Summary
In 2013-2014, goals for the CIO areas were organized around four themes designed to focus attention on the challenges and opportunities at hand: operational excellence, strategic service sourcing – providing services that scale, strengthening IT security, policy, records management, and alignment with and support for the University’s strategic direction. During FY2013-14, with minor exceptions noted in the detailed report, all goals in the four focus areas were achieved.

Going forward into FY2014-15, goals are aligned around two areas: the Cornerstone Plan (particularly Pillar V, Organizational Excellence, and Pillar II, Research Infrastructure and Services) and Operational Goals. These goals are articulated in detail in the last section of this report.

Accomplishments with respect to 2013-14 Goals

- Operational Excellence
  - Service Management Improvement:
    - Continue ITIL Process Rollouts to improve ability to deliver predictable services and achieve promised service levels. Status: Maturity goals for Incident Management were met; goals for implementation of Change Management and process automation tools (ServiceNow) were met; ability to collect data for key metrics increased.
    - Modernize IT Infrastructure (network, storage, backup, VoIP) Status:
      - A new wireless core and access points to support the new residence halls was implemented by 8/15/13;
      - The core network upgrade (including the entire switching infrastructure) from a 1 Gbps to 10 Gbps backbone was completed by 12/20/13 – at the same time, the vast majority of buildings were upgraded from 100 Mbps to 1 Gbps; upgraded 1200 closet switches to correct cabling and provide the additional functionality which was technically required for the VoIP rollout;
      - The complete VoIP detailed design was accepted in November 2013 and the implementation phase of the project began in January 2014, with the major milestone of a first migration successfully completed on 6/23/14;
      - The storage refresh project has implemented the new storage infrastructure and is approximately half way through the migration;
      - A new backup architecture was designed, procured, and implementation is underway.
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- **Overhaul Disaster Recovery Plan for University Systems**
  *Status*: A basic update to the plan was completed and distributed to key personnel; assessment of the current state of Disaster Recovery capabilities is complete; the next phase will start in July 2014.

- **Improve Integrated System**
  *Status*:
  - The project to improve finance applications to support NIFM/UFM is in the testing stages – and is on track for a rollout in the August-October timeframe.
  - The SIS Mobile project is active with a targeted go-live of October. Other completed usability improvements to SIS include electronic forms for student actions such as late drops, leaving and returning to the University.
  - The Lead@ upgrade is complete, and the Jobs@ project is active – both these projects are with UHR.

**Staff Management/Engagement:**

- **Succession Planning**
  *Status*: Continued to identify and groom staff to take on expanded/higher-level roles; examples include: promoted three leaders within the EA team to positions with increased responsibility (one to Director of Finance Applications, one to Director of HR/Payroll Applications, and the other to Director of UVaCollab Applications); the EI team was reorganized to reduce the number of directors, resulting in less management overhead and great training for the directors who now have management domains that are 2-3 times greater than their previous ones.

- **Engage in Group, Partnerships, Initiatives**
  *Status*: Members of the Senior Leadership team have been actively engaged on the national and regional level with many groups, including: InCommon, the Common Solutions Group (CSG), the regional MARIA network, Internet2, InCert effort, the Oracle Industry Strategy Council, Perceptive Lighthouse, HEUG Product Advisory Group, Sakai Advisory Board, Hobsons Advisory Board, Aruba Education Advisory Board, the EDUCAUSE Governance, Risk, and Compliance Work Group, and the Virginia Alliance for Secure Computing and Networking (VASCAN).
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- Project Management Improvement:
  - Continue Improvement of Project Management
    Status: Training and resources were expanded into areas that had not been strong in project management. The maturity of project management across the organization has shown improvement as evidenced by a doubling of the number of projects that are documented in our project repository (i.e. 73 projects as of 6/30/13 vs. 156 projects as of 6/30/14).
  - Implement Structured Process for Project Prioritization and Portfolio Management
    Status: To support an overall CIO process, the Enterprise Infrastructure team is developing prioritization attributes and methodology, resource identification, resource allocation and resource tracking.

- Strategic Service Sourcing – Providing Services That Scale
  - Building on Economies of Scale Internally:
    - Develop rate structure for centralized server and storage services, and leverage the completed business plan to move additional users and departments into centralized servers and storage services
      Status: The business plan and rate structure were approved; use of file storage services and contract servers has increased over previous years.
    - Conduct a Pilot Desktop Support Program
      Status: The first pilot group was started in April 2014 and will be completed no later than 10/31/14.
  - Building on Economies of Scale Externally:
    - UVa Box Full Scale Rollout
      Status: Box was rolled out to current faculty, staff, and students and the major marketing effort completed. Currently there are 6,300 users of this service. ITS also assisted UVa-Wise to implement Box (using our enterprise contract).
    - Internet2 Net+ Initiatives
      Status: Currently working on a NET+ based solution for student television services, and have volunteered to support the NET+ on-boarding process for Amazon Web Services; signed agreements to start the process of using Microsoft Windows Azure cloud services.
    - Explore cloud-based services
      Status: Continue to look for vendors that can support UVa requirements at an attractive price-point.
Building Analytics:
- Managerial Reporting/Budgeting/Analytics Project to support NIFM, and more robust financial management
  
  **Status:** The Cost of Education Tool Project is mid-implementation, and is on track for a rollout in the August-October timeframe.

- Ongoing Strengthening of IT Security, Policy, and Records Management
  - Advancing Security:
    - Implement Tools for Vulnerability and Incident Investigation
      
      **Status:** Tools for blocking of compromised network-connected devices, for detection of web application security vulnerabilities, and for verifying compliance with policy on storage of highly sensitive data were implemented.
    - Data Loss Prevention
      
      **Status:** Completed environmental scan vendor presentations; have largely completed drafting the architecture document and about to start on the stakeholder review process.
  - Strengthening Policy:
    - Update University Data Protection Standards
      
      **Status:**
      - The University Data Protection Standards were updated and released for comment, with strengthened specifications and standards and guidance for personally-owned devices and software.
      - The focus on protecting University data in the Integrated System continued with the removal and masking of SSNs for non-central responsibilities. People changing positions in the University will have their EA application responsibilities removed automatically and users of the integrated system will be required to change their passwords annually.
    - Provide consulting regarding research compliance requirements
      
      **Status:** This is a multifaceted and on-going effort:
      - Consultations and presentations to the School of Medicine have resulted in a request for a training module for the clinical coordinators group;
      - Mobile application security guidelines have been drafted for researchers and research app developers;
      - Engaged with the Institutional Review Boards and the Export Controls Working Group;
      - Other new consultations with researchers have been initiated.
Streamlining Records Management and eDiscovery:

- **New University Records Management Application**
  
  **Status:** the production rollout of the new University Records Management Application (URMA) was completed and verified. This application automates the previous manual processes.

- **Encourage use of new vendor contracts for secure, low-cost storage services**
  
  **Status:** Using records management training, presentations, meetings, and website to promote physical records storage standards and contracted storage services.

- **eDiscovery Tools**
  
  **Status:** currently exploring e-discovery tools for use in discovery/presentation requests; exploring options for email archiving tools for use in discovery/presentation requests. (NOTE: further action dependent on receiving funding.)

Aligning to and Furthering University Strategic Direction

- **Strategically Plan and Align:**
  
  - **Develop Framework for IT Strategic Investment and Enablement and Complete CIO Plan**
    
    **Status:** Framework document completed. Actively moving forward on a 3-year CIO roadmap.

- **Leverage Governance/Advisory Groups:**
  
  - **Charter New Operational IT Governance/Advisory Group and Begin Meetings**
    
    **Status:** The Information Technology Advisory Committee (ITAC) was formed and has been meeting.

  - **Collaborate with Chair of University Committee on Information Technology (UCIT) to Plan Agendas and Hold Meetings**
    
    **Status:** Seven sessions were held during the academic year -- meeting topics included: the effectiveness of our current technology support services, Big Data, NIFM, the Cornerstone Plan, the Organizational Excellence program, the search for the new VP for Information Technology, and how to balance the risks and rewards of capturing data about students and using those data internally or sharing them with third parties.

  - **Seek Guidance from Steering Committees**
    
    **Status:**
    
    - Leveraged VoIP Project Steering Committee for project oversight and telephone system implementation decisions (monthly meetings continue to be held throughout the project’s implementation phase.)
EA continues to leverage HR/Finance and SIS Advisory Groups for guidance on priority setting and other operational issues.

- **Key System Enhancements:**
  - **Implement Data Marts to Assist Schools with Tuition Modeling Status:** making progress in developing a data mart to show the graduate schools the tuition revenue and the sources of what paid the tuition; a data mart of SIS enrollment and tuition is in the testing stages.

- **Cornerstone Plan/Research Infrastructure and Services (Pillar II, Strategy 5):**
  - **Support Big Data Initiative Status:**
    - Researched and procured new 4800 core Cray High Performance Computing (HPC) cluster in support of new faculty hires. The system was made available in June with full production available in August.
    - Actively participating on the HPC Steering Committee, focusing on developing a financial model and rate structure for HPC environment.

- **Cornerstone Plan/Organizational Excellence (Pillar V, Strategy 14):**
  - **Work with Organizational Excellence group to identify and schedule additional IT projects in support of organizational efficiency. Status:** Submitted projects for inclusion in the “official” OE portfolio: Server/Data Center Centralization and Email Consolidation. Working on other Organizational Excellence projects: Research UVa, Managerial Reporting, Travel Management and Expense, HR Service Delivery Project.
  - **Implement selected Oracle-provided SIS user features Status:** Projects implemented for the SIS that take advantage of delivered and custom developed modules include: PeopleTools Upgrade, Student Electronic Forms, SAFM Phase 2, New Award Letters for Financial Aid.
  - **Identify and begin work related to NIFM/UFM analytics (Cost of Education, Short and Long Term Reporting Solutions) Status:** The Cost of Education Tool Project is mid-implementation, and is on track for a rollout in the August-October timeframe.

- Projects deferred or withdrawn:
  - **Service Management Improvement/ITIL process rollouts – ‘Release Management’ deferred; worked instead on ‘Asset Management.’**
o Strengthening IT Security, Policy, and Records Management
  ▪ Strengthening Policy – ‘Obtain Approval of the Online Licensing Policy (“Click Through Licenses”)’ withdrawn (not feasible).
  ▪ Advancing Security – ‘Identify appropriate data loss prevention product for procurement’ and ‘Phased Data Loss Prevention (DLP) initiative’ deferred (need completion of Architecture Plan for DLP project and funding allocated); ‘Increased focus on FireEye/Web app support/compliance’ deferred (awaiting funding).
Goals for 2014-'15

Strategic Goals:

Organizational Excellence (Pillar V, Strategy 14)

- Providing State-of-the-Art Technology: Ensure key technology refreshes to enable work done in support of UVa mission.
  - Wireless Network Refreshes/Next-Generation Wireless: By the end of FY2014-15, complete the roll-out of centrally-managed access points supporting 802.11ac wireless standards, a standard that dramatically increases wireless throughput.
  - With approved funding, Core Wired Network/100 Gig Core Network: In 2014-15, increase the throughput (from 10 gig to 100 gig) between the University's network and its connection to Internet2 in Northern Virginia.
  - VoIP Rollout: During FY2014-15, the Academic division portion of the University’s phone system replacement, with a modern, standards-based Voice over Internet Protocol (VoIP) system, will be complete. The entire project, including the Medical Center, will be completed by September 2015.
  - Integrated System Hardware Refresh: by spring 2015 complete a hardware refresh for the Integrated System that will enhance redundancy and failover.

- Strengthening IT Security, Policy, and Records Management (Note: all the following will be ramping up throughout 2014-15, depending on funding approval.)
  - Web Application Security Scanning: Web application vulnerabilities are one of the leading causes of security breaches. A web application scanning tool was implemented to proactively identify security vulnerabilities in web applications before these can be exploited by cyber criminals. With funding, staff will be hired to aggressively promote the use of and provide guidance for the tool within the University.
  - Strengthen Information Security Compliance Programs, Tools, and Incident Response: With funding staff will be hired to keep up with ever increasing legal and regulatory compliance requirements and penalties concerning information security and privacy – as well as meeting the growing demand within the University for consulting on compliance issues (especially for research projects).
  - Reduce Sensitive Data Exposure: pending funding approval, complete evaluation of all data loss prevention tool options, develop a final cost proposal for purchase and deployment, and begin a limited project ramp-up.
• Actively support and implement Organizational Excellence (OE) projects in 2014-15
  o OE projects that the CIO is primarily responsible for: Server/Data Center Centralization and Email Consolidation.
  o OE projects for which the CIO is a partner: Managerial Reporting (Finance); Research UVA (OSP); Travel Management and Expense (Procurement); HR Service Delivery (HR).

Research Infrastructure and Services (Pillar II, Strategy 5)
• High Performance Computing (HPC) Cluster and Environment: In 2014-15 complete the implementation of a 4800-core high performance computing cluster for computationally-intensive research. Partner with the director of the Data Science Initiative as well as schools with data-intensive research programs to develop a robust high performance computing (HPC) environment.
• Science DMZ: During FY15 and FY16, implement networking security technology that isolates scientific and research data to facilitate communication.

Operational Goals:
• Disaster Recovery: In FY2014-15, the next two phases of Disaster Recovery will run in parallel: 1) the documentation of the current state of IT service disaster recovery plans and delivery of step-by-step recovery guides for each platform in scope; and 2) the documentation of options around a total grounds-wide outage – plus improvement projects to align Recovery Point Objectives/Recovery Time Objectives (RPO/RTO) with business needs.
• IT Service Management (ITSM) – Continue to implement ITSM best practices to improve ability to deliver predictable services and achieve promised service level: in 2014-15 complete the roll out of Asset Management, and one other ITSM area (tbd), and the implementation of the ServiceNow tool to support these processes.
• Enhance Records Management Services (Note: dependent on funding approval): During FY2014-15, add a records management FTE to develop and support enhanced online communication and education methods that will extend awareness of records management requirements to faculty and staff who are not currently being reached via in-person classroom training. This person will also help address the increasing volume and complexity of high priority e-discovery, FOIA, and internal investigation requests.