



DXi-Series

Database Backup and DR Simplified with Deduplication and Remote Replication

SYNNEX Corporation is a leading Fortune 500 business process services company. As SYNNEX expanded its global market presence, backup and disaster recovery (DR) were threatening to overwhelm its legacy backup systems. With Quantum deduplication appliances, SYNNEX automated backup and DR, slashed recovery times, and gave its IT team a new way to move primary data between international sites.

As a leading business process services company and international distributor, SYNNEX Corporation's operations depend on the active Sybase databases that contain product information, price lists, inventories, and sales records. Every order in each of the company's major regions depends on these databases, and ensuring that they are always available is one of the IT team's most important tasks.

Several layers of protection ensure that the databases keep working even when one part of the system is unavailable. Each live database is replicated to a second geographically remote site that can act as a failover location, and these standby sites are regularly checked to eliminate any errors that replication might introduce. Periodically, the sites are switched—the main active data set is moved to the second location and operated from there to make sure that both sites are available to manage the corporate load. Backup is also critical—databases are backed up every day, and copies of the backup sets are taken to an off-site location for DR protection. The IT team retains the backup data to meet retention requirements—daily copies for two weeks, monthly backups for a year, and year-end backups for a decade.

DATA GROWTH THREATENS TO OVERWHELM BACKUP INFRASTRUCTURE

As SYNNEX's data grew in its U.S., European, and Asian centers, the company realized that maintaining its requirements for backup and DR across the globe was becoming more and more cumbersome—potentially putting data at risk.

"Restoring a database under our old system was time-consuming," explains Jason Shen, SYNNEX Senior Director of System Administration.

To handle its backup and recovery needs, the company decided to shift to a disk-based backup solution using deduplication and remote replication. As a primary distributor of Quantum products, SYNNEX had first-hand knowledge of how DXi®-Series appliances had streamlined backup and DR operations for its customers. That made choosing a Quantum deduplication solution an easy and natural decision.

DISK BACKUP AND REMOTE REPLICATION AUTOMATE DR

The team put a DXi appliance in each data center and linked them together using its remote replication feature. Now, the primary database is backed up every day to the local DXi, which replicates the data over a wide area network (WAN) to the standby site. DR is still a daily event, but now it is a completely automatic process and one that operates the same way in all the data centers.

The DXi's extremely effective deduplication makes WAN replication practical for large data sets.

"The primary U.S. database is now about 3TB in size," explains Shen, "but the deduplication is so effective that we only send about 2% of it—50GB to 100GB—over the wire to create the replica. It's great to have off-site protection without having to do anything."

The system also enables very long-range replication—between sites in California, South Carolina, and Ontario. The team is even planning



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SOLUTION OVERVIEW

- Quantum DXi6900 and DXi6700 Series deduplication appliances
- Quantum DXi Advanced Reporting

KEY BENEFITS

- Fully automated backup and DR process saves administration time and provides better data protection
- Reduced recovery time—from a day or more to just a few hours—ensures data protection does not impact development
- High deduplication rates—up to a 98% data reduction—enable remote replication over WANs and allow data retention policies to be met with a disk-only solution
- Increased data protection and availability across sites allow copies of databases and associated reports to be available at both active and standby sites
- DXi replication streamlines moving data between sites, saving time and increasing team productivity

CASE STUDY

to use a DXi to protect a database in the United Kingdom by replicating it to one of the North American sites. The combination of deduplication and the DXi's scalability will allow SYNnex to meet its full range of retention requirements for all of its sites, all on disk backup systems.

Another major benefit of the new system is streamlined recovery, since the primary database backup is now on disk. Instead of taking a full day and potentially slowing down development work, the backup copy can be mounted directly and a recovered copy is available in a few hours.

BENEFITS BEYOND BACKUP

After working with the DXi systems, the SYNnex team also discovered that it could solve long-standing data management issues that had nothing to do with backup. As an example, replicas of the database's secondary files—including reports generated from the data—weren't getting transmitted to the standby site during live replication, leaving SYNnex vulnerable to losing these files.

"But the DXi solved that problem," says Shen. "The backup includes everything—and all of it is now moved every day to the standby sites. So we are protecting that data better and making it easily available for the first time at both locations."

The team also uses the DXis to simplify the process of moving the primary location of the databases between data centers.

"Instead of sending tapes across the country or performing a huge FTP job, we now move the database using DXi," says Shen. "We do a backup of the primary data, replicate it to the standby site, and just bring it up there. It's much faster and easier than the way we used to have to move data."

Remote development teams are benefitting as well. At SYNnex, a 200-person international development group shares resources with a group in the United States, but WAN links had made it very difficult for the second team to access the common data.

"We figured out that we could solve the problem with DXi," explains Shen. "We created a native format NFS copy of the dev pool on the DXi at the second site, and we now periodically resynch it to the primary site using the system's replication. As a result, the remote team can now do most of its work on a local copy that is kept current, which really saves time and makes them more productive."

SYNnex rolled out the solution first to its U.S. and Canadian operations, and then added a DXi in Asia to support the local development team. It is now in the process of deploying a unit in Europe. Managing systems in all those locations is easy with the DXi Advanced Reporting tool.

"With DXi Advanced Reporting, I sit in my office in California and look at the status of backup and replication across all of our global sites," reports Shen. "It really makes my job as a manager easier."

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ABOUT SYNnex

SYNnex Corporation, a Fortune 500 business, is a leading business process services company, servicing resellers and original equipment manufacturers (OEMs) in multiple regions around the world. The company's primary business process services are wholesale distribution and business process outsourcing. Founded in 1980, SYNnex employs over 64,000 full-time and part-time associates in locations around the world, including the United States, India, Philippines, China, Japan, and the United Kingdom.

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