APL
Moving Business Forward

"MIMIX does exactly what we want it to do. We've done five DR tests and every time they've been 100 percent successful."

David Fahrenkrug, iSeries Platform Manager at APL Logistics

Business Profile

Company Name:
APL Limited

Headquarters:
Scottsdale, Arizona, USA

Industry:
Transportation & Logistics

Business Environment:
- Fifth-largest shipping company in the world.
- In business for more than 150 years
- Serves more than 25,000 locations in 140 countries.
- Subsidiary of Singapore-based Neptune Orient Lines (NOL).

Implementation Team:
Vision Solutions

Vision Solutions Product
MIMIX Availability

Critical issue

APL is a global business that operates 24x7 every day of the year. Consequently, the company tolerates no more than four hours of production system downtime per month. APL runs its core business applications on Power Systems servers, which are very reliable, but reliability alone isn't enough. Even the most reliable of systems requires periodic maintenance. In some cases, a single maintenance task can last longer than the acceptable monthly downtime.

Results

- Downtime virtually eliminated.
- Maintenance windows reduced to less than four hours per month.
- Gained peace of mind.

Technologies

- MIMIX Availability
- PkMS warehouse management software
- In-house document management software
- EDI
- TMS (Transportation Management System)
- 2 x IBM Power Systems model 550 servers running IBM i OS.
- 11 terabytes of data storage, currently 60% utilized.

Business Challenge

APL operates around the world and around the clock. Having applications offline for maintenance or any other reason is unacceptable at any time. In fact, users have been promised that there will be no more than four hours of downtime per month.

Although its core applications were running on IBM i-based Power Systems, one of the most reliable platforms in the world, APL needed to do more to meet its demanding availability requirements. Even the most reliable systems need to be shut down for regular maintenance, such as backing up data, reorganizing databases or upgrading the operating system. These necessary planned maintenance outages can be substantial. For example, an operating system upgrade can shut a system down for 30 hours or more.

APL performs nightly backups to tape, to ensure that its data will be available should a disaster strike. In a traditional environment, where backup jobs are run on the production machine, this can be a problem. Production applications often have to be stopped while the backup tapes are created. Even when a save-while-active technology is used, the high volume of system and disk resources consumed by backup jobs can slow production applications to an unacceptable level.

APL needed an environment that allowed it to protect its critical data and applications and maintain exceptionally high availability, without putting an undue strain on business applications.

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Solution

For about 12 years now, APL has met its system and data availability needs with MIMIX Availability.

APL outsources the management of its IBM i-based servers to HP, which maintains the systems in a facility in Plano, Texas. Production applications run on an IBM Power Systems 550 server that manages all warehousing and inventory data.

A second model 550 server sits about 12 feet from the production server. MIMIX Availability maintains a near real-time replica of all production data and applications on this secondary server. When the primary server goes offline or needs to be shutdown for maintenance, APL can quickly switch users to the backup server.

This ability to minimize downtime is more than just theory. It is proven. Last year, APL experienced a hardware failure. Users were switched to the backup system within 10 minutes and operations ran on that server for about a month without any problems.

MIMIX Availability also helps to minimize planned downtime. APL's IT department is in the process of seeking approval to upgrade to POWER6 and then POWER7 processor-based Power Systems servers. During the upgrade, MIMIX will replicate data and applications to the new server, keeping the servers in synch until the new server is ready to take over operations.

Because APL's primary and backup servers are in the same room, a disaster that destroys one would also likely bring down the other. Consequently, APL performs nightly tape backups to safeguard its data. Because the secondary system contains a near real-time replica of all production data, APL runs its backup jobs on that system, thereby eliminating any impact on production applications.

APL has done five disaster recovery tests and in every instance the replicated data on the secondary server has proven to be 100 percent reliable. This is in part due to the fact that the backup system is generally no more than one second out of synch with the production data.

APL recently upgraded to MIMIX Availability 7. David Fahrenkrug, iSeries platform manager for APL Logistics reported that the upgrade was simple and quick. Just one of the many advancements in MIMIX Availability 7, the new multi-threaded switch process is expected to significantly reduce the time required for APL to switch between servers, eliminating even more downtime.

APL expects that, in the future, it will use MIMIX Availability 7 to maintain a remote backup system that is geographically distant from the systems in Plano, Texas. This will eliminate the need to rely on tape-based backups if a disaster should ever destroy the Plano facility. Instead, APL will be able to switch its users to the remote, hot-standby backup server. At that point, disaster recovery time will be shortened from many hours to just minutes.

"MIMIX is doing exactly what we need it to do," said Fahrenkrug. "We depend on it and it's proven its worth several times."

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