



# THE ROAD AHEAD

IT SOLUTIONS EMPOWER CAMPUS

2014-2018





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## OUR PROCESS FOR BUILDING THE ROADMAP

At the beginning of the 2013–2014 academic year, American University's Office of Information Technology (OIT) embarked on its second all-inclusive effort, during CIO Swartz's tenure, to develop a new strategic roadmap to chart the course for the next four years. As a foundation for the roadmap, Associate CIO Kamalika Sandell convened a cross-functional planning team to identify the organization's values and survey the higher education landscape for emerging trends and key influencing factors.

The planning team, with involvement from staff in each focus area, conducted S.W.O.T. exercises to identify strengths, weaknesses, opportunities, and threats. The team articulated current and future narratives to describe where we are today and where we want to be in four years. Staff then built detailed plans to chart out hundreds of proposed initiatives.

After compiling plans for each focus area, staff identified four major strategic objectives:

1. Strengthen the core with a resilient, agile, and secure infrastructure
2. Enable transformation through change leadership, organizational maturity, and professional development
3. Forge partnerships to deliver inclusive IT services
4. Advance institutional effectiveness and efficiency through responsible stewardship

Staff summarized and grouped each initiative under the appropriate strategic objective.

OIT socialized the draft plan with the campus community and solicited feedback for inclusion. We intend for this roadmap to serve as a bridge between short-term action plans and the AU Strategic Plan, providing vision and direction. An agile, flexible approach is required to stay ahead of the changing academic landscape; therefore, this plan will be a living document that OIT adapts to best meet the needs of AU.



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## CIO's MESSAGE

American University embarked on an ambitious journey with the publishing of the strategic plan, *American University and the Next Decade: Leadership for a Changing World*, in 2009. With emphasis on continuous performance improvement, the plan charts the course for growth in stature and influence. Almost every strategic initiative in this plan features some technological component.

To support the institution's transformation, the Office of Information Technology (OIT) has embraced the enabling goal of "Employing Technology to Empower Excellence" as our core mission. Through the adoption of best practices, our skilled and committed staff has become a model of service excellence. The team's diverse and evolving skillsets have elevated it from a group the AU community would turn to for help with a particular technology to a trusted advisor providing holistic counsel and guidance.

OIT is faced with an interesting challenge: the explosion of consumer devices and ever-changing technological needs require our staff to embrace agility and flexibility as central tenets. This fundamental shift demands that we adopt contemporary methods as we support the university's effective leveraging of technology.

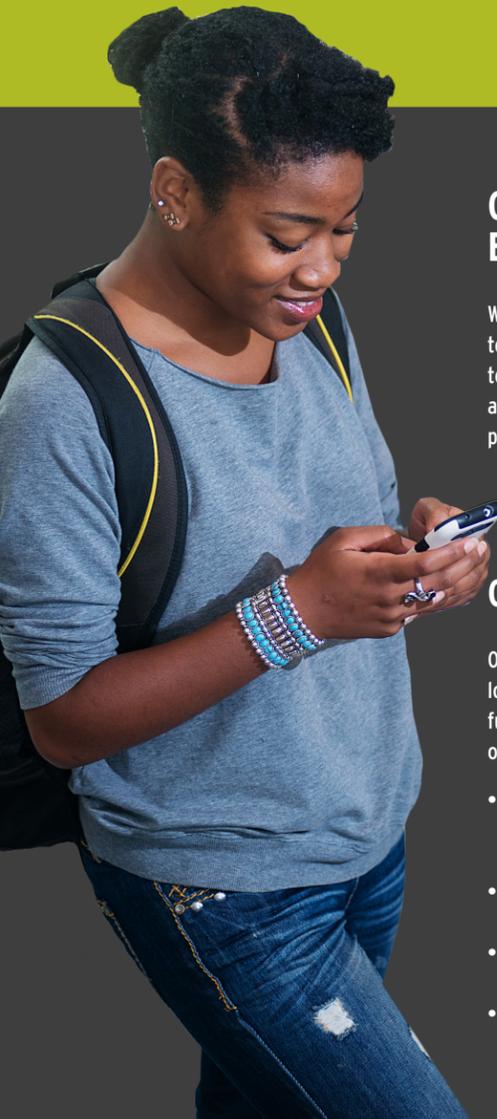
This technology roadmap is a living document, which we will assess and revise as the needs of AU evolve and changes occur that affect higher education. The four major strategic objectives are:

1. Strengthen the core with a resilient, agile, and secure infrastructure
2. Enable transformation through change leadership, organizational maturity, and professional development
3. Forge partnerships to deliver inclusive IT services
4. Advance institutional effectiveness and efficiency through responsible stewardship

These objectives bring together the initiatives that our staff is planning with the broader goals of the university. We believe this roadmap strongly reflects our core values as an institution and will position us to lead the campus to empower change.



*David Swartz*  
**DAVID SWARTZ**  
Chief Information Officer



## OUR MISSION: EMPLOY TECHNOLOGY TO EMPOWER EXCELLENCE

We will build and strengthen a robust, reliable, and secure framework of information and communication technology to support our activities as a world-class university. By investing in state-of-the-art technology and planning for the future, the university will exploit technology to harmonize a diverse and widely distributed campus; leverage learning, research, and innovation; and empower users in physical and virtual space.

—AU Strategic Plan, Enabling Goal No. 2

## OUR GUIDING PRINCIPLES

OIT identified the following guiding principles to describe how our organization wants to operate in the long term and to govern our planning activities. These principles apply universally to all services and functions within our organization, providing direction and guidance as we transform our day-to-day operations:

- Align with AU's mission by supporting the academic enterprise in preparing our students to lead and serve
- Focus on providing timely, accurate, and secure solutions to campus
- Ensure compliance with internal and external standards and adopt best practices
- Utilize metrics and analytics to benchmark performance and make informed decisions
- Foster an environment to support staff and encourage professional development
- Emphasize transparency of our budget, campus commitments, performance metrics, and processes
- Anticipate future technology needs to maintain AU's competitive edge

# ORGANIZATION OVERVIEW

Transparency and inclusion—in decision making, planning, budgeting, and day-to-day operations—run throughout the work in OIT. The organization comprises multiple teams that work collaboratively to provide services, which can be grouped into four functional areas as described below.

## ENTERPRISE SYSTEMS AND SERVICES

Enterprise Systems and Services improves the way AU conducts business with technology solutions that meet the needs of diverse constituencies. In the application analysis and development area, functional professionals partner with technical experts to design and deploy scalable, sustainable solutions. Business intelligence and reporting services help mature the university's data and analytical reporting capabilities, while web and emerging technologies support innovative digital and mobile tools. This area manages multiple software platforms that support AU's integrated application portfolio and institutionalizes best practices through a reusable project framework.

## INFORMATION SECURITY

Information Security supports AU's executive leadership and community by evaluating digital information assets for sources of risk throughout the IT planning, implementation, management, and ongoing operational phases. The group translates discovered risks into business terms to help stakeholders determine whether to accept, defer, mitigate, or transfer those risks.

## IT CUSTOMER SERVICE

IT Customer Service employs industry-standard best practices for service management, change management, and performance measurement. This front-facing group constantly seeks to provide the highest quality of customer service to the AU community. Customer Service is dedicated to managing end-user expectations, training

the community on the latest technology, troubleshooting all IT-related issues, and equipping faculty and staff with secure, reliable workstations.

## TECHNOLOGY OPERATIONS

Technology Operations administers the university's technology infrastructure, striving for reliability, availability, and stability of services on which the campus depends. The network engineering function provides management and support of primary and secondary data centers, network architecture and engineering, telecommunication services, and after-hours network monitoring. The systems engineering function provides directory architecture management and engineering, as well as systems engineering and operations.

# STRENGTHEN THE CORE WITH A RESILIENT, AGILE, AND SECURE INFRASTRUCTURE

AU has made a firm commitment to build and strengthen our robust, reliable, and secure framework of information and communication technology to support our activities as a world-class university. To that end, OIT is dedicated to building a modern infrastructure, capable of promoting broad and effective use. As we implement a thorough and purposefully agile infrastructure, we will support new technology requirements with a solid program to meet service expectations and ensure operational continuity. Given the increase in cyber attacks globally, we will incorporate security measures throughout our technology and operational processes.

## INITIATIVES

- **Enhance service availability** by adopting a modern, agile continuity strategy for timely recovery of services through continuous capacity planning and infrastructure lifecycle replacement
- **Explore cloud solutions for service delivery**, with the aim of allowing OIT to focus on unique systems that require onsite hosting and specialized support
- **Upgrade system and application infrastructures** by investing in modern versions, positioning us to leverage the latest advancements and reduce risks and vulnerabilities
- **Prioritize the retirement or replacement** of end-of-support systems
- **Mature server and data access security** by adopting technology and processes to enforce secure configuration standards and minimize opportunities for cybercriminals to gain privileged access
- **Optimize real-time event notification and detective controls**, enhancing our ability to respond as quickly as possible to suspicious network activity
- **Complete identity management improvements** to increase the efficiency and effectiveness of account creation and synchronization processes
- **Implement the final phase of the Novell to Active Directory migration** to standardize our architecture

## ENABLE TRANSFORMATION THROUGH CHANGE LEADERSHIP, ORGANIZATIONAL MATURITY, AND PROFESSIONAL DEVELOPMENT

In today's more volatile, less predictable environment, the scale, scope, and pace of technological and business changes are ever increasing. To meet the demands and expectations of our stakeholders, OIT is committed to enabling transformation through continuous improvement initiatives involving people, process, and technology. With a renewed focus on maturing our IT organization, we are employing new techniques to identify and address gaps; streamline processes; utilize resource management and capacity planning; adopt best practices; and enhance our technical capabilities, expertise, and knowledge.

### INITIATIVES

- **Mature our IT organization** by realigning positions and responsibilities to gain efficiencies; encouraging professional development; and supporting career growth through cross-training and mentorship
- **Lead regular assessments of enterprise applications** to guide decision making and maximize their value to our institution
- **Cultivate an internal culture** of IT risk management and compliance
- **Enhance our project, portfolio, and resource management capabilities** to better leverage institutional technology investments
- **Institute principles and practices** to ensure integrity and quality of critical data assets
- **Develop agile, purpose-driven training courses** in a variety of formats, including online training modules; hands-on, skill-based workshops; and in-depth classes on AU-specific applications
- **Incorporate best practices for application development** to build compliant and secure solutions that address campus needs
- **Benchmark the maturity of our IT security program** by adopting an industry-recognized security framework
- **Adopt and mature ITIL Service Management** best practices

## FORGE PARTNERSHIPS TO DELIVER INCLUSIVE IT SERVICES

OIT is committed to developing solutions and implementing services that address the needs of diverse customer groups, including current and prospective students, faculty, staff, administrators, parents, alumni, and guests. Because technology will continue to play a key role for academia, we must adopt a multitude of architectures to provide accessible services that support a wide range of devices and applications. Our organization cannot be successful in this effort alone; to best meet our changing requirements, we must leverage strategic vendor and campus technology partner relationships. As trusted advisors, the OIT team embraces a culture of transparency by actively participating in open discussions with the campus community throughout the entire service lifecycle.

### INITIATIVES

- **Continue to strengthen and mature our partnership with Ellucian**, our enterprise resource planning system vendor, to influence the product direction
- **Build a strong relationship with our key vendors and service providers** with the aim of providing a state-of-the-art network and communications infrastructure
- **Engage with our trusted partners**, Apple and Dell, to provide flexible, modern workstations for untethered teaching and learning beyond the classroom
- **Coordinate training and conference participation** for OIT staff to increase our expertise with the Microsoft suite of applications
- **Ensure compliance with the Americans with Disabilities Act** for all official AU websites
- **Develop and enhance technology skills** to empower self-sufficiency in our end users and to equip our technology support partners campus-wide with the tools and knowledge to consistently deliver quality service
- **Employ new techniques to manage customer expectations** (e.g., OIT staff may serve as digital ambassadors to showcase the effective use of new technologies, improve real-time notification of service interruptions, and expand our relationship management program)
- **Contribute to external professional organizations** to share our expertise and benefit from peers' experiences



ADVANCE INSTITUTIONAL  
EFFECTIVENESS AND EFFICIENCY  
THROUGH RESPONSIBLE STEWARDSHIP

As the higher education industry becomes more competitive, we can leverage technology to enhance efficiency in university operations and improve service effectiveness. OIT will continue to focus on streamlining and standardizing processes, which will decrease administrative costs and increase productivity and quality in the delivery of educational services. Technology has become a secure, reliable infrastructure for process automation that serves students, alumni, faculty, and staff, allowing technology to become the very platform on which academia operates. As responsible stewards, OIT is committed to actively guiding and managing this valuable platform by identifying and implementing solutions that provide the greatest benefit to the university.

INITIATIVES

- **Enhance and support the technology priorities of our stakeholders**, with emphasis on admissions, student services, curriculum management, imaging, procurement, and grants and contracts
- **Retire obsolete and custom systems** to position ourselves for nimble adoption of contemporary solutions and to minimize complexity in the technology environment
- **Provide infrastructure and capacity** to support the university's research computing and online learning systems
- **Leverage existing enterprise investments** and adopt future product enhancements, such as Ellucian Self-Service and Advancement Evolution
- **Augment web and portal design and services** to provide a contemporary, secure, and easy-to-navigate experience
- **Transform IT Service Management** to meet the growing demands of the campus by fostering self-sufficiency in end users and automating the fulfillment of standard, repeatable tasks
- **Mature and expand the business intelligence domain** to better support the university's strategic and analytical decision making
- **Modernize email and online collaboration tools and practices** to improve virtual collaboration among faculty, staff, and students
- **Improve workstation management** to ensure secure, reliable computing for faculty and staff



## HOW OIT HAS EVOLVED A JOURNEY IN MATURING SERVICES

OIT's previous roadmap, developed in 2008, targeted building out key infrastructure and competencies, with emphasis on systems, processes, and people. Since then, OIT has instituted and improved internal processes in areas such as asset management, change management, incident management, problem management, project management, and information security.

**"The management of information services, security, and related institutional risks are increasingly important, touching every aspect of university operations."**

—AU president Neil Kerwin

The department also has standardized much of the disjointed infrastructure, resulting in a more stable and manageable architecture. The department has contemporized legacy systems or replaced them with enterprise-level systems. OIT maintains an industry-standard 99.9% average for uptime of core services, largely because of the virtualization of servers and the establishment of a second data center to address our continuity of operations plan. IT budget processes have matured to specifically plan for lifecycle replacements, distinct from new technology investments and day-to-day operational budgets.

Internally, there is an enhanced focus on investing in our staff through mentoring and encouraged participation in professional development activities. OIT staff regularly present at national conferences and are highly regarded by industry peers.

OIT prides itself on continuous, transparent communication to the campus through a variety of media, including cross-functional committees, customer service forums, technology expos, online newsletters, and our award-winning annual report. Today, OIT is regarded as a committed and trusted partner that strategically enables university objectives.

### SELF-ASSESSMENT DEFINES OPPORTUNITIES FOR THE ROAD AHEAD

Recent S.W.O.T. exercises, conducted internally with staff and externally with key campus stakeholders, reflect the substantial improvements OIT has made over the past five years and provide insights into future opportunities.

Through a transparent and inclusive decision-making process, OIT has made significant progress in maturing AU's technology systems portfolio. At the same time, opportunities

The potential for sensitive data exposure continues to be a cause for concern. A single successful cyber-attack against our institution could lead to reputational repercussions and fines. Our information security officer and her staff will institute a formal IT risk program to prioritize efforts to safeguard high-risk assets.

OIT's list of requested projects far outweighs current resources. As a result, staff members

remain to leverage existing and new technology investments to their fullest. Areas of greatest opportunity include better system adoption and assessment of business case, including explicit analysis of impact on functional units, from both a process and a resource skillset standpoint. IT management processes and metrics will benefit from accountability and outcome measures, rather than limiting assessment to productivity measures.

are stretched too thin, often needing to juggle multiple critical projects with day-to-day operations. A better resource management model is desperately needed that allows for more deliberate and planned allocation of resources.

Growing staff competencies is a priority. Contemporary skillsets will need to be developed in emerging domains to support the rapidly changing technology landscape. Staff recruitment and retention will continue to be a challenge in a technology market that has become extremely competitive.

# INFLUENCING FACTORS IN ACADEMIA AND AMERICAN UNIVERSITY

In addition to evaluating internal challenges and opportunities, OIT also stays abreast of factors in academia generally and American University in particular that may affect our work.

## HIGHER EDUCATION TRENDS

The higher education landscape continues to evolve. Online classes

Meanwhile, affordability discussions dominate higher

## AMERICAN UNIVERSITY STRATEGIC DIRECTIONS

AU continues to march forward on several strategic fronts. In the fifth and sixth years of implementing an ambitious strategic plan, major planned improvements have been instituted campus-wide. In 2011, the D.C. Zoning Commission approved AU's campus plan, which outlines facilities growth and enhancements for the next decade. The plan calls for new and renovated residence halls, new buildings for certain schools, a campus for the Washington

Alumni are taking a more active role in the AU community, supporting the current generation of students with their time, talent, and resources.

Assessment continues to be a core value, as we strive to ensure the quality and rigor of learning experiences and promote a culture of ongoing improvement. As new tools emerge for higher education to mine big data—such as using “learning analytics” to decipher trends in

“Pedagogical practice on university campuses...is shifting, as students learn by making and creating rather than from the simple consumption of content.”

—*Horizon Report: 2014 Higher Education Edition*

gain momentum, while more and more traditional classes integrate interactivity into curricula. Apple, Google, Amazon, and other companies have influenced students' consumer expectations for personalized services. Mobile and social applications facilitate a new engagement model of ubiquitous, on-demand access to digital resources, often without the involvement of core campus IT.

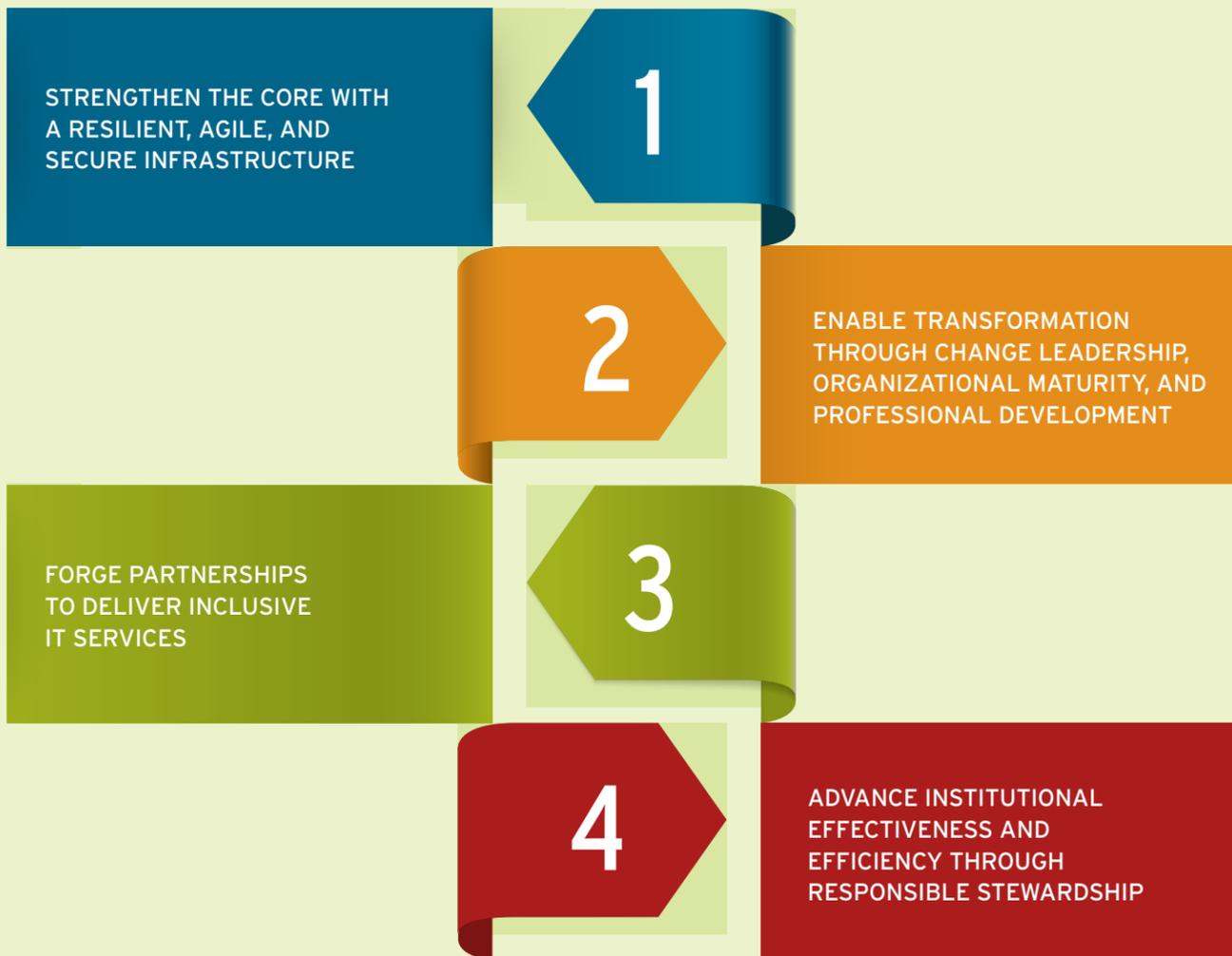
education circles, and media coverage influences public opinion about the value of a college degree. College demographics are rapidly shifting; data show there are one-third more Asian-Americans, double the number of Hispanics, many more first-generation college students, and more students above the age of 25. Amid heightened competition for student recruitment, institutions are focused on outcomes and retention, driving many to consider adopting customer relationship management strategies.

College of Law in Tenley Circle, and development of the East Campus.

AU is expanding innovative learning opportunities to meet the needs of wider, nontraditional audiences. The university has successfully launched new online learning programs, including several master's programs, and created the School of Professional and Extended Studies. There is greater focus on faculty and student research and innovation.

student-related data and improve outcomes—AU and OIT intend to maximize these opportunities. Middle States Reaccreditation team chair Dr. Eric Spina, vice chancellor and provost at Syracuse University, described AU as “agile, planning-intensive, well-governed, and well-run” and commended AU for being “stronger, more vibrant, more relevant, and better positioned.”

## STRATEGIC OBJECTIVES



## CONCLUSION

OIT is proud to present this ambitious roadmap, which charts a four-year course for our continued leadership in empowering change through four strategic objectives.

In the past, OIT focused on infrastructure readiness, building a strong foundation through a reliable, sustainable platform. We now intend to strengthen the core with a resilient, agile, and secure infrastructure. Our goal is to be proactive in anticipating the needs of our stakeholders, while adopting modern solutions that leverage advancements and minimize risk.

OIT also has invested resources to achieve process and service maturity and establish organizational governance. We have made significant progress in introducing industry-standard best practices in service management, project and portfolio management, and budget planning. As OIT continues to evolve, we seek to enable transformation through change leadership, organizational maturity, and professional development. We will support staff growth and development and pursue efficiencies to best serve the AU community.

On campus, IT support is quite distributed, with an almost equal number of professionals inside and outside the central OIT organization. As a result, it has been critical to clarify roles and

responsibilities with our technology support partners through formal service agreements. Going forward, we will forge partnerships to deliver inclusive IT services. We strive to be inclusive of our campus technology partners, while engaging with our strategic vendors and the community at large.

Finally, many of our past initiatives have successfully decreased administrative costs, increased productivity, and improved quality of service. Over the next few years, OIT will advance institutional effectiveness and efficiency through responsible stewardship of our time, talent, budget, and resources. Our goal is to enable transformation and change through streamlined, standardized processes and automation.

This high-level roadmap solidifies our planning to date and reflects detailed action plans within each OIT group. While implementation of this roadmap officially kicks off in the 2014-2015 fiscal year, we will revisit this document annually to ensure we continue to adapt to the changing needs of our institution.



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