OneIT@Iowa

One Iowa. OneIT. One Future

Strategic Plan

The University of Iowa
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The campus IT community is evolving into a unified, integrated technology community called OneIT. Bringing together all of the IT providers on campus provides a more cohesive, consistent experience for IT customers, maximizes the impact of IT investment, and helps us better meet the needs of interdisciplinary activities and learn from each other.

OneIT is not a single organization in the traditional sense. It is an ecosystem of IT providers with common values, guiding principles, processes, technologies, governance, plans, priorities, policies, and vocabulary. We are committed to work as one to provide the best IT environment for the campus now while positioning the university to take full advantage of technology advances in the future. The next step in our collaboration efforts is integration with Health Care Information Systems (HCIS), focusing on areas of opportunity to enhance IT services offered across the university community. These efforts will begin in summer 2018.

With a new University of Iowa Strategic Plan in place and the evolution of the IT community underway, the time for a new IT strategic plan is right. We view our plan as a bridge between the university strategic plan and our everyday activities.

More than 40 IT leaders came together to draft the OneIT Strategic Plan, which serves as a beacon for the technology community. It ensures our efforts are aligned to support the UI’s goals, that we help our faculty, students, and IT workforce thrive, and that we prioritize our resources as the pace of change and demand for technology increases in this era of digital transformation.

The IT community and campus partners provided significant input into the plan, and we value their ideas and insights. OneIT Leaders and Strategy Team members talked with dozens of stakeholders—faculty, staff, students, OneIT council members, and IT professionals—about forces and trends impacting IT.

Three teams representing all campus IT units gathered and analyzed information that also fed into the plan. One looked at IT impacts of the new UI Strategic Plan, one examined collegiate/departmental strategic plans, and one reviewed principles from the previous IT strategic plan, along with the organizational culture our IT leaders envisioned in a series of OneIT future state discussions.

We brought the IT leaders together for workshops, where we reviewed information we had collected, conducted gap analyses, and had in-depth discussions about goals, needs, resources, and priorities. The result was a draft plan, 80 percent complete, which we took to stakeholders for more input and revision.

The strategic plan is not meant to reflect everything OneIT currently does, or will do, to support the institution. High-quality IT services, including many that are not specifically mentioned in this plan, are a fundamental and foundational necessity that provide value to the UI. Robust, reliable technology is critical to the university’s daily operations, and we will continue to effectively deliver the crucial IT services on which our campus depends, in tandem with strategic pursuits.

We look forward to developing specific projects to bring this plan to fruition and will be incorporating the projects into future IT roadmaps, which we will publish at OneIT.uiowa.edu. We recognize that we must remain flexible and may need to adjust tactics along the way, but value this plan as a North Star to keep our IT community on the same page, outline priorities for campus, and ensure we will effectively meet the technology needs of the University of Iowa now and in the future.

Steve Fleagle, Associate VP & CIO
June 2018
A powerful element of the OneIT strategic planning process was examining forces and trends impacting IT. It was critical to take an in-depth look at known influences, opportunities, and threats, and tailor the strategic plan to mitigate or take advantage of those factors. It was also important to look at what is on the horizon and anticipate future technology and institutional needs, so that OneIT can fulfill its essential role in the university’s success.

A detailed assessment of the forces and trends impacting IT is in Appendix A. Through stakeholder conversations, research, and workshops, OneIT leaders identified key forces and trends that helped shape the plan:

- **Digital Transformation**: Digital technologies have and will continue to transform entire industries including higher education. It is nearly impossible to predict the technologies that will have the greatest impact so it is important to remain agile and become more flexible in order to adapt as disruptive changes occur.

- **Ubiquity of Technology**: Broad experience with technology leads to high expectations for the accessibility, availability, and ease of use of technology. Nearly all aspects of the campus mission are now dependent on IT.

- **Trends in Technology**: The complexity and pace of change in technology are increasing and several emerging technologies have the potential to have significant impact on UI.

- **Compliance and Information Security**: Information protection is a growing concern, and the burden of complex regulation is unlikely to diminish.

- **Institutional Change**: OneIT is integrating with healthcare IT, there are new university leaders, and budget and decision-making models are evolving.

- **The Changing Academy**: Faculty are starting to specialize in teaching, research, or service, interdisciplinary collaboration is increasing, and new course-delivery models are emerging.

- **Demographics**: An aging population and declining birthrates are expected to challenge enrollment levels and increase healthcare needs. UI may also experience more challenges recruiting and retaining diverse cultures among students, faculty, and staff.

- **Value**: The institution must demonstrate its value to the state and society at large.

- **Rising Competition and Economic Outlook**: Competition in the university’s core businesses of education, research, and healthcare is increasing, and the funding outlook is challenging.

- **Globalization**: In a global economy, the UI now competes with institutions all over the world.
“OneIT engages the University of Iowa community as a trusted, valued partner to foster excellence in research, education, health care, and public engagement.”
Trusted Partners

- Our partners’ mission is our mission. We partner with UI colleagues so we can succeed together. We demonstrate our value by understanding their work, goals, and constraints, and provide solutions that enable their success in teaching, research, healthcare, and public engagement.
- We elevate the voice of our partners and advocate for them. We value outcomes from their perspective.
- We anticipate the university’s future IT needs and position ourselves to meet them.

Inclusive and Collaborative

- We value engagement, are enlightened by diverse perspectives, and seek a common wisdom to guide IT decision-making and priorities. We cultivate IT communities that serve as critical forums for collaboration, knowledge transfer, communication, and relationship building.
- We encourage agility, autonomy, and leadership, and strive for a culture that embodies “good citizenship,” accountability, alignment, and doing what is best for the institution.
- We are intentional about our culture, respect the sub-cultures that exist, and build bridges between disparate cultures.
- We continually balance IT resources and coordinate efforts to provide “no-gap” service as a unified, integrated technology community comprising the many IT providers on campus.
- We recognize that individuals come to UI with varying levels of exposure to technology and are committed to making sure the university community understands and is able to make use of available IT services.

Efficient and Effective

- We make good decisions about sourcing, consolidation, right-sizing, and right-engineering, using metrics wherever possible. This frees up resources and focus, and reduces the costs of commodity services and infrastructure, enabling investment in IT activities that directly support the UI mission.
- We minimize unnecessary redundancies in services and infrastructure.
- We offer accessible, positive, and consistent experiences across all services and support networks.
OneIT didn’t get its name until 2015, but the journey to a more unified IT operation began decades ago when IT professionals from across the campus started meeting regularly to discuss common IT issues.

The IT community has continued to work more closely and continually adapt to technology and its role at the UI. Together the community has adapted to rapid changes in and massive adoption of technology, the evolution of higher education, and the efficiency goals of the Transparent, Inclusive Efficiency Review (TIER) initiative.

These changes—especially the TIER process and the formation of OneIT—have been both challenging and exciting. As we view the trends and forces acting upon us now, and those we anticipate in the future, we predict that the pace of change will likely accelerate.

The IT community must continue to evolve and adapt. One strategy set by OneIT is to increase the efficiency and effectiveness of IT by transforming the way IT commodity and infrastructure services are delivered, so that resources can be reallocated toward innovation and IT needs aligned with the mission and strategies of the university.

We must identify areas of IT where specialization and innovation are critical to meet unique needs in research and instruction and assure that those needs are addressed in a way that achieves the strategic goals of the university and colleges, as well as the individual goals of students, faculty, and staff. Our skilled staff and IT governance councils will help us to prioritize needs and make decisions about how we adapt to new and emerging technologies.

As important as it is for OneIT to be responsive to the IT needs of the university, it is also important that OneIT continues to evolve and position itself to be as supportive as is possible for the university in the future.
Desired characteristics that help OneIT Support its campus partners:

1. OneIT is actively engaged in planning and achieving the strategic goals of the university, colleges, and interdisciplinary entities, as well as the individual goals of students and faculty.

2. OneIT invites the UI community to engage as partners in planning, implementation, and management of services, projects, and strategies.

3. OneIT has clear purpose and direction, including well-defined strategies and roadmaps, but also retains the agility to adapt to emerging needs.

4. OneIT provides key infrastructure and services to enable the broad range of scholarly activities.

5. OneIT adeptly scopes projects and services to accommodate the broad spectrum of IT needs—from unique, individual projects to enterprise systems.

6. OneIT effectively manages risks to protect the university’s information and technology assets.

Desired characteristics that help OneIT succeed as an organization:

7. OneIT is a unified technology community, integrated with healthcare IT. The entire IT community works together to leverage complementary strengths, help the UI keep pace with the growing demand for IT services, and provide campus with a more seamless IT experience.

8. OneIT embraces a common service-management framework that provides highly visible, accessible services to faculty, staff, and students.

9. OneIT leverages a variety of service models and sourcing options and minimizes unnecessary redundancies to maximize resources, balancing production services with innovation and exploring new applications of technology.

10. OneIT attracts, develops, retains, and rewards diverse, high-performing, mission-focused staff and teams in an intentional way, ensuring the technology workforce is prepared to meet the institution’s needs.
Strategic Goals
Goals and supporting strategies outline activities OneIT will pursue in contributing to the university mission.

Goals in support of OneIT’s campus partners:

Goal #1: Teaching & Learning

OneIT will advance student learning and success by engaging campus partners, leading, and supporting effective instruction, services, and systems.

Strategies:
A. Leverage data, research, and instructional assessment to foster student success.
B. Evolve and adopt flexible, effective physical and online learning environments and ecosystems.
C. Deliver initiatives and programs in support of effective instruction.

Accountable Leader: Maggie Jesse, Senior IT Director, Office of Teaching, Learning & Technology

Goal #2: Research

OneIT will enable and accelerate research and interdisciplinary collaboration by providing a campus-wide framework that is responsive to the needs of the research community.

Strategies:
A. Provide robust research computing infrastructure, services, and training that meet current and future needs of the research community.
B. Identify and execute projects that decrease administrative burden on the research community.
C. Develop a campus-wide framework of IT support and services for supporting research. Recognize the diverse, unique needs of research and scholarly work, and simplify and improve the experiences of our all partners in the research enterprise.
D. Develop and improve services that remove barriers to research collaboration.
E. Increase awareness and adoption of available research services and technologies.
F. Develop research analytics and business intelligence (BI) tools to help guide the university research portfolio.

Accountable Leader: Ben Rogers, Senior IT Director, Research Services
**Goal #3: Data**

OneIT recognizes that data is a critical university asset, and will align data initiatives with strategic and operational priorities to empower academic excellence, research discovery, and administrative efficiency and effectiveness.

**Strategies:**

A. Implement an effective and sustainable institutional data governance process to ensure the stewardship, quality, accessibility, and security of data.

B. Continually assesses campus academic, research, and administrative data priorities, and provide infrastructure and services to achieve them.

C. Integrate information silos by collecting and curating data within the data warehouse to improve the university’s efficiency, effectiveness, and competitiveness.

D. Support robust reporting, business intelligence (BI), and analytics solutions to empower data-driven decision making.

E. Increase campus data literacy and awareness by promoting an informed data culture.

F. Champion the Campus Data Portal as the authoritative source for disseminating institutional data.

Accountable Leader: Mike Noel, Senior IT Director, Administrative Information Systems

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**Goal #4: Innovation**

OneIT will enable faculty, staff, and students to pursue innovation so that the University of Iowa is increasingly recognized for its inspiration of discovery and excellence.

**Strategies:**

A. Create new internal funding options for faculty, staff, and students to pursue innovation.

B. Develop services, processes, and structures within OneIT to rapidly meet the technology needs of new and innovative projects from the faculty, staff, and students.

C. Ensure that existing production IT services are as adaptable as possible to accommodate innovation and emergent technology needs.

D. Develop and implement a process by which new technologies, systems, and services can be scaled and transitioned to production mode, as appropriate.

E. Intentionally direct more of our IT efforts to supporting innovation.

Accountable Leader: Danny Tang, Chief Technology Officer, College of Engineering
Goal #5: OneIT will foster strong, trusting partnerships across organizational and functional boundaries to deliver solutions as an integrated team so that the university can fully benefit from IT.

Strategies:

A. Increase engagement of IT leadership in planning and decision-making efforts in every institutional, collegiate, and administrative organization.
B. Improve OneIT’s understanding of the functional processes in the units with which OneIT partners.
C. Involve functional and technical expertise in collaboration with unit-level operational efforts.
D. Invest in tools, skills, and processes to develop, understand, and manage relationships and partnerships for campus.

Accountable Leader: Lance Bolton, Senior IT Director, College of Liberal Arts and Sciences

Goal #6: OneIT will protect the technology and information assets of the institution with services and solutions that incorporate a strategic perspective to identify, assess, and manage risk, security, and compliance.

Strategies:

A. Proactively enhance automated defenses for UI networks, systems, and accounts, both locally and in the cloud.
B. Improve support and protection of campus activities that require compliance with applicable laws and regulations, including privacy obligations.
C. Develop a security-aware community that encourages responsible stewardship and actively assesses information security risks.
D. Provide ubiquitous protection for personal and university devices via policy-based access controls.
E. Assess enterprise risk and adopt systems to facilitate the identification, acceptance, or mitigation of risk.
F. Regularly update, improve, and test disaster-recovery and business continuity plans at all levels to ensure viability of university operations.

Accountable Leader: Shari Lewison, Chief Information Security Officer, University of Iowa
Goal #7: The entire IT community will foster a culture of collaboration, leveraging collective expertise and resources. OneIT will continue to unify campus IT and integrate with healthcare IT, to provide a seamless experience and effectively meet the myriad needs of the UI community.

Strategies:

A. Leverage the complementary strengths of Health Care Information Systems and OneIT to foster success in teaching, research, and health care, and to meet growing demand for IT. Execute collaborative HCIS/OneIT assessments and resulting implementation projects to take advantage of expertise, reduce duplication, leverage scale, and optimize IT support.

B. Clarify the mission and identity of OneIT. Increase collaboration and build bridges throughout campus IT units. Minimize isolated processes and decision-making, and cultivate broad perspectives to best serve the needs of the whole institution.

Accountable Leader: Rachel Napoli, Chief of Staff, Office of the Chief Information Officer

Goal #8: OneIT will meet the future needs of campus with a diverse, inclusive, and engaged workforce by attracting and retaining exceptional staff, and making career growth and development opportunities a valued part of the organizational culture.

Strategies:

A. Ensure the skills of our IT workforce meet current and future institutional needs.

B. Cultivate a workforce culture of commitment to diversity, equity, and inclusion. Embrace this commitment as mission-critical, not just compliance-driven, and embed it in hiring, incentive, retention, and career-development practices and initiatives.

C. Strengthen IT communities and promote collaboration to maximize staff contributions, enhance engagement, and foster professional growth.

D. Develop student employment opportunities and internships in order to promote staff development and provide a pipeline for future IT staff.

E. Develop and implement consistent HR practices and programs for all OneIT staff.

Accountable Leader: José Jimenez, IT Director, Research Information Systems
Goal #9: OneIT will optimize resources, processes, and service management to effectively deliver solutions that support the university’s mission, as well as the unique needs of faculty, staff, and students.

Strategies:

A. Implement an IT Service Management (ITSM) framework based on IT Infrastructure Library (ITIL) principles.
B. Aggressively pursue automation in all aspects of IT service delivery and utilize self-service tools when they improve the experience of users.
C. Evolve campus-wide IT governance to increase transparency and best prioritize IT resources through active management of the entire OneIT project portfolio, services portfolio, and application portfolio.
D. Increase awareness of IT services through marketing, and ensure that faculty, staff, and students understand how to utilize the technologies available to meet their needs.
E. Implement a formal process-reengineering team to focus on IT service processes.

Accountable Leader: Tim Evans, Senior IT Director, Enterprise Services and Infrastructure
OneIT will measure its progress and impact on campus with a selection of key performance indicators.

Each strategic goal will have a detailed plan with strategies, projects, and metrics to guide action. These indicators will help to measure the overall impact and progress of the strategic plan.

- **Student outcomes**: Impact of active-learning technologies and strategies on student success
- **User satisfaction**: Satisfaction with learning environments, research IT framework, and IT services overall
- **Innovation**: IT innovations that impact research productivity or student success through instructional methodologies/technologies
- **Involvement**: IT involvement in unit decision-making, research papers/grants, and delivery of teaching and learning
- **Decision-making**: Use of institutional data in academic, research, and administrative decisions
- **Workflow continuity**: Minimized down time for faculty, staff, and students impacted by security breaches
- **Collaboration**: IT community perception of degree of collaboration across campus IT community
- **Employee engagement**: IT staff likelihood to recommend OneIT for employment
Engaging campus partners was a key component of the planning process. An array of stakeholders were involved throughout the process, and their valuable insights influenced the plan.

Planning kicked off in November 2017 with a OneIT Leaders workshop.

Between December 2017 and January 2018, OneIT Leaders worked with stakeholders and the broader IT community to review forces and trends impacting technology. They reviewed the UI strategic plan, collegiate and unit strategic plans, and OneIT’s guiding principles and desired cultural attributes.

In a series of three workshops, OneIT Leaders drafted a plan with strategic goals that was 80% complete, then shared it with stakeholders and the IT community for feedback. The input was used to develop strategies to support each goal, and those too were shared broadly for feedback.

By March 2018, accountable leaders were assigned to each strategic goal. These individuals are accountable for making progress in the goals they’ve been assigned. They identified metrics for their respective goals, and estimated the cost of implementing each strategy.

The OneIT Strategy Team prioritized the strategic initiatives, and the plan was finalized in June 2018.

To execute the plan, strategic activities are being incorporated into the roadmap process OneIT uses to plan and track projects.
Appendix A: Influences on IT
A deeper dive into internal and external factors taken into account during strategic plan development.

Ubiquity of Technology
IT is omnipresent in our lives. Users’ broad experience with technology leads to high expectations regarding the accessibility, availability, and ease of use of technology. IT enables all aspects of the campus mission.

Impacts on IT:
- Campus IT must understand these expectations and work to meet them within the resources available.
- Broad dependence on technology means demand for IT is likely to continue increasing while resources are not likely to increase commensurately.
- Increased use and availability of technology in society will require the UI to integrate with the technology environment that faculty, staff, and students live in every day.
- Competition for IT talent is increasing.

Trends in Technology
Today technology is everywhere, and the complexity of technology is increasing rapidly. The pace of change in technology is also increasing.

- Sourcing options, like cloud, are evolving faster than is possible for on-premises services.
- The Internet of Things will continue to connect more and more devices to campus networks and will generate greater quantities and richness in streaming data sets.
- Artificial Intelligence (AI) shows promise for automating many tasks and even increasing accuracy over manual processes in some cases.
- During the past two decades, most institutional processes have been digitized.
- Data-driven decision-making is expected.
- The UI is growing more dependent on external IT vendors and this trend is likely to increase.

Impacts on IT:
- IT must act nimbly and as an effective broker and partner in this environment to enable individuals to leverage the breadth of the technology landscape to its fullest advantage.
- The ability to successfully leverage all types of sourcing options is key to keeping up with changes in both technology and our institutional environment.
- IT must be prepared for the application of AI across all aspects of the institution.
- The Internet of Things will present unprecedented opportunities to measure and manage the IT environment but will also lead to an increasing vector for cyberattacks.
- IT will be integral in the ongoing digital transformation.
- IT must partner with business owners to reimagine processes in a digitally native way with a goal of dramatically increasing efficiency or effectiveness.
- IT must be able to provide the data, technologies, and decision-support mechanisms needed to foster data-driven decisions.
Compliance & Information Security

The value of information assets has grown dramatically. Coupled with an increasingly complex technology infrastructure, there is greater opportunity for data theft and infrastructure appropriation than ever before.

Today’s regulatory environment is complex. The U.S. may see easing or consolidation of regulation, but since IT operates within a global context, a reduction in regulatory burden is unlikely.

Impacts on IT:

- To manage this risk, IT must continue to invest in information security, and work to empower campus with knowledge to effectively identify and manage these risks.
- IT must be positioned to respond to the complex regulatory environment.

Institutional Change

The rapid development of OneIT, initially stimulated by the Board of Regents TIER initiative, is fueling a new vision for working together and minimizing duplication of effort.

Increasing collaboration with healthcare IT will continue this trend, providing an opportunity to improve efficiency of current services, create a more seamless campus IT experience, and address the many new challenges that are evolving for campus IT.

Turnover in institutional leadership positions has increased, and institutional governance has changed. This has led to uncertainty about direction and how decision-making happens.

The potential for significant changes to the institutional budget model is causing uncertainty and depending on how implemented could lead to dramatically different incentive mechanisms.

Campus academic structures are currently under review and may be changed to improve alignment with the future needs of the campus. Should major changes occur this will impact the way OneIT delivers service.

Cluster hires and other interdisciplinary programs and hires are increasingly common.

Impacts on IT:

- If a greater share of funds is distributed to colleges, service models for OneIT may need modification.
- IT must be prepared to adapt to changes related to new leadership and campus priorities.
- IT must be flexible, responsive, and future-focused in periods of uncertainty.
- To support interdisciplinary efforts, IT will need to span traditional silos and act as a single organization.
The Changing Academy

Traditionally faculty have been viewed as “jacks of all trades”—charged with teaching, research, and service. Increasingly these roles are being broken up, with individuals focusing on one area.

Traditional academic boundaries at the collegiate level are becoming more porous as it becomes more common for individuals to have positions that span multiple colleges and departments.

Traditional lecture-style courses are increasingly being replaced by other teaching methods, such as flipping classrooms, active learning, group projects, or online delivery.

Impacts on IT:
- There will be less overlap across the areas of teaching, research, and service, and technology demands within a specific area may be greater.
- An increase in interdisciplinary work will require IT to provide consistent experiences across silos to help collaborators be effective and efficient.
- New delivery methods require different kinds of technology and pedagogical support to succeed.

Demographics

An aging population will also mean an increase in healthcare needs, and impacts to our workforce with many longtime employees retiring.

Declining birthrates are set to significantly impact us in coming years. With a smaller core traditional undergraduate student population, increased competition for these individuals is expected.

Traditionally the United States has been able to significantly offset these trends through immigration. UI has seen dramatic decreases in international students, and the current environment of immigration policy could lead to more challenges recruiting and retaining faculty, staff, and students of diverse cultures.

Impacts on IT:
- As competition for traditional students increases, IT needs to be ready to support whatever institutional strategies are adopted.
- IT needs to prepare its aging workforce with intentional succession planning.
- This could lead to significant challenges in meeting IT workforce needs as skillset requirements rapidly change.
Competition and Economic Outlook

Competition in our core businesses of education, research, and healthcare is increasing and the funding outlook predicts more challenges.

In education, an increasing concern is the perspective that a traditional four-year degree may not represent a good value proposition due to the high costs of tuition, fees, and other expenses. This drives significant pressure to lower costs and reduce student debt. Additionally, new modes of delivery that increase flexibility for lifelong learners are compelling universities to offer new types of degrees and increase online course offerings.

Research funding is increasingly constrained at the federal government level that accounts for the majority of current funding. Federal budgets have been constrained for years, and current political climate indicates that primary research funding agencies are likely to see budget cuts of up to 50 percent in funding programs, further increasing competition. Remaining funding is being increasingly targeted to specific areas that are often focused on grand-challenge problems that require interdisciplinary teams.

Healthcare funding is under pressure at the federal and state levels, with recent changes leading to increased uncertainty and decreased reimbursement rates. Continued cost increases above the rate of inflation are leading to an increase in the number of groups attempting to disrupt the market. Significant competition and lower revenue are leading to a challenging environment in which efficiency is key to continued success.

Impacts on IT:

- IT must carefully examine the work it is doing and optimize and align services to control costs while meeting the IT needs of the institution.
- IT must work smoothly across inter- and intra-institutional boundaries and provide services that enable research teams to be competitive with other institutions.
- New education-delivery formats will require IT to support a different service portfolio. Adaptation may require increased agility from the IT organization.
- The cost of software and hardware are increasing faster than inflation and sometimes not providing corresponding performance or capacity increases.
- Enrollment decline may lower revenue and require greater efficiency and effectiveness.

Globalization

In a global economy, the competitive field includes institutions all over the world.

Impacts on IT:

- Ubiquitous telecommunication technology is fueling expectations that study or work can be performed from anywhere with connectivity.
- As the UI finds itself in an increasingly competitive environment, IT needs to work with leadership, faculty, and staff to focus on the areas of IT that differentiate the UI and allow it to remain competitive.