

UB Information Technology
2016-2018 Strategic
Report and Plan

Building Differentiating Cultures

University at Buffalo, North Campus



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Introduction by the VPCIO, J. Brice Bible

It is an exciting and challenging time to be in information technology at UB. Western New York is enjoying a resurgence of confidence, investment and optimism, and UB is actively realizing the UB 2020 goals and objectives. The university is embarking on opportunities in educational innovation and growing emerging research programs. All of these strategic initiatives depend heavily upon information technology, and this report describes the ways UB Information Technology (UBIT) is preparing for the challenge.

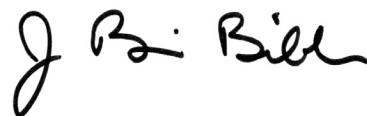
UBIT is a group of nearly 400 talented professionals throughout the university, working collaboratively to provide and support campus use of information technology to achieve academic and professional aspirations. Our team works hard to meet the university's needs and, as a result, UBIT is crucial to student, faculty and staff success.

UBIT is also committed to understanding the ever-changing needs of the campus community. UBIT strives to partner and lead the evaluation, implementation and operation of all IT services. The staff is determined to remove barriers, not only between UBIT and UB's faculty, students and staff, but within our enterprise-wide IT organization.

As a central enabler for UB's goals to reshape undergraduate education, to compete academically on a global basis, and to amplify our regional opportunities, information technology can reshape our strategies by revealing new pathways and removing operational barriers. Inspiration to do great things will continue to be a direct result of UBIT professionals working closely with researchers, educators and administrators.

In this strategic report, UBIT will communicate what we've heard from the institution about their needs, and outline technical opportunities and strategies to help students, faculty and staff achieve their goals. This report will also detail how IT is contributing to and empowering the purpose behind the institution.

I look forward to hearing from our constituents as you read about UBIT's evolving culture.

A handwritten signature in black ink that reads "J Brice Bible". The signature is fluid and cursive, with the first letters of each name being capitalized and prominent.

*J. Brice Bible, Vice President and
Chief Information Officer (VPCIO)*

Alignment to Purpose

People come to UB for many reasons. Faculty and students have their aspirations to succeed in their scholarship or science, and to advance their personal career goals. As the largest public sector employer in Western New York, UB provides exciting employment and advancement opportunities as well. All of these goals are reflected in UB's mission as it's expressed in the university's strategic plan, UB2020.

It would be nearly impossible to imagine UB as a leading 21st-century university without its dependence on critical information technology systems and resources. Information technology can also serve as a source of inspiration for people to generate new ideas and find solutions to existing problems. UB's IT leadership is accustomed to the pressures of these many demands.

A key strategy for UBIT is to maintain careful alignment of our efforts and resources with UB's goals and aspirations at all levels. Knowing those aspirations requires engagement at every level, from individuals to major units. UBIT is at an advantage since a highly distributed organization allows for listening at all levels of the enterprise. In addition, advisories, governance committees, multiple feedback channels and events help us, too.

The Purpose Alignment Model

Our model for keeping UBIT priorities aligned with UB's aspirations is the Purpose Alignment Model.¹ As a strategic planning guide, the model suggests that each UBIT project or service be examined using two factors: to what level the project is critical to the university's mission, and how much the project or service helps the university differentiate ourselves from our competitors.



¹ Niel Nickolaissen. "Aligning to Purpose." *Educause Review* May/June 2014: 54-55.



Building Differentiating Cultures

Student
Success



Innovation



Customer
Service



Information
Security



The primary UBIT strategy to enable university-differentiating projects and services is to **change our culture**—our values, attitudes, beliefs and behaviors—to enable alignment with these vital purposes. We will focus on building these cultures in the next four sections of this document.



Building a Student Success Culture

Realizing UB2020, UB's plan for achieving academic excellence, focuses on several strategy elements. One of them, the "Curricular Innovation and Student Success" element, commits the university to offering distinctive educational programs utilizing experiential learning methods, exposure to global cultures, and participative capstone projects. These requirements call upon faculty to revise and strengthen the general education curriculum, and provide ample opportunity for the utilization and integration of differentiating information technology tools. Recommendations from the implementation team count on the strengths, flexibility and efficiency of information technology as foundational.

Building the culture

A key strategy for UBIT is to engage in the instructional process in a meaningful and relevant manner. Information technology is not an end in itself; it is a tool which must be strategically applied to the university's educational mission. Understanding why and how is the fundamental work of UBIT staff.

Dedicated to student success, UBIT's involvement spans three major technology areas: direct involvement with supporting student success

initiatives and business processes through application support and data integration; innovative instructional infrastructure installed in UB's teaching and learning spaces; and, most recently, a redoubled effort to improve Wi-Fi connectivity on campus to support the mobile lifestyle of students and faculty.

Making a difference

The concept of integrative learning is key to UB's student success initiatives. UB's strategy of selecting cloud-based, best-practice tools to support student's learning portfolios and selection of global course clusters rely on UBIT's ability to securely integrate access to these packages with UB data. Similarly, an early alert system used by advisors and administrators to identify at-risk students is being implemented to ensure student success.

Improvements to UB's teaching and learning spaces have followed holistic principles to address the whole instructional experience. Upgrades to teaching and learning spaces tie together physical improvements including mobile furniture, carpeting and wall treatments, with instructional technology innovations such as support for using mobile devices for presentations. These upgrades are planned annually with university stakeholder groups to support emerging modes of teaching and learning.

Reliable Wi-Fi coverage is important to our campus community, and demand is growing exponentially. Working with the campus community, UB is building better Wi-Fi network access across all three campuses. As UB makes a major investment in Wi-Fi infrastructure, this "Wi-Fi Boost" project will double our access points and upgrade UB's networks to the latest, fastest standard.

"UB has many helpful tools for students. UBlearns is a great course management system, and Skype for Business allows students to video chat with faculty, or have discussion groups more easily."



Katherine Aiken, Director of Technology Services, UB Athletics

"Our customers have a wide range of needs, whether we're supporting them in the classroom or a research lab. IT staff across the university provide diverse solutions and expertise to help all members of our community."

David Yearke, Director of Science and Engineering Node Services

"We strive to provide students and faculty with the IT tools they need throughout their UB careers. I've had faculty leave for other schools that return and tell me, 'I didn't realize how good we had it here [in terms of support]. You had us set up quickly and efficiently.'"



David Costello, Assistant Dean, School of Management



Building a Customer Service Culture

The people of UBIT are dedicated to achieving the aspirations of every UB student, faculty and staff member. We've learned about these goals through building regular communicative relationships. Opportunities such as constituent meetings, focus groups, service performance surveys and the like give us a chance to listen intently. We know you want us to be knowledgeable, helpful and responsive. To be a trustworthy partner, UBIT must be dedicated to removing the service and technological barriers—no matter how difficult—for our campus community.

The organization of information technology support at UB is deliberately complex, and reflective of a large research university. UBIT is a network of school, departmental and central IT professionals building on each other's strengths and expertise in a unified support model. The ultimate challenge, however, is to provide a level of customer service to our university community that exceeds expectations.

Removing the walls

In fall 2014 a new department, Information Technology Customer Service (ITCS), was formed within the Vice President and Chief Information

Officer's responsibility area specifically to effect a sea change in customer service. The promise of ITCS is to deliver a consistently positive customer service experience by finding effective and timely solutions to IT problems. The path to achieving this overarching goal includes:

- Create a UBIT Help Center that is responsive to the specific needs of UB students, faculty and staff, and build supportive relationships through professional dialogue.
- Know IT customer support members by face and by name.
- Work seamlessly with distributed IT organizations to provide effective and timely support.
- Ensure that IT services and systems meet student, faculty and staff needs, which is predicated on advance dialogue to establish needs.
- Simplify and improve support request tools and use those tools to facilitate customer communication.
- Provide safe and secure device configurations and tools to directly support faculty and staff.
- Make IT easy for the customer to do what they need to succeed.

"We've taken a long, hard look at how we offer IT assistance to UB's students, faculty and staff. We've redesigned UBIT Help Center operations with an improved customer experience goal in mind and a focus on ongoing improvement. We introduced the new UBIT Help Center Online tool, designed specialized support for various customer groups, and improved communications among UB's IT support groups. These will keep us closely connected to our customers: the people who work and study at UB. "



Chris Clune, Director of IT Customer Service

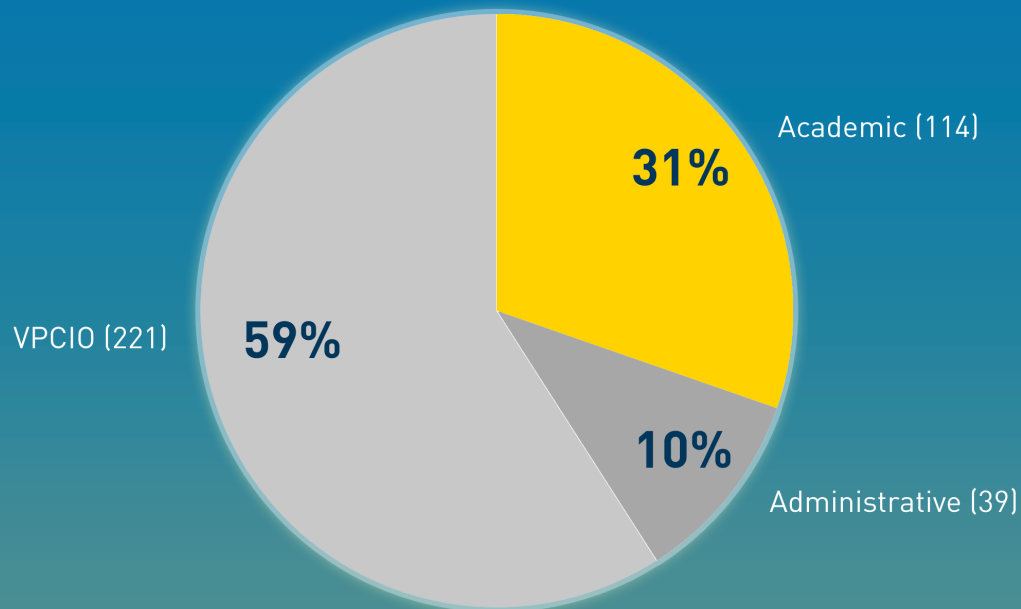
"An open door policy is absolutely essential to faculty, staff and students. They need to feel comfortable enough to walk in anytime and say 'I need your help,' and feel like they will get it. My rule with my staff is 'if you are in your office, your door must be open,' and that includes me. You don't have to go through another person or office to come see me."



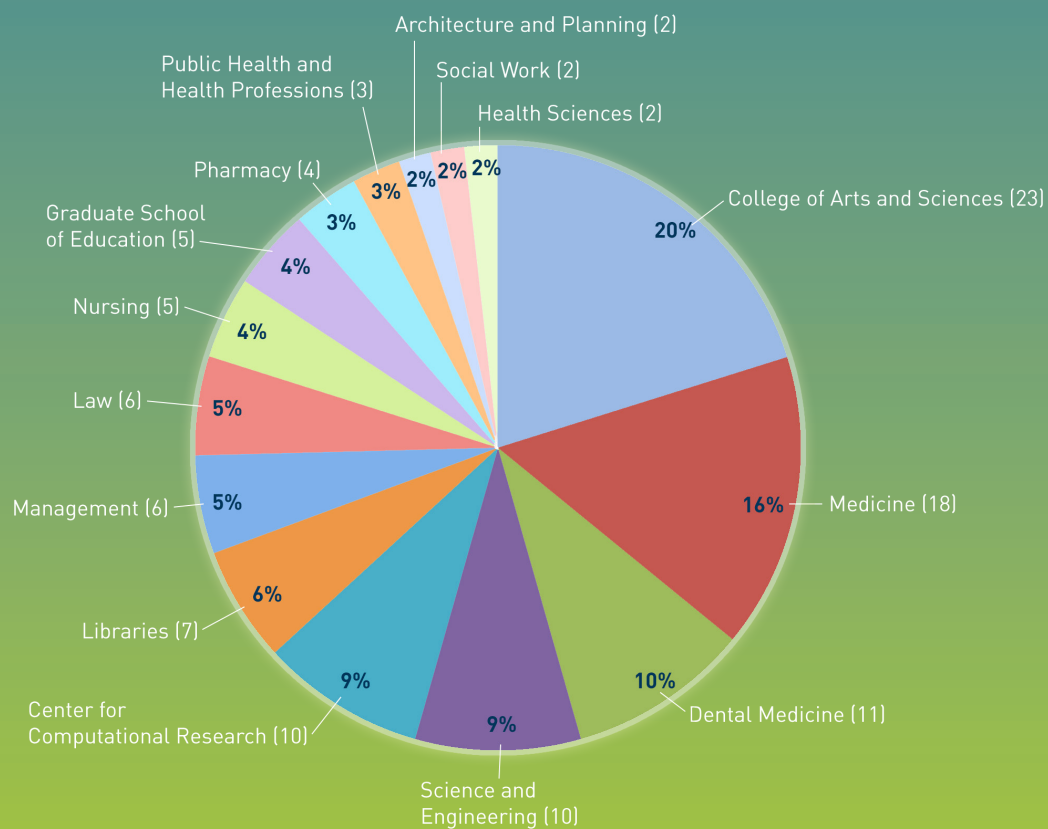
Ray Dannenhoffer, Associate Dean for Support Services, UB School of Medicine and Biomedical Sciences

UBIT by the Numbers

UBIT staffing distribution on campus



Academic IT staff



First week of Fall 2015 semester

These metrics were gathered during the first ten days of the Fall 2015 semester, when campus activities increase dramatically.

2,727
UBIT Help Center
assistance requests

Customer Service

23%
of requests from
new UBIT Help
Center Online

117
assistance
categories

108
Information
Security Office
actions taken

Information Security

7.8
million
course page
views

UBlearns

4.8
Gbps
peak incoming
network traffic

2.7
Gbps
peak outgoing
network traffic

40,911
computer connections
to the network

Network

192.5
hours
course video
captured

Video

1.29
petabytes
handled by
campus Wi-Fi

60,351
gigabytes
from Netflix

32,268
smartphone/tablet
connections
to the network

537,102
MyUB

403,513
UBlearns

446,182
UBmail

Logins

254,913
HUB

27.9
million
incoming
emails

Email

20.8
million
emails
discarded
as spam
or blocked



Building an Innovation Culture

UB's aspirations continue to grow and are influenced on a daily basis by changing expectations for what can be done with information technology. The nature of IT is that functionalities continue to be added, with the assumption that current functionalities persist, are enhanced and further integrated.

An important strategy for IT is to continuously evaluate how services are provisioned, looking for new, more effective and potentially less costly ways to provide them while maintaining parity. In addition, we seek those technologies that will distinguish UBIT and differentiate UB from our competitors. We strive to adopt technologies that are smart by reflecting UB's values, and which balance innovation with practicality.

Architecting UB's strategic infrastructure

Building innovation into UB's infrastructure consists of three basic strategies:

1. Embrace a partnership role with the university to be information technology innovation leaders.
2. Ensure that our IT architecture and services, both central and distributed, are following the best modern practices possible.

3. Create opportunities for UBIT to engage with faculty and students in exploring and experimenting with new technologies.

Taking the next steps

Work is already underway to assess IT architecture and services through the appointment of an Associate Chief Information Officer whose role is to oversee the assessment process, guided by governance principles.

As a second phase in building the customer service culture, UBIT will focus on creating opportunities for innovation with faculty and students, with the hope that UBIT staff members will further their professional development through these collaborative opportunities.

"We must keep up with the needs of our faculty and students. If there's software that will make someone's job easier, we do our best to make it available, even if it's not used daily."



Ray Dannenhoffer,
Associate Dean for Support
Services, UB School of
Medicine and Biomedical
Sciences

"Our primary mission is to ensure that people have access to the technology they need, whenever and wherever they need it."



Peter Rittner, Assistant
Dean for Educational
Technology, UB College of
Arts and Sciences



Building an Information Security Culture

Embedding a strong information security culture within UB is essential to ensuring that the pillars of information security—data confidentiality, integrity and availability—stay intact. This is particularly important given the widespread use of mobile technology and perpetual connectedness enjoyed by so many. Furthermore, large-scale data breaches are rapidly increasing in number. This obligates us to strengthen the information security culture in our institution.

Information security cannot be an afterthought. We need to include a security mindset beginning with the early stages of new projects—development, testing, quality assurance—to ensure proper precautions are taken at every step. A strong security culture requires cross-campus collaboration with transparency, supported by executive leadership. Together with the appropriate level of authority and investment in tools and technology, the Information Security Office will be in the position to better identify, detect and respond to threats, vulnerabilities and security incidents.

Whose job is it?

An effective information security culture supports UB's goals and needs by balancing innovation with protection of our research, intellectual property,

and information assets. It is everyone's responsibility to employ safe information security practices. Leading and educating the community about these practices is a priority of the Information Security Office (ISO).

The ISO offers presentations to the campus on safer use of technology, and we have seen that small behavioral changes can result in measurable improvements in information security at UB. The ISO provides guidance on university information security policies, acceptable data use and protection procedures, daily safety precautions, and taking proper action to respond to a potential information security threat.

Information security strength

The Information Security Office will continue to maintain and strengthen UB's information security culture through the following actions:

- Revise the Information Security Charter and create an oversight committee to champion change in UB's information security culture.
- Determine what UB information assets are important to protect, validate if they are being protected according to their value, and implement additional layered, defense-in-depth protection mechanisms.
- Engage a third party to conduct an independent assessment of UB's network. Prioritize and coordinate remediation efforts across the campus.
- Position the Information Security Office to better monitor, detect, and respond to security threats and incidents.
- Assess and overhaul the existing security framework and UB's IT policies.
- Expand services provided by the Information Security Office to IT departments, including a vulnerability scanning and penetration testing program so departments can proactively address security vulnerabilities.
- Actively engage with IT departments to advance security across UB, including collaboration during system and vendor assessments and ongoing third party management, such as contract, security, and controls reviews.
- Provide training and information security awareness campaigns to educate the campus community.

"The Information Security Office is proactive about contacting people before they shut down compromised accounts. Doing audits and running regular reports are key."



Katherine Aiken, Director of Technology Services, UB Athletics

Top Goals for the **2015-2016** Academic Year



Wi-Fi Boost project (Year 1)

Investment in reliable Wi-Fi coverage is important to our campus community to support their mobile lifestyle and desire to be continuously connected. “Wi-Fi Boost” is a three-year endeavor to increase coverage, amplify speed and support the latest standards.

See www.buffalo.edu/ubit/boost for more details.



Building switch upgrade program

UB's super-fast wired network backbone ensures that research and scholarship are never hindered by network speed and capacity. Building switches link individual devices to the campus backbone and require regular updates to ensure vendor support.



Proactive information security

Further engage all campus information technology organizations as well as the university community on ensuring the optimal information security appropriate for UB. This proactive security stance will ensure the information assets of the university and students are protected.



Digital classroom technology (Year 2)

In its second year, UB continues its long-standing commitment to rehabilitate and upgrade a set of centrally scheduled teaching and learning spaces each year. Upgrades include complete digital device support, mobile presentation device support and integration with physical facilities upgrades, such as movable furniture.



Downtown Campus infrastructure (Year 2)

As UB's downtown campus literally rises up, so too do demands for network connectivity to support these key aspirations. As the result of UB's visionary leadership for connectivity, UBIT is committed to enabling sufficiently robust and redundant network infrastructure connecting our three campuses, among downtown buildings, and in support of regional initiatives.



UBIT service center models

In its first year, the IT Customer Service unit within the VPCIO's responsibility area is acting on customer feedback to improve the customer service experience. Two actions will change the face of "getting help": introduction of the new UBIT Help Center Online application for requesting help and services; and improvements to the UBIT Help Center to address the specific needs of students, faculty and staff.



Enable technology components for Gen Ed projects

Adoption of UB's aggressive General Education Initiative is predicated on a number of important IT enhancements: an early-alert system for at risk students, integration of an e-portfolio system and building tools needed for smart student course selections. All of these initiatives rank high on the list of development projects, and will be reflected in the assignment of IT priorities.



Infrastructure strategic planning

Beginning with an architecture assessment within the VPCIO's area, this multi-year planning process is intended to map out an infrastructure plan for the next three years. An essential component of the planning process will be extensive consultation with campus stakeholders. The process deliverables will include a campus-wide framework for planning strategic investments in IT to position our campus to excel.



Application development organization assessment

Complete an external review of the applications services and support areas including obtaining considerable input from major university stakeholders regarding their needs and future desires built upon IT. The major goal is to realign and modernize our application support environment with the key strategic needs of the institution.



Strategic communication

Establish dialogue with campus stakeholders to better understand their the information they seek, their expectations for accessing this information, and assessing the effectiveness of communication content and channel usage. In addition, provide at least one opportunity for thought leadership in campus discussions of important and emerging challenges related to our digital lives.

buffalo.edu/ubit



The UBIT Fairy