

A horizontal bar composed of several vertical stripes in various shades of blue, ranging from light to dark.

MOVING FORWARD

Texas A&M **Information Technology**
ANNUAL REPORT 2009



**A MESSAGE FROM
DR. PIERCE CANTRELL**
VICE PRESIDENT & ASSOCIATE PROVOST
FOR INFORMATION TECHNOLOGY

WELCOME TO THE FISCAL YEAR 2009
ANNUAL REPORT FOR TEXAS A&M
INFORMATION TECHNOLOGY.

While many challenges confronted us in this year of economic turmoil, we installed new services and continued to upgrade existing resources to meet the needs of a growing university population.

- » **Enhanced the university's information technology environment** to meet student educational and information needs, including continuing implementation of the web-based student information system; providing more discounted software options; increasing campus computer lab access; and augmenting teaching technology resources.
- » **Increased access to research computing** by providing supercomputing consulting services, which provide intensive programming assistance for faculty and other advanced users.
- » **Advanced communication capabilities** by boosting mobile technology support on campus; augmenting conferencing capabilities; providing public television and radio broadcasting; and commencing on the Voice-over-Internet Protocol conversion to replace legacy campus phone systems.
- » **Improved emergency notification** by deploying the new Code Maroon system and Emergency Alert System (EAS) radios in campus departments. Collaborated with local cities and counties for a joint emergency operations center and interoperable emergency radio system.
- » **Sustained high-quality network access** for the university and The Texas A&M University System by completing infrastructure upgrades to the TTVN wide area data network and continuing support to the LEARN high-speed optical network.
- » **Enhanced information security** by installing email security appliances; deploying initiatives to tighten security for university information resources; and participating in a national campaign to raise awareness of computer security issues.

- » **Delivered IT support** by providing 24-hour help, hardware repair services, application development, software maintenance, and LAN/workstation support services.
- » **Achieved savings** for the university and participating A&M System members through shared IT infrastructure and services, including discounted software licensing, bulk computer purchases, and federated identity management for secure access to resources between institutions.

THE ROAD AHEAD

As our nation and the world experience difficult economic times, we are mindful about using funds entrusted to us wisely and prudently. Not only do we control expenditures now, we must have a sustained focus on managing costs going forward. We will strive to return added value for every service we provide as we continue to support Texas A&M's mission and goals.

We also must look beyond the immediate economic crisis and focus on improving our organization for the future. We will concentrate on building a higher level of trust with the academic community by being a more proactive and responsive organization. We will continue to adopt new, quality solutions because we believe that the successful use of technology can be transformative – enabling creativity, feeding innovative thinking, and nourishing a passion for learning.

Though many hurdles must be overcome, I am confident that our team of highly skilled and motivated IT professionals is up to the challenge. Most prefer to work quietly behind the scenes to provide essential IT services, without which the university could not function effectively. I am proud that their dedication, enthusiasm, and teamwork demonstrate every day our values of excellence, leadership, and service.

I encourage you to share your questions and suggestions with me and members of our team as we strive to provide the best possible IT environment for Texas A&M.

Dr. Pierce Cantrell
Vice President and Associate Provost
for Information Technology
and Chief Information Officer
Texas A&M University

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QUESTIONS? COMMENTS? EMAIL IT-COMS@TAMU.EDU.

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"TEXAS A&M ANNUAL REPORT 2009" UNDER QUICK LINKS.

WHO WE ARE

Texas A&M Information Technology

The Office of the Vice President and Associate Provost for Information Technology and the departments of Texas A&M IT provide services and resources that help the faculty, students, and staff of Texas A&M University use technologies to achieve excellence in teaching, research, learning, outreach, and administrative pursuits.

COMPUTING & INFORMATION SERVICES

Computing & Information Services (CIS) provides core IT infrastructure resources and facilities that support the campus and the departments within Texas A&M IT. CIS operates central campus servers that house mission-critical data and services, including email, Internet and network access, campus wireless, web sites, data center operations, and administrative and academic systems. CIS provides campus computer labs, 24-hour assistance through Help Desk Central, hardware and software support, custom application development, discounted software for departments and individuals, as well as the university's Supercomputing Facility.

EDUCATIONAL BROADCAST SERVICES

Educational Broadcast Services (EBS) is comprised of KAMU-TV/DT, KAMU-FM, and TTVN. They offer a unique synergy of technology and expertise for wide area networking, interactive communications, public broadcasting, and audio/video production that broadens the range of services available to the

university community. KAMU provides public radio and television broadcasting services to Bryan/College Station and surrounding areas.

TTVN is the wide area data and interactive communications network for The Texas A&M University System, which provides enterprise-level high-speed data networking services to the 11 A&M System university campuses, the Health Science Center, seven research and service agencies, and the Texas A&M University branch campuses in Galveston and Qatar. TTVN also provides interactive videoconferences with any site worldwide, Centra webconferences, and live and archived Windows Media streaming audio and video webcasts.

ENTERPRISE INFORMATION SYSTEMS

Enterprise Information Systems (EIS) is responsible for the implementation and maintenance of new mission-critical, enterprise-wide information systems at Texas A&M. The existing legacy student information management system is being replaced by Compass, the new web-based information system, at the College Station, Galveston, and Qatar campuses. EIS also is responsible for Howdy, a comprehensive web portal that serves as the "front door" to Compass and connects students, applicants, faculty, staff, parents, and former students to web-based services at Texas A&M.

INSTRUCTIONAL MEDIA SERVICES

Instructional Media Services (IMS) provides and supports multimedia equipment and technology tools that enhance and improve the quality of classroom instruction. IMS maintains multimedia/computing equipment in technology-enhanced Smart classrooms across campus. These automated systems allow instructors to use one interface to easily control classroom equipment including the data projector, screen, computer, VCR/DVD player, and optional equipment such as a Smart Symposium or document camera. IMS personnel also deliver and set up equipment for classes or other functions in rooms without permanent equipment.

INSTRUCTIONAL TECHNOLOGY SERVICES

Instructional Technology Services (ITS) fosters effective use of technology in teaching and learning. ITS maintains, administers, and develops university-wide systems and

services to strengthen eLearning, including supporting Blackboard Vista, the university's enterprise-level learning management system. ITS provides professional development opportunities and empowers instructors to use best practices in higher education to enhance student learning through technology. They offer workshops, individual training, course design consultation, online resources, and equipment for instructors to complement various learning styles and foster effective course design.

NETWORKING & INFORMATION SECURITY

Networking and Information Security (NIS) maintains and supports the campus and community network backbone and provides network connections. They are responsible for Internet connectivity, campus wireless service, and remote office services. NIS is in charge of the information security program that maintains and enhances the overall security posture of the university. This includes campus firewall maintenance, firewall and sensor configuration, incident response and investigation, and providing information and notification on viruses, attacks, and vulnerabilities. NIS initiates and applies IT policies and procedures, as well as develops and administers information security awareness training for all faculty, students, and staff.

TELECOMMUNICATIONS

Telecommunications provides fast, reliable, and cost-effective telecommunications services from data to voice, dial-up to high-speed, and wired to cellular. They offer voice services to all A&M System offices in College Station and other offices in Texas, international locations, as well as all network service contracts for A&M System member locations. They support security and surveillance systems on campus, as well as manage the university's two-way radio system. Telecommunications also manages the campus cable television system and fiber optic cable plant, as well as the Emergency Alert System, a component of the university's Code Maroon system that provides the ability to rapidly distribute emergency information to the campus.

ENHANCING STUDENT ACADEMIC EXPERIENCES

- » Expand access to services that support the university's educational mission.
- » Provide resources to meet student learning and information needs and enable students to live and compete in a global society.

COMPUTING CENTERS PROVIDE UNIVERSAL TECHNOLOGY ACCESS

Open Access Labs (OAL) provide computers, printers, and peripherals in six fully staffed centers and nine supported locations. Most labs operate extended business hours while classes are in session, including two locations that are open 24 hours during the week.

Students can use 133 software applications on OAL computers (PCs and Macs) for class work without having to purchase the programs, lessening their financial burden. Through the labs, students receive secure network and web space, which can be accessed from any OAL computer, from on-campus residence halls and apartments, via the campus wireless network, and from off-campus through the Virtual Open Access Lab (VOAL).

Projects were completed that addressed the needs of the growing student population to access OAL services:

- » Increased network Home drive space from 100 to 500 Mb for more data storage capacity.
- » Collaborated with the University Libraries to offer computers with the same login and operating environment as the OALs, which are already familiar to students. Also, library computers will be replaced on a three-year cycle similar to OAL computers.
- » Extended OAL printing resources to the libraries. Student fees provide each student with a printing allocation every semester.
- » Launched a new OAL web site with simpler navigation and more details about services.
- » Published a new web site for **People.tamu.edu**, a service that allows authorized A&M users to publish a personal web page.
- » Provided OAL login accounts to all staff, which give access to OAL computers. Previously, each department had to grant accounts to their staff.

OPEN ACCESS LABS EXTEND SERVICES

- » The total number of unique customers increased to 57,680, up 16.5 percent from fiscal year 2008.
- » The total number of logins was up 30.5 percent to 2,465,857.
- » The number of workstations was boosted to 1,840, a 10.9 percent increase from 2008.



MOBILE TECHNOLOGY SUPPORT BOOSTED TO MEET NEW DEMANDS

Mobile device use among students is virtually universal, presenting both opportunities and challenges for higher education to enrich student learning and living experiences. Recent improvements in campus wireless technology assist delivery of innovative educational applications to students via mobile devices.

- » The Distributed Antenna System (DAS), an innovative wireless technology, augmented mobile service throughout the Texas A&M campus, especially in high cell usage areas such as residence halls. AT&T and Verizon Wireless have signed agreements with Texas A&M to use DAS (see page 18).
- » TAMULink wireless coverage expanded to 152 buildings, up from 107 buildings in 2008. The number of buildings with complete wireless coverage increased from 46 to 92. The average amount of data being sent through the TAMULink wireless network in 2008 was twice that of 2007.
- » The Texas A&M Division of Marketing & Communications implemented TAMUmobile, a suite of free applications that provide information about the university to iPhone or iPod Touch devices, including a campus directory, course look-up, campus news, athletic updates, and TAMUtv. Texas A&M IT provided access to directory services for the people look-up app and links to the course catalog to view courses, instructor email addresses, and classroom locations.
- » TAMU Email Mobile allows users to access their TAMU Email, calendar, contacts, and other online services on personal smart phones or PDAs. All Texas A&M students and faculty receive TAMU Email accounts.



STUDENT ADOPTION OF MOBILE DEVICES INCREASES

A 2009 survey of university students in the U.S. showed that 51.2 percent own an Internet-capable handheld device, up from 12 percent in 2007. Laptop ownership increased 23 percentage points, while desktop ownership decreased 27 points.¹

¹ ECAR Study of Undergraduate Students and Information Technology, 2009 (www.educause.edu/library/ers0906).

“IT’S UP TO YOU” CAMPAIGN RAISES AWARENESS OF INFORMATION SECURITY

Information security refers to protecting computers and electronic information from hacking, viruses, or other misuse. Not only is it vital to protecting an institution’s assets, such as computing systems and proprietary information, information security is essential for protecting personal privacy and accounts.

Texas A&M IT conducted a month-long information security awareness campaign in October 2008, which featured the Security Challenge. Students logged in to take a weekly online quiz on a security topic and were entered into prize drawings.

ItsUptoYou.tamu.edu was created to host the Security Challenge and featured security-related videos made by and for students on the TAMUSecurity YouTube channel. The web site and promotional campaign received awards from the International Association of Business Communicators and the Association of Computing Machinery Special Interest Group on University and College Computing Services.



COMPASS CONNECTS THE CAMPUS TO MULTIPLE SERVICES

Implementing Compass, the new web-based student information system, continued for Texas A&M’s three campuses in College Station, Galveston, and Qatar. The university purchased the web-based system, which uses an Oracle database, from SunGard Higher Education. Howdy is the web portal through which users access their university records and use Compass services.

Key milestones critical to the project’s success were met during fiscal year 2009, including launching new Compass modules:

- » Admissions module – received and processed 55,132 applications for admission and over 150,000 test scores. Applications from ApplyTexas, a centralized site where students can apply to most postsecondary institutions in Texas, load information into Compass.
- » Financial Aid module – awarded aid to 25,537 students and disbursed \$174,270,804.
- » Registration module – registered 51,236 students for the fall 2009 term.
- » Curriculum Advising Program Planning (Degree Audit) module – contains the degree evaluation (audit) for students, adjustments, and student curriculum.
- » Accounts Receivable – processed 50,904 refunds for \$77,177,272 to 25,841 students.
 - » Installed TouchNet, a third-party online bill payment solution, which provides real-time updates to student accounts in Compass.
- » Operational Data Store (ODS) and Compass Reports (ePrint) – augmented reporting capabilities.
- » Compass Scheduler (Appworx) – improved scheduling of Compass jobs.

Additional goals were met that supported Compass implementation:

- » Converted over 82 million academic records and financial histories of former and current students from the legacy student information management system into Compass.
- » Trained over 1,800 employees to use the system.
- » Launched self-service Compass components in Howdy to students, faculty, and advisors.
- » Processed 510 Compass work requests to provide capabilities not in the baseline SunGard product.
- » Processed 3,852 applications for December 2009 graduation.



>> MOVING FORWARD

STUDENT ACADEMIC EXPERIENCES

- » Increase network Home drive space from 500 Mb to 1 Gb.
- » Begin a two-year initiative to provide wireless in campus residence halls.
- » Convert to new wireless technology that will increase the speed of TAMULink wireless access.
- » Complete the final SIMS to Compass data conversion.
- » Implement class roster, class email lists, and online grade submission in Howdy.
- » Conduct information security awareness campaigns, including a month-long campaign in October and year-round security poster and crossword puzzle campaign.

NUMBER OF HOWDY USERS GROWS

Howdy now has 127,600 users, including applicants, students, faculty, staff, former students, parents, and guardians.



Photo courtesy of Alberth H. Rojas Caranza

GOING THE EXTRA MILE - CONNECTING THE SOLTIS BIODIVERSITY RESEARCH CENTER

The Soltis Center for Research and Education in Costa Rica was established in January 2009 to provide international experience to Aggies, while protecting the unique ecological setting and creating awareness for preservation. Located in the tropical rain forests of Costa Rica, about three hours northwest of San Jose, the country's capital, IT infrastructure for the remote center needed to be built from the ground up. Texas A&M Telecommunications worked with ICE, the local telephone company in Costa Rica, to run 3.5 miles of fiberoptic cable to support high-speed Internet access at the center.

Texas A&M IT staff² worked onsite to equip the center with voice, data, and wireless infrastructure. They installed a VoIP system, connected a router to the Internet (soon to be Internet2 through an agreement with the University of Costa Rica), and installed WiFi services to the eight residential buildings.

² Texas A&M IT staff who worked on the project included Walt Magnussen, Debra Duncan, Rick Noble, Chris Norton, and Joe Shafer.

"Working at a site where the nearest hardware store was four hours away was challenging," said Rick Noble, Telecom Security Surveillance Systems Technician. At times there was a technical lingo barrier in addition to a language barrier. "We get used to using specialized terminology that was sometimes difficult to convey to our translator," said Chris Norton, Lead Systems Administrator. But through a team effort with the center's staff, "Everything worked out. We were able to complete everything on time," said Mr. Noble.

The Texas A&M IT team was proud to be a part of making the vision of the Soltis Center a reality and appreciated the unique experiences the assignment provided. "It was the most beautiful place I've ever seen," said Debra Duncan, IT Manager. "The center's staff was so knowledgeable and very dedicated to preserving the rain forest. Visiting the center would be a great opportunity for any student."

ELEVATING FACULTY TEACHING AND RESEARCH

- » Promote technology and information availability to support teaching, research, and scholarship.
- » Maintain and develop the Supercomputing Facility as a premier research resource.

TECHNOLOGY PROVIDES FLEXIBLE LEARNING ENVIRONMENTS

With technology, learning goes beyond the confines of a physical classroom. Virtual classrooms allow students and instructors to connect and communicate in new ways and engage in innovative learning experiences. The Texas A&M eLearning system uses Blackboard Vista, an enterprise learning management system. Resources continue to be improved for accessing and using eLearning.

- » Integrated the eLearning system with the new Compass student information system, including grade adapter and enrollment data.
- » Enhanced disaster recovery procedures by implementing a redundant eLearning standby system in the campus data center.
- » Developed and deployed a web-based Faculty eLearning Orientation training module for instructors.

New services were offered, along with training and learning opportunities, for integrating instructional technology into teaching.

- » Developed and debuted the Texas A&M Second Life Campus, providing a unique, no-cost educational virtual space where students, instructors, and visitors can discover, connect, and learn.
- » Launched the Wikis @ TAMU service, powered by Atlassian Confluence, to provide a collaborative and social method for developing up-to-date information and online file repositories.

- » Conducted a week-long reBOOT CAMP, which provided opportunities for instructors to receive hands-on experience and one-on-one consultations for building course content in an informal, relaxed setting before the start of the fall semester.
- » Offered training on technology tools for emergency preparedness, which would help maintain continuity of learning during an event that makes it difficult for students or faculty to attend classes.
- » Sponsored the Instructional Technology Showcase (fall 2008) where campus educators presented sessions on software applications, technology concepts, and innovative methods for enhancing student learning.
- » Sponsored the Teaching with Technology Conference (spring 2009), which was attended by educators from across the A&M System.
- » Published the Teaching with Technology newsletter (fall 2008, spring and summer 2009) that provided instructional technology news and information to faculty and staff.

WIDE-RANGING INSTRUCTIONAL TECHNOLOGY LEARNING OPTIONS PROVIDED

- » 133 hands-on workshops offered
- » 20 customized department training sessions furnished
- » 300 individual one-on-one consultations provided
- » 1,633 technical support requests answered

NUMBERS OF COURSES USING ELEARNING CONTINUES TO GROW

- » Fall 2008: 2,384 courses - up from 1,718 in fall 2007
- » Spring 2009: 2,880 courses - up from 1,809 in spring 2008



SECOND LIFE
VIRTUAL TEXAS
A&M CAMPUS

CLASSROOM IT SUPPORT PUTS THE FOCUS ON TEACHING

User-friendly technologies installed in 128 classrooms allow instructors to concentrate on teaching instead of how to operate complex equipment. With automated equipment in 83 of these classrooms, instructors control audio-visual equipment through simple options on the classroom's computer screen. Sympodiums enable instructors to provide a more interactive classroom experience by using an interactive pen to write on presentations with digital ink, accessing web sites, and showing multimedia files. In fiscal year 2009, automated systems were installed in 19 rooms and permanent equipment was installed in four rooms.

GRANT PROGRAMS IMPROVE INSTRUCTIONAL COMPUTING

Grant programs administered by Texas A&M IT are used to fund proposals that positively impact the instructional computing environment. The Computer Access/Instructional Technology Fees (CA/ITF) Competitive Grant program distributed \$200,000 during fiscal year 2009. Also, \$193,000 was distributed in matching funds for departments and colleges to upgrade classroom technology through the Classroom Instructional Technology Matching Grant program.

FUNDING PROGRAM KEEPS FACULTY WORKSTATIONS UPDATED

The Faculty Workstation Program represents the commitment of the administration of Texas A&M to replace computer workstations for faculty members at least every four years. The program is made possible by the commitment of funds from the Office of the President, the VPAPIT Capital Computer Equipment Fund, and the Dean, department, or individual faculty member's grant funds. The total annual funding for the program on both the Galveston and College Station campuses was \$933,000.



Regina Greenwood is pictured on the right.

MOVING MOUNTAINS EVERY DAY - MEETING THE DEMAND FOR CLASSROOM IT EQUIPMENT

Every class day, a small army of student workers carry data projectors, computers, and other media equipment to classrooms throughout the campus, then bring it all back to the media center when the class is over. Regina Greenwood, IT Manager, envisions a day when seeing students hauling equipment in projector bags will be a rare event. Ms. Greenwood's goal is to install permanent equipment in every Registrar-controlled classroom. Currently, of the 203 Registrar-controlled classrooms, Instructional Media Services has installed equipment in 128.

"Every year the demand for audio-visual equipment increases. Upgrading our classrooms will enable us to keep up with requests, decrease our wage budget, and cover more territory," she said. In the future, Ms. Greenwood's student worker brigade may become smaller, but the need to haul equipment around campus won't disappear completely. "We'll still have portable equipment for emergencies, thesis defenses, and other special events."

SUPERCOMPUTING SUPPORTS RESEARCH AND DISCOVERY

The Supercomputing Facility supports the university with expertise and leading-edge hardware for large-scale scientific computation. The facility has progressively become an integral part of outstanding research and discovery in many fields and disciplines. Supercomputing users, mostly faculty and graduate students, engage in a wide spectrum of research in traditional areas of engineering, science, and geoscience, but increasingly in highly specialized fields such as nanotechnology, genome analysis, and climate modeling.

The facility operates Hydra, an 832-core p5-575+ IBM cluster, and Cosmos, an SGI 128-core Altix 3700 (turned over to the Department of Chemistry in June 2009). The facility's eight analysts and one customer service representative provide expert support with their strong backgrounds in computer architecture, code analysis, and parallelization, in addition to offering specialized short courses. In 2010, the current computing capacity will undergo a major increase with the acquisition and deployment of a new cluster.

The Supercomputing Facility engaged in projects that resulted in significant benefits both within and outside the university.

- » Intensified advanced user services and project activities.
- » Expanded Hydra from a 640-core to an 832-core cluster.
- » Developed and deployed a web-based user accounting and application system that significantly simplifies the process of obtaining a supercomputing account.
- » Launched a new, improved Supercomputing Facility web site (sc.tamu.edu).

- » Hosted the annual A&M Supercomputing User Meeting on campus, which also celebrated the facility's 20 years of service.
- » Participated in Supercomputing '08, the premier international conference for high-performance computing, with a booth display at the exhibition, in partnership with Rice University and the University of Houston.
- » Actively participated in SP-XXL, IBM's international user group organization, whose members focus on large-scale computation using IBM equipment. Dr. Raffaele Montuoro, a facility analyst, is currently the chair for Services and Support within SP-XXL.

ADVANCED USER PROJECTS PROVIDE EXPERT HELP

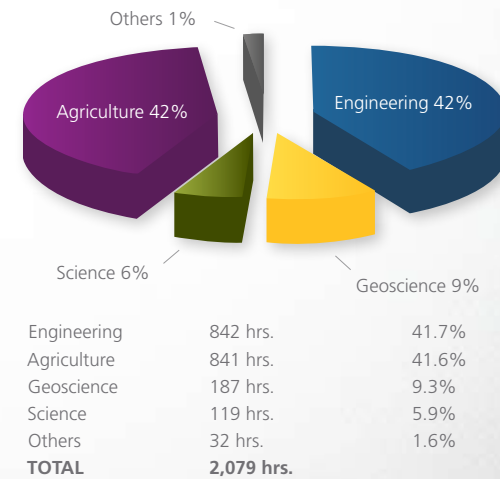
The Supercomputing Facility offers intensive help to advanced users, including faculty researchers and graduate students, to provide assistance with code porting, code parallelization, optimization, and job analysis. This service typically requires a very high level of technical expertise and a significant investment in personnel hours. The resulting benefits include obtaining computer results per run in a few hours instead of days. Two projects exemplify this special service:

- » Facility analyst Ping Luo applied her expertise in code optimization and parallelization to obtain a four-fold performance boost to programs that Professor Ben Giese of Oceanography uses in his research.
- » Dr. Raffaele Montuoro, also a facility analyst, obtained a four- to five-fold acceleration to the computer portion of genome analysis research of Professor James Sacchetti, Department of Biochemistry and Biophysics.

NEW SUPERCOMPUTING CLUSTER ACQUIRED

This year, the Supercomputing Facility staff evaluated the capabilities of various cluster systems that would suit the campus' expanding computing needs. The facility's analysts and some members of the steering committee spearheaded a campaign to enlist contributing partners in this effort. Contributors included the Vice President and Associate Provost for Information Technology, the Vice President for Research, the colleges of Engineering, Science, and Geoscience, as well as individual faculty from the departments of Physics, Chemistry, and Oceanography. The combined efforts of many individuals culminated in the purchase of an IBM 2500-core iDataPlex cluster system. This leading-edge system will be deployed in January 2010 and will provide a five-fold increase in the facility's computational capacity.

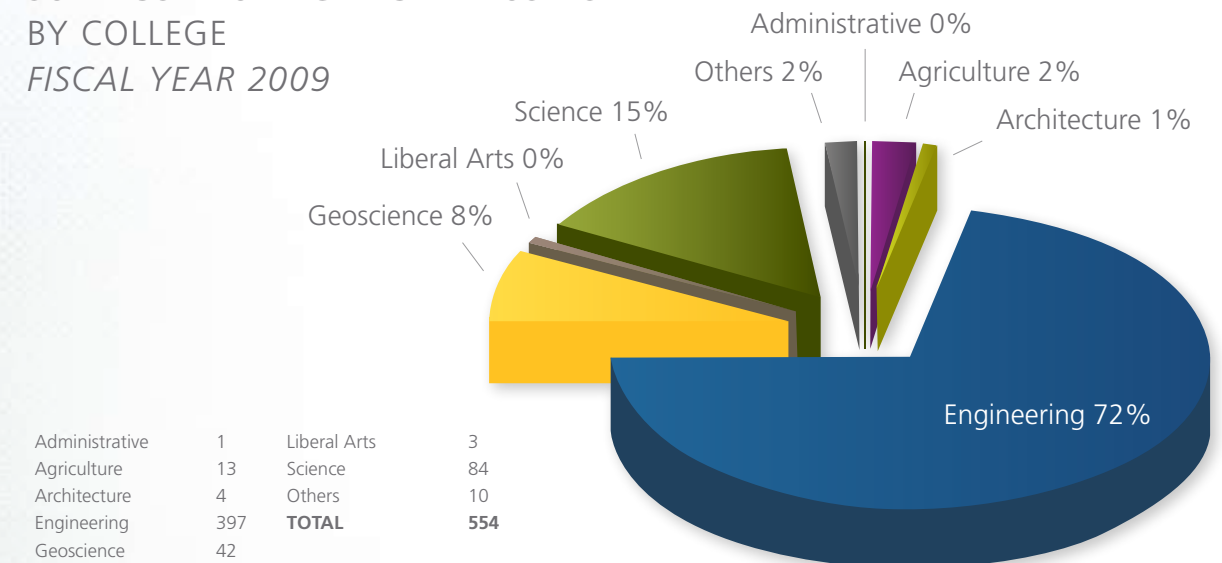
ADVANCED USER HELP BY COLLEGE FISCAL YEAR 2009



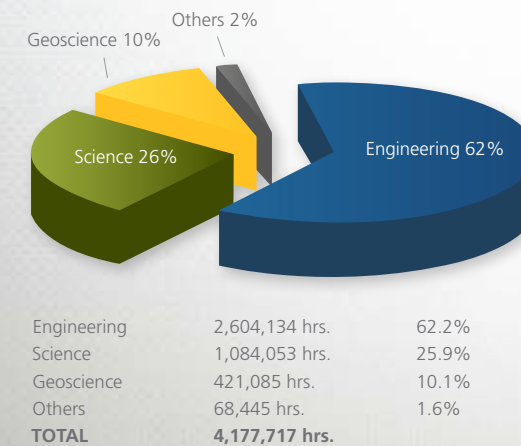
FACILITY BOOSTS CAMPUS RESEARCH RESOURCES

The Supercomputing Facility's high performance computing resources benefit the entire campus with users in almost all colleges. The College of Engineering is the largest user of the facility's resources (see Supercomputing Facility Users by College).

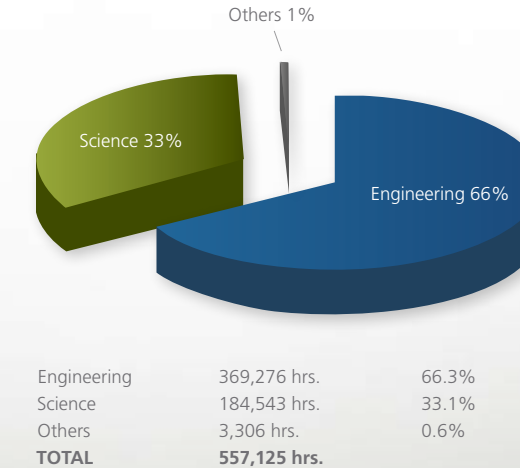
SUPERCOMPUTING FACILITY USERS BY COLLEGE FISCAL YEAR 2009



HYDRA USAGE BY COLLEGE FISCAL YEAR 2009



COSMOS USAGE BY COLLEGE FISCAL YEAR 2009



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TEACHING

- » Provide self-service grade submission functionality in eLearning Tools for users to transfer mid-term and final grades from eLearning to Compass.
- » Expand and promote instructional technology services, including department-level training, customized ITS Support Team, help wiki, eLearning tools, and podcasts on iTunes U.
- » Produce a library of eLearning training videos based on scheduled hands-on workshops.
- » Implement the Numara FootPrints customer service software for instructional technology support.
- » Continue upgrading classrooms with AMX automated systems and other permanently installed equipment.

SUPERCOMPUTING

- » Deploy the new iDataPlex supercomputing cluster.
- » Continue to expand the advanced user projects initiative.
- » Host seminars and workshops on high-performance scientific computation topics by technology software vendors or academic personnel.
- » Partner with various campus research groups and external entities to enhance the facility's overall effectiveness.
- » Expand supercomputing short course offerings, including basic topics in computer architecture and operating systems for scientific computing practitioners.

STRENGTHENING COMMUNICATION



BEN COFFMAN & REVELLE VII
CORPS OF CADETS - COMPANY E2

- » Provide effective communication and collaboration tools essential to the success of Texas A&M's mission.
- » Deliver economical, shared communication solutions to communal issues.

CODE MAROON SYSTEM MEETS CRISIS COMMUNICATION NEEDS

In the event of a campus emergency, timely delivery of information to students, faculty, and staff is of the utmost importance. Implementing the new Code Maroon emergency notification system gives Texas A&M the ability to quickly communicate health and safety emergency information by SMS text message, Texas A&M Email, KAMU-FM radio, campus cable television, Emergency Alert System radios, Twitter, and RSS feeds. The university chose AtHoc as its new vendor because their system uses a robust, integrated system to send alerts through multiple channels from a single web interface.

An extensive communications and marketing campaign informed students and employees to sign up for text message alerts in the new system. Promotions featured student athletes, leaders, and Reveille, the official mascot of Texas A&M. Over 27,600 people signed up for the new Code Maroon by the end of August 2009, when the new system went live.

COMMUNITIES COLLABORATE FOR A JOINT EMERGENCY OPERATIONS CENTER

The cities of Bryan and College Station, Brazos County, and Texas A&M entered into an agreement in 2007 to create a Community Shared Emergency Operations Center (CEOC) to be housed in Fibertown, a commercial data center in Bryan. Texas A&M IT installed the voice and data network components to allow the CEOC to use and share infrastructure from all four partners when available, and to be able to operate in complete standalone mode if all network connections were severed. The CEOC has been successfully activated three times since its inception in June 2009.



EAS RADIOS RELAY EMERGENCY MESSAGES

Emergency Alert System radios were deployed in all campus departments as part of Texas A&M's Code Maroon service. These radios provide additional ability to quickly communicate emergency health and safety information.



Left to right: Marlin Crouse, Judith Lewis, Trey Carrol

GETTING THE WORD OUT - IMPROVING THE CAMPUS EMERGENCY NOTIFICATION SYSTEM

University administrators came to Texas A&M IT with a challenge: provide the campus with a better emergency notification system. The existing system had limited capabilities, and a more comprehensive system was needed to reliably communicate through many channels to over 47,000 students and thousands of employees during a crisis. Integration with campus directory services was not possible with the previous system, so removing accounts when users graduated or left employment was difficult. Most importantly, faster delivery of alerts was crucial.

Texas A&M IT's IT Solutions and Support group (formerly Customer Applications) was tasked with coordinating the effort to find a superior emergency notification solution. The group assisted in evaluating vendors and an in-house solution to determine which product would work best and be the most cost effective. Judith Lewis, Senior IT Manager, Sancy Wu, Senior IT Manager, and Marlin Crouse, Senior Lead Software Applications Developer, lead the project management team that implemented the new integrated solution. The project called for understanding the needs of many stakeholders including

Risk & Compliance, University Police, Telecommunications, University Marketing & Communications, and others. The team marshaled the expertise within Texas A&M IT to implement the system and integrate it with the campus IT infrastructure. "One of the great features of the new solution is that it uses a single, integrated system to send one message to all of its notification channels. Texas A&M's goal is to reach as many people as possible in an emergency. This is a very robust solution for us," said project leader Judith Lewis.

The team continues to improve the service with new communication channels. "We're planning to activate desktop pop-ups in the near future. This is a good solution for alerting employees sitting at work computers or students in computer labs," said technical lead Marlin Crouse. Audio alerts in classrooms will begin to be installed next year, which will warn students where cell phones have been silenced so as not to disrupt classes or where cellular signals are weak.

INTEROPERABLE EMERGENCY RADIO SYSTEM SUPPORTS COORDINATED RESPONSES

With a \$2.8 million grant from the Federal Emergency Management Agency, the cities of Bryan, College Station, and Brenham, Washington and Brazos counties, and Texas A&M began installing an interoperable, digital two-way radio system to facilitate effective communication during emergencies. This two-county network will connect to the greater Harris County network that spans 20 counties, enabling radio communication throughout southeast Texas during large-scale emergency events. About 400 campus radios will be moved from the existing 800-Mhz radio system to the new system, and new radio consoles will be installed for both University Police and campus emergency medical services dispatchers.

SHARED COMMUNICATIONS RESOURCE ASSISTS LAW ENFORCEMENT

The Communications Assistance to Law Enforcement Act (CALEA) requires telephone carriers to support undetectable wiretaps directed by a court order. In 2008, certain universities and state agencies, including the A&M System, the University of Texas System, Baylor University, the Lone Star Education and Research Network, and the Texas Department of Information Resources, were required by the Federal Communications Commission to support CALEA. A shared CALEA system was purchased that allows each entity to initiate their own wiretap by manipulating routers within their network. Information that meets the criteria of the warrant can be sent to a central server for transmission to law enforcement. This shared initiative saves \$1.1 million when compared to purchasing separate systems (see page 29).

VOICE-OVER-IP CONVERSION BEGINS


An extensive project commenced to transition the campus to Voice-over-Internet Protocol (VoIP) services, which lets users make phone calls over the Internet by converting analog audio signals into digital data. Conversion to VoIP is necessary because legacy phone systems currently being used are no longer manufactured. As applications such as voice and video over IP-based networks become more standard, support for non-VoIP technology becomes a greater issue. This fact is being reinforced by mergers in the telecommunications industry. A further reason for the migration to VoIP is that the existing telephone cable plant is nearly 50 years old and is failing in some areas. Limitations to capital budgets and the large cost of the conversion require the migration to occur over several years. The loss of support for legacy technology, the failing cable plant, and the lengthy conversion period all worked together to indicate that the time was right to begin the process. Verizon was chosen to provide an Aastra system based on Broadsoft VoIP servers. Texas A&M is the first university in the United States to migrate to a standards-based, carrier-grade solution, which provides enterprise-wide capabilities and ample room for future expansion and growth.

DISTRIBUTED ANTENNA SYSTEM BOOSTS CAMPUS WIRELESS COVERAGE

The Distributed Antenna System (DAS), an innovative wireless technology, augmented mobile service on the Texas A&M campus. In the DAS network, carriers place their radio frequency transmission equipment in one location and use campus fiber to couple transmitters with cellular antennas. This solution lowers cost of expanding cell coverage with carriers sharing a common infrastructure. Verizon Wireless and AT&T Wireless have installed a total of 48 new cell sites across campus. The infrastructure will enable both major carriers to more easily implement 4G networks on campus as they become available (read more on page 7).

>> MOVING FORWARD COMMUNICATIONS

- » Implement Code Maroon desktop pop-up alerts on campus computers.
- » Continue migration to VoIP (approximately 3,000 lines over the next year).
- » Integrate Central Authentication Service authentication to allow NetID logins to the VoIP system.
- » Provide VoIP phones access to the campus directory.
- » Move about 400 campus radios from the existing 800-Mhz radio system to the new interoperable, digital two-way radio system, and install new radio consoles in both University Police and campus EMS dispatch offices.



ATM AGGIES AND LONGHORNS PARTNER FOR DAS

Texas A&M and the University of Texas issued a combined Request for Proposal for purchasing Distributed Antenna System technology. With the DAS network completed, Texas A&M becomes one of six campuses in the United States to successfully implement this technology.

SUPPORTING CUSTOMER SERVICES

- » Improve the IT service environment to be more conducive to scholarly work and learning.
- » Provide effective support services that meet customer needs and build strong working relationships.

DISCOUNTED SOFTWARE BENEFITS EXTENDED TO THE A&M SYSTEM

The Software Evaluation and Licensing Library (SELL) administers licensing agreements with software vendors, which allow faculty, students, staff, and departments to make purchases at greatly reduced prices. Texas A&M departments realized savings of over \$6.2 million through the SELL software licensing agreements. Texas A&M faculty, students, and staff, who purchased software online for personal use, collectively saved over \$0.5 million through the SELL. During fiscal year 2009, income to the SELL from System members was \$979,000, up from \$661,000 in 2008.

TECHNOLOGY BREAKS DOWN BORDERS

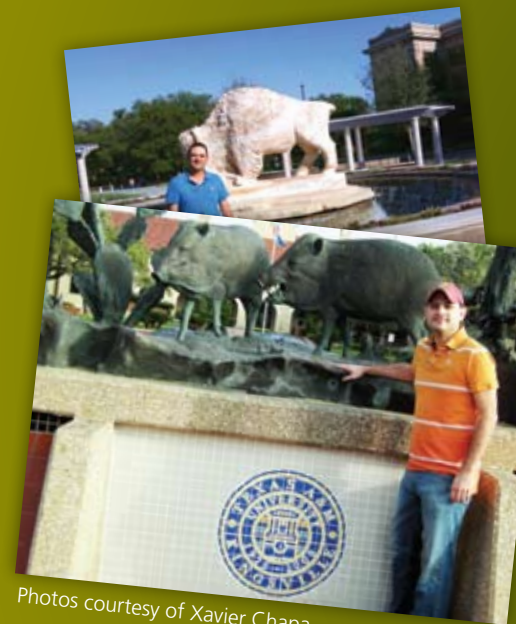
Texas A&M IT is incorporating federated services through Shibboleth, a next generation technology that provides secure online access to shared resources across institutional boundaries. Shibboleth allows users to log in to services with their own institution's login credentials for greater convenience and enhanced security and privacy of account information. Shibboleth has been deployed at many A&M System campuses including College Station, Corpus Christi, Commerce, Galveston, Kingsville, Prairie View, Qatar, Tarleton, Texarkana, and West Texas.

Texas A&M's online software store was upgraded to enable students and employees of these Shibboleth-enabled campuses to purchase discounted software, improving volume-buying capabilities and reducing costs.

THE TRAVELLING SHIBBOLETH ROAD SHOW - BUILDING THE A&M SYSTEM DIGITAL HIGHWAY

During a Shibboleth installation at an A&M System campus, Rolando "Xavier" Chapa, Tom Golson, and other members of the Shibboleth team drive to the location, meet briefly with the campus CIO, then roll up their sleeves and get to work with the local IT staff – usually 24 to 36 hectic, and, on a few occasions, frantic hours. "Each installation is different. Every campus has a new challenge that needs to be solved," said Xavier Chapa, Lead Systems Administrator. "We're lucky to have a collection of skilled IT professionals across the A&M System. They were able to provide us with the access we needed in the form of directory service accounts, firewall access, database query strings, and most importantly, an extra set of eyes on the configuration files. Working through these issues with our counterparts has formed lasting bonds that will continue to make Shibboleth a success for the A&M System."

And the effort is starting to pay big dividends, according to Tom Golson, Chief Systems Engineer. "Discounted software purchases by System schools are just the beginning for federated services. We're now implementing wireless guest logins. By next year, anyone from a Shibboleth-enabled System school visiting the College Station campus will be able to use our wireless network with their own login and password." With federated services, the reach and benefits of IT resources can be extended across the A&M System, while providing a seamless, uncomplicated way for users to access these services.



Photos courtesy of Xavier Chapa

HELP DESK CENTRAL ANSWERS THE CALL

Help Desk Central is the main point of contact for IT support for everyday items such as resetting a forgotten password, helping to connect a laptop or iPhone to campus wireless, or removing a computer virus, to specialized assistance for campus IT professionals. With nine full time staff and 60 trained student consultants, Help Desk Central fields calls and emails, resolving problems 24 hours a day, 365 days a year. This year, Help Desk Central implemented the TeamViewer Quick Support Tool, which allows technicians to remotely view a customer's desktop and control their computer to assist with solving problems. Remote support capabilities allow support personnel to diagnose and resolve support calls faster.

Help Desk Central also provides convenient services on campus for virus and spyware removal, operating system installation, data recovery, and connectivity services for the personal computers of students, faculty, and staff. Support for university-owned equipment is provided by Microcomputer Repair, which is an authorized warranty service provider for Dell, Apple, and Hewlett-Packard computers. These groups work together to assist students with computer warranty service. Work hours devoted to this service have increased to 27.3 percent of total hours in fiscal year 2009, up from 3.6 percent in 2007.

CUSTOMER SERVICE COMMITMENT RENEWED

A key part of building an outstanding IT environment is meeting customer needs and expectations for quality service and support. Helping people to use and benefit from technical solutions aids the university to succeed in its mission. This year, every Texas A&M IT employee participated in a customer service training program to learn new skills and best practices to improve daily interactions with customers.

TECHNICAL EXPERTS PROVIDE CUSTOM IT SERVICES

The IT Solutions and Support group provides solutions to help meet current and future technology needs of Texas A&M University and A&M System members. Formerly Customer Applications, ITSS received a new name to reflect the department's expanded services. Project management, application development, software maintenance, and LAN and workstation support services are provided to numerous departments. New and continuing support projects include:

- » Code Maroon emergency notification system to quickly send health and safety alerts to the campus.
- » Cleopatra appointment scheduling system for the University Writing Center to make and track student appointments for one-on-one consultations.
- » Personalized Instructor/Course Appraisal (PICA) system for online student evaluations for Measurement and Research Services, the Office of Distance Education, and the Provost's Office.
- » New web site for the Office of the Vice President & Associate Provost for Diversity.
- » Additional modules for Texas A&M Qatar's Human Resources information system to facilitate coordination with the Qatar Support Office in College Station.
- » New event registration system for the Office of the Dean of Faculties.
- » Conversion of Texas AgriLife Research's Form AD-419 federal report system to a web-based application.
- » Support for the International Student Services' fsaATLAS application to comply with U.S. Immigration and Customs Enforcement tracking requirements for nonimmigrant students.
- » Implementation of the StudioAbroad application for the Study Abroad Programs Office.
- » 15 ongoing office computing support contracts and 18 software support contracts.

>> MOVING FORWARD CUSTOMER SERVICES

- » Continue deploying Shibboleth in A&M System universities.
- » Improve the SELL web site and online software store to facilitate discounted software purchases by A&M System members.
- » Improve Texas A&M IT documentation by redesigning the Help Desk Central web site and consolidating help documentation currently dispersed across many sites.

HELP DESK CENTRAL ANSWERS TECH QUESTIONS

- » 107,341 calls answered
- » 9,804 Keystone problem tracker slips entered for more extensive resolution
- » 99,782 follow-up emails and phone calls to Keystone slips
- » 16,039 walk-up customers served
- » 4,321 student computers serviced



ALL IN A DAY'S WORK – PROVIDING HELP AND ANSWERS 24/7

It was the first day of class when Help Desk Central received a frantic call that the network was down for an entire building. Faculty and staff couldn't access their email or files. Instructors were unable to log in to classroom computers. A 30-second phone conversation with Texas A&M IT's Operations Center provided the answer - a cabling error by one of the building's occupants was causing the outage. While most calls are handled directly by Help Desk personnel, some are forwarded to the Operations Center, who can call upon expertise within the entire organization for answers. "It's like being part of an organic machine," said Mike Dennison, Senior Lead IT Consultant, describing his role in the help process.

Solving problems is all in a day's work and beyond for the campus call center. An urgent call came in about a printer problem. "It wasn't just any printer question," said Tom Swanner, Senior IT Manager. "Month-end closing statements needed to be printed by the end of that day." Dave Cox, IT Team Leader, took the call - at home on his day off - and resolved some firewall settings, allowing the reports to be printed on time. "Getting calls from panicked people is pretty common. You can hear a lot of stress in their voices," said Andrew Lyssy, IT Consultant. "That's why we try to help them as much as we can. It's so important to that person on the other end of the line."



IMPROVING NETWORK AND INFRASTRUCTURE RESOURCES

- » Provide a quality, high-capacity network that meets the university's needs for continuous access to information.
- » Furnish a robust and secure technology infrastructure that is the necessary foundation for an exceptional IT environment.

TTVN PROVIDES SYSTEM-WIDE NETWORKING AND INTERACTIVE COMMUNICATIONS

TTVN is the Wide Area Data Network (WAN) that provides statewide backbone service and access circuits to all members of the A&M System. Services riding on the backbone include Internet, Internet2, National LambdaRail, and a statewide intranet that facilitates reliable delivery of videoconference, audio, and Voice-over-Internet Protocol (VoIP). TTVN also provides multi-point videoconferencing for classes, meetings, and conferences, as well as SABA Centra webconference tools that facilitate teaching or collaborating with others anywhere via the Internet.

Infrastructure improvements were completed that resulted in increased Internet bandwidth and reliability across the A&M System.

- » Upgraded the core backbone network bandwidth to 10 Gigabits per second (Gbps) shared with The University of Texas System. This increase provides

- » significant room for future expansion, and the partnership with UT makes the new service very cost effective.
- » Implemented the South Texas Ring project in partnership with the University of Texas. The new backbone architecture connects to the LoneStar Education and Research Network (LEARN) and provides higher bandwidth and increased reliability to TTVN members in Corpus Christi, Harlingen, McAllen, Laredo, and San Antonio.
- » Upgraded connectivity to the national networks via LEARN. The connection to Internet2 was migrated from the Abilene to the NewNet backbone, and plans were implemented to increase Internet2 bandwidth from 1 to 10 Gbps. National LambdaRail (NLR) PacketNet peering was established at 10 Gbps.
- » Implemented major bandwidth upgrades to TTVN member campuses: TAMU-Galveston established a shared Gigabit Ethernet connection to the TTVN backbone through a cooperative arrangement with the University of Texas Medical Branch at Galveston. Tarleton State University replaced their DS-3 network access with OC-3 to prepare for an aggressive distance learning strategy for the campus. TAMUS agencies upgraded a number of T1 or frame relay circuits to higher bandwidth, and more reliable, CSME circuits. Service to these connections is made possible by the high bandwidth LEARN backbone.

DATA CENTERS GEAR UP FOR VIRTUALIZATION

In the campus data centers, hundreds of servers connect computers to applications used daily, link to the Internet, and store files, email messages, and other data vital to the university. Maintaining and renewing these servers is essential to reliably and securely connecting customers to resources and information. This year, upgrades to the electrical and cooling systems enhanced the reliability of the campus data centers and server environment.

Efforts began to consolidate and virtualize servers to more efficiently use limited facilities, reduce energy consumption, and provide more reliable services to customers. In a traditional computing environment, individual machines run one application using a single operating system. Servers run at partial capacity with hardware utilization rates in many data centers frequently below 20 percent.³ In a virtualized environment, each machine runs multiple applications, sometimes running on different operating systems. Servers can function near capacity, providing a greater return on IT investments.

OPERATIONS CENTER MONITORS CAMPUS SYSTEMS 24/7

If cooling or power in a data center becomes compromised, it is only a matter of minutes until equipment overheats and starts shutting down, potentially leading to catastrophic losses. The Operations Center monitors network operations and critical campus applications around the clock. They closely watch environmental conditions in the data centers and take immediate action if temperatures start to rise. The Operations Center is on call to work with campus IT administrators and assist Help Desk Central staff with supporting customers and solving problems. It also is the Network Operations Center for the LEARN, a cooperative effort of higher education institutions in Texas to provide high-speed connectivity between their organizations and research networks across the country.

³ "Seven Things You Should Know About Virtualization," EDUCAUSE Learning Initiative Brief, October 2009 (www.educause.edu/Resources/7ThingsYouShouldKnowAboutVirtu/182646).

BUSINESS CONTINUITY AND DISASTER RECOVERY PLANNING HIGH ON THE AGENDA

Business continuity and disaster recovery preparations enable a quick resumption of essential functions after a catastrophic event. Key to the plan's success is increasing the resilience of critical infrastructure, hardware, and applications.

- » Initiated efforts to provide infrastructure for alternate site hosting of critical campus services such as eLearning, Compass, and Code Maroon in the event of a catastrophic failure in the campus data centers.
- » Enhanced data protection services by implementing an enterprise backup service to replace several smaller or aging systems. This consolidated service allows a consistent business strategy to be applied to critical systems, and provides both onsite and offsite backup services to over 120 client systems.
- » Installed enterprise web-based software tools that will centralize disaster recovery planning efforts when fully implemented: Living Disaster Recovery Planning System (LDRPS), which uses a relational database that links application, hardware, business process, and infrastructure disaster recovery plans; and Aperture data center management tool, which provides the underlying data required for disaster recovery planning efforts.
- » Upgraded the electrical and cooling systems in the data centers to meet requirements of more powerful computing equipment, including new servers and a supercomputer. The fiscal year 2009 expenditures for these upgrades totaled \$1,166,726.

555,000 SQUARE FEET OF BUILDING SPACE ADDED TO THE CAMPUS NETWORK

- » Cox-McFerrin Center for Aggie Basketball
- » McFerrin Athletic Center's Gilliam Indoor Track and Field Stadium and Indoor Practice Facility
- » Texas Institute of Genomic Medicine
- » Texas Institute of Preclinical Studies
- » Interdisciplinary Life Sciences Building



FACE TO FACE - VIDEOCONFERENCES INTERACTIVELY LINK ACROSS DISTANCES

On May 15, 2009, a special videoconference connected College Station and Camp Speicher in Iraq for the Texas A&M Air Force ROTC new officer commissioning ceremony. Through the high-quality, two-way audio and video, a U.S. Army lieutenant colonel stationed in Iraq with the 25th Infantry Division Multinational Division administered the commissioning oath to his son, who was being commissioned as an Air Force second lieutenant upon his graduation from Texas A&M.⁴

"We've been providing the ability to meet by videoconference to the A&M System for 20 years, and the university's connections to high-speed networks make these special events possible," said Tony Hockenberry, Videoconference Coordinator. "This past spring, we produced, in cooperation with the Bush Library and the Texas Education Telecommunications Network, a statewide videoconference for former First Lady Barbara Bush. From the Texas A&M Annenberg Presidential Conference Center, Mrs. Bush shared a story and talked about her White House years with more than 20,000 elementary school students at 80 Texas schools, all connected by videoconference. Selected students had an opportunity to ask questions of Mrs. Bush during the videoconference, making it a memorable occasion for them."⁵ Technological advances will make these special events much more commonplace, according to Mr. Hockenberry, but the personal impact provided by the interactive experience will never be completely diminished.

⁴ See the video of the ceremony at mediamatrix.tamu.edu/streams/256820/TAMU_Commissioning_5-15-09.

⁵ See the video of the Barbara Bush Literacy Corp event at mediamatrix.tamu.edu:443/download_published_file.php?published_file_id=248141&title=Barbara_Bush_TETN_Event.

NEW SERVICES ANSWER THE QUESTION "ARE YOU WHO YOU SAY YOU ARE?"

The university's ability to provide useful online services depends on robust, efficient tools to verify the identity of users logging in to a network or application. New services augment security and reliability of user authentication and expand the ability of campus guests and A&M System members to access applications.

- » Deployed a new version of the online initial sign-on service, the Central Authentication Service (CAS), which incorporates more robust security features and requires applications to be enrolled in a CAS 3 service registry. Transition to the new version is slated for completion in spring 2010.
- » Implemented guest services, which allow campus visitors and affiliates to use certain online campus resources. This will permit parents and former students to access the Howdy web portal, and campus guests to use the wireless network, library resources, and other campus services.
- » Installed Shibboleth federated services at 10 A&M System university campuses. Shibboleth simplifies sharing of online resources between affiliated institutions (see page 19).

REMOVING CONFIDENTIAL INFORMATION REDUCES RISK

Documenting systems that contain confidential and financial data and removing this data when possible lessens risk to the university. During fiscal year 2009, Texas A&M IT provided Identity Finder, a Social Security number scanning tool, as a discounted software license to the A&M System. Thousands of computers and all information systems were scanned, and when possible, Social Security numbers were removed.

Texas A&M contracted with TouchNet Information Systems to supply a web-based application for student billing and online payments. Credit card information is no longer being collected or stored by the university. The payment solution also provides real-time updates to student accounts in Compass and has been integrated seamlessly with campus applications, such as the online software store (software.tamu.edu).

SECURITY TOOLS BATTLE IT THREATS

Assessment tools provide effective means to identify and prevent threats, and supply critical functions to protect academic and business assets of the university.

- » Web Application Vulnerability Assessment, a tool for testing the security of web applications, helps the university's software developers find vulnerabilities in their systems. By scanning for vulnerabilities in the development stages, finished programs are more secure.
- » The Information Security Awareness, Assessment, and Compliance (ISAAC) system is a tool that Texas A&M departmental IT representatives use to assess the security posture of their systems and measure compliance with both state and local information security standards. ISAAC continues to be a valuable tool, and more A&M System members, Texas state agencies, and other universities began using the system this year.

MESSAGING SERVICE IMPROVEMENTS ENHANCE SECURITY

The Texas A&M email relays see over 32 million message attempts per week. With over 90 percent of these attempts containing a potential security threat, preventing these messages from reaching customer mailboxes provides protection against harmful payloads. Aging campus email relays were replaced with IronPort enterprise email security appliances, which enhance spam filtering and virus defense, and provide message quarantine services.

ISAAC SYSTEM ADDS NEW USERS

- » TAMU Commerce
- » TAMU Corpus Christi
- » TAMU Kingsville
- » Tarleton State University
- » West Texas A&M
- » Prairie View A&M University
- » Texas A&M Health Science Center
- » Texas A&M International University
- » TAMU System Offices
- » Texas Engineering Extension Service
- » Texas Transportation Institute
- » Angelo State University
- » Lamar State College Port Arthur
- » Lamar University
- » Texas State University
- » Texas Tech Health Science Center
- » Texas Tech University
- » Texas Woman's University
- » University of Arkansas for Medical Sciences
- » University of Texas System

>> MOVING FORWARD NETWORK AND INFRASTRUCTURE RESOURCES

- » Pursue server virtualization to efficiently use hardware and reduce capital and operating expenses.
- » Install additional uninterruptable power supplies, power distribution units, a coolant distribution unit, and power connections to meet requirements for more powerful computing equipment including the new iDataPlex supercomputing cluster (see page 14).
- » Convert existing office space into computer room space in the Teague data center to accommodate more servers. This requires extensive renovations to provide necessary power, cooling, and fire suppression systems.
- » Complete transition to the new version of the Central Authentication Service, CAS 3.

BUILDING COMMUNITY

- » Support a commitment to community involvement on a campus, local, state, national, and global basis.
- » Expand outreach through technology services to foster and strengthen relationships within and outside the university.

IT FORUM SUPPORTS TWO-WAY COMMUNICATION

Texas A&M IT sponsors the IT Forum (itforum.tamu.edu), which meets monthly to promote communication and information sharing. The forum provides news and updates about IT initiatives and policies; encourages feedback and discussion; and supports responsible practices for all IT services delivered at the university. The past year's presentation topics ranged from important changes to campus services, such as identity management, Compass conversion, and disaster recovery to special guests speaking on IT security and business application architecture.

IT ADVISORY COMMITTEE ENHANCES SHARED GOVERNANCE

Campus IT personnel face many challenges in delivering services and supporting their customers. Gathering perspectives, coordinating efforts, and arriving at collective decisions on IT- and security-related issues are facilitated by the Information Technology Advisory

Committee. The committee promotes shared governance by identifying common IT issues, reviewing and evaluating solutions, and providing recommendations to form policy and operational decisions with the Vice President and Associate Provost for Information Technology.

AGGIELAND'S PUBLIC BROADCASTING STATION SERVES THE COMMUNITY

KAMU is both a TV station and FM/HD radio station, providing public broadcasting to the Brazos Valley area. It is involved in the academic mission of Texas A&M, from formal instruction in the broadcast arts to on-the-job training for student announcers, operators, and production assistants at the stations.

KAMU-TV produces local Public Television programming and a wide array of academic and outreach videos each year, such as live-streamed telecourses, university ceremonies, and community events. KAMU-FM/HD broadcasts National Public Radio news, music, and locally produced programs, including local arts events, homeland security topics, health issues, computing tips, and engineering facts.

KAMU also serves as a production resource for national and world news outlets, such as National Public Radio, Public Radio International, American Public Media, British Broadcasting Corporation, Canadian Broadcasting Corporation, Texas State News, and other TV and radio stations around the nation and the world to interview recognized Texas A&M faculty and staff experts on various topics.

KAMU PROVIDES LOCAL PROGRAMS, COMMUNITY EVENT BROADCASTS

- » Aggie Band Show
- » Aggie Muster
- » Aggie Sports Connection
- » Brazos Valley Magazine
- » Texas A&M Commencements, Convocations
- » Veterans of the Valley

KAMU Radio Programs

- » Animal Insights
- » Computer Tips
- » Engineering Works
- » Garden Success
- » Health Wise
- » Heritage Highlights

Visit kamu.tamu.edu for a complete program listing.

“HOW CAN I HELP?” - WORKING TOGETHER AFTER HURRICANE IKE

On September 13, 2008, Hurricane Ike made landfall at Galveston, Texas as a strong Category 2 storm. The resulting damage caused the Texas A&M at Galveston (TAMUG) campus to close for the remainder of the fall semester, posing major challenges for the university and the A&M System. Students were relocated to the College Station campus and integrated into existing facilities. Faculty and staff, who were scattered across the region to care for their families, relied on information technology resources to maintain communication and continue operations.

Texas A&M IT staff assisted TAMUG IT counterparts with connecting relocated servers to the network, enabling faculty, staff, and students to access their data. Texas A&M IT provided temporary backup capabilities during the entire relocation to the College Station campus. Robust, redundant high-speed connections facilitated reliable delivery of network services.

Steve Conway, TAMUG's Chief Information Officer, said, "Galveston's link to LEARN supported us in our extensive use of video classes in the recovery period after Hurricane Ike. While we relocated our students to College Station, many of our researchers had to return to Galveston. The basically unlimited bandwidth available allowed us to schedule videoconferencing as needed to support their teaching."

Also, as Hurricane Ike was approaching the Gulf coast, over 200 critical care patients were moved to Texas A&M's Reed Arena. Texas A&M IT personnel provided key support to Environmental Health and Safety with setting up the special needs shelter. They provided local printer access and Internet connections to enable U.S. Public Health Service staff to remotely access their data records.

CONFERENCES AND EVENTS SHARE INFORMATION EFFECTIVELY

Sponsorship of conferences by Texas A&M IT departments promoted and strengthened relationships within and outside the university.

- » Instructional Technology Showcase (fall 2008) - Campus educators presented sessions covering software applications, technology concepts, and innovative methods for enhancing student learning.
- » Teaching with Technology Conference (spring 2009) - This learning event was attended by educators from across the A&M System.
- » Supercomputing Facility Users' Meeting (spring 2009) - The Facility's 20th anniversary celebration featured speakers from the University of Houston and six Texas A&M departments.
- » TTVN Annual Conference (spring 2009) - This meeting was attended by enterprise networking and instructional technology staff from the A&M System and TTVN affiliates.

Effective communication about IT services to the campus community was conducted through informational campaigns, participation in orientations, and creation of web sites and printed material.

- » Information Security Awareness Month (October 2008) - The campaign and web site to increase awareness of IT security issues received awards from the International Association of Business Communicators and the ACM Special Interest Group on University and College Computing Services (**ItsUpToYou.tamu.edu**).
- » Code Maroon Enrollment Campaign (spring and summer 2009) - Students and employees were urged to sign up for text message alerts in the new emergency notification system through an extensive, campus-wide campaign (**codemaroon.tamu.edu**).

- » New Student Conferences (spring and summer 2009) - Presentations to students and parents, online and printed material, and campus service booths helped new Aggies become acquainted with campus IT services (**it.tamu.edu/files/nscbrochure.pdf**).
- » New Faculty Orientation (August 2009) - New faculty learned about the wide range of information technology services, resources, and support available to them through a web site, brochure, and informational booth (**vpapit.tamu.edu/nfo**).
- » Teaching with Technology Newsletter (fall 2008, spring and summer 2009) - Faculty and staff learn about the latest instructional technology news and information.

STRENGTHENED WEB PRESENCE IMPROVES IT COMMUNICATION

Web sites are instrumental in effectively and consistently delivering information that people need to understand and use IT services. The redesign of IT departmental sites was completed this year to provide a cohesive and visually appealing web presence with improved content. The **IT.tamu.edu** site was launched to deliver a comprehensive roadmap to services provided by Texas A&M IT.

- » Texas A&M IT (**IT.tamu.edu**)
- » Computing & Information Services (**cis.tamu.edu**)
- » Instructional Technology Services (**itsinfo.tamu.edu**)
- » Networking & Information Security (**nis.tamu.edu**)
- » Open Access Labs (**oal.tamu.edu**)
- » People Web Site Service (**people.tamu.edu**)
- » Software Evaluation and Licensing Library (**sell.tamu.edu**)
- » Supercomputing Facility (**sc.tamu.edu**)

>> MOVING FORWARD BUILDING COMMUNITY

- » Work with the IT Advisory Committee to implement recommendations of the Information Technology Shared Services Team.
- » Use messaging tools for specific campus populations for more effective communication. Incorporate social media communication tools such as Twitter for students, and create an informational newsletter for faculty and staff.
- » Conduct information security awareness campaigns year-round including security-themed posters and sponsored crossword puzzles.
- » Improve Texas A&M IT documentation by redesigning the Help Desk Central web site and consolidating help documentation currently dispersed across many sites.
- » Improve the SELL web site and online software store to facilitate discounted software purchases by A&M System members.
- » Continue redesign of IT service sites including sites for Short Courses (**shortcourses.tamu.edu**) and the IT Solutions & Support group (**itss.tamu.edu**).

Photo courtesy of NASA

ADVANCING SHARED SERVICES AND COST-SAVING MEASURES

- » Develop shared services to reduce costs and maximize efficiencies across the A&M System without sacrificing academic quality.
- » Identify and implement cost-saving measures to economize and decrease expenses.

NEW SHARED SERVICES IDENTIFIED TO DECREASE COSTS

The A&M System embarked on a shared services initiative to increase efficiencies and reduce expenses through collaborations and best practices. Special shared services committees created by the Board of Regents were charged with reviewing current services and processes and identifying new opportunities for cost savings without undermining academic standards.

The Information Technology Shared Services Team, chaired by Dr. Pierce Cantrell, made the following recommendations for implementation in fiscal year 2010. These proposals could provide \$423,830 per year in savings, \$70,000 per year in cost avoidance, and \$150,000 for one-time cost avoidance:

- » Issue a Request for Proposal for one System-wide long distance service provider.
- » Expand use of software licensing System-wide through the SELL.
- » Implement System-wide participation in shared purchasing of desktop computers.
- » Replace the IBM mainframe with a smaller machine.
- » Consolidate document management systems.
- » Enhance administrative applications such as TrainTraq.



INSTRUCTOR/COURSE EVALUATION SYSTEM PROVIDES A GREEN AND COST-EFFECTIVE SOLUTION

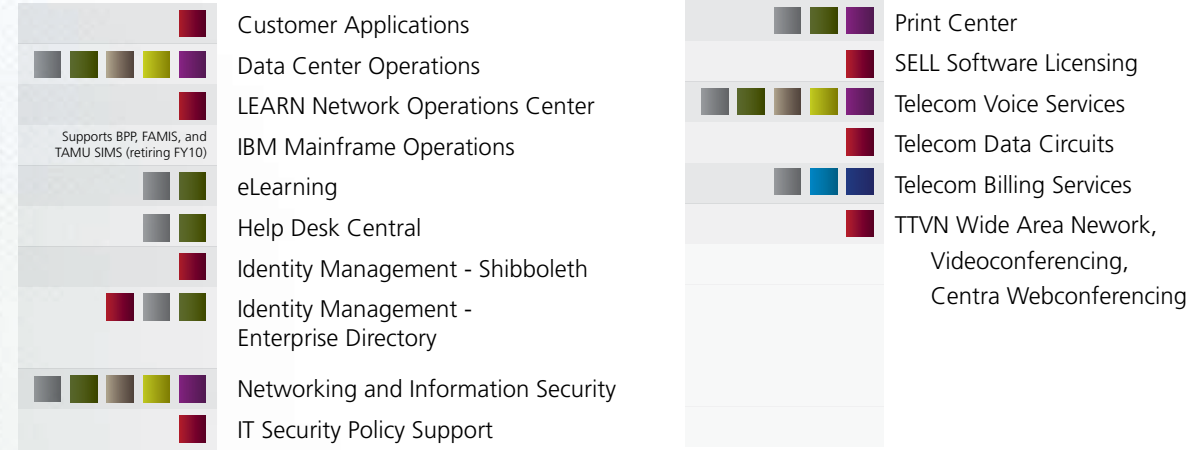
With the Personalized Instructor/Course Appraisal (PICA) system, students evaluate instructors and courses online instead of using paper forms. In spring 2009, students in more than 1,500 courses at Texas A&M, the Baylor College of Dentistry, and Texas A&M Qatar used PICA to submit end-of-term evaluations. Using the online process is estimated to have saved seven 40-foot trees.⁶ Student ratings of instructors provide information that can be used to make improvements in courses and teaching, assist administrators in making personnel decisions, and help the campus in selecting teaching award winners. PICA was developed with sponsorship from Measurement and Research Services, the Office of Distance Education, and the Provost's Office.

⁶ "How much paper can be made from a tree?" (www.conservatree.org/learn/EnviroIssues/TreeStats.shtml)

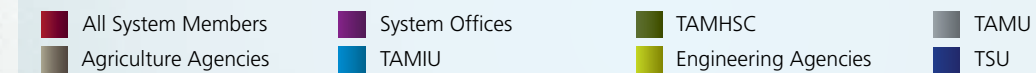
SYSTEM MEMBERS PARTNER FOR IT SERVICES

While new shared service opportunities have been identified, the A&M System successfully shares many IT services today. The annual total budget for major shared IT services is \$35.2 million with 36 percent paid by System members other than Texas A&M University.

TEXAS A&M SHARED SERVICES



A&M SYSTEM USAGE



Note: Additional shared services are provided by TAMUS Business Computing Services.

SHARED CALEA SYSTEM SAVES \$1.1 MILLION

A shared Communications Assistance to Law Enforcement Act (CALEA) system was implemented by the A&M University System (through TTVN and Texas A&M Telecommunications), The University of Texas System, the Department of Information Resources for all Texas state agencies, Baylor University, and the LEARN network. The \$400,000 cost was split among the five sharing entities. Purchasing individual systems would have cost each organization \$300,000. Using the shared system also saves \$8,825 in annual costs to the A&M System. In fiscal year 2009, implementation of equipment and procedures was completed to satisfy CALEA requirements (see page 18).

PREFERRED IT TRAINING VENDOR SELECTED

Continued learning keeps employees updated on new technologies and provides professional growth opportunities. To help ensure the best value for services, Texas A&M IT evaluated training vendors with input from the IT Advisory Committee. St. Edward's University Professional Education Center was selected as a preferred vendor, which provides discounts ranging from 5 to 39 percent for single seat, open enrollment classes held in Austin. Classes can be held on the Texas A&M campus, which eliminates staff travel and lodging expenses and provides additional discounts based on larger numbers of students. St. Edward's also provides online training options that have greatly reduced the cost of a class.

>> MOVING FORWARD

SHARED SERVICES

- » Implement recommendations of the Information Technology Shared Services Team.
- » Pursue server virtualization to efficiently use hardware and reduce capital and operating expenses (see page 22).

BULK COMPUTER PURCHASE PROGRAM CUTS COSTS

The Workstation Upgrade Program (WUP) is a bulk computer purchase program that establishes standards and achieves savings for the university and participating members of the A&M System. Texas A&M IT staff⁷ evaluate desktop manufacturers to find the best machines that are suitable for computer labs and classroom use, and to meet the needs of about 80 percent of campus knowledge workers. Also, the hardware must measure up to a rigorous set of technical criteria for ability to be managed centrally using IT maintenance and security tools. "We use an automated process for installing operating systems, adding software, and making security updates, so we only evaluate business-class machines that are robust enough to meet our standards," said Wally Strzelec, Senior IT Manager.

⁷ The evaluation team consisted of Kevin Davis, Joe Karasek, David Poprik, Greg Polen, and Wally Strzelec.

For fiscal year 2009, the team selected Hewlett-Packard machines. The unit costs for the HP standard desktop configurations averaged \$50 less than last year's prices. Texas A&M IT coordinated with Procurement Services to offer negotiated prices to other university departments and to the A&M System. This program has saved over \$1.2 million dollars since its inception in 2007. Over 1,300 Dell units were purchased in the first year of the program and over 1,900 HP units were purchased in the program's second year. "This program is a great opportunity to cut costs while maintaining the high-quality computing resources that you would expect at a top university," said Kevin Davis, LAN and Workstation Support Manager. "We hope the program will save even more as the number of people who participate grows."

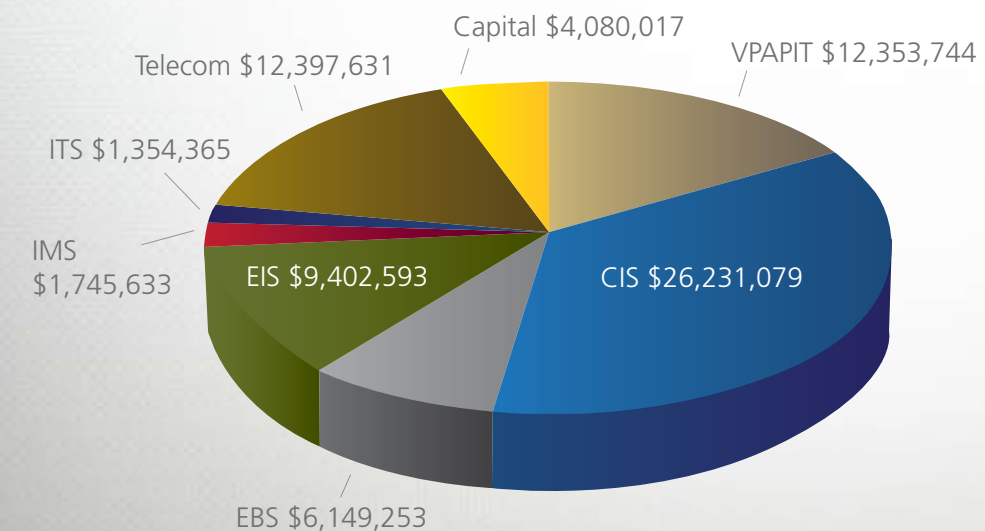


Left to right: Kevin Davis, Greg Polen, Wally Strzelec, and David Poprik

BUDGET SUMMARY

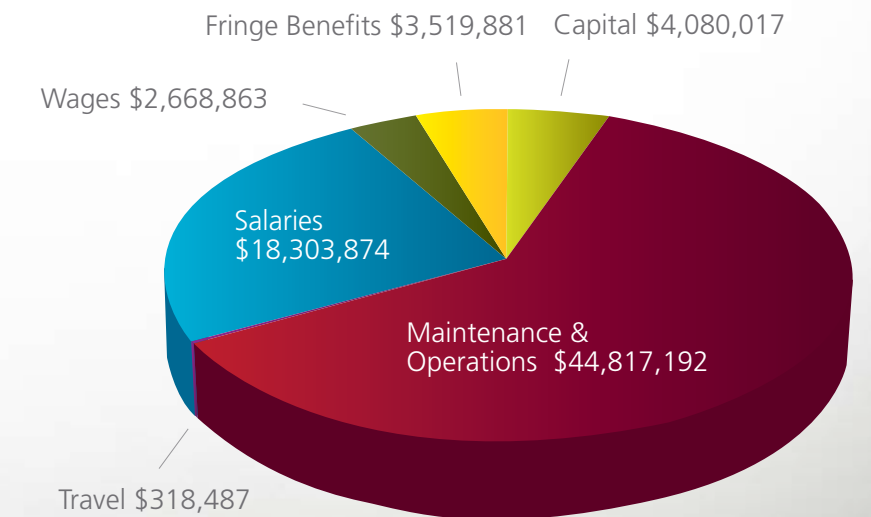
TEXAS A&M INFORMATION TECHNOLOGY UNIT EXPENDITURES + CAPITAL FOR FISCAL YEAR 2009

Vice President & Associate Provost for IT	\$12,353,744
Computing & Information Services	\$26,231,079
Educational Broadcast Services	\$6,149,253
Enterprise Information Systems	\$9,402,593
Instructional Media Services	\$1,745,633
Instructional Technology Services	\$1,354,365
Telecommunications	\$12,391,631
Capital (all sources)	\$4,080,017
TOTAL	\$73,708,314



TEXAS A&M INFORMATION TECHNOLOGY BUDGET FOR FISCAL YEAR 2009

Capital	\$4,080,017
Maintenance and Operations	\$44,817,192
Travel	\$318,487
Salaries	\$18,303,874
Wages	\$2,668,863
Fringe Benefits	\$3,519,881
TOTAL	\$73,708,314



Texas A&M Information Technology

Dr. Pierce Cantrell

Vice President and Associate Provost
for Information Technology

Ph. 979.845.2072

**vpapit.tamu.edu
IT.tamu.edu**