Small Business Case Study

Product Used: Intel® Xeon® processor technology, Intel® Centrino® mobile technology

Company Size: 75-100

Intel Drives Efficiency For Konal Engineering

Case Summary

When automotive parts manufacturers want assembly lines to build in manufacturing efficiencies, they turn to Konal Engineering and Equipment. When Konal needed to speed up its operations and to be more productive, it engineered an Intel® solution.

Challenge

Konal Engineering and Equipment automates manufacturing lines for the automotive industry. By bringing in robotics and new manufacturing technologies, Konal helps parts manufacturers and automotive industry clients to build their parts more efficiently, while dramatically reducing the labour required.

In an industry striving to reduce costs, cut expenses and produce material more quickly for less money, Konal's manufacturing lines are in demand. Since 1985, the company has used technology to bring greater efficiency into manufacturing processes, while reducing the labour needed to manufacture the parts that make up today's cars, trucks and SUVs.

"We help automate manufacturing lines for companies that make automotive parts, such as steering wheels, sun roofs, door panels, headliners, and seats," says company IT administrator, Eric Vandermeer. "We have a dedicated Research & Development department that is constantly looking at ways doing to do things quicker, more precise, and more efficiently. We can create a new line for customers so they can make a thousand parts a day with one to two people instead of 10 to 15."

Using robotic equipment makes assembly lines more precise. "Robots can do something a million times the exact same way as the first time," says Vandermeer, explaining that errors on a line are eliminated, and so are defective parts that can lead to product recalls. All of this saves the company money.

Konal is striving to create machinery so precise that manufacturers can produce the exact number of parts needed by the automobile maker. This means that a traditional 10 per cent production overage to allow for errors or defects is a thing of the past.

"We need to make the best use of our time and waiting for a file is not efficient." says Vandermeer. "...Time is money, and when tasks can be completed in minutes instead of half an hour to an hour, we are saving lots of money."

At the same time, companies are looking to reduce the floor space required to manufacture parts so they can save warehouse expenses. The new robotic lines are smaller and take up significantly less space on the manufacturing floor.

"We are condensing lines down to the size of a large conference hall instead of an entire warehouse floor. Now we can build many different parts in the same plant instead of needing multiple buildings," explains Vandermeer.

With an aging network that couldn't support engineering design software, had consistently unreliable network connections that disconnected engineers from the system, and kept programmers running back and forth between the offices and the shop floor, Konal needed to build in its own efficiencies.

Solution

For Vandermeer, getting the network speed and reliability up was a top priority. Designers couldn't wait for their drawings to come through the network, and getting disconnected from the network was unacceptable. By moving from desktop computers that were configured to run like a server to a new Dual-Core server with Intel® Xeon® processor technology, the response time for the engineers increased. Now, more than 40 users can be logged into the server without waiting for their files, and they are no longer being disconnected. Drawings that would once take more than 15 minutes to print could now be printed in less than two minutes. The installation of gigabyte network cards and a gigabyte switch also helped to improve response times.

"Everyone noticed immediately the speed increase and the faster response from the server," says Vandermeer. "We need to make the best use of our time and waiting for a file is not efficient. With the Dual Core server, we can run everything we need on a powerful single platform."

By taking a serious look at the network infrastructure, ensuring the wireless hubs and hard wired network were properly installed, and then adding gigabyte switches and network cards to the designers' desktop computers, Vandermeer solved the response time issues.

"It's not something we can tangibly measure, but staff says it has made them more efficient and productive," he says. "Today, when a customer calls asking for a drawing, we can send the six to 10 MB file in minutes instead of the half hour it used to take. Time is money, and when tasks can be completed in minutes instead of half an hour to an hour, we are saving lots of money."

In addition to realizing the need for speed, the company also eased management of its systems by consolidating back ups, security, file sharing and internet access in one powerful new server.

The company also gained the additional benefit of version control by moving to the centralized server, coupled with the installation of a wireless network that connected the entire building. In the past, a programmer could be making code changes on the shop floor from a notebook PC while someone was changing code on the server from their desktop. Needless to say, the right version was often over-written. Wireless eliminated this challenge and enabled real-time updating of code from throughout the building, from shop floor to offices.

For Vandermeer, the decision to standardize its processors with Intel® was easy. "We won't use anything else. It's the most reliable brand and we know it will work day in, day out."

As a company that brings efficiency to clients, Vandermeer says ensuring their own internal efficiency is essential. "We have to be seen to be using the latest technologies, and we have to have top of the line hardware. For me, that means using Intel."

Programming Cuts Cords

Programmer Matt Solway has seen an ever-increasing evolution in the use of technology for programming

automation equipment. "We are using the Internet more and more for product information and recommendations, as well as making sure we have the latest software and drivers."

With his new Lenovo* Thinkpad with Intel® Centrino® processor technology hooked into the company's wireless network, Solway is doing a lot less running around. Before, he would write the code, run out to the manufacturing floor, plug into the new automation equipment that was being built, upload the program, run tests, and then sprint back to the front office to make modifications or download new information from the Internet.

Today, he can do everything he needs from the shop floor.

"I can be on the shop floor, and hook into the Internet right there," says Solway. "I can get patches and driver files, which gets our machinery up and running faster. It saves me a tonne of time and running around."

While few automotive manufacturers are using wireless to the same extent as Konal, Solway says having wireless available when he's at a client site is a real benefit. Since his notebook with Intel Centrino processor technology is easily configured, he can hop on a client's wireless access point, connect to the Konal's secure VPN and have the same level of access as when he's at the office. And, since the programmers spend anywhere from a week to a few months on client sites setting up equipment, staying in touch with the office remotely is important. Solway says that wireless connectivity with Intel Centrino processor technology allows for seamless updating, debugging and even minor programming changes to be done quickly, from anywhere with a wireless network.

Service technician Chad Wood doesn't know what it would be like to do his job without his notebook featuring Intel Centrino processor technology. "There's really no other option for uploading programming, and checking the machine," he says. "Without my notebook, I couldn't get online. It saves a lot of time because I can get things off the network without heading into the office to hook up, and quicker means more effective work for the company."

Both Wood and Solway haven't sacrificed anything when using a notebook for their work. Programming is processor intensive and with Intel Centrino processor technology inside, they aren't ever left waiting.

Happy Customers Stay Connected Wirelessly

Vandermeer says that having a wireless network in the office has an added customer benefit. Since customers have to come to Konal to approve the new lines at various stages of production, they are happy to know they can stay in touch with their offices while off site at Konal.

"They are happy don't have to be completely disconnected from their own office when they come here," says Vandermeer, who often gives customers a boardroom and network key so they can keep working between meetings with engineering teams. "They find it very helpful not losing the whole day for a meeting here. We also look very professional because we have leading-edge tools at our fingertips."

Server Integrates Offices, Automates Processes

When Vandermeer joined Konal three years ago, he questioned everything from network processing power and speed, to technology expenditures. With an eye on the bottom line, Vandermeer says he has cut the company's yearly expenses on technology, including computers, telephone and communications, by more than the cost of his first year's salary.

"I'm always looking for the most efficient ways of doing things," he explains.

The company has been able to further leverage centralization of their files to eliminate duplication in the order system. The company uses an 'engineer-to-order' software system to integrate the designs of the new automation equipment being built for Konal's clients with the purchase orders and billing systems.

"The system runs the entire job from quoting to invoicing," says Vandermeer, noting that this eliminates double entry of information, streamlines ordering and speeds transaction time from engineering to construction. In addition, this system tracks all customer data from past orders to the status of current projects. "It's all right at our fingertips and available to everyone who needs it in seconds."

With the entire system sitting on their server powered by Dual-Core Intel® Xeon® processor technology, Vandermeer needs to be certain that the information is protected and responsive to queries.

Future Uses

Later this year, Vandermeer is planning to add a new server with Quad-Core Intel processor technology to take advantage of enhanced performance, speed, and the ability to run more applications within one appliance.

Increasing network speed further by expanding access to gigabyte transfers for all staff in the office is also at the top of Vandermeer's list. He would also like to add wireless access points to Konal's fabrication plant, which is located down the road from the main office. Since there is no Internet access there today, this expanded wireless network will allow staff at the fabrication office to connect into the server and access up-to-date files, as well as e-mail and internet.

Solway says wireless is becoming standard in his side of the business and they are currently outfitting automation equipment with technology to enable them to connect wirelessly to every machine, from anywhere on the floor. Further upgrades to programming will allow the machines to send emails when there are operating problems, and for programmers to connect with a machine remotely, through a secure connection to troubleshoot issues.

"Our field is moving to wireless access points through the machine itself," says Solway. "The advantage will be less wiring of the machine, and being able to access a secure web page to monitor everything about machine performance."

With faster wireless connections, powerful notebook technology and reliable servers all powered by Intel technology, Konal helps automotive manufactures build efficiencies into every manufacturing plant that constructs next generation cars and trucks.