



NetApp®

Success Story

Universal-Investment Opts for a NetApp EF540 Flash Array for 100% More Performance and Future-Readiness



KEY HIGHLIGHTS

Industry

Financial services

The Challenge

Significantly increase I/O performance to support business-critical Oracle® database and extremely high performance requirements

The Solution

Deploy four NetApp® EF540 flash array systems distributed over two data centers and migrate entire 4TB database infrastructure

Benefits

- Achieved I/O performance of 600,000 IOPS per data center with latency of <1 millisecond
- Increased performance by 100%, jobs now run twice as fast
- Delivered reliable, high availability solution for core applications and data
- Leveraged existing NetApp infrastructure, achieving excellent price-performance ratio

Customer Profile

With assets worth €170 billion being managed, close to 1,000 special investor and mutual fund mandates, and 500 employees, the Universal-Investment group is one of Germany's most successful investment companies.

NetApp systems since 2006

Universal-Investment's in-house IT systems have relied on NetApp since 2006. In 2012, the company also implemented a storage infrastructure based on a NetApp FAS3270 storage system with NetApp MetroCluster™ software, with a total gross capacity of 200TB. Universal-Investment experiences a high data growth of 100% each year, and 30% of this growth is from the number of documents that must be archived under the company's legal obligation to keep and retain records. The respective retention periods vary from 10 years up to forever, such as in the case of documents for fund postings.

The company also uses two single NetApp FAS3210 systems with a gross capacity of 768TB for backup-to-disk and audit-proof document archiving. All of the systems are distributed over two Universal-Investment data centers, which are eight kilometers apart.

The Challenge

In 2013, faced with expectations of extremely high business growth and the need to secure its own competitive advantage, Universal-Investment set a goal of enhancing the I/O performance of its Oracle database infrastructure. The company's Oracle database comprises approximately 4TB of data that supports approximately 600 regular users. Although the company's Oracle database is used for a variety of applications, its main purpose is for the following core applications, which have extremely high computing power requirements:

- Profidata XENTIS, a modular system that provides full support in all areas of investment management. Among other functions, XENTIS is responsible for executing a large number of analytical jobs that process up to 10 million data records.
- Gateway applications for XENTIS, which also involve high performance demands.
- The UI-Power Portal, including the UIS-BI reporting suite, both developed in-house by Universal-Investment.

The Solution

Successful proof of concept

NetApp offered a flash array as a solution and allowed Universal-Investment to test the technology for three days in a production environment. The test yielded some impressive results:

- Various automated processes for managing fund data that previously took 3.5 to 5.6 hours to execute took only 1.9 to 2.3 hours. In fact, this meant that the flash array allowed the company to process one million data records within 0.3 hour, as opposed to within the 0.6 hour it took previously.
- The results achieved during Oracle database backups were also impressive. Backup jobs that previously took more than an hour to complete now finished in just 13 minutes.

Installation and migration

These values were the deciding factor for Universal-Investment. The company quickly decided to install four NetApp EF540 flash array systems, two in both of their existing data centers. Migration of the entire Oracle database infrastructure quickly followed, which included all the systems—from NetApp FAS up to the newly implemented NetApp flash array systems.

The high-availability features integrated into the flash array are used locally, and the data center-wide failover system controls Oracle Data Guard when necessary. In addition, the company redesigned its backup cycle to be distributed over all NetApp systems, defining a retention time of four days on the flash array side, after which backups migrate to FAS systems. The solution also makes use of standard flash array features such as intelligent caching mechanisms.

Business Benefits

After the solution was fully installed and the Oracle database was successfully migrated, Universal-Investment carried

out repeated measurements over a period of three working days. These measurements were based on a similar workload to the one used in the test phase and provided even better values than before. Response times for database I/O amounted to just one-seventh of the times experienced before the flash array was implemented, and at 0.86 millisecond, the average response time was 12 times faster.

Time-related improvements were also achieved for a variety of jobs, ranging from report creation to index loading. Transmitting data to neighboring satellite systems now requires just 30% of the time it did previously, with backup times reduced by more than 75%. Another point of interest is that before the NetApp flash array was implemented, it took 3 hours to completely re-create the database cache when the database was restarted, but this process now runs in less than 15 minutes.

With the flash array environment, Universal-Investment now has more than 600,000 IOPS per data center at its disposal, combined with a latency of less than a millisecond. Just as important, installing the new systems was a very straightforward process, and the XENTIS migration also ran smoothly. No complex configurations were involved, and Universal-Investment can still make use of its established NetApp infrastructure. Even just from a financial standpoint, Universal-Investment came out on top—although a competitor solution may have achieved satisfactory technical results, NetApp was able to offer Universal-Investment an option that was 75% better in terms of acquisition costs.

“Although we’ve worked with them for years, NetApp continues to surprise us,” says Steffen Lindenlaub, Systems and Administration Manager at Universal-Investment. “In 2012 alone, PowerShell Toolkit and Flash Cache™ gave our FAS systems the ability to run

50% faster, and also provided us with enormous time savings in a number of our time-intensive processes, like setting up new test systems.”

Lindenlaub went on to outline Universal-Investment’s recently acquired technical innovations described previously: “In 2013, we implemented a NetApp flash array for our business-critical Oracle database, which is always subject to very high workloads. The improvements we achieved were substantial and exceeded our expectations—we recorded a performance gain of 100%, and our jobs are running twice as fast. There’s no doubt that the NetApp flash array is the medium of choice for specialized companies that demand high performance.”

SOLUTION COMPONENTS

NetApp Products

EF540 flash array, FAS3270HA, FAS3210, and MetroCluster software Snapshot™ technology, SnapRestore®, SnapMirror®, SnapProtect®, SnapManager®, deduplication, FlexClone®, PowerShell Toolkit, Flash Cache intelligent caching

Operating Systems

NetApp Data ONTAP® 8, NetApp SANtricity® 10.84;
Microsoft® Hyper-V® Server,
Microsoft Windows Server®
Linux®

Databases

Oracle, Microsoft SQL Server®

Applications

Profidata XENTIS, Gateway applications for XENTIS, UI-Power Portal, UIS-BI Suite; DMS d.velop d.3; Microsoft System Center Server Management Suite, Office Suite, Microsoft Dynamics® CRM 2012

Protocols

CIFS, FC, NFS



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