TECHNICAL FACT SHEET

UTSA Advanced Visualization Laboratory

Growing to Tier One
By focusing on research in health, energy, security, sustainability and human development, The University of Texas at San Antonio (UTSA) is quickly becoming a national research university. Many of the topics under investigation in these areas require UTSA researchers to interpret massive amounts of data in an easily comprehensible manner.

The UTSA Advanced Visualization Laboratory, established and managed by the College of Engineering, 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 laboratory supports UTSA's mission of teaching, research and community engagement and contributes to UTSA's goal to recruit the world's top computational researchers. UTSA faculty who are interested in utilizing the Advanced Visualization Laboratory should contact the College of Engineering.

Visualization Wall
- Features two dozen 30" Dell UltraSharp Widescreen U3011 monitors
- 14.5-foot-wide x six-foot-tall tiled display (6 monitors wide x 4 monitors tall)
- Maximum resolution: 2560 x 1600 pixels/monitor (98 Mpixels total)

Haptic Device
- Quanser HD2 high definition haptic device
- Allows for 6 degrees of freedom (6-DOF) including Cartesian plane, roll, pitch and yaw
- Singularity-free operation
- Provides 5-DOF of force/torque feedback
- Large work-envelope, low-inertia, friction and backdrivable
- Provides up to 20,000 N/m stiffness
- Force isotropy: uniform force capability mimics human hand

High Performance Computing Cluster

Head Node
- Dell Power Edge R710 with dual hex-core X5650 2.66 GHz Intel Xeon Processors
- 48 GB (12 x 4 1333MHz Dual Ranked RDIMMs) RAM
- 500 GB SATA hard drive
- NVIDIA® Quadro® FX 5800 graphics cards

Computing Cluster Nodes
- 12 high-speed graphic enhanced LINUX workstations operating as one Rocks cluster

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- Dell Precision T7500 with dual hex-core X5660 2.8 GHz Intel Processors
- 24GB/node RAM, NVIDIA® Quadro® FX 5800 graphics cards with 4 GB of Video RAM & 500GB SATA hard drive

Storage Node

- Dell R710 Server with a Dell Power Vault MD3000 external RAID array (storage node) with dual port controllers and 15 450 GB 15K RPM SA SCSI 6Gbps 3.5in Hot-plug Hard Drives

Backbone

- InfiniBand communications network with a data transfer speed of 40 Gb/sec.
- A 10G closed network over Internet2 links researchers from UT Health Science Center at San Antonio
- Juniper Core and edge switches with Fiber and Cat6a SYSTIMAX Certified cabling is used on the UTSA side.

Other Features

The UTSA Advanced Visualization Laboratory includes:

- An 82" three-dimensional stereoscopic television monitor
- Videoconferencing
- A smart board
- Remote access
- Classroom style seating for 21 individuals and a conference table with seating for eight

Contacts

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Location

UTSA Main Campus, MS 1.03.06N