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Dennis Aastrøm, systems administrator, Grontmij A/S

Grontmij A/S finds a more sustainable approach to data storage with F5 ARX

Whether designing a modern office block, planning a wastewater treatment plant, or producing a feasibility study for wind energy, **Grontmij A/S** is committed to promoting sustainable development. One of the world’s largest engineering consultancy groups, the company aims to deliver projects with minimal environmental impact and that offer long-term cost efficiency. But its sustainability business ethos applies to more than just client projects. When Grontmij A/S started to run out of storage capacity, it sought a solution that would be more sustainable and affordable than just adding extra disks. It implemented F5® ARX® and achieved cost savings of £30,000 in one year.

Business Challenges

Grontmij A/S faced a challenge familiar to many organizations: it was running out of disk space on its servers. At the time, Grontmij A/S had around 20 terabytes of data in its storage system, and this volume was increasing by as much as 20 percent annually. This data was generated by 1,300 employees, based in 16 offices across Denmark, and mainly consisted of office documents and other content.

The company had recently installed a new Storage Area Network (SAN), but the cost of adding extra disks to this SAN was very high. “We had to find a more long-term, sustainable solution than just buying more disks,” explains Dennis Aastrøm, who as systems administrator at Grontmij A/S, is responsible for storage.

To address this challenge, Grontmij A/S initially implemented a stub-based archiving system. With this type of solution, a “stub” with the same name as the original file is left on the primary SAN, while the complete file is moved to an archive. In theory, this sounded like a good solution; but in practice, this approach failed to meet the business’s requirements.

Aastrøm explains: “As many as 50 percent of our documents include embedded links to other documents and external references, and the archiving tool couldn’t cope with this. It also rewrote the dates of files when it moved them from the primary SAN to the archive, which we didn’t like. I think the system was over-sold by the vendor. It didn’t work for us.”

Overview

Industry

Engineering

Challenges

- Reduce expenditure on disk space
- Reduce downtime related to resolving storage issues
- Implement a long-term, affordable storage management solution

Solution

- F5 ARX file virtualization solution

Benefits

- Saved £30,000 by freeing up 8 terabytes of disk space
- Eliminated all downtime
- Reduced future storage capacity costs by 95 percent
- Saved 10+ hours per month on storage administration

Following this disappointment, Grontmij A/S decided instead to implement a two-tier storage strategy and move inactive files from its primary SAN to a new second tier SAN comprising less expensive disks. When it analysed the composition of its storage, it found that 12 terabytes of its data were made up of over 40 million files, and a large proportion of these were inactive. "This was dead weight," Aastrøm says, "and we had to move it to cheaper disks."

Solution

After researching a wide number of storage solutions, Grontmij A/S opted to deploy F5's ARX file virtualization solution. The ARX device supports two-tier storage strategies by intelligently moving files between SANs and automating many storage management tasks. The company acquired two devices, and installed the second one at a separate location to provide business continuity in the event of a disaster at its primary data center.

"F5 products were recommended to us by an IT partner," recalls Aastrøm. "We liked the fact that the ARX solution doesn't modify the files or interfere with the file structures at all. We also liked the fact that the product licenses don't have volume limitations. F5's ARX solution fully supports what we want to do."

Following the failure of the stub-based archiving tool, Grontmij A/S wanted to be absolutely certain that the F5 solution would work before making a large financial commitment. "F5 offered us the opportunity to 'try before we buy'," says Aastrøm. "F5 consultants came in and helped us install, configure, and test the products. They were very professional and had good technical skills."

"Our tier two storage costs us roughly one twentieth of the price of our tier one storage. That's quite a saving!"

Benefits

Grontmij A/S has now been using the F5 ARX solution for over 18 months, and it is confident that it made the right decision. It has installed a second SAN that comprises less expensive disks, and it uses ARX to migrate files that have not been modified for a year or more to this second tier of storage from its primary SAN.

In the first twelve months, the company was able to free up approximately 8 terabytes of premium disk space in its primary SAN, which it could then make available for other purposes. As Grontmij A/S didn't have to purchase new servers to support these other business initiatives, it was able to save a significant sum. "We estimate that we saved over £30,000 in the first year alone," Aastrøm says.

The tier two storage disks cost considerably less than disks for the tier one SAN, so as storage requirements increase, Grontmij A/S can now expand its capacity more cost-effectively. "Our tier two storage costs us roughly one twentieth of the price of our tier one storage," calculates Aastrøm. "That's quite a saving!" In fact, based on these calculations, the company has reduced the cost of expanding its storage capacity in the future by a massive 95 percent.

In addition to capital savings, Grontmij A/S also makes operational savings from simplified storage management and automated features. For example, a full migration can now be accomplished automatically in less than ten hours. "I suspect that we save as much as ten hours per month," says Aastrøm.

The ARX solution gives Grontmij A/S far greater control and visibility of storage issues. "ARX gives us early warning if disk space in our tier one storage is running out, so there is never a panic," Aastrøm explains. "We can migrate files to tier two to create space in plenty of time. We just push the button and within minutes, we can have gigabytes of free space again."

Grontmij A/S particularly appreciates that with ARX, it can migrate data during working hours, without disrupting users. Previously when storage issues arose, the company would have to wait until the end of the business day or shut down the system temporarily.

"We often had to work after normal business hours to manipulate data around to free up data on full disk drives," says Aastrøm. "That inconvenience has completely gone."

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