IT@UofT Strategic Plan Annual Report

November 2020

IT@UofT
Leading change across the tri-campus community
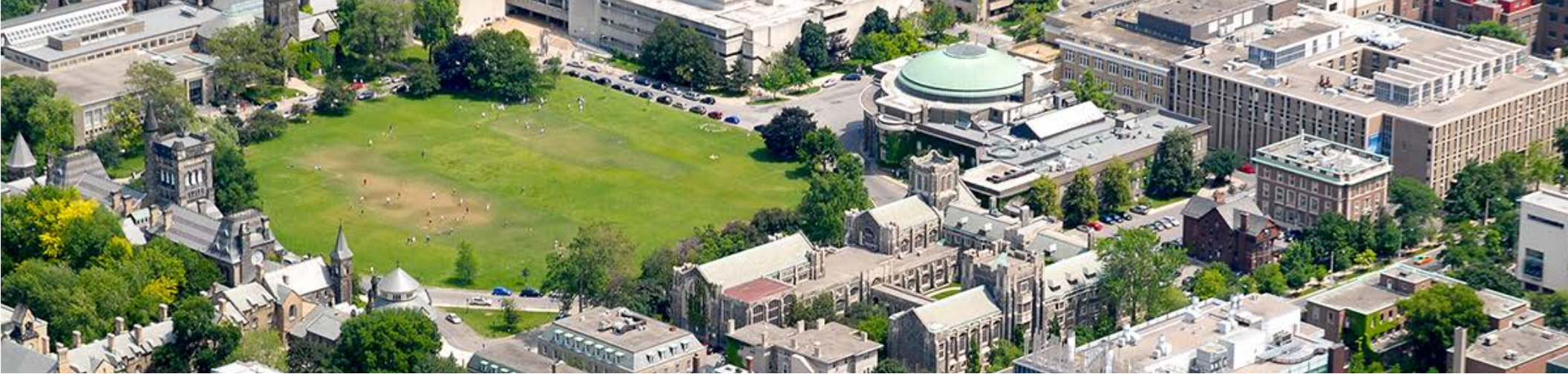
UNIVERSITY OF TORONTO

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1. Introduction

Our progress on the IT@UofT strategic plan over the past year has been inspired by strong momentum across the tri-campus community as we have worked collaboratively and collectively to achieve shared goals. With the sudden shift in the higher education information technology (IT) landscape in response to the impacts of COVID-19 and the growing requirements for remote access to administrative and academic services, our need to coordinate efforts across the tri-campus community has never been more critical. The result has been a monumental digital transformation and the acceleration of many of our initiatives.

While the initial surge of urgent requirements for remote services and resources has now levelled out, staff within Information Technology Services (ITS) and across the IT@UofT community continue to innovate and work together to meet evolving and diverse needs. The value of coordinating our collective efforts has been proven as we have aligned behind our first guiding principle: *We take a University-wide view and embrace commonalities and strengths while respecting the diverse needs of the divisions and departments*. Learning as we go, we have benefited from the expertise contributed from the tri-campus community to ensure the continuity of the University activities in support of its mission.

While ITS had already made measurable progress on our IT@UofT strategic plan goals and initiatives in early 2020, the COVID-19 pandemic crisis drove new priorities to the forefront. These include:

- Services, systems and infrastructure to support work from home
- Data security and privacy protocols for existing and new platforms
- Teaching and learning support for remote/online modalities
- New workflows related to rapid digitalization of business processes
- Timely, clear and effective communication of new priorities to various audiences

Projects and activities that support these areas of need have seen increased momentum, in many cases breaking through previous organizational impediments by necessity. While COVID-19 is disruptive in its broader societal context, ITS has embraced the opportunity to undertake transformative work that will have a lasting impact on our capacity to provide agile, effective and efficient technology-enabled services and support.

"The advancement of strategic plan initiatives within Information Technology Services (ITS) over the past year has had a great impact on staff, students and faculty. Even during these trying COVID-19 times, IT@UofT community members have worked together collaboratively to make a positive difference, provide solutions and meet challenges head-on to move the University's mission forward."

Bo Wandschneider, Chief Information Officer (CIO)

2. Progress Report

Progress updates align with our thematic pillars, derived from the community consultation that underpins the IT@UofT strategic plan: **People, Solutions and Collaboration**. These highlights, selected from over 309 initiatives currently in progress, reflect our current priorities and response to the needs of faculty, staff and students during these unprecedented times.

"IT@UofT is more than a plan; it's a mindset. Seeing community priorities increasingly reflected in our habits of mind and conversations confirms we are on the right path."

Laurie Harrison, Director, Online Learning Strategies

2.1. People

Our ITS team members as well as the broader IT community have demonstrated resiliency and agility in their response to rapidly evolving needs. Recent enhancements to communication functions and channels as well as a focus on community engagement have helped us tackle uncertainties and share information in support of remote work arrangements and changing academic and administrative requirements. A focus on introducing directed education and awareness strategies to enable effective use of digital workplace infrastructure is a current and continuing priority.

Highlight

Improved communication strategy

In recent months ITS has expanded and enhanced its channels for exchanging information within the community. IT@UofT communication and collaboration has increased within existing ITS committees, with additional check-in meetings with divisional IT units. The In the Loop e-newsletter overall subscription rate grew by 12 per cent. The frequency of publication increased four-fold in the spring months. Additionally, the creation of COVID-19-related crisis communication channels, including the ITS preparedness web page, have provided timely resources for staff, students and instructors. As well, efforts were made to gather insights from the community, including through a spring 2020 survey of student access to online resources, town hall events aimed at surfacing concerns of ITS staff and IT@UofT Tech Talk events for the greater IT community across the three campuses. Approximately 700 staff and faculty participated in these virtual gatherings. Starting in March 2020, a comprehensive crisis/issue communication strategy was developed and implemented.
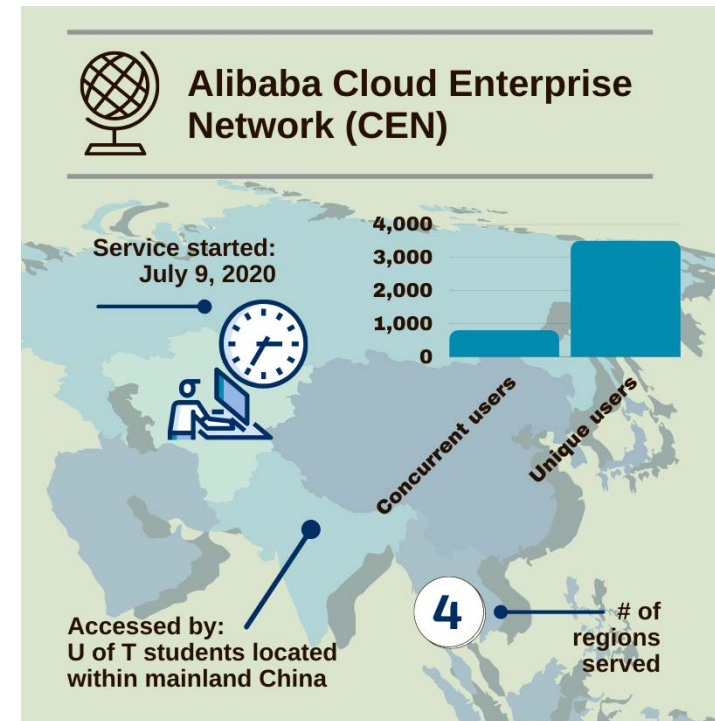

Value to the community

Transparency regarding ITS activities and opportunities for community engagement are foundational to establishing a shared approach to current activities and priorities at the University.

Building community IT security capacity and reducing risk

The new Remote Security Matters education program has been a focal point for outreach as many members of the U of T community have continued to work from home. The urgent need for secure communication and collaboration among staff, instructors, researchers and students prompted the scaling up of centrally supported virtual private network (VPN) services, as well as provisioning of the new Alibaba Cloud Enterprise Network (CEN) service to ensure fast, reliable connectivity for international students in mainland China. Daily use has been averaging a peak period with more than 800 concurrent users and approximately 3,500 unique users. ITS' Information Security team has also advanced their Information Risk Self-Assessment framework in strategic collaboration with the Data Governance group. The team has also developed training materials to support divisions in monitoring security protocols while at the same time advancing professional skills in this area across U of T.

Alibaba Cloud Enterprise Network (CEN)

Service started: July 9, 2020

4,000
3,000
2,000
1,000
0

Concurrent users

Unique users

Accessed by: U of T students located within mainland China

4 # of regions served

Value to the community

Given our current exposure through use of home networks, IT security and privacy initiatives that advance our collective expertise across all three campuses will continue to be of critical importance to reduction of risk.

Professional development and skills growth

An effective understanding of an organization and alignment with its values begins with orientation. The new ITS Recruitment and Orientation website has continued to be a key resource for newcomers as well as for current IT staff looking for clarity regarding ITS organizational structures and career development opportunities. Changing requirements for new skills and knowledge as a result of a move to a remote work context were addressed by the new Connect+Learn program, familiarizing more than 1,500 participants with Office 365 (O365) applications and best practices to date. At the same time, multi-campus coordinated participation in a Microsoft Azure training program provided certifiable skills training to 83 IT system administrators across the divisions. ITS is committed to developing future leaders through a new leadership development initiative called LEADS 360 Assessment, an opportunity for growth and self-awareness that was well received by an initial cohort of 20 ITS managers. There has also been a marked increase in the use of Gartner resources, references and consultations, with 13,460 research documents accessed (a 62 per cent increase) and a 41 per cent increase in business process and implementation toolkits downloads in the past 12 months.

Value to the community

Investment in professional development will support the recruitment, retention and growth of our people, while at the same time extending our expertise to advance digital and IT solutions at the University.

Connect+Learn

New Connect+Learn sessions — launched in March 2020 — are targeted at staff and aim to provide end user training around common technologies and applications, such as Teams, OneDrive, SharePoint and VPNs. Each session features a brief 15-minute presentation followed by a question and answer discussion.
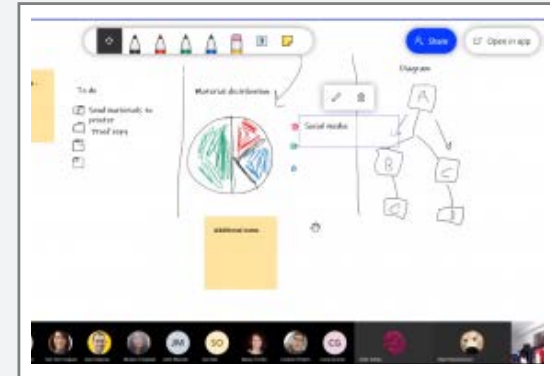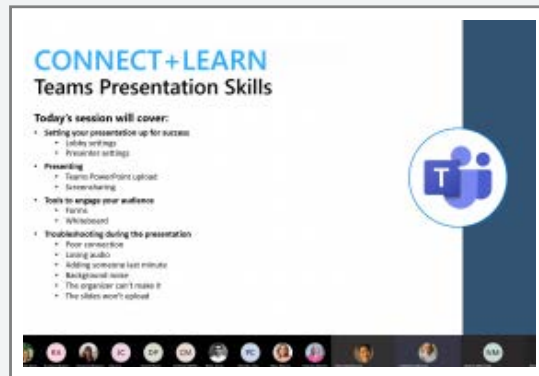
2.2. Solutions

ITS has made significant progress on objectives and related initiatives within the solutions pillar that is aimed at improving day-to-day activities in support of the University mission. In some cases, projects have been accelerated/modified to address the current urgent and emergent needs of the community in response to COVID-19 impacts, while some projects have been paused due to capacity constraints affecting ITS and/or with our U of T community partners.

Highlights

Self-serve support and service discovery

The Enterprise Service Centre (ESC) using the ServiceNow platform is available to all University staff and instructors. Building on infrastructure already in place at University of Toronto Mississauga (UTM), this centrally-supported, service desk solution streamlines, tracks and responds to service requests to the central ITS and HR & Equity divisions. This system has been used for COVID-19 reporting forms and workflows as well as a rapid email response system. The current project is expected to streamline more than 78,000 requests and inquiries annually, with additional units and departments in the process of adapting and integrating with the platform. The ESC service includes a growing self-serve knowledge base documenting processes and workflows for U of T IT infrastructure and will be complemented by a revamped ITS Service Catalogue outlining core services provided by ITS.

Value to the community

These initiatives will improve collaboration and communication through improved discoverability and rapid access to self-service information across our three campuses. Academic divisions are also increasingly interested in adopting or integrating on shared platforms.

Information Security

A new multi-factor authentication (MFA) security protocol — called UTORMFA — is now available to the U of T community. By requiring two different credentials before granting users access to an account (i.e., password paired with a code sent to your mobile phone), UTORMFA is helping successfully reduce the number of compromised accounts. This initiative is a more scalable service than the current eToken system and aims to provide a simpler, flexible service that can be used across all U of T platforms and adopted by divisions to support local needs. By Sept. 25, more than 1,000 people self-enrolled in UTORMFA with the aim to have all staff using the protocol by January 2021.
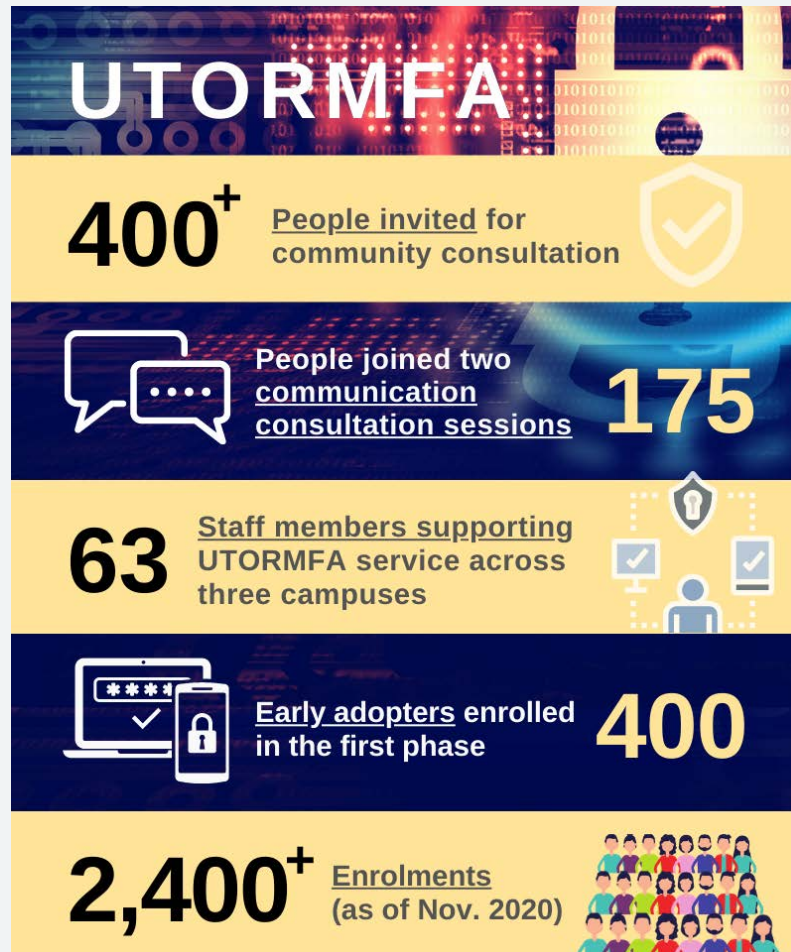
Creative stock image of someone using a cellphone with a security image overlay. Another key improvement is the implementation of a next generation firewall and intrusion protection system at the internet gateway, modernizing our ability to detect and respond to emerging threats. In addition, U of T has joined forces with five other Canadian universities to create the Canadian Shared Security Operations Centre (CanSSOC). This first-of-its-kind in Canada shared service is now attracting federal funding through CANARIE and will provide greater visibility and mitigation to cyber security threats than what institutions could deliver on their own, in a cost-efficient and effective way. Isaac Straley, U of T's chief information security officer (CISO), has worked with the Information Security Council to improve program governance — from data classification and baseline security controls standards to a HR & Equity review — to ensure we can recruit and retain security talent.

Value to the community

Together, these initiatives reflect our ongoing commitment to enabling a secure computing environment and protected management of information to ensure community members can work anywhere, on any computer, with secured data and device management.

MFA profile

UTORMFA

400⁺ People invited for community consultation

People joined two communication consultation sessions **175**

63 Staff members supporting UTORMFA service across three campuses

Early adopters enrolled in the first phase **400**

2,400⁺ Enrolments (as of Nov. 2020)

UTORMFA is the first tri-campus and tri-tier MFA support model at U of T. More than 400 people were invited to the initial community consultation and 50 individuals participated in the proof of concept and testing phase. Currently, 63 staff are supporting UTORMFA service across three campuses, which has helped result in a total of 2,400 enrollments by November 2020.

"Lock down your login! U of T's MFA strategy takes into account that credential loss isn't a maybe — it's a given. UTORMFA provided us with a convenient and user-friendly experience that decreased our overall exposure to cyber-attack."

– Steve Boyle, director of operations and information technology services, School of Continuing Studies, U of T

Teaching and learning

In response to the unprecedented demand for remote teaching support, the introduction of new platform options and agile expansion of current services has been a priority during COVID-19. Additional collaborative platform licence options to accommodate large classes have been introduced for Microsoft Teams, Blackboard Collaborate and Zoom to provide a full suite of options to suit needs across all academic units. The O365 OneDrive platform is one of five new applications that have been integrated into the academic toolbox in preparation for the high percentage of remote program delivery that was needed for the fall 2020 term. Prior exploratory work on digital learning innovation has been fast tracked to support experiential and flexible learning, including virtual labs, online proctoring and interactive open textbook technologies. While ITS staff have been extending capacity for immediate needs to extend faculty support for technology-enhanced teaching strategies, renewal processes have been initiated for several major systems, including an integrated webinar platform, academic integrity supports and peer feedback tools. The Alibaba CEN service was introduced during summer 2020 to provide access to U of T online resources for students residing in mainland China access to U of T online resources. Strategies to address COVID-19-related student learning needs were informed by the *Remotely Accessing U of T Learning Resources* survey, which provided feedback from 7,000 respondents.
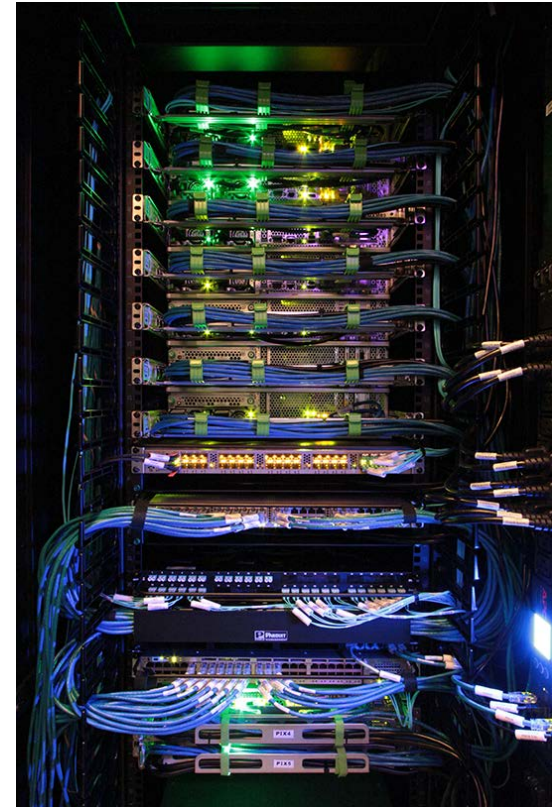

Value to the community

Our response to the current COVID-19 will provide instructors and students with flexible options and equitable access to facilitate engaging learning experiences across all program areas.

Infrastructure improvements and modernization

Year two of a multi-year SAP Modernization program is underway, encompassing an expansive human resources technology transformation, a major upgrade to the finance system, a database migration and a full system migration to the Azure cloud. To date, SAP *SuccessFactors – Staff Learning Performance and Goals and Recruitment* have been implemented to replace existing talent management web applications. All SAP on-premise hardware has been migrated to the Azure cloud platform and the database and major upgrade of the finance system are planned later in 2020. With the upgrade of SAP, there will be new opportunities for web-based services using the application development interface (UI5 and Fiori). An example we aim to launch in 2021 will be an improved expense reimbursement application. With the implementation of the cloud platform, we also have had the opportunity to explore machine learning technologies and automated process automation tools to streamline repetitive administrative tasks, such as forms processing and data input. With new cloud solution designs, we anticipate development and integration strategies between large platforms, such as SAP, O365 and ServiceNow will be in high demand going forward. Divisional and business unit IT teams will need to be engaged in order to stay abreast of evolving infrastructure frameworks, including enterprise systems that are now created as cloud-based.

Value to the community

Digitalization of the University's core administrative systems focused on process reengineering aims to improve the user experience in day-to-day activities that support the University mission. This infrastructure has supported the COVID-19-driven migration to online work practices and accelerated the opportunity for adoption of digital transformation of workflows.

Innovations

New service delivery models focus on leveraging efficient technological solutions, particularly innovations that help students to achieve academic and personal success. Through the Next Generation Student Information Services (NGSIS), the new Student Awards Database and Course Information Systems (CIS) have been rolled out broadly across divisions. In combination with work underway to refresh the core system, these improvements will speed up interactions with the systems for students and staff and provide divisional leadership with improved decision making and up-to-date information. Other enhancements include a Course Syllabus Creation Tool and Student Awards Explorer, which will streamline syllabi and exam processes for instructors and administrators and helps students make better-informed decisions about their education. A new Student System 2.0 development roadmap has been articulated as well as the work consultation to identify recommendations around the future initiatives. Other administrative efficiency gains in the IT enterprise infrastructure include automated billing for VoIP users to expedite processing and provide more transparency on billing details as well as launch of a new online U of T directory, which replaced the aging "phonebook" with a new service that is automatically updated through a data link to the VoIP system. Also, in the administrative data centre a new enterprise backup solution for the ITS private cloud allows data to be stored on premises and in the MS Azure cloud, simplifying system administration and reducing risk by storing encrypted backups in Microsoft's data centre.

Value to the community

ITS continues to build and refresh capacity in our on-site and cloud-based infrastructure, providing our community with efficient service delivery models that can also deliver enhanced user experience and reduce risk.

2.3. Collaboration

The importance and value of collaboration was identified as a critical success factor in our strategic plan, with a goal of improving processes for input, planning, implementation and governance. Our early successes (highlighted below) established foundational relationships that in turn enabled a community-wide engagement as we collectively pivoted and continue to adapt to our new circumstances. There is a high level of interest among academic divisions to share common project tracking tools, information on application development, an inventory of IT services and initiatives — all to improve alignment as we continue to forge a new vision for IT@UofT.

Highlights

COVID-19 response processes and protocols

Our collective response to administrative needs arising from remote work arrangements as well as reporting and tracking related to COVID-19 requirements has required rapid and creative deployment of new service options. It has been essential to gather information from IT directors and business offices across divisions to coordinate our efforts, standardize approaches and avoid duplication. Through ongoing community consultation, we have been able to identify needs and provide agile solutions and guidelines, such as best practices for securely working remotely, the deployment of absence reporting, room and appointment scheduling, return-to-work documentation and changes to course delivery mode indicators and registrarial processes. Other adjustments to help our community through this challenging time included digital signatures, expanded remote access tools like UTORvpn, expansion of online tuition deposit support and many more. ITS has demonstrated its ability to provide agile responses and scalable solutions.

Value to the community

While not a desirable catalyst for change, the COVID-19 crisis led to opening of key communication channels and formation of cross-divisional and cross-functional teams to build trust and resolve common issues.

Shared licencing opportunities

To meet the increasing demands for video conferencing options due to the COVID–19 pandemic, Zoom was provisionally approved for use as a U of T videoconferencing and teaching tool in response to the high-level of use among instructors and staff. Capitalizing on UTM campus' leadership in managing a divisional portal for Zoom, in combination with widespread licencing by individuals and departments, it became evident that by pooling our resources and coordinating our efforts improved service and equitable access could be achieved. As a result, in collaboration with our colleagues at UTM, the University negotiated a one-year agreement for instructors and staff to have licence access across all divisions.

Value to the community

Coordinating our procurement efforts to optimize licencing has resulted in more equitable access to high value digital communication technologies and economies of scale regarding licencing costs.

Wireless infrastructure renewal

In recent months a Wi-Fi request for proposal (RFP) process included multiple U of T community consultations to assist the tri-campus evaluation committee. Together, participants defined the technical requirements and features of this critical service to ensure we are meeting the University's pedagogical and administrative needs going forward. Once a solution is selected, we will begin replacing the legacy wireless infrastructure, starting with the oldest equipment first and continuing across divisions and departments.

Value to the community

Collaborative consulting regarding wireless infrastructure is critical given its importance to students, instructors and researchers. Broad input is needed to ensure we continue to meet current standards and capacity needs.

Consultation on service roadmap planning

With the introduction of the full O365 suite of tools, there have been many requests from the community for additional features to be activated or application extensions to be approved for integration. In order to prioritize response to community needs while also mitigating risk in rolling out new services or third-party products or services, a new application review group has been formed to ensure we leverage O365 to its full potential. Through this new advisory structure, ITS is now engaging the community to determine which new functions and features are to be prioritized for implementation in the coming period.

Value to the community

Standardizing processes and practices for change increases transparency and collaboration through planning that is inclusive of institutional and divisional needs. End users will benefit from shared prioritization of requests.

Research services collaboration

Through a partnership with the Faculty of Kinesiology & Physical Education as a divisional service provider, a much-needed new institutional survey tool is now available across the U of T community. The REDCap application is available at no additional cost to the user and provides a secure data-management web application for deploying online surveys and databases, specifically geared to support data capture for research studies and operations. Partners in the Centre for Research Innovation & Support and U of T Libraries have been essential in coordinating the infrastructure and support required for this initiative. This service is being used by approximately 500 academics and professionals on 2,000 active projects.

Value to the community

The availability of this REDCap application supports community members in more effectively advancing their research activities and administrative programs by leveraging shared infrastructure and technologies.

3. On the horizon

The following initiatives are currently in the planning stages, with implementation timelines to be determined, depending on institutional priorities, human resourcing and continued availability funding.

- **Identity management renewal planning** will serve as an underpinning for improved administration and user experience enhancements to ensure timely and secure access to online services. Foundational improvements may in turn support resolution of UTORid access issues, enhanced security through more granular access controls and the ability to tune authorization and authentication processes to local divisional and unit needs. A comprehensive identity management system is a critical element in enhancing the security and appropriate access to the myriad of research, academic and administrative resources, especially in a time when nefarious actors, such as criminal or nation-state, seek to access the intellectual capital of the University.

- **IT@UofT governance and advisory functions consultation** is proceeding with key stakeholders regarding appropriate input processes on project and service prioritization to ensure shared accountability and to better align the allocation and investment in IT resources in support of the institutional mission.

- **Educational technology needs** assessment will leverage the Educause Technology Research in the Academic Community surveys with a goal of collecting data about IT experiences in the academic environment from the perspectives of undergraduate students and faculty.

- **Learning analytics capacity** is a focus of a new strategic initiatives currently in the pilot and planning stages that will be further developed to support instructors and program administrators in improving student learning success.

- **Student Advising Customer relationship management (CRM)** implementation, jointly sponsored by the Office of the Vice-Provost, Innovations in Undergraduate Education and ITS, is in the proof of concept stage with the Faculty of Arts & Science as an early candidate for use.

- **Expanded UniversITy Service catalogue (USC) and project dashboards** to include divisional service catalogues in response to interest in combined resourcing and alignment. The goal is to showcase an integrated view of IT@UofT service offerings and initiatives in progress.

4. Tracking our progress

All ITS units are tracking progress on more than 300 projects that together represent our collective advancement of priorities identified in our strategic plan. ITS unit leads received training on a new process to collect data and maintain project updates using the ServiceNow platform. Available data can now be analyzed by strategic pillar, three-year goals and individual initiatives to provide concrete reporting on our achievements to date. Metrics on key service offerings are also published regularly on the ITS website's news section.

Visit the dashboard to view ITS initiative progress and learn about project pillars and objectives.

Percentage completion of IT@UofT strategic initiatives across the three pillars:

IT@UofT People	IT@UofT Solutions	IT@UofT Collaboration
59.1%	65.2%	55.5%
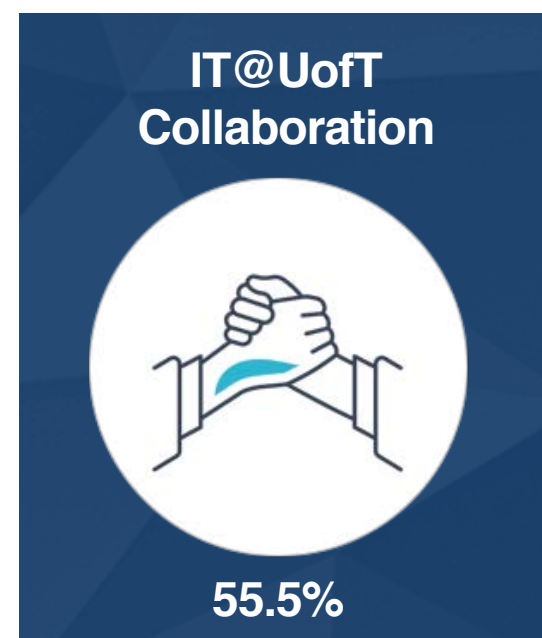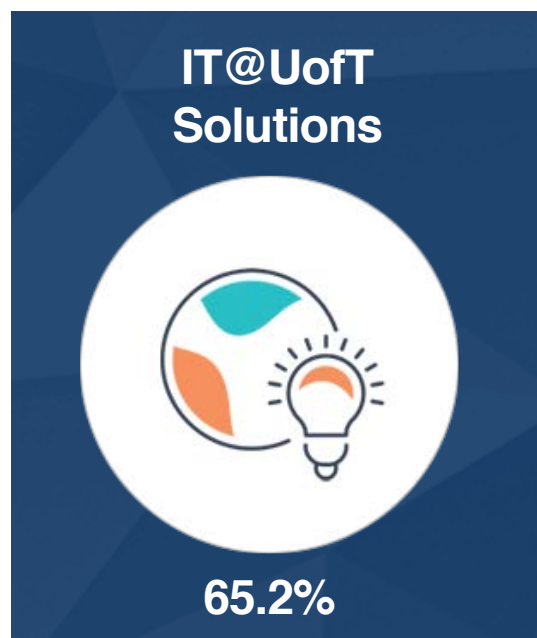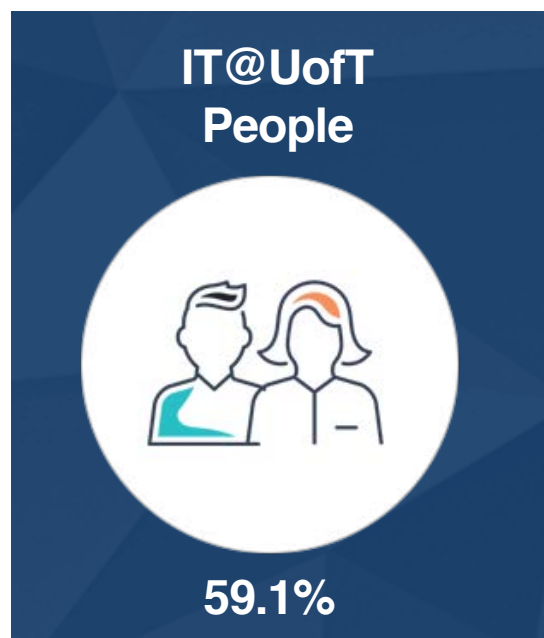
ITS support activities: by the numbers

Quercus metrics

- Quercus courses published for fall 2020 term: 6,412
- Quercus user login count over one month at start of fall 2020 term: 115,592

Webinar platforms

- Blackboard Collaborate Ultra (March 24 to Oct. 10, 2020)
  - 305,589 sessions launched
  - 2.2M attendees
  - 52,018 recordings
- Zoom licenses currently in use: 40,769

Web hosting

- U of T homepage average daily requests served over one month at start of fall 2020 term: 1.2 million
- U of T websites supported by ITS: 208

Exponential increase in demand for services

Quercus help tickets since March 2020 have increased by 104 per cent over the same period last year.

QUERCUS UNIVERSITY OF TORONTO	**Period of March 14, 2020 – Sept. 15, 2020** Number of Quercus help tickets: 1,967

MS Teams creation volume since March 2020 has increased by approximately 400 per cent over previous levels.

Period of March 2020 – Nov. 2020

Number of MS Teams created: 1,714

Between December 2019 and November 2020, the number of Microsoft Teams meetings increased from 430 to approximately 100,000 per month.

Period of Dec. 2019 – Nov. 2020

Number of MS Teams meetings: 621,869

Enterprise Service Centre (ESC) – Average number of tickets in September/October 2020 was 363. This is more than four times the amount during the same period in 2019.

Number of ESC service requests/incidents since launch: 67,917

Digital Workplace

Average number of Digital Workplace requests/incidents per day: 39

SharePoint

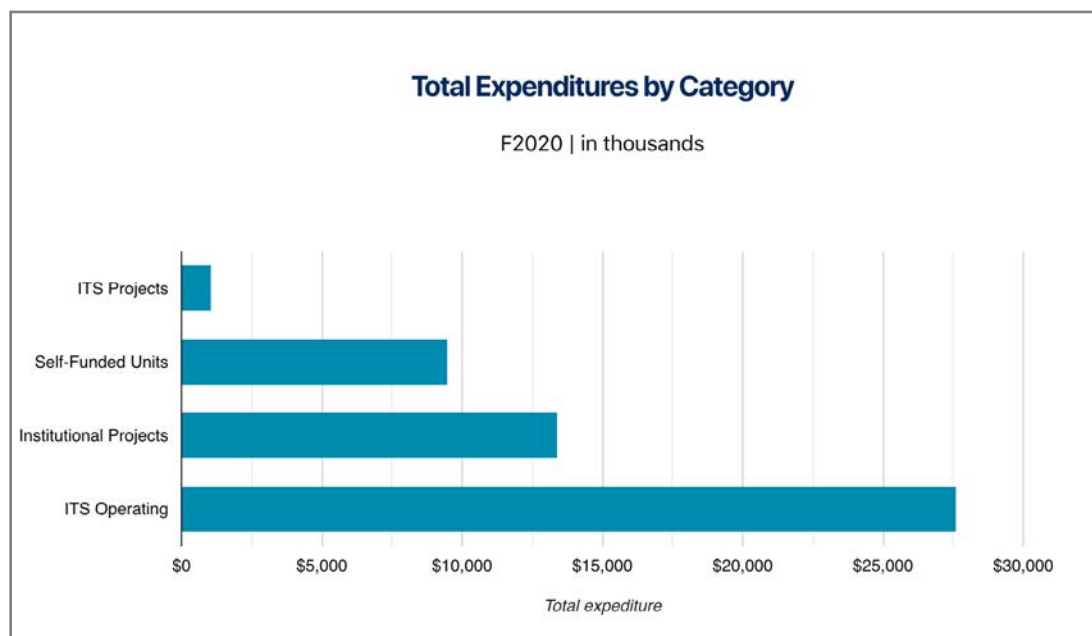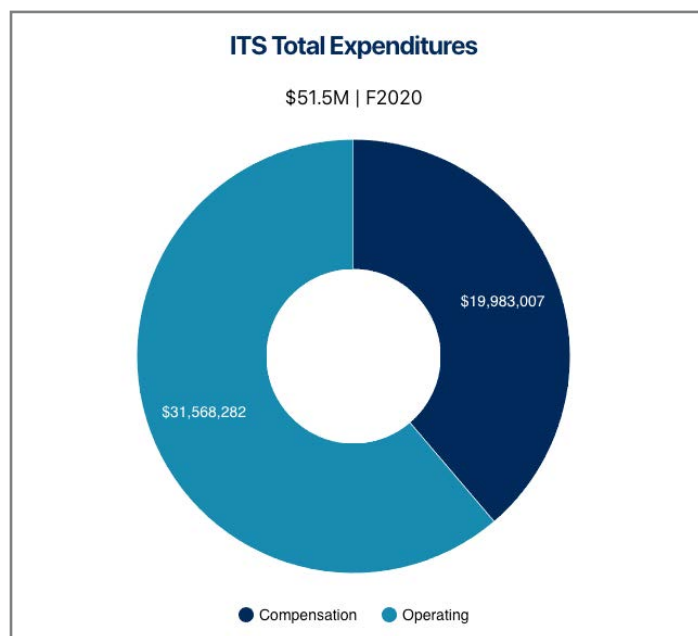Site creation – 75 per cent increase (2020 more than 2019).

Number of SharePoint sites created (January to October 2020): 258

5. Budget

The fiscal impact stemming from the COVID-19 pandemic has created an unprecedented budget uncertainty for our institution. In response to a potential disruption to funding in fiscal 2020-21, ITS created a tactical plan underpinned by agility that seeks to curtail adverse effects to our clients and community members. In addition to generating savings by targeting position vacancies and reducing discretionary expenditures, ITS curbed spending by putting infrastructure renewals on hold except for emergencies (i.e., wireless, core network and hybrid cloud), ceasing NGSIS projects (i.e., course information systems and awards) and deferring onboarding (HR & Equity) project implementation as part of SAP modernization. However, ITS has developed a recovery plan and remains poised to execute several projects should the budget impact from COVID-19 be less significant.

ITS spending highlights in fiscal 2020

ITS Total Expenditures

$51.5M | F2020

$19,983,007
$31,568,282

● Compensation ● Operating

Total Expenditures by Category

F2020 | in thousands

ITS Projects
Self-Funded Units
Institutional Projects
ITS Operating

$0 $5,000 $10,000 $15,000 $20,000 $25,000 $30,000

Total expediture

6. Closing comments

It has been a truly remarkable year with many challenges, but also many opportunities to strengthen our relationships across academic and business units on all three campuses. The agility and resilience of our IT community within ITS and across the institution has been exceptional. It has been a privilege to work with a network of skilled IT professionals as we progress toward our shared goals for working collaboratively and collectively within a federated model that is based on a shared foundation and guiding principles.

Bo Wandschneider
Chief Information Officer (CIO)

7. Appendix

- [IT project list](#)

Contact us

Your feedback and questions are valued and welcome. Contact us with comments or inquiries at:

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