

## **ITPC Report 2019-2020 (*draft 4-13-20*)**

This report summarizes the activities and recommendations of the 2019-2020 Information Technology Policy Committee (ITPC).

### **Charges**

The ITPC received the following charges from the Senate Agenda Committee:

1. The ITPC shall review how university leadership can further improve involvement of future users during early planning, pilot testing, and product selection for major software products and IT services affecting teaching, research, and award management, including recommendation of a system where such suggestions are collected and shared with ITPC, IT staff, and university leadership.
2. The ITPC shall review the outcomes of the CrashPlan backup service pilot program, including tradeoffs between cost and functionality. The process of evaluation and decision-making should involve input from a representative group of potential end-users from all colleges.

### **Membership**

- Beauchamp, Nicholas (Chair): *CSSH - Political Science*
- Camplese, Cole: *VP Info Technology & CIO*
- Smith, David: *Khoury*
- Tiwari, Devesh: *COE - Electrical and Computer Engineering*
- Whitford, Paul: *COS - Physics*
- Wihbey, John: *CAMD - Journalism*

### **Activities**

#### **Charge 1: Faculty engagement in software and IT planning**

Pursuant to Charge 1, the ITPC met with ITS and various faculty to discuss how to improve faculty engagement both in the planning and pilot-testing of new software, as well as in troubleshooting and faculty learning with existing software. ITS provides extensive support for faculty use of software via their website and by telephone, but in discussions with other faculty, it was noted that many of these tools are reactive and tend to be directed at solving individual problems. In addition to these existing resources, therefore, there may be opportunities to expand collaborative faculty sharing of software knowledge.

As discussed in more detail below, the Canvas rollout can be seen as a potential template for future software rollouts. The Canvas transition remains a complex undertaking, and has entailed many stages of pilot testing, focus groups, and faculty surveys and feedback, and this would appear to be a good model for future rollouts of complex new software products. As this rollout expands, though, there appear to be fewer formal mechanisms for soliciting

large-scale faculty feedback apart from web-forms, email and personal communication. This is an area where the ongoing Canvas process might serve as a useful testing ground for developing further faculty engagement with new software more generally. We suggest further in-person workshops, perhaps as a part of standing engagements such as department meetings. We also suggest that existing mechanisms, such as Project Initiation Forms (PIF), be better publicized among the faculty, who appear to remain largely ignorant of these useful tools.

We also suggest a broader mechanism for online peer sharing of trouble-shooting and software wisdom: that is, rather than silo support solely within communications between ITS and individual faculty, faculty might also benefit from public forums (within the university) where problems are shared and discussed both with ITS and among faculty. One potential model for this might be the UserVoice system ([www.uservoice.com](http://www.uservoice.com)), for instance: a product feedback management platform developed as a repository of existing software comments plus an automated system to gather and group new comments. A platform like this would ideally allow faculty to search for and see responses by ITS to previous issues, and could also provide a forum for faculty to communicate amongst themselves as they share hard-won insights and best practices. ITS is currently exploring the introduction of a UserVoice-based community to more transparently gather recommendations, feedback, and observations of need and expose responses by the office of the CIO.

## **Charge 2: CrashPlan (Code42)**

Pursuant to Charge 2, the ITPC collected material and conducted a number of discussions with IT staff and other faculty regarding both data backup for personal computers, and the broader initiatives at the university regarding cloud storage and data backup more generally.

Regarding personal backup, Code42 (formerly known as CrashPlan) backup service is as of November 2019 available to all Northeastern faculty and staff, and includes fully automated data protection and unlimited cloud data backup. This service can be requested by Northeastern faculty and staff through the Tech Service Portal for around \$6 per month. During the transition process, for existing Code42 account holders the current service will not change and, because the new fee for this service has been implemented part way through a budget year, existing account holders will not be charged the monthly fee until July 2020. Existing account holders will receive reminders as July 2020 approaches, with a request for a budget index number to be used to charge the monthly fee.

The transition to Code42 backup seems to have gone smoothly and to be readily available and scalable, but awareness and uptake of the service remains limited. As discussed below, the ITPC recommends that this service be more widely publicized and ideally subsidized at the college or university level. In particular, many faculty who are not as conversant with data backup and storage may remain unaware of the benefits of automatic versioned backup as opposed to merely storing their data in a cloud drive such as OneDrive or Dropbox. Information about Code42 and related cloud storage options will be included in campus communications such as the Faculty Connect to Tech guide and the Tech Service Portal, but we also

see an ongoing need to advertise these benefits more directly, eg via outreach in department meetings and other formats with more impact than websites and email.

As part of the discussion of personal backup in Charge 2, the ITPC also engaged in a series of discussions with ITS about cloud storage and data backup more generally. In addition to personal PC backup, ITS provides unlimited cloud-based storage for all members of the university community through Office 365 and OneDrive. While not an automated backup solution, OneDrive provides an environment that permits the secure storage and sharing of digital files. Awareness of OneDrive appears to be higher than Code42 backup at this stage, perhaps because the former is provided without cost and is integrated into other Office offerings. However, while suited for data sharing and storage, the automated backup provided by Code42 should be more extensively adopted.

## **Other activities**

### *Canvas Learning Management System*

The ITPC consulted with ITS on their pilot rollout and assessment of the Canvas Learning Management System (LMS) starting in fall of 2019. This pilot consisted of multiple phases, culminating in a second spring pilot and an initial recommendation to move the university LMS to Canvas by spring semester 2021, which has now been accelerated to Fall 2020 in light of the Covid-19 crisis.

The fall pilot consisted of a full installation of Canvas in a Software as a Service (SaaS) model, hosted and managed by Instructure (<https://northeastern.instructure.com>). The university student information systems (SIS) were integrated with Canvas to allow for migration of pilot participant courses. Faculty members from a wide range of disciplines were chosen from across the university to participate in the fall pilot (108 faculty / 174 courses / 3,768 students). The response from faculty and student participants was positive, with 100% of faculty choosing to continue teaching in Canvas for the spring semester, and 82% of 287 student responses recorded indicated that they would choose Canvas over Blackboard for their learning experience.

A second pilot was coordinated for the spring 2020 semester, with increased faculty participation (133 faculty / 228 courses / 5,434 students). Additional integrations with teaching and learning tools (Teams, Zoom, Panopto, Respondus Monitor, Eesysoft), testing and stabilization of the system, and full integration of the SIS feeds from university systems were completed in March. Course migrations of non-pilot courses for summer sections will begin in April, with all new courses delivered through Canvas in fall 2020. The Academic Technologies team and ITS migration partners Instructure and K16 will be offering a variety of migration offerings to faculty depending on their needs. This will range from course specific migrations to personalized migrations focused on the individual faculty member.

Since these earlier discussions, the Covid-19 crisis has necessitated an acceleration of the Canvas transition from the original plan of Spring 2021 to Fall 2020. In addition to accelerating the ITS timeline, this will also require extensive training of faculty during the summer

in the midst of Covid-19 social distancing and other exigencies. We suggest that substantial resources be devoted to this undertaking since it will entail considerable additional summer work for most faculty, especially if the university needs to engage in significant amounts of online teaching in Fall 2020.

### *Research Data Storage Plan*

Distinct from personal data backup and the smaller-scale storage provided by OneDrive, the ITPC also engaged in discussions with ITS and faculty about research data storage. The research computing (RC) team has been working to expand the research data storage systems from approximately 2.5 PB of storage capacity to 7.7 PB of available storage across multiple tiers. As part of their report to ITPC, the RC team itemized the variety of storage options currently available to Northeastern faculty, including:

- 3 PB of scratch storage on a parallel file system
- 1.2 PB of solid-state drive (SSD) high-performance storage
- 1 PB of standard storage for Windows based systems and workflows
- 500 TB of secure data enclave (SDE) storage for sensitive and secure data
- 2 PB of object storage for archival purposes, as part of the North East Storage Exchange (NESE) NSF project.

All faculty members will be provided up to 35 TB of storage at no cost for their research group. This storage capacity can be divided across all storage systems based on the research requirements of the group. For example, 35 TB of capacity could be allocated as follows: 10 TB of high-performance storage with an additional 25 TB of archival storage. The cost for additional storage capacity is dependent on the type of storage, and can range from \$10 per TB/year, to \$100 per TB/year. Awareness of these resources remains limited, however, so we suggest further advertisement of these benefits along with live and online workshops.

The RC team plans to assist research groups with workflow construction to move data between storage systems using the Globus file transfer system. A survey of active research faculty was distributed to identify groups that could benefit from the new storage systems provided by RC. Additional outreach is ongoing to assist faculty in safe and secure storage of their research data, and provide best practices for data management and distribution. The ITPC suggests that this outreach be expanded to include faculty workshops, eg as part of department meetings or other in-person or virtual seminars.

To further address the need for a Secure Data Enclave (SDE) for sensitive data (including but not limited to HIPAA, FERPA, PII, PHI, CUI, GDPR), ITS began a SDE project in January 2020, with projected availability in Fall 2020. The project team includes members of Information Technology Services, Research Enterprise Services, Office of General Council, Office of the Provost, and faculty representatives to help guide the policies and procedures around acquisition, storage, and access of any sensitive data obtained by Northeastern faculty members.

### *Social Science and Humanities Computing Needs*

In order to better understand current IT needs specific to the social sciences and humanities, ITPC engaged with the NULab for Texts, Maps & Networks (<https://web.northeastern.edu/nulab/>), a university-wide umbrella group with 36 affiliated faculty that brings together many scholars in computational social sciences and digital humanities, as well as Library leadership. Discussion centered on the needs for those doing work outside of the physical and mathematical sciences, which have tended to guide the current research computing focus on computational efficiency. The social sciences and humanities, in contrast, have greater need for data storage with strong privacy requirements, as well as more public-facing datasets and websites.

Based on these conversations, the ITPC identified a number of areas for potential improvement for resources for the social sciences and humanities. ITS has often and quite reasonably focused on secure, private research data storage, but there remains a need for further resources for public-facing datasets, public facing computing, and student computing, much of which relies on additional software and platforms used within different academic communities. The ITPC identified a need for greater faculty and student assistance in finding, processing, and sharing datasets, especially with Digital Integration Teaching Initiative (DITI) partnerships. More systematic support and resources for public computing platforms such as RStudio Server or JupyterHub would also benefit many faculty, as would hosting and support for smaller faculty and student projects using established platforms like Omeka, WordPress, etc. Many faculty also indicated that they would benefit from greater coordination and support with public-facing web development projects within the northeastern.edu umbrella, such as interactive data visualizations that require more than static pages. Finally, faculty also mentioned a need for greater support and guidance in using cloud products like AWS, such as workshops, mentoring, and greater documentation and trouble-shooting, including forums for discussing these needs among faculty as discussed in Charge 1.

## **Recommendations**

1. We reiterate last year's recommendation that high-level ITS leaders continue to be appointed as ITPC members. Cole Camplese's presence and participation have been essential for effective communication.
2. To increase faculty engagement in software evaluation, roll-out, and support, we recommend that ITS in conjunction with ITPC and other interested parties explore collaborative product feedback management platforms such as UserVoice which would allow faculty to search for and discuss the issues and insights generated by each other, including a forum component for cross-faculty communication.
3. In order to boost the availability of computational resources for faculty in the social sciences and humanities, we recommend that the ITPC, ITS, NULab and other interested faculty, and the library leadership work together to construct and document a set of resources specifically targeted towards public-facing datasets, interactive web pages, and public computing and project sharing platforms needed by these faculty

4. The Covid-19 crisis has already triggered a series of significant changes to IT and computational policies at the university, including the accelerated transition to Canvas and the rising importance of online teaching at least through the summer, and likely into the fall. We recommend that next year's ITPC in conjunction with ITS prepare a report on the myriad ways this health crisis has impacted both short-term and long-term computing resources and policies at the university; that significant new resources be devoted to building online teaching skills on Canvas and beyond; and that new structures for collecting, sharing and reporting faculty suggestions and comments specifically regarding Covid-19-related changes be created by ITS and university leadership to increase faculty understanding and input into these significant changes.