Introduction

The University of Alabama, which was founded in 1831 as Alabama’s first public college, is a major, comprehensive student-centered research university. Dedicated to excellence in teaching, research, and service, the University provides a creative, nurturing campus environment where students can become the best individual possible, learning from the best and brightest faculty and making a positive difference in the community, the state, and the world.

Over 33,000 students attend the University, which offers bachelors, masters, and doctoral degrees in more than 200 fields of study.

The Office of Information Technology (OIT) supports the information technology and telecommunications infrastructure including networks and computer systems, and the application software that serves over 37,000 faculty, staff, and students at the University.

This Annual Work Plan summarizes OIT’s strategic directions and the activities, initiatives, and projects that are either in progress or currently planned. It serves as the primary blueprint as the office moves forward in its effort to provide innovative and effective information technology solutions to the University community.

Mission and Objectives

Our Mission
The Office of Information Technology facilitates research, enhances instruction, and supports administrative operations by providing quality leadership, services, and resources in information technology.

Our Vision
The Office of Information Technology will be a responsive and responsible customer-centric organization that enables and empowers the University of Alabama community to effectively accomplish its goals through the use of technology.

Our Strategic Goals
- Ensure the quality of information technology services for all of the University community through expanded resources and infrastructure.
- Enhance the research mission of the University through technology innovations and expanded capabilities.
- Enrich educational experiences through technology to promote student success and faculty excellence.
- Engage the community beyond the University of Alabama campus and build global initiatives.
- Establish an environment that supports the development of the technology organization.
Ensure the quality of information technology services for all of the University community through expanded resources and infrastructure.

a. Ensure a standards-based, high performing wired and wireless, campus area and wide area network environment for the students, faculty, and staff of UA in support of the University mission.

i. **Objective:** Continue to enhance the performance, resiliency, and capacity of the campus area network.
**Audience:** All campus computing system users, faculty, staff, and students.
**Status:** Ongoing. Core network switches are in place and most core connection are in place and operational.

ii. **Objective:** Ensure the continued performance, resiliency, and capacity of the wide area network.
**Audience:** OIT management, faculty, staff, and students.
**Status:** Ongoing. Secondary, geographically diverse network circuit is in place and operational.

iii. **Objective:** Enhance and maintain the wireless network.
**Audience:** OIT management, faculty, staff, and students.
**Status:** Ongoing and project-based activity as demanded. Specific improvements to areas with coverage or density issues have been performed including a major increase in wireless density for Bruno Library.

iv. **Objective:** Continue to modernize and improve the distributed network infrastructure in wiring closets across campus.
**Audience:** OIT management, faculty, staff, and students.
**Status:** Ongoing. 125 communication closets have been cleaned, 184 UPS’s have been replaced or refitted.

v. **Objective:** Complete the transition to new Virtual Private Network (VPN) and Internet Protocol Addressing Management (IPAM) solutions.
**Audience:** OIT management, faculty, staff, and students.

vi. **Objective:** Provide design standards for all construction projects and ensure the implementation of communication services to these projects.
**Audience:** Faculty, staff, students and construction project managers and contractors.
**Status:** Ongoing. Major construction projects completed since December 2012 include South Engineering Research Center, Campus Police Center, Presidential 1, Moore Hall, Russell Hall addition, 3 building on the Bryce Property, 3 fraternity houses, 1 sorority house and several renovation projects. All of these projects included UA communication services.

vii. **Objective:** Provide fiber infrastructure for WVUA and Athletic venues.
**Audience:** WVUA and Athletic Staff.
**Status:** Phase I which included 12 locations completed June 2012. Phase II to be completed Fall 2012.
b. Improve data center physical condition, energy efficiency, HVAC efficiency and operational practices.

i. **Objective:** Complete the modernization and improvements to the power distribution system.  
**Audience:** OIT management, faculty, staff, and students.  
**Status:** Completed June 2012.

ii. **Objective:** Complete the implementation of an overhead cable distribution system.  
**Audience:** OIT management, all enterprise systems and network users.  
**Status:** Ladder rack completed June, 2012. Re-cabling ongoing through June, 2013.

iii. **Objective:** Complete the migration to new high-density racks for all rack mounted electronics.  
**Audience:** OIT management, all enterprise systems and network users.  
**Status:** Ongoing – completion date is December, 2012.

iv. **Objective:** Implement security cages for 3rd party and specialized equipment needs.  
**Audience:** OIT management, all enterprise systems and network users.  
**Status:** Cages installed September 2012, secured door access to be completed November, 2012.

v. **Objective:** Implement video surveillance system in the data center.  
**Audience:** OIT management, all enterprise systems and network users.  
**Status:** Surveillance system installation completed April, 2012. Activity records will be completed October, 2012.

vi. **Objective:** Implement new air flow management controls to optimize HVAC and energy consumption.  
**Audience:** OIT management, all enterprise systems and network users.  
**Status:** Enclose cold-isles will be completed July 2013 and duct racks to warm air returns will be completed December, 2013.

vii. **Objective:** Complete the transition of the 60 ton chiller unit to generator-backed power.  
**Audience:** OIT management, all enterprise systems and network users.  
**Status:** Project completion date is project January, 2013.

viii. **Objective:** Remove legacy wiring from under-floor area.  
**Audience:** OIT management, all enterprise systems and network users.  
**Status:** Upper level is completed. Lower level will be completed June, 2013.

ix. **Objective:** Implement new backup strategy.  
**Audience:** OIT management, all enterprise systems and network users.  
**Status:** The implementation of off-site storage backup utilizing hardware level data replication has been completed. New backup strategy has been developed. Complete transition is expected to take 18 months.

x. **Objective:** Implement the Continuity of Operations Plan.  
**Audience:** OIT management, faculty, staff and students.  
**Status:** Foundation services have been implemented and network integration has been completed. Planning for application deployment at the remote facility is underway and is expected to be completed over the next 12 months.
c. The Project Management Office will support consistent practices for OIT, enabling project leaders to successfully deliver promised value to their customers.

   i. **Objective:** Plan, control, and lead projects effectively and efficiently so that each will achieve its approved objectives.  
   **Audience:** OIT management, faculty, staff, and students  
   **Status:** Ongoing. Over 100 projects involving OIT resources were completed in the past 12 months. Currently there are 101 active projects on the project portfolio.

   d. Review and maximize the potential of new and innovative technologies and their benefit to the University.

   i. **Objective:** Support the implementation of the Argos business intelligence capability.  
   **Audience:** OIT management, departmental system users  
   **Status:** Will be completed December 2012.

   ii. **Objective:** Continue the rollout of the TideShare enterprise collaboration platform.  
   **Audience:** OIT management, all enterprise system users  
   **Status:** Ongoing.

   iii. **Objective:** Continue to progress with the enhancements of the Common Directory of faculty/staff person and location information.
   **Audience:** OIT management, all enterprise systems and network users  
   **Status:** Will be completed June, 2013.

   iv: **Objective:** Provide application support and development to campus.  
   **Audience:** OIT management, all enterprise systems and campus users.  
   **Status:** Ongoing. Completed in the past 12 months - Hardware/Software migrations include Banner, Action Card and DegreeWorks. There were several SQL Server 2008 migrations and Oracle 11gR2 migrations. Application upgrades include Scholarship Awarding system, Digital Signage, Kbox, fsaAtlas, and Titanium. Several development projects include Parking permits awards, Mobile apps, Orientation, Financial Aid and Housing changes. New implementations include MyFootball Ticket, Learn9, Undergraduate Admissions application, Clean Address, Imaging System, Sharepoint Environment and Morse Keywatcher. Enterprise Application and Development team provides support for 90 applications, 35 integration tools, 60 oracle databases and 132 databases for the campus.

   e. Continue the transition to Voice over Internet Protocol (VoIP) and Unified Communications solution architecture to meet future telecommunications needs.

   i. **Objective:** Continue tactical VoIP deployments to achieve economies and/or improved telecommunications services.  
   **Audience:** OIT and selected building occupants or departments.  
   **Status:** Ongoing. VoIP was implemented to all of OIT staff located in Gordon Palmer Hall in March 2012. The new Public Safety building had VoIP services installed in May 2012. VoIP has been installed in Moore Hall, Russell Hall and Presidential in August 2012. Deployment will continue at off-campus locations, Bryce Property and as new building’s construction are completed.
ii. **Objective:** Transition all voicemail users from unsupported Call Pilot to Cisco Call Unity.
**Audience:** Campus voicemail users.
**Status:** Ongoing. Project completion is scheduled for Spring 2013.

f. **Enhance campus safety through a campus-wide alert system.**

i. **Objective:** Continue to provide infrastructure and support for the operation of the campus-wide alert system.
**Audience:** UA students, faculty, staff, and visitors.
**Status:** Ongoing. 38 Residential halls, 12 academic buildings and 5 outdoor locations were completed by February 1, 2012. OIT provided infrastructure technicians to install wiring and speaker for these locations and worked with the AV Solutions team to complete this project ahead of schedule.

**g. Develop and maintain comprehensive security policies and monitor compliance with those policies.**

i. **Objective:** Develop a comprehensive set of security policies to encompass regulatory requirements and meet the needs of the University.
**Audience:** All campus computing system users, faculty, staff, and students.
**Status:** Ongoing, reviewing and revising Health Insurance Portability and Accountability Act (HIPAA) policy, and Payment Card industry (PCI) policy.

ii. **Objective:** Continuously evaluate compliance with University policy.
**Audience:** OIT management, faculty, staff, and students.
**Status:** Ongoing, continuously assessing (HIPAA) and (PCI) compliance, as well as research compliance.

h. **Provide defense-in-depth through strong perimeter protection.**

i. **Objective:** Create internal and external border perimeter defense.
**Audience:** UA systems and users.
**Status:** Ongoing. Border firewalls are in place, data center firewalls in place, disaster recovery firewalls in place. Implementing rules as the new network infrastructure is deployed. Continuous enhancements are made to intrusion detection and intrusion prevention to monitor and block malicious activity targeting the UA network. October 2012, we are adding redundancy at our second ingress/egress point.

ii. **Objective:** Create a system change control monitoring defense.
**Audience:** UA systems and users.
**Status:** Tripwire deployment completed, enhancements to monitoring process will be made by January, 2013, Risk Advisor to be deployed on critical systems and desktops by June 2013.

i. **Provide Identity and access management capabilities.**

i. **Objective:** Provide identity and access management for Banner administrative users. Monitor all identity and access management to critical University resources.
**Audience:** All faculty, staff and students.
**Status:** Migrate from third party Banner distributed security to Banner distributed security by December 2012.
ii. **Objective:** Provide confidentiality via email encryption.  
**Audience:** OIT management, faculty and staff.  
**Status:** Ongoing, capabilities in place for critical resources, new capabilities are being evaluated and will be in place by August 2013.

iii. **Objective:** Provide confidentiality via hard drive encryption.  
**Audience:** UA laptop computers and critical desktops.  
**Status:** Ongoing with over 1400 hard drives encrypted, review new technology for full hard drive, file and folder encryption, review to be completed by November 2012.

iv. **Objective:** Provide critical file monitoring capabilities.  
**Audience:** UA users with access to critical and confidential data including research data.  
**Status:** Ongoing deployment of Data Loss Prevention (DLP) from (enterprise Policy Orchestrator (ePO).

j. Improve and maintain an efficient network security infrastructure using sound policies and practices for students, faculty, and staff in support of the mission of the University.

i. **Objective:** Enhance the security of the UA wireless network.  
**Audience:** All faculty, staff, and students with wireless devices.  
**Status:** Ongoing, pre-shared key capability completed in August, 2011, Wireless Protocol Access (WPA2) Enterprise was deployed in August, 2012 and will be fully operational by January 2013.

ii. **Objective:** Enhance the security of the UA wired network.  
**Audience:** All faculty and staff wired computer systems.  
**Status:** Ongoing, implementing Multiprotocol Label Switching (MPLS) network to isolate critical University traffic such as Medical Center, Finance, Athletics, PCI credit card processing, and research as the new network is deployed. Utilize new MPLS network Virtual Routing Facilities as the new network is deployed.

iii. **Objective:** Upgrade remote access security Virtual Private Network (VPN) capabilities.  
**Audience:** All faculty and staff remote users.  
**Status:** September 2012. License was increased to accommodate more users, with rapid growth capabilities in the event of an emergency. Primary VPN system will be in the OIT Data Center, Secondary will be located at Ridgecrest. Disaster Recovery will also have VPN capabilities. This will also implement two-factor authentication for OIT administrators and, for regulatory compliance, PCI administration.

iv. **Objective:** Upgrade forensic capabilities to aid in computer incident investigations.  
**Audience:** OIT Forensic investigators, Legal, Human Resources, UA Police Department.  
**Status:** June 2012. OIT is utilizing Forensic Tool Kit (FTK) from Access Data to image, index and search data as needed.

k. Perform risk and vulnerability assessments.

i. **Objective:** Monitor risk through the assessment of our systems’ vulnerabilities to external attack. Remediate vulnerabilities in a timely fashion.  
**Audience:** All UA servers.  
**Status:** Ongoing. New vulnerability system to be installed October 2012. Assess system vulnerabilities on a quarterly basis.
ii. **Objective:** Assess the risk of our systems through evaluation of system health (updates, releases, patches), and through configuration.

**Audience:** OIT managed systems, distributed systems as requested.

**Status:** Ongoing Tripwire assessment of over 500 OIT managed systems weekly. Tripwire will be reviewed and modified by March 2013. Kbox performs an assessment of system health weekly. Enterprise Policy Orchestrator (ePO) Risk Advisor will be utilized to monitor our most critical systems beginning April, 2014.

**Enhance educational experiences through technology to promote student success and faculty excellence.**

a. **Continue to support CIT in the implementation of the new Learning Management system.**

   i. **Objective:** Assist in the implementation of the new Learning Management System.
   **Audience:** UA students, faculty, and staff.
   **Status:** Ongoing. OIT has partnered with CIT on this project. Project initiated in the Fall 2011 and is now ahead of schedule with more than 80% courses currently on Learn9.

   ii. **Objective:** Decommission old eLearning application and servers.
   **Audience:** UA students, faculty, and staff.
   **Status:** Will be completed after the Spring 2013 semester ends.

b. **Provide support for the UA Technology Accessibility Plan.**

   i. **Objective:** Participate in the ADA Technology Accessibility Committee.
   **Audience:** UA students, faculty, and staff.
   **Status:** Starting Fall 2012.

   ii. **Objective:** Assist with the technology accessibility audit.
   **Audience:** UA students, faculty, and staff.
   **Status:** Starting Fall 2012.

c. **Provide administrative support for teaching and research enterprise software licensing and applications.**

   i. **Objective:** Continue to partner with the various colleges and departments to assess needs, procure, and distribute software.
   **Audience:** UA colleges and departments.
   **Status:** Ongoing. In December 2011, an upgrade to the Autodesk Master Education Suite site license was completed securing certain rights essential to teaching and academic objectives, as well as, administrative needs. This endeavor included collaboration between the College of Engineering, College of Human Environmental Sciences, College of Arts & Sciences, University Libraries, and Construction Administration. By completing the upgrade within the Autodesk promotion period, the University saved approximately $17,000 in one-time licensing costs. A SAS site license was secured in June 2012. Previously SAS was licensed on a named user basis, and was not available to students on personal devices. With the migration to a site license, SAS can now be offered to current students and faculty for teaching and research purposes on University-owned and personal devices. Currently in progress are negotiations for a Turnitin multi-year system-wide license. The agreement pricing and license structure
of the negotiations have been successfully completed. Only the legal review remains to be finalized. The new system-wide agreement will save the University approximately $37,000 over three years.

ii. **Objective:** Establish a software download site to improve software distribution channel.  
**Audience:** UA students, faculty, and staff.  
**Status:** Starting Fall 2012.

**Enhance the research mission of the University through technology innovations and expanded capabilities.**

a. **Deliver advanced research computing resources to institutional researchers.**

i. **Objective:** Continue to grow the utilization of the new High Performance Computing (HPC) services platform and implement effective research computing support services.  
**Audience:** UA research community.  
**Status:** Ongoing.

ii. **Objective:** Advocate for and support the implementation of a Global Energy Network Institute (GENI) rack for network research.  
**Audience:** UA research community.  
**Status:** Ongoing. Equipment being scheduled for delivery to UA campus.

iii. **Objective:** Participate on research committees.  
**Audience:** UA research community.  
**Status:** Ongoing. Participate on and support the Research Advisory Committee, ITRAC and Special Interest Groups.

iv. **Objective:** Provide technology support for data management planning for research initiatives.  
**Audience:** UA research community.  
**Status:** Ongoing. Established Research Data Management Planning group.

v. **Objective:** Provide Internet 2 and National Lambda Rail capabilities to the research community.  
**Audience:** UA research community.  
**Status:** Ongoing.

**Engage the community beyond The University of Alabama campus and build global initiatives.**

a. **Increase participation on community initiatives.**

i. **Objective:** Increase awareness of UA’s InCommon membership and establish Shibboleth services to facilitate inter-collegiate research collaboration.  
**Audience:** UA administration, researchers and selected external groups.  
**Status:** Ongoing. Shibboleth services implemented Summer 2012 and now provides the capability to interface with Data Management Plan tools required for Research.
ii. **Objective**: Participate on the ConnectingALABAMA Initiative  
**Audience**: UA Administration, educational and community partners within Alabama.  
**Status**: Ongoing. Participating in this project focusing on Tele-medicine and Tele-health initiatives within the State of Alabama.

iii. **Objective**: Participate on the Alabama Supercomputer Authority committee.  
**Audience**: Alabama K12 and Higher Education representatives.  
**Status**: Ongoing.

iv. **Objective**: Increase awareness of Internet 2 and National Lambda Rail collaborative capabilities for research and education.  
**Audience**: UA administration, researchers and selected external groups.  
**Status**: Ongoing.

**Establish an environment that supports the development of the technology organization.**

a. **Support good corporate governance and oversight within OIT by establishing and publishing written policies and procedures for each major business office function.**

   i. **Objective**: Develop policies and procedures for major business office functions.  
   **Audience**: OIT management and staff.  
   **Status**: Ongoing, many policies and procedures have been documented and published for OIT staff.

b. **Maintain reliable financial data and improve financial reporting so that allocated and available funds can be used effectively and efficiently.**

   i. **Objective**: Gather, collect and store financial information so that it can be analyzed and reported.  
   **Audience**: OIT management.  
   **Status**: Ongoing.

   ii. **Objective**: Communicate budget results.  
   **Audience**: OIT management and staff.  
   **Status**: Reported monthly.

c. **Provide OIT staff with cost-effective opportunities for personal/professional development.**

   i. **Objective**: Assess training, education, and certification needs.  
   **Audience**: OIT management.  
   **Status**: Ongoing.

   ii. **Objective**: Evaluate effectiveness of in-house professional development offerings for future improvements in content/delivery method/scheduling options.  
   **Audience**: OIT management.  
   **Status**: Ongoing.
iii. **Objective:** Develop and/or coordinate in-house training workshops to be offered in throughout the year.
**Audience:** OIT management, technical staff.
**Status:** Cisco Academy started Fall, 2011 and continued in the Spring for OIT staff. Groovy Grails training was started in Fall, 2011 and has been ongoing weekly for application support staff.

iv. **Objective:** Utilize Skillport resources.
**Audience:** OIT management, OIT staff.
**Status:** Ongoing – OIT is the largest area utilizing Skillport for staff development.

d. **Implement on-line Objectives and Development Planning Form.**

i. **Objective:** Provide beta testing and implementation of on-line Objectives and Development Planning Form for Human Resources.
**Audience:** HR, OIT management and staff.
**Status:** Completed within the timeline for the Annual Performance Evaluation for 50% OIT Staff.
Glossary

**Virtual Private Network (VPN)** - technology for using the Internet or another intermediate network to connect computers to isolated remote computer networks that would otherwise be inaccessible.

**Internet Protocol Addressing Management (IPAM)** - a means of planning, tracking, and managing the IP address space used in a network.

**Business Intelligence** - ability of an organization to collect, maintain and organize knowledge to support better business decision-making.

**Tideshare** - UA’s Sharepoint collaboration software used for content management, search, and sharing for intranet and internet sites

**Common Directory** – a directory that obtains data from multiple systems of record across campus in order to establish a single, common, accessible and comprehensive contact directory.

**Voice over Internet Protocol (VoIP)** – communication protocol technologies, methodologies, and transmission techniques involved in the delivery of voice communications and multimedia over the networks.

**Health Insurance Portability and Accountability Act (HIPAA)** - provides federal protections for personal health information held by covered entities and gives patients an array of rights with respect to that information.

**Payment Card Industry (PCI)** - is an information security standard for organizations that handle cardholder information for the major debit and credit cards.

**Firewalls** – software and hardware used to keep a network safe by controlling incoming and outgoing network traffic.

**Tripwire** – computer system configuration and change management monitoring tool.

**Enterprise Policy Orchestrator (ePO)**- Management tool used to deploy McAfee antivirus software to campus computers and servers

**High Performance Computing (HPC)** – high performance computing used in research and development in computer and computational sciences

**Global Energy Network Institute (GENI)** - focused on researching the development of transmission and distribution networks as a viable option to meet global energy requirements

**Internet 2** - not-for-profit advanced networking consortium that leverage high-performance network, enabling services and worldwide partnerships to support and enhance educational, research and community service missions.

**National Lambda Rail** – high-performing, 12,000 mile innovation platform for a wide range of academic disciplines and public-private partnerships.

**InCommon** - provides a secure and privacy-preserving trust fabric for research and higher education.

**Shibboleth** – federated identity solution, connecting users to applications both within and between organizations.

**Data Management Plan** – document that outlines how data will be managed for research
Connecting ALABAMA Initiative – a multi-year initiative promoting the availability and adoption of broadband Internet access throughout the state of Alabama.

Skillport – provides learning solutions through courseware and books offered by UA’s Human Resources