IT SERVICES
Annual Report
2016–2017
Information Technology Services (IT Services) plays a critical role in the support of UC San Diego’s mission to transform California and society by providing information technology that supports the university’s business systems, messaging, collaboration, information security, infrastructure, educational technology, and research needs.

While most institutions have IT leadership and staff dedicated to the teaching and learning mission, few CIOs and IT leaders have sufficient training in or experience with the teaching and learning domain. This creates a blind spot, inadvertently neglecting teaching and learning initiatives and treating these systems as minor appendages to the mass of information technology supporting the institution. Valuable data from administrative systems, including student administration systems, fails to cross over to the teaching and learning realm and vice versa. To properly design and integrate the next generation learning technology ecosystem we are dedicating more IT leaders and staff to learning theory.

As colleges and universities continue to implement additional technologies, including mobile and real-time learning analytics tools, we are challenged to make dreams come true in ways we have not seen before. For the foreseeable future, tackling the enormous complexity in the art and science of learning will take a village. We will need higher levels of human and technical integration.

The IT Executive Governance Committee and IT Services leadership identified five goals and milestones for 2016–2017. These goals and corresponding milestones are discussed in greater detail in this report. The goals include supporting student success and instruction in addition to planning for the renewal of UC San Diego’s enterprise systems, enhancing research information services, improving cybersecurity technology and awareness, and improving overall cost-effectiveness finding synergy across academic and business units. We made a significant amount of progress in my first year as CIO, but there is much more to be done.

In addition to highlighting progress made in several critical IT service sectors, this report looks ahead to next steps and advancements to be realized over the next several years, illuminating the relationship that IT Services maintains throughout UC San Diego. Our dedicated professionals will continue to push the boundaries of technology services with creative solutions and collaboration across the organization and campus to better serve the UC San Diego community.
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The central concern during the formation of IT Services was how to best serve the university and its values. “Coming together as a new organization was an opportunity to set a new foundation,” says Service Management Office Manager Lynn Underwood. IT Services adopted the Information Technology Service Management philosophy (ITSM), which puts the focus on customer needs and services to plan, design, deliver, operate, and control the information technology services offered to customers. “While it’s all about delivering services of value, ITSM fundamentally shapes and focuses how we go about doing that.”
A pillar of ITSM is service ownership. Everyone at IT Services contributes to the delivery of services, but each service has a single service owner who is accountable for its delivery and quality. The service owners create a vision for their services and set service commitments with campus customers, periodically reviewing their performance to ensure continued quality.

IT Services’ commitment to continually improve services drove the organization to become part of the growing Lean Six Sigma movement at UC San Diego. In partnership with the university’s Office of Operational Strategic Initiatives, IT Services invested in training all 350 staff and 50 select campus partners for Lean Six Sigma Yellow Belt certification. Everyone at IT Services is now versed in the Lean Six Sigma methodology, empowered to identify and make improvements to processes and services.

Covering best practices is the IT Infrastructure Library (ITIL). ITIL’s central ideas of customer focus, process orientation and continuous improvement are at the heart of IT Services’ work.

Four central values were created to highlight ITSM in everyday work. We’re Better Together embodies the partnerships inherent in IT Services’ work with campus and across the department’s functional units. Love What You Do reflects the personal and professional benefits gained from alignment of work with talent and skills. Make A Difference is a reminder that the power to create positive change begins with each member of the staff. Think Like An Entrepreneur dares all at IT Services to innovate, especially when facing significant challenges.

ITSM and the IT Services values intertwine to make the department a partner with the rest of UC San Diego. “We’ve chosen tools that resonate for us and ensure we’re delivering information technology solutions of value that you can count on,” Underwood said.
When several campus IT units were brought together to form the new IT Services organization in the fall of 2015, there was an unprecedented executive commitment, investment, and structure to guide and ensure the success of the new organization as an integrated campus partner. The IT Executive Governance Committee (ITEGC) was formed and charged to select a Chief Information Officer (CIO).

CIO Vince Kellen came to UC San Diego in June 2016 and immediately worked to ensure the Governance Committee was made up of key campus stakeholders. He says, “It was imperative that [ITEGC] representatives came from a wide range of departments.”
ITEGC members are drawn from UC San Diego departments as well as UC San Diego Health, representing every functional area served by IT Services.

The ITEGC drives the strategic creation, expansion, and delivery of IT services to the UC San Diego community. Embracing the principle *We’re Better Together*, the committee advises campus leadership on a broad range of IT-related functional areas: overall governance, major system and service changes, sustainable funding issues, long-term risk, strategic planning, and performance transparency.

2016–2017

**IT Executive Governance Committee**

**Peter Cowhey** (chair)
Executive Vice Chancellor (Interim), Academic Affairs

**Mark Amey**
Associate Chief Information Officer, UC San Diego Health

**Sandy Brown**
Vice Chancellor, Research

**Juan Gonzalez**
Vice Chancellor, Student Affairs

**Bill Hodgkiss**
Academic Planning and Resources

**Vince Kellen**
Chief Information Officer, UC San Diego

**Christopher Longhurst**
Chief Information Officer, UC San Diego Health

**Guy Masters**
Deputy Director of Research, Scripps Institution of Oceanography

**Jill Mesirov**
Health Sciences Representative

**Mike Norman**
Director, San Diego Supercomputer Center

**Pierre Ouillet**
Vice Chancellor, Chief Financial Officer

**Kaustuv Roy**
Academic Senate

**Brian Schottlaender**
University Librarian

**Larry Smarr**
Director, California Institute for Telecommunications and Information Technology (Calit2)

**Gabriele Wienhausen**
Director, Teaching + Learning Commons

The IT Executive Governance Committee is supported by the Governance Administration and Project Portfolio Advisory Groups. The Project Portfolio Advisory Group maintains and shares a comprehensive list of IT projects and analysis of size, duration, resource needs, and issues; resolves questions of prioritization or conflicts not answered in ITEGC subcommittees; shares the project intake and on-boarding process, project charters, and business cases; and communicates the status of projects to committees.

**Governance Committees**

In addition to the advisory groups, the Executive Committee oversees eight IT Services Governance Committees charged with ensuring transparency in IT planning and operation. The committees enable coordination across distributed units and provide strategic advantage for UC San Diego.

**The Committees**

- Instructional Technology
- Enterprise Information Services
- Research IT Services
- Collaboration & Messaging Services
- Enabling Infrastructure for Data & Analytics
- Cybersecurity Governance
- Integration Services
- Infrastructure Services
Principles

Seven governing principles were established to guide the management of the IT Services Governance Committees. These principles were created on the premise of a collaborative environment that focuses IT Services on anticipating and responding to the needs of its diverse constituencies.

Transparency

All parties come together to share their unit plans and related IT activities. This is a fundamental condition to foster coordination, collaboration, and collegiality.

Multilateral commitment

Federated governance builds a multiple-unit commitment to goals and activities involving distributed IT resources.

Strategic alignment

Governance committees provide guidance and advice to units that ensures IT activities are aligned with strategic priorities.

Diversity

Governance enables diverse voices often not represented in other ways. Diversity of perspective strengthens resource alignment and enables teams to develop better information systems.

Interdependency

Information systems have complex interdependencies with other systems and with human processes.

Governance uncovers and simplifies these technical linkages and business process complexities before implementations begin.

Urgency

While governance can take some time, encouraging diverse thinking, alignment with strategy, and good collaboration can help initiatives and activities requiring IT resources move quicker and often with less effort.

Cost-effectiveness

Since business problems can be solved in a myriad of ways with the wide variety of IT tools available today, governance spurs creative and innovative solutions that take advantage of UC San Diego's context and capabilities, ensuring initiatives are cost-effective.
IT Services Goals

Five organizational goals for 2016–2017

The IT Executive Governance Committee, in collaboration with IT Services leadership, selected and ranked five goals for IT Services in 2016–17. The goals align with UC San Diego’s Strategic Plan. Each of the five goals is supported by specific tasks with progress tracked on a regular basis on the IT Services website.*

* The following pages reflect progress made at the time of publication. Visit [http://blink.ucsd.edu/go/itsgoals](http://blink.ucsd.edu/go/itsgoals) for the latest information.
Goal 1: Support Student Success and Instruction

Milestones and Progress

- Establish a data and analytics governance committee and charter: Established in November 2016
- Establish an Analytics Community of Practice to engage academic and operational units: Established in January 2017
- Enhance time-to-degree student analytics: 3 of 4 models completed and in use
- Improve the classroom technology refresh process: 63% complete of 19 classrooms targeted
- Review and enhance or replace the learning management system (LMS); ensure the LMS platform can handle UC San Diego growth strategies: 3 of 7 milestones have been completed. More information: Learning Management System Review
- Establish cloud-based analytics infrastructure and integrate key source systems’ data: 2 of 8 milestones completed. More information: Strategic Decision-Making
- Identify and sufficiently resolve data quality issues: 1 of 5 milestones completed
- Enable research into learning: 0 of 2 learning/data analytics available for researchers

Strategic Decision-Making

Milestone: Cloud-based analytics infrastructure in place and key source systems’ data integrated

“You should make informed decisions.” That’s what Judy White, Assistant Director of Business Intelligence (BI) & Analytics, wants to help everyone at UC San Diego do. Her team is dedicated to helping units throughout the university access and analyze the data they need to make strategic decisions. “If you’re going to make a decision about your business, you should do it based on data, not your gut feeling,” White continued.

That’s the idea behind BI & Analytic’s Student Activity Hub, currently under development. Student data like the courses they enroll in, the courses they drop, and their year in school is collected in a giant table. Easy-to-use interfaces in reporting software like Cognos and Tableau...
let staff quickly generate analyses through drag-and-drop functions. The Student Activity Hub and its interface will save staff a significant amount of time by curating all the data in one location and making it securely available.

The data will help spot students who are struggling academically to get resources to succeed. “Through the Student Activity Hub, we’ll be able to identify who is falling behind, where advisors can help them, what courses they’re taking, and where they are compared to their peers,” White said. While some of the first features of the system will provide insight into student retention and time to degree, student success is at the heart of the project.

The Student Activity Hub is just one of many ways BI & Analytics helps UC San Diego make better decisions. They’ve partnered with departments to develop tools that enhance four-year graduation rates, identify funds in deficit, report on purchase orders, and identify UC San Diego Health insurance claims at a high risk for being denied before they’re sent to insurers.

The BI & Analytics team works with key subject matter experts on campus, providing training and advice on finding and curating the data for reporting and visualization. The team also directs customers to resources to help them develop the reports they need.

The best part of BI & Analytics is that it assists decision makers in determining strategy and where to put their focus. "We know we’re successful when the data starts a huge conversation," White said. "If data drives someone to change something, that’s a success."

Learning Management System Review

**Milestone:** Review and enhance/replace the learning management system (LMS); ensure the LMS platform can handle UC San Diego growth strategies

IT Services wants to know what you think about TritonEd. Assistant Director of Educational Technology Services Dan Suchy’s team is preparing the most comprehensive study of UC San Diego’s learning management system (LMS) the university has seen. Suchy and his team are using the Experience Analysis and Design (EAD) methodology to provide the information needed to drive decisions about TritonEd.

TritonEd is a digital space where instructors can organize, manage, and deliver their courses. Students can collaborate with their peers, find due dates and course materials, submit assignments, and view their grades.

The LMS study started with structured interviews about users’ experiences with technology. The results of the interviews were used to create a finely tuned quantitative survey sent to a representative sampling of campus users. The collected information illustrated what is working well for the customer and what isn’t. The data was analyzed, compiled, and is currently being presented to campus decision-makers through. The information will support decisions about changes that better align the technology to users’ needs.

The TritonEd EAD effort is the first time IT Services has embarked on such a thorough feedback collection project. Though the process is time-consuming, it’s worthwhile. Nearly every one of UC San Diego’s 30,000 students uses the system daily and more than 80% of teaching faculty use it every quarter, so changes to TritonEd have a widespread effect on UC San Diego.

"Without a structured way to get user feedback, we would probably make decisions that don’t match what the campus needs," Suchy explained. "Technical organizations often make decisions based on the technology that are handed down to the users who are expected to adapt to it." The EAD process turns this paradigm around by focusing on the faculty and student experience to support a technology decision.

The knowledge gained will produce an LMS tailored to the needs of UC San Diego. That’s important because the EAD process has overturned some assumptions about how faculty and students use TritonEd. "We’re finding that a lot of the technology needs are different here (at UC San Diego) than at a lot of other universities," Suchy says, "so we know we can’t make these decisions without faculty and student input."

The interview phase of EAD also proved valuable in helping the Education Technology team create new relationships between faculty and IT Services. Suchy notes, "We have new partners that we can reach out to for other projects."
Suchy and his team will champion EAD throughout IT Services, helping service owners determine whether it is the right tool to make technology decisions then training teams on its use. He summarized, "We now have the ability to better understand how our customers use technology to make the right choices to improve teaching and learning across the university."

Goal 2:
Plan the Renewal of Enterprise Systems

Milestones and Progress

- Inventory existing enterprise software and share with governance committees: Discovery document is 65% completed
- Document the risk to or impact on downstream business processes and applications when replacing key enterprise system modules: Discovery document is 40% completed
  More information: Enterprise Systems Renewal Project
- Implement an identity and access management solution in coordination with the enterprise renewal strategy and plan: Identity management architecture roadmap document is 30% completed and the Academic & Instructional Technology Integration Group (AITAG) is engaged with the project. More information: Enterprise Systems Renewal Project
- Produce a roadmap and high-level timeline for cost-effectively addressing each legacy enterprise system module on campus: Roadmap is 20% completed
- Develop a plan to appropriately integrate UCPath solutions with UC San Diego enterprise systems: Document is 10% completed
Enterprise Systems Renewal Project

**Milestone:** Document the risk to or impact on downstream business processes and applications in replacing key enterprise system modules

One of the most ambitious projects undertaken by IT Services is the Enterprise Systems Renewal Program. UC San Diego’s Enterprise System currently consists of a core set of custom applications coupled with a wide variety of vended and custom solutions. The support of these core business applications requires regular refreshes of proprietary hardware, labor intensive updates for regulatory changes, and hard-to-find talent with technical skills that are no longer mainstream.

Kevin Chou, Executive Director for Business Technology Services, leads the team that is developing a detailed enterprise system renewal plan for UC San Diego’s business and administrative infrastructure. "Our goal is to identify the greatest opportunities for long-term improvement by analyzing our processes and enabling technology," said Chou. "Too often new technology is shoe-horned in to support an existing, inefficient process and everyone is expected to make it work."

The strategy will be to apply an iterative, incremental methodology that makes transparent how we are learning, adjusting, and avoiding large-scale decisions based solely on purchases made in the past.

As part of the plan, four domains were selected for review: Finance, Human Resources, Research, and Students.

Chou said the team will be evaluating about 1,000 total processes. “We began our evaluations in January of this year and we will have completed them by the end of FY2016 or shortly thereafter,” Chou explained.

The evaluation process focused on our processes, with the goal of prioritizing investment in optimizing processes and technologies. “We’re analyzing processes to discover what isn’t working well in the process, and the scope of impact to the institution,” Chou said. “It’s possible that our tools aren’t adequate or as up-to-date as they should be, or processes need to be re-engineered."

“Once the evaluation is completed, we will make recommendations to IT Governance, which will result in a plan that will be implemented over the next five years,” Chou said. “The key is adapting what we learn to creating improvement through additional training, changing technology, or process re-engineering. It’s critical to scrutinize processes holistically to maximize the impact of our efforts.”

Enterprise Identity and Access Management

**Milestone:** Implement an identity and access management solution that works in accordance with the renewal strategy and plan

One of IT Services’ most complex undertakings is upgrading and modernizing the university’s Identity & Access Management (IAM) systems. IAM is a set of business processes and supporting technologies that enable the creation, maintenance, and use of an individual’s digital identity on campus. Fundamentally, IAM manages who people are and what their relationship is to the university. Business systems and others that require limited, secure access use the identity systems
to define who can access particular types of information, so the impact of these systems on UC San Diego’s user community, application portfolio, and information resources is extensive.

Roger Phillips, IT Services’ IAM lead and architect, explains that UC San Diego’s IAM systems grew organically over the years with individual identities maintained in many different systems. The result is no single authoritative source for identity and access information for all people related to campus. Information is spread around and the information is often not complete. This makes it difficult for members of our community to access the full range of systems they are entitled to, and, on the flip side, creates the risk of inappropriate access for others.

In 2004, an identity access initiative was undertaken that pulled information from seven existing systems of record into a single identity repository. Tools like MyAffiliates, AccessLink, and Single Sign-On were created to manage identity and system access. The affiliates database and identity tools are still in use today. That was the last time that the university’s IAM infrastructure was upgraded.

The IT Services Enterprise Identity & Access Management team has been working to identify goals for improving the capabilities provided by the current IAM infrastructure across campus. Separating a person’s digital identity from what that identity is authorized to access will help us clarify what access rights a person has. UC San Diego’s community is made up of a variety of roles and visitors so the hope is to expand the number of digital identity types to include more than the current students, employees, and affiliates.

Maintaining all of this information in a single, authoritative identity repository will be one of our first tasks. The team also identified the need for clear, standardized policies for managing a single individual with multiple accounts, which is a common situation. For increased security, they will be rolling out multi-factor authentication for Single Sign-On, enhancing our auditing ability, supporting fraud detection, and consolidating the management of roles and security groups into a single tool.

The first of three major IAM projects is a Central Identity Registry, which will include an identity database and web portal that will allow authorized campus users to create new identities, update identity information, and initiate access. The Registry will become the one source of identity information for all campus entities from faculty and staff to sponsored affiliates and guests. It will introduce a new, single campus identity that each person will use throughout their time at the university and make UC San Diego less reliant on department identity databases.

Another project improving the student experience is changing account management tools to create self-service account access. Self-service requests will improve the user experience, speed of problem resolution, and reduce bureaucratic overhead. A review and update of the policies for the automatic provisioning of student accounts will reduce confusion.

Finally, the new system will include a single source for all entitlements, groups, and roles. A new authorization interface will make it easy to add new security policies for all provisioning and deprovisioning tasks related to granting and removing access.
“Upgrading IAM is a strategic initiative for the campus because the first impression that students, faculty, researchers, or administrative staff has of IT at UC San Diego is formed from the initial experience at the login screen,” Phillips said. “IAM should be flexible enough to enable new campus technology initiatives and the increasing use of federation. These projects will update our current IAM infrastructure by addressing deficiencies in the current system and policies deficiencies.”

The project team is partnered with Gartner, Inc. to develop initial requirements and to better understand the vendors in this space, and is currently reviewing responses to a preliminary Request For Information.

Goal 3: Enhance Research Services

Milestones and Progress

- Expand the research facilitation service to aid researchers on campus: 3 of 3 research facilitator positions were hired, more than 40 researchers and 7 of 8 researcher POCs were provided aide, 3 of 5 proposals submitted were provided support

- Upgrade the network infrastructure for cloud business and research service: Expansion of Corporation for Education Network Initiatives in California (CENIC) bandwidth at San Diego Supercomputer Center (SDSC) and CENIC bandwidth expansion to east campus are 100% completed. Redesign of the network core for research is 75% completed

- Assess the current state of research data management with a plan for addressing gaps: 1 of 3 milestones are completed

- Establish a cloud optimization center to help researchers partnering with SDSC, Health IT, Library, and Procurement: Phase 1 pilot is not yet completed. A go/no go decision is not yet made.

Research IT and Facilitation

Milestone: Expand the research facilitation service to aid researchers on campus

UC San Diego received over $1 billion in research funding in 2014-15. With so much at stake, IT Services made supporting research on campus a priority, creating the first-ever Research IT Services group. “Research IT Services builds on the successes of the multi-department Digital Infrastructure initiative,” Director of Academic Technology Services Valerie Polichar explained. “Our mission is to provide high-touch research IT facilitation services that match faculty, students, and staff with the IT resources they need for their work. We’re directly supporting the research goals of the Chancellor’s Strategic Plan.”

Research IT Services’ goal is to improve UC San Diego’s grant proposal and execution success and grow the technology resources available to researchers. They worked with more than 40 researchers on IT questions
Research Facilitator Cyd Burrows-Schilling and Director of Research IT Services Valerie Polichar

and needs in 2016-17, surpassing their target of 20 for the first year. Examples of this support include advising research labs on technology, writing technical sections of grant proposals, and building proofs of concept for research ideas.

When researchers have needs unique to their leading-edge research, Research IT engineers step into the breach with innovative solutions. They initiated a pilot of UC HIPAA-compliant small-size data storage with input from UC San Diego’s School of Medicine and UC San Diego Health. Systems Integration Engineer Joe Keefe helped

Birch Aquarium create a giant, multi-screen display featuring live data collection onboard America’s newest research vessel, R/V Sally Ride. They created compelling videos to convey researchers’ visions to prospective funding agencies, and the team joined in on principal investigators’ proposals to the National Science Foundation.

Research IT Services built connections beyond UC San Diego. Assistant Director of Research IT Services Claire Mizumoto and her staff developed and staged the three-day University of California-wide Research Facilitation Workshop, providing training, sharing best practices, and building community with counterparts throughout the UC system. They hosted and advised delegations from research and IT departments at Göttingen University in Germany, Kyoto University in Japan, the Kenyan Research & Education Network, and Jimma University in Ethiopia on how to create and grow their research IT support.

“We started with a modest initial budget and modest initial plans for our first year and we’ve accomplished so much more,” Polichar said. Even with the strong start behind them, Research IT Services has only just begun to support research at UC San Diego.
Goal 4:
Improve Cybersecurity

Milestones and Progress

- Create cybersecurity governance committee with Senate representation: Completed December 2016
- Fill the Chief Information Security Officer position: Completed January 2017
- Develop comprehensive cybersecurity plans and gain approval from the Cybersecurity Governance Committee for general campus and Health Sciences: Completed January 2017
- Build strong engagement and execute communication strategies with key stakeholder groups: Communication plan completed March 2017, 15 of 60 stakeholder groups reached
- Establish a security certification process for equipment connected to the UC San Diego network: 10% completed
- Establish and communicate a security model to support cloud hosting: Under review
- Make significant progress on key security technology projects, establish an annual security review process: 8 of 16 planned objects completed, annual review plan in place, Payment Card Industry (PCI) Certification achieved.
  More information: Cybersecurity Update

Cybersecurity Update

Cybersecurity dominated 2016 in ways no one might have predicted – from the presidential election to Yahoo’s admission it had suffered two massive data breaches in 2013. Clearly, cybersecurity is more critical now than ever before.

“2016 was a watershed year for cybersecurity at UC San Diego,” explained Michael Corn, the new campus Chief Information Security Officer. “It began with a significant expansion of the security office staff, hiring dedicated information security professionals focused on responding to the continuous cyber attacks directed at our infrastructure and community. This expansion was supplemented with an investment of approximately $2.6 million in new and updated security technologies, allowing IT Services to address several critical areas.” Included are broad support for full disk encryption and impressive new technology to identify and remove malware emailed to the campus community. More than 35 million spam and phishing emails are sent to the campus every week. Part of UC San Diego’s response to this was to migrate to Office 365 and Outlook Online for the security benefits those environments provide.

IT Services moved forward with many other cybersecurity-related projects during the past year. A URL reputation service was deployed that protects units under the Chief Financial Officer, and unneeded or unsecured confidential information is being identified to help units minimize or eliminate the consequences of a computer compromise.

“The campus community trusts the university to protect its personal information, and removing it where it’s no longer necessary is an important step towards protection”, Corn said. IT Services also began deployment of two-factor
authentication for infrastructure and will be expanding to include email and most other IT Services-provided services over the next year.

A Cybersecurity Awareness campaign for the UC San Diego community was launched and will continue throughout 2017. Key topics include avoiding phishing scams, cybersecurity basics, avoiding ransomware, what to do if your computer is hacked, and digital smart cleaning. There are also plans for delivery of information to faculty and staff through presentations and highlighting Cybersecurity Awareness Month in October.

Another milestone in 2016 was the completion of Payment Card Industry (PCI) certification. PCI certification allows businesses on campus to process credit card transactions while lowering liability. IT Services also worked with Facilities Management to better secure the IT infrastructure of the heating and air conditioning systems throughout campus.

“Looking forward,” Corn explained, “there are several objectives IT Services is looking to enact. I really plan to focus on expanding and supporting the efforts of non-IT Services technical staff on campus. Few people realize how essential they are in securing the university from attack.”

“We plan to expand our Vulnerability Management Program (VMP), which will allow us to be more proactive against cyber threats,” Corn said. This program will incorporate scanning the campus network for defective software and systems and reporting those findings to the responsible service owner. It aims to minimize the time between discovery of a system or software defect to its repair. Software and system defects are the primary path for malicious attacks on the campus environment. The VMP will also provide training and collaboration across campus to enhance security.

Corn also says there will be an effort to continue to enhance or mature our existing cybersecurity defenses. “There will always be a need to build capacity to be more responsive,” he said. “Those attacking the campus change their tactics in minutes, not days or months. We must retool our own processes to be similarly agile.”
Goal 5: Improve Cost-Effectiveness & Find Synergy

Milestones and Progress

- Help academic and business units across campus with decision-making and resource allocations through analytics infrastructure improvement: Data visualization infrastructure completed February 2017, 8 of 18 data warehouse enhancement milestones completed

- Improve efficiency in desktop support: IT Services Desktop Support roadmap 50% complete, improvement milestones pending roadmap.
  More information: Customer Experience

- Redirect infrastructure from on-premise to cloud: 6 of approximately 80 software packages have been redirected (advising tracking, customer relationship management, email, research information, and real estate)
  More information: Cloud Services

- Implement a project portfolio and time tracking system for project and maintenance activity efficiency and IT governance data: 29% of IT Services projects are in ITS PRO, 85% of IT Services staff are trained and using ITS PRO, 4 of 5 planned ITS PRO changes are completed
  More information: IT Services Optimization (ITS PRO) and ServiceNow

Customer Experience

Milestone: Improve desktop support efficiency while maintaining effectiveness

Remember the last time you spent hours on the phone when making a relatively simple request, being transferred from person to person in a seemingly endless loop, and having to explain your needs over and over again? That’s exactly what IT Services wants to avoid when you call for help. A comprehensive customer experience analysis and organizational maturity assessment of IT Services’ desktop, classroom, lab, and field support from multiple perspectives is currently underway. This assessment will help IT Services provide a world-class experience for the university.

IT Services’ customer experience analysis focus is on the ways various groups at UC San Diego interact with the organization. A team developed detailed personas that represent nearly everyone on campus. “We wanted to have a much better understanding of all of our customer experiences as they interact with the front line of IT Services,” stated Executive Director of Infrastructure & Operations Brian DeMeulle.

Now that IT Services better understands how it interacts with customers, the focus is on improving those interactions. Analyses are underway that compare the experience at UC San Diego with peer organizations to identify how and where support can be better.

The primary focus is on the Service Desk, which has, in DeMeulle’s words, the “front line, first touch interactions with the university.” When IT Services was created in January 2016, multiple support channels
were consolidated into one Service Desk, yet there were seven different trouble ticket systems and a fragmented delivery model. In October 2016, those seven systems were consolidated into one. Having a single place to go for help isn’t just easier for the university—it’s also important groundwork toward providing consistently high-quality service. “There’s no way we’d be able to do this if we were still on five different platforms,” DeMeulle said.

As new services roll out, Service Desk technicians will be trained to support the users of these services. “We want to push as much capability as we can onto the Service Desk so their first call resolution is through the roof and the scope of what they’re taking on is much broader,” DeMeulle explained. This means that when people contact the Service Desk, they’ll have their issues addressed by the first person they talk to. Not only will this save the caller time, but it will free up time for other technical staff to focus on upgrading and improving systems rather than providing user support.

Though there’s a lot of work still to do, there is one central goal. “We need to make sure the customer is the focus. We want the customer to be happy,” DeMeulle summarized. “If we provide world-class service, then IT becomes a strategic driver of the campus mission.”

Cloud Services

**Milestone: Redirect on-premise infrastructure purchases into cloud infrastructure**

IT Services is embracing cloud services. It’s a shift from the philosophy of building every software solution from the ground up to meeting specific needs through tools that can be easily integrated into UC San Diego’s computing environment. “Cloud services allow us to be more efficient, flexible, and cost-effective,” Director Brett Pollak of Workplace Technology Services explains. “We don’t have to make heavy investments into traditional IT infrastructure and operations when we deliver the same service through the cloud.”

The web-based video conference solution Zoom can connect people face-to-face no matter where they are, creating a human connection where there otherwise wouldn’t be one. Nearly 1,000 pro-level accounts have been created to date by staff, and sign ups have only been increasing. “I’ve never experienced a product launch with such rapid adoption and positive response from users,” said Cloud Product Manager Gabe Edwards.

Zoom’s use extends beyond standard business purposes. Faculty have used it to hold virtual office hours with their students. UC San Diego students can sign up for a free account that allows them to host video conferences of up to 40 minutes. More than 300 students actively use Zoom. Conference rooms can even become “Zoom Rooms” at relatively low cost.

Another significant cloud service deployed is the DocuSign e-signature solution. “DocuSign was a solution that could be purchased for a relatively small amount and rolled out relatively easily,” Pollak said. IT Services partnered with departments throughout campus to find ways DocuSign could improve their processes.

DocuSign was combined with the Salesforce workflow tool for HR onboarding, a system that allows recently-hired staff to complete new-hire paperwork online in advance of their first day. The pilot included 30 HR professionals across seven teams. “It’s been a massive success,” Edwards reported and the figures prove it. The pilot group saved $420,000 in labor costs in the first year alone.

The cloud services team is also saving money for users of Amazon Web Services. The Mechanics of Spend Aggregation in the Cloud partnership (also known as Project MOSAIC) consolidates Amazon Web Services accounts under a master account, making billing more convenient and ensuring all accounts have the appropriate security and terms and conditions. Members can purchase time in Amazon’s cloud at low cost without being locked into long-term deals like they would if they purchased time on their own.

As the needs of UC San Diego change, so will the cloud services offered. “These contracts are typically done in one year increments. If we want to shift and provide services via another vendor or another solution, we can do that,” Pollak explained. “We can take the best products and bring them in to provide effective, high-quality solutions at a very low cost. When there’s another package out there that does it better, we turn on a dime to deliver that.”
In 2017–2018, IT Services will continue its efforts to complete the goals set by the IT Executive Governance Committee. There will be significant emphasis on Enterprise Systems Renewal and the upgrade and modernization of the university’s Identity & Access Management systems. Improvements to Cybersecurity will also continue to be a priority to ensure the highest possible level of data security throughout the campus.

Several of the milestones established for the support of student success and instruction and to research Services will be achieved or advanced substantially during the upcoming academic year. IT Services will also complete its evaluation of existing faculty and student course interfaces and investigate potential improvements to the TritonEd learning management system.

As new opportunities arise for IT Services to improve efficiencies and provide additional support for students, faculty, and staff, they will be analyzed and integrated into the framework of department services. IT Services will continue to align departmental goals with UC San Diego’s institution-wide goals and the university’s strategic plan.