

IT Strategy and Investments

Tom Jackson

Vice Chancellor for Information Technology and Chief Information Officer

Board of Trustees Presentation

July 18, 2019



IT Strategy and Investments

- Banner and Ancillary Applications
- Infrastructure
- Education and Research
- Staffing
- IT Governance
- IT Development Initiative and Audit Preparation



Banner and Ancillary Applications – Overview

- Banner
 - > Higher education ERP
 - > Core administrative functions
 - > UNC standard
 - > Many limitations
- Ancillary Applications
 - > Dozens across campus
 - > Improved or additional functionality
- Interfaces
 - > To exchange between Banner and other applications



Banner and Ancillary Applications – Projects

Completed

- Banner 9 Admin Pages
- Academic Reorganization Data Updates
- Banner Document Management (BDM) – 10 Departments
- Degree Works (COBE)
- Grades First
- First Day
- CFNC-Banner Interface
- Banner-25 Live Interface
- UNC Student & HR Data Mart Upgrades
- Oracle Upgrades

In Process

- Degree Works (TGC)
- Financial Aid Document Upload
- UNC HR Data Mart Upgrade
- Degree Works Upgrade
- Xtender (BDM) Upgrade
- Chrome River (Business & Finance)
- EPAFs (Human Resources)



Banner and Ancillary Applications – Next Steps

FY20

- Data Governance Program
- Banner Masters/Ph.D GPA
- FMIS Asset Management
- Banner-OneCard Interface
- InfoEd Research Administration
- Handshake

Multi Year Initiatives

- Intranet
- Workflow
- Analytics
- Interfaces
- Data Quality and Accuracy
- Banner 9 Self Service



Infrastructure – Overview

- NC-REN
 - > Internet connection
 - > Internet2 connection
- Campus Network
 - > Fiber into each building and at the farm
 - > Some equipment past end of life
 - > Some single points of failure
- Server and Storage
 - > ITS – Current equipment
 - > Distributed – Some equipment past end of life
- Cloud
 - > UNC private cloud
 - > Many vendor hosted solutions
- High Performance Computing
 - > Large and varied deployments
 - > Cray Supercomputers (2!)
 - > Large clusters
 - > Small clusters



Infrastructure – Projects

Completed

- Wireless Network Upgrade
- Palo Alto Perimeter Firewalls
- Core Fiber Loop
- Second NC-REN Connection
- Craig Core Switch Migration
- University Farm Network
- Server Upgrades
- Storage Upgrades
- Telephone Software Upgrades

In Process

- Craig Hall Renovations
- Access Layer Switch Upgrade
- Network Access Control (NAC)
- Western Fiber Loop Design
- Telecommunication Rooms Remediation



Infrastructure – Network Next Steps

FY20

- Western Fiber Loop Phase 1 (Title III)
- Science DMZ /Network Phase 1 (Grant)
- Wireless Expansion Phase 2 (Title III)
- Telephone Service Migration
- Telephone Analog Circuit Migration
- Residence Telecom Room Mitigation (Housing)
- Residence Access Layer and Wireless Upgrades (Housing)
- Streaming TV Network Preparation
- Digital Signage Migration

FY21+

- Western Fiber Loop Phase 2+
- Science Network Phase 2+
- Wireless Expansion Phase 3+
- Streaming Television Cutover
- Wireless Replacement (FY24)
- Perimeter Firewall Replacement (FY24)
- Core Network Replacement (FY25)



Infrastructure – Server & Identity Management Next Steps

FY20

- Server and Virtual Desktop Expansion (Title III)
- Research Storage Replacement (Grant ?)
- Backup System Replacement (Title III)
- Network Layer 3 Redesign
- Azure Password Reset
- Multi-Factor Authentication (Office 365)
- Identity Management Replacement

FY21+

- Storage Expansion (FY21)
- Server Replacement (FY25)
- Storage Replacement (FY25)



Education and Research – Overview

- Faculty Training and Development
- High Performance Computing and Research Support
- Learning Management Systems Support
 - > Blackboard (online courses)
 - > Lecture capture
- Classroom and Computer Lab Program
- Campus Audio/Visual Support



Education and Research – Projects

Completed

- Classroom and Computer Lab Upgrades
 - > 13 buildings, 138 classrooms, 25 computer labs
 - > Upgrades in all colleges except COE
- Retiree Email Accounts
- COED Student Technician Pilot
- Digital Superpowers Training
- Lynda.com Implementation
- CHHS Technology Consolidation
- Blackboard Managed Hosting Cutover
- Neo Training Management Implementation

In Process

- COE Classroom and Computer Lab Upgrades (E&T Fee)
 - > 4 buildings, 34 classrooms, 1 computer lab
- CAES Computer Lab Upgrades (E&T Fee)
 - > 2 computer labs



Education and Research – Next Steps

- Blackboard Ally (E&T Fee)
- Blackboard SaaS cutover (No Cost)
- Blackboard Ultra (No Cost)
- Web Conferencing (RFP)
- Science DMZ/Network Phase 1 (Grant)
- Office 365 or Google
- High Performance Computing Support
 - > System Administration
 - > Advanced Cyberinfrastructure Facilitators
- Classroom Lecture Capture and Media Servers
 - > Take advantage of existing systems



Reorganization and IT Development Initiative

- Reorganization
 - > Improve service
 - > Shift management positions to staff positions
 - > Eliminate silos
 - > Create effective leadership team
- IT Development Initiative
 - > Address immediate infrastructure needs
 - > Create Information Security Program
 - > Create IT Governance Program
 - > Improve efficiency and eliminate duplicate services
 - > Prepare for IT audit



IT Staffing – Completed

- AVC Information Technology and Deputy CIO
- AVC Data Governance and Business Intelligence
- Director, Network and System Administration
- Director, Client Technology Services
- Director, IT Project Management and Business Operations
- Network and System Administration
 - > Combined Systems and Operations, Networking, Telecommunications
- Client Technology Services
 - > Combined Technology Support and Audio/Video Services
- OSPIE Staff Consolidation
- Instructional Technology and Training Development
 - > Shifted Distance Education Staff



IT Staffing – Next Steps

- Director, Enterprise Application Services
- ITS Reorganization Phase 2
 - > Data Governance and Business Intelligence
 - > Enterprise Application Services
 - > Network and System Administration
 - > Client Technology Services
- CEEd Staff Consolidation
- IT Organizational Assessment
- Distributed IT Staff and Service Consolidation



IT Governance

Completed

- Enterprise Applications Governance Committee
- Information Security Advisory Committee
- Information Security Incident Response Team

In Process

- Executive Incident Review Team
- Data Governance Workgroup

FY20

- Enterprise Applications Governance Committee Revisions
- Data Governance Steering Committee
- Data Management Committee
- Academic/Client Advisory Committee
- Infrastructure Advisory Committee
- UNC Policy 1400.1 Compliance
 - > Gap Identification Process
 - > Compliance Verification Process
 - > Software Evaluation and Selection Process



IT Development Initiative and Audit Preparation *

Completed

- Information Security Policy
- Acceptable Use Policy
- Policy on Standards
- Access Control Standard (pending cabinet approval)
- Incident Response Standard (pending cabinet approval)
- Server Security Standard (pending cabinet approval)
- Information Security Assessments

In Process

- Data Governance Standard
- Risk Management Standard
- Vulnerability Management Program
- Security Education Program
- Information Security Multi-Year Roadmap

* Technical items covered previously



IT Development Initiative & Audit Preparation – Next Steps

- Endpoint Security Standard
- Change Management Standard
- Information Resources Inventory Standard
- Perimeter Security Standard
- NIST 800-171 Gap Analysis
- Configuration Management
- PCI Compliance Assessment
- Log Management
- Mobile Device Encryption
- Vendor Management



Questions?