HITACHI
DATA SYSTEMS

Hitachi Storage Solutions at Work

NACA Logistics Group

Industry

Transportation and Logistics

Solution

Sun StorEdge 9970 storage system
SE9900 ShadowImage software
SplitSecond™ Solutions, a Hitachi Data Systems service offering

"Second only to the actual movement of the freight is the importance of moving the data that moves the freight."

— Biju Kewalram
CIO, NACA Logistics Group

NACA

NACA Logistics Group: Safely Shipping Data Along with Goods

What's the most important thing in the freight shipping business? If you said delivering the shipment, you're right.

And the second most important thing? It isn't the mode of transportation, the people involved, or even the customer.

"Second only to the actual movement of the freight is moving the data that moves the freight," said New American Consolidators Association (NACA) Logistics Group CIO Biju Kewalram. NACA Logistics Group, a consortium of shipping consolidators based in Carson, California, is the largest consolidator of ocean freight in the world. That means they ship a lot of data.

Having reached the point that manual data management was no longer an option, NACA chose to move to a new systems infrastructure.

For each shipment moved by a NACA company, an estimated 300 pieces of data associated with it must move, too, Kewalram explained. NACA's Information Technology Division is responsible for managing and moving that data among customers, vendors, agents, and staff worldwide as the shipment moves. And the data must be available around the clock. "Our operations are critically dependent on that information," Kewalram said. They are so critically dependent that the company insists the IT group be able to restore the information within 10 minutes of a system failure.

System Infrastructure Upgrade Required

NACA, formed through a series of mergers and acquisitions, functions as a coordinated group of separately operating transportation brands and has grown steadily. Today, NACA Logistics Group consists of companies working in three areas:

- Non-vessel operating common carriers
- Warehousing, agency representation, supply chain management
- Information technology services

The trick is getting NACA companies in each area to work with the others to complement or coordinate the services being provided.

Like any evolving operation, NACA reached the point where it was time to upgrade its system infrastructure. "The initial system infrastructure was at the end of its useful life," recalled Kewalram. That system revolved around a legacy server running HP Tru64 UNIX with direct attached storage and an IBM UniData database.

"We relied on a lot of manual administration for backup and management. It was very labor-intensive," said Michael Gomez, NACA Senior System and Network Engineer. "We needed to let technology take over. " NACA's top management, led by CEO Owen Glenn and COO Michael Sinclair, agreed.

Demanding New Requirements

The growing importance of data to NACA and its customers is reflected in the new requirements the company established regarding recovery. "We redefined our

objectives in terms of uptime and an acceptable level of data loss," explained Kewalram. Previously, the company would tolerate the loss of eight hours of data. "Now we don't want to lose more than two hours," he said.

Furthermore, in the event of a system failure, the company wanted to restore the full data set in no more than 10 minutes. To enforce these latest requirements, the IT Infrastructure Group established new service-level agreements with the other NACA operations.

New Systems Environment

The NACA Logistics Group now runs three primary applications in its data center: 1) Directions, an Oracle database application for import shipments, 2) Oracle Financials, and 3) FreightPro, the most critical application in terms of data currency, which handles export shipments. FreightPro runs on the IBM UniData database.

The applications reside on a set of three Sun Fire V880 servers in a cluster managed by VERITAS clustering software. Attached to the cluster is a 3TB Sun StorEdge 9970 storage system running SE 9900 ShadowImage in-system replication software and using SplitSecond™ Solutions, a service implemented by Hitachi Data Systems to enable rapid recovery from database outages. The ShadowImage software also makes an extra copy of the data for a staging server. From there, NACA backs up the data to a tape library in the data center as well us to a tape library on the east coast; thus backed up, the data is shipped offsite for added data protection.

Meeting High Service Expectations

Given the importance of data in the shipping process and the IT group's commitment to rapid restoration following a server failure, replication software proved to be a key element in the design of the new NACA infrastructure.

ShadowImage software replicates information within the StorEdge 9970 system without disrupting operations or overall performance levels, which in effect gives NACA parallel processing capabilities. SplitSecond works with ShadowImage software to provide a rotating series of copies that can be instantly promoted to the primary data set, ensuring that NACA meets its 10-minute recovery commitment.

"This technology came the closest in helping us achieve our technical requirements and goals in terms of customer service," said Gomez. The company looked at the offerings of other leading enterprise storage vendors but felt this solution best fit their needs, particularly given the difficulty in determining if and when UniData corruption has occurred.

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Data Protection Success and More

NACA's data replication strategy has enabled the company to meet its objectives for data currency and speed of data restoration. The company has not experienced a server shutdown, either planned or unplanned, since it implemented the new infrastructure. However, NACA extensively tested the strategy before putting it into production. "We ran a number of tests, all showing that we can bring the full data back in 10 minutes," reported Gomez. From the standpoint of data protection and data restoration, NACA's implementation is a clear winner.

Now that NACA has met its primary data replication objectives, it intends to focus on other ways to capitalize on its replicated data. "One of the first things we want to do is extract data from the snapshots and copy it into our data warehouse for analysis and reporting," noted Kewalram. This will give NACA managers and analysts access to the most recent data for various business intelligence applications.

Measuring Success

The NACA Logistics infrastructure upgrade has been a success by any measure, as it:

- Improved the reliability of systems through clustered servers
- Established a platform that can handle anticipated growth
- Protected vital data assets through frequent data replication and fast recovery
- Enabled further leverage of data in a variety of ways

Yet there is one more measure that doesn't show up in the usual business case for such technology infrastructure initiatives—peace of mind. The frequent data replication and fast restoration enabled by ShadowImage software and SplitSecond ensure that the data is protected, down to the most recent transactions, which provides peace of mind. "Everybody here can sleep better at night now," said Kewalram.

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