

UTSPH Computer Services and Facilities

UTSPH IT Services provides the school with a team of computer professionals that supports the education, research, and administrative functions of a graduate school. This includes automated single account activation and maintenance, computer support, storage, groupware (including mail and calendaring software), support for website creation and maintenance, database design, creation and maintenance, server consultation, installation, and support, video conferencing and consulting services on all technology issues. These services are typically provided at no cost to the grant.

UTSPH maintains its own data center and has access to two additional data centers for expanded services and capabilities. Access to the network from the data center was expanded to 10 gigabit speeds in 2012, providing the highest level of network connectivity currently available in enterprise organizations. Advanced network monitoring technologies from Cisco Systems help supply SPH with diagnostic and corrective tools to maintain the ever-expanding network. The school is interconnected to UT Health Science Center Houston (UTHealth) through distinct redundant-path fiber optic cabling to provide maximum uptime and reliability to the network. This network currently provides access to more than 3,000 networked devices. UTSPH maintains high speed connections to collaborative teaching and research networks Internet-2 and the Texas LEARN network. These networks provide high speed fiber access to other collaborators both within the UT System and beyond. Access to our wireless network is available throughout the entire SPH building. General wireless internet access is available without authentication. UTHealth employs a robust Information Security department which implements and monitors the security and health of our network 24x7. The UTHealth network has three firewall layers to protect variant levels of data to the highest degree possible with the industry. The ability to deploy public servers and provide the highest level of protection to corresponding project data is considered priority one both at UTSPH and UTHealth, which work together in securing and proactively monitoring these systems.

UTSPH maintains a high performance cluster (HPC) which allows researchers and statisticians to use open source scripting languages to perform complex modeling and simulation activities. The current cluster has 68 nodes with more than 1200+ computing cores, and access to more than a terabyte of memory. This system, financed through various grants from multiple divisions at UTSPH, is an example of the collaborative efforts installed in the UTSPH faculty. One special node has 960 processors and is capable of performing more than 4 billion mathematical operations per second. All faculty are encouraged to access the HPC as a testing ground for research and testing purposes. This is made available to all faculty at no cost to the grant. Students in advanced biostatistics and epidemiology courses are trained and given assignments to process on the cluster as well. The current complement of software available on the cluster includes SUSE Enterprise Linux, as the operating system, R, SNOW, SNOWFALL, Linbugs, C, and MPI. Additional software being investigated includes MatLab and SAS. Faculty at UTHealth also have advanced computing capabilities through a program with UT System where additional large HPC systems have been deployed for research purposes.

All faculty and students have access to the UTSPH virtual computer lab, accessible from any Internet connected computer, capable of supporting hundreds of users at any one time and has access to many of the most advanced software packages available today. The following is a partial list of the software packages that are available through the virtual computer lab: Microsoft Office 2010 applications including Word, Excel, PowerPoint, and Access. Also available are Stata, MiniTab, SAS, EpiInfo, SmartDraw, S-Plus, TreeAge, R, WinBugs, ArcInfo, @Risk, Simul8, MapInfo, MapMarker, Surfer, and StatTransfer.

UTHealth maintains a number of systems available to researchers including Peoplesoft for managing grant purchases, Blackboard for learning management, SecureShare for collaborative file sharing with anyone around the world, unified wireless access across more than 50 buildings, Webmail for accessing electronic mail when away from the office, iRis for electronic IRB submission and approval, SciVal for obtaining the last grant offerings available to researchers, and Cayuse for grant submission to various agencies. In development are clinical trial systems for researchers to use including RedHat, OpenClinica, and Velos.