



Information Technology

STRATEGIC PRIORITIES

FY2025-FY2029





The needs of our university continue shaping the direction of the UIT Strategic Plan. During the last few years, we focused on key initiatives in support of student success such as the rollout of the new learning management system Canvas LMS, the upgrade of our Wi-Fi networks, and the implementation of over 50 multimodal and upgrades to 40 general purpose classrooms. In addition, we installed state-of-the art IT infrastructure in new research, academic, administrative, residential and athletics buildings.

Record student enrollment and emerging technologies such as Artificial Intelligence are challenging us to reassess our IT Service Portfolio to launch new services and enhance the existing ones, while optimizing costs. This document presents our strategic priorities to achieve the University's goals.

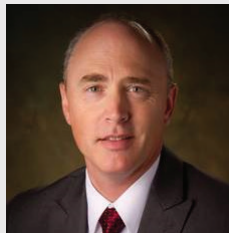
Dr. Dennis Fouty

UNIVERSITY INFORMATION TECHNOLOGY

UIT ORGANIZATION



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STRATEGIC PRIORITIES

FY2025-FY2029

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MISSION, VISION, FOCUS

Mission and Overarching Goals

Our mission is to serve our University's colleges and administrative departments by focusing on three overarching goals:

1. Deliver a suite of highly reliable and secure technology services
2. Align with and serve our campus customers
3. Support state-of-the-art student, financial, human resources and other information systems

Vision

Create value across the UH System by investing in infrastructure capacity and security, collaborative tools and newer, more efficient and greener technologies to enable growth in services and protect revenue.

Strategic Focus

1. Create a reliable, secure, robust and cost-effective technology environment using industry best practices and technology
2. Maintain the high performance campus network infrastructure and a robust wireless footprint
3. Aggressively enhance security at the enterprise level and in customer environments
4. Actively pursue opportunities with UH business owners to leverage enterprise applications services and functionality

We endeavor to achieve these objectives by:

1. Engaging leadership in planning via our strategic priorities
2. Creating a federation of university IT providers
3. Developing and deploying UIT methodologies to the campus
4. Establishing UIT customer service assurance
5. Partnering with academic and administrative groups
6. Improving and streamlining our internal processes and structures
7. Increasing the credibility of UIT

OVERVIEW

IT Services and Summary of Operations

UIT provides IT services to the UH System and UH. We are responsible for the management of:

- The University's Communications Infrastructure and Telecommunication Services
- The UHS Computing Center
- Information Technology Security
- Enterprise Systems and Services
- Campus Safety Systems
- Educational Technology Services (*General Purpose Classrooms*)
- Web Technologies and Applications
- IT Support Services (*including Help Desk and the UH Contact Center*)
- Research Computing Services

The comprehensive list of services is available in the UIT Service Portfolio at <https://www.uh.edu/infotech/about/performance/service-management/>

We monitor the performance of IT services daily. The table below is a 2-year Summary of Operations, which contains key performance indicators (KPIs) for major services.

UIT Summary of Operations FY2023-FY2024

SERVICES	FY2023	FY2024	% CHANGE
Enterprise Information Systems			
Finance Transactions	4,141,459	4,142,996	0.04%
HR/Payroll Transactions	6,261,721	6,653,148	6%
P-Card Transactions	68,649	66,181	-4%
Desktop Computing & User Support Services			
IT Support Center Service Requests	46,103	43,251	-6%
Network/Telecom Work Requests	1,751	2,709	55%
Classroom Technology Equipment Requests	701	248	-65%
Classroom Technology Equipment Repairs	59	94	59%
Enterprise Infrastructure and Services			
Email Accounts	190,266	229,798	21%
CougarNet Accounts	227,803	267,494	17%
Email Aliases	598,565	637,261	6%
Email Incoming Messages Processed	136,920,699	210,368,564	54%
Information Technology Security			
UH Security Incidents	170	164	-4%
Instructional Technology			
Canvas Seats	-	387,228	N/A
Canvas Courses	-	9,422	N/A
Network Infrastructure and Security Services			
Active Data Ports	100,278	73,536	-27%
Total Miles of Fiber Cable	3,501	3,516	0.4%
# Wi-Fi Access Points	6,616	6,647	0.5%
# Security Cameras	3,109	3,145	1%
Operations & Data Center			
Data Backups in Terabytes	9,811	4,979	-49%
UNIX Servers, Logical Systems	276	300	9%
Windows Servers, Logical Systems	568	593	4%
Web and Mobile Services			
UH Web Site Page Views	48,021,534	74,277,006	55%
UH Go Screen Views	2,458,610	18,466,039	651%

RESOURCE CONSTRAINTS

Higher education faces greater challenges than other industries to attract and keep qualified IT staff, competing for talent with the private sector, where wages are often higher. Increasing costs of technology are driven by inflation, supply chain disruptions and a high demand for technologists. Technology salaries rose significantly in 2022, with some roles seeing increases of up to 15.6%. Over the past three years, UIT in collaboration with Human Resources completed a compensation review, bringing salaries more in line with market conditions. Moreover, costs for essential services like software licenses and cloud solutions have increased, in some cases by as much as 20%. These rising costs challenge an already tight budget.

To strategically manage our business, UIT employs several strategies:

1. **Systemwide View:** Work in partnership with all UH System universities to secure better pricing and contracts.
2. **Consolidate:** Reduce redundant software licenses and simplify technology solutions to streamline operations.
3. **Negotiate:** Work directly with vendors to renegotiate contracts, explore new financing options and leverage competitive pricing.
4. **Return on Investment and Total Cost of Ownership:** Assess the true value of technology services and align them strategically with university goals.

PEER BENCHMARKS

IT Investment as a Percentage of Total University Expenditures

UH State Peers

Institution Name	Metric	
TAMU	4.10%	↑
UT - Dallas	3.40%	↑
UH	2.80%	
Texas Tech University	2.60%	↓

Source:
Core Data Survey 2023,
EDUCAUSE

UH National Peers

Institution Name	Metric	
University of Oklahoma	5.80%	↑
Arizona State University	5.70%	↑
University of Cincinnati	4.30%	↑
Oregon State University	3.60%	↑
The University of Tennessee	3.50%	↑
University of Houston	2.80%	
Virginia Commonwealth University	2.50%	↓
University of Kansas	2.40%	↓
University of Kentucky	1.20%	↓

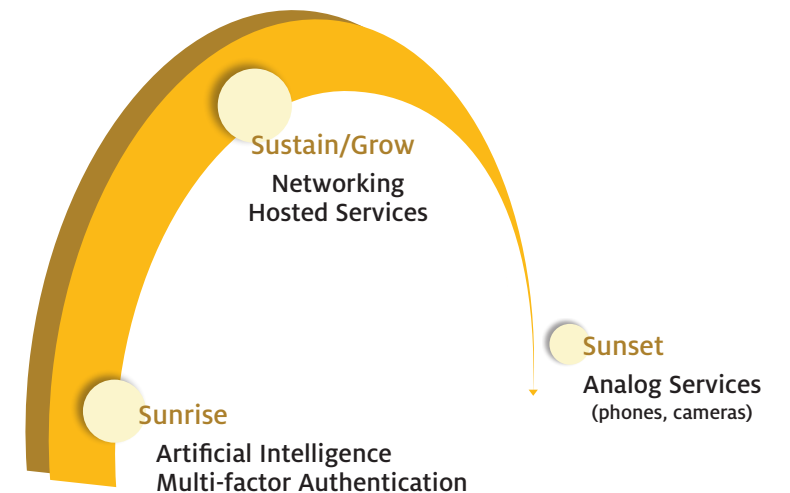
INFORMATION TECHNOLOGY: Investing for the Future

As a service-driven organization, University Information Technology (UIT) provides over 100 essential services to faculty, staff and students. These range from critical niche services like Classroom Technologies to large-scale systems such as Networking, PeopleSoft and Microsoft productivity tools that serve the entire university community.

Resource management in UIT is both adaptive and responsive. UIT annually reallocates space, funding and human capital as circumstances and demands change, shifting resources to sunrise services for emergent needs, support growth and sustain services in key areas, and suspend or sunset services with reduced demand. By staying focused on university goals, customer needs and legal/policy requirements, UIT ensures efficient use of resources to maintain a nimble service environment and infrastructure. You can see this principle at work in the Strategic Planning Process described on page 11 and in the Alignment of Priorities to the goals of the university, the UH System and the State of Texas Department of Information Resources on pages 12-13.

As an investment, Information Technology is indispensable.

Rather than seeing Information Technology as an expense, it is better to view it as an investment in an essential, strategic asset, and as a means to advance the university's goals for student success, research and community engagement. Consider the Peer Benchmarks tables to see how UH compares to state and national peers in IT investment. Yes, prudent budget management and cost control are important, and are practiced throughout UIT. But IT's greatest value is in fostering innovation to make processes less costly and laborious, freeing humans to do the things humans do best — for the university, for each other and, most of all, for the students. As an investment, Information Technology is indispensable.



FY2020-FY2024 ACCOMPLISHMENTS

University IT established 11 Strategic Priorities for the 5-year period that ended with fiscal year 2024. Here are some of the key milestones of the past five years.

Information Security

- Added Information Security Liaisons for UHCL, UHD and UHV to enhance the systemwide Information Security Officer (ISO) program
 - Information Security Officers (UHS) — 66
 - Information Security Liaisons (UHCL, UHD, UHV) — 36
- Modernized DUO multi-factor authentication (MFA) to eliminate insecure methods. Began adding MFA to new products and services as they are introduced
 - Enrolled customers — 180,000+
 - Daily authentication requests — 15K-20K (at UH)
- Improved the maturity of the UHS universities on the Texas Cybersecurity Framework assessments (44 security categories)
 - Number of universities that improved score — 4

Network Connectivity

- Upgraded all core and distribution routers with Hewlett Packard Enterprise (HPE)/Aruba equipment, retiring legacy Cisco devices
- Raised all building routers to a 10Gbps capacity and core routers to a capacity of 40Gbps-100Gbps
- Continued replacement of access switches (60% complete); the standard access switch now has 1Gbps port capacity.

Collaboration and Unified Communications

- Completed the migration from on-premises Skype for Business to cloud-based MS Teams Telephony for all faculty, staff and student workers, and over 800 common area phones. UIT funded the replacement of over 1,000 MS Teams-compatible phones and headsets.
- Migrated call center services from on-premises Anywhere365 to the cloud-based Genesys service and to MS Teams Response Groups
- Made large-scale infrastructure improvements for cellular coverage on campus, including a 5G Verizon tower at the stadium garage and a Distributed Antenna System (DAS) at Fertitta Center
- Refined email practices to eliminate weaknesses and risks caused by the use of account aliases

Data Management and Analytics

- Completed Key Performance Indicator (KPI) dashboards for nine units in Administration and Finance: Administration, Campus Safety, Equal Opportunity Services, Facilities, Finance, Houston Public Media, Human Resources, UH Police Department, and University Information Technology
- Redeveloped the Laboratory Utilization Guide in Tableau
- Launched Academic Dashboard for the UH Victoria campus

Mobile Technologies (UH Go)

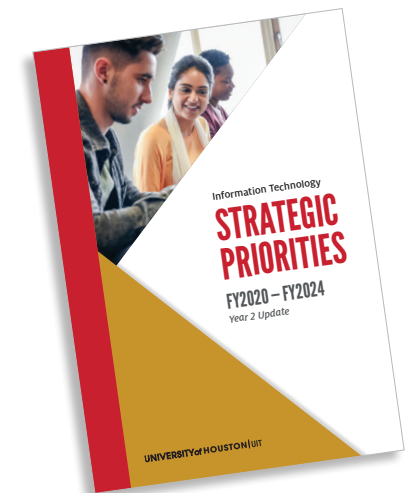
- Won several Appademy Awards
 - Best App, Use of Xmodule — Best Integration (2020)
 - Most Innovative App for Communication (2021)
 - Best Integration — Bikeep (2023)
- Added new ways to reach UH Police by SMS/text or directly from UH Go
- Hosted the inaugural UH Ideathon 24, which showcased the ingenuity of students who brought their UH GO mobile app ideas to life; of 56 teams that applied, six were selected to compete for over \$5K in cash and prizes
- Enhanced UH Go with new features and integrations
 - Added CoogStrong, a suite of tools to help users return to campus post-pandemic
 - Integrated the Alumni mobile app
 - Integrated Cougar Card functions
 - Added Dine on Campus for comprehensive dining information
 - Created Grade Center, a one-stop source for students to access current and past grades
 - Introduced Get Involved, which integrated and rebranded the Engage system for campus events
 - Added UH Police Help emergency call feature, which created a jurisdiction geofence to help the user find the right emergency service, and a dashboard for UH Police to monitor the real-time location of the user
 - Added value to Bikeep (smart bike rack system) by verifying ownership of a registered bicycle and enabling remote control for locking and unlocking it
 - Reworked the way myUH integrates with UH Go, saving the university \$160K
 - Provided Housing Move-in Map for students checking into their dorms
 - Redesigned app features for better usability, based on customer feedback
 - Added live chat and an interactive map for New Student Orientation assistance
 - Integrated with Facilities' FIXIT system for campus residents to manage housing maintenance requests

Shared Services

- Conducted three Technology Reviews, bringing the total to 17 UH Colleges and Divisions and three UHS universities
- Completed Service Assurance Reports for 13 Colleges and Divisions, up from nine in 2019
- Added to the number of enterprise services provided by UIT to the entire university or UH System to achieve further economies of scale
- Continued to increase collaboration between UIT and the Colleges and Divisions through the Technology Partners Program

Continuity of Operations

- Assured that mature processes and procedures outlined in the UIT Continuity of Operations Plan (COOP) enable reliable service availability
- Conducted the annual UIT COOP exercise, which focuses on the highest-risk areas for continued improvement
- Routinely met targeted IT service availability assured by Service Level Agreements (SLAs) for critical core services and information services
- Adopted new technologies to reduce security incident response time by 77%



Academic Technologies

- Upgraded 50 general-purpose classrooms with advanced technology: dual monitors, assisted listening devices, auto-tracking cameras, zoned sound speakers, room speakers, whiteboards, digital displays in the back and side to allow instructors to see their online students in real time, rather than forcing at-home students to participate as just voices. Audiovisual control systems, located near a classroom’s teaching station, allow instructors to switch seamlessly between different video feeds with the touch of a button.
- Implemented system for Enrollment Services to provide CougarNet accounts and associated services to admitted students earlier
- To address digital divide issues that emerged after the pandemic lockdown was ordered, UIT initiated and carried out a three-year laptop checkout program. It was essential to assure continued student success during the abrupt transition to fully remote learning. The program was successful and popular.
 - Spring/Summer 2020: 52 Checkouts
 - 2020-2021 School Year: 570 Checkouts
 - 2021-2022 School Year: 1,495 Checkouts
 - Fall 2022: 272 Checkouts
 - Spring 2023: Program was retired

Blended Data Center

- Worked closely with other groups throughout the university to identify and migrate applications from on-premises software and hardware to cloud-based Software as a Service (SaaS)
- Consolidated functions and migrated data to cloud services (OneDrive, SharePoint) to reduce the number of physical and virtual servers, resulting in significant cost savings to UIT, the Colleges, and the Divisions

Internet of Things (IoT)

- Migrated security cameras to a centralized video management system
- Pursued a continuing project to replace obsolete, analog cameras with IP models; the effort was 67% complete at the end of FY2024
- Initiated an ongoing project to standardize duress alarms by deploying a system powered by the university’s network
- Began a three-year project in FY2024 to replace all analog emergency phones with digital network models
- Expanded the UHS emergency alert system to allow those at UH at Katy and UH at Sugar Land to opt in to targeted notifications

Research Computing

- Launched Scholar’s Walk, outdoor signage near Student Center South created in collaboration with the Department of Research, to promote awareness and use of High Performance Computing (HPC) by researchers in under-represented areas



BUILDING OUR FUTURE: The Strategic Planning Process

UIT began assembling these Strategic Priorities in March 2024. We examined the latest IT trends in higher education alongside the goals of the university and proposed 11 priority areas. Then, we surveyed faculty, staff and students to rank these and propose any additions for consideration. Nearly 140 participants contributed to these Strategic Priorities. The results of the survey are shown on the right:

RANK	STRATEGIC PRIORITY	SCORE
1	Information Security and Risk Management	2.76
2	Network Connectivity	2.71
3	Collaboration & Unified Communications	2.56
4	Data Management & Analytics	2.52
5	Shared Services	2.43
6	Data Center Cloud Integration	2.38
7	Academic Technologies	2.34
8	Artificial Intelligence (AI) Integration	2.20
9	Expanding Access: Remote Learning & UH Go	2.14
10	Research Computing	2.00
11	Internet of Things (IoT)	1.94

For each Strategic Priority, we then conducted a gap analysis to identify where we are today in alignment with state and university goals, where we see ourselves in the future and how we will get there. This document presents the results of these efforts.

SHARED IT GOVERNANCE AND SHARED SERVICES

IT services provided to the UH community are guided by shared IT governance. The University has 16 colleges and five divisions, each with a distributed IT organization. The management of each is responsible for administering and protecting its IT resources. Through the Technology Partners Program (TPP), UIT collaborates with colleges and divisions to develop procedures and establish internal controls for IT resources in the following areas: Risk Management, Resource Security, Project Management, Resource Management, and Service Continuity Management.

IT decision-making is a collaboration among the UH senior executive team, business owners, Student Government Association, Faculty Senate, Staff Council and other key governance groups.

UIT offers the Technology Review (CTR) and IT Service Assurance programs to UHS campuses and UH units. These programs provide a comprehensive assessment that enables us to collaborate and understand the unit’s IT operations, recommend industry best practices, promote shared services and communicate new UIT initiatives. Shared services have repeatedly produced substantial savings, enabling coordinated and efficient service delivery. They achieve economies of scale and free our Technology Partners to invest their resources in delivering local support and specialized services.

As part of shared IT governance, there are three policy roles defined in MAPP 10.03.06:

- College/Division Information Resource Manager (C/D-IRM):** The most senior administrator who is responsible for managing the college or division’s information resources,
- College/Division Technology Manager (C/D-TM):** An IT professional who is responsible for managing the college or division’s daily information technology operations and projects, and
- College/Division Information Security Officer (C/D-ISO):** An IT professional, usually reporting directly to the IRM, responsible for managing the college or division’s information security functions in accordance with the established policies and guidelines.

BUSINESS OBJECTIVE GUIDEPOSTS

UH Goals and Strategies

- 1. Student Success: Provide a Top Tier, Inclusive Educational Experience to All**
 1. Make educational programs more financially accessible for all students.
 2. Use innovative and creative teaching methods to elevate student learning.
 3. Increase the number of experiential learning opportunities that prepare students to excel in their chosen fields.
 4. Provide highest quality professional and graduate degree programs and prepare students to lead.
 5. Provide working professionals with top quality programs to upgrade their skills and help create a robust economy.
- 2. Nationally Competitive Research: Build a Research Powerhouse that Impacts our Region & the World**
 1. Conduct innovative research in Houston's areas of strength: energy, infrastructure, space, health, data sciences and the arts.
 2. Create sustainable solutions for local, national and global challenges.
 3. Build infrastructure and networks to promote interdisciplinary and inter-institutional research.
 4. Support faculty and staff to compete for research honors and recognitions at the highest level.
 5. Build an immersive culture of research and innovation for all students.
- 3. Social Responsibility: Serve as an Exemplar for Equitable & Inclusive Community Engagement**
 1. Build a coalition of medical and health professionals, health care providers, and students who work with community members to achieve health equity.
 2. Strengthen our partnership with Historic Third Ward and the city of Houston.
 3. Infuse and support the culture of volunteerism among students, staff and faculty.
 4. Support freedom of expression and diversity of views.
- 4. Nationally Relevant Athletics: Build a Competitive Athletics Program**
 1. Pursue the best national platform for student-athletes to compete.
 2. Prepare student-athletes for academic and lifelong success.
 3. Build a sustainable funding base to support athletics.
- 5. Competitive Funding: Build a Sustainable Funding Base to Support Vision & Goals**
 1. Seek legislative support to equitably fund education for all students.
 2. Enhance targeted private fundraising.
 3. Establish new revenue streams.

UH System Goals

- 1. National Competitiveness**
 1. The City of Houston (and the Greater Houston Region) will be known for having one of the best and most diverse metropolitan systems of higher education in the nation.
 2. Each university within the UH System will benchmark itself nationally for excellence within the context of its unique mission.
- 2. Student Success**
 1. The UH System will commit to providing access to the people of the Greater Houston Region and the state.
 2. Each university within the UH System will make student success its top priority and will hold itself publicly accountable for achieving this goal.
 3. The UH System will help students identify the UHS university that best serves their needs and academic goals, so that they are not lost to the UH System or to higher education. Furthermore, pathways will be developed for transfers between campuses and admissions to graduate programs.
- 3. Community Advancement**
 1. The UH System will be the engine of social and economic advancement of the metropolitan region and the state.
 2. Each university within the UH System will engage with its community and will hold itself publicly accountable for contributing toward community advancement.

ALIGNMENT OF PRIORITIES

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State Information Resources Management Goals and Objectives

- | | |
|--|--|
| 1. Elevated Government Experience <ol style="list-style-type: none"> 1. Customer Experience Strategies 2. Digital Accessibility 3. Connectivity and Continuity 4. Secure Identity and Access Management | 2. Mature Data Management and Privacy Practices <ol style="list-style-type: none"> 1. Data Governance 2. Data Literacy 3. Reliable Analytics 4. Data Security and Privacy |
| 3. Skilled and Resilient Workforce <ol style="list-style-type: none"> 1. IT Workforce Skills 2. Talent Development 3. Resilient Teams 4. Workplace Culture | 4. Transformation and Modernization <ol style="list-style-type: none"> 1. Organizational Readiness 2. Accelerate Modernization 3. Guidance for Emerging Technology |

INFORMATION SECURITY AND RISK MANAGEMENT

OVERVIEW

Universities face growing risks from cyberattacks, including ransomware, phishing and data breaches. Complying with federal/state regulations while protecting sensitive data, research and intellectual property is critical. Measuring risk against a robust cybersecurity program and continuous awareness training are essential to protect the organization and its assets.

Collaborations & Partnerships

Information security requires active engagement and collaboration on solutions both on campus and off campus.

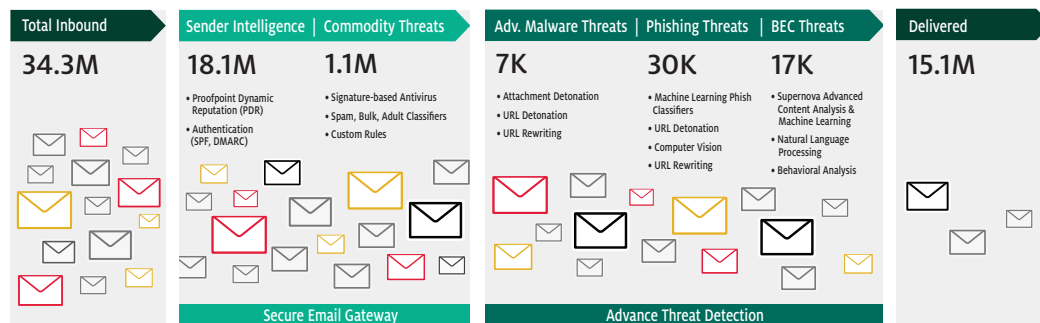


Internal Collaborations

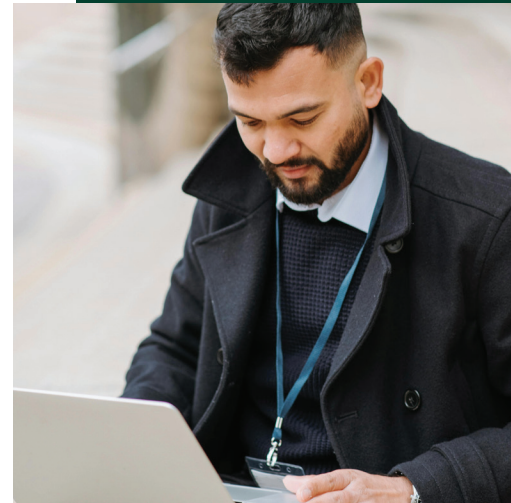
The ISO program allows for direct security management of university assets. Components of the program include a certification program, regular meetings and an online collaboration site.



Inbound Email Protection Breakdown (August 2023)



SECURITY



CURRENT STATE

- Centralized Information Security program that manages the security of the system universities.
- Centralized tools that provide a security baseline for day-to-day processes and operations of each university and enable our IT partners to keep the universities more secure.

PATH TO SUCCESS

- Collaborate and communicate with the four system universities to strengthen and improve the overall UH System Information Security program.
- Continually enhance an information security strategy that addresses the needs of the individual system universities while maintaining a cohesive goal.
- Engage employees in the security program to address risks and sustain an effective cybersecurity function.
- Continue to develop our team to keep current with existing and evolving challenges.

FY2025 INITIATIVES

- Enhance the existing information security strategy and outline actionable goals for the four system universities while documenting baselines, processes and procedures.
- Foster cyber guardianship by further raising awareness among the university communities of how they can gain the skills to be prepared.
- Revitalize the vulnerability management program to strengthen the university's cybersecurity posture, reduce overall risk to critical information resources and create a reportable metric that can be used to quantify risk to the organization for future improvements.
- Implement a repeatable, scalable research security program that will build a foundation for future high-level research in the UHS.
- Work with our colleagues to build a base information security standard that will improve overall security posture and ease compliance reviews.

“As technology continues to improve our daily lives, information security must become a part of organizational culture to enable new ways of maintaining a secure and sustainable operation. It is our responsibility to lead the way.”

Sven Hahues
Assistant VC/VP and CISO,
IT Security

NETWORK CONNECTIVITY

OVERVIEW

Ubiquitous connectivity is paramount for today’s universities. Network services are critical in enabling the delivery of course content, allowing researchers to collaborate locally and worldwide, and enabling other core services such as mobile technologies and unified communications. The University of Houston is a leader in initiatives to achieve it. UH was recently recognized at the 2024 nationwide HPE conference for its exemplary accomplishments in using the latest technology to address today’s needs and to be positioned to meet those of the future.

We have moved toward a homogeneous networking environment that allows better management and provides more capacity to support emerging needs. Wi-Fi infrastructure now covers more spaces and has greater redundancy to maintain 99.9% availability. We upgraded Wi-Fi in all classrooms to support post-pandemic needs such as hybrid classrooms and multimodal teaching that generate more network traffic.

Equally important was the need to continue improving network security. To protect critical network infrastructure from the risks that come from connecting thousands of outside laptops, tablets and phones, we put in place network policies and implemented an access management tool. We also standardized the way we design IT facilities and control access to them throughout the UH System.



- 90,000+ unique devices connected to the Wi-Fi network daily (peak days)
- 47,000+ simultaneous users during peak times
- 2,000+ access switches
- 110+ building routers
- 10 core routers
- 78 Wi-Fi testing Cape Sensors in 60+ buildings



CURRENT STATE

- Completed the NextGen Wi-Fi initiative, more than doubling the number of controllers to increase redundancy.
- We continue increasing Wi-Fi coverage across campus and remote locations. We installed over 1,500 WAPs during the last five years. As of today, we have 6,600 access points in our Wi-Fi network.
- Upgraded the legacy core network infrastructure to 100Gb HPE (Hewlett Packard Enterprise) routers and replaced 60% of the legacy access switches for wired connectivity to Gigabit switches.
- During the last three years, we continued supporting the UH campus expansion by implementing network services in new buildings and renovations including the Tilman J. Fertitta Family College of Medicine, UH Law Center, ACES, Hilton expansion, and the Retail Auxiliary and Dining (RAD) Center.

PATH TO SUCCESS

- During the next five years, replace the remaining 40% of aging access network switches that support security cameras and wired connectivity.
- Upgrade remote locations to the cloud Aruba Central environment to take advantage of AI-powered tools that will provide advanced network analytics.
- Engineer our Wi-Fi network to continue supporting network growth brought by expansion and capital projects and implement emerging technologies such as Wi-Fi 7 in high-density buildings.

FY2025 INITIATIVES

- Implement cloud Wi-Fi management tools for UH Sugar Land and UH Katy locations.
- Continue upgrading the inter- and intra-building fiber connectivity to improve performance reliability in support of critical university services.
- Continue implementing the 5-year Wi-Fi roadmap. Upgrade the Wi-Fi network in MDA Library, Cougar Village, Melcher Hall, Classroom and Business Building, and Science and Engineering Classroom building.

“State-of-the-art network infrastructure to our campus is essential to support current and emerging mission-critical services to our UH Community.”

Rita Barrantes
 Director, Technology Services
 Technology Services and Support

COLLABORATION AND UNIFIED COMMUNICATIONS

OVERVIEW

The technologies that support Unified Communications (UC) are seamless to our users, whether the underlying infrastructure is on-premises in the UIT Computing Center or in the cloud. They enable collaboration and teamwork among faculty, staff and students.

We implemented MS Teams as our UC cloud platform in 2021, which allowed integration of technologies such as chat, file sharing, email and video conferencing into a single platform. In 2023, we integrated the telephony component, migrating over 5,500 users from Skype for Business (SFB) to MS Teams. In 2024, we migrated all call center agents from the on-premises, SFB-compatible call center application (Anywhere365) to Genesys, a leading call-center-as-a-service (CCaaS) provider, completing the transition of UC services to the cloud. Our next goal is to add AI technology to the UC platform so users can benefit from emerging innovations.



Microsoft Teams Metrics FY2024

1,209,696
Phone Calls

10,873,088
Instant Messages

479,246
Business Meetings Organized

33,730,304
Video Session Minutes



CURRENT STATE

- Completed the migration of 5,500+ users and departmental telephone accounts from SFB to MS Teams telephony.
- Migrated multiple call centers from Anywhere365 to Genesys, including Admissions, Financial Aid, Student Business Services, Enrollment Services, FIXIT, UH Contact Center and UIT Support Center.
- Migrated other call centers from Anywhere365 to MS Teams Response Groups, including College of Medicine, ISSSO, Student Health Services, and Counseling and Psychological Services.
- Upgraded the analog gateways and the session border controllers.
- Migrated 175 of 245 emergency phones (code blue phones) from analog to IP-based, which is more reliable and can be managed remotely.
- Worked with Facilities Planning and Construction (FP&C) to assess the elevator phones, most of which were analog, and recommended using IP phones in new buildings.
- Deployed Verizon 5G Network for TDECU. A 5G tower was installed on the Stadium Parking Garage.
- Implemented a Distributed Antenna System (DAS) at Fertitta Center for UHPD use.

PATH TO SUCCESS

- Add AI technologies to the UC platform.
- Assess the remaining analog infrastructure and migrate or retire analog services as much as possible.
- Work with Athletics to select a DAS provider for TDECU.

FY2025 INITIATIVES

- Assess AI technologies for UC and call center services.
- Sunset SFB and Anywhere365 infrastructure.
- Assess unmetered long-distance calls.
- Migrate the UHPD SmartTap recording application from Skype for Business to MS Teams.

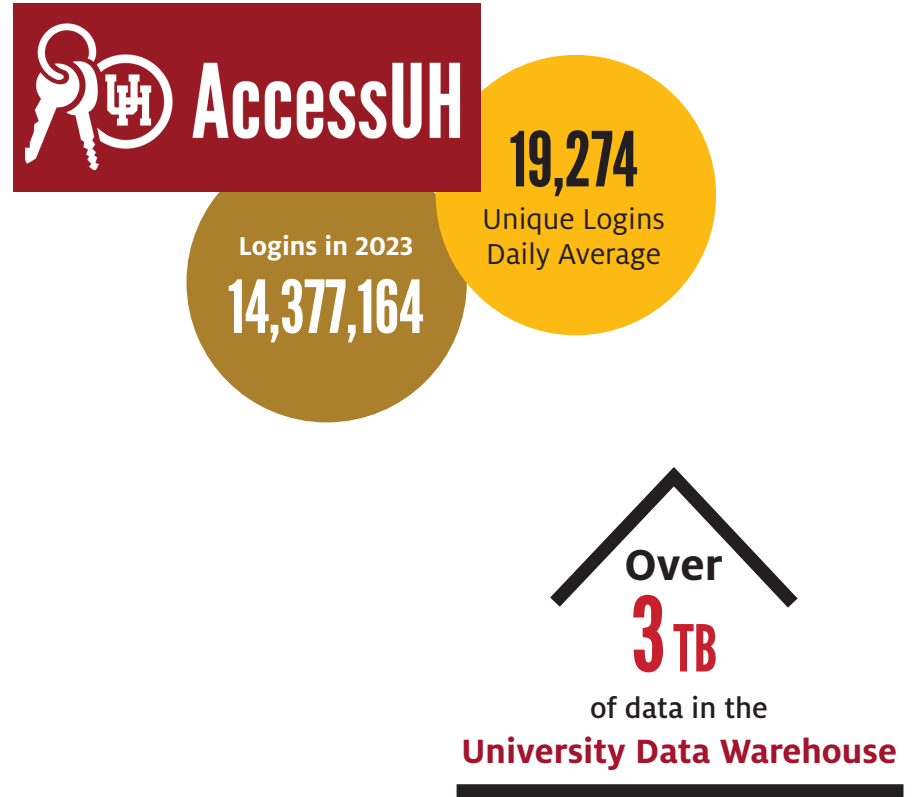
“Effective teamwork begins and ends with communications.”

John Kojak
Manager, Telecommunications
Technology Services and Support

DATA MANAGEMENT AND ANALYTICS

OVERVIEW

Data Management means collecting, keeping and using data securely, efficiently and cost-effectively. Data Analytics means using that data to provide insights into student performance, institutional effectiveness and strategic decision-making. Both are core components in our efforts to drive better decisions, proactively and responsively address the nationwide enrollment crisis, support student success and enhance the University's financial security. The Data Warehouse infrastructure has grown continuously since its inception in 2007 and provides efficient data reporting and visualization capabilities for the campus community.



CURRENT STATE

- 3TB of data hosted in the UH Data Warehouse environment.
- Standardized processes for data integration from various sources.
- A Unified Dashboard environment for the efficient and secure display of key performance metrics for the UH community.

PATH TO SUCCESS

- Encourage business owners to derive and focus on key performance metrics.
- Sustain standardized data integration, security and visualization processes.

FY2025 INITIATIVES

- Support emerging needs in data analytics at UH.
- Facilitate the proper integration of technology tools.
- Expand the Unified Dashboard environment to enhance UH operations.



ANALYTICS



“The challenge is to sustain focus on key performance metrics for improved operations.”

Haseen Mazhar
Executive Director,
Enterprise System University Services

SHARED SERVICES

OVERVIEW

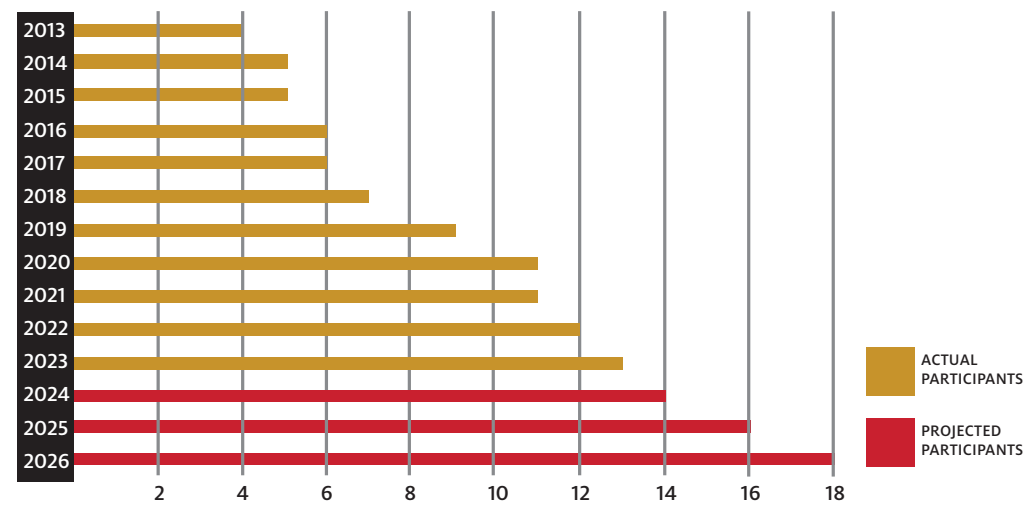
Shared services and common platforms are the foundation for cost optimization, bringing UH universities, colleges, divisions and central IT departments together to meet IT service expectations while achieving cost savings. The stakeholders collaboratively develop business processes and service level agreements that produce the greatest value to the University and the UH System.

A great accomplishment is the completion of Technology Reviews for almost all UH colleges. We will continue our efforts to assess technology services in new academic units like the College of Medicine and College of Nursing. In a broader context, UH shared best practices in establishing uniform, systemwide IT facilities standards at the international 2023 EDUCAUSE conference.



- 17** Technology Reviews for UH Colleges/Divisions
- 13** Annual IT Service Assurance Reports

Colleges, Divisions and Departments Enrolled in the Annual IT Service Assurance Program



SHARED SERVICES



CURRENT STATE

- Technology Managers (TMs) in each college and division implement IT policies and work with UIT service managers to create the optimal balance between central and specialized services for their units.
- Technology Reviews seek specific ways to improve the delivery of IT services within a college, division or system university. Since the program began in 2010, UIT has reviewed 10 colleges, five divisions (or sections of them) and all system universities.
- Completed Technology Reviews for the College of Business and the College of Architecture and Design.
- Completed annual IT Service Assurance reports for 13 colleges and divisions.

PATH TO SUCCESS

- Continue to identify and implement common technology platforms both across the campus and systemwide (e.g., PeopleSoft, Canvas LMS, Microsoft Teams telephony, Microsoft 365, website CMS and cloud storage). This will foster adoption of best practices and achieve greatest economies of scale and lowest total cost of ownership.
- Continue systemwide initiatives to deliver business value through unified processes for additional, key technical activities like IT security, network standards, enterprise infrastructure planning, IT assessments and best practices, change management, continuity of operations and IT management tools.

FY2025 INITIATIVES

- Conduct Technology Reviews for the College of Optometry and Graduate College of Social Work.
- Identify services that benefit most from economies of scale as possible candidates for the shared services model.
- Prepare annual IT Service Assurance reports for UH colleges and divisions.
- Seek opportunities to eliminate redundancy, reduce cost and improve standardization across the UH System through the use of emerging technologies such as Artificial intelligence (AI).

“Due to predicted nationwide changes in enrollment, we must vigilantly continue to pursue cost savings for our system universities.”

Rita Barrantes
 Director, Technology Services
 Technology Services and Support

DATA CENTER CLOUD INTEGRATION

OVERVIEW

Cloud technologies continue to deliver options for increased flexibility, scalability and cost-effectiveness for IT and business solutions. A comprehensive cloud strategy demands careful attention to integration considerations, data management, return on investment and security.

CURRENT STATE

- Higher education is increasingly adopting cloud technologies to replace conventional, on-premises service solutions. In many cases, these applications have become cloud-only offerings or have added a cloud version option. They often take the form of Software as a Service (SaaS), as opposed to merely lifting and shifting compute and storage workloads to hosted data centers.
- As cloud technologies proliferate, with more options and increased competition among providers, UIT is continuously evaluating the services available.
- The Office of the Provost, in partnership with UIT, has implemented Canvas LMS, SaaS that provides students with a comprehensive, accessible and flexible online Learning Management System.
- Other important functions have moved to cloud services recently. UH business process owners are increasingly considering such SaaS options.

Examples of Business Functions Recently Moved to Cloud Services

BlackBaud — Constituent Relationship Management	CrowdStrike — Endpoint Protection
PageUp — Talent Acquisition and Onboarding	InTune — Software Distribution
Atrium — Cougar Card Management	Crow Canyon — IT Service Desk
Slate — Enrollment Processing	Canvas — Learning Management System

- In 2024, UH replaced the Anywhere365 call center application with an MS Teams-compatible cloud solution called Genesys Contact Center.
- UIT actively works to lower the operational cost of maintenance and licensing by consolidating server functionality where appropriate and by retiring older systems.

DATA CENTER



PATH TO SUCCESS

- Lead and advise in the transition of services to cloud resources. While the rapid expansion of cloud-based services makes it easier and more tempting for individual departments to negotiate directly with vendors, UIT’s technical expertise and enterprise-wide perspective continue to play a key role in helping decision makers find the right fit for integration, optimize resource requirements and achieve seamless interoperability with existing applications and business functions.
- Maximize consistency and economies of scale. UIT will achieve this by fostering standard criteria and selection processes, helping create cost/value assessments and being a trusted advisor to UH departments.

FY2025 INITIATIVES

- Emphasize strategic rather than transactional vendor relationships to maximize return on investment.
- Make business process redesign an integral, preliminary step when replacing a technology solution or considering a move to the cloud.
- Promote and lead the definition of a business process redesign strategy that spans functional unit boundaries by engaging multiple units where applicable.

“UIT continues to partner with business owners to identify and implement cloud services that increase investment value, customer service and user productivity while lowering overall costs.”

Keith Martin
Assistant VP/VC
Enterprise Systems

	TOTAL SERVERS			
	Physical	Virtual (Cloud)	Total	% Cloud
2024	32	621	653	95%
2021	125	775	900	86%
Reduction in Servers <i>(lower operating costs)</i>	74% ↓	20% ↓	27% ↓	

ACADEMIC TECHNOLOGIES

OVERVIEW

Universities rely on robust, scalable infrastructure to support innovative learning models that became prominent during the pandemic and continue to expand. Classroom and online functionality are evolving to accommodate new features, integrations and emerging pedagogical approaches.

CURRENT STATE

- Support over 160 UH general purpose classrooms located in 18 buildings. Ongoing maintenance is necessary for classroom educational technologies that include projectors, computers, smart podiums, videoconferencing equipment and other technologies used in the classroom.
- Migrated all general purpose classrooms to a common technology platform.
- Basic HyFlex technologies added to over 300 classrooms including all general purpose classrooms.
- 50 multimodal classrooms which include advanced HyFlex functionality were installed in buildings throughout the main campus, UH at Sugar Land and UH at Katy locations.
- A multimodal development and testing classroom was installed for use by faculty to support professional development, course content creation, and technology testing.
- Published Audiovisual design standards to provide consistent learning spaces throughout the campus.
- Restructured the academic support team to increase classroom support and help faculty improve skills with instructional technologies.
- Transitioned from the Blackboard learning management system to Canvas to better support students with special learning needs.



By the Numbers (2024)

160	General Purpose Classrooms Supported
736	Maintenance Visits
313	Equipment Distributions
366	Support Requests
66	Training Requests



PATH TO SUCCESS

- Collaborate with academic leaders at the individual, departmental, institutional and system level to identify critical technologies.
- Collaborate with Facilities over the next six to eight years as part of the Classroom Refresh initiative to renovate classrooms with the latest technologies.
- Collaborate with departmental technology staff to standardize technology and its support processes to provide consistent faculty experience.

FY2025 INITIATIVES

- Engage faculty members and key instructional partners to collaborate and guide the development of new learning spaces.
- Transition general purpose classrooms to remote monitoring, diagnostic and maintenance applications to allow for real-time remote classroom support.
- Provide remote monitoring and support tools to departmental IT support staff.
- Offer faculty development programs focusing on use of classroom and online learning platforms to engage students in the traditional classroom environment, online and in hybrid learning.
- Promote new technologies that support Microsoft Teams and Zoom.
- Transform general purpose classrooms by implementing technology enhancements.

ACADEMIC



“We continue to upgrade academic technologies to support innovative, hybrid learning models, focusing on scalable infrastructure, multimodal classrooms, and standardized, adaptable environments.”

Leroy Mays

*Director, IT Customer Services
Technology Services and Support*



94 Equipment Repairs

100% of Repairs Completed Within 24 Hours

ARTIFICIAL INTELLIGENCE (AI) INTEGRATION

OVERVIEW

Artificial intelligence (AI) is a powerful and innovative technology with high potential impact. AI also poses ethical, legal and social implications that the University needs to anticipate and address, ensuring that AI is used in a responsible and beneficial way. Establishing an AI Center of Excellence (CoE) is necessary to create a foundation to deliver high-quality AI services, set guardrails and define best practices across the UH community. The leading AI service is an AI-based chatbot. Chatbots help build the kinds of relationships that are critical in driving retention, reducing summer melt and improving graduation rates at universities that implement them effectively.

CURRENT STATE

- Ocelot, an AI chatbot, is being used on campus, but only sparsely.
- The Office of the Provost held a conference in Spring 2024 regarding the use of AI in academics and research.
- Proliferation of AI generative assistants is growing on campus — Copilot, ChatGPT, Otter AI and others — but many in our community do not know the best way to incorporate them into the workplace.



PATH TO SUCCESS

The AI Center of Excellence will promote AI literacy, consult, facilitate, collaborate, lead in the development of policies and best practices, and provision AI technologies “as a service” to the broader organization. In this way, the COE will enable units to deliver value through the use of Artificial Intelligence to four targeted constituency groups: students, faculty, staff, and research departments.

This effort will:

- Enable the organization to drive AI-powered innovation for conversational and digital assistant capabilities.
- Promote conversational AI adoption across the organization, while also mitigating risk.
- Help clients to integrate conversational AI into their services and processes.
- Transform AI into a business value driver by identifying, prototyping and delivering AI capabilities that are expected to produce measurable results.
- Accelerate speed to value of AI to the organization.
- Communicate the value of AI and the AI CoE’s role to the rest of the organization.

FY2025 INITIATIVES

- Create an IT AI Center of Excellence led by the AI Solutions Manager to help deliver services through the new Ivy.ai chatbot.
- Deploy AI-based chatbot pilot within Enrollment Services and then to all departments and colleges.
- Create an AI acceptable use policy that complies with Texas House Bill 2060.
- Document best practices for administrative use of AI generative assistants.



“The opportunities that AI will bring our community are truly exciting. We will be able to meet the students where they are by providing information and services through our chatbot. It will transform the way we do business at the University of Houston.”

Diane Trippel

Director, Web & Communications Technology Services and Support

EXPANDING ACCESS: REMOTE LEARNING AND UH GO (MOBILE APP)

OVERVIEW

Universal access requires meeting students where they are, both on- and off-campus. As universities improve on the innovations brought by the pandemic, they must shrink the digital divide by employing inclusive and accessible design and by expanding the reach and utility of IT services provided.

UH Go is the single source for official university mobile app features at UH and serves the student audience as its top priority. For today's students, the smartphone is the preferred technology for information, education, social life and community interaction. The app provides innovative, personalized tools and resources in the palm of the hand to help them at every step, from recruitment to graduation and beyond.

CURRENT STATE

- Expanded availability of technology in classrooms across UH Main, Sugar Land and Katy campuses to increase adoption of distance learning options.
- UIT assumed operational control of UH Go in the summer of 2024.
 - Dozens of services have been integrated into UH Go. The newest include a personalized chat experience for new student orientation, the Bikeep bicycle parking system, texting UHPD, FIXIT and personalized campus housing information.
 - User experience improvements:

2023	Personalized user experience including Cougar Card on home screen
	Alumni persona and login enhancements
	Display personalized account information in the IT Support Center for logged-in users
2024	Single click to login and change personas on Visitor and Future Student pages

TOP 5 MOBILE APP SERVICES BY USAGE

1. Student Home — 2,826,923
2. Message Center — 2,296,380
3. Faculty/Staff Home — 479,810
4. Grade Center — 413,989
5. Cougar Card — 370,001

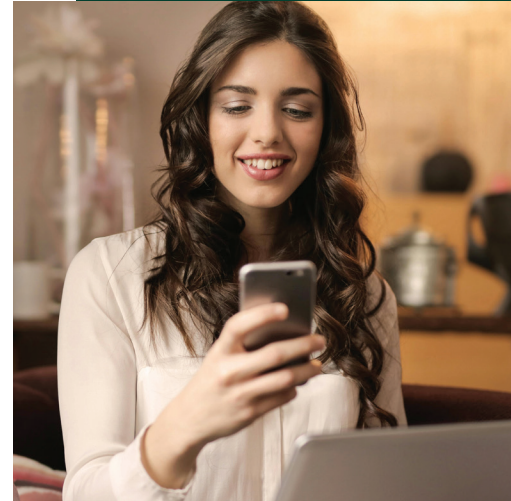
Number of Views (June 2023-June 2024)

USER SATISFACTION

	2021	2024
Google Play	3.8	4.0
App Store	3.5	4.4

SCREEN VIEWS

	FY2022	FY2023	FY2024
	522,327	1,174,076	1,233,386



PATH TO SUCCESS

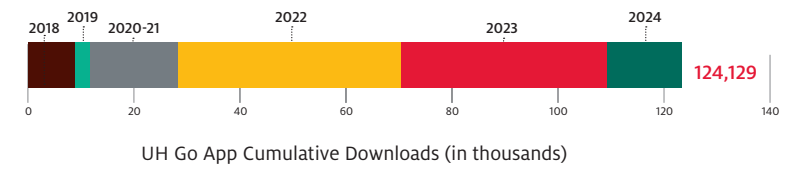
- Leverage technology to increase access to courses, regardless of the student's geographical location.
- UH Go has four primary goals: (a) support student success, (b) empower stakeholders, (c) leverage data and reporting to guide strategy, and (d) promote the app.
 - Enhance the app by providing more personalized content and engaging activities to encourage frequent use.
 - Enable stakeholders to build and manage their content and deliver messages to targeted interest groups.
 - Build tools and gather data at a more granular level to support data-driven decision making.
 - Increase app awareness and visibility through marketing and collaboration with departments to make the app an essential tool for student engagement.

FY2025 INITIATIVES

- Remote Learning
 - Introduce new faculty support programs and resources to improve instructional use of classroom technology that focuses on expanding access through high-quality multimodal and online delivery.
 - Gather data from remote students to provide insights into their needs and challenges to help drive decision-making regarding technology requirements and adoption.
- UH Go
 - Integrate a new chatbot into the app.
 - Make navigation more intuitive, incorporating contextual cues to find information and services efficiently.
 - Continue to build on personalized experience by providing data at-a-glance (for example, class schedules, grades, financial information).
 - Boost user engagement with gamification and user incentives.
 - Improve data collection and analysis to guide the design process.

"The pandemic emphasized the need for universities to provide inclusive, accessible services to students regardless of their location or digital divide challenges. Integrating mobile-friendly platforms, inclusive design and flexible access is crucial for student success."

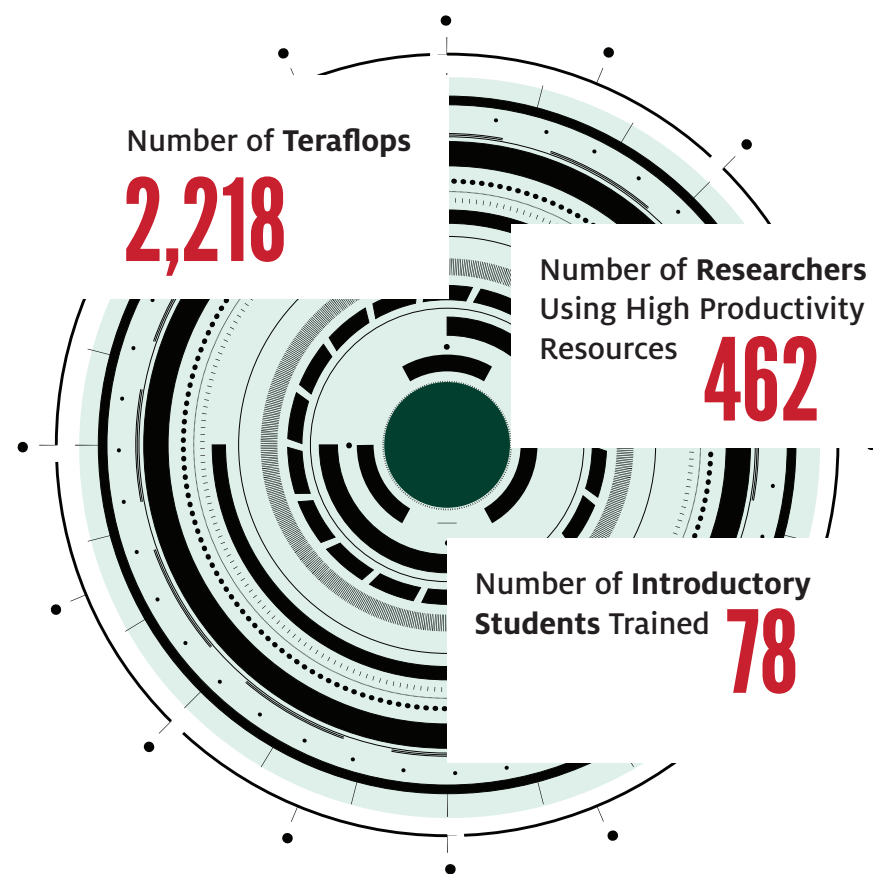
David Johnson
Assistant VP
Technology Services and Support



RESEARCH COMPUTING

OVERVIEW

Maintaining our status as a nationally recognized public research university requires supporting the research community's intensive computational initiatives by providing technical expertise and high-performance computing resources.



CURRENT STATE

- The UIT High Performance Computing (UIT-HPC) group provides infrastructure support and system administration to both computational and storage equipment for new clusters located in the RCDC (Research Computing Data Center) as well as legacy equipment housed in the University Colocation Center.
- UIT continues to integrate more closely with the Division of Research in evaluating grants which require High Performance Computing resources.

PATH TO SUCCESS

- Continue the partnership between UIT-HPC and HPE DSI (Hewlett Packard Enterprise Data Science Institute) to propel UH research by reducing barriers to entry for new researchers interested in High Performance Computing, especially those in less represented areas like arts/humanities, social sciences and business.
- Continue outreach of training programs to ease the onboarding process for users new to High Performance Computing.

FY2025 INITIATIVES

- Continue working with the research community to evaluate new developments in hardware and software.
- Support the continued growth of the Cluster Partnership Program with the HPE DSI to provision resources from start-up funds and grants in a highly efficient and cost-effective manner within the existing public clusters at the University.
- Poll existing customer base to begin development of a proposal for the next generation HPE DSI research cluster.
- Enhance entry-level introductory course for new users of HPC resources.

RESEARCH



"HPC resource requests continue to grow dramatically, with ever-increasing demands both in traditional computing fields such as fluid dynamics and molecular modeling and in newer areas such as deep learning and artificial intelligence."

Keith Crabb
Manager, Enterprise Computing High Performance Computing Network

INTERNET OF THINGS (IoT)


OVERVIEW

Internet of Things (IoT) represents a powerful integration of UIT infrastructure and networked devices. At its core, IoT is a blend of personal devices such as smartphones and laptops, and networked appliances like card readers, cameras, duress alarms and wearables. The UIT network is the enabling platform for IoT, providing seamless communication and data exchange with the cloud and between the IoT devices themselves.

The UIT network infrastructure enhances the efficiency and cost-effectiveness of IoT implementations by eliminating or reducing proprietary communication cabling and control systems. The shared platform enables the use of common monitoring and maintenance personnel with specialized expertise, ensuring the reliability and performance of this integrated system. Two examples of UH units where we support significant IoT initiatives are Campus Safety and Athletics.

CURRENT STATE

- Replacing obsolete analog cameras with IP models. This will remove the need for specialized infrastructure in favor of the university's standard network.
- Installing Power over Ethernet (PoE) duress alarms that directly connect to and are powered by the network. This reduces the need for system-specific alarm control panels, cabling, power supplies, programming and specialized support personnel.
- Replacing traditional, landline emergency phones with digital network models.
- Migrated security camera servers from a distributed architecture to a centralized, enterprise architecture at the UH Computing Center.
- For Athletics, the Wi-Fi network connects wearables to applications like Catapult Vector Pro, which tracks the location of football athletes, their heart rate, velocity and proper techniques, and assists with real-time rehabilitation of injuries.
- On game days, Wi-Fi access points are used in Athletics venues for ticket scanners. Data is uploaded into Paciolian databases to track entry and total attendance numbers in real time.
- ShotTracker sensors are installed in basketballs, allowing for live tracking of the ball's location on the court, shot and shot results, and real-time calculation of statistics. The Big 12 Conference and its TV broadcasting partners use this technology for every team during games.



Over 3,200 IP SECURITY CAMERAS including **111** Automatic License Plate Recognition (ALPR) cameras, installed on campus and remote locations.



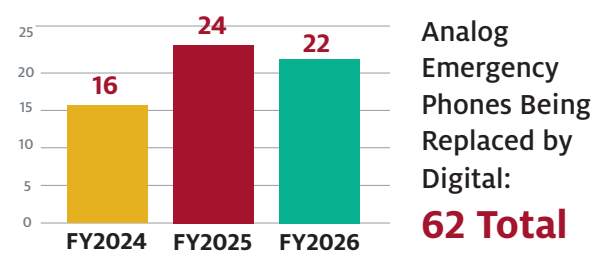
316
Centrally Managed
DIGITAL SIGNS
UH Main Campus

PATH TO SUCCESS

- Continue to transition from equipment that relies on proprietary communications systems to networked devices that are part of the greater IoT. Sharing infrastructure will consume less power, reduce our cabling footprint and drive down operating costs.
- Maintain and grow our partnerships with units like UHPD, Emergency Management, Athletics, Parking and Transportation, and Student Housing to support their goals by deploying IoT systems that are proven, innovative and integrated.

FY2025 INITIATIVES

- Continue expanding the security camera network to cover bike racks and capital projects such as the Agnes Arnold renovation, Cullen Boulevard lighting, parking lot repaving and McElhinney renovation.
- Replace the remaining traditional emergency phones with digital, network phones.
- Replace wireless duress alarms with PoE hardwired buttons and remove the power-hungry back-end system in favor of the UIT network infrastructure already in place.
- Migrate to a Physical Security Information Management platform to create intelligent systems capable of providing useful real-time alerts.
- Continue supporting Athletics initiatives that need innovative use of technologies to remain competitive.



ANALOG CAMERAS

Replaced by Digital Models: **128**

61 Still to Go (189 Total)



"In essence, IoT backed by a robust UIT network is paving the way for smarter, more connected environments."

Chuck Way
Director,
Campus Safety Systems

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Thank you to these members of the UH community for their thoughtful contributions to this project. Their effort was essential to define and rank IT strategic priorities that will best advance the University's mission in fiscal years 2025-2029.

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