

# Enterprise Technology Services



**UC SANTA BARBARA**  
Annual Report 2018

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## Message from the **Associate Vice Chancellor of Information Technology**



2018 saw Enterprise Technology Services (ETS) accomplish major transitions for UCSB's students, faculty, and staff. These projects introduced tremendous operational change into the UCSB environment, and it positions us for a major embarkation opportunity into broader, value-creating Digital Transformation opportunities.

One of our most transformative programs occurred in September: We launched UCPATH at UCSB, a project that began in 2011. UCSB joins UCOP, UCLA, UC Merced, and UC Riverside on the UC's centralized system for payroll, academic personnel, timekeeping, and human resources. We also supported payroll, administrative, and many other employees with support labs and ServiceNow catalogs to monitor issues and concerns. These actions addressed the challenges employees faced during the UCPATH transition.

In May, we transitioned UCSB's 212 departments and 9,506 employees onto the new Kronos electronic timekeeping system. Kronos replaced UCSB's outdated paper-based processes with a standardized system that reduces errors, and saves time and effort, by recording time worked. This project's completion prepared UCSB for UCPATH's launch.

We finished transforming our legacy of many different electronic mail and calendaring tools across campus into one cloud-based platform for collaboration and calendaring; we migrated 40,043 student accounts to Connect Google's G Suite for Education. The platform provides access to unlimited cloud storage and numerous core Google apps. Using G Suite for Education enhances productivity, promotes collaboration and sharing, and offers enhanced security and universal ease of access.

These only represent a small sample of what our talented staff achieved in 2018. A huge thanks to our teams' efforts to modernize the campus and maintain our telephone system, data network, end user experience, application hosting infrastructure, and business systems operations.

As a leading research institution, UCSB's technology must evolve to meet modern demands. With the world shifting to cloud computing and most of our work heavily dependent on technology, it's UCSB IT's responsibility to provide excellent service and support to the campus. We strive to successfully execute initiatives that suit the growing demands of the University so that it continues to fulfill its research and academic mission.

Thank you for taking the time to review our progress in this year's annual report.

A handwritten signature in black ink that reads "Matthew Jett Hall". The signature is fluid and cursive, with a stylized "M" and "J".

**Matthew Jett Hall**

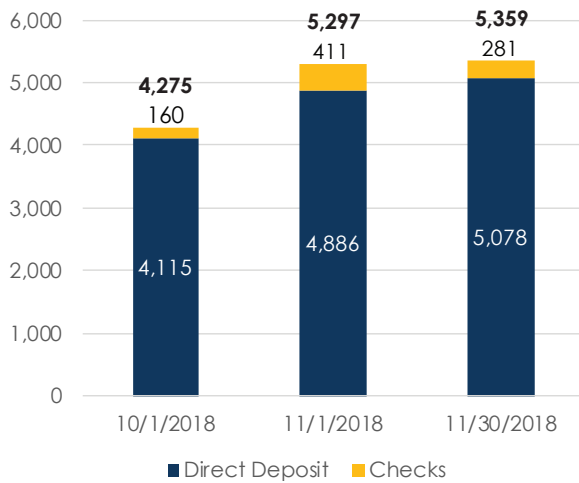
Associate Vice Chancellor of Information Technology & Chief Information Officer  
University of California, Santa Barbara

# Accomplishments

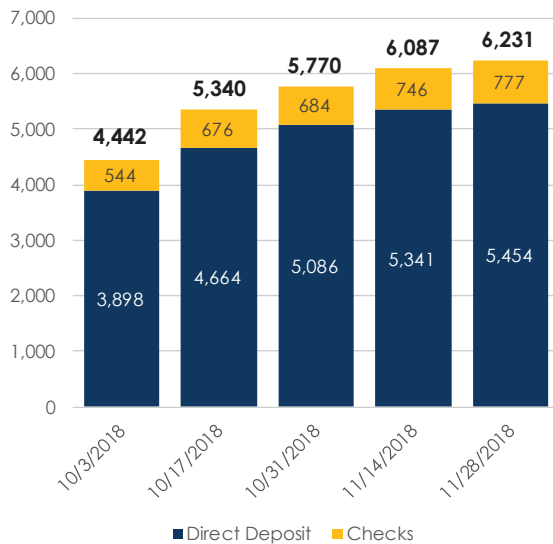
## UCPath

After 6 years of planning, UCSB went live on UCPath in September 2018. UCPath is the University of California's priority program to implement a single payroll, benefits, human resources (HR), and academic personnel solution for all UC employees. UCPath replaces UC's 35-year-old Payroll/Personnel System (PPS) with a single new payroll and HR technology system, standardizes and streamlines payroll and HR processes systemwide, and centralizes certain HR/academic personnel and payroll transactional processes within the UCPath Center. In preparation for this deployment, the Program Management Office (PMO) worked with campus partners to redesign 126 payroll/personnel processes, design or retrofit 50+ interfaces and systems, test hundreds of cases, produce 100+ information sessions, and train 500+ campus staff. UCPath supports approximately 11,000 UCSB employees.

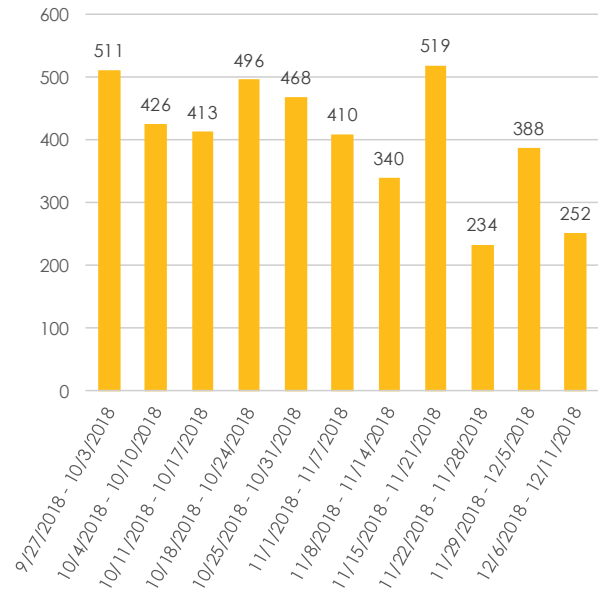
### UCSB On-Cycle Monthly Pay Processed By UCPC



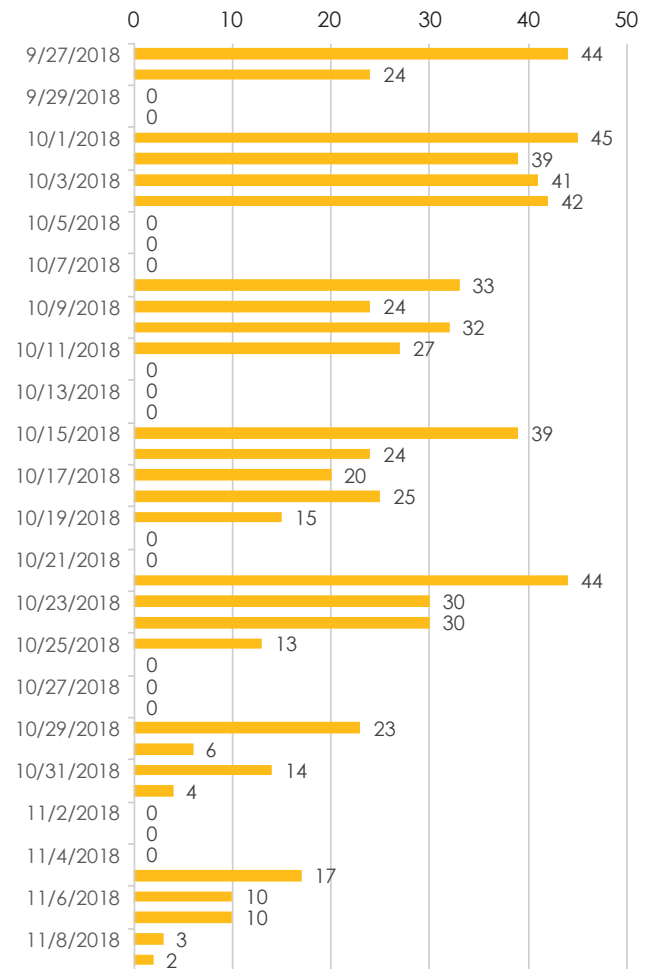
### UCSB On-Cycle Biweekly Pay Processed By UCPC



## All UCSB UCPath Center Cases Opened By Week Since Go-Live



## UCSB Support Lab Visits From September 27, 2018 - November 8, 2018



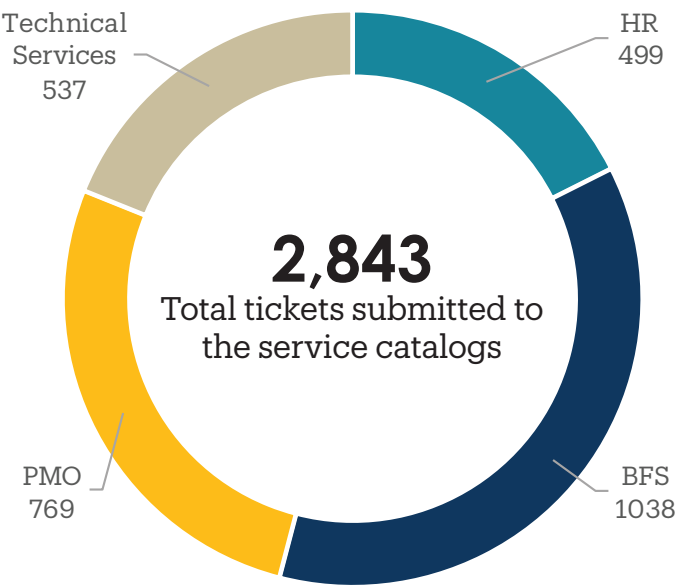
680 Total Lab Visits



UCPath Service Portal and Catalog (HR & BFS)

Beginning February 2018, ETS partnered with HR and Business and Financial Services (BFS) to build custom catalogs for their departments, timed to correspond with the UCPath cutover. The catalogs feature a self-service portal for campus users, as well as a robust case management system to help HR and BFS staff capture, track, and respond to all incoming campus service requests. Its powerful reporting features allow HR and BFS staff to monitor and analyze case data, while its detailed access controls protect confidential information. Additionally, ETS created a general service for the PMO to manage UCPath service requests submitted via email or the UCPath Support Labs.

UCPath Tickets Submitted to HR, BFS, ETS, and the PMO Between September 27 - November 25, 2018



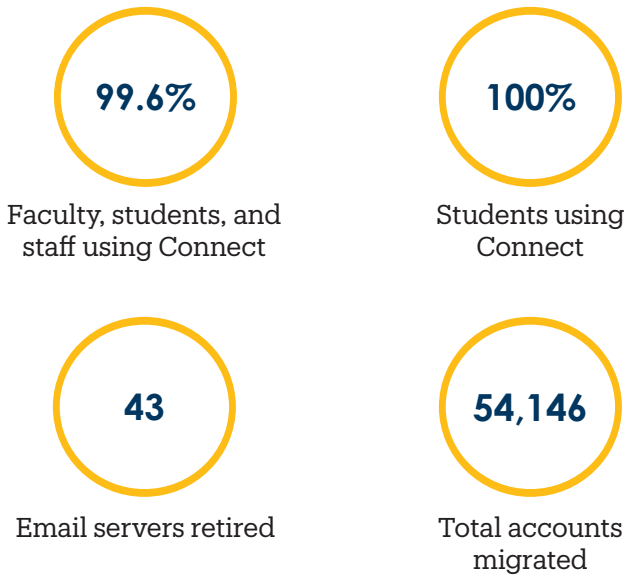
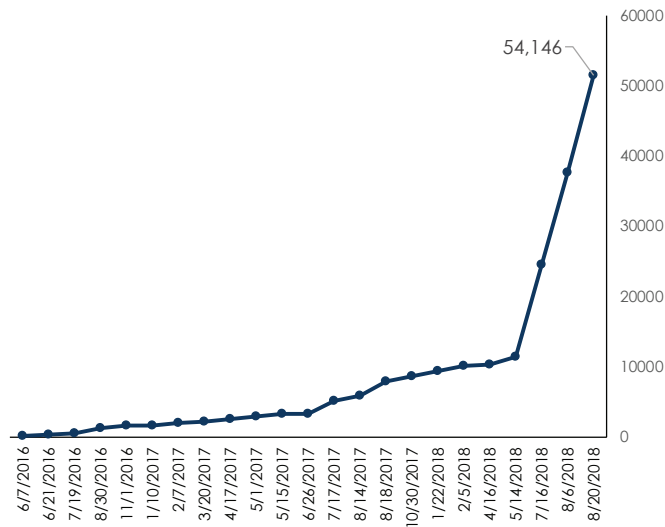
ServiceNow Jakarta Upgrade

ServiceNow, the cloud-based IT service, operations, and management tool used by ETS and Administrative and Residential Information Technology (ARIT), underwent an upgrade from the Helsinki to the Jakarta version in December 2017. Jakarta brought campus ServiceNow users new features, including security enhancements, improvements to Web Chat, responsive dashboards for technicians, and a new report designer.

U-Mail Connect Migration

With the migration of over 40,000 student accounts and 117 million email messages, more than 90% of campus now uses the Connect messaging and collaboration service. UCSB's faculty, staff and students now benefit from a single email, calendaring, and collaboration tool, supported by G Suite for Education. This migration, completed in August 2018, enabled UCSB to retire more than 20 email systems and 43 email servers.

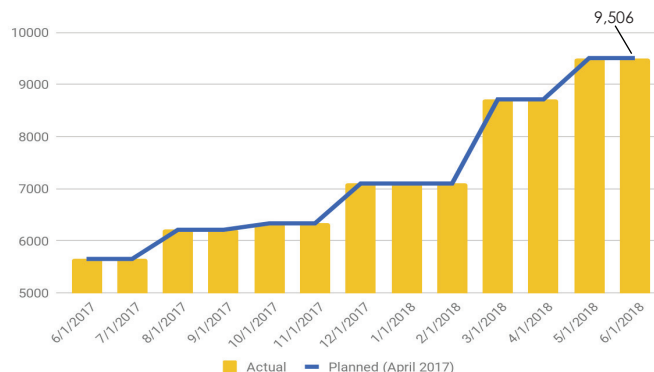
Cumulative Number of Connect Accounts Migrated Since June 2016



## Electronic Timekeeping Campus Rollout

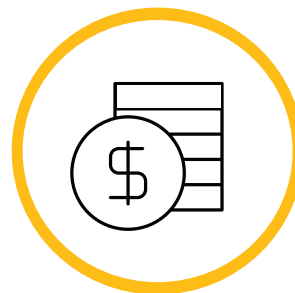
To prepare for UCPATH, ETS completed transitioning in May 2018 9,506 employees and 212 departments from paper-based timekeeping to Kronos, UCSB's new electronic timekeeping system. In addition to UCPATH preparation, the transition promotes compliance with state, federal, and university labor policies. Students, faculty, and staff can now track hours worked to multiple jobs, increasing visibility into time worked, and leave balances and usage.

### UCSB Employees Using Kronos By Date



## Alma Integration with PeopleSoft and BARC

ETS partnered with the Library to replace the ALEPH library system with the new Alma Primo system, which allows integration with PeopleSoft Financials and BARC. The integration simplifies the invoice send/receive process for Library users, who are then provided with payment status information, including daily sent invoices. This improves the overall reconciliation process; between September 2017 and June 2018, employees processed 1,917 Library invoices and payments with PeopleSoft Accounts Payable.



**1,917**

Library invoices and payments processed through PeopleSoft Accounts Payable

## Gevirtz Graduate School of Education (GGSE) Core Services Migration

Continuing its core services migration in 2018, the Gevirtz Graduate School of Education (GGSE) IT moved most of its physical servers to the ETS infrastructure and transferred its wired network to standard campus network devices. Financial benefits included returning one FTE to GGSE, saving nearly \$13,000 on wired network maintenance and \$45,000 in outside labor costs. Other advantages included reduced system administration effort on the part of GGSE IT staff, avoiding extra labor, maintenance, and replacement costs, reduced risk, returns on labor savings, and opportunities to leverage staff talent and IT capabilities. ETS also replaced 19 devices in the Hosford Clinic with secure, supportable endpoint devices and upgraded two GGSE seminar rooms and one boardroom to support Zoom.

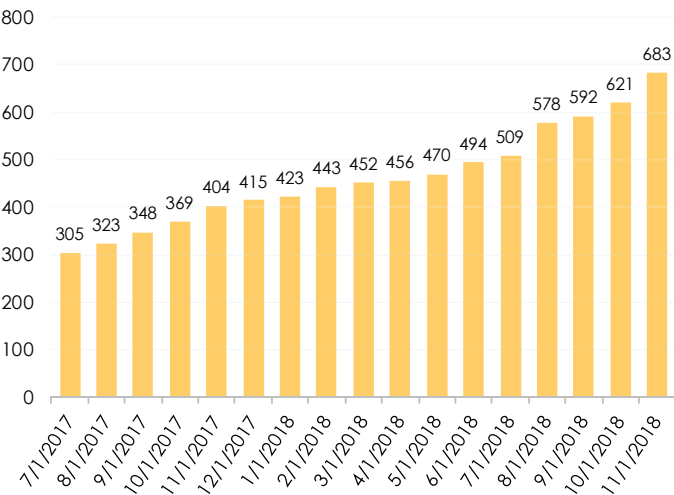
## Campus Wireless Network Upgrade

The campus wireless network provides service to over 22,000 users and 34,000 devices daily. ETS upgraded this system over summer 2018, replacing 983 access points with new models featuring increased speeds. This creates a common equipment platform with Housing, Dining, and Auxiliary Enterprises (HDAE), and provides the foundation for growth, consolidation, and standardization across the campus. ETS and HDAE streamlined the network experience by extending the eduroam network into campus housing. Additionally, we augmented the authentication to support new, upcoming capabilities.

### Multi-Factor Authentication (MFA) for Critical Server Infrastructure

Accounts the ETS Infrastructure team uses to manage critical services and systems now require multi-factor authentication (MFA). MFA requires users to log in with their username, password, and either a one-time code or security authorization accessed via mobile app. MFA adds a security layer that protects our systems, services, and data - including Windows AD and Linux services, DHCP, DNS, VMWare, and others - against unauthorized access. MFA is also available on all campus Connect user accounts, and as of November 2018, was enabled on 683 of them.

### Multi-Factor Authentication Enrollment July 2017 - November 2018



### Application Availability and Performance Monitoring for Mission-Critical Systems

ETS expanded application performance monitoring to include critical systems such as Identity & Access Management, Connect G Suite for Education, the North Hall Data Center, and security cameras. The Uptime software now monitors 368 elements in addition to 20 mission-critical systems. Improving system monitoring enables transparency of application performance, degradation levels, and the components causing degradation.

### Identity Directory Services Foundation Upgrade

ETS replaced the outdated Sun authentication service of UCSB's Identity system with the new Ping Identity platform. This service complies with UCPath's requirements and prepares the Identity infrastructure for future upgrades. The former service used a network of servers and a database backend, all of which were obsolete by spring 2018. On average, the upgraded Identity system services 400,000 authentications daily, peaking at 800,000 or more on busy days.



**400,000**  
Average Identity  
authentications daily

### Graduate Division ProSAM Integration with Accounts Payable

The Graduate Division's ProSAM system's integration with PeopleSoft Accounts Payable streamlined business processes. Previously, the Graduate Division used the APEX Loader file. The new system allows data to transfer to and from the ProSAM system using web services versus standard file processing. This reduces the file processing error rate to .2%. Since July 2018, staff processed 1,475 Graduate Division invoices and payments through PeopleSoft Accounts Payable.

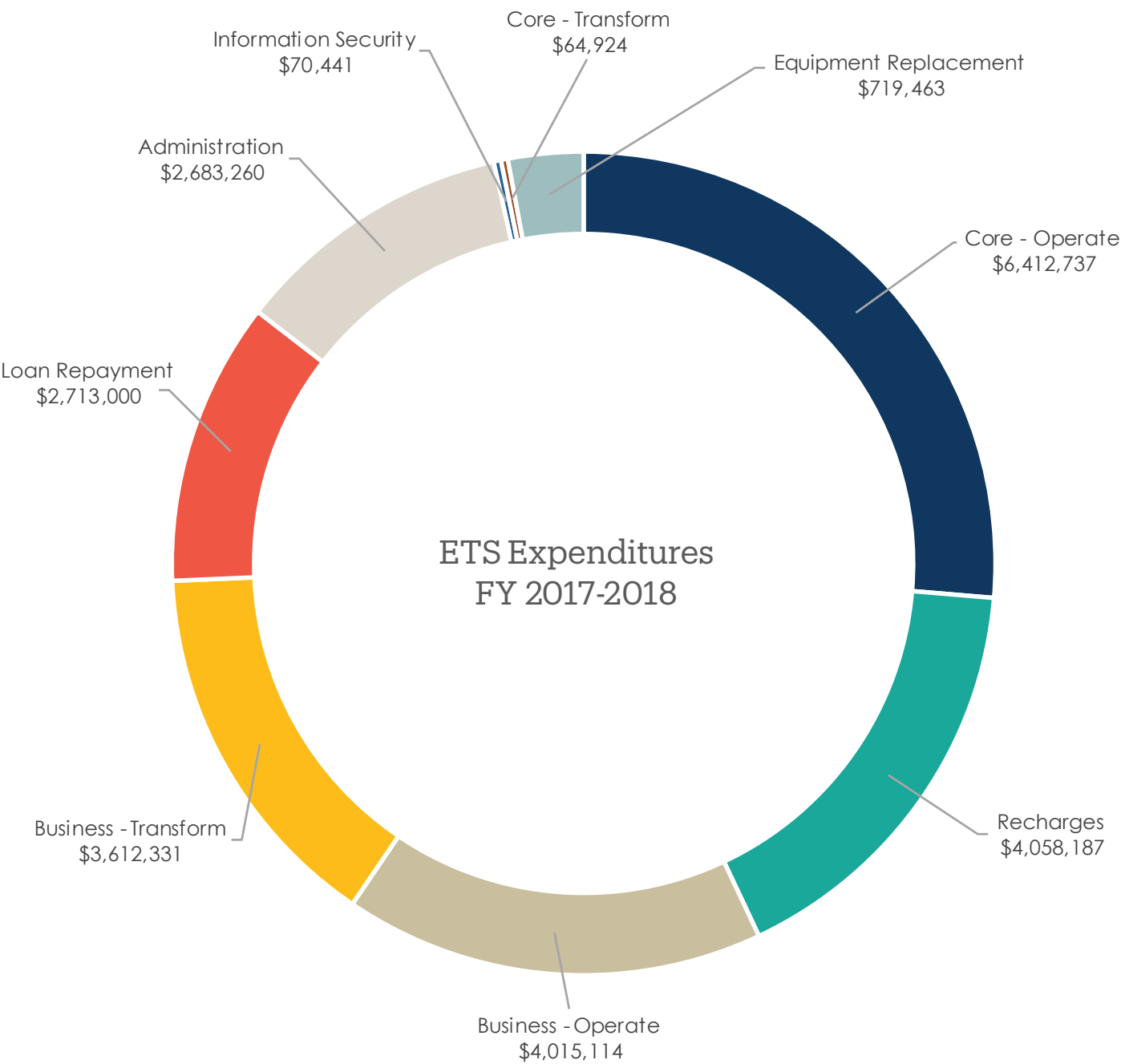
### Fiber Optic Cable to West Campus

When UCSB purchased the West Campus (Devereux) site, it lacked direct network connectivity to the main campus for network or telephone services. ETS installed new cabling to bring equal services to the West Campus, which facilitates usage and future growth.



# Financial Data

# Financial Data



**What We Do**

# 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.



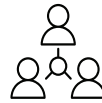
### Communications & Outreach

- Plans communication 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.
- Monitors the network and critical systems for security intrusions.
- Scans the network looking for vulnerable systems.



### Program Management Office

- Plans, manages, and delivers enterprise programs and projects.
- Protects IT investments through risk management.
- Promotes program and 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 programs and projects.
- Manages relationships with service customers.
- Shares customer needs with service providers.



### IT Strategy

- Documents and plans enterprise architecture strategy.
- Establishes a culture of IT planning.
- Ensures that the IT plan aligns with campus needs and goals.
- Gathers and coordinates the information related to Run and Change IT activities and establish initial priorities.

# What We Do

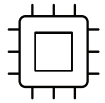
## Enterprise Technology Services

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.



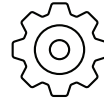
### Infrastructure

- Manages the North Hall Data Center.
- Hosts enterprise applications like the Data Warehouse, BARC, UCPath ODS, Kronos, and PeopleSoft Financials.
- Provides Windows, Linux, and Mainframe server support.
- Provides Identity, Messaging, Collaboration, and Web 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.
- Manages, maintains, and supports the campus Data Warehouse.
- Engineers identity and access management solutions.
- Develops solutions for PeopleSoft Financials.
- In coordination with Grand Unified System executive committee, manages, supports, and maintains GUS system.
- Develops, maintains, and supports Administrative Systems.



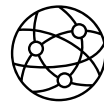
### Business Operations & Planning

- 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

# By The Numbers

## FY 2017-2018

### Accounts and Identity

64,805,889	Total Campus Identity logins
48,418	Active campus identities
136	Applications integrated with Single Sign On

### Collaboration Services

45,616,839	Total email messages delivered
1,845,953	Minutes spent in Zoom meetings
137,564	Total participants in Zoom meetings
51,071	Active Connect accounts
40,624	Active U-Mail student email accounts
4,798	Zoom accounts
3,738	Connect mailing lists managed
890	TB of Google Drive storage used
114	Web sites hosted

### End User Support

11,489	Service calls addressed
10,928	Kronos users
3,150	Kronos service requests
1,997	Connect service requests
1,719	Total workstations supported

### Virtual Application & Server Hosting

4,663	Gigabytes of RAM
621	Gigahertz of CPU
436	Terabytes of SAN storage
424	Virtual servers hosted
248	CPU Cores
20	Virtual host servers

### Information Security

29,009	Total automated blocks
1,808	Total incidents
683	Connect accounts using Multi-Factor Authentication
604	Average monthly malware events detected by Sophos Anti-Virus
64	Indicators of Compromise detected by FireEye
49	Indicators of Compromise detected by Lastline
47	UCSB staff Security+ certified

### Palo Alto Unified Threat Management Blocks

84,484,509	Total threats blocked
35,856,164	Total URLs blocked (PAN-DB)
29,398,421	Total vulnerabilities blocked
29,310,169	Since July 2018 CVSS high vulnerabilities
19,753,524	Total Spyware blocked
2,068,403	Since July 2018 CVSS critical vulnerabilities
595,743	Total files blocked (Wildfire - virus)
560,819	Total files blocked (virus)
311,227	Total scans blocked

### Physical Security

208	Security cameras hosted in 21 locations
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# By The Numbers

## FY 2017-2018

### Data Center Operations

643	Physical servers hosted at North Hall Data Center (NHDC)
69	Total racks at NHDC
60	Departments hosted in the NHDC

### Telecommunications

3,982,437	Station-to-station calls attempted
2,156,945	Station-to-station calls completed
2,138,547	Outgoing calls processed annually
1,093,438	Radio transmission processed annually
5,998	Telephone lines maintained
1,947	Telecommunications work orders and trouble tickets created
695	Radio service customers
68	Cable TV customers in student residences
60	Miles of fiber optic cable installed

### Zoom Adoption and Usage

1,845,958	Total minutes
137,564	Number of participants
33,729	Number of Zoom meetings
4,798	Total accounts

### Google Drive and GMail Storage

1,035,419,980	Total megabytes used
978,488,616	Megabytes of Drive used
52,412,563	Megabytes of GMail used

### Network, Remote Access Connectivity

44,768	Wireless service accounts supported across 106,094 devices
4,246	VPN accounts supported representing 177 departments
1,146	Active Secure Socket Layer certificates managed
986	Wireless access points in 93 buildings maintained
443	Secure Socket Layer certificates issued
418	Subnets with access control lists supported on core routers
127	Building switches maintained
99.988	Percent network uptime at building switch
73	VPN support request tickets serviced
49	New wireless access points with 1 new building added
16.6	Petabytes transported on border routers



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