



Tongji University Improves Oil and Gas Research Capabilities using AMAX GPU Cluster Solutions

THE PROBLEM

Established in 1907, Tongji University is one of the leading universities directly under the State Ministry of Education in China. The University's scientific research for oil and gas exploration department began a new research project in 2010 to explore seismic wave propagation in complex media theory and numerical simulation, three dimensional seismic migration imaging of complex media, and multi-component seismic data processing and interpretation. The massive amounts of raw data generated from these tests must be processed using computer techniques in order to obtain meaningful information. The influx of processing workload quickly maxed out their computing power and the University soon needed a multi-node GPU cluster solution that could meet its demanding new project data processing and calculation requirements.

THE CHALLENGE

The University was previously using several Lenovo x86 CPU HPC clusters, but it could not meet the data processing and calculation requirements of the new projects. They needed to find another manufacturer with more experience on GPU cluster manufacturing and deployment.





After receiving AMAX's servers, we were impressed by the attention to detail and engineering that normally one expects from major manufactures. Many other vendors assemble commodity hardware off the shelf with little or no innovation.

Professor Liu, Tongji University



THE SOLUTION

After an extensive search, Tongji University was referred to AMAX. AMAX's comprehensive Tesla-based ClusterMax SuperG GPU cluster platform with its revolutionary GPGPU technology and CUDA parallel architecture enabled Tongji University to solve complex computing challenges more quickly and accurately. By using AMAX's over 30 years of experience with HPC cluster design, the ClusterMax SuperG was engineered according to Tongji University's precise requirements and quickly brought into service. Users can now experience a reduction in the time required for running

applications such as statistical analysis and seismic simulations while permitting seismology students to conduct more realistic simulations of earthquakes and the resulting damage caused by seismic waves. Additionally, much larger data sets can be processed at 8x the speed using the massive processing power of GPU's working in parallel to CPU's, giving the University the edge over systems utilizing CPU's only. As result of AMAX's GPU expertise, the project implementation went smoothly and was highly effective, and the systems operation proved to be very stable.



AMAX's high performance Tesla GPU cluster solution addresses our most demanding HPC applications and I/O requirements, which will put our university at the forefront of the industry's technology research.

Professor Liu, Tongji University



ABOUT AMAX

Founded in 1979, AMAX is the leading provider of high performance computing and comprehensive appliance manufacturing solutions. The company applies a unique combination of engineering expertise with an open standards-based approach to dramatically increase IT infrastructure ROI for a broad range of customers. Global organizations, including some of the world's best-known brands, use AMAX offerings to solve complex computing challenges, meet product development demands, integrate virtualization applications, reduce energy consumption, and stay competitive. AMAX is proud to be ISO 9001 Certified and China Compulsory Certified. The company headquarters is in Fremont, CA with offices in Richardson, TX, Taipei, Taiwan, and Suzhou and Shanghai China. For more information on products and services, go to <http://www.amax.com>.

AMAX Information Technologies | 1565 Reliance Way, Fremont, CA 94539 | 1.800.800.6328 | www.amax.com

Copyright © 2010 AMAX Information Technologies. All rights reserved. All other trademarks are the property of their respective owners. Technical information is subject to change without notice.