

S U C C E S S S T O R Y

Hitachi Storage Solutions at Work

Waterschap Aa en Maas (Aa and Maas Water Board)

INDUSTRY Government: Water Board

SOLUTIONS **Consolidation/Simplification and Availability**
Hardware — Hitachi Adaptable Modular Storage 500
Software — Hitachi In-System Replication software bundle (includes Hitachi ShadowImage® Replication software and Hitachi Copy-on-Write Snapshot software); Hitachi Dynamic Link Manager, Hitachi Replication Monitor and Hitachi Device Manager software; and Hitachi Resource Manager™ utility package
Services — Provided by i³ solutions



“The information at the Water Board is always available, which is extremely important for the performance of business critical processes that demand 100 percent uptime. Thanks to the Hitachi Data Systems SAN solution, our employees are now able to consult all data continuously.”

*Ton Ruisendaal
ICT Manager
Waterschap Aa en Maas*



Water Board Ensures Data Is Always Available with Hitachi Adaptable Modular Storage

When the Aa and the Maaskant Water Boards merged into Waterschap Aa en Maas, various IT infrastructures had to be combined. To be sure, immediately after the merger the server park was modernized, but a solution had to be found for the complexity connected with a direct attached storage (DAS) environment. By creating a central storage pool with Hitachi Adaptable Modular Storage and McDATA Spherion Switches, Waterschap Aa en Maas made sure that critical data are continuously available for smooth and trouble free water management.

Public water systems supply the essential source of safe, clean water. Data storage systems provide a similar necessity for the IT infrastructure: safe, accessible information, making sure that an organization's activities continue uninterrupted. For Waterschap Aa en Maas, located in 's-Hertogenbosch, this is essential for an uninterrupted business process.

As a result of the merger of two water boards, the Waterschap Aa en Maas now has 9 local facilities, almost 500 employees and about 4TB of business critical data. The joint water board manages 110 kilometers of dikes along the Maas River. These dikes meet strict standards and protect the Waterschap Aa en Maas area against high water in the Maas River. In addition, the joint water board is responsible for the

purification of wastewater from nearly 700,000 people and thousands of businesses. Finally, Waterschap Aa en Maas provides sufficient water in streams, canals and ditches. This is done with dams and pumping stations and the right arrangement of watercourses.

Merger a Turning Point for Change

The merger of the Aa and the Maaskant Water Boards meant a big challenge for the 12 employees in the Information and Communication Technology (ICT) Department. The two IT infrastructures had to be combined and the two water boards had to create a plan for the organization of a new server and storage environment. The server environment was

renewed immediately after the merger, and a year later the storage question was tackled.

For a large number of Waterschap Aa en Maas activities, it is necessary that the data be continuously accessible. For instance, when toxic substances enter surface water, it must be quickly determined what the consequences are for the water system. If data is stored on various DAS servers in various locations, the possibility of immediate access to the necessary information is limited. A central location for data storage remedies this problem.

Ton Ruisendaal, ICT manager for Waterschap Aa en Maas explained, "Because of the ever stricter regulations for environmental and water management, more and more data has to be stored that must be available at all times. The storage environment is therefore an essential part of our organization."

ICT Department Tackles a Large Number of Problems

It was important for Ruisendaal to bring local data together in a central storage pool to create greater flexibility and scalability and to ensure that critical data is continuously available. He created a plan to bring this about with the implementation of a storage area network (SAN).

Waterschap Aa en Maas utilized 186 applications for the performance of its daily activities. Because the DAS servers were scattered over various locations, IT management and maintenance were difficult and time consuming, and it was not possible to make optimal use of the storage capacity of the entire organization. Moreover, backups on tape require personnel for such tasks as retrieving and restoring data. In addition, an effort was made to lower management costs by addressing time consuming management activities that didn't get enough attention.

A consultant was brought in to help the ICT Department with the formulation of a comprehensive package of storage demands. Six storage solution providers submitted proposals. The ICT team reduced the number of choices to two potential candidates. "There were two deciding factors for why we chose Hitachi

Data Systems,” said Arian de Bekker, IT management coordinator for Waterschap Aa en Maas. “First of all, the Hitachi Data Systems solution offered a better price to quality ratio. In addition, we were impressed with the demo and the involvement of Hitachi Data Systems and its partner i3 solutions in the development of concrete implementation and service plans.”

Hitachi Storage Offers Endless Flexibility

The Waterschap Aa en Maas ICT Department chose the Hitachi Adaptable Modular Storage 500 as the basis for its new SAN strategy. The implementation of the new storage environment was without problems and according to schedule.

One of the nine district locations now acts as the main data center. In the SAN a connection

effective disk storage. The Hitachi Dynamic Link Manager software takes care of failover, fallback and load balancing, and, if necessary, it switches the I/O automatically to an alternative path for active data movement, making data availability continuous.

For visual supervision of the storage sources, Waterschap Aa en Maas uses Hitachi Device Manager software to visualize and precisely manage the storage sources constantly. This is in combination with Hitachi Replication Monitor software, which allows the display of volume replication configurations and snapshots. For rapid data restoration without limiting service levels or production processing, the Hitachi In-System Replication software bundle provides data copies of multiple volumes, which can be used for system backups, testing applications or other activities.



“We were impressed by the Hitachi demo and the involvement of Hitachi Data Systems and its partner i3 solutions in the development of concrete implementation and service plans.”

Arian de Bekker
IT Management Coordinator
Waterschap Aa en Maas

is made to the Adaptable Modular Storage 500 through McDATA Sphereon 4700 Fabric Switches and VMware software takes care of the link to virtual servers. Within one month, all Waterschap Aa en Maas data was migrated through the SAN from servers to the Adaptable Modular Storage 500, where at this time the data takes up 40 percent of the 10TB storage capacity.

“We increased the SAN more rapidly than expected. It is fairly easy to add virtual servers without a problem. We now have 65 servers in total, 12 of which are virtual servers,” said Ruisendaal.

The Adaptable Modular Storage 500 is configured as RAID-6 storage with two backup disks, increasing the reliability of the system. Thanks to the clever combination of Fibre Channel and SATA, the IT Department is capable of handling practically any requirement for advanced, cost

Advantages of SAN Operational Activities

With an advanced SAN, Waterschap Aa en Maas has brought the necessary flexibility, scalability and availability under its roof. Now employees have access to their data from each of the nine locations at any moment.

“The information at Waterschap Aa en Maas is now always available, which is extremely important for the performance of business critical processes that demand 100 percent uptime,” Ruisendaal said. With the central storage management of the Hitachi SAN, the ICT team has succeeded in limiting the time for and the complexity of the management tasks and at the same time in increasing the value of ICT for the company. In addition, the ICT employees can do their work during office hours without the end users experiencing failure or temporary inaccessibility of the system.

“The Adaptable Modular Storage 500 offers us much flexibility: If the disk capacity is insufficient, we simply prepare a LUN (logical unit number). We can now retrieve various versions of a file from a disk, which poses much less difficulty than retrieving the file from a tape. And the system is completely scalable, without our having to replace controllers or switches,” said de Bekker. “I think we can go forward with this for a great many years.”

About i3 Solutions

i3 solutions builds heterogeneous storage infrastructures for enterprises and provides seamless integration with existing storage infrastructures. This storage integrator aims at solutions that meet the requirements for flexibility, controllability and 100 percent availability of data for its customers. i3 solutions works with a number of prominent storage partners and strives to deliver the best hardware, software and services.

For more information, visit:
www.i3-solutions.nl

Corporate Headquarters 750 Central Expressway, Santa Clara, California 95050-2627 USA
Contact Information: + 1 408 970 1000 www.hds.com / info@hds.com

Asia Pacific and Americas 750 Central Expressway, Santa Clara, California 95050-2627 USA
Contact Information: + 1 408 970 1000 www.hds.com / info@hds.com

Europe Headquarters Sefton Park, Stoke Poges, Buckinghamshire SL2 4HD United Kingdom
Contact Information: + 44 (0) 1753 618000 www.hds.com / info.emea@hds.com

Hitachi Data Systems BV Crown Bldg North, Hullenbergweg 373, Amsterdam ZO, 1101 CR Netherlands
Contact Information: +31 (0) 20 650 9000 www.hds.com / info@hds.com

Hitachi is a registered trademark of Hitachi, Ltd., in the United States and other countries. Hitachi Data Systems is a registered trademark and service mark of Hitachi, Ltd., in the United States and other countries.

All other trademarks, service marks and company names in this document or on this Web site are properties of their respective owners.

Notice: This document is for informational purposes only, and does not set forth any warranty, expressed or implied, concerning any equipment or service offered or to be offered by Hitachi Data Systems. This document describes some capabilities that are conditioned on a maintenance contract with Hitachi Data Systems being in effect, and that may be configuration dependent, and features that may not be currently available. Contact your local Hitachi Data Systems sales office for information on feature and product availability.