Services

Computing

The collection of data for research can be an extensive task that requires large amounts of processing. Our computing resources are specialized for researchers and their pursuit of data. The process of collecting, analyzing, and visualizing data can be complete much more efficiently with our resources.

High Performance Computing Cluster

A high performance computing (HPC) cluster is a collection of connected computers coordinated to perform tasks. Our cluster, called SPORC, is specially made to assist researchers in expediting the process of collecting and analyzing data with its computational power.

High Performance Data Storage

The work done on high performance computers tend to generate large amounts of complex data. High Performance Storage is a type of storage management that is able to move large files and large amounts of data across a network. We currently use both block and filesystem Ceph storage with a total of 7.5PB of storage.

At Research Computing we understand just how important data can be. With a lot of time, effort, and energy being put into every project we know protecting it is crucial. To help keep data from becoming lost, we offer backup data storage. Included in our storage resources is 288G SATA nearline backup storage.

Cloud Computing

Research Computing will help researchers develop a cloud computer environment tailored to the researcher's needs. Assistance is provided to help researchers utilize cloud services and tools so that research data can be collected, stored, and analyzed in an efficient way.

Virtualization

Virtualization is the creation of a virtual resources such as a server, desktop, file, or most commonly an operating system. With virtualization multiple OS's can be run on one physical computer in parallel. This is incredibly helpful to research computing as the applications that run on high performance computers may have unique needs that cannot be completely satisfied by one computer or operating system.

Data Science and Visualization

Effectively communicating the results of research is an important final step in the researching process. Research Computing provides researchers many software applications that are able to create graphs, charts, models, and more from the data collected during research. We are able to provide researchers assistance with this in order to make the research as impactful as possible.

Proposal and Grant Writing

Research Computing is willing to help researchers understand the technical requirements of their research when writing a grant proposal. RIT's Sponsored Research Services has a thorough guide on writing proposals and grants. The start of this guide can be found here. This guide will help researchers determine what resources are needed for the research, develop their proposal, and lead researchers towards getting their proposal accepted.

External Resources

InCommon

The InCommon Federation is the U.S. education and research identity federation providing a common framework for trusted shared management of access to online resources. As a member of InCommon we gain access to NSF Fastlane and Globus, important tools in managing research and data.

Globus

Globus is a secure, reliable research data management service. Globus allows for users to easily move and share data with each other. It is as easy as just sharing with email, but more secure. All functions can be done within a single interface allowing for work to be done easily. Users can even develop these capabilities within their own applications. This is another application to encourage collaboration among researchers.

Extreme Science and Engineering Discovery Environment (XSEDE)

XSEDE is a cyber infrastructure supported by NSF for scientific researchers. Researchers are able to share computing resources, data, and expertise on with XSEDE. Some members of RIT's Research computing staff are a part of XSEDE's Campus Champions program meaning they are high performance computing specialists who are able to act as liaisons between RIT researchers and XSEDE