NOR-TECH
People Friendly Technology

Case Study

Faster Quotes + Faster Production = More Revenue

"You can buy the parts from anybody, but it's the customer service that you want. Nor-Tech's slogan, 'People Friendly Technology' is perfect—it fits them to a tee."
James Hyder, Lead Additive Manufacturing Engineer, Knust-Godwin SBO, LLC

Their Challenge

Knust Godwin, LLC is a leading-edge precision contract manufacturer that depends on a fast quoting process and fast production to grow sales. Their current workstation, however, was creating a snag in both quoting and production.

Nor-Tech's Senior HPC Account Executive Tom Morton said, "Knust-Godwin is an incredible company, but their competition was passing them by. They couldn't get quotations out to customers fast enough to win projects. The industry average is 48 hours to get a quote back. It was taking Knust-Godwin as much as a week—so they didn't even have a chance to compete. They knew that if they could deliver a quote the next day, it would significantly affect their profit margin."

Knust-Godwin Lead Additive Manufacturing Engineer James Hyder explained, "There were really two reasons that we needed a cluster—for quoting and ultimately production.   We were confident that if we could speed up the quoting process and production time we would win more bids. With a workstation it could take up to 2-1/2 days to create and build a single part, I

knew a cluster would be much faster. In this business, it's all about how quickly we can respond to customers."

James had done some research and knew what he wanted by the time he contacted an additive manufacturing software developer and Nor-Tech. "Initially we had a Dassault Systèmes additive manufacturing package that we were using on a workstation," he said. "We thought about purchasing four workstations, but we quickly realized it just wouldn't be a cost-effective approach. We wanted to move computations to a cluster so that it would be much more efficient. I was extremely confident that a cluster was the only solution for the problems we were having."

At that point, James contracted with the additive manufacturing software developer to adapt their software for use on a cluster.

Dassault Systèmes reseller Adaptec Solutions recommended Nor-Tech to Knust-Godwin. According to James, they were the only HPC builder Adaptec would recommend. "They had complete confidence in Nor-Tech," James said.

Our Solution

Tom worked with James to determine budget and requirements for the cluster and worked with the software developer on compatibility requirements.

"We set James up on our demo cluster so that he could benchmark Intel's Cascade Lake Xeon Scalable processor versus AMD's EPYC Rome processor," Tom said. "After deciding on Cascade Lake, Nor-Tech custom built an HPC cluster that fit James' budget and computational needs and integrated the software into the cluster. It was a complete turnkey solution with 128 Cascade Lake processor cores; Intel enterprise SSDs, and 60 TB of storage and a low latency InfiniBand network.

Nor-Tech's Vice President of Engineering Dom Daninger explained, "One of the challenges was working with software that we had never integrated before. Fortunately our engineers have more experience in the HPC space than almost anyone else. While this was something different for us, we have seen a lot tougher integration challenges. It's what we do all day long. Most companies could not have handled this."

As is usually the case, there was a bit of a learning curve for Knust-Godwin at first, but Nor-Tech's engineers had the support expertise to help them get up to speed quickly with the technology.

Their Success

Knust-Godwin has been using the new cluster for over a year. It has allowed them to respond more quickly to customers and toggle between different iterations of quantities and orientation--optimizing print efficiency. "We got very positive feedback from Knust—they were extremely happy with the performance," Tom said.

James was especially pleased with Nor-Tech's ability to make the entire process as straightforward as possible. "Nor-Tech sent documentation that was impeccable, it was perfect," he said. "We unboxed the cluster ourselves, followed the instructions, plugged it in and it worked. I was extremely impressed with their documentation."

James continued, "Nor-Tech's customer service has been amazing. They have been very mindful of my time and they communicate in a way that most people can understand. Nor-Tech just has a really good support team. They are people you want in your corner. I would absolutely recommend Nor-Tech—just for the outstanding customer service alone. You can buy the parts from anybody, but it's the customer service that you want. Nor-Tech's slogan, 'People Friendly Technology' is perfect—it fits them to a tee."

"The real key is how fast we can get quotes to the customer," James concluded. "You can lose a bid by not getting a quote in quickly. Now we can respond to our customers in a fraction of the time it used to take. It has definitely had a bottom line effect on our business. The cluster integrated with the new software is now an essential tool."

To learn the benefits of upgrading from a workstation to a cluster

Contact Nor-Tech
Email: info@nor-tech.com
Call 952-808-1000; toll free: 877-808-1010

About Knust-Godwin SBO, LLC

Headquartered in Katy, Texas, Knust-Godwin is a premier full service contract manufacturer of products and services for the aerospace, defense, semi-conductor, petroleum, petrochemical, natural gas, power generation, and other general industries. From concept, to engineering, to prototype, to production runs, they handle all aspects of precision machining.

Services and capabilities include: manufacturing engineering, additive manufacturing, CNC turning, CNC milling, inspection test/welding, welding, laser overlay, EDM, drilling, coldwork, repair/refurbish, finish, hammer peening, e-beam welding and more.

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/

About Intel® 3rd Generation Xeon® Scalable Processors

The Intel 3rd Gen Xeon Ice Lake processor is the only data center CPU with built-in AI acceleration. Other highlights include:

- 1.5X better performance than other CPUs across 20 popular machine and deep learning workloads with a core count increase to 40.
- On average up to 62% better performance on a range of broadly-deployed network and 5G workloads over the prior generation, offering users huge performance increases while maintaining the convenience and compatibility of their architecture
- For key AI workloads, an up to74% increase in AI performance on the deep learning topology BERT while maintaining full compatibility
- Support and benefits with PCIe-Gen4 support, increased memory bandwidth, memory capacity up to 4TB per processor/socket and additional AVX-512 instructions.
- Includes Intel SGX for increased protection of data and application code and Intel Crypto Acceleration for encryption-intensive workloads
- Built on open standards and APIs, with fully optimized software.
- A powerful and flexible portfolio with connectivity, storage, software and oneAPI cross-architectural tools that can further enhance workload optimized solutions

Innovations in core architecture and memory bandwidth deliver outstanding performance for diverse and challenging applications. With the flexibility, security, capability, and interoperability to power heterogeneous demands, 3rd Gen Intel® Xeon® Scalable processors provide effective and efficient platform performance for outstanding utility, predictability, and peace of mind.