NOR-TECH
People Friendly Technology

Case Study
Simulation and Research

70X Faster Supercomputers = Faster Time to Market

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in terms of cost/performance for us, everything has been delivered in a timely
manner and the support has been great."*
Client's Senior Staff Engineer

The Client's Challenge

Through simulation, the client's Research Center tests products for properties like heat, vibration and reliability before they go to market.

Nor-Tech Senior Account Manager Tom Morton has been working directly with this client and their Technology Program Manager and Senior Staff Engineer for several years. During this time, Nor-Tech has provided supercomputers integrated with Intel® Xeon® Scalable Processors to this client's national headquarters, several U.S. locations and also overseas.

One of the locations purchased their first CPU supercomputer from Nor-Tech in order to bring a new technology to market in 2016. More recently, they decided to add the latest Intel Xeon Scalable processors. They were so happy with the improvement in speed that, a month later, they asked Nor-Tech to double the compute power with a second identical supercomputer that would accommodate rapidly increasing use.

Our Solution

The Senior Staff Engineer set the upgrade and additional supercomputer order in motion. "The purpose of the clusters is to run simulation software, simulating the recording process," the engineer said. "I asked for the new cluster because we wanted the usual code that we run on CPUs to process faster. We figured that if we added new processors we could accelerate it 70 times."

Since there were no major problems with the first supercomputer, the client was confident working with Nor-Tech to expand and clone it. "It was a rush project," Tom said. "We had to work within a tight timeline. They needed it about a month from the time they ordered it, which was a challenge due to the custom software installation and configuration." In the end, both clusters had 112 CPUs and 56 GPUs.

Their Success

After the Installation, Tom followed up in person with the engineer to check-in and make sure everything was running smoothly. "It was successful due to the communication between both companies, from the proposal stage, to expediting the order and the follow-through," he said.

The engineer agrees. "We haven't had any hardware issues with either cluster, only software issues occasionally. Nor-Tech is very familiar with the hardware and software and has been very responsive."

According to the engineer, both of the supercomputers did prove to be 70 times faster than the original. "We are able to increase our speed of learning and running different experiments," she explained. "It has been a huge value for us. We are only working with Nor-Tech for HPC. Getting support is easy and if it needs to be tested onsite we visit to Nor-Tech and

test it before they ship it. I would recommend Nor-Tech; the Intel hardware provides excellent cost/performance, everything has been delivered in a timely manner and support has been great."

Tom summarized, "We value our relationship with this client and enjoy working with their entire technology team."

About Intel's Family of Xeon Scalable Processors

Intel® Xeon® Scalable processors are workload-optimized to support hybrid cloud infrastructures and the most high-demand applications. Users can drive actionable insight, count on hardware-based security, and deploy dynamic service delivery. Value-added benefits include:

- Optimize Performance: New features such as Intel® Advanced Vector Extension 512 (Intel® AVX-512) improve with workload-optimized performance and throughput increases for advanced analytics, high performance computing (HPC) applications, and data compression.
- Accelerate Critical Workloads: Speed up data compression and cryptography with integrated Intel® QuickAssist Technology (Intel® QAT).
- Operate More Efficiently: High-speed Integrated Intel® Ethernet (up to 4x10GbE) helps reduce total system cost. It also lowers power consumption and improves transfer latency of large storage blocks and virtual machine migration.
- Improve Security: Deploy hardware-enhanced security to protect data and system operations without compromising performance.

Synergy among compute, network, and storage is built in. Intel® Xeon® Scalable processors optimize interconnectivity with a focus on speed without compromising data security.

About Nor-Tech

Nor-Tech built its reputation on the industry's easiest-to-deploy cluster solutions and guaranteed no wait time support. The company designed and built the HPC cluster that enabled the first detection of a gravitational wave—a discovery destined to change history. In addition to HPC clusters, Nor-Tech's custom technology includes workstations, desktops, and servers for a range of applications including CAE, CFD, and FEA. Clients include some of the most respected organizations in the world. Nor-Tech engineers average 20+ years of experience and are responsible for significant high performance computing innovations. The company has been in business since 1998 and is headquartered in Burnsville, Minn. just outside of Minneapolis. To contact Nor-Tech call 952-808-1000/toll free: 877-808-1010 or visit http://www.nor-tech.com. Full release at: http://www.nor-tech.com/category/news/

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