University Technology Solutions (UTS) supports an on-campus High Performance Computer research cluster, Shamu. This system is available free of charge to UTSA faculty and student researchers. Components of Shamu are listed below:

- 83 physical servers
- TFlops: 154.58
- 5080 Total CPU Cores
- 28 TB of shared memory
- Dell Compellent highly fault tolerant storage array with 150 TB of shared disk storage (expandable up to 1.05PB depending on disk configuration)
- 4 GPU nodes, 2 containing four NVidia Tesla K80 GPU cards, 2 with V100 cards
- 1 node with 79 Xeon cores and 1.5 TB RAM
- The nodes are connected via 9 Mellanox 40Gb/s Infiniband switches and 5 Dell Powerconnect Ethernet switches.

The UTSA Advanced Visualization Laboratory (VizLab), managed by the University Technology Solutions (UTS) Research Computing Support Group (RCSG), allows researchers from all disciplines of art, science, and engineering to conduct simulation and visualization research to better understand complex phenomena and translate data into images on large-scale and high-resolution visualization walls or other display devices.

The Lab is open to all faculty, students and the San Antonio community. Since its opening in 2011, the VizLab has hosted approximately 6,000 visitors including prominent citizens such as a US Senator, the President of Malawi, local industry partners, and many representatives from countries around the world.

VizLab Features:

- Visualization Wall
  - 24 high-definition 32" monitors.
  - 115 million pixels versus 2 million on a 1080P TV
  - Powered by:
    - Three tile nodes: Dell Precision workstations with dual 10 core Intel Xeon processors, 32 GB of RAM, and dual NVidia Quadro M2000 graphics cards.
    - Head node: Dell Precision workstation with dual 10 core Intel Xeon processors and 32 GB of RAM.
    - Storage node: PowerEdge R530 server with dual 8 core Intel Xeon processors, 64GB of RAM, and 8TB of fault tolerant storage.
- HTC Vive virtual and Oculus Rift reality headsets, HoloLens AR, Oculus Rift Go, and Lenovo Daydream
- 3D Systems Touch Haptic Device
- 85” 4K television monitor
- Two high performance workstations each configured with:
  - Dual Intel Xeon 8 core processors
  - 64GB RAM
  - Nvidia Quadro M4000 CAD video cards
  - 500GB Solid State Disk (SSD) drives
  - 10Gb/s connectivity to the UTSA network and the Texas Advanced Computing Center (TACC)
  - iMac Pro Workstation
  - Visual Mobile Cart with MS Surface Studio, Oculus Rift, and more

UTSA Research Data Center (RDC)

UTSA has a dedicated, 3,558 square foot Research Data Center (RDC), custom built and designed for research technology equipment. The RDC is a raised floor data center and was opened in the summer of 2012. The main purpose of the RDC is to provide data center space for servers and data storage equipment utilized by researchers at UTSA. The primary section of the RDC consists of one outer staging area used for delivering and unpacking of equipment, one room to house a 180kW backup UPS, and an open area for colocation of research equipment. A second section is secured in a caged off area, only accessible through use of biometric readers. A final area is separated with a solid wall and is also only accessible through use of a biometric reader.

All power, data cabling, etc. is installed overhead and cooling is delivered via the raised floor plenum. The cooling system provides 31 tons of cooling capacity and is configured in a redundant fashion.

The RDC is connected directly to the UTSA backbone network, in a similar fashion as each physical building. A 40Gb/s Ethernet connection serves the RDC with a 1Gb/s Ethernet delivered out to each individual host system. 10Gb/s connectivity is delivered to five (5) separate physical areas in the room. The current network gear serving the RDC has the capability to provide 10Gb/s connectivity to other areas of the room with the simple addition of optical transceivers, additional fiber, and a top of rack Ethernet switch.

University of Texas System Research Cyberinfrastructure (UTRC) Initiative and Texas Advanced Computing Center (TACC)

Through the University of Texas Research Cyberinfrastructure (UTRC) initiative, which was implemented in collaboration with the Texas Advanced Computing Center (TACC), researchers from across The University of Texas System are able to leverage a combination of advanced computational systems, large data storage resources, and high bandwidth data access between institutions. UT System researchers are provided with unique access to allocations on Lonestar, one of the world's most productive HPC resources that integrates shared memory nodes, GPU nodes, tools for high-throughput computing, and remote interactive visualization.

High-bandwidth network connectivity (10Gb/s) has been established between all UT System institutions (including UTSA and TACC), which enables the sharing of data for collaborative purposes, as well as the movement of data to/from computing and data systems. UTSystem has deployed this high-bandwidth network capability (10Gb/s connection) and continues to work with institutions to best utilize the resource. Faculty receive 5 TB of free storage on the TACC Corral storage system, a storage and data management resource designed and optimized to support large-scale collections and a collaborative research environment.

Internet2 (I2) Connectivity and Usage

UTSA is currently a full standing member of Internet2 and maintains a shared 10Gb/s link to other research institutions and universities connected to I2.