AVP/CIO: 
Brian T. Nichols, Associate Vice President for Administration & IT and CIO

Office of the CIO:
  Human & Financial Resources Officer: Susan T. Crochet
  Communications & Planning Officer: Sheri J. Thompson
  LOUIS: Sara Zimmerman, Executive Director
  LONI: Lonnie Leger, Executive Director

Information Technology Services:
  User Support & Student IT Enablement:
    Pam Nicolle, Executive Director
    Michael P. Smith, Director, Technical Services
    Stacey B. Morales, Director, Customer Service
    Buddy Ethridge, Director, Academic Technology Services

University Information Systems:
  Cynthia M. Hadden, Deputy CIO
  Douglas A. Pacas, Director, Financial Information Systems
  Byron D. Honore, Director, Enrollment Information Systems
  Robin Ethridge, Director, Portal Technology & Academic Analytics

University Networking & Infrastructure and High Performance Computing:
  Ric Simmons, Deputy CIO
  Sean G. Robbins, Director, Network Engineering
  Terry Doub, Director, Network Operations
  Samuel P. White, Director, High Performance Computing

Information Security & Risk:
  John Borne, Deputy CIO
Dear Colleagues:

I am pleased to present the latest issue of Momentum, LSU Information Technology Services’ Annual Report for 2015. While a vast majority of university-wide resources have been dedicated this year to the LSU Workday Implementation, LSU ITS employees continued to advance the infrastructure, services and resources we provide to the campus. Indeed, we maintained our momentum on multiple fronts.

The LSU Workday Implementation project is discussed in detail within this report. I do want to highlight that this critical project will replace and modernize the human resources management, fiscal management, and payroll services for LSU and all of its multi-campuses excluding the Health Sciences Centers and Health Care Services Division. LSU Workday will result in a sustainable, modern set of tools to enable business processes well into the future.

In terms of our current legacy systems, some projects emerged that could not await their replacement. On the student system side, plus/minus grading was introduced. This project impacted multiple existing databases and processes and was rolled out in time for the start of the Fall 2015 semester. Additionally, an unprecedented instance of lightning in Tiger Stadium meant the cancellation of a LSU Football game and the need to refund ticket holder funds. Our systems administrators worked tirelessly to make this happen as expeditiously as possible.

There were a number of changes to our existing services, especially for students. LSU ITS transitioned students from TigerMail powered by Google to LSUMail powered by Microsoft this past November. This transition enabled us to provision Microsoft Office 365 accounts campus-wide. For the first time, students now have access to mobile-ready Office products on their iPhones and tablets.

In addition, we replaced Adobe Connect with WebEX. TigerWare was rebuilt in new technology resulting in the savings of licensing costs, and GROK received a new look and feel. LSU ITS continued to partner with the Division of Strategic Communications to roll out new web sites for campus departments. The new sites have a uniform look and feel to enhance the LSU brand.

As you know, ITS is home to LOUIS, the state-wide library consortium as well as LONI (Louisiana Optical Network Initiative), a statewide fiber optic, high-performance computing and distributed storage network provider. Both LOUIS and LONI continue to enhance the services they provide to their members. LOUIS began the process of migrating their Integrated Library System (SirsiDynix Symphony) to the SirsiDynix Software as a Service (SaaS) comprehensive hosting service. The first of 35 LOUIS Symphony sites migrated in June 2015, and the last site will migrate in early 2016. LONI saw changes as well with member institutions acquiring expanded broadband capacity and connections to LONI in order to provide more robust transmission capabilities, to provide expanded research capacity, to handle remote storage for disaster response and recovery, and for general broadband capacity for campus commodity internet service.

We look forward to 2016 and maintaining our momentum.

Thanks for your continued support!

Sincerely,

Brian T. Nichols
Associate Vice President for Administration & IT and CIO
LOUIS Team
• Presented LOUIS Update. LALINC Fall Membership Meeting.

Barrilleaux, Jaimie
• Elected to serve on the 2016 COSUGI Executive Board.

Esmail, Hala
• Presented at the LSU Education Teacher Candidate Symposium - Technology Tools and Resources for Teaching. Fall 2015.

Hernandez, Kristen
• Presented at the LSU Education Teacher Candidate Symposium - Technology Tools and Resources for Teaching. Fall 2015.

Leger, Lonnie
• Served on Quilt Executive Committee.
• Served on Internet 2 Program Advisory Group – Research.

Morales, Stacey
• Featured speaker at the National Help Desk Institute Conference. Las Vegas. March 2015.
• Panel judge. Annual SIGUCCS Online Communications Award.

Nichols, Brian
• Member, RUCC.
• Member, Internet2 External Relations Program Advisory Group.
• Member, Louisiana IT Symposium Advisory Board.

Nicolle, Pam

Simmons, Ric
• Served on the ACUTA Environmental Scanning Committee.
• Chaired Internet2 SIP Services Committee.

Stigall, Lisa
• Appointed to the EBSCO Academic Advisory Board.

Thompson, Sheri
• Served on First Timers Pit Top Crew. EDUCAUSE Annual Conference. Indianapolis. October 2015.
• Proposal Reviewer. EDUCAUSE Connect.

Venable, Vance
• Extron Control Specialist certification. December 2015.

Witteman, Mark
• Served on the 2015 COSUGI Executive Board.

Zimmerman, Sara
• Appointed to the EBSCO User Group Board.
• Appointed to the LLA Legislative Committee.
• Awarded the 2015 Lynda Carlberg Award by Libraries Southwest.
LSU WORKDAY IMPLEMENTATION

One of LSU’s top priorities has been to modernize the University’s legacy information systems. The current systems rely on obsolete technologies and a declining availability of technical expertise and institutional knowledge. The sustainability of our existing systems reached a critical point, necessitating their replacement.

In March 2015, LSU began its 18 month implementation plan to deploy Workday’s Financial Management (Finance) and Human Capital Management (HCM) services. Workday’s product is delivered via a single version, software-as-a-service suite built upon established best practices within higher education. Workday uses a mobile-first design, and as a single version, LSU will always be on the most recent product release.

The project relies on a set of Guiding Principles:

Transparency – We are committed to making information about the project available to the LSU Community via the project website and through periodic stakeholder updates.

Inclusion and Consensus – We invite members of the LSU Community to share their ideas and concerns about the project. We take the needs of stakeholders seriously, and we will consider all suggestions and comments. However, we cannot promise that any given suggestion or comment will be adopted or acted upon.

Timely Implementation – We are committed to implementing the new system and redesigned processes as efficiently as possible with an attention to rapid deployment and risk mitigation. Personnel assigned to the project team will be empowered to make immediate decisions during design and configuration sessions.

To minimize the amount of redesign work and configuration needed, we will adhere to a governance model that provides leadership, accountability, and oversight, and considers the needs of stakeholders throughout the LSU Community. All parties will work through the governance structure to resolve issues quickly and decisively.

Minimum Requirements – Initial software functionality will include features that are required to replace/decommission the existing human resource and financial management systems on the mainframe. Additional features beyond this baseline will be considered if they can reasonably be accomplished with existing staff resources and within the project budget and schedule.

Business Practices and Procedures – The new enterprise system embodies leading industry practices in human resource and financial management. Moreover, the software vendor continues to add features specific to the needs of higher education based on input from their higher education advisory board.

We will implement business practices and procedures as delivered by the software vendor, even when it means changing our current business processes, unless there are significant and compelling reasons to do otherwise. This may mean that some people’s jobs may change, that some work may shift from one office to another, or that the method of accomplishing certain actions may be different.

We will implement these standard, best-practice processes and procedures with a focus on what is best for the LSU Community as a whole. Through standardization, we will simplify cost structures and delivery of services to our internal and external constituents, and demonstrate accountability to the state’s taxpayers.

Sustainability of the Technology and Workforce – Recognizing that our employees are our best resource, the system and redesigned processes will be modern, maintainable, manageable, and measurable to facilitate a sustainable system and sustainable workforce practices. We will take full advantage of the training opportunities available as part of the implementation to develop and empower the LSU workforce.
**Flexibility and Adaptability** – System selection, design, and implementation will be based on: strategic and functional fit, ease-of-use, flexibility and reliability in a complex organizational environment, compliance with regulatory and security guidance and rules, and cost. However, we will also use “native” software features and functions in all cases unless there are significant and compelling reasons to do otherwise. The new enterprise system has substantial configuration capabilities that will allow us to tailor it to our needs in most cases. We will not customize the software, and we will avoid using third-party point solutions whenever possible, unless the third party point solution is a preferred partner of the enterprise system vendor.

**System of Record** – The new enterprise system will be the official, authoritative data source for employee and financial information. We know that other systems contain information about employees and financial information. We will strive to implement a system and processes that provide integration and sharing of workforce information, facilitate the automation and management of business processes, minimize redundancy, and create and maximize efficiencies.

If there is disagreement between systems, the enterprise system information shall take precedence. Ideally, procedures should be established so that new and updated employee data and financial information are entered first into the enterprise system and subsequently provided to other systems via download or other data exchange process. Where this is not possible, owners of secondary systems are responsible for ensuring that data in their systems match the corresponding enterprise system data.

The implementation of LSU Workday will streamline processes and tasks, foster the strategic alignment of resources, and enable better and more timely data-supported decisions. The implementation project itself has relied upon a broad project team of representatives from all of the multi-campuses, subject matter experts, and is well over one hundred people strong. The project reports through a Steering Committee and formalized governance structure.

**Steering Committee:**

Donna Torres (Chair), Associate Vice President, Accounting Services

Brian Nichols (ex officio), Associate Vice President for Administration & IT and CIO

AG Monaco, Associate Vice President for Human Resources

Ann Coulon, Associate Vice President, LSU Ag Center

Chad Brackin, Chief Audit Executive

Cindy Hadden, Deputy CIO, University Information Systems

David Alexander, CIO, Pennington Biomedical Research Center

Deron Thaxton, Vice Chancellor and CIO, LSU Alexandria

Fred Fruge, CIO, LSU Eunice

Fred Piazza, CIO, LSU Ag Center

Guy Lavergne, Associate Executive Director, Pennington Biomedical Research Center

John Borne, Deputy CIO, Information Security & Risk

Michael Sparks, Director of Computing, Hebert Law Center

Sandi Gillilan, Associate Vice President for Administrative Operations

Shelby Keith, CIO, LSU Shreveport

Tommy Smith, Associate Vice President, Budget & Planning

Tony Lombardo, Associate Vice President, Facility and Property Oversight

Wendy Simoneaux, Associate Vice President, Finance and Administration
User Support and Student IT Enablement (USS) experienced a productive, customer-centered year in 2015. Here are a few of their chief accomplishments:

**Classroom Support:**
- Maintained and supported 185 multimedia classrooms and 5 special purpose rooms. Deployed the new computer image in all 185 multimedia classrooms.
- Performed life cycle replacements of audio/visual and other electronics in 90 multimedia classrooms and Bo Campbell Auditorium.
- Assisted in the renovations of 4 multimedia classrooms (Woodin 203, 204, 248; Design 103).
- Performed Allen rooms swap for an elevator project. Allen 17 was removed and replaced by Allen 51.
- Removed 28 multimedia classrooms from Patrick F Taylor Hall and reinstalled the equipment in 20 new multimedia classrooms in various buildings.
- Dismantled video conferencing equipment in Coates 202, 203, and 204, to convert the rooms into standard multimedia classrooms at the behest of the University Registrar.

**Resources Updated:**
- Pharos has been upgraded recently, including improved mobile print interface.
- Print.lsu.edu was launched as the new way to upload documents from the web straight to Pharos stations.
- TigerWare Update: The new TigerWare now offers a mobile friendly browsing experience. Sizing and navigation scale to any mobile device on the market.
  - 78,451 software package downloads from TigerWare
  - 12,890 On The Hub downloads referred from TigerWare
  - 463 software support instances closed
- **New GROK:** GROK deployed a responsive layout and has a full featured mobile interface which provides custom interface to tablets and mobile devices.
- **Footprints:** Upgraded Footprints to 11.6.7. A test system is in place to review version 12 of Footprints. A team will be evaluating the future of the Footprints product for service management during this upcoming year.
- **Bomgar:** Kept up to date throughout the year. Now allows for remote assistance to the LSU community. The service allows the ability to remote into Mac, Windows, Linux, iOS, and Android devices to provide IT assistance.
- **Panopto:** Enterprise rollout of Panopto.

**Technical Support Provider (TSP) Support:**
- Hosted eleven Boot Camp sessions in summer to help engage and support the campus Technology Professionals.

**Help Desk**
- 41,750 Incidents reported to the Help Desk (12/17/15)
- 23,614 Telephone Calls received (12/17/15)
- 93% call answer rate
- 94% of our customers are satisfied or very satisfied with their service.

**Faculty Technology Center**
- Offered workshops and webinars for LSU faculty, staff, and students. Workshops included: Adobe Connect, Moodle Basics and Beyond, Moodle Gradebook, Moodle- Beyond Multiple Choice Questions, Mobile Learning, Turnitin, Using Clickers with Turning Point, and Qualtrics.
  - Number of workshops: 85
  - Number of attendees: 261
- Offered customized departmental/group workshops for LSU faculty, staff, and students.
  - Number of workshops: 27
  - Number of attendees: 259
- Documented service/help provided into the Footprints system.
  - Number of Footprints tickets closed by FTC staff: 2,060
- Sponsored/hosted events (Tech talks, Coffee Talks, Webinars, Technology Share Fairs):
  - GTA Webinars: 5
  - Webinar Viewing with Follow-up Discussion: 3
  - Collaboration with LSU Online Brown Bag Events: 1
  - Coffee Talk: 1
  - National Distance Learning Week Events: 5
- Established relationships by visiting departments and meeting faculty groups:
  - Department visits: 12
  - Presented at College of Agriculture Dean’s Teaching Conference
- Administered the process of clicker use in classrooms (gathered information from instructors, communicated with LSU Bookstore and Multimedia Classroom Support, helped troubleshoot issues as they arose, and provided documentation in GROK).
  - Number of instructors using clickers:
    - Spring 2015: 48
    - Summer 2015: 8
    - Fall 2015: 77
  - Number of courses (sections):
    - Spring 2015: 71
    - Summer 2015: 9
    - Fall 2015: 163
Established the Online Teaching Cohort at LSU in collaboration with LSU Online, and the Learning and Teaching Collaborative. The purpose is to create an environment to engage the LSU campus community in discussions and activities in which members can share and learn online teaching strategies and practices to enhance their courses.

Moodle Fall 2015 Stats
Course Sections - Fall 2015

- Undergraduate
  - 1,945 Active in Moodle
  - 2,560 Created in Moodle
  - 2,700 Offered at LSU

- Graduate
  - 556 Active in Moodle
  - 1,174 Created in Moodle
  - 2,852 Offered at LSU

- 99% of LSU undergraduate student users (28,419 of 28,736) are enrolled in at least one active Moodle course
- 78% of LSU graduate student users (4,091 of 5,226) are enrolled in at least one active Moodle course
- 91% of all instructors (1,849 of 2,032) have a course created in Moodle
- 78% of all instructors (1,586 of 2,032) have a course visible in Moodle

Orientation Application – Modified functionality to the Orientation application to allow parents/guardians to register for upcoming orientation sessions.

150% Direct Loan Legislation – This initiative involved a rewrite of how the university provides the reporting data to the National Student Clearinghouse (NSC).

Dual Degree – Worked with university stakeholders to modify processes that would allow students to pursue a dual degree in Humanities and Social Sciences (HSS) & Law School.

LSU Engineering in Indonesia – Implemented Fall 2015, processes were modified that would allow students to get a B.S. degree in Computer Science, Electrical, Industrial and Mechanical Engineering in Jakarta, Indonesia.

Webservices
- myLSU – The portal was upgraded to include responsive design.
- Omni Update – In collaboration with Strategic Communications, ITS rolled out a new web content management system called OMNI Update. This included 91 new sites.
- WordPress – ITS and Strategic Communications continued to support WordPress sites mainly for faculty research use. 43 new sites went online in 2015.

ANCILLARY WORKDAY SUPPORT

Workday Integrations – An inventory of mainframe applications that integrate with the university’s HR and financial data has been compiled. Efforts are currently underway to modify those modules to utilize Workday HCM/FIN.

Legacy to Workday Data Conversion – A mechanism by which a snapshot of the university’s HR, financial, and identity management data has been developed. Custom legacy software has been coded and implemented to extract, transform, and load this snapshot data to the Workday HCM/FIN test environment.

While the Workday implementation has been an institutional priority, work on existing and other new systems was still necessary to meet the needs of the campus community.

Student Information Systems
- Plus/Minus – Starting Fall 2015, a new grading scale of plus/minus grades was implemented.
Louisiana Library Network
Fiscal Year 2015

For twenty-three years, LOUIS: The Louisiana Library Network has served as the foundation on which Louisiana academic libraries support research, teaching, and learning. Diminished funding for higher education has made LOUIS more important than ever as LOUIS delivers value: equitably, collaboratively, and cost-effectively.

LOUIS saves money for the taxpayers of Louisiana by collaborating on services and purchases for academic libraries. In 2015 alone, LOUIS purchased over $38 million worth of services and resources on behalf of Louisiana’s academic libraries for $4.146 million, a savings of over $33 million. Since 1992, LOUIS has saved the state of Louisiana over $255 million. Additional savings are a result of LOUIS acting as the purchasing agent for subsets of libraries’ selective purchases. Via this service, LOUIS purchased approximately $15 million worth of resources for these subsets for $1.98 million. A savings of over $13 million. All total, in 2015 LOUIS initiatives saved the state of Louisiana and all institutions in higher education more than $46 million. Savings continue to increase as libraries ask LOUIS to negotiate more on their behalf.

A central support staff of 9 FTE located in Information Technology Services at LSU reports to the LALINC Executive Board for operational and strategic direction and the LSU Chief Information Officer for administrative direction. The LOUS central staff is in place to execute the will of the Board. Based on recommendations from LALINC committees, task forces and working groups, and approval from the Board, LOUIS staff installs, upgrades, configures, consults, supports and negotiates prices for the services, technologies and resources on behalf of the consortium. With over 125 years’ combined experience, LOUIS staff has an unequaled level of institutional knowledge and expertise which equates to fast and efficient implementation of new solutions and problem solving. While membership fees do rise due to the market, members support paying membership fees due to the exemplary level of service provided.

One objective in the LOUIS Strategic Plan is to employ best practices for infrastructure, architecture and security. This includes an annual review of the current Integrated Library System (ILS), SirsiDynix Symphony, in terms of projected growth, costs, impact on constituents, and the ability to integrate with other software in order to deliver a comprehensive Library Services Platform (LSP). Considering newer technologies being developed by SirsiDynix, recent interest in migrating to Oracle for Unicode, and the aging Symphony hardware in place today, LOUIS did a thorough review in 2014-15 to evaluate options to improve the infrastructure which has been hosted by LOUIS since 2001. The evaluating task force recommended a migration to the SirsiDynix Software as a Service (SaaS) comprehensive hosting service running Linux with Oracle and Unicode. Loyola University became part of this project when they made the decision to migrate their locally hosted Symphony software to LOUIS. The first of 35 LOUIS Symphony sites migrated in June 2015, and the last site will migrate in January 2016. Migrating Symphony to SaaS has allowed LOUIS to rollout SirsiDynix’s latest BLUEcloud Campus products, including BLUEcloud Cataloging, BLUEcloud PAC, BookMyne, and BLUEcloud Analytics, to better serve the needs of member libraries.

In support of all initiatives, and in conjunction with the contract requirements, the following is a list of major activities completed by LOUIS during the past year. LOUIS was successful in licensing, maintaining and supporting the following services and activities.

A. Integrated Library System (SirsiDynix Symphony, e-Library, Workflows, BlueCloud)
   • SirsiDynix Symphony, the library staff client and the electronic catalog
   • SirsiDynix e-Library, the user interface
   • Implemented Our Lady of Holy Cross College
   • Consulted / designed student / faculty / staff data extract for community colleges from LCTCS data center
   • Beta tested and implemented next generation library functionality
   • Consulted and implemented authentication solutions
   • Researching / designing / implementing a library services platform (LSP) using current partnerships and software to produce dynamic next generation solutions
• Negotiated and provided technical input to design course management integration via Discovery into Moodle/Blackboard
• Purchased e-Learning seats for online courses
• Defined and documented Best Practices for Infrastructure, Architecture and Security
• Hosted 2 System Administrator Meetings
• Addressed 562 FootPrints incidents
• Worked with the Statistics Task Force to identify needs and issues related to gathering and compiling stats and recommended next steps to address needs
• Negotiated new pricing, terms and additional services for the SirsiDynix contract
• Negotiated and initiated the move from the locally hosted ILS software to SirsiDynix Software as a Service (SaaS) including Unicode and Oracle, with substantial savings to consortium and strategic functionality and support; converted 1,100 custom reports to SaaS

B. Electronic Resources
• Eighty-three scholarly electronic resources (academic journals, full-text and abstracts, citation databases, etc) via twelve provider partners were licensed for all LOUIS members
• Thirty-three scholarly electronic resources (academic journals, full-text and abstracts, citation databases, etc) via nineteen provider partners were licensed for various subset of LOUIS members
• Thirty-two resources were evaluated and determined to not meet the needs of LOUIS members
• Seven resources are under current review
• Negotiated trial access for all resources defined from the Nursing e-Resource Task Force
• Renewed Credo Literati, information literacy – a joint collaboration with the State Library of LA
• Addressed 125 FootPrint incidents
• Addressed 40 EZproxy incidents
• Negotiated new pricing for all electronic renewals at an average 3% uplift for the year.
• Moved all LOUIS members to OCLC’s new FirstSearch platform called WorldCat Discovery Service (WCDS)

C. Interlibrary Loan (OCLC/Atlas, ILLiad borrowing and lending)
• Implemented Loyola University Law School
• Attended ILLiad International Conference
• Hosted North and South Illiad Users Group Meetings
• Migrated to new Atlas training platform
• Upgraded to Version 8.5
• Addressed 119 incidents
• Provided customization services
• Initiated an Interlibrary Loan Assessment survey for North/South meetings
• Integrated Search and URL Resolver (EBSCO Discover, AtoZ, LinkSource)
• Replaced SirsiDynix Web2 with EBSCO Discovery
• Researched / designed / implementing a library services platform (LSP) using current partnerships and software to produce dynamic next generation solutions
• Negotiated an implementation plan for integration of Discovery into Moodle/Blackboard
• Reworked nightly extract to populate Discovery more efficiently
• Provided customization services for extracts and webpages
• Loaded, on average, 70,000 A-to-Z records each month for sites using the LOUIS EZproxy MARC service
• Partnered with LOUIS sites and EBSCO to continue to enhance EDS to meet their needs
• Partnered with LOUIS sites and EBSCO to continue to enhance the A-to-Z with MARC service integration into the catalog
• Addressed 67 FootPrint incidents
• Initiated an EBSCO Software Suite survey for North/South meetings and training
• Initiated conversion from AtoZ/LinkSource to FullTextFinder by EBSCO
2015 YEAR IN REVIEW

First 10G desktop connection to the Software Defined Network installed
All RESNET core links were upgraded to 10 Gbps
STF funded wireless upgrades
Cox upgraded on-campus cable services to digital
Panopto Implemented
myLSU upgraded
HPC Symposium
LSUMail & Office 365 made available campus-wide
LOUIS SirsiDynix SaaS migrations
Workday Implementation
Upgrade of copper DSL connections to fiber

TKIP encryption ended
mDNS Ended
Windows Server 2003/2003R2 End of Life

Plus/Minus Grading Released
Adobe Connect
WebEx Replaces Adobe Connect

Voicethread made available
Tigermail ends
Old PAWS survey tool decommissioned
TigerBytes II retires

LSUMail & Office 365 made available campus-wide

LOUIS SirsiDynix SaaS migrations

Workday Implementation

Upgrade of copper DSL connections to fiber
LSU Information Technology Services began its use of campus-driven strategic plans in 2005. The original Flagship Information Technology Strategy (FITS) provided guidance for nearly a decade. The next generation of campus-driven driven IT plans was developed over the 2013 and 2014 calendar years culminating in FITS 2020.

Here are the 2015 milestones ITS has achieved toward the current FITS 2020 Goals:

**Goal I: The University shall maintain a modern, state-of-the-art network and infrastructure.**
- Upgraded one of the core routers at David Boyd to improve network reliability
- The main and backup Internet connections were upgraded to allow traffic on both links for better bandwidth management and high availability
- Upgraded the DMZ with a pair of Cisco switches in a virtual switching system setup to improve reliability
- Additional wireless access points upgraded/increased in multiple locations throughout campus via a grant from the STF
- Selected a new network switch vendor to realize significant savings as we upgrade parts of the network over this fiscal year
- Network applications hardware was upgraded making those applications more resilient in the event of a disaster
- Fiber routes were upgraded/repaired, and new routes installed as new construction permits
- VoIP technology continues to be deployed throughout campus as we slowly migrate away from legacy analog/digital technology
- Successfully migrated the students from TigerMail to LSUMail
- Migrated from Adobe Connect to Cisco Webex
- Continued deployment of voice over internet protocol (VoIP) phones across campus
- GROK continues to provide faculty, staff, and students quality, up-to-date technical support, as well as a means of submitting requests, through a paperless environment
- Moodle continues to provide faculty, staff, and students the means to post and access documents in a paperless environment
- GROK links to communication and collaboration tools, such as WebEx, Panopto, BigBlueButton, and Kaltura, that enhance teaching and learning, staff training, and business efficiencies
- Moodle links to communication and collaboration tools that enhance teaching and learning, staff training, and enhanced business efficiencies; Panopto offers an integrated lecture capture service for LSU faculty; WebEx and BigBlueButton provide web-conferencing solutions; Kaltura serves as both a video repository and streaming service

**Goal II: The University shall consistently enable research through strategic investments**
- Continue to work with CCT on the Big Data Grant and Open Flow networking
- HPC continues to invest in software, compilers, development tools, and training for LSU researchers to enable them to develop computational codes to fully utilize the new technology processor accelerators available the new clusters like SuperMIC, which was deployed at LSU last fiscal year
- Collaborated on a Board of Regents grant proposal to create the LSU Science DMZ
- The Software Defined Network (SDN) research network was recently upgraded to allow 40 Gbps connectivity for researchers
- GROK provides documentation and support for all software packages currently provided to the LSU Community through TigerWare
- TigerWare provides a centralized software distribution portal where faculty, staff and students can get the latest academic software offerings
- VLAB provides remote access to academic software
- Newest Version of VMWare Horizon View software will allow access via web browser, significantly improving accessibility
- Oversight of the University license for Qualtrics, a robust survey software available to all LSU faculty, staff, and students
- Working with the LSU Libraries, Moodle now includes an LSU Libraries course module, offering access to library resources and a reading list tool for faculty users
Goal III: The University shall ensure the security and integrity of its infrastructure and information.

- Continued efforts to keep the applications and computer environment for which we are responsible patched and up-to-date with recommended versions (Ad Astra, Bedework, Domino, myLSU, SAS, Wordpress, etc.)
- Continued efforts to migrate applications from older technologies (Domino, mainframe) to more modern platforms (Java, WordPress, LDAP, CAMEL, web services, etc.)
- Began 18-month long project to implement Workday to replace legacy, mainframe payroll, financial and human resources systems

Goal IV: The University shall maintain a robust and plentiful IT environment to enable faculty teaching and student learning.

- Addressed community needs as directed by the Moodle Development Advisory Committee:
  - Deployed the new LSU Unenrolled Grader Report, providing access to grades for students who have dropped from the course
  - Upgraded the LSU Panopto integration
  - Upgraded the Verbose Grade Importer
  - Deployed the Student Government Election system within Moodle and successfully ran two elections within Moodle
  - The Moodle team currently supports five distinct Moodle instances (Academic, Community, LSU Online, U-High, and Ag Center)
- VLAB software pools have been updated to most recent versions available – Including updated ARCGIS, Labview and Statistics packages
- Provided video conferencing or web conferencing for numerous departments across campus (Academic Affairs, Career Services, French Studies, Human Resource Management, Information Technology Services, and Radiation Safety Committee)
- Completed 80 requests to install special software and/or Turning Point in our general purpose multimedia classrooms
- Provided audio/video equipment and support, and short notice web streaming (via Adobe Connect) for various groups and departments
- Maintained and supported 185 multimedia classrooms and 5 special purpose rooms
- Performed life cycle replacements of audio/visual and other electronics in 86 multimedia classrooms and Bo Campbell Auditorium
- Assisted in the renovations of 4 multimedia classrooms (Woodin 203, 204, 248; Design 103)
- Performed Allen rooms swap for an elevator project. Allen 17 was removed and replaced by Allen 51
- Removed 28 multimedia classrooms from Patrick F Taylor Hall and reinstalled the equipment in 20 new multimedia classrooms in various buildings
- Dismantled video conferencing equipment in Coates 202, 203, and 204, to convert the rooms into standard multimedia classrooms at the behest of the University Registrar
- Hosted 3 distance education classes using compressed video (H.323) protocol or web conferencing for Communication Studies, Mathematics, and Physics
- GROK has updated ITS VLAB and multimedia documentation to reflect the most changes made including ARCGIS and Statistics packages, and new multimedia classrooms. Audubon 102, Electrical Engineering 146 and 149, Hatcher 1, Taylor 2216 and 2218, and Woodin 24
- The Faculty Technology Center provides on-going support of “clicker” technologies. Working with UNI, the FTC is further expanding their knowledge by investigating new response-based technologies that do not require the “clicker” device
- The Digital Imaging & Videos Services group is providing escalated and up-to-date support for classroom lecture capture, streaming video, and web-conferencing technologies
- The Moodle development team works with ITS staff, outside vendors, and end-users to integrate these technologies into our LMS
- The LSU Global initiative was implemented Fall 2015. Worked with university stakeholders to modify processes in admissions, student records and student financials that would allow for efficient processing
- Worked with university stakeholders to modify processes that would allow students to pursue a dual degree in Humanities and Social Sciences (HSS) & Law School
- Implemented LSU Engineering in Indonesia. Processes were modified to enable students to get a B.S. degree in Computer Science, Electrical, Industrial and Mechanical Engineering in Jakarta, Indonesia
FITs 2020 Continued

Goal V: The University shall provide access to data to make timely and informed decisions.
- Hawkeye.lsu.edu provides a central portal which aggregates IT service information and usage metrics which allows the community to get a high level view of IT services offered by ITS
  - Added a report which list rogue access points on campus to help track down causes of interference to improve wireless performance.
  - Added more granular reporting for TigerWare so more insights on how software is used on campus can be discovered
  - Updated wireless reports to support backend infrastructure changes
- Audit and update of keyserver and labstats allow more robust reports for software and lab outlays
- VCOPS will be used in the architecting of our new VLAB environment, to go live this fall. VCOPS is a reporting add-in to VMWare
- Upgraded our Extron Global Viewer server software and added new multimedia classrooms for distance monitoring and emergency alerts
- GROK provides users the ability to lock down documentation – to only allows users who log in to see or users they specify to see in order to ensure maximum security
  - This feature has been used to hide documentation that is being retired from GROK for a period of time before being take down for good. This allows GROK and the Help Desk to assist users that may still have problems with these products after the information is no longer available to the public
- Community Moodle provides collaborative courses where LSU users can share and discuss documents, ideas, etc. It is protected behind ITS’s secure login credentialing
- On that same note, editors can allows their documentation to be seen by all users through our security settings. This documentation is available to community twenty-four / seven through the Web
- Selected Workday as payroll, financial and human resources solution. Workday has robust and easy to use reporting capabilities once implemented in 2016
- The new TigerWare was developed from the ground up to be compliant with mobile devices. A primary design goal was to conform to modern usability best practices; as such, TigerWare now provides a fluid browsing experience on any mobile device
- Deployed Qualtrics survey tool for campus-wide use
- ITS worked with campus constituencies to rewrite how the university provides the reporting data to the National Student Clearinghouse (NSC)

Goal VI: The University shall provide easy and ready access to IT infrastructure and services.
- VLAB continues to grow in usage and capabilities. Denser blades just installed, updated software to come shortly. Continuing to explore VGPU and VSAN
- Public labs have been refreshed, cooperation with Library on future of Library and expanding IT footprint within Middleton
- Software needed by the university to conduct business is provided by TigerWare
- GROK provides documentation on how to access and use IT Services offered by LSU
- TigerWare – GROK is continuing to document the ever-growing list of available software provided through TigerWare to the campus community.
- Print Desk
  - The ITS Print Desk located on the first floor of Middleton Library was moved to room 305 of Middleton Library. The location is a more secure location for the equipment and supplies and will allow for more space for student study space on the first floor of the Library. This was a cooperative move with the Library
- On The Hub --- Documentation has been added to reflect the renewed a campus standard license for DreamSpark from Microsoft and the VMWare Academic Program, which added a large suite of developer orientated software packages to TigerWare / OnTheHub
- By purchasing enterprise-level licenses, ITS continues to work (in collaboration with Academic Affairs) to eliminate redundant school/college licenses of vended products such as Panopto, Qualtrics, iThenticate, and Turnitin
- DreamSpark
  - Renewed a campus standard license for DreamSpark from Microsoft which added a large suite of developer orientated software packages to TigerWare / OnTheHub
VMWare Academic
  - Renewed the VMWare Academic Program which adds VMWare products to On The Hub for the LSU community for use in teaching and learning

TigerWare
  - Re-developed TigerWare as an in-house application to save annual licensing fees. Because of a continued effort to nurture a shared code base between TigerWare and GROK, developer maintenance costs can be minimized
  - Publishing operations can now be controlled through an intuitive web user interface. Editing capabilities focus on content management, findability, and security

Windows 10 --- GROK documented the recent release of the Windows 10 operating system, including some LSU specific process, such as connecting to the wireless and activating from the campus server, in order to provide assistance to the Windows community

VLAB allows access to Windows / Linux software hosted on campus which can be used on any platform where VMWare has a client available (Windows, Mac, Linux, Android, iOS)

The Faculty Technology Center provides an open-door environment where LSU faculty members can visit with one of the educational technologists, ask questions about classroom technologies, see demonstrations of various devices, and test those devices in a hands-on and meaningful way. The Faculty Technology Center staff will travel to departments or offices by request to assist with on-site research, answer questions about available technologies, and to make recommendations regarding technology integration into and in support of research projects. The educational technologists are well versed in multiple platforms, operating systems, browsers, and versions of popular software suites

Pharos has been upgraded recently, including improved mobile print interface
  - Print.lsu.edu was launched as the new way to upload documents from the web straight to Pharos stations

The new TigerWare now offers a mobile friendly browsing experience. Sizing and navigation scale to any mobile device on the market

GROK uses a responsive layout and has a full featured mobile interface which provides custom interface to tablets and mobile devices

Moodle 2.7 includes a native theme that is compatible with all industry-standard mobile applications and devices

ITS has researched and selected a vendor to provide after-hours support that will extend our current support structure and provide, phone, e-mail, and chat support 24x7. This was done at the behest of and funding by LSU Online

**Goal VII: The University shall provide an agile suite of services to successfully and consistently carry out the day-to-day operations of the University.**

  - myLSU portal: The portal went through an upgrade which includes responsive design
  - In collaboration with Strategic Communication (formerly Communications & University Relations), ITS rolled out a new web content management system, Omni Update. 91 new sites were created this year
  - ITS and Strategic Communications continued to support WordPress sites mainly for faculty research use. 43 new sites went online in 2015
  - Workday Implementation: LSU began 18-month long implementation of Workday’s Financial Management and Human Capital Management services. Workday is delivered as a single version, software as a service suite. It uses mobile-first design schemes to ensure it is easy to use. Workday will streamline processes and tasks, foster the strategic alignment of resources, and enable better and more timely data-supported decisions. LSU Workday will go live on July 1, 2016
  - Starting Fall 2015, a new grading scale of plus/minus grades was implemented
  - Modified functionality to the Orientation application to allow parents/guardians to register for upcoming orientation sessions
Goal VIII: Information Technology Services shall provide an exemplary customer service focus in all of its work.

- The Network Operations Center continues to provide exemplary customer service on a 24x7 basis
- HPC continues to provide top tier help desk and consulting services to support new researchers as well as provide support services for a wide range of high performance computing solutions for experienced users
- Closed 391 Footprints tickets for Multi Media Support
- Filled 132 Resource Requests for audio/video equipment (pick-up and delivery) for use in non-multimedia classrooms, as well as student assignments, conferences, and assemblies
- Footprints
  - Upgraded Footprints to 11.6.7. A test system is in place to review version 12 of Footprints. A team will be evaluating the future of the Footprints product for service management during this upcoming year
- Bomgar
  - Kept up to date throughout the year. Now allows for remote assistance to the LSU community. The service allows the ability to remote into Mac, Windows, Linux, iOS, and Android devices to provide IT assistance
- GROK has continued to provide documentation to assistant the Help Desk and the Faculty Technology Center in achieving maximum customer service through the help of increased communication between the departments
- The Faculty Technology Center provided one-on-one and group support to faculty:
  - The Faculty Technology Center staff has always and will continue to make one-on-one or departmental “house” calls. Faculty members do not need to travel to the physical location in 109 Middleton to receive in-person support. FTC staffers piloted a satellite location for the Fall 2014 and Spring 2015 semesters. Due to minimal use by LSU faculty, the initiative was ended. The FTC continues to investigate other outreach opportunities
  - The use of Footprints has allowed for faculty, staff, and students to request assistance and services easy and convenient to ensure maximum efficiency
- GROK has recently attended training to better understand the software VoiceThread and WebEx, both sharing and collaboration tools that will be utilized on campus in the coming year. Weekly meetings also allow personal to stay up to date on any new developments
- ITS staff stay abreast of the latest technology using online help such as Lynda.com, industry related periodicals, attending online webinars, and in-person training at conferences
- The Moodle team provides Moodle training to ITS support personnel who work with Moodle via bi-weekly meetings, phone and email dialogue, and in-person demonstration
- The Digital Imaging & Video Services (DIVS) group provides on-going second tier end-user support for Adobe Connect, Panopto, and Kaltura. DIVS offers consultation on video production and services to the Faculty Technology Center, the ITS Help Desk, University Relations, and LSUOnline
- ITS provided documentation training to various students from the LSU School of Art. Additionally, the DIVS team has implemented a Foundation Students program with includes demonstrations and training on how to document art work properly as well as demonstrations utilizing software to properly correct for color and properly prepare an image
- We have continued to diversify our documentation in order to provide assistance to customers who utilize different operating systems (including, the different version of Windows, Mac, and Linux) and mobile (including Apple, Android and Windows) platforms
  - Operating systems such as Windows 10 and El Capitain have been documented, as well as iOS 9 for Apple mobile users
• GROK
  • GROK media searching for content writers was greatly improved. This change allows editors to find and link to media (images, files, videos, and related articles) in a consistent and intuitive way, resulting in a more cohesive network of content
  • Add an advanced article search for editors which allows editors to quickly find articles based on a wide range of criteria
  • Changed GROK over to site-wide SSL for greater security
• All Customer Service staff and student employees are required to attend either in person or online training related to the vast software and services that we support
• Random surveys are sent for closed incidents. The Help Desk manager responds to all feedback. Adjustments are made as necessary to continue to improve the quality of service

Goal IX: Information Technology Services shall serve the needs of, and rely upon the input from, the entire campus community.
  • Updated Faculty IT Governance Council of any pending changes; formally met during the spring and fall semesters
  • Included faculty and staff in various ITS committees
  • Participated in Student Tech Fee Oversight Committee
  • LSU Workday implementation includes input from all of the participating multicampuses

Goal X: Information Technology Services shall effectively communicate with the campus community.
  • Participated in student orientations, Bengal Bound, Kick-off LSU, Fall Fest, Library Open House, Staff Benefits Fair
  • The Faculty Technology Center continued to host graduate assistant coffee talks, informative webinars, and departmental training sessions.
  • The TechShare event focused on faculty and student technology usage
  • GROK provided documentation on how to access and use IT Services offered by LSU
  • Regularly utilized IT Wire, ITINFO Listserv, myLSU, newsletters, and social media to share news impacting campus

Goal XI: The University shall ensure that campus IT resources are ubiquitous and easy to use.
  • Hosted various training opportunities
  • GROK provided documentation on how to access and use IT Services offered by LSU
  • Single sign on for all network services has been implemented
  • HPC has provided a comprehensive portfolio of training tutorials and workshops for the High Performance Computing community at LSU and through LONI the state of Louisiana. Training tutorials were provided weekly throughout the semester at LSU and several workshops providing multiday instruction on specific HPC technology areas are also held this semester. Special workshops were held to help users utilize the processor accelerators on the new clusters
There were a considerable number of new, modified, expanded and improved network configurations and connections to LONI by the postsecondary education community through FY15. This year we formalized the LONI/Participant relationship through the execution of Internet Service Agreements and Service Orders between BOR and LONI participants. Other major LONI network activities and achievements include:

- Activated two 100Gbps connections from LSU to ULL
- Decommissioned and surplused 20 Cisco routers
- Activated two 10Gbps connections over LONI Fiber to Nicholls State University
- Activated ScienceDMZ with 3x40G to LSU Digital Media Center
- Upgraded Internet2 to 100Gbps
- Repaired major fiber damage between LSUHSC-NO and Xavier University
- Participated in SC14 in New Orleans by delivering thirteen 100Gbps circuit to the convention floor
- Established service to Nicholls State University at 500Mbps
- QB2 connected at 40Gbps
- Moved LTC Natchitoches Campus to LONI Fiber
- Established service to Dillard University at 500Mbps
- Upgraded Northwestern State University Residential Network to 350Mbps
- Upgraded La Delta Community College to 100Mbps service
- LSU HPC systems SuperMikell and SuperMIC connected at 40Gbps
- Established service to Netflix at 10Gbps
- Established a guiding principle with Venyu to offer their services over the LONI Network at 10Gbps to both data centers in Louisiana and in the future to Jackson, MS
- Completed a fiber construction project from DOTD to downtown Baton Rouge for diverse connectivity to the Level3 Gateway at City Plaza I Building
- Activated 100Gbps connection to ISB
- Upgraded LUMCON to 100Mbps
- Upgraded and deployed additional perfSONAR measurement servers
- Initiated orders to migrate entire LONI WAN using OTS Contracts from Metro Ethernet to Regional Ethernet services.

There continues to be a clear trend of institutions and campuses acquiring expanded broadband capacity and connections to LONI in order to provide more robust transmission capabilities, to provide expanded research capacity, to handle remote storage for disaster response and recovery, and for general broadband capacity for campus commodity internet service.

The LONI Management Council continued to discuss and consider two significant issues regarding the network’s long term viability: (1) network equipment that will eventually need to be refreshed, and (2) that a large amount of the AT&T fiber in the network was acquired through leases that will terminate on June 30, 2016. Some alternative strategies for both of these issues will need to be developed and pursued over the next year in order to protect the network’s integrity.

Finally, LONI acquired some new tools to document and monitor the network. This will provide both LONI management and participant campuses with the ability to better assess network characteristics and performance.

Major projects underway during FY15 included:

- $499,758 – NSF, CC-NIE Network Infrastructure: CADIS – Cyberinfrastructure Advancing Data-Interactive Sciences at LSU
- $498,655 – NSF, CC-NIE Networking Infrastructure: Dedicated High-Speed Science Network at Tulane University
- $947,860 – NSF, CC-NIE Integration: Bridging, Transferring and Analyzing Big Data over 10Gbps Campus-Wide Software Defined Networks at LSU
- $489,700 – NSF, CC*IIE Networking Infrastructure: Riverfront Campus Research Network at Tulane University
- $491,513 – NSF, CC*IIE Networking Infrastructure: Cyberinfrastructure - Creation of Science DMZ at UL Lafayette

In FY15, the Board of Regents, LSU, and Tulane continued funding network enhancements under LONI 2.0 with a combination of state appropriations and NSF, CC-NIE grant funds. Previously, the Board of Regents and Xavier mutually funded the initial network enhancements under LONI 2.0 with a combination of state appropriations and NSF/EPSCoR RII C2 grant award funds. Various other more minor pending and on-going awarded grants which rely on the LONI infrastructure for support and success are underway.
ADVANCING THE NETWORK: UNI/HPC

In 2015, University Networking and Infrastructure (UNI) and High Performance Computing (HPC) completed a unit-wide strategic planning process, negotiated with vendors to realize a 70% savings in network gear purchases with a guaranteed price for 2 years, and continued their efforts to maintain and support the key infrastructure enabling the mission of the University.

Last year, UNI established a new disaster recovery site in Bossier City with plans to vacate the current site in downtown Baton Rouge. We also participated in the following large scale projects: S. Stadium expansion, Cypress Hall, New Gymnastics facility, PFT expansion (both phases), Kirby Smith renovation, Student Rec Center, LSU Tennis facility, French House, West Lakeshore House.

Network Infrastructure Improvements
- Upgraded one of the core routers at David Boyd to improve network reliability
- The main and backup Internet connections were upgraded to allow traffic on both links for better bandwidth management and high availability
- Upgraded the DMZ with a pair of Cisco switches in a virtual switching system setup to improve reliability
- Continue a campus-wide slow migration of phone system to VoIP as budget permits

Application Support
- Setup internal cloud services platform which helps departments save money and time with regard to application deployment
- Upgraded hardware/software to accommodate multiple operating systems on campus including Android, Apple iOS, and Linux

Partnered with USS
- Migrated from Adobe Connect to Cisco Webex
- Rolled-out Microsoft Office 365 campus-wide
- Migrated students from TigerMail to LSUMail

Wireless
- Additional wireless access points upgraded/increased in multiple locations throughout campus via a grant from the STF
- Tech fee funds awarded for WiFi upgrades: $280,000

HPC
- The SDN research network was recently upgraded to allow 40 Gbps connectivity for researchers

HPC continues to invest in software, compilers, development tools, and training for LSU researchers to enable them to develop computational codes to fully utilize the new technology processor accelerators available the new clusters like SuperMIC, which was deployed at LSU last fiscal year. HPC has completed its first year of operating two Top 100 clusters and received top marks from XSEDE with the operation and availability of SuperMIC.

HPC has provided a comprehensive portfolio of training tutorials and workshops for the High Performance Computing community at LSU and through LONI the state of Louisiana. Training tutorials were provided weekly throughout the semester at LSU and several workshops providing multiday instruction on specific HPC technology areas are also held this semester. Special workshops were held to help users utilize the processor accelerators on the new clusters.
Expenditures FY 14-15
$32,175,723

- Salary & Benefits: $15,777,126 (6%)
- Operating: $9,431,388 (29%)
- OTM: $2,271,696 (7%)
- Capital: $2,214,365 (7%)
- Institutional: $1,995,182 (1%)
- Facility Services: $485,966 (2%)

Salary & Benefits
Supplies, software, maintenance, training for ITS; Campus cellular charges; LOUIS subscriptions
Payments to OTM for internet bandwidth, telephone trunks and lines
Hardware and software maintenance for mainframe environment and other central campus infrastructure
Campus network equipment, servers, network switches for work orders
Cable locates, voice and data trouble ticket charges, generator maintenance