

DARWIN COMPUTING

SYMPOSIUM

In Person Satellite Event

Research Desktop: A Remote Linux Desktop Environment

Date: February 13, 2024

Time: 3:00PM – 4:00PM

Location: FinTech Innovation Hub

(591 Collaboration Way) Room 501

[Register Here!](#)

Indiana University operates a remote Linux desktop environment called the Research Desktop. This service provides students and researchers access to graphical applications, in a low latency and highly interactive fashion. The system has been designed to lower the barrier of entry and broaden adoption of traditional HPC and high-throughput computing environments. While the service provides all the normal HPC command line tools and allows for job submission to HPC systems, it is designed for users to run computationally expensive applications like MATLAB, Schrödinger, R-Studio and Jupyter right on the desktop. This provides users with an environment that looks familiar to what they know from Microsoft Windows or Mac OSX, while offering the storage and compute resources of an HPC system. The Research Desktop allows for running applications for days and even weeks, as well as detaching and re-attaching to a session, making it easy for users to start and monitor long running computational workflows. The service has been available to IU faculty, students and staff for over 7 years and is now the default way of how users interact with IU's HPC systems.

This talk will provide an architectural overview, use cases and experiences for operating such an environment. The IU Research Desktop will be compared to other ways of accessing HPC systems, like Open OnDemand, and the talk will outline how a Research Desktop can facilitate data transfer and data management, especially for environments that need to handle protected data. There will be time for Q&A as well as a live demonstration of the Research Desktop.

Robert Henschel is Program Director for Research Engagement at Indiana University.

He is responsible for working with IU faculty and research teams to facilitate the efficient use of IU's High Performance Computing (HPC) systems and reduce time to science. Henschel is also IU's representative to the High Performance Group of the Standard Performance Evaluation Corporation (SPEC) that is developing production quality benchmarks for HPC systems and he has served as the chair of this group in the past. Henschel has more than 20 years of experience in High Performance Computing, and his research interests focus on performance analysis of parallel applications and broadening adoption of HPC systems across all fields of science. Henschel has led the development of IU's Research Desktop, which makes it easier for inexperienced users to get started with HPC and has allowed the university to leverage powerful compute and storage resources to serve a broad user base.

