



Energy Prospecting Technology Builds High Performance Oil and Gas Exploration Cluster

THE PROBLEM

The demand for dependable compute power for scientific research continues to grow as high-performance computing systems become mission critical for energy exploration. Energy Prospecting Technology USA, Inc. (EPT), a wholly-owned subsidiary of LandOcean, specializes in research, software development and subsurface technical service for the exploration of petroleum. The company is focused on seismic data processing, 3D data interpretation, reservoir characterization, and reservoir engineering services that require intricate data analysis and massive computational power.

EPT's scientists and researchers depend on computing systems that are accessible, robust, and easy to use to advance their scientific discovery and complex data analysis requirements. As their datasets became more sophisticated, the team needed to increase its compute infrastructure and have it fully operational within a short timeframe. They found their previous CPU-based HPC cluster solutions too limited and unable to meet their increasing performance expectations.

THE CHALLENGE

EPT needed to have a powerful platform that would be capable of running demanding parallel petroleum exploration codes. However, they were faced with a tight window to find an advanced solution that would not disrupt the company's core business, as well as a fixed budget within which to work, so they needed the most powerful cluster they could find that would give them a competitive performance edge. They also needed it as quickly and as cost-effectively as possible. Additionally, the machine had to be easy to run and manage, and extremely reliable. The research being done on this cluster was critical to the success of EPT, and its team took this on as a challenge to find a solution to its problem.



ABOUT AMAX

Founded in 1979, AMAX is a leading provider of innovative 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's GPGPU cluster delivered revolutionary computational power in a minute space. As a result, the system enabled our researchers to analyze data at much quicker speeds and drastically minimized our overall R&D time.”

Kevin Ma, IT Manager

THE SOLUTION

After an extensive search, EPT was referred to AMAX by current customers in the oil and gas industry who had deployed AMAX clusters with excellent results. EPT worked closely with AMAX's team of engineers to design a solution that would satisfy every aspect of their criteria, resulting in a multi-node Clustermax SuperG GPGPU-based cluster, with the latest Intel® Xeon® 5600 series processors, Nvidia 20 series GPGPUs and QDR InfiniBand for the fast interconnect their application demanded.

Through close collaboration with AMAX, EPT's cluster solution is completely based on best-of-breed open-standard components that are compatible with EPT's scientific and research needs and has been running in production at nearly full utilization since its deployment. EPT has been very impressed with the cluster's performance, as well as the fact that they have experienced zero unscheduled system downtime. The Clustermax SuperG is both a functional real-world high-performance solution satisfying the customers' needs as well as a showcase for the future of computing. Together, AMAX and the Energy Prospecting Technology have deployed a reliable, high-performance cluster advancing the field of oil and gas exploration.