Case Study

Seamless Transition from a Workstation to a Cluster

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President product development and engineering company

Their Challenge

A leading product development and engineering company runs powerful CFD, CAE and FEA models for some of the world's biggest organizations. Although the President and his staff were using a number of workstations, a point came when they needed something more powerful.

Nor-Tech's Senior HPC Account Manager Bob Dreis said, "We began talking about specific clusters last fall. The President knew he wanted to upgrade to a cluster for speed and control."

As the company continued to expand to a broader range of customers, the President needed to run programs faster. "We had workstations that were different vintages, but they weren't obsolete," he said. "Our goal was to keep using those and have a high performance cluster for more demanding jobs; in particular CFD."

Our Solution

When it comes to HPC hardware v. cloud computing, the primary issues are cost and security. The President opted out of cloud computing in order to maintain tight control over their own and their customers' proprietary data and also to bring down costs.

"We chose to spend money on the hardware rather than the software," he explained. "We have been doing this a long time and we know the advertised advantages of cloud computing are accurate only to a certain point. In order to get solutions under your belt, you spend a lot of time trying to get a model functioning the way you want. Cloud providers anticipate you burning through significant revenue in this model development phase when there is a lot of experimenting."

Bob concurred, "Aside from security and accessibility, the main concern of cloud computing is the cost. If you are running 24/7 processing, uploading, downloading, etc. over a year's time it is much less expensive to buy your own equipment."

Bob worked with the client on the hardware specifications. Both agreed on Intel's 2nd Gen. Xeon Scalable processors.

Their Success

The client took delivery of the new cluster and has been using it for several months. "It was nice to know in advance that it would have the horsepower we needed; we were able to test everything before we took delivery," the President said. "We do like the throughput—our goal is for it to be as easy to use as a toaster or a printer. With Nor-Tech's continued support, we are getting there."

He added, "I would recommend Nor-Tech. If you are very focused on accelerating the software, you want to go with a company like Nor-Tech that knows the software as well as the hardware. Before deciding on Nor-Tech, we looked seriously at another firm in California, but they knew nothing about software. You just can't beat Nor-Tech's broad range of HPC expertise."

Bob concluded, "The client's entire team has been a pleasure to work with. It will be exciting for all of us at Nor-Tech to watch this company's continued growth and know that we played even a small part."

About Intel 2nd Gen Xeon Scalable-Refresh Processors

Building on the momentum of the existing 2nd Gen Intel Xeon Scalable processors (CLX), these CLX-R processors offer enhanced power and value for high performance, mainstream and entry level applications at a similar or lower price than CLX. They feature:

- **Peak Frequencies for High Performance Use:** Two new Intel Xeon Gold 6200 processors deliver up to 4.5 GHz Intel Turbo Boost Technology, along with up to 3.9 GHz base frequency, with up to 33% more processor cache.
- **Enhanced Performance for Mainstream Use:** New Intel Xeon Gold 6200R processors deliver built-in value through a combination of higher base and Intel Turbo Boost Technology frequencies (in addition to increased processor cache), at a similar or lower price than original 2nd generation processors.
- **Increased Value and Capability for Entry Use:** New Intel Xeon Gold 6200U, Silver 4200R and Bronze 3200R processors deliver increased value for single-socket, entry, edge, networking and IoT applications.

Nor-Tech is an Intel HPC Data Center Specialist and Platinum Partner with the depth of engineering experience to develop HPC technology that allows clients to solve problems, complete research, develop prototypes and bring products to market faster than competitors. For more information, visit: https://www.nor-tech.com/solutions/hpc/intel_clx-r/

About Nor-Tech

Nor-Tech is on CRN's list of the top *40 Data Center Infrastructure Providers* along with IBM, Oracle, Dell, and Supermicro and is also a member of Hyperion Research's prestigious HPC Technical Computing Advisory Panel. The company is a high performance computer builder for 2015 and 2017 Nobel Physics Award-contending/winning projects. Nor-Tech engineers average 20+ years of experience. This strong industry reputation and deep partner relationships also enable the company to be a leading supplier of cost-effective Lenovo desktops, laptops, tablets and Chromebooks to schools and enterprises. All of Nor-Tech's high performance technology is developed by Nor-Tech in Minnesota and supported by Nor-Tech around the world. The company is headquartered in Burnsville, Minn. just outside of Minneapolis. Nor-Tech holds the following contracts: Minnesota State IT, GSA, University of Wisconsin System, and NASA SEWP V.

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