

Introduction

Wesleyan's Information Technology Services (ITS) is responsible for implementing and supporting technology in pursuit of the University's mission. This strategic plan reflects the priorities of ITS going forward, and addresses needs expressed by faculty and staff, including those gathered during an external review of ITS conducted in fall 2018. The plan represents our commitment in seven areas:

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I. Improve technology support

We are adding desktop support staff to meet the growing demands of Wesleyans using technology. Wesleyan faculty, staff, and students are expected to produce work of the highest quality, and they, in turn, deserve first-class technology support. Over the years, the reliance on technology has increased in most undergraduate academic departments, while our graduate programs (Astronomy, Biology, Chemistry, Earth & Environmental Science, Math & Computer Science, Molecular Biology and Biochemistry, Music, Physics) require a correspondingly greater amount of technology support. Similarly, over the past seven years, ITS has implemented new systems in nearly every business unit across campus, and these staff too now require more support. In response, we are increasing capacity in direct user support while expanding the use of our call-tracking system to generate performance metrics and ensure that a high level of service is delivered.

❖ Short term (1-2 yrs) objectives:

- Beginning in Spring, 2019, increase the number of Desktop Support staff by reallocating existing positions.
- Designate support staff by Academic Division to customize support for faculty and staff, solving problems while building relationships (spring 2019). A current listing of desktop support staff assigned to each division can be found online at <https://www.wesleyan.edu/its/services/support/desktop.html>.
- Establish a single Helpline for ITS support (spring 2019). Faculty and staff can call x4777 to reach the ITS Helpdesk, in addition to calling their assigned desktop support specialist.
- Ensure that the campus community is aware of available software and services (fall 2019). ITS manages all software licenses using software called ServiceNow, and will soon publish a complete list of all available software titles in a Service Catalog. In the

meantime, a list of services supported by ITS can be found online at <https://www.wesleyan.edu/its/>.

- Offer hands-on training opportunities for supported software applications (ongoing).
 - Remind all Wesleyan users that they have access to excellent online video-based training through Lynda.com (linked in WesPortal).
 - Establish regular in-person meetings between CIO and campus constituents (ongoing). The CIO (Dave Baird), Deputy CIO (Karen Warren), and Director of Academic Technology (Rachel Schnepfer) are regularly attending academic department meetings, beginning spring 2019.
- ❖ Long term (3-5 yrs) objectives:
- Collect data in ServiceNow to inform future ITS resource allocations (e.g. personnel assignments, training needs, system upgrades).
 - Integrate technology procurement using OneSource (Wesleyan-Trinity-Connecticut College purchasing portal) with asset management in ServiceNow.

II. Increase ITS support for faculty scholarship and pedagogy

At Wesleyan, faculty and students can work across units on campus to proactively embrace emerging 21st century trends in teaching and research. For example, academic technologists and the Language Resource Center are jointly exploring new forms of media in the classroom, such as the creation of immersive virtual environments. Wesleyan Libraries are taking the lead in promoting Open Educational Resources, in consultation with Academic Technology. ITS will expand its abilities to facilitate faculty experimentation with new forms of pedagogy and research by developing better coordination among units on campus that support research and teaching, including Academic Technology, the Libraries, the Center for Pedagogical Innovation, the Language Resource Center, and the Quantitative Analysis Center.

We are also building a digital scholarship program at Wesleyan that encourages the evolution of the liberal arts in the 21st century through critical engagements with digital technologies. This program will support all members of the Wesleyan community through trainings, consultations, and collaborations to make informed choices about how they will create, interact with, and critique digital technologies bearing on their work.

- ❖ Short term (1-2 yrs) objectives:
- Establish a Faculty Resource Collective (FRC), in which Academic Technology, the Libraries, the Center for Pedagogical Innovation, the Language Resource Center, and the Quantitative Analysis Center work collaboratively to create clear paths for faculty to engage with campus resources. By taking a team-based approach to serving faculty needs, we will build a transparent and collaborative ecosystem to better support creative faculty scholarship and pedagogy.
 - Establish regular, in-person meetings among constituents, beginning in spring 2019.
 - Ensure that the campus community is aware of this team-based approach, through announcements at faculty meetings, Compass Workshops, and other forms of outreach.
 - Build an FRC website, complete with description of services and project portfolios.

- ❖ Long term (3-5 yrs) objectives:
 - Pilot a fellowship program for undergraduates doing digital scholarship, co-led with the digital projects librarian.
 - In collaboration with Academic Affairs, develop communities of practice across the academic divisions to pilot new digital scholarly and pedagogical resources for faculty.
 - Support digital scholarship projects through the Digital Scholarship Innovation Fund.

III. Inform and engage community in technology planning

All of the above requires planning, and the CIO works with an Information Technology Committee (ITC) comprised of faculty and staff to align major technology projects with Wesleyan's strategic priorities¹. The committee advises ITS leadership on proposed projects, priorities, and sequencing. Committee members are also tasked with relaying information to their respective areas to improve awareness of the impact these projects will have across the institution, gathering input from faculty and staff, and providing greater transparency around the project management process. Regular visits of the CIO to department meetings will also provide opportunities to engage the community in project planning. Five to seven major technology projects are underway at any given time, ranging from implementing new systems for specific departments (e.g. Affinquest for University Relations) to upgrading legacy systems that serve all of campus (e.g. PeopleSoft).

- ❖ Short term (1-2 yrs) objectives:
 - Communicate the project management process to better inform campus constituents of current, near term (1-2 yrs), and long term (3+ yrs) projects. A list of active projects can be found online at <https://www.wesleyan.edu/its/about/index.html> . An outline of our project management process was presented to the ITC in December, 2018, and can be found online here: <https://tinyurl.com/WesITSPMP> (Wesleyan login required)
 - Train ITS personnel to manage campus technology projects and related communications
- ❖ Long term (3-5 yrs) objectives:
 - Evaluate project management practices and revise to improve

IV. Improve cyber security

In today's data-intensive and technology-driven world, Wesleyan relies on secure data and systems to support its teaching, learning, and research missions. Securing Wesleyan's data, infrastructure, and operations commands greater emphasis on security operations, user education, data governance, and proactive threat hunting. Security operations focus on ensuring that the procedures to maintain security controls are performed. User education focuses on educating our constituents about common threats like viruses and email scams and how they can help to protect Wesleyan data and systems. Data

¹ See <https://www.wesleyan.edu/its/about/governance.html> for ITC membership, purpose, presentations, etc.

governance focuses on the confidentiality, integrity, and security of our data. Threat hunting refers to the proactive monitoring of applications and systems to identify anomalous activity, which could be related to a security breach. Wesleyan University and Trinity College enjoy an innovative and robust collaboration in which they share the services of a single Chief Information Security Officer. This arrangement mitigates risk, fosters collaboration throughout the IT organizations of both institutions, and adheres to the third tenet of Wesleyan 2020 – to operate within a sustainable economic model.

- ❖ Short term (1-2 yrs) objectives:
 - Implement security standards and operations for all servers and applications
 - Implement multi-factor authentication for all Wesleyan accounts
 - Complete data classification and formalize data governance procedures
 - Continue to enhance and improve the security awareness program

- ❖ Long term (3-5 yrs) objectives:
 - Implement a centralized log, security, incident and event management program to enable proactive threat hunting.

V. Modernize the availability of IT services using the cloud

The emergence of cloud computing providers (e.g. Google, Microsoft, Amazon) enables us to improve technology services to Wesleyan faculty, staff, and students far beyond the capabilities of our on-campus systems. Benefits of cloud computing include anytime/anywhere access to larger volumes of data, with increased security and reliability. Wesleyan is working toward the goal of having end to end communication in the cloud by the end of 2019. Part of that effort has been migration from on-premises Microsoft Exchange email and calendaring to Office 365 in the cloud. The next step in achieving the end to end goal is to ensure all processes including authentication (login) occur independent of on-premises systems.

Migration of the Wesleyan website to cloud hosted servers is another key result toward our objective of end-to-end communication in the cloud. Wesleyan's website consists of the content management system (Cascade) and the published site. Moving the published site to Amazon Web Services is the first and easier step in the process. This will be followed by migrating Cascade in spring 2020.

ITS has dedicated research data storage on premises. In response to accelerating growth in faculty research storage needs, we assembled a research storage advisory group to discuss technical requirements and possible ongoing funding models. Working with that group, we learned that information regarding cloud options and capabilities is fragmented among the faculty. Some have begun their own investigation of what options they have for augmenting on premises services particularly in the areas of compute power as well as data storage and archiving. ITS has begun exploring cloud for campus systems and has access to expertise from the main cloud providers as well as the Connecticut Education Network (CEN), the research and education network to which Wesleyan belongs.

- ❖ Short term (1-2 yrs) objectives:
 - Complete migration of legacy email systems to MS Office 365 (spring 2019)
 - Move www.wesleyan.edu to the cloud (July 2019)

- Investigate Cloud Research Support - Wesleyan faculty acquire research data at rates which are outgrowing our ability to provide on-premises storage solutions that meet their needs. ITS staff are collaborating with faculty to evaluate storage and data publication capabilities with Amazon Web Services (AWS), Microsoft Azure, and Google Cloud platforms accessed over Internet 2 through CEN (spring 2019).
- ❖ Long term (3-5 yrs) objectives:
 - Adopt a cloud computing and data storage strategy that complements on-premises capabilities and planned infrastructure upgrades to support new building projects

VI. Maximize impact of new building projects with technology

ITS's goal is to provide first-rate technology in our facilities. As classroom technology continues to evolve, digital projectors and flat screen displays have become ubiquitous, physical location is no longer a determinant for participation, and collaboration is seamless across devices and platforms. This has opened the door to rich and varied active learning spaces that experiment with emerging technologies including physical tools, software for teaching and learning, and technologies that support immersive learning experiences. With major construction projects (Film Studies Phase 3, Public Affairs Center (PAC) renovation, and new science facilities) in various stages of planning, design, and development, ITS must be an active partner at every stage to design and support a wide range of pedagogies within new classrooms, laboratories, and maker spaces. ITS planning for these facilities will also include consideration of new network and telephone infrastructure, High Performance Computing capacity, and research data storage and management plans (e.g. to comply with NSF publication requirements).

- ❖ Short term (1-2 yrs) objectives:
 - Work with faculty point persons and facilities personnel on classroom technology planning for film, PAC, and science projects. This will also include piloting new forms of classroom technology in existing spaces, to test out possibilities for the major classroom renovations of PAC and the new science facilities.
 - Upgrade technology in previously underutilized teaching spaces across campus to accommodate increased usage during facilities renovations.
 - Present options to facilities personnel for providing networking and telecommunications infrastructure to new and existing buildings.
 - Explore and implement options for faculty to improve research data storage capabilities and data publication platforms.
- ❖ Long term (3-5 yrs) objectives:
 - Actively participate in building design and planning as needed to ensure faculty, staff, and student success.

VII. Enhance decision support through data analytics

ITS has been leading an effort to make Wesleyan's institutional data available, verified as accurate, and securely accessible to appropriate faculty and staff to inform strategic decisions. The project requires implementing and integrating three data sets: student/academic, human resources, and finance. Student/academic data includes admissions, financial aid, and curricular information pulled from separate systems (Slate, PowerFacts, and PeopleSoft, respectively). Human Resources data includes employee information contained in PeopleSoft as well as recruitment data from PeopleAdmin. Financial data is gleaned from the Wesleyan Financial System (WFS), a component of PeopleSoft. All of these data sets will be combined in a data warehouse (Blackboard Analytics (BBA)) which permits correlation of related information and subsequent analysis and reporting.

- ❖ Short term (1-2 yrs) objectives:
 - Complete implementation of Human Resources and Finance modules
 - Integrate all three modules, enabling analysis of questions that require data from previously disparate systems
 - Transition all mandatory institutional reporting (e.g. IPEDS) to use BBA

- ❖ Long term (3-5 yrs) objectives:
 - Develop a culture of data sharing and data-informed decision making across Wesleyan
 - Improve agility in strategic decision making by improving access to relevant data sets
 - Enable Institutional Research and others to incorporate additional data sources into BBA (e.g. Alumni information, student satisfaction survey data, comparative data from peer institutions, etc.)

Conclusion

This strategic plan is a living document, informed by many conversations with faculty, staff, and students. Some of the initiatives described will require additional investments in technology (e.g. new facilities, cloud computing, and cyber security) and are thus dependent upon success in other areas of the university (e.g. fund-raising for new building projects). Some possible changes to Wesleyan's IT portfolio (e.g. replacing our aging PeopleSoft systems with modern equivalents (e.g. WorkDay)) are not described here because they are still under consideration for possible pursuit at a later time. As new challenges and opportunities arise for Wesleyan, there will be implications for our technology roadmap. In ITS, we prepare best for new opportunities when we build robust, agile systems that do not limit our range of choices and capabilities, and when we develop a technology-savvy work force that embraces the changes that new technologies bring. This strategic plan is an articulation of ITS's commitment to optimize our use of technology to activate the potential of our faculty, staff, and students *beyond 2020*. Interested readers are welcome to contact me or my staff about these ideas.

Sincerely,

Dave Baird
Vice President for Information Technology and Chief Information Officer