Milwaukee Tool

Global Cross-Site Collaboration of Manufacturing Applications Powered by File-Locking Technology Increases Productivity and Improves Efficiency at Milwaukee Tool

Milwaukee Electric Tool Corporation is an 85 year-old manufacturing company that has weathered both the Great Depression and the Second World War. The company knows a thing or two about making changes to innovate and improve their business. Milwaukee Tool saw an opportunity to do just that by updating their enterprise storage system.

Milwaukee Tool knew it was time to take a hammer to their current way of collaborating. It was taking 30 to 40 minutes for users in China to open CAD and video files over the network, and there were constant file consistency issues when users tried to work on the same file. Their existing storage infrastructure couldn't meet the collaboration needs of the company's 1,000-plus employees distributed across 18 locations in the United States and China.

Milwaukee Tool needed a solution that would let users across the globe collaborate on large, complex CAD manufacturing projects using applications like Dassault SolidWorks and Seimens NX (Unigraphics). Their users also needed to share large video files – up to 4,000 frames per second – across sites to test and develop new products. The system would have to guarantee file integrity when users in different offices were working on the same files and projects. And they needed to do all this, even with high latency between the China and Wisconsin offices.

Milwaukee Tool turned to top research and advisory firm Gartner to help them identify a system that would help them fix the collaboration challenges and meet the company's key requirements. Panzura came highly recommended by Gartner as the only vendor that could provide data integrity and fast file access across high latency networks.

Welding Together Offices

Once Panzura Freedom Collaboration™ was installed, Milwaukee Tool employees were able to experience work together as if they were in the same room, whether they were in Hong Kong or

Situation Snapshot:

Manufacturer of heavy-duty industrial electric power tools with 18 offices across the US and China, with plans to expand into Mexico and Brazil.

- **Challenge 1: Supporting Cross-Site Collaboration** – Managing file versions frustrated the distributed teams. They often had to merge duplicate copies of documents or deal with the consequences of overwriting existing documents.

- **Challenge 2: Painfully Slow File Access** – Accessing CAD or PLM files and HD project or training videos took upwards of 30 minutes for workers in remote offices. Network latency of 250-300ms between sites often made it impossible to open files. It was so difficult that the teams often sent files on DVD by express mail.

- **Challenge 3: High cost of additional storage** – Adding storage as the company grew cost upwards of $40,000 per shelf or $1.25 per GB. Files often had to be copied to remote sites, adding to the cost burden.

Brookfield, Wisconsin. Files that used to take up to 40 minutes to open now took seconds. Version conflicts were now a thing of the past thanks to Panzura's distributed file and element locking technology.

According to Alan Musser, supervisor of the systems engineering team, "Panzura was the only solution that met all of our requirements. We had to have fast access for files being replicated, and shared data integrity – which meant really strong distributed file locking so that if opened a file in China, it was immediately locked across the entire globe on every filer."

Since deploying Panzura, Milwaukee Tool's latency issues between offices are a thing of the past. Now when engineers share, upload and download documents or work on CAD projects, files are cached on the Panzura Filer and open in seconds.

No More Mailing DVDs

In addition to CAD projects, the company has a lot of high-speed video and needs to share that video between sites as part of the development and testing process. "It was often faster to mail a DVD to our China office than to open the video over the network," said Musser. "It was just so frustrating to be able to try to move that data. It would take hours and hours and hours to be able to transfer that data, or file opens would simply fail."

One of many examples Musser gave: "Before Panzura Freedom Collaboration, one of our engineers once spent more than an hour to download a small 82 megabyte video. When Panzura was installed, he downloaded that same video and was able to view the file instantly. He told me it just 'flew off' the Panzura."

Moving to the Cloud

When Milwaukee Tool first started to look at how to address the performance and data integrity issues, turning to cloud storage wasn't on their radar. Panzura was the company's foot in the door to help them move to cloud storage. As Musser explained, "The benefits that we've seen though with the cloud are very evident to us now, such as the low-cost storage that Amazon provides and the other providers, and the geo redundancy that's in place. Panzura has really opened our eyes to the cloud more, and we've seen a lot of its benefits."

With Panzura, Milwaukee Tool saw immediate results:

- **Seamless Cross-Site Collaboration** – Users in China and Wisconsin were able to work simultaneously on the same CAD files. Panzura Freedom Collaboration with element-level locking eliminated file inconsistency and data overwrite issues.
- **Fast access to files from any office** – File access that used to take anywhere from 20 minutes to 6 to 7 hours to manually copy files now took seconds with Panzura's intelligent caching. No more sending DVDs by mail.
- **Cloud Storage Economics** – With Panzura, Milwaukee Tool spends under $0.04 per GB a month for all tiers of file storage and re-purpose its existing on-premises storage.

Protecting Innovation

Milwaukee Tool is constantly working on new ideas and owns many patents. They developed 80 new products in 2014. They company couldn't continue to live that mission without superior security and data quality to protect their valuable IP. Most of the solutions they initially evaluated couldn't meet all of their needs – particularly for data integrity and security. File-locking and robust security were a must-have.

Milwaukee Tool no longer worries about data integrity, access or security concerns. With Panzura and Amazon's Cloud Storage, the company has eliminated file conflict and collaboration issues that were a drain on productivity. They are also able to safely store data in the public cloud, knowing that it's protected by robust encryption and managed by Panzura Freedom Collaboration.

"Knowing Panzura is protecting our patents and other valuable data has eased my mind as the supervisor of the systems engineering team, said Musser. "My team and I don't have to worry about spending hours restoring old files anymore; instead, we can focus on moving the rest of our IT operations forward to continue increasing productivity and performance across offices."

$40,000 in Annual Savings, Happier Employees

Moving CAD project and other file data from NetApp to Panzura has saved Milwaukee Tool over $40,000 per shelf in storage costs. The company now pays about $630 per month for about 20 TB of file storage. Because Panzura uses Amazon Web Services, Milwaukee Tool was able to take advantage of cloud storage pricing – effectively paying less than 4 cents per GB compared to $1.15 with their legacy storage. Milwaukee Tool has also been able to free up space on their NetApp storage for other applications and data.

The new system has also boosted employee morale. "Employees no longer give up or feel hopeless when they need to open or share large files, and we simply could not be more pleased with the overall dollar savings we have experienced as a result of installing Panzura," said Musser. "Working with Panzura was one of the best decisions we have made as an IT department."

About Milwaukee Tool

HEADQUARTERS: Brookfield, Wisconsin | INTERNATIONAL OFFICES: 18 | EMPLOYEES WORLDWIDE: 1,000

BACKGROUND: Milwaukee Tool, founded in 1924, provides professional, heavy-duty tools and accessories. The company focuses on providing innovative, trade-specific solutions. Milwaukee is dedicated to delivering a steady stream of advanced solutions for the trades that offer increased productivity and unmatched durability. Milwaukee Tool is headquartered in Brookfield, Wisconsin and has more than 18 service branch locations around the entire United States and China.