



CASE STUDY

International Banking Giant Finds the Right Deduplication Appliances

When Groupe BPCE, a leading international bank and financial services company, switched to an all-disk backup solution, the first deduplication systems it chose couldn't keep up. After looking at all the options carefully, the company replaced all of them with Quantum DXi® deduplication and replication appliances. The results were faster, more reliable backups, more effective replication, and secure encryption that didn't compromise performance.



FEATURED PRODUCTS

DXi-Series Deduplication



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Gildas Guillemot, Deputy Director of the Innovation and Infrastructure Department at BPCE Outsourcing & Technologies



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SOLUTION OVERVIEW

- Quantum DXi6900 and DXi6900-S deduplication and replication appliances configured as LTO virtual tape libraries
- Quantum Vision®
- ASG-Time Navigator

KEY BENEFITS

- Faster performance ensures that backups for all applications and data sets are completed during the allotted backup window.
- Self-encrypting drives provide secure protection for data-at-rest and during replication without compromising performance.
- High deduplication rates reduce disk capacity needs and bandwidth requirements during replication.
- Virtual tape interface makes it easy to support the company’s tape-centric backup configuration and provides protection from ransomware attacks for data on disk.
- Advanced replication features—including concurrent replication, and one-to-many and many-to-one configurations—increase performance and simplify DR protection.
- Increased reliability and effective management tools reduce backup errors, keep performance high, and reduce system administration overhead.

Groupe BPCE, the second-largest banking group in France, provides a full range of banking and insurance activities, including savings and investment solutions, cash management services, financing solutions, insurance and wholesale banking services. Its 106,500 employees serve a total of 31 million customers, 9 million of whom have decided to become cooperative shareholders. BPCE subsidiaries, including Banque Populaire and Caisse d’Epargne, share a common goal of developing mutually beneficial, long-term relationships with their customers, and they tailor their services as closely as possible to the specific needs of the individuals and regions they serve.

THE CHALLENGE: BACKING UP RETAIL BANKING DATA

The new IT team took on the challenge of modernizing and streamlining data protection for all of its open systems applications and for the data associated with the company’s retail banking activities. The task was immense—protecting some 11,000 AIX and Windows

servers in two geographically separated data centers. The applications included everything from Oracle and Exchange to Teradata’s analytics— and the data was growing up to 20% per year. Originally, the team protected all of the data using tape alone. Backups were written to media by ASG-Time Navigator, and then moved off-site to provide longer-term DR protection.

As data grew, the teams had difficulty getting backups completed during the allotted windows—the Teradata installation alone required that 50 TB be backed up in only five hours. And the job of managing media between sites absorbed large amounts of administrative time since tapes had to be moved and cataloged daily to provide DR protection, and then had to be brought back again when files needed to be restored. For these reasons, the IT team decided to adopt a backup system based entirely on disk for backup and remote replication for DR protection, installing a set of disk appliances that offered deduplication, remote replication, and a virtual tape library (VTL) interface.

SOFTWARE-BASED DISK APPLIANCES CAN’T SOLVE THE PROBLEM

The team hoped that using disks would provide much faster backup speeds and faster restores, assuming the appliances’ deduplication performance would allow data to be kept on local disk. The plan was that replication between the two data centers would provide DR protection without requiring management of the physical media. And the team hoped that disk-only systems would be more reliable than its aging legacy tape libraries. The team selected an appliance with a VTL interface to take advantage of Fibre Channel SAN performance, keep the existing basic backup scheme that was developed for tape, and provide an important level of security by keeping the files out of the file system formats that have proven vulnerable to malware attacks. Even though they are stored on disk, files written to a VTL’s LTO tape format can’t be directly encrypted by ransomware in the way that files stored in other formats like CIFS can.

Unfortunately, the team’s initial selection of deduplication appliances had technical issues that introduced new problems almost immediately. Backups were slower than expected, and the team saw frequent failures that required restarting jobs. Deduplication rates were disappointingly low, so the team had to keep adding more units and more disks to retain data. Encryption of the data—an important requirement for retail banking data—was carried out in a software module on the VTLs, so it slowed down both reads and writes. And replication was often slow and problematic, delaying the creation of the crucial second copy of backup files in the second data center. After being unable to solve the problems, the team carried out a wide search for deduplication appliances that could meet its needs more effectively.

RIGOROUS TESTING RESULTS POINT TO QUANTUM DXI

“We did not find many at all that we felt had both the technology and the experience to support our needs,” explains Gildas Guillemot, Deputy

Director of the Innovation and Infrastructure Department at BPCE-IT. “In fact, we quickly narrowed the list to two. And before we made our decision, we carried out rigorous proof-of-concept testing and talked to several different references who had similar backup challenges in terms of scale and performance.” After considering both the technical merits and total cost of ownership (TCO), the team decided to switch the entire system to Quantum DXi deduplication and replication appliances.

The new system has 57 separate DXi6900 and DXi6900-S deduplication and replication appliances configured as LTO VTLs—with a combined capacity of 7.3 PB of usable capacity—across the two different data centers. In each location, Time Navigator performs two mirrored backup operations that send data to local DXi appliances for immediate protection and fast restores. The data from multiple DXi appliances is then replicated to a single DXi at the second data center to provide consolidated off-site protection. And periodically, one complete backup set is replicated to an additional DXi in a separate location as a long-term DR copy. “The roll-out of the new system was straightforward,” says Gildas Guillemot. “We had effective help from the Quantum team, and the new systems integrated very easily with Time Navigator.”

DXi6900 APPLIANCES PROVIDE BETTER FLEXIBILITY AND HIGHER PERFORMANCE

DXi6900 appliances are highly scalable deduplication and replication appliances that can grow from 17 TB to 510 TB of usable capacity per unit using Quantum’s Capacity-on-Demand (CoD) scalability. They are built on Quantum’s variable-length deduplication technology and on the StorNext® high-performance file system to provide both highly effective data reduction results and the industry’s highest data transfer performance. DXi6900 appliances feature CIFS, NFS, and OST interfaces in addition to a VTL presentation, and they

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ABOUT GROUPE BPCE

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Groupe BPCE offers its customers a comprehensive range of products and services: savings and investment solutions, cash management services, financing solutions, insurance and wholesale banking services. Faithful to its status as a cooperative banking institution, the Group accompanies its customers in the realization of their different projects and develops long-lasting relationships with them, thereby contributing 20% to the drive to finance the French economy.



provide encryption for data-at-rest and during replication using self-encrypting drives that protect files without reducing performance.

“The flexibility of the DXi6900s was important to us,” Gildas Guillemot explains. “It gave us the option of deploying fewer larger units or a larger number of smaller ones. For operational reasons, we chose the larger number of units and Quantum’s management tools—DXi Advanced Reporting and Vision—keeping the overhead very low by giving our team a very effective way to monitor all of the jobs, including replication, and manage the resources from a central console.”

SPEED, DEDUPLICATION, AND REPLICATION PROVIDE NEEDED RESULTS

With the new system, the BPCE-IT team gets all the results it needs. Backup speeds have dramatically improved, allowing the team to meet all the backup windows, even the one for the critical

Teradata server. “It is very important to us that the DXi’s much higher performance also includes encrypting the data, so that we are confident we are protecting our customers’ data at every point,” explains Gildas Guillemot.

The DXi deduplication rates are also much higher than earlier VTL units, storing roughly five times more data than plain disk. That means that less disk is needed to retain data, and also that less bandwidth is consumed during replication, which is important when data centers are separated by several hundred kilometers. The DXi replication features also represent an area of improvement. They include a cartridge-by-cartridge concurrent operation that replicates data sets while the backup is going on, ensuring data is fully protected with an off-site copy almost immediately after the backup is completed.

“Supporting a two-to-one replication configuration also gives us an important advantage by letting us consolidate

protection for two backup domains on a single remote appliance,” Guillemot notes. “The DXis keep the operation efficient by checking the target before replicating blocks, so only new data has to be moved.”

SYSTEM RELIABILITY IS EXEMPLARY

Overall system reliability, a concern for the IT team with both its legacy tape systems and first-generation disk appliances, has improved dramatically with the DXi appliances. “The DXis have almost completely eliminated failed jobs and restarts,” says Guillemot. “I don’t ever get calls about the them, which is just what I want to hear.”

ABOUT QUANTUM

Quantum is a leading expert in scale-out tiered storage, archive, and data protection, providing solutions for capturing, sharing, and preserving digital assets over the entire data lifecycle. From small businesses to major enterprises, more than 100,000 customers have trusted Quantum to address their most demanding data workflow challenges. Quantum’s end-to-end, tiered storage foundation enables customers to maximize the value of their data by making it accessible whenever and wherever needed, retaining it indefinitely and reducing total cost and complexity. See how at www.quantum.com/customerstories.

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