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VIEW THE ANNUAL REPORT ONLINE AT:

www.cio.ucsb.edu/annual.reports
MESSAGE FROM THE AVC OF INFORMATION TECHNOLOGY

Technology undeniably intertwines with our daily tasks, both at home and in the workplace. Consumer standards dictate that technology seamlessly synchronizes projects and teams across devices. We work to translate the advances of consumer technology to the unique needs of the University. Our success depends upon leveraging scale for value by providing compelling centralized services to achieve our research and academic mission.

Google Suite for Education and Zoom facilitate collaboration and teamwork across distance and discipline. Our community of Google Suite users increased to 11,469 accounts in June 2017. That’s 68 percent of all campus employees. 2,317 faculty, students, and staff spent a total of 660,125 minutes in Zoom meetings in the 2016-2017 fiscal year.

Effective planning requires transparency. This year, Enterprise Technology Services implemented application performance monitoring and began reporting on service quality. Find the Operational Dashboard here: http://www.ets.ucsb.edu/operationaldashboard.

Our campus technology requirements evolve constantly. Addressing the evolving requirements of this institution takes the specialized knowledge of a diverse IT staff that intimately understands our history, culture, and shared vision for the future. I extend my thanks to our UCSB IT teams for their significant strides towards achieving these goals.

Thank you for taking the time to review our progress.

Matthew Jett Hall
Associate Vice Chancellor of Information Technology & Chief Information Officer
University of California, Santa Barbara
ACCOMPLISHMENTS

FIREEYE
The UC system implemented FireEye to improve systemwide cybersecurity threat detection. The Threat Detection and Identification (TDI) program looks for Indicators of Compromise (IOCs) on the network and connects them with other suspicious events to identify infected systems. FireEye monitors potential compromises at one campus and correlates this information with data from other campuses to better understand threats to the UC system.

LASTLINE
In August 2016 UCSB licensed a product called Lastline created by UCSB faculty Giovanni Vigna, Ph.D., and Christopher Kruegel, Ph.D. to identify IOCs such as malware in email attachments. Lastline scans for malicious executable code, even when hidden in .ZIP files, and then executes unrecognized code in a virtual machine sandbox to test for suspicious behavior. Lastline provides yet another line of defense against cybersecurity attacks by allowing us to respond quickly and effectively to malware attacks.

APPLICATION MONITORING
The ETS infrastructure team implemented application performance monitoring using software from IDERA called Uptime. This new system replaced the many legacy channels used to monitor the health of central IT applications and systems. A diverse team ETS staff members collaborated to design a workflow using Uptime that allows for greater transparency into the status of our systems. Now, a single applications dashboard provides real-time status, enabling teams in distributed IT departments to plan effectively, make decisions proactively, and optimize service availability.

UCPATH
UCPath will implement a single payroll, academic personnel, benefits, and human resources solution systemwide. As of December 2017, the UCSB project team completed development of 116 out of 126 payroll/personnel processes, 15 out of 20 Tier-1 interfaces, and test cases for Integration Testing Cycle I. The organizational readiness team produced 37 Knowledge Transfer sessions to help administrative leaders plan for future changes. Since June 2017, 1,447 employees in 60 departments in the Colleges of Letters & Science and Engineering began using Kronos to track hours worked and leave taken.
BUSINESS SYSTEMS UPGRADE
The Lift and Shift project upgraded 16 business systems including Travel, Transfer of Expense, and Transfer of Funds to ensure continued reliability and security. Business applications rely on backend components such as servers, programming languages, frameworks, and databases. UCSB ran these critical components after the manufacturer life cycle stopped. The upgrade re-established the warranties and stability of the applications. In addition to the updated systems, people can now log in using their UCSBnetID with Single Sign On.

SERVICENOW ONBOARDING
This year, the Enterprise Technology Service Center (ETSC) on-boarded nearly 400 users in Business and Financial Services, Athletics, Purchasing, and the Division of Institutional Advancement. The ETSC serves faculty and staff with a single point of contact for enterprise technical services and support using a software called ServiceNow. ETSC now provides assistance with services such as Identity Management and Connect sites as well.

GL 60 REDESIGN
Business and Financial Services uses a critical report to review department expenditures called the GL 60. After the PeopleSoft financial systems implementation, the report took up to 55 hours to run. In 2017, a project to redesign and improve overall performance reduced processing to less than 6 hours. The upgrade involved extensive code revision, database tuning and server configuration changes that improved the user interface and enhanced stability and logging.

NORTH HALL DATA CENTER ROW 8
The UCSB North Hall Data Center provides a centralized server hosting location for information technology systems across the academic, administrative, and research communities. This year the ETS Infrastructure team built Row 8, consisting of ten racks for housing servers and equipment to provide increased capacity. UC Education Abroad Program (UCEAP) utilizes two racks and Letters and Science Information Technology (LSIT) employs five racks for a research cluster. LSIT’s research cluster supports a project for Professor Rich Wolski, Ph.D. partially funded by a National Science Foundation grant.
KRONOS VERSION 8.0
On April 7, 2017, ETS updated UCSB’s Electronic Timekeeping application, Kronos, to Version 8.0 and migrated Kronos from on-premises hosting to the cloud. Version 8.0 eliminates the reliance on Java. The move to the cloud increased cost savings and freed up physical space in the North Hall Data Center previously required to run Kronos.

CONNECT MIGRATION
The Connect team migrated 8,292 accounts and 56.6 million email messages to Connect, UCSB’s campus-wide email, calendaring, and collaboration tool. The core components of Connect are built on the Google Suite for Education cloud computing platform. Before this project began, there were more than 20 disparate email systems on campus. With over 65 departments transitioning to Connect this year, 68 percent of staff and faculty use Connect as of June 2017.

IT COMMUNITY ENGAGEMENT
This year four projects addressed the need for increased collaboration between the 400+ UCSB IT community members. The IT Project Dashboard, established by the Office of the CIO and maintained by IT leaders across campus, consolidates information regarding the status of IT projects.

As the inaugural project of the UCSB IT Professional Development Program, IT Foundations brought together 199 participants from 44 departments to promote a better understanding of governance, UC policy, and provide a space for cross-departmental networking.

Another Professional Development Program, the pilot IT Leadership Accelerator, afforded aspiring IT leaders the opportunity to envision solutions to pressing campus technology challenges.

The Women in Technology (WIT) Steering Committee founded the WIT initiative to empower women working in information technology at UCSB. WIT received recognition from the Office of the President for their varied events such as the Project Management Lunch and Learn series, speaker events focusing on team dynamics and leadership, and informal opportunities for cross-departmental collaboration.
WHAT WE DO

OFFICE OF THE CHIEF INFORMATION OFFICER

The Office of the Chief Information Officer focuses on developing information technologies that advance the mission and strategic goals of UC Santa Barbara. The Chief Information Officer provides oversight for all IT activities that contribute to planning, creating, and implementing a campus-wide IT vision, and for integrating them into UCSB’s strategic plan.

CHIEF INFORMATION OFFICER

- Directs IT strategic plans, policies, programs and schedules to accomplish campus goals.
- Facilitates campus-wide engagement related to IT issues and opportunities.

COMMUNICATIONS & OUTREACH

- Plans communications strategy for the Office of the CIO.
- Manages ETS websites and social media content.
- Produces forums, information sessions, and events.
- Writes memos, newsletters, and reports.

INFORMATION SECURITY

- Develops policy and standards.
- Delivers consultative services, awareness campaigns, and risk assessments.
- Reviews regulatory and contractual requirements.
- Coordinates incident response.

PROGRAM MANAGEMENT OFFICE

- Plans, manages, and delivers enterprise projects.
- Protects IT investments through risk management.
- Promotes project management practices and tools.
- Ensures campus-wide input and engagement throughout the project lifecycle.
- Supports organizational readiness for change.
- Develops communication strategy for major projects.
- Manages relationships with service customers.
- Shares customer needs with service providers.

IT STRATEGY

- Document and plan enterprise architecture strategy.
- Establish a culture of IT planning.
- Ensure that the IT plan aligns with campus needs and goals.
- Gather and coordinate the information related to Run and Change IT activities and establish initial priorities.

ENTERPRISE TECHNOLOGY SERVICES

Enterprise Technology Services contributes to UC Santa Barbara’s mission of research, teaching, and community service by serving as a resource and catalyst in partnering with the campus community to efficiently deliver IT infrastructure and enterprise application services to faculty, students, staff, and affiliates; and increasing the value and effectiveness of campus IT investments and implementations.

INFRASTRUCTURE

- Manages the North Hall Data Center.
- Hosts applications like the Data Warehouse, Kronos, PeopleSoft Financials.
- Provides Windows Server support.
- Provides mainframe hosting services.
- Provides the Video Security as a Service offering.

SOFTWARE ENGINEERING ARCHITECTURE & LIFECYCLE

- Builds, integrates and supports enterprise systems.
- Develops and supports the governance of enterprise architecture.
- Manage, maintain, and support the campus Data Warehouse.
- Engineers identity and access management solutions.
- Develop solutions for PeopleSoft Financials.
- In coordination with Grand Unified System executive committee, manage, support and maintain GUS system.
- Develop, maintain and support Administrative Systems.

BUSINESS OPERATIONS & PLANNING

- Oversees financial analysis and management.
- Manages personnel, procurement, and space.
- Provides organizational support.

APPLICATION & TECHNOLOGY SERVICES

- Provides support for devices and applications.
- Architects local, hosted, and cloud solutions.
- Manages the Enterprise Technology Service Center.
- Manages Email, Calendar, and Collaboration services.

NETWORKING, COMMUNICATIONS & SECURITY SERVICES

- Manages the core campus network.
- Manages the voice and cable television networks.
- Manages the two-way/Public Safety radio systems.
- Manages the inter-building communications physical infrastructure.
- Provides network host vulnerability scanning.
- Provides the Secure Compute Research Environment.
## BY THE NUMBERS

### ACCOUNTS AND IDENTITY
- **68M** Total campus identity logins
- **44,720** Active campus identities
- **1,355** Subscription databases and e-book, video, audio, and e-journal collections accessible via the Library Proxy Services
- **128** New applications integrated with Single Sign On

### COLLABORATION SERVICES
- **28M** Total email messages delivered
- **661K** Minutes spent in Zoom meetings
- **44,320** Total participants in Zoom meetings
- **38,228** Active U-Mail student email accounts
- **11,469** Active Connect accounts
- **2,212** Connect mailing lists managed
- **767** New Zoom accounts
- **55** TB of Google Drive storage used
- **45** Web sites hosted

### INFORMATION SECURITY
- **43,770** Total automated blocks
- **1,159** Average monthly malware events detected by Sophos Anti-Virus
- **877** Total incidents
- **284** Connect accounts using Two-Factor Authentication
- **76** Indicators of Compromise detected by Lastline
- **46** Indicators of Compromise detected by FireEye
- **26** UCSB staff Security+ certified

### NETWORK, REMOTE ACCESS CONNECTIVITY
- **42,491** Wireless service accounts supported across 109,341 devices
- **3,133** VPN accounts supported representing 167 departments
- **1,090** Active Secure Socket Layer certificates managed
- **927** Wireless access points in 92 buildings maintained
- **344** Secure Socket Layer certificates issued
- **208** Subnets with access control lists supported on core routers
- **149** VPN support request tickets serviced
- **134** New wireless access points in 12 new buildings added
- **125** Building switches maintained
- **18.6** Petabytes transported on border routers
- **99.9** Percent network uptime at building switch

### PHYSICAL SECURITY
- **170** Security cameras hosted in 15 locations

### DATA CENTER OPERATIONS
- **539** Physical servers hosted at North Hall Data Center (NHDC)
- **57** Total racks at NHDC
- **55** Departments hosted in the NHDC

### TELECOMMUNICATIONS
- **4.3M** Station-to-station calls attempted
- **2.2M** Outgoing calls processed annually
- **2.2M** Station-to-station calls completed
- **1.3M** Radio transmissions processed annually
- **5,939** Telephone lines maintained
- **1,891** Telecommunications work orders and trouble tickets created
- **686** Radio service customers
- **200** Miles of outside plant copper cabling maintained
- **75** Cable TV customers in student residences
- **50** Miles of outside plant fiber optic cabling maintained
- **16** Miles of copper cabling installed
- **5.5** Miles of fiber optic cable installed