Danish railway company stays on track with HP storage solution

Atkins Danmark

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"The HP storage solution has helped us become a more Adaptive Enterprise and to reach a critical goal: to meet or exceed our customers' requirements for document and data archiving."

– Jørgen Kjærlund, IT Manager, Atkins Danmark

Business need:
Atkins Danmark plays a crucial role in the on-going development, construction, and maintenance of Denmark's rail infrastructure. The firm's more than 300 engineers, technicians, economists, architects, and staff produce a vast quantity and variety of designs, maps, documents, and data, all of which must be well protected, yet readily accessible.

Solution overview:
HP helped Atkins Danmark design and implement a secure, scalable storage solution, including an HP storage area network (SAN) incorporating an HP StorageWorks Enterprise Virtual Array 5000 (EVA5000), an HP ProLiant DL380 G4 Storage Server, and the StorageWorks ESL 712e tape library. The HP solution supports Atkins' network of more than 50 HP ProLiant servers, and enables Atkins to manage critical data efficiently throughout the information lifecycle.

HP storage management for the long haul
Encompassing more than 400 North Sea islands, Denmark relies on bridges and rail lines to form vital links within the country and to the rest of Europe. The responsibility for the development, construction, and maintenance of this critical infrastructure lies with the country's National Transportation Authority (NTA).
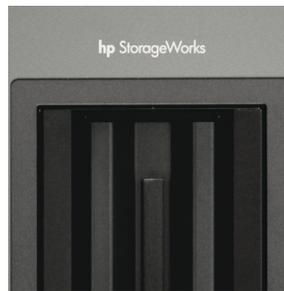
The NTA, in turn, relies on the infrastructure experts of Atkins Danmark to assist it in making critical decisions. Atkins Danmark, a subsidiary of Britain's Atkins, played a key role, for instance, in Denmark's largest public works project – The Great Belt Fixed Link – which includes the second-longest suspension bridge in the world.

Atkins Danmark's engineers, architects, and technicians provide a full range of services to transportation and industrial clients in the Danish market. Services include: project management, design, transportation analysis, research, and global information systems (GIS) services. The company's project teams produce geologic studies for new rail beds, traffic flow analyses, feasibility studies, reports, three-dimensional renderings, and much more as they plan for new railways and improvements – all of which require storage management

Careful archiving – part of the itinerary
The Danish government requires Atkins Danmark and other companies involved in public works projects to carefully document and archive every project element. Atkins must archive everything from bids and designs to construction and maintenance reports – for up to 20 years.

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Along with the continual need for immediate access to current project information, the company also scans thousands of older documents. This makes them available in near-line and archived storage as part of a hierarchical storage management system. These efforts, as well as the need to accommodate critical enterprise application implementations and upgrades, overburdened Atkins' legacy SAN and tape library.

In late 2003, Atkins Danmark decided to move to a solution that could meet the firm's growing need for scalable storage capacity. Atkins Danmark's information technology staff worked alongside HP Services consultants to design and implement a flexible, high-performance storage environment.

Atkins hops on board HP SAN

In early 2004, HP Services implemented the new Atkins Danmark SAN storage infrastructure, which included the HP StorageWorks EVA5000, an HP ProLiant Storage Server 2000, and an HP StorageWorks ESL 712e enterprise-class tape library. The new HP SAN supports the firm's network of more than 50 HP ProLiant servers, including 20 ProLiant BL10e and award-winning BL20p server blades. *Datamation Magazine* named the HP BL20p "Server Hardware Product of the Year" (March 2004). The storage virtualization provided by the new HP SAN solution is helping Atkins ensure optimal utilization and better match IT resources to business demands, a key element in achieving an Adaptive Enterprise.

"We need fast access to all of our data and information, even some of our oldest documents," explains Jørgen Kjærlund, Atkins Danmark's IT manager. "That's why we chose the HP StorageWorks ESL 712e tape library. The HP library and HP SAN help us reach a critical goal – to meet or exceed our customers' requirements for document and data archiving. The HP storage solution is a key element in our evolution toward true information lifecycle management."

The ESL 712e fully integrates with the HP StorageWorks Extended Tape Library Architecture (ETLA), optimizing staff productivity by providing a single point of control for all library and backup functions. ETLA also reduces complexity and eliminates errors in configuring, installing, and managing tape libraries within a SAN. The ESL E-Series, designed specifically for SAN environments, provides a layer of intelligence between the library and the SAN to manage backup events and limit access to only authorized servers. The firm uses Veritas Backup Exec to manage SAN backups.

"Our fast HP StorageWorks ESL tape library, in combination with our EVA-based SAN, saves us from one to several hours each time we restore and retrieve archived information," Kjærlund emphasizes. "Our previous library was too slow and we faced a shrinking backup window. Now we can easily fit backups into the available window."

Scalability provides smooth ride

Atkins Danmark is making good use of the EVA5000 system's virtualized storage and easy scalability. The company will soon experience this scalability when it expands the EVA5000 from 4 TB to 8 TB, which will provide extra room for digitized documents and accommodate a migration to Microsoft® Exchange Server 2003. Atkins Danmark's new e-mail system will run on a pair of clustered HP ProLiant DL380 G3 servers. "We rely heavily on e-mail records for each project, and that data must be secure," explains Kjærlund. "In fact, security is a big reason we upgraded to the new HP StorageWorks SAN and ESL library system."

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To provide users with self-service file restoration, the Atkins IT staff uses a built-in feature of the new Microsoft Windows® Storage Server 2003 operating system to maintain a shadow copy of the Microsoft Exchange database and logs on an HP ProLiant Storage Server. "The HP ProLiant DL380 G4 Storage Server is easy to install and configure," Kjærlund says in describing the HP network attached storage (NAS) solution. "We can immediately consolidate network storage and make it available to users. Consequently, users get faster service and our help desk gets fewer calls."

The HP ProLiant Storage Server provides Atkins with multi-protocol file support and compatibility with the firm's SAN. This NAS/SAN fusion provides users with efficient, fast storage access without reducing core SAN performance. A web-based interface provides easy setup and remote manageability.

Kjærlund relies on HP Services consultants to assist his IT staff of seven with the Exchange migration as well as other large implementation and migration projects. "The Microsoft Exchange migration is a very big and important project for us," Kjærlund concludes. "HP's products and services help us at every level – HP is one of our most critical partners."

About Atkins Danmark

Atkins Danmark A/S (www.atkinsdanmark.dk) is the Danish arm of Atkins, the largest multi-disciplinary consultancy in Europe, and the eighth largest design firm in the world. Atkins works with public and private sector clients in a range of markets, including rail, roads, telecom, nuclear, aviation, water, power, process, health, education, and defense. Atkins Danmark specializes in railway infrastructure projects in Scandinavia and Europe.

Atkins Danmark

Challenges

- Meet corporate and regulatory requirements for data storage and archiving

- Provide flexible, storage-as-needed scalability for both near-line and online data access and backups

- Fit full and differential backups into available time windows

- Save and optimize IT staff time with improved ease-of-use for tape and SAN storage

Results

- Reduces time required for full and differential backups by 50 percent

- Saves one to several hours on each file restore

- Provides online or near-line availability of all critical corporate data

- Improves disaster resiliency and business continuity

- Better meets corporate, customer, and regulatory data archiving and availability guidelines

Solution

Hardware

- HP StorageWorks ESL 712e enterprise tape library with Ultrium 460-FC technology

- HP StorageWorks Enterprise Virtual Array 5000 system (EVA 5000)

- 50 standard and clustered HP ProLiant servers, including models: DL580, DL380 G3, DL370 G2, DL370, DL360 G3, DL360, DL350 G2, DL360, 8500, 7000, 5500, and 1600

- HP BladeSystem solutions, including ProLiant BL20p dual-processor and BL10e single-processor server blades

- HP ProLiant DL380 G4 Storage Server solution

HP Services

- Implementation, training, support for SAN and tape library

- 24x7 4-hour response support

Software

- StorageWorks Command View ESL interface software

- HP StorageWorks Secure Manager ESL

- HP Systems Insight Manager

- HP ProLiant Essentials Rapid Deployment Pack

- HP Remote Insight Lights-Out Edition (RILOE)

- Microsoft Windows Server 2003, Windows 2000 Advanced Server with clustering technology, Windows NT® Server, Windows Storage Server 2003, Exchange 5.5 and 2003, SQL Server, Internet Information Services (IIS), SharePoint Portal 2003, Project Server 2003

- Oracle 9i database

- Veritas Backup Exec

- Global information system (GIS)

- Computer-aided design (CAD)

- Citrix

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