



The True Cost of Downtime for Manufacturers

Founded in 1999 as a die stamping and assembly plant of Midway Products Group, Inc. based in Ottoville, Ohio, Progressive Stamping Incorporated (PSI) specializes in the rigorous testing of welding and structural operations of automobile components, or sub frames. Every 36 seconds, a sub frame is produced with a serial number pin stamped into the metal, which is then tracked through a battery of weld and structural testing operations to confirm the integrity of the product.

The Challenge

Once the sub frame has passed the testing, bushings are inserted into the sub frame. Serial numbers are central to PSI's manufacturing process. PSI has an IPD™ vision system (a group of DALSA Digital imaging) that reads the serial number on the part automatically, while a

consistently they have become a top-tier supplier within the automotive industry. With high profile customers and a steady influx of job orders, the risk of downtime would be fatal to the business. The company had to take steps to solidify the reliability of its business systems—quality

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programmable logic controller (PLC) processor with Visual Basic code queries the database. The testing, checking and tracing of the component source is essential to produce quality products, as well as service customers when company representatives are in the field addressing possible failures. Accurate and complete information ensures that PSI maintains desired quality levels, as well as customer satisfaction. Realistically, PSI cannot afford server downtime for more than 35 seconds during business hours. Service demands from prominent corporations like Ford Motor Company, General Motors Corporation and Toyota Motor Corporation are increasing continuously. Because PSI has been able to meet those service demands

rejects are not only expensive, but also reflect poorly on the supplier. Originally, PSI had purchased RSBizWare™ PlantMetrics by Rockwell Software®, and installed it on an office-grade “server class” machine to manage manufacturing information and performance. Additionally, all data associated with each sub frame was being stored in a Microsoft® SQL Server database for archive purposes. To ensure quality service for its customers, PSI required a server that provided maximum uptime.

The Solution

In choosing a server, PSI sought a zero-downtime machine with the muscle to run a few very resource-intensive

database applications. Self-fixing and fault warnings were another significant concern—the company needed a solution capable of alerting IT administrators to technical issues and allowing them to diagnose and address problems from remote locations quickly. One alternative for high availability production environments required a cluster of two servers mirroring each other in the event that one went down. This failover method is complex and expensive, requiring two copies of the operating systems, two copies of the application and a high-level IT staff to maintain it. Additionally, failover is not always instantaneous, which put the company at risk for catastrophic downtime.

To meet its requirements of flexibility, scalability and most importantly reliability, PSI purchased an NEC Express5800/320Lc Fault Tolerant (FT) server. The FT server consists of four 1U modules two are CPU modules and two are I/O modules. Each of these sets of modules run in lock-step, ensuring that redundant processors execute the same instructions and computations simultaneously. Should one processing module fail, its counterpart continues operation without interruption of service enabling continuous operation without a negative impact on the applications or data. In areas where server downtime literally costs money, the Express5800 Fault Tolerant servers offers the highest levels of system availability and data integrity for Windows® environments by delivering up to 99.999% uptime, with no single point of failure to prevent data loss. If a component does fail within the unit, the server is still fully functional—disk drives, motherboards, power supplies, network cards, and even the CD-ROM are redundant and fully hot-swappable, with no Interruption to the production environment.

The Result

Since implementing the NEC Express5800/320Lc, PSI now enjoys the peace of mind provided by the server’s fault tolerant capabilities for supporting uptime, low total cost of

ownership and overall ease-of-use. The FT server meets the company’s needs for flexibility, scalability and reliability, and components can be easily replaced without sacrificing functionality. Instant failover for multiple mission critical systems ensures business continuity, essential in guaranteeing quality services for customers and maintaining a profitable enterprise

PSI was also able to unload the server, turn it on, and it was ready to go. They only had to load the software and applications used in the plant—giving new meaning to the phrase plug and play.

“NEC understands the requirements of a manufacturing environment and what downtime means to the customer,” said Mike McDermott, electrical engineer, Progressive Stamping Incorporated. “I would highly recommend NEC not only for their knowledge and fantastic product, but also for their true and tremendous dedication to customer satisfaction. Quite honestly I haven’t seen anyone else that offers a machine quite like this one.”

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