CUSTOMER SUCCESS STORY

Marquardt tunes global interaction with data

NetApp

MARQUARDT

International mechatronic specialist significantly improves user satisfaction and productivity with NetApp Global File Cache.

Marquardt develops and produces intelligent switches, controls, and access systems so that cars drive themselves, lights turn on, and washing machines think for themselves about the right cleaning program. Teamwork and files stored in Germany and used worldwide drive Marquardt's success. But productive work in a network spanning four continents needs a high quality of service. NetApp® Global File Cache jumpstarts file services and makes working easy.

Low effort, high impact

"NetApp Global File Cache is brilliant. We can make users happy with simple means and simplify their daily work."

Mark Orglmeister
Manager of IT Corporate Workplace Services, Marquardt

Keeping 60 million files available
At Marquardt, file service is both an innovation driver and a challenge. Teams at 20 locations work on the same data, often simultaneously. Their most important data source is a file share with currently 70TB of data, more than 1,200 folders on the top level alone, and a myriad of office and CAD files, measurement logs, archives, and more.

"We have 60 million files that must always be at hand. Only NetApp ONTAP storage can map and manage this reasonably," said Mark Orglmeister, manager of IT Corporate Workplace Services at Marquardt.

Teamwork needs performance
Marquardt manages its file service in a complex private cloud that runs IT services for more than 11,000 employees. But the security of storing data centralized at Marquardt's German headquarters came at the expense of slow file handling over WAN and VPN.

The daily work of thousands of users became cumbersome. From China, India, and the United States, loading a simple file took up to 60 seconds. Minutes passed before a 12MB Excel file with complex calculations could be used in Shanghai. If the WAN connection briefly broke off, the loading process started again. The situation was similar when saving or closing files. Users experienced long waiting times, false availabilities, and file conflicts. The consequences were more and more duplicates, versions, TMP files, support tickets, and workarounds.

Attempts to control the situation at the network level had failed.

Marquardt consulted system integrator Bechtle. As Marquardt's IT partner, Bechtle was familiar with the situation. They knew that NetApp Global File Cache could noticeably improve working conditions. The solution caches active files at remote offices within a software fabric to improve performance.

Its integration with Marquardt's current NetApp storage, an AFF A220 cluster, would be seamless. "NetApp optimizes file handling at the storage level. Global File Cache acts completely transparently to users. Deployment using a core-edge setup with Windows Server instances is fast. And you don't need an extra risk structure. If an instance fails, the file service slows down but remains intact," said André Unterberg, senior consultant, and system engineer at Bechtle.

Creating precedents with a proof of concept
Marquardt was skeptical. NetApp and Bechtle initiated a proof of concept (POC) for the three sites with the worst performance scores. Real office, engineering, image, and video files made up the test set. Regardless of format and size, the first retrieval of a file from the central NetApp AFF storage was consistently faster, up to 95% for office files and 5 times for CAD files.

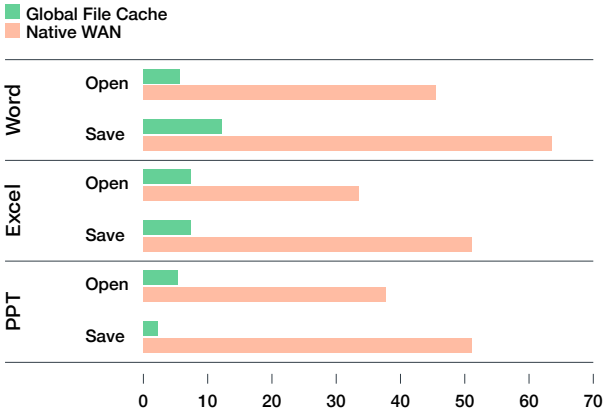

Figure 1) Average time in seconds for file operations at POC sites in China, India, and the United States.

Accesses from China gained an average of 21 times in opening speed. Opening a 10MB Word file previously took 65 seconds. With Global File Cache, it took only 5 seconds. Saving was 9 times and closing 5 times faster.

Mark Orglmeister has estimated the performance impact on productivity and puts the gain in time at about 1 hour per user and week.

Productive right from the start
"After the feasibility study, NetApp Global File Cache was our solution. The effort is minimal, and there is no need to retrain users. We can create equal working conditions and easily meet commitments to customers," said Guido Wettemann, director of Global Operation IT Systems at Marquardt.

Marquardt was so satisfied with the results that the solution went directly from test to operation. The team extended the core server at Marquardt's headquarters in Rietheim-Weilheim and three edge servers from the POC setup by five more instances. Marquardt provided the virtual machines. Bechtle rolled out a template at the sites, installed the licenses, and located the caching within the Microsoft Distributed File System (DFS) and the respective Active Directory domain.

Simply convenient for users and IT
Global File Cache simplifies access to the global file share and absorbs peak loads in Marquardt's heavily used WAN. The IT team provides a global namespace using Microsoft DFS and applies DFS replication for geo-redundancy. Depending on a user's location, file access happens from the geographically closest system, caching convenience included.

Real-time file locking hampers unnecessary files and removes uncertainty. Once a user has opened a file, it is set to read-only and locked for all others to use. Each file exists only once and is stored securely on Marquardt's core server. Duplicates and versions no longer occur.

A symbol shows every user at Marquardt whether a file is already cached and quickly available. Opening, saving, and closing already cached files is as fast as on a local drive. And there is nothing to do for the users because updating the file status and synchronizing changes run automatically in the background. Only changed data blocks are transferred to the core instance, so these processes become very fast.

"Bechtle had the perfect solution. NetApp Global File Cache is brilliant. We can make users happy with simple means and simplify their daily work," said Mark Orglmeister. "Support is also thrilled. We have hardly any more tickets and zero admin overhead. And we see fewer VDI sessions because their role as an access booster became obsolete."

Looking to the future
As an internal service provider and business unit partner, Marquardt IT is always looking into improvements and opportunities. Switching to NetApp storage and file caching in the cloud is one option. Another choice is replicating CAD data with Global File Cache rather than Microsoft DFS. This move would reduce efforts, space requirements, and operating processes at Marquardt even further.

"IT should work and cost little while being simple and reliable. NetApp is helping us a lot in this respect," said Guido Wettemann.

Why NetApp Global File Cache to optimize file access in any cloud?
Learn more

NetApp products
Global File Cache
AFF A220

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About NetApp
In a world full of generalists, NetApp is a specialist. We're focused on one thing, helping your business get the most out of your data. NetApp brings the enterprise-grade data services you rely on into the cloud, and the simple flexibility of cloud into the data center. Our industry-leading solutions work across diverse customer environments and the world's biggest public clouds.

As a cloud-led, data-centric software company, only NetApp can help build your unique data fabric, simplify and connect your cloud, and securely deliver the right data, services and applications to the right people—anytime, anywhere. To learn more, visit www.netapp.com

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