Nancy's Specialty Foods Cooks up Key Ingredients for Business Continuity and Customer Compliance with Affordable, Easy-to-Use StoneFly IP SAN

Leading Manufacturer of Gourmet Foods Satisfies Appetite for Storage and Data Integrity; Projecting 18-Month ROI for Cost-Effective IP SAN with Synchronous Mirroring

As the largest producer of frozen quiche products in the country, Nancy's Specialty Foods has earned rave reviews for its top-quality, fresh gourmet entrees and hors d'oeuvres. Founded in 1977 by Nancy Mueller, an accomplished entertainer with a loyal following in Northern California, the company grew quickly to satiate increasing demand for its petite quiches and other specialties from leading grocers, warehouse club stores and retail giants, including Wal-Mart. Today, Nancy's employs 300 people and produces 35 tons of high-end, fine foods daily from its headquarters in Newark, Calif., and ships products throughout North America.

Over the years, the company has built a stellar reputation for excellence across all facets of the organization, encompassing manufacturing, distribution and customer support. Nancy's uses only the finest ingredients and highly automated baking processes in addition to relying on sophisticated technology for exchanging vital information with suppliers, distributors and customers. To that end, the company's IT department ensures the availability of mission-critical data ranging from email and business intelligence tools to vital Enterprise Resource Planning (ERP) and Electronic Data Interchange (EDI) applications that support Nancy's supply-chain management strategies.

According to Terence Choy, network manager for Nancy's, the IT team follows the company-wide philosophy of deploying the highest quality, best-of-class products and platforms. "We embrace leading-edge technologies that help us meet our business objectives while providing our customers with superior support," he explains. The technology foundation at Nancy's is reinforced by state-of-the-art solutions from Cisco, Intel and Microsoft. More than 100 end users connect to crucial data, which is stored on 25 servers running Linux as well as Windows 2000 and 2003. While the primary data center is located at the 86,000 square-foot headquarters' facility, the team also is responsible for managing a secondary onsite facility as part of a rapidly expanding disaster recovery initiative.

Traditionally, the IT team implemented direct-attached storage devices (DASD) along with hot-spare disk systems on each server, totaling 50 storage devices and nearly one terabyte of data that required nightly backups and ongoing administrative support. With data growing at a rate of about 20 percent each year, Choy began to get concerned that mounting storage management demands would constrain the availability of Nancy's small IT team. Furthermore, the company was in the process of strengthening its business continuity plans while preparing to embark on a large customer compliance project. With that in mind, the proactive IT team started exploring ways to streamline storage provisioning as well as bolster backup and recovery of important company and customer data.

The Challenge:

Nancy's greatest challenge came from inefficient storage utilization with its DASD approach. "We realized that storage utilization was fairly low on many of our servers but we couldn't fix this problem easily under our DASD model," notes Choy. Enhancing Nancy's business continuity plan was also high on the team's list of priorities. From a disaster recovery standpoint, they wanted to separate the company's storage from its servers while managing and provisioning it centrally

Each night, Choy used Veritas Backup Exec to backup data over Nancy's network. Backing up data that was spread across networked servers and then offloaded to a centralized tape library took at least 10 hours to complete, often causing severe network degradation. When the process was underway, application performance was brought to a crawl. Another consideration for Nancy's IT team was finding a solution that would enable the company to meet increasing storage needs while being well positioned to comply with its customers' growing requirements.

In exploring alternatives, Nancy's IT team looked at Fiber Channel SAN technology, even though they were concerned that this option might be cost prohibitive. When Choy read several trade articles on iSCSI, however, he thought that perhaps an Internet Protocol-based SAN might be a more cost-effective solution. In the spring of 2003, a StoneFly presentation to the San Francisco Network Technology User Group (SFNTUG), an organization of which Choy is a member, presented a compelling value proposition. "I was really impressed with the StoneFly IP SAN concept," explains Choy. "Previously, we felt Nancy's couldn't afford a SAN but that all changed after we saw the presentation. We realized that IP SANs provide a lot of functionality at an attractive price point."

The Solution:

During the first half of 2003, Nancy's evaluated different IP SAN approaches while also working with Microsoft on a rapid deployment of Windows Server 2003 and Active Directory, in part to take advantage

of directory-enabled applications such as Microsoft Exchange 2003. As part of this major platform upgrade, the technology team determined they needed to beef up support for critical applications and determined that a clustered IP SAN environment would provide improved disaster recovery capabilities. To that end, they initiated a hands-on evaluation of leading IP SAN solutions from StoneFly, EqualLogic and Network Appliance. For comparison purposes, they also took a look at a mid-tier Fibre Channel SAN from Xiotech.

The Xiotech FC SAN was eliminated first, primarily because it was double the price of the IP SAN solutions. Next, the team crossed off Network Appliance from the list as the team wasn't as comfortable with NetApp's IP SAN solution when measured against the other contenders. In the long run, the StoneFly Storage Concentrator™ i3000 beat EqualLogic because of its flexible, modular architecture. "We preferred the StoneFly architecture, which separated the provisioning and management software from the actual disks, unlike EqualLogic which was one big all-in-one enclosure," says Choy. "In addition, StoneFly gave us much more flexibility in working with different disk systems." StoneFly worked well regardless of the type of storage devices or network locations of the physical storage involved.

Before deploying the StoneFly Storage Concentrator i3000, however, Nancy's technology team put the product through its paces during a month-long, proof-of-concept stress test. Using a Microsoft utility to simulate a 100-user, clustered Exchange environment, they reviewed traffic flow, response time, ease of use and reliability. The StoneFly IP SAN passed with flying colors. "After exhaustive testing, the StoneFly Storage Concentrator met all our evaluation criteria without a hiccup," adds Choy.

The Benefits:

In the fall of 2003, Nancy's team deployed a pair of Storage Concentrator i3000s with the aid of a systems engineer from StoneFly Networks. They were up and running in less than one day. Next, the team started migrating vital data from the company's Exchange, ERP, EDI and LAN applications onto the StoneFly IP SAN. They were impressed immediately with the system's ease-of-use and straightforward operation. "The StoneFly Storage Concentrator is extremely easy to use, requiring no learning curve whatsoever," Choy says. "The browser-based interface made it really easy and fast to manage storage centrally. Within minutes of deployment, we began migrating data from 10 servers effortlessly onto the IP SAN."

Disaster recovery is a top priority for Nancy's Foods and a continuing process that evolves with the company's adoption of emerging technologies. The StoneFly IP SAN offers Nancy's a full menu of

choices for improving its disaster recovery efforts. For that reason, Choy wanted to add a synchronous mirroring capability to the company's clustered environment and was eager to participate in StoneFly's beta testing program for StoneFly Reflection™ synchronous mirroring software. During the first half of 2004, Nancy's spent about a month testing the Reflection software and providing feedback to the StoneFly development team. "Out of the box, the beta software was mature enough for a production environment, so we gave it a thumbs up," comments Choy. When the final software was ready, it took the team less than an hour to set up and deploy in their environment.

With Reflection, Nancy's has the added benefit of local and campus synchronous mirroring of Storage Concentrator volumes at both its primary and secondary data center. "By writing data to both locations simultaneously, StoneFly Reflection offers Nancy's an extra measure of data protection along with enterprise-class storage management," notes Choy.

Another IP SAN advantage that Nancy's hopes to leverage is the ability to separate the operating system from the server as a way to boost business continuity. "Since the OS resides on the StoneFly IP SAN, we can reduce the time it takes to recover a server from hours to minutes," explains Choy. "The server boots directly from the SAN, giving us instantaneous plug-and-play operation." Additionally, Nancy's technology team believes the IP SAN will streamline server upgrades, service patches and software testing significantly. Instead of creating a lab environment with spare servers, Choy will be able to detach the second SAN and pull off real production data for testing new software or hardware features. "Lab testing, which can be time consuming and complicated, becomes a trivial process with StoneFly's IP SAN," Choy says.

With the IP SAN deployment, Nancy's was able to reduce its administrative overhead while enabling its constrained IT team to meet increasing storage requirements without adding more staff. The company also is planning to deploy disk-to-disk (D2D) backups to enhance overall business continuity further. With Nancy's primary and secondary mirrors, Reflection readily protects the company's data in case they experience an outage at either data center. To provide an extra measure of protection against data corruption, however, the team plans to implement a third SAN for handling D2D backups while eliminating backup window restrictions completely.

In addition, the team is laying the foundation for a major project to add Radio Frequency Identification (RFID) capabilities in order to comply with a widespread Wal-Mart mandate. "We want to be ahead of the curve in complying with Wal-Mart's requirement while taking the opportunity to boost inventory control and distribution efficiencies," adds Choy. As a result, the team projects that data and subsequently

storage needs, will grow by at least another five percent each year. With the IP SAN up and running since 2003 without any crashes or incidents, Nancy's IT team has complete confidence that its StoneFly IP SAN will remain a crucial component in the company's high-availability environment. "We've added our vital VoIP to the IP SAN and will continue to look for ways to bolster our data and storage requirements with this highly reliable technology," notes Choy.

In quantifying the assorted advantages of its IP SAN, Nancy's projects an 18-month return on investment for its StoneFly Storage Concentrators. "We have slashed our administrative costs while optimizing our storage in ways that weren't possible before implementing the StoneFly IP SAN," explains Choy. "This pivotal piece of technology will keep our data readily available while helping Nancy's Specialty Foods maximize utilization of increasingly critical storage resources."

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Customer: Nancy's Specialty Foods (www.nancys.com), a Newark, Calif.-based manufacturer of gourmet entrees and hors d'oeuvres.

Industry/Market:

- Food manufacturer

Challenges:

- Nightly backups were time-consuming and impacted network performance severely
- Inefficient storage utilization and ineffective administrative overhead with DASD approach
- Data growing by more than 20 percent annually
- Creation of primary and secondary data centers strengthened business continuity focus and drove need for centralized storage management and provisioning
- Budget constraints prompted team to believe they couldn't afford Fibre Channel SAN technology

Solution:

- StoneFly Storage Concentrator i3000 with StoneFly Reflection, a combination of Microsoft iSCSI initiators and Intel IP storage adapters, Infortrend 16-disk serial ATA array and Asante GigE switch.

Benefits:

- Browser-based management and intuitive operation required no learning curve
- Synchronous mirroring in a clustered campus environment improved disaster recovery capabilities significantly
- Lowered server recovery from hours to minutes

- Greatly reduced administrative effort for managing storage, support disaster recovery efforts, conducting server upgrades and testing new software
- Disk-to-Disk backup accelerates backup operations dramatically
- Improved storage utilization and provisioning as well as decreased administrative costs led to 18-month ROI projection

Pull-Out Quotes:

- *"After exhaustive testing, the StoneFly Storage Concentrator met all our evaluation criteria without a hiccup. In fact, the system has been up and running since that test in August 2003 without any crashes or incidents. We have complete confidence in the IP SAN as a crucial component in our high-availability environment."*

- *"We have slashed our administrative costs while optimizing our storage in ways that weren't possible before implementing the StoneFly IP SAN. This pivotal piece of technology will keep our data readily available while helping Nancy's Specialty Foods maximize utilization of increasingly critical storage resources."*

Terence Choy, Network Manager
Nancy's Specialty Foods

StoneFly Networks, Inc.
6260 Sequence Dr., Suite A
San Diego, CA 92121
(858) 678-2444
(858) 678-2445 (fax)
www.stonefly.com
1-888-StoneFly