Research IT Needs Survey

In February 2016, Information Technology Services (ITS) surveyed the research community at West Virginia University to determine the IT needs of researchers, specifically focusing on centrally managed computational systems, storage systems, high speed networking, and virtual systems. The survey was sent to over 2,500 members of the research community and we received 177 responses.

Status of Participants

The majority of survey participants were faculty members, comprising almost 60% of the responses. Staff provided 23% and students provided 14% of survey responses. “Other” status types who provided feedback include resident, research faculty, FEAP, researcher coordinator, and clinical preceptor.

Participants College/School

The WVU Health Sciences Center provided 56% of survey responses. Non-HSC responses were led by the Eberly College of Arts & Sciences (21%) and the Statler College of Engineering & Mineral Resources (11%). Colleges that provided ten or less survey participants comprised 12% of responses.
Data Storage
Over 75% of survey participants indicated that they had a data storage need that was not being met. Respondents with a data storage need were asked to identify all of the storage needs that they had, selecting multiple needs if applicable.

Over one hundred participants identified that they needed data storage for both ongoing projects and to archive project data once a project is completed. Less than half of the respondents noted they needed a home directory.

Other types of storage needs identified that ITS currently does not provide include:

- Networked storage that can be reached through a SSH connection remotely;
- Long-term local storage solution for large data sets being generated by multiple users that is backed up and easily accessible for researchers to analyze their data; and,
- Archival storage for large data files, such as imaging and data analysis files.

High Performance Computing
The overwhelming majority (80%) of survey participants did not currently use the high performance computing system at WVU. Of those who did not currently use HPC, almost 75% indicated they were not interested in requesting access to the HPC resources available; however, many of the individual needs identified by survey respondents could be met by HPC services such as:
Access to more computing power because local workstations are reaching limit of being able to handle image analysis programs;

Need for computer clusters to run multiple operations in parallel using MATLAB and/or R programming languages in order to speed up computational process;

Access to multiprocessor computing system in order to simulate the numerical climate model;

Access to qualitative researcher software;

Central licenses for scientific computing applications such as MATLAB, Mathematica, and LabView; and,

A better, more consistent access to MATLAB and sometimes Maple than stand-alone licenses.

Of the 142 people who did not currently use HPC services, 25% did indicate they were interested in HPC resources and are illustrated in the chart “Colleges Interested in HPC.” The survey included a link to the ITS Team Dynamix Service Catalog to allow respondents to request HPC access directly from it. Research Computing received several account requests for students working with current HPC users; however, it did not receive any requests for brand new HPC user accounts from the survey.

**High Speed Networking**

The majority of survey participants (71%) indicated that they had a need for high-speed internet connection in order to facilitate date file transfers both on-campus and off-campus. There were individual needs identified in the survey results that could be met by using the WVU Research Exchange (REX) such as the ability to transfer large files to researchers here at WVU as well as researchers at other institutions via a secure network.

Of 125 respondents who identified a need for high-speed internet, 61% indicated they would like access to REX and are illustrated in the chart “Colleges Interested in REX.” The survey included a link to the ITS Team Dynamix Service Catalog to allow respondents to request access to REX directly from it. Despite the high interest, Research Computing did not receive any requests for access to REX from the survey.
Many survey participants (67%) indicated that they thought students needed to have additional training in basic scientific computing knowledge. Twenty people also noted that they would be willing to teach a class in basic scientific computing either as a prerequisite course or as part of a team-taught workshop. For full list of names see Appendix I.

In addition to the main survey categories previously outlined, there were several additional questions asked to identify other areas of need across the WVU campus including virtual machines and data management plans.

The majority of survey participants indicated they needed access to virtual machines (71%) as well as data visualization labs (81%). Most survey respondents (58%) noted that they did not need assistance with developing data management plans when applying to external agencies; however, 42% noted that they did need assistance.

Additional IT needs identified from survey respondents include a need for server space, access to software/applications, new hardware, data simulation, database creation and maintenance, remote access to workstations, and web development. A specific list of needs provided by survey participants is attached as Appendix II.

The results of the survey identified that ITS offers several services that the research community was not aware of it providing. Research Computing plans to focus on providing educational information to the research community to increase awareness about how its services, like HPC and REX, can assist them with their research endeavors. Additionally, ITS plans to contact the survey participants who provided their name and contact information in order to provide a solution to their identified need or to gather additional information on their request. Several participants requested that ITS provide presentations on services offered to their particular department/college/division/center. Research Computing will follow up to schedule these presentations.