB365

- i. **Project:** This project is for improvements in the classroom
- ii. **Impact:** SW students; 500 students

d. Social Work CSUSB Domain Migration

- i. **Project:** Migrate Social Work's faculty and Staff to the CSUSB Domain and Windows 10
- ii. **Impact:** Faculty and staff; 30 users

e. Counseling Referral Form

- i. **Project:** Assist in creating a proposal for a Mental Health Referral application
- ii. **Impact:** Colton USD students and Social Work CSUSB employees

f. Rebuild/Update form

- i. **Project:** Create a digital version of the current deployment form

Standardization

The Standard Operating Procedures (SOP) Group is tasked with the identification of best practices and procedures in technical areas for ubiquitous use on campus. The SOP group have determined the following Campus Standards during the 2016-2017 calendar year:

1. Quarterly purchase
2. Systems maintenance communications recommendations
3. Server naming convention
4. Classroom software & hardware standards
5. Storage media retention
6. Administrative privileges assignment/revocation procedures

All SOP's can be found at the SOP website: <https://www.csusb.edu/its/sop/standard-operating-procedures>

Summary

The Graduation Initiative 2025 and the continued growth of the Palm Desert Campus were at the forefront of our focus for the 2016-2017 academic year. As we work to bridge the IT strategic plan to be mission-aligned and student centered, we were able to support 308 graduating students, that included a 28% 4-year graduation rate and an overall 85% retention rate. In partnership with San Bernardino campus IT, we could provide the tools to build on our student, faculty and staff successes and are very proud to be a part of that team. We look forward to continued growth as our Master Plan will be going to the Board of Trustees in the Fall 2017, which will continue our commitment to the Coachella Valley and all students that will pass through our campus.

Highlights

- Equip and set up Writing lab in the Heckman building at Univ. of Cal. Riverside (UCR) local campus
- Install switch for CSUSB network access at UCR
- Set-up and support computer equipment for Faculty offices at UCR
- Set-up and support portable classroom equipment (2) at UCR
- Implement Acuity software for our Academic Counselors, although no prior statistics are available, they have seen 1241 students since January 2017, which they all agree is a significant improvement.
- Begin procurement process for new OLLI registration and course management software: Campus CE
- Configure and use new event management software for events and academics: EMS
- Clean up website PDC.CSUSB.EDU for migration to new platform
- Incremental upgrade of Indian Wells Theater lighting to LED, improved sustainability and less of a carbon footprint
- Improve WRI/Salton Sea archiving process to be more efficient, timely and utilize less non-renewable resources.
- Host multiple Open Forum for HR, Student Engagement, Diversity and Nursing.
- Expand support for Nursing Department, including new student check in kiosk, computers and printers.
- Awarded VETI grant for new radio station
- Work with Faculty and staff to develop curriculum, and classroom availability, as well as production equipment for new radio station
- Partner with UPD/County of San Bernardino to improve and expand video surveillance at PDC.
- Partner with Property and successfully complete campus wide inventory.
- Support Better Together' California Teacher's Summit 2016, including support of Wi-Fi for 300 attendees.
- Support for 42 Distance Learning classes that were broadcast from two separate locations on the San Bernardino campus.
- PDC IT team was nominated for the President's Staff Award: Team Achievement
- Continued hardware and software support for various departments including Nursing, Veteran's Success Center, Career Center, Rancho Mirage Student Center, ASI, SSD, Student Health Center, Coyote Bookstore, Financial Aid, Bursar's Office, Facilities, Porter Resource Room, Counseling Center, Osher and Salton Sea Archives.
- Work with Neurofeedback clinic to secure new office space at UCR
- Provide desktop and network support for all PDC student, faculty and staff.
- Work with Associate Dean to make sure the classroom schedules are correct, instructional materials distributed for DL classes, and provide proctoring as needed.

- Work with PDC Operations Director, to coordinate usage of classrooms, Oliphant Auditorium, Indian Wells Theater and various building lobbies, for classes, events and rentals.
- Support 40 outside rental agreements, with network access and technical support for periods ranging from one day to three weeks.
- Provide sound, video, lighting and other technical support for 56 events held on campus, during, after campus hours, and on weekends.
- Provide technical support and instructional training for 62 Osher classes taught on campus, in 9 different classrooms.
- PDC IT team earned a Certificate of Appreciation for our support of SSD and CSUSB's Ability Awareness event.
- PDC IT team received a Certificate of Appreciation from the Veteran's Success Center for our support of the Yellow Ribbon ceremony.
- Upgrade border firewall between PDC and SB campus.

Palm Desert IT team strives to create Raving Fans while providing World Class Customer service. We are very proud of the support we provide the campus, students, faculty and staff. We look forward to our continued growth in academics.

IT Governance

During the 2016-2017 the ISET subcommittee saw several changes in membership, most notable Professor Tony Coulson was replaced by Professor Joon Son as Co-Chair. The subcommittee met periodically and conducted the following activities:

- Reviewed CSUSB Student eAuthentication Risk Assessment
- Reviewed CSUSB Student Identity Validation Standard
- Reviewed Executive Order 877/HIPAA Compliance and the new CSU HIPAA Assessment
- Review and updated the CSUSB Access Control Standard to include MFA
- Review the Campus Phishing Program
- Reviewed and updated the CSUSB Information Retention Management Standard
- Recommendations to IT Governance:
 - » CSUSB Access Control Standard to include MFA,
 - » Campus Phishing Program.

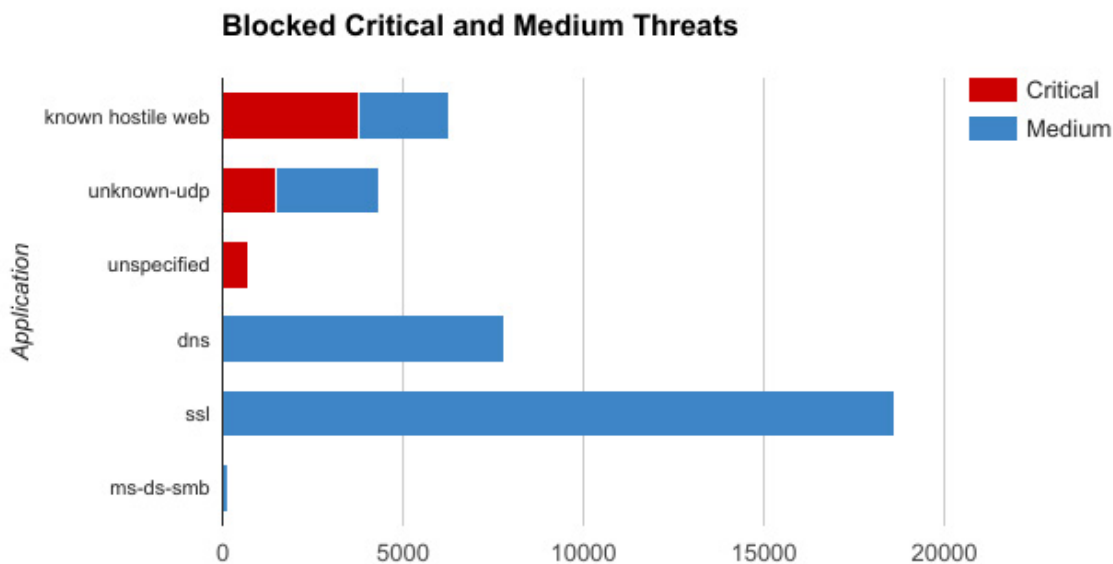
Compliance

As part of the required CSU HIPAA Assessment ISET identified all the departments that handle, process, or store electronic protected health information. ISET initiated periodic working meetings for the systematic review of the security controls and assist the departments involved in the development and documentation of their process and procedures. This is an annual assessment that will be incorporated into the campus information security compliance program.

Security

Security Infrastructure

Replaced existing border and server farm network firewalls with the next generation firewalls from Palo Alto Networks. These firewalls also provide intrusion detection and prevention, stopping a significant number of attacks to and from campus servers and workstations. The graph shows the threats blocked during one week in May-2017

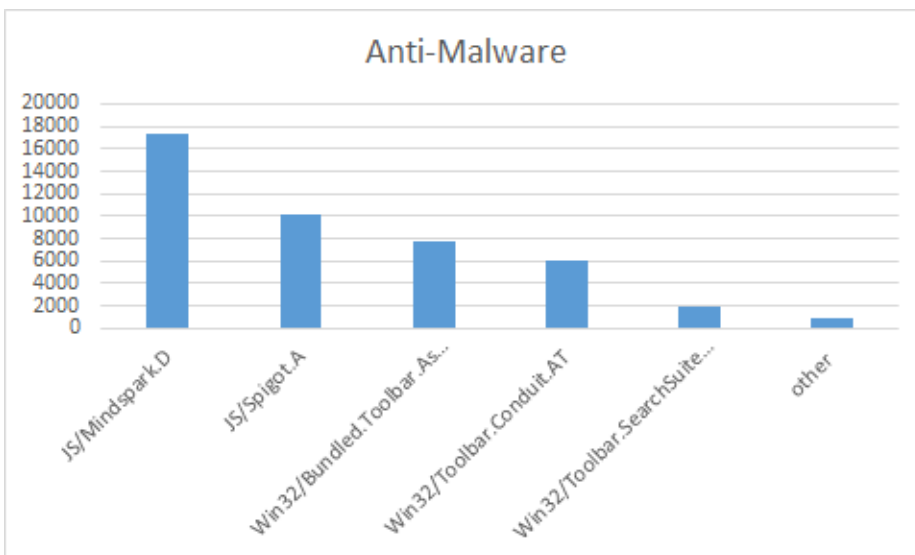


Threat Severity	Detected Application	Count
Critical	web-browsing	3764
Critical	unknown-udp	1475
Critical	not-applicable	714
Critical	dns	25
Critical	webdav	6
Critical	kerberos	5
Critical	web-crawler	4
Critical	ms-ds-smb	1
High	smtp	4
High	unknown-tcp	4
Medium	ssl	18616
Medium	dns	7768
Medium	unknown-udp	2850
Medium	web-browsing	2508
Medium	ms-ds-smb	121

Threat Severity	Detected Application	Count
Medium	outlook-web	11
Medium	web-crawler	9
Medium	google-analytics	7
Medium	battle.net	2
Medium	sophos-live-protection	2
Informational	web-browsing	27456
Informational	http-proxy	20776
Informational	ssl	4536
Informational	iheartradio	156
Informational	wechat-base	115
Informational	steam	37
Informational	apt-get	6
Informational	bittorrent	6
Informational	itunes-base	2
Informational	netease-mail	1

Anti-Malware Protection

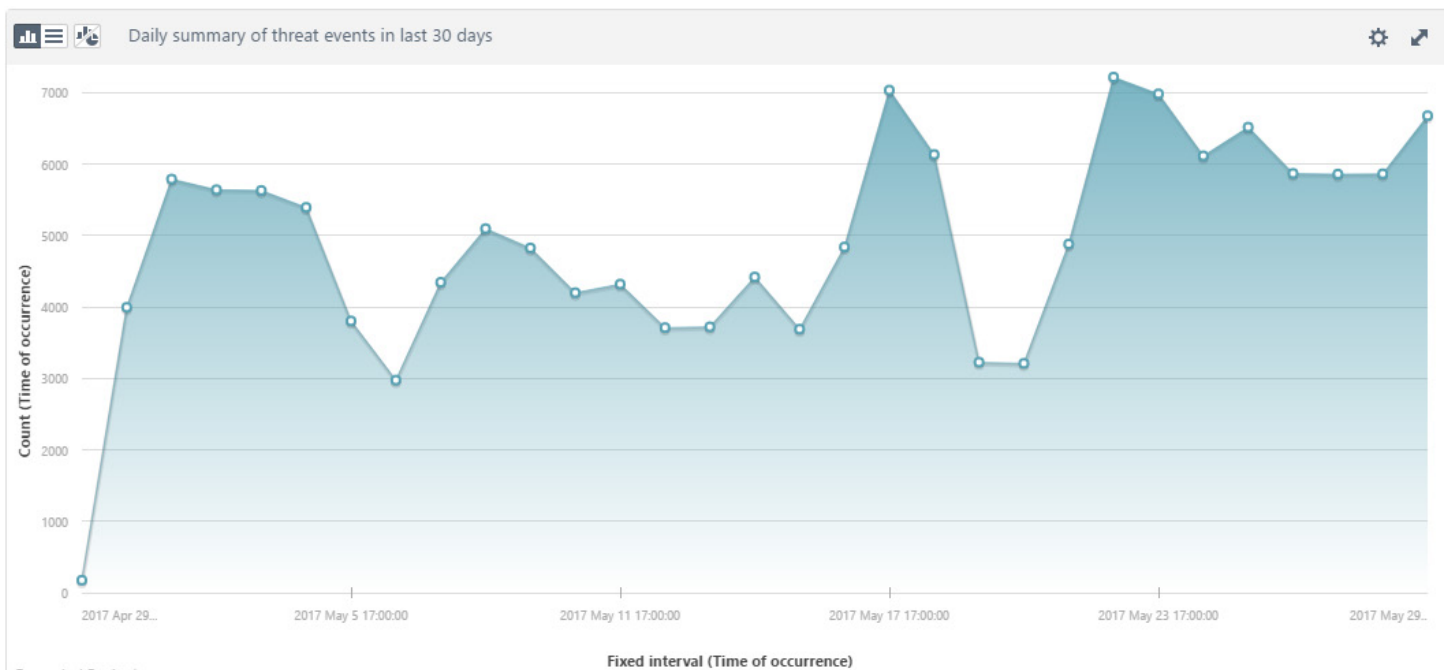
The campus antivirus solution, ESET, is deployed in all campus computers and provides protection against malware. The following graph shows the malware that was detected and removed from the campus solution during one week in May-2017.



Threat Name	Count
JS/Mindspark.D	17282
JS/Spigot.A	10182
Win32/Bundled.Toolbar.Ask.G	7820
Win32/Toolbar.Conduit.AT	6026
Win32/Toolbar.SearchSuite.W	1951

Threat Name	Count
Win32/Bundled.Toolbar.Google.C	436
Win32/Adware.Coupons.AA	238
JS/Lightning.B	148
Win32/Toolbar.Montiera.AK	106
Win32/Itsalike.C	40

The number of daily attacks to campus system is continuous as can be seen on the following graph showing the number of daily threats that the campus solutions detects and blocks.

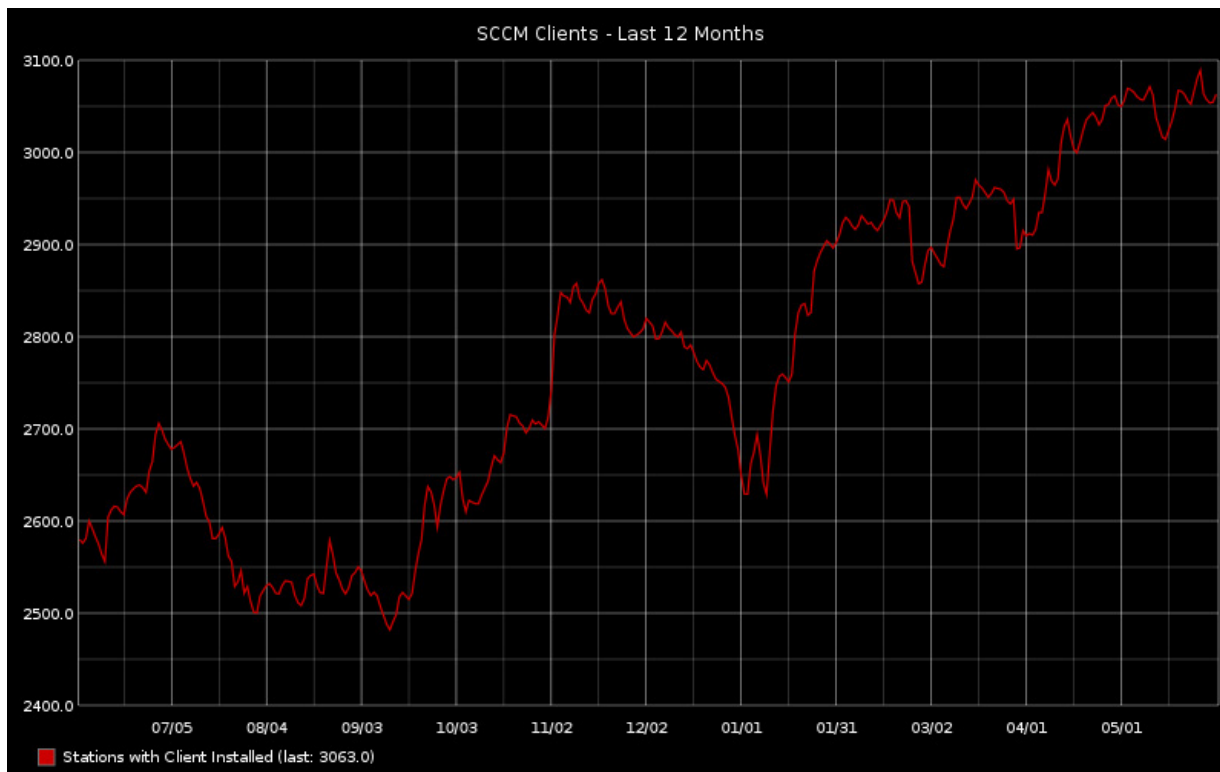


Vulnerability Management

In an effort to minimize the risk of zero day attacks on campus server, working in collaboration with all the departments across the campus, ISET increase the number of server that are periodically assessed for vulnerability. This effort also resulted in a consolidation of servers, which is also represented on the graph below.

In addition to servers, ISET also worked with the departments to add workstation to the central campus solution (The System Center Configuration Manager or SCCM) for maintaining workstation up to date on security patches. This has increased the stability of the workstations and reduced the risk for possible malware compromises.

Increase in the number of workstations that are maintained centrally - SCCM



Phishing Program

Three phishing exercises were conducted this year. Two preparatory exercises focused on small groups and one primary exercise included all faculty and staff. The primary exercise consisted of a vague email from an unidentifiable person instructing the viewer to open the attachment to view an unnamed document. Those who opened the attachment discovered it was training information about the dangers of opening attachments from phishing emails. Below is a screenshot of locations where email the attachment was opened.

Enterprise Support

A self-contained Single Sign On system for the campus was finally deployed in the cloud (AWS) providing high availability authentication services for the campus. This system has no dependencies on on-campus hosted systems ensuring service availability to other cloud applications regardless of campus down time.

The campus authentication service is a critical part of the campus infrastructure, and as part of the preventive security protection, ISET implemented an active monitoring for the detection of possible attacks and compromised authentication credentials, The graph shows the number of blocking IP-addresses of users attempting to mask their location when accessing the campus authentication service for the month of May-2017.

Security Access Controls

Collaborative Enterprise Wide Projects

Online Computerized Information Access (CIA) Form

Single Sign On

More applications are been incorporated into the campus portal enhancing the services provided to students, faculty and staff. This year, the following additional applications were integrated into the campus single-sign-on,

- EMS - event Management System
- Simple K - Key Control system
- Jamf Casper - Mobile Device Management
- CITI Training - Collaborative Institutional Training Initiative (IRB)
- Educause - Resources for Higher Education institutions
- NSF/Research.gov - Fast track grant submission
- ALMA/PRIMO - Library system
- Expanded participation with members of InCommon

In progress: NeoGov, TMA

- Multi-factor Authentication
 - » Implemented the use of multi-factor authentication for remote access for system administrators and users to sensitive information
 - » Initiated the implementation of multi-factor authentication for security administrators and users with access to sensitive data in CMS

Business Continuity

ITS Business Continuity Plan - worked in close collaboration with all the department in ITS to update and conduct tests of their business continuity plans. Conducted Continuity Plan Exercises of ITS Leadership, ACBI, TNS, ISET, ECS Enterprise Applications and ECS Data Center. In order to update business continuity and disaster recovery plans for systems maintained by the ITS division, ECS Data Center distributed a new business impact assessment (BIA) tool to all system owners on the campus virtual environments.

Emerging Technologies

Blackboard Data Analytics

In collaboration with other ITS departments, ISET deployed a data analytics tool to facilitate the analysis of log information from Blackboard and help in the diagnostics of possible issues with blackboard users.

The following infographic is an example of the data that can be extracted from the logs showing the location from where international users appeared to be located when accessing Blackboard during Winter Quarter 2017.

ITS Consulting Services

The Project Management & Assessment Office serves as a first stop for IT consulting requests. The campus community requests IT consulting services such as project implementation, software consultation resource planning and consultation and guidance from our division by filling out a simple request. The PMA Office will then follow up and develop a needs assessment for planning and resource allocation purposes, and assist the requestor with building the proper team to implement the request successfully and eventual project success.

Case Management System - Department of Social Work and Colton Joint Unified

The CSUSB faculty in the Department of Social Work are working with the Colton School district to implement a Case Management system for students that are seeking services. - *In Process*

Handshake Implementation - CSUSB Career Center

Implementation of the new jobs portal *Handshake*, this portal allows for students and employers to interact on the same portal which serves as a job board and much more. - *Completed*

Project Workflow - College of Extended Learning

The CEL team is looking for a better way to manage their design project requests, The ITS team is helping the team evaluate processes and systems to meet their needs. - *On-hold*

ISA Appointment Process - Academic Personnel

The process to hire and place Instructional Student Assistants is a very manual and burdensome process. Our ITS Team met and consulted on process improvement and the development of a workflow to digitize the process. - *In Process*

Recreation Management System - CSUSB Recreation and Wellness

The team at Rec Sports is looking to replace their management system which manages facilities access, point of sale, member tracking, activity registration, and report generation. - *In Planning*

Volunteer Hour Tracking - Office of Community Engagement

The OCE office is seeking the best method to track volunteer hours for our campus family. Students, Faculty, and Staff all do tremendous work for our community and we need a better way to track the volunteer service they provide. - *In Process*

Tapingo - University Enterprise Corporation

UEC is exploring using a mobile app for patrons to pay at different service locations around campus with their mobile phones. ITS is consulting on accessibility, single sign on and general security.

Web Services

The Web Services team has been immersed in migrating websites from our campus servers to our cloud-hosted provider. This is more than a migration to the cloud, it is also a migration to a centralized web development paradigm using a Content Management System (CMS) called Drupal. For this annual report, we highlight the progress and status of this multi-year project that impacts our strategic alignment in the area of Identity.

Migration to Drupal (CMS)

- Project is 55% complete
- 117 of 215 websites migrated to and built in Drupal CMS
- All faculty, staff and students are impacted by the websites that have been migrated.
- 140 content editors trained in Drupal

Current Major Projects

- Student Affairs – 17/24 sites
- Colleges – 52/102 sites
- Administration and Finance – 19/24 sites
- University Advancement – 5/5 sites
- Academic Affairs (unaffiliated with a college) – 16/32

Analytics

- Pageviews – 6,057,501
- Sessions – 3,721,391
- Mobile sessions – 853,255
- New visitors – 870,143
- Visits from 196 countries (Top 5 are: U.S., India, China, South Korea, Germany)
- Desktop Visitors – 75%
- Mobile Visitors – 23%
- Tablet Visitors – 2%

Campus Collaboration

Web Services has worked with every division, every college, and every new center and program created within the past year. All the public facing college websites have launched, including the entirety of the College of Education, along with 7 academic department sites within the other four colleges.

Report on Communications Task Force

Charge

Information Technology Services (ITS) Vice President Sam Sudhaker created the Communications Task Force to address ITS communication challenges and provide systematic solutions as a result of the ongoing campus discussions on workplace climate.

Recommendations

At a dedicated division meeting, five implementation teams were created based on the top 5 core values identified by ITS staff (transparency, respect, purpose, knowledge, and clarity in communication). Objectives and tactics were recommended to improve communication. All teams are comprised of volunteers from ITS Leadership and Staff.

Status

Short term, goal-oriented implementation teams are working together to execute recommended objectives, tactics, and timelines. The teams are responsible for the following:

- Prioritizing objectives
- Defining KPI (key performance indicators: assessment)
- Exploring additional objectives/tactics
- Proposing long term solutions
- Creating implementation plans where necessary
- Collaborating on implementation strategies

Communications Training

As a result of the task force, two ITS Division staff members created a multi-session workshop to address issues of communication that were identified by staff members. Topics such as: Microaggressions, Stereotyping and Assumptions, Communication Styles, and Radical Candor. To date, approximately 70 members of the ITS Division have participated with the remaining 40 to be completed over the summer.

Report on Career Pathways Task Force

Charge

The charge of the Career Pathways Task Force was to identify and clarify perceptions of career advancement opportunities for employees within the ITS division. Secondly, the task force was asked to identify possible solutions to perceived obstacles and provide sample pathways for advancement.

Recommendations

The recommended solutions are to align with the timeline and spirit of the ITS Strategic Plan.

1. **Improve Communication** by Implementing recommendations from the communication task force.
2. **Create A Human Capital Plan** with a staffing, training, advancement and accountability sections.
3. **Improve Advancement Opportunities within the Division** based on merit, skills, and education based advancement.
4. **Dedicate Resources** in a fair and equitable manner.
5. **Define Pathways** that are career-field specific to help employees advance.

Status

The results were presented at a special division meeting. During this meeting the taskforce asked members of the division to become involved and help lead the 5 stated solutions.

Report on Operational Efficiency Task Force

Charge

In January 2017, the Vice President for Information Technology Services formed an operational efficiency task force to address the following:

- Effective use of software on ITS Systems to monitor: utilization, efficiency, performance, and security
- Strategy and standards for patch management on both physical and virtual servers
- Strategy for standards for virtualization of existing physical servers
- Ownership and management of applications and servers
- Strategy for cloud utilization
- Strategy/timeline for consolidation of servers from across administrative and academic units
- Implementation of ITIL framework
- Collaboration across departments ISET/TNS/ECS
- Identify other areas to improve operational efficiency

Recommendations

Phase I: Discovery and Standardization

ITS must compile a comprehensive list of servers, systems, and services in order to gain a holistic view of what the division manages. This will assist in planning and establishing a baseline for a campus enterprise architecture. In addition, the division must establish enforceable procedures and policies to ensure that systems are managed and administered consistently across the division.

Phase II: Resource and Skills Enhancement

In order for the division to implement metrics to assess staff and system performance, the division must provide consistent staff training to ensure that ITS staff are knowledgeable on standardized toolsets and latest industry trends. With that, the division can ensure that standards are followed. Hiring procedures and funding need to be enhanced in order to recruit and retain the highest level of technical staff.

Phase III: Optimization

While higher education has unique needs in academic and instructional technologies, most enterprise systems such as email, domain and server management, and desktop management, should follow information technology industry standards and best practices. Once the division establishes a holistic view of campus systems, each responsible party must establish a roadmap on system enhancements.



Management Action Plans

1. CIA Request Process
2. Cisco Voice Gateway
3. Consulting Services to Support Application Development in PeopleSoft
4. CSUSB Student Email Standard Revision
5. Drupal Hosting Migration Plan
6. Duration of Inactive Courses in the Blackboard Production Environment
7. Enterprise Mobility Management (EMM) Proposal
8. Enterprise Secure File Transfer Service
9. Foglight
10. Iron Mountain
11. Large Size Active Learning Space
12. Memory Expansion for Horizon Server
13. Mobile Application Software
14. Palo Alto Networks (PAN) Firewall Replacement Project
15. PDC Infrastructure DR
16. Phishing Program
17. Qwickly + Cloud Attendance
18. SLACK Cloud Communication System
19. SMART Classroom Refresh Proposal
20. University Police and Palm Desert Campus Video Surveillance Storage Solution
21. VEEAM Backup System
22. Wedge Cameras

CIA Request Process

MAP for Review and Recommendation

Introduction

Access controls are a highly valued process for minimizing risk by documenting access to essential campus information resources. The Computerized Information Access Request (CIA Request) process is how the Campus Community gains access to indispensable information systems like PeopleSoft, Maxient, and Advance, and to technical systems like Vsphere. Often access controls create complexity especially when demand is high. A technological solution often sought to improve the process.

Details

In 2014 CSUSB purchased OnBase, document management system, to digitize and improve many paper processes. The CIA Request process manages access control requirements for 61 components by tying together MPP approval, Security Administrator authorizations, training requirements and implementation triggers. And that number is growing. In the 17 months since launching OnBase's CIA Request process over 1005 MPP approvals have occurred with 1082 unique requests fulfilled. In the past, efforts to facilitate a single access request took weeks whereas now requests are turned around in days. However, the current process has two Achilles heels: blank requests & forms with blank or incorrect MPPs. Other issues include unknowledgeable people tasked with asking for access with which they're unfamiliar. These issues break the digital process, waste people's time, and demand constant management to ensure a working process.

Challenges(s)

- Missing or inaccurate MPP information breaks the process and frustrates MPPs. (54% of documented issues). Maintenance of PeopleSoft data cannot keep up with personnel changes which feeds inaccurate information to OnBase.
- People filling out CIA Request don't know what they need, don't know the process (43% of phone calls) – either specifically or generally – provide minimal information on form causing Security Administrators to contact MPPs, Administrative Support and Requesters to accurately assess requester's need.
- Unintuitive form confuses requesters submit blank forms and break process. (37% of documented issues)
- Complex process. Multiple tasks should occur simultaneously: fill out CIA Request, fulfill training requirements and submission of additional paperwork such as new Signature Authorization and/or Master Pay Warrant Authorization forms for Payroll or ProCard application for Purchasing.

Alternatives

- Do nothing.
- Find a different solution.
- Change the way OnBase is currently manages the process.

Impact(s) if we do nothing

- MPPs waste time on incomplete or broken requests. (54% of issues)
- Users don't receive timely access often waiting until they're prompted on what to do next. Or they contact administrative support staff, Information Security Staff, ITS Training Services or Security Admins seeking guidance.
- Security Admins spend valuable time obtaining complete information from unknowledgeable requesters or their MPPs or administrative support staff.
- Increased workload of Information Security administrators who closely monitor and fix system issues, interact with requesters regarding CIA Request issues, assist MPPs with questions about broken forms (13% of phone calls), and answers questions about access requirements from requesters, MPPs and administrative support staff (43% of phone calls).

Recommendation

Move to delegated submission process where a select group creates CIA Requests and become the point of contact for those requests. This group would be either ASCs or AAS because as operational subject matter experts for they are the most familiar with position access needs, additional paperwork training requirements, accompanying the CIA Request process.

Budget Considerations

None

Assessment

ASCs and AAS are operational subject matter experts for unit(s) familiar with PeopleSoft and other access components as well as understand requirements for training and additional paperwork.

KPIs

Provide a minimum of two (2) key performance indicators (KPI) will best indicate project success:

- Decline in blank requests. 69 blank forms from Oct. - Feb. 2017.
- Decline in inaccurate or incomplete MPP information. 100 MPP issues from Oct. – Feb. 2017.
- Shorter time to complete a CIA Request.

Estimated Timeline

Start Date: Fall, 2017

Completion Date: ongoing

Departmental Resource Allocation

ACBI ATI DDTS ECS ISET TNS PMO Web

Approval

This project will require IT Governance review during the _____ monthly meeting.

Cisco Voice Gateway For Review and Recommendation

Introduction

A voice gateway (VG) is a telephony device that converts VOIP digital signaling to analog signaling. Analog signaling is required for devices such as faxes, modems and fire alarm signaling to name a few.

Details

As a result of recent power outages, (planned and unplanned) we discovered that many of the VG's that are in Telecom closets located around the campus in various buildings failed when we lost power. The reasons that the VG's failed were for mainly two reasons: 1. The buildings where the VG's are located have no generator backup. 2. The VG's locked up when the building power was cycled.

Challenges(s)

The most important reason that a new VG is needed is because of the thirty VG's that we currently utilize will be at end of life and end of support. We can no longer call Cisco (our vendor) for support when we have issues with the existing VG's. A new 300 series VG will have vendor support and vendor maintenance.

Impact(s) if we do nothing

If we fail to purchase a new VG there could be risks to the campus community's safety here at CSUSB. When we have a VG failure due to age or other factors, the services that the VG provides will not be available until a new VG is ordered and installed. Those services include: Elevator dial tone, emergency phone dial tone, fire alarm dial tone and security and panic button alarms. Fire alarm dial tone and security and panic button dial tone are used to notify the Police and Fire departments, as well as the Security companies responsible for their operation.

Recommendation

The purchase of a new VG will allow TNS/ITS to begin the planning phase of the plan to move and consolidate VG's back into the PL server room. The PL server room provides dual power backup with the standalone UPS system as well as a building generator.

Budget Considerations

- This will cost more than \$10,000 (multiple-bid solicitation required)
- This will cost more than \$50,000 (Purchasing approval required)
- This will cost more than \$500,000 (Procurement Audit)
- This is considered a High-Risk (Liability) Project to CSUSB or the CSU

Other considerations

None

Assessment

KPIs

Provide a minimum of two (2) key performance indicators (KPI) will best indicate project success:

1. Reliability of analog voice services to campus.
2. Efficiency in managing VG at a central location compared to distributed locations spread out across campus.

Estimated Timeline

Project Start Date: May 2017

Project Completion Date: July 1, 2017

Departmental Resource Allocation

ACBI ATI DDTS ECS ISET TNS PMO Web

Approval

This project will require IT Governance review during the _____ monthly meeting.

Submitting MPP

Submittal Date

Approving MPP

Approval Date

AWE

Management Action Plan

Review and recommendation

Consulting Services to Support Application Development 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. There are some projects that are carried over from last year and there are many new projects for this year such as AWE (Approval Workflow Engine) used for creating workflow forms in PeopleSoft. Other projects would include Conversion of our current Web Commencement System from a home grown system to PeopleSoft Bolt-on. The ACBI Team will oversee all work performed by the consultant.

Challenge(s)

The demands for improving the service that ACBI provides is greater than we can accommodate with our current staff. We have some aging web applications that need to be upgraded into PeopleSoft or find another solution for the systems.

Alternatives

Purchase systems to replace aging web applications such as Web Commencement, ITS Training Application, HR Training Applications and hire additional PeopleSoft Analyst/Programmers to cover the workload.

Impact(s) if we do nothing:

Delay in implementing new/existing PeopleSoft projects. Nigel was involved in our HCM/SA implementation is very familiar with our campus needs since 2007.

Recommendation

Engage UNIACT, Inc Consulting for Nigel Ho for 6 months @ 120 hours per month for a rate of \$120 an hour for work to be done remotely with campus visits as needed. No travel required.

Budget Considerations

The maximum cost will be \$84,400. 120 hours at \$120 per hour for 6 months.

Assessment Plan and Key Performance Indicators (KPI)

Provide a minimum of two (2) key performance indicators (KPI) will best indicate project success:

1. Better performance and customer satisfaction.
2. Improve the service provided by replacing aging applications. Provide easier way of reporting data once it is in PeopleSoft which will allow for all the reporting to come from one source: PeopleSoft.

Estimated Timeline

Project Start Date: July 1, 2016

Project Completion Date: December 31, 2016

Departmental Resource Allocation

-ACBI -ATI -DDTS -ECS -ISET -TNS -PMO -Web

Approval

This project will require IT Governance review during the _____ monthly meeting.

Lenora Rodgers

May 10, 2016

Submitting MPP

Submittal Date

ITS Lenora Rodgers

May 10th 2016

Approving MPP

Approval Date

CSUSB Student Email Standard Revision For Review and Recommendation

Introduction

The purpose of this recommendation is to further standardize the way CSUSB email addresses are issued to students and applicants, similar to the faculty and staff email address standardization in Fall 2014.

Details

The goal of this proposal is to improve student email address standard and to phase out the old student email address standard established in 2007. Currently all applicants and students receive a CSUSB Gmail (CoyoteMail) account in the format of “last name” + “first letter of first name” + 3 random numbers if there are conflicts. For example, Joe Coyote will have an email address of coyotej@coyote.csusb.edu.

Challenges(s)

Users have expressed that the current format is very confusing and is not user-friendly. Many students just use their CoyoteID@coyote.csusb.edu or their personal email address, and faculty members are often not able to tell which student a specific email address belongs to.

Impact(s) if we do nothing

If we do nothing, CSUSB can continue to function in the current model, however this may hinder faculty and student productivity.

Recommendation

1. Standardize student e-mail address created after July 1, 2017 to the new standard of: **firstname.lastname0000@coyote.csusb.edu** where 0000 is the last 4 of the student’s CoyoteID.
2. “Grandfathered” account will not be switched to the new standard.
3. Create a process for “grandfathered” students to request an email alias with the new standard on a by-request basis.

Budget Considerations

- This will cost more than \$10,000 (multiple-bid solicitation required)
- This will cost more than \$50,000 (Purchasing approval required)
- This will cost more than \$500,000 (Procurement Audit)
- This is considered a High-Risk (Liability) Project to CSUSB or the CSU

Other considerations

Many “grandfathered” students who may wish to change their email address. By providing a tool/procedure in the future, we will be able to make the change on a by-request basis. The first and

last name will be the students' legal first and last name. Any changes to legal names will have to be addressed one-by-one.

Assessment

KPIs

Provide a minimum of two (2) key performance indicators (KPI) will best indicate project success:

1. More accuracy on communicating to students as senders can better validate recipients.
2. Better standardization of email address format across campus.

Estimated Timeline

Project Start Date: April 2017

Project Completion Date: July 1, 2017

Departmental Resource Allocation

ACBI ATI DDTS ECS ISET TNS PMO Web

Approval

This project will require IT Governance review during the February monthly meeting.

Submitting MPP

Submittal Date

Approving MPP

Approval Date



Drupal Hosting Migration Plan

Background

The contract with our original hosting company, Pantheon, ended on April 1, 2017. We signed a contract with a new hosting company, Acquia, beginning May 8, 2017. The migration schedule for this transition follows:

Phase 1: May 1 – June 30

We will be migrating the existing Drupal installations from Pantheon hosting to Acquia hosting. Users should see minimum impact during this time, limited to only several days of possible downtime, during which content editors will not be able to edit their sites.

Phase 2: July 1 – October 31

We will be restructuring Drupal to overcome some of the inherent problems that we have with our current Drupal configuration. The timeline for Phase 2 coincides with the additional support we are receiving from the Acquia development team. There will be some impact on users during this time and some of the processes with which they are currently familiar. We will update our documents and videos to reflect these changes and keep all content editors aware of the changes.

Proposal to limit the Duration of Inactive Courses in the Blackboard Production Environment

MAP for Review and Recommendation

Introduction

CSUSB currently does not have a process to take courses off the live Blackboard site and have cumulated courses dating back to when we started using Blackboard. In an effort to ensure that our enterprise course management system (CMS) operates in an optimal state and is agile enough to adapt to changes, this proposal seeks to define the duration of inactive courses on CSUSB's vendor hosted Blackboard server. As the number of courses grows, at a rate of approximately 4000 course shells each academic term, the performance of the system is directly impacted. Additionally, as the University moves from the quarter-system to a semester-system, it is imperative that the accumulation and bloating of data stored in the CMS does not hinder this process.

Details

We recommend keeping on the Blackboard production server inactive courses (not currently taught) from the past two (2) years plus the accumulation of courses in the current academic year. Courses older than two years will be removed from production server and stored on a university-maintained storage server. An archive may be used to restore/recover a complete copy of a course. ATI will also increase the efforts to train and assist faculty in archiving courses from Blackboard and save them to a storage location of their choice such as OneDrive or GoogleDrive.

Challenges(s)

- Developing policies, procedures, and documentation for courses requiring exception.
- Developing procedures that ensure accurate and complete archival of courses being removed.
- Developing procedures for faculty to request retrieval of an archived course.
- Developing an effective communication plan informing stakeholders of the schedule.
- Developing effective training materials and workshops for self-service customers.

Alternatives

None; budgetary considerations should be made for potentially moving large amounts of data to SaaS environment or upgrading hardware to meet increased performance needs.

Impact(s) if we do nothing

- The University's CMS will experience performance degradation in a bloated environment.
- Migration to SaaS environment may become cost prohibitive without paring down the data, a move anticipated in the near future.
- Contents and structure in older courses may become incompatible with newer versions, causing complications to upgrades.

Recommendation

- Retain courses from the past 2 complete academic years in Bb production environment.
- Accumulate courses during the current academic year; 3rd year.
- After the beginning of the next academic year (e.g. Fall quarter) archive courses from the oldest academic year; e.g. in Fall 2017 archive from Fall 2014 up to Summer 2015.
- After validation of archive, delete 2014-2015 academic year courses; the oldest academic year.

Budget Considerations

None

Other considerations:

- Blackboard is a course management system and should not be used as a file repository.
- Blackboard is not considered an official reporting tool
- Archival and removal of courses that fall outside of the proposed action plan should begin prior to full implementation

Assessment KPIs

- Increased stability of Blackboard.
- Improved performance of system.
- Improved end-user experience.

Estimated Timeline

Project Start Date: 21 April 2017

Project Completion Date (on or before): 21 October 2017

Departmental Resource Allocation

ACBI ATI DDTS ECS ISET TNS PMO Web

Approval

This project will require IT Governance review during the _____ monthly meeting.

Submitting MPP

Submittal Date

Approving MPP

Approval Date

Enterprise Mobility Management (EMM) Proposal

MAP for Review and Recommendation

Introduction

As computing continues to shift from the desktop to the mobile environment here at CSUSB, the existing enterprise systems do not have the capability to fully support mobile devices or Apple OS. Devices such as phones, tablets and Apple laptops are not continuously connected to the campus network thus the process of pushing security patches and software updates is completed in an ad-hoc manner. In addition Apple based computers are not fully compatible with SCCM and are also managed in an Ad-hoc manner. Ad-hoc patching and updating of systems and software poses a security risk to enterprise, limits the effectiveness of systems and causes an undue burden on limited IT staff.

Details

We recommend purchasing the following an EMM (formerly known as MDM) solution to address the issues related to mobile devices and Apple computers on campus. Specifically JAMF Pro, a mobile device management platform that addresses all IT concerns with Apple Macintoshes and mobile devices, as well as provides a simplified security management of Android based devices. We have evaluated all major EMM/MDM solutions and JAMF Pro has the capabilities that most closely align with our specific needs at CSUSB.

Challenges(s)

- Streamline the process of patching systems
- Manage mobile devices and Apple systems
- Improving the user experience
- Address security vulnerabilities
- Inventory of mobile device and users assigned
- Remote wipe of campus data on mobile devices

Alternatives

Maintain systems ad-hoc or with limited tool sets available currently.

Impact(s) if we do nothing

CSUSB may fail to meet its obligation to maintain systems for users, prevent/patch security vulnerabilities, and address user requests efficiently. In addition, installing patches and software manually in an ad hoc manner is a great misuse of limited IT Labor and further slows down services to other areas on campus.

Recommendation

1. Purchase the cloud based version of JAMF Pro
2. Implement JAMF Pro solution for use by techs on campus
3. Provide training by SME on JAMF Pro

4. Roll out product for use on all mobile and apple products

Budget Considerations

Users	Discounted CSUSB per user per year cost	Total startup Price	On-Going
500 ITS Macs	4000		
120 ITS iOS	1800		
Unlimited BYOD (Android)			
3 Day Training	7500		
		13,300	5800

- This will cost more than \$10,000 (multiple-bid solicitation required)
- This will cost more than \$50,000 (Purchasing approval required)
- This will cost more than \$500,000 (Procurement Audit)
- This is considered a High-Risk (Liability) Project to CSUSB or the CSU

Other considerations:

Evaluate service needs such as SSO.
Update Management.
Software Deployment.
New device deployment. (DEP)

Assessment

KPIs

Provide a minimum of two(2) key performance indicators (KPI) will best indicate project success:

1. KPI: Number of devices on solution
2. KPI: Number or percentage of patches applied

Estimated Timeline

Project Start Date: 15 February 2017

Project Completion Date (on or before): 20 September 2017

Management Action Plan

Review and recommendation

Enterprise Secure File Transfer Service

Introduction

In order to provide proper support to administrative applications, campus data is exchanged constantly between different servers, both internal and external. These exchanges are conducted via a secure file server that is maintained by the campus. At this time, this service depends on one staff member for its configuration and maintenance. In order to meet the operational needs of the campus, we are proposing to replace the current service with an enterprise solution that will provide delegated administration, facilitate configuration for the different applications and improved notification and alerting.

Challenge(s)

The current service is provided with a physical server running on old operating system (info002.csusb.edu). The condition of the server is aging and running out disk capacities.

Alternatives

Replace the old system with a robust and reliable enterprise solution that provides additional functionality and reporting.

Impact(s) if we do nothing:

If this service fails, all data exchanges with different applications (about 28) will be affected, such as blackboard and campus portal (mycoyote). This will have a significant impact to all students, faculty and staff.

Recommendation

The technical staff evaluated several solution and determined that Cleo provided the functionality and reporting needs for the campus.

Budget Considerations

This vendor provides two possible solution - a product license per site and a subscription service. Based on the number of exchange sites the cost effective solution is the subscription solution which provides for an unlimited number of sites.

The cost of the subscription is \$14,000 for the first year which includes \$2,000 for the Quick Start and Training, and \$12,000 for years 2 and 3.

Assessment Plan and Key Performance Indicators (KPI)

Provide a minimum of two (2) key performance indicators (KPI) will best indicate project success:

1. Improve reporting and alerting when data exchange takes places or fails
2. Improve configuration of services reducing the time to enable data exchange requests.

Estimated Timeline

Project Start Date: June 30, 2016

Project Completion Date: August 30, 2016

Departmental Resource Allocation

-ACBI -ATI -DDTS -ECS -ISET -TNS -PMO -Web

Approval

This project will require IT Governance review during the _____ monthly meeting.

Lenora Rodgers _____ May 5, 2016

Submitting MPP _____ Submittal Date

ITS LEADERS _____ *MAY 10th 2016*
Approving MPP _____ Approval Date



Introduction

The Enterprise and Cloud Services (ECS) Department currently use an old and unsupported version of FogLight, this product has been very useful for calculating allocation and utilization cost for tenants on our VMware infrastructure. Our current VM footprint is rapidly growing as well as the demands for the additional resources. In order to continue the centralization effort of ITS we need to manage and calculate these costs appropriately.

Details

Based on vendor recommendation, Foglight will optimize the configuration, performance and utilization of our hypervisors, VMs and storage while gaining end-to-everything visibility across our virtual infrastructure. Leverage real-time and historical data and reporting capabilities to inform our decision making and get critical insights into our future capacity needs. And consistently manage our diverse operating systems and unify our disparate IT infrastructure with a single, centralized platform.

Challenges(s)

As we continue to support and upgrade vSphere and related components, the old version has started to run into compatibility issues. In addition, the Horizon environment is scaling up therefore, we need to have foglight for Horizon to manage the running cost.

Alternatives

Continue with the current old version and assuming the results are accurate.

Recommendation

Purchase the foglight software at \$8193 including support and maintenance for 1 years And annual maintenance would be \$1200 after the first year. With the paid license we should be able to monitor our applications performance and quickly identifying the bottlenecks.

impact(s) if we do nothing

The unsupported product that we have cannot calculate the allocation and utilization cost for all of tenants on our VMware infrastructure and we would lose our visibility off the running cost of our operation. Furthermore, the current software does not have the visibility across our virtual infrastructure.

Budget Considerations

- This will cost more than \$10,000 (multiple-bid solicitation required)
- This will cost more than \$50,000 (Purchasing approval required)
- This will cost more than \$500,000 (Procurement Audit)
- This is considered a High-Risk (Liability) Project to CSUSB or the CSU

Other considerations:

Assessment

- KPIs

There are a wealth of overview and detail screens in Foglight to assist us with a clear picture of database performance issues and their causes.

Estimated Timeline

Project Start Date: May 20, 2017

Project Completion Date: May 30th, 2017

Departmental Resource Allocation

ACBI ATI DDTS ECS ISET TNS PMO Web

Approval

This project will require IT Governance review during the _____ monthly meeting.

Submitting MPP

Submittal Date

Approving MPP

Approval Date



Here's the quote you requested!

Please review your quote details below, then contact your sales rep when you're ready to place your order.

Total: \$8,193.00

Quote number:
1028335861621.1

Quote date:
Mar. 9, 2017

Quote expiration:
Apr. 8, 2017

Company name:
CAL STATE UNIV SAN BERNARDINO

Customer number:
83302981

Phone:
(909) 537-5000

Sales rep information:
Andrea Anderson1
Andrea_Anderson1@Dell.com
(800) 456-3355
Ext: 7231314

Bill to:
CAL STATE UNIV SAN BERNARDINO
5500 UNIV PKWY
SAN BERNARDINO
CA 92407-0000
US
(909) 537-5000

Pricing Summary

Item	Qty	Unit price	Subtotal
CSU SB QUEST FOGLIGHT VIRT STD ED P/CPU SOCKET MNT RNWL	24	\$189.53	\$4,548.72
CSU SB QUEST REINSTATEMENT OF MAINTENANCE	1	\$1,137.20	\$1,137.20
CSU QUEST FOGLIGHT VIRTUALIZATION ENT CPU SKT LIC	4	\$626.77	\$2,507.08
		Subtotal:	\$8,193.00
		Shipping:	\$0.00
		Environmental Fees:	\$0.00
		Non-Taxable Amount:	\$0.00
		Taxable Amount:	\$0.00
		Estimated Tax:	\$0.00
		Total:	\$8,193.00



Introduction

Enterprise and Cloud Services (ECS) currently uses Iron Mountain as an offsite back up vendor. Iron Mountains has been providing off campus backup for over three years, however, Iron Mountain has changed their pricing structure, resulting an increase from \$8078/year to \$19,200/year.

Details

ECS is currently using TL3584 tape library to perform daily back up of our VEEAM storage, VMs, Compellent, and TSM (backup for physical servers approximately 70 servers). Subsequently, the tapes are picked up by Iron Mountain and stored at their site.

In order to be proactive and to meet data retention policies, campus backup demands and disaster recovery strategies, CSUSB must increase funding for Iron Mountain or seek out alternatives to address the current and near future needs.

Challenges(s)

To find alternative solution that would be a lot more cost effective and provide the same benefits.

Alternatives

1. Renew the current contract with Iron Mountain and Pay \$19,200/year for their services.
2. Choose a cloud provider from the following lists:

Alternative				Recommend
	Pnap (Certified VEEAM Partner)	OffsiteDAtaSync (Platinum VEEAM Partner)	Iron Mountain	CoroData
Backups Price Per TB/year	\$55.0 x 12 = \$660/year	\$157.25 \$102.21 (with a 35% Educational discount) 102.21 * 12 = \$1226.52/year	No Limit as long we can fit them in one box	No Limit
Total/year	150TB * \$660 = \$99,000	150TB * \$1226.52 = \$183,978.00	\$19,200	\$5,229.12

Impact(s) if we do noting

If we do nothing, we would not be able to recover files that accidentally have been deleted. In case of any disaster, we cannot recover any of our data. In order to maintain the current service levels and provide world-class customer service to our clients, we need to have a reliable backup system in place.

Recommendation

1. Replace Iron Mountain with CoroData for one year at \$5,229.12
2. Evaluate and implement cloud-based back up alternative within 1 year.

Budget Considerations

- This will cost more than \$10,000 (multiple-bid solicitation required)
- This will cost more than \$50,000 (Purchasing approval required)
- This will cost more than \$500,000 (Procurement Audit)
- This is considered a High-Risk (Liability) Project to CSUSB or the CSU

Other considerations:

Assessment

- Ensure and secure our backup and recovery process
- Will be able to adequately fulfill the backup demands and request of our campus.
- We forecast an increase of ECS services to colleges therefore we need to provide high level customer satisfaction

KPIs

Provide a minimum of two (2) key performance indicators (KPI) will best indicate project success:

1. KPI: Ability to successfully retrieve information and data from the offsite.
2. KPI: We are confident that our campus constituent would be pleased knowing we have capability to back up their mission critical servers.
3. Corodata represent a dramatic cost saving for our university

Estimated Timeline

Project Start Date: May, 2017

Project Completion Date: July 30th, 2017

Departmental Resource Allocation

ACBI ATI DDTS ECS ISET TNS PMO Web

Large-size Active Learning Space

MAP for Review and Recommendation

Introduction

ATI has engaged in promoting active learning space redesign since Fall 2014. PL015 was the first active learning space redesigned as the “Incubator Classroom” in collaboration with the faculty from the History Department. It was completed in summer 2015 and opened for history classes from Fall 2015 through Spring 2016 as a pilot year. Since then, active learning spaces have been created in other locations for Kinesiology, History, Education, and Business. In PL015, we have had classes in history, modern languages, nursing, communications, English, biology, anthropology, and Geography. We have to decline some of the requests, some due to time conflicts of requested slots, others due to limited number of seats, particularly science classes such physics and chemistry which typically have enrollments of 80 and above.

Details

The proposed large-size active learning space project will upgrade furniture PL011/13, with a combined seating of over 100. It is a space managed and supported by ATI for distance learning, therefore available for the entire campus to request access. A faculty interest group has been formed with all colleges represented and will serve as a consultation group to provide input and suggestions to various aspect of any future active learning space projects.

ATI has identified an alternate vendor, ComputerComforts, Inc. (CCI) who specializes in flexible classroom furniture options. Compared to the vendor who provided furniture for previous active learning space projects on campus, CCI offers very competitive pricing and is willing to negotiate. Additionally as an initial effort to introduce their active learning space furniture options to our campus, they submitted a proposal to equip a 140-seat large size classroom with 60% discount over already lower price from the previous vendor. The total cost is lower than what we paid to furnish the 36-seat PL015 (see attached PO for PL015). This will give us enough seats for PL011/13 and upgrade another 40-seat classroom. (see attach CAD-drawing for details)

This project is in support of 2020 ITS strategic plan e-Learning goal 4 - Create a supportive infrastructure for e-learning.

Challenges(s)

- With increased interest and demand, PL015 is not able to accommodate all requests for teaching in an active learning space.
- Campus does not have exposure or access to alternative furniture vendors of active learning space furniture.
- Instructors who teach larger classes were not able to experiment with active learning space designs and options.
- Previous furniture vendor’s options are too expensive to implement in volume.

Alternatives

Continue to renovate with existing vendor's options and locked-in pricing offers.

Impact(s) if we do nothing

- ITS pledge to support faculty-led innovation will be negatively impacted.
- Campus departments who are interested in renovating/creating active learning spaces will be limited to one vendor's pricy offerings.

Recommendation

1. Accept the 140-seat proposal to furnish PL011/13.
2. Create a 100-seat active learning space in PL011/13 (number of seats in current configuration)
3. Promote PL011/13 as a large-size active learning space open to campus.
4. Offer PL011/13 as a showroom for campus users to compare options with PL015.
5. Offer to furnish a 40-seat classroom in another academic building with matching funding from a college.

Budget Considerations

- This will cost more than \$10,000 (multiple-bid solicitation required)
- This will cost more than \$50,000 (Purchasing approval required)
- This will cost more than \$500,000 (Procurement Audit)
- This is considered a High-Risk (Liability) Project to CSUSB or the CSU

Assessment

KPIs

Provide a minimum of two(2) key performance indicators (KPI) will best indicate project success:

1. KPI: number of classes that use the new active learning space compared to current usage by distance learning classes
2. KPI: class-size as compared to classes taught in PL015
3. Increased diversity of disciplines taught in the new active learning space

Estimated Timeline

Project Start Date: March 1, 2017

Project Completion Date (on or before): May 30, 2017



Introduction

The Enterprise and Cloud Services (ECS) Department currently using two Dell PowerEdge R730 configured with 512 GB of Memory, the memory consumption on these machine at this moment is approximately 60%. The demands for VDI is rapidly growing as well as the demand for replacing the old workstations in PL045 and PL1109 Student Lab with VDI stations, these modifications will increase the number of VDI Stations by 80 units. As the result, we need to upgrade the memory to keep up with this kind of mandates and expansion.

Details

At current state adding more VDI to current VDI environment, will cause performance degradation and possibly malfunctioning. .

Challenges(s)

As we continue to support and equip more labs with VDI, the need for more memory it becomes more dominant.

Alternatives

1. Continue with the current system but would not add anymore VDI to Horizon servers.
2. Purchase physical computers average cost \$850/unit for the lab alone would $80 * 850 = \$68,000$

Recommendation

Purchase the 512 GB of memory for \$7343.83.

Impact(s) if we do nothing

1. Our service to our students and colleges will falter.
2. We would not be able to add any more VDI to the Horizon environment.
3. If we add anymore VDI, the Horizon VDI system would have a dreadful performance.

Budget Considerations

- This will cost more than \$10,000 (multiple-bid solicitation required)
- This will cost more than \$50,000 (Purchasing approval required)

- This will cost more than \$500,000 (Procurement Audit)
- This is considered a High-Risk (Liability) Project to CSUSB or the CSU

Other considerations:

Assessment

Estimated Timeline

Project Start Date: June 20,, 2017

Project Completion Date: June 30th, 2017

Departmental Resource Allocation

- Student Lab ATI DDTS ECS ISET TNS PMO Web

Approval

This project will require IT Governance review during the _____ monthly meeting.

Submitting MPP	Submittal Date
Approving MPP	Approval Date



A quote for your consideration!

Based on your business needs, we put the following quote together to help with your purchase decision. Please review your quote details below, then contact your sales rep when you're ready to place your order.

Total:\$7,343.83

Quote number:
3000013430559.1

Quote date:
May 4, 2017

Quote expiration:
Jun. 3, 2017

Company name:
CAL STATE UNIV SAN BERNARDINO

Customer number:
83302981

Phone:
(909) 537-5000

Sales rep information:
Leslie Perez
Leslie_Perez@Dell.com
(800) 456-3355
Ext: 7251047

Bill to:
CAL STATE UNIV SAN BERNARDINO
5500 UNIV PKWY
SAN BERNARDINO
CA 92407-0000
US
(909) 537-5000

Pricing Summary

Item	Qty	Unit price	Subtotal
Dell 32GB Certified Memory Module - 2RX4 DDR4 RDIMM 2133MHz	16	\$424.99	\$6,799.84
DBC as low as \$221.00 / month [^]			
			Subtotal: \$6,799.84
			Shipping: \$0.00
			Environmental Fees: \$0.00
			Non-Taxable Amount: \$0.00
			Taxable Amount: \$6,799.84
			Estimated Tax: \$543.99
			Total: \$7,343.83

Special lease pricing may be available for qualified customers. Please contact your DFS Sales Representative for details.



Management Action Plan

Review and recommendation

Mobile Application Software

Introduction

In order to provide excellent mobile applications to the CSUSB Community, we need to rethink the way we provide mobile applications. We need a way to create applications in a timely and efficient matter.

Challenge(s)

The CSUSB Community is demanding more mobile applications to gain access to their data while they are on the move. Currently CSUSB utilizes the CSUSB Computer Science and Engineering students under the direction of Arturo Conception but have limited access to PeopleSoft data. The Challenge is the CSUSB Computer Science and Engineering students cannot keep up with the demand nor do they have access to PeopleSoft to allow update access to PeopleSoft for functions such as adding/dropping classes for students.

- Need a platform to house all the mobile applications
- Increase productivity of mobile applications
- Provide update access to data in PeopleSoft
- Leverage the work of the Computer Science & Engineering students and allow CSUSB to create mobile applications quickly and efficiently.
- Minimize effort to develop and maintain mobile applications

Alternatives

Continue to utilize the CSUSB Computer Science and Engineering students with slow production of new applications and enhancements. Only allow views for displaying PeopleSoft data like they are doing now.



Impact(s) if we do nothing:

Continue to utilize the CSUSB Computer Science and Engineering students with slow production of new applications and enhancements. Only allow views for displaying PeopleSoft data like they are doing now.

Recommendation

The technical staff evaluated several solutions and reached out to other CSU's and determined that GH Modo integrated platform provided the best mobile application solution for CSUSB. By combining the strengths of Modo Labs mobility platform with GreyHeller's PeopleMobile® solution for PeopleSoft, CSUSB will have available to us a solution that gives us complete flexibility and control while minimizing effort and operational risk.

The **GH Modo Integrated platform** offers CSUSB a mobile solution that addresses 3 major requirements:

- A mobile application platform that is responsive in theme
- Out of the box modules to facilitate collaboration access to information
- Student, Faculty, and Employee Self Service functions

GreyHeller and Modo Labs have partnered together to provide a mobile solution that is robust, scalable, and puts control in the hands of the stakeholders that makes sense for their areas of ownership. **The combined solution is in use at Northridge, SFSU, Sac State, San Marcos, and the Chancellor's Office.** Additionally Modo Labs platform is used for delivering mobile apps by Pomona, Stanislaus, San Marcos, Fresno, Channel Islands and East Bay.

Budget Considerations

- This will cost more than \$10,000 (multiple-bid solicitation required)
- This will cost more than \$50,000 (Purchasing approval required)
- This will cost more than \$500,000 (Procurement Audit)
- This is considered a High-Risk (Liability) Project to CSUSB or the CSU

CSUSB - Mobile Application Solution		1st Year	After 1st Year Annual Fees
Modo labs	The Mobile Application Platform	\$48,038	\$31,163
GreyHeller	Mobile Solutiion for PeopleSoft Applications		
	PeopleMobile Student		
	Net License Fee	\$100,000	
	Annual Support & Maintenance		\$25,000
	PeopleMobile HR & Financials - Optional		
	Net License Fee	\$100,000	
	Annual Support & Maintenance		\$25,000
Option 1	Modo Labs & GreyHeller Student	\$148,038	\$56,163
Option 2	Modo Labs & GreyHeller Student, HR, Financials	\$248,038	\$81,163

Assessment Plan and Key Performance Indicators (KPI)

Provide a minimum of two (2) key performance indicators (KPI) will best indicate project success:

1. Increase the number of mobile applications
2. Decrease the time and effort to roll out and maintain mobile applications

Estimated Timeline

Project Start Date: October 3, 2016

Project Completion Date: June 1, 2017

Departmental Resource Allocation

X-ACBI _- ATI _-DDTS _-ECS X-ISET _-TNS _-PMO _-Web

Approval

This project will require IT Governance review during the _____September_____ monthly meeting.

Lenora Rodgers _____ August 22, 2016

Submitting MPP _____ Submittal Date

_____ Approving MPP

Approval Date

Palo Alto Networks (PAN) Firewall Replacement Project

Introduction

The CSU Common Network Initiative (CNI) is an ongoing effort to maintain campus baseline network infrastructure as technology advances and user needs evolve. The program provides for the refresh of each campus network infrastructure on a cyclical basis to ensure that the network infrastructure continues to keep pace with technology and meet the changing needs of CSU students, faculty, and staff.

After the CSU wired and wireless network infrastructure upgrade, CNI issued an RFP and Palo Alto Networks successfully submitted and was awarded the contract to provide CSU with a next-generation network protection (firewall) solution. The CNI firewall replacement project consists of two distinct parts:

Part one will replace the campus border firewall that protect campus network from the internet and against intrusion attacks.

Part two will replace the server farm/data center firewall that protect campus servers containing various systems and various levels of sensitive data.

Both parts of the project will be multi-phased in order to minimize impact to the campus. CSUSB will be receiving PAN model 5060 for both border and server farm firewall, replacing the current Juniper SRX firewall and the Juniper ISG firewall. In addition, CSU established an Enterprise Licenses Agreement (ELA) with Palo Alto Networks to provide the following on a subscription basis:

1. **Threat Prevention** provides Intrusion Detection (IDS) and Intrusion Prevention (IPS).
2. **WildFire** provides threat detection and prevention for new threats, including malware, websites, and command and control traffic.
3. **URL Filtering** monitors for malware and files that contain embedded malware.
4. **Global Protect** delivers: End user device management and protection as well as remote data control.

Challenge(s):

- Significant increase in number of variety of threats to campus networks over the last decade.
- Various targeted attacks to exploit systems and/or to compromise data.
- Exponential growth in the number of devices connected to campus networks presents additional threat to campus networks.
- Changes and enhancements in network protocol means that current IP- and port-based firewall protection no longer provides adequate protection against advanced attacks.

Alternatives:

- Choose another equipment vendor outside of the Common Network Infrastructure.
- Continue utilizing existing Juniper equipment at a higher risk for CSUSB.

Impact(s) if we do nothing:

- Possible network failure due to aging hardware components.
- Increased risk due to more advanced threats to campus network.
- Decreased ability to protect CSUSB using outdated hardware and protocol.

Recommendation

Join the CSU Common Network Initiative in upgrading to Palo Alto Network firewall equipment along with the Enterprise Licenses Agreement to leverage advanced network protection tools to secure and enhance protection to the campus network.

Rationale:

Given the increased number of threats that campuses are experiencing and the risk of having accounts and data compromised, it is critical that CSUSB enhances network security by utilizing the latest technology, protection tools to proactively combat threats and attacks.

Assessment Plan and Key Performance Indicators (KPI)

- Enhanced network security to the campus community.
- Decreased incidents of malware, phishing, and other security threats.
- Integration with other security products such as Proofpoint email and threat protection.

Key Stakeholders

- CSUSB Faculty, Staff, and Students
- CSUSB Palm Desert Campus Faculty, Staff, and Students
- CSU Chancellor's Office

Project Team

- Dr. Sam Sudhakar, VP of IT Services and CIO (Executive Sponsor)
- Gerard Au, AVP of Technology Operations and Customer Support
- Dr. Javier Torner, Director of Information Security and Emerging Technologies
- David Hatch, Network Analyst, Telecomm and Network Services
- David Vasilias, Network Analyst, Telecomm and Network Services
- Rick Conway, Network Analyst, Telecomm and Network Services
- James Macdonell, Operating Systems Analyst, Information Security and Emerging Technologies
- Edward Szumski, Operating Systems Analyst, Information Security and Emerging Technologies
- Michel Davidoff, Director of Cyberinfrastructure, CSU Chancellor's Office
- James Fisher, Project Manager, AT&T Consulting
- Karam Hanna, Professional Services Engineer, Palo Alto Networks

Process (Project Scope) and Schedule Overview

The firewall replacement project is a two-part, multi-phased project that began late December 2015 with initial planning. The project will officially begin in June 2016, ending in late 2017 and will consist of:

- **Part 1 – Border Firewall:** December 2015 – December 2016 (approx.)
 - Phase 1-1: Installation and migration to new firewall equipment
 - Phase 1-2: Implement application-based policies
 - Phase 1-3: Implement standard CSU policies
- **Part 2 – Data Center/Server Farm Firewall:** August 2016 – August 2017 (approx.)
 - Phase 1-1: Installation and migration to new firewall equipment
 - Phase 1-2: Implement application-based policies
 - Phase 1-3: Implement standard CSU policies

Key Milestones

December 2015	Chancellor Office announced Part 1 of PAN replacement for CSUSB
December 2015	Information gathering
January 2016	AT&T Project Manager assigned
January 22, 2016	Test equipment received
April 2016	Bill of Materials developed and approved
May 17, 2016	Introductory call with AT&T
May 24, 2016	Chancellor Office announced Part 2 of PAN replacement
May 26, 2016	Informational call with AT&T, TNS, and ISET
June (TBD) 2016	Onsite kick-off meeting
June 6-10, 2016	Hardware arrival and installation
June 14-28, 2016	Network firewall change freeze
June 20-24, 2016	Engineers on-site, pre-migration preparation (San Bernardino Campus)
June 24, 2016* (5-11pm)	Phase 1-1 Migration to new equipment (San Bernardino Campus)*
June 27, 2016	Day-one support (San Bernardino Campus)
July 5-8, 2016	Engineers on-site, pre-migration preparation (Palm Desert Campus)
July 8, 2016* (9am-3pm)	Phase 1-1 Migration to new equipment (Palm Desert Campus)*
July 11, 2016	Day-one support (Palm Desert Campus)
August 29- September 1, 2016	Phase 1-2 Implementing application-based policies (Non user-impacting)
Fall 2016	Phase 1-3 Implementing standard CSU policies (Non user-impacting)
October 2016	Begin Part 2 (Data Center/Server Farm) project
October 2016	Hardware received, AT&T Project Manager assigned
November 11, 2016	Introductory call with AT&T
November-December 2016	Ongoing Project Call
December 1, 2016	Data Center/Server Farm network firewall change freeze
December 8-15, 2016	Engineers on-site, pre-migration preparation
December 15, 2016 (5-10pm)	Part 2-1 Migration to new equipment (San Bernardino Campus Only)*
December 16-22, 2016	Post-migration support
February-March, 2017	Phase 2-2 Implementing application-based policies (Non user-impacting)
March-April, 2017	Phase 2-3 Implementing standard CSU policies (Non user-impacting)

Impact

*Activities that require service interruptions are noted below:

Date	System Changes	Impact	Status
June 24, 2016 (5-11 pm) San Bernardino Campus	Upgrade border firewall equipment on San Bernardino Campus.	Campus network connectivity to the internet may be momentarily disrupted. Impact: Minimal	Completed
July 8, 2016 (9am-3pm) Palm Desert Campus	Upgrade border firewall equipment on San Bernardino Campus.	Palm Desert Campus network connectivity to the internet and its VPN tunnel to CSUSB may be momentarily disrupted. Impact: Minimal	Completed
August 29 – September 1, 2016	Network Team and PAN team will translate current firewall rules into the “app-based” format.	We do not anticipate any impact to users as these firewall rules are intended to be redundant to current rules, but written in different ways. Impact: None Anticipated	Completed
September-December 2016	Network Team and PAN team will retire unused legacy-firewall rules.	We do not anticipate any impact to users as these legacy firewall rules being retired are not actively in use. Impact: None Anticipated	Completed
December 15, 2016 (5-10 pm) December 16-22, 2016 (Post migration support)	Upgrade border firewall equipment on San Bernardino Campus.	Campus network connectivity to certain server resources may be momentarily disrupted. Impact: Minimal	Completed

<p>February-March 2017</p>	<p>Network Team and PAN team will translate current firewall rules into the “app-based” format.</p>	<p>We do not anticipate any impact to users as these firewall rules are intended to be redundant to current rules, but written in different ways.</p> <p>Impact: None Anticipated</p>	<p>Completed</p>
<p>March-April 2017</p>	<p>Network Team and PAN team will retire unused legacy-firewall rules.</p>	<p>We do not anticipate any impact to users as these legacy firewall rules being retired are not actively in use.</p> <p>Impact: None Anticipated</p>	<p>Scheduled for April 24-28, 2017</p>

PDC Infrastructure/DR For Review and Recommendation

Introduction

Currently, the Palm Desert Campus relies on CSUSB Infrastructure for VM workloads. On the other hand, CSUSB relies on off-site tape backup as a DR strategy. Furthermore, our current server infrastructure is rapidly growing as well as the demands for the data to be backed up, as the result, it would be a lot more cost effective for us to use collaborate strategy with PDC for back and Disaster Recovery. This proposal covers details on deploying a VMware infrastructure that can serve PDC's VM workloads in addition to CSUSB Disaster recovery needs.

Details

The PDC infrastructure currently comprises of two Domain controllers. The main campus uses IBM based Tape backup system for DR purposes.

Challenges(s)

1. To support the PDC master plan, Campus growth (Security Camera system, etc.) there will be upcoming needs to provide computing and storage services.
2. Establish a platform that would allow PDC and CSUSB to leverage each other for DR and VM workloads.
3. Tape as a backup solution extends the recovery window; in order to provide faster recoveries, a Disk based DR solution should be implemented.

Alternatives

1. Continue using CSUSB as a private cloud provider for PDC requirements.
2. Leverage hosting services on public IaaS and XaaS platforms (roughly \$200K/year for 250 TB Storage).
3. As a DR strategy, CSUSB can leverage PDC infrastructure or a Public cloud solution.

Impact(s) if we do nothing

- Inability to provide essential services to staff and student community as PDC embarks on implementing the Master Plan.
- Ad-hoc infrastructure rollout resulting in increased expenditure and scale-out issues.
- In case of a disaster at the ITS Server room, the only DR mechanism we rely on is tapes. Given the exponential storage increases, the recovery time will be directly impacted as well.
 - This can have an adverse effect on our business continuity plans.

Recommendation

- Explore seed programs from various hardware vendors (Dell/Cisco) in deploying small-scale VMware environment that will satisfy the short to medium term needs of both campuses. The platform will also be engineered to scale-up as the needs grow.

Rationale

- Cost of hosting in IaaS (Infrastructure as a Service) and XaaS (X as a Service) is too high.
- Cost Estimates: Subject to further negotiation upon approval.

Components	Compute	Storage	Software/Support
	Cisco UCS (Seed Unit)	Dell Compellent	ESXi Licenses + vCenter (\$14,700)
	3x Dual Socket Blades	SC8000 SAN (\$80,000)	Vmware 3yr Support (\$15,000)
	256 GB Memory	*Refurb Brocade 6510 (\$14,000)	Required Cisco Professional Services (\$5,000)
		**SC280 250TB capacity (\$57,000)	
Component Cost	\$0	\$151,000	\$34,700
Total Cost	\$185,700		

	Year 1	Year 2	Year 3	Year 4
Compute Cisco UCS	\$0.0	\$0.0	\$0.0	\$0.0
SAN SC8000	\$80K	\$0.0	\$0.0	\$0.0
SC280 Storage	\$57K	\$0.0	\$0.0	\$0.0
Refurb Brocade 6510	\$14K	\$0.0	\$0.0	\$0.0
Software/Support ESXI License + VCenter	\$14,700.00	\$0.0	\$0.0	\$0.0
VMWare 3yr support	\$5K	\$5K	\$5K	0
Total	\$170,700.00	\$5K	\$5K	

Grand Total \$180,700.

Phishing Program

MAP for Review and Recommendation

Introduction

Technological advancements improve quality of life through easier access to information, better customer service, and greater convenience. However, the darker side uses this to exploit technical vulnerabilities and human frailties. Enhanced technologies, like antivirus, spam filters and intrusion detection systems, address some issues. Human susceptibilities are strengthened by information security awareness and phishing programs. Of these, the most difficult to improve is human nature. Phishing and spear-phishing take advantage mankind's helpful nature to spread malware like ransomware, and steal information like passwords and identities. The increasing sophistication and frequency of these attacks are a chief concern of IT security professionals.

Details

CSUSB's Phishing Program will use ethical phishing to help end users learn about the dangers of phishing attacks. Using email, the most common delivery method of phishing attacks, the campus community will receive a message similar to a real phishing email. Those who clicking on email message link will receive an educational message on the dangers of phishing and how the end user can recognize the email as phishing. The program is not punitive and individual results will not be shared. Those identifying phishing emails before clicking can forward those messages to abuse@csusb.edu. Positive reinforcement, like recognition or rewards, can encourage participation and improve retention. Exercises will be easy in the beginning and increase in difficulty over time. Initially, faculty and staff will be targeted.

Challenges(s)

- People use business equipment for personal activities creating potential risks
- Even application of training – large number of people, busy faculty & staff
- Single sign-on (SSO) enables access to multiple systems if one person is compromised
- People are recognized as being the weakest link in information security

Alternatives

- Continue current practices of user education and awareness training
- Roll out a Phishing exercise and training program to educate and train faculty and staff to prevent phishing attacks.

Impact(s) if we do nothing

- Increased risk of compromised systems leading to exposing student or personnel records.
- Possibility of successful ransomware attack leading to data loss, system loss and university shut down.

Recommendation

1. Use Chancellor Office PhishMe to facilitate phishing program – free to campus, ease of use, excellent support and many options to improve and increase exercise difficulty
2. Conduct several phishing exercises each year – improves retention, indoctrinates newcomers
3. Increase difficulty annually
4. Add students to the list of exercise participants

Budget Considerations

None – PhishMe is provided by the Office of the Chancellor

Assessment

Program is not punitive. Results are shared as a summary while individual results not.

KPIs

Provide a minimum of two(2) key performance indicators (KPI) will best indicate project success:

1. Increased reporting of phishing attempts to abuse@csusb.edu
2. Fewer people clicking on links in phishing emails
3. Lower risk insurance due to increased vigilance by campus community.

Estimated Timeline

Start Date: February 2017

Completion Date: 2020

Departmental Resource Allocation

ACBI ATI DDTS ECS ISET TNS PMO Web

Approval

This project will require IT Governance review during the _____ monthly meeting.

Submitting MPP

Submittal Date

Approving MPP

Approval Date

ITS Strategic Plan Goal 2.1.1: Qwickly+Cloud Attendance

MAP for Review and Recommendation

Introduction

The ITS Strategic planning iCoyote committee was made up of a faculty member, a staff member, two IT staff an ASI representative and 6 students from the campus community. The committee was tasked with improving the campus experience by removing academic and technological bottlenecks and increase efficiency. This specific MAP addresses one of the items highlighted by the committee as needing improvement.

Details

Currently Faculty and staff need to take attendance manually by taking up valuable class time calling out the names of student in a roster. Qwickly+Cloud Attendance module allows faculty to digitally take roll in a class via the use of the module in Blackboard thus saving faculty and student syllabus time in the classroom.

Challenges(s)

- Training students and faculty on use

Alternatives

Explore other software that provides similar services.

Impact(s) if we do noting

ITS may fail to meet its obligation to meet the ITS Strategic plan goals and spirit of iCoyote. In addition doing nothing will hinder productivity and reduce instruction time.

Recommendation

1. Purchase of Attendance module
2. Activate the module
3. Advertise and Train faculty on use

Budget Considerations

- This will cost 2,499.00 per year.
- This will cost more than \$10,000 (multiple-bid solicitation required)
- This will cost more than \$50,000 (Purchasing approval required)
- This will cost more than \$500,000 (Procurement Audit)
- This is considered a High-Risk (Liability) Project to CSUSB or the CSU

Other considerations:

Assessment

KPIs

Provide a minimum of two(2) key performance indicators (KPI) will best indicate project success:

1. KPI: number of classes that use the product
2. KPI: Percentage uses checking in.

Estimated Timeline

Project Start Date: 1 February, 2017

Project Completion Date (on or before): 3 April 2017 (1st of spring quarter)

Departmental Resource Allocation

ACBI ATI DDTS ECS ISET TNS PMO Web

Approval

This project will require IT Governance review during the _____ monthly meeting.

Submitting MPP

Submittal Date

Approving MPP

Approval Date

SLACK Cloud Communications System

MAP for Review and Recommendation

Introduction

CSUSB is reliant on email communication. Currently we do not have an off-campus communications system to: 1) notify campus techs in the event of an IT systems outage, 2) broadcast messages for tech communications, or 3) the ability streamline short direct messages between campus techs. The current methods of communication are via email and ad-hoc phone calls between techs if the systems are available. The goal of this project is to setup the “Slack” communication service as a medium for techs to communicate which is separate from campus network in an effort to improve communication and efficiency.

Details

During system outages, CSUSB currently uses email or the Cisco IP Phone system (CUCM). Both methods rely on the campus network, which if nonfunctional, can effectively prevent critical communication between techs. Setting up Slack for techs to communicate provides an alternative method for techs to communicate without relying on the campus network. Techs can communicate in a unified messaging method using the Slack app on mobile devices which is not dependent on campus resources but rather 3rd party service providers such as Sprint and Verizon.

In addition Slack offers the following benefits:

- Simplified Communication
 - No more email chains full of headers to skim through
- Organized Communication
 - Relative communications organized by channel
- Cut down on email clutter
 - Example: Nagios hooks
- Allow teams to communicate faster
 - Slack is much faster than email
- Share files easier
 - Drop files directly out of Google drive
- Integrate with other IT tools
 - Can integrate with applications such as Google Drive, Zoom, and Kayako
- Improved privacy and Backup Communication
 - Communicate across campus during an outage without the need for personal numbers

Challenges(s)

- Streamline the process of sending critical communications
- Single Sign On configuration
- Technical integration and unification of systems
- Deployment to all stakeholders

Alternatives

Explore other software that provides similar services.

Note: a slack test environment is operational and is being used by 37 techs currently and has been thoroughly tested.

Impact(s) if we do nothing

CSUSB may fail to meet its obligation to ensure proper services are provided to students, faculty and staff by not providing techs a method of communication that is not dependent on the availability of the campus network. In addition, Slack has a potential fiduciary benefit by saving techs time through streamlined communications.

Recommendation

1. Purchase Slack for use by techs
2. Upgrade existing Slack environment for SSO
3. Document Slack Communication Procedures and etiquette
4. Attach service hooks for Slack such as One Drive or Zoom

Budget Considerations

Users	CSUSB per user per year cost	Standard Cost per user per year cost	CSUSB Savings	Total Price Yr 1	On-Going
Option 1- 75 users: limited role out	\$22.50	\$150	85%	1687.50	\$1687.50
Option 2 – 121 users: All ITS and DTS units	\$22.50	\$150	85%	\$2722.5	\$2722.5
Option 3 – 180 users: All ITS, DTS, and all IT Student workers	\$22.50	\$150	85%	\$4,050	\$4,050

This will cost approximately \$2722.5 for 121 licenses and is the suggested option.

This will cost more than \$10,000 (multiple-bid solicitation required)

This will cost more than \$50,000 (Purchasing approval required)

This will cost more than \$500,000 (Procurement Audit)

This is considered a High-Risk (Liability) Project to CSUSB or the CSU

Other considerations:

Evaluate service needs such as SSO.

Evaluate human resource needs for the management of the proposed solution.

Assessment

KPIs

Provide a minimum of two(2) key performance indicators (KPI) will best indicate project success:

1. KPI: Effectiveness in communicating in the event of an IT emergency. Survey to IT staff after initial year of use.
2. KPI: Percentage of campus techs using slack.

Estimated Timeline

Project Start Date: August 30th, 2016

Project Completion Date (on or before): November 30th, 2016

Departmental Resource Allocation

ACBI ATI DDTS ECS ISET TNS PMO Web

Approval

This project will require IT Governance review during the _____ monthly meeting.

Submitting MPP

Submittal Date

Approving MPP

Approval Date

SMART Classroom Refresh Proposal MAP for Review and Recommendation

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.

Details

The SMART Classroom Refresh proposal for 2017 is focused on 3 buildings: College of Social and Behavioral Sciences' (SBS) 19 classrooms/labs and 3 lecture halls, College of Education's (COE) 28 classrooms/labs and 1 lecture hall, and Palm Desert Campus's Health Sciences' (HS) 10 classrooms/labs. For all three buildings, the classrooms/labs have the original equipment and analog cabling infrastructure from 2008 (The only upgrade since then were the computers: SBS in 2016, COE in 2015, and HS in 2014). This proposal is requesting funding not to exceed \$375,000.00 to support the upgrade of the AV projection system and new digital cabling for all 57 classrooms/labs and 4 lecture halls.

Challenges(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: Using older AV control systems with a limit of devices to four (whereas a new AV control system would provide more flexibility in the number of devices to be switched). Purchase only new projectors and use existing analog cabling.

Impact(s) if we do nothing

Frequency of hardware failure will increase as equipment ages.

End user complaints will increase: The current technology in the classroom is not able to support digital display (HDMI) from portable devices.

Recommendation

ATI is recommending that all of the SBS, COE, HS at PDC classrooms/labs listed be funded for upgrades. As noted, the equipment/infrastructure in these buildings have not been updated since 2008. Upgrading the technologies in the classrooms is important to the mission of the university in providing current technologies in support of student success.

Budget Considerations

The total cost for the SMART Classroom Refresh Project is estimated at \$375,000.00. 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.

Other considerations

Support staff will be needed for the installation of equipment and cabling. College IT staff will be required to support the installation to ensure completion of project prior to the start of Fall 2017.

Assessment KPIs

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.

Estimated Timeline

Completion date is September 20, 2017

Departmental Resource Allocation

ACBI ATI DDTS ECS ISET TNS PMO Web

Approval

This project will require IT Governance review during the _____ monthly meeting.

Submitting MPP

Submittal Date

Approving MPP

Approval Date

University Police and Palm Desert Campus Video Surveillance Storage Solution

Recommendation

September 2016

Introduction

The Palm Desert Campus has a total of 43 video surveillance cameras that are currently recording video to DVR's in an analog format. The DVR's are located in three buildings on the PDC. When UPD needs video footage, a request is made to the PDC ITS Team. The ITS Team extracts the footage from the appropriate DVR and sent to UPD either via e-mail or FTP within a 24-hour period. The DVR data is overwritten on a six-day cycle.

Challenge(s):

- DVR's located in three different buildings
- No immediate access of footage by UPD
- Video in analog format; digital is needed for clarity and higher quality
- Video overwritten every six days thereby not compliant with CO 120-day video retention requirements

Alternatives:

- Continue to stay on the current system, but will be out of compliance with CO and DOJ requirements.
- Challenge for UPD to obtain video footage on demand in real time.

Impact(s) if we do nothing:

Palm Desert Campus will be underserved for its security needs, including campus safety. The campus will be out of compliance with CO and DOJ requirements.

Recommendation:

- Purchase and install a Falcon server with enough storage to be scalable for PDC growth.
- Purchase Occularis licenses to support monitoring and storage of video footage.
- Purchase and install a UPS for the Falcon Server.

Cost: \$\$ (One time or recurring): \$44,508.82/13574.90

Rationale:

- UPD will have immediate remote access to video footage from PDC
- Local video storage at PDC will prevent the network from being overloaded if video storage is located on the SB Campus.
- Allow UPD access to PDC videos and display monitors
- A common platform of access and monitoring between the Palm Desert Campus and the San Bernardino Campus

- All CSU campuses must adhere to the California State University Records/Information Retention and Disposition Schedule for video recorded media of 120 days.
<https://www.calstate.edu/recordsretention/documents/UPD.pdf>

Assessment Plan and Key Performance Indicators (KPI):

1. Real time access to PDC videos by UPD
2. Improved security at the PDC
3. Compliance with CO and DOJ

System Proposal Details:

Hardware	Software/Licenses/Support	Storage	Cost
DNF Security DNF-FAL3600KZ6000SR24 Falcon 3600kz 4U Video Storage Platform - 62 cameras at 120 days retention		RAID6 - (26 x 6TB 12Gbps SAS) - OS / VMS Video Archive Approx: 144TB Usable Disk Space	\$28,599.23
	62 ONSSI OCENT1CCP Ocularis Enterprise Camera License		\$13,574.90
Equipment Subtotal:			\$41,874.13
Labor:			\$300.00
Sales Tax:			\$2,334.69
Grand Total:			\$44,508.82

VEEAM BACKUP SYSTEM For Review and Recommendation

Introduction

The Enterprise and Cloud Services (ECS) Department currently uses TSM (Tivoli Storage Manager) as a main backup system. TSM currently provides backup to the virtual and physical infrastructure. Our current server infrastructure is rapidly growing as well as the demands for the data to be backed up. In order to be proactive and able to meet the data retention policies and campus backup demands, an additional capacity will need to be purchased for TSM or acquire the unlimited backup capacity VEEAM system to address the current and near future needs of our customer demands.

Details

ECS is currently using TSM (Tivoli Storage Manager) to back up the University physical and virtual infrastructure. The current TSM capacity of 68 TB is at 100% of utilization. The cost of support for 68 TB is approximately \$21,000. At the moment, ECS is at the limit of its backup capacity and no longer accepting backup requests. In order to be in compliance with our TSM license, a 30% capacity increase was recommended. The cost of this expansion will be approximately \$46,000. This expansion will bring our ownership capacity from 68 TB to 86TB and the cost of support for this capacity will be about \$23,000 for the subsequent years. However, at this moment we have a need for more than 220 TB of storage to backup. To bring our current infrastructure to the needed capacity (220 TB) and be compliant with the license will cost about \$462,000. The Support and maintenance for this capacity will be approximately \$110,000 after the second year. The current backup storage distribution among the departments is as follows:

- Campus Police Department surveillance operation accounts for more than 120 TB.
- University Central Data-store with 18 TB and
- OSC (Video Archive) with about 16 TB to mention some.

The cost of TSM Tivoli support and maintenance is currently included with the lease of the IBM equipment (X5 servers and XIV). The XIV lease will be expired by June 30th, 2016.

In addition, as you may already know, the University Police Department (UPD) and the College of Art and Letters (CAL) have some projects in line that will require additional storage space in order to be deployed. Also, the Rec Center and the Commons projects will have some request for storage space that consequently will need to be backed up.

Challenges(s)

The TSM has passed its capacity and we are out of compliance which can result in major fine. Industry best practices recommend that we should maintain maximum 80% capacity at all time and not be maxed out. Our campus is growing and demand for backup is increasing. More surveillance systems are to be installed around the campus with enormous need for backup storage. As we keep moving forward, it is becoming increasingly difficult to accommodate the University backup requests as we do not have the proper license to fulfill those requests.

Alternatives

1. Purchase the additional capacity for our current system including the support and maintenance for subsequent years. The initial cost to acquire the capacity and maintenance for the first year will be around \$462,000.00 for the 220 TB of capacity. The maintenance and support for subsequent years on this capacity will be around \$110,000 year.
2. Purchase the VEEAM software at \$85,986 including support and maintenance for 4 years or finance. The VEEAM license model is based on hardware capacity.

For our infrastructure (24 Cores)

The original cost of VEEAM for 24 cores license is \$41,831.04 plus 4 years of maintenance (\$44,154.96) brings the total to \$85,986.00.

If we decide to finance VEEAM over a period of 4 years with SHI, we have the following options:

- The first option ask for \$41,831.04 on the first year and three additional payment (year 2,3 and 4) of \$16,883.96 which totals \$92,482.92. This finance mode adds approximately \$6500 over the period of 4 years.
- The second option that we have is to make 4 payments of \$23,729.89 ea year, which totals \$94,919.56. This finance mode adds approximately \$8934 over the period of 4 years.

•	TSM	VEEAM	
Backup Size			
Annual Cost	\$198,000 for 220 TB (minimum requirement) support is included	Unlimited capacity for the 6 current hosts \$23,729.89 Support is included	
One Time Cost	\$462,000.00 for the 220 TB of capacity + 110,000 * 3 years = 330,000 Total \$462,000 + \$330,000 = \$792,000	\$85,986 for 4 years	
Hardware	Dell SC280, 250 TB to be added to the existing Compellent \$30,000	Dell SC280, 250 TB to be added to the existing Compellent \$30,000	
Training	\$19,111.00 for 6 persons, onsite training	Onsite training for 6 people \$11,000 for 3 days training	
Total for one time cost	792,000 + 30,000 + 19,111	85,986 + 30000 + 11000	
Total for Annual Cost	\$210,277.75	\$23,729.89	

Impact(s) if we do nothing

If we do nothing, we cannot accept any other backup request as we will be out of compliance with the license agreement with IBM of 68 TB. Our contract with IBM will be expired by the end of June. The \$21,000 for the support and maintenance of our current capacity (68TB) will be due for renewal and as we have presented and mentioned before at the moment does not look cost effective. In order to maintain the current service levels and provide world class customer service to our clients, we need to have a reliable backup system in place that is efficient and cost effective. TSM is expensive and the license model suggest that as we grow the cost of ownership will also increase. Without a good backup system we will seriously compromise our reliable computing environment and disaster recovery strategy.

Recommendation

1. Replace the current TSM with:
2. VEEAM backup system for \$85,986 for 4 years
3. Initial Support & maintenance (4 years)--\$41,834.04
4. From the total cost \$44,154.96 is for the software licenses
5. After 4 years cost of maintenance will be \$10,000 approx.
6. Unlimited capacity for the 6 current hosts
7. SAN Replication and DRM functions.
8. VEEAM can be financed through SHI software vendor
9. Also we need to purchase a Dell SC280 (250TB) for \$30,000, just for backup only.

Budget Considerations

- This will cost more than \$10,000 (multiple-bid solicitation required)
- This will cost more than \$50,000 (Purchasing approval required)
- This will cost more than \$500,000 (Procurement Audit)
- This is considered a High-Risk (Liability) Project to CSUSB or the CSU

Other considerations:

Assessment

- This will substantially improve our backup and recovery process
- Will be able to adequately fulfill the backup demands and request of our campus.
- We currently assessing the VEEAM software and we will do more testing in the coming weeks to benchmark its performance.
- We forecast an increase of ECS service level and customer satisfaction

KPIs

Provide a minimum of two (2) key performance indicators (KPI) will best indicate project success:

1. KPI: Ability to successfully retrieve information and data from the VEEAM backup system reducing the current recovery times objectives.
2. KPI: We are confident that our campus constituent would be pleased knowing we have capability to back up their mission critical servers.
3. VEEAM represent a dramatic cost saving for our university but mainly a better alternative to the current TSM system.

Estimated Timeline

Project Start Date: Feb, 2016

Project Completion Date: July 30th, 2016

Departmental Resource Allocation

ACBI ATI DDTS ECS ISET TNS PMO Web

Approval

This project will require IT Governance review during the _____ monthly meeting.

ITS Strategic Plan Goal 4: Stable and Secure Infrastructure

MAP for Review and Recommendation

Introduction

The purpose of this project is to provide a more secure environment for not only the new 24/7 Study Area, but for the entire wedge building in the upcoming months so that University Police personnel can monitor the 24/7 study area and the entire wedge.

Details

Currently, ITS has only a few operating cameras except for those in the TSC and the ECS server room. We plan to add new cameras on all three floors of the wedge and to upgrade/replace the existing older cameras on the basement floor. We also propose to add several new cameras to the first floor and replace the older camera in the back hallway. We also would like to add two cameras to the second floor: one just outside the elevator and one to cover both the VP Office area and the entrance to ACBI.

There are numerous reasons to invest in security cameras in our area:

1. To act as a deterrent. Someone is much less likely to try to break the law, lie, or steal from us if they know they are under video surveillance.
2. For evidence in case something does happen. There is no better evidence in court than good quality surveillance to help prosecute or defend a case.
3. To help resolve questions or conflicts. We've already had to use the footage from one of the cameras in the TSC to assist us in an investigation. Being able to playback recorded video on your security camera system can help resolve all kinds of issues.

Challenges(s)

- Very little video monitoring at this time in the wedge.

Alternatives

Continue with no security cameras, which brings a huge security risk.

Impact(s) if we do nothing

ITS runs the risk of allowing injury and theft to students, faculty and staff with no video surveillance offered.

Recommendation

1. Purchase of additional cameras (quote attached).
2. To be viewed by University Police employees only.



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