StoneFly Networks Success Story

T.B. Penick & Sons

T.B. Penick Builds Solid Storage Foundation with StoneFly IP SAN

Full-Service General Contractor and Concrete Specialist Uses Leading-Edge IT and Storage Technology to Ensure On-Time, On-Budget Completion of Nationwide Construction Projects

At San Diego-based T.B. Penick & Sons, a family-owned and operated business since 1905, rapid growth in its general construction business coupled with a steady rise in nationwide demand for its innovative concrete services put a heavy strain on the company's IT infrastructure. The number of users tripled over a three-year period while requirements rose steadily for remote access to email and desktop applications. As the company's concrete business continued to attract regional and national clients such as Pat & Oscar's restaurants and Abercrombie & Fitch, an ever-increasing need to store digital images of completed and current projects pushed an already over-burdened IT system to the breaking point.

According to Ken Marsh, IT manager for T.B. Penick, the IT environment became unstable, causing frequent performance problems and network downtime. "Daily management of our network and storage resources became overwhelming," he explained. "Back-ups were never-ending with no time to 'defrag' drives or conduct regular maintenance. Instead, we just kept adding more drives with no end in sight." These problems were compounded by reoccurring email outages that kept Marsh working around-the-clock.

In May 2003, he sought the assistance of Networks Plus, a San Diego-based national computer systems integrator and reseller of various leading-edge desktop, networking and storage solutions.

Industry / Market:
- *Construction*
  www.tbpenick.com

Reseller:
- *Networks Plus – San Diego CA*

Challenges:
- *System backups slowed network performance*
- *Could not manage and consolidate fast growing storage requirements*

Solution:
- *StoneFly Networks™ Storage Concentrator™ i2000; 2.5 Terabyte Nexsan ATAboy2 RAID Array; 24-port Dell Gigabit Ethernet Switch; Six Microsoft iSCSI initiators and Intel PRO/1000 Network Interface Cards*

Benefits:
- *Improved storage consolidation*
- *IT management freed up IT team to focus on increasing productivity*
- *Reduced full system recovery from days to hours*

STONEFLY
NETWORKS

An audit of T.B. Penick's current environment revealed that the company's two existing servers were overloaded and the practice of continually adding disk drives to accommodate the surge in storage only made matters worse. After assessing both immediate and long-range needs, Networks Plus recommended a complete IT infrastructure upgrade, comprising seven Microsoft Windows 2003 servers, redundant Citrix servers and an IP SAN featuring StoneFly Networks' Storage Concentrator.

Skeptic turned believer

When Networks Plus first approached T.B. Penick's IT team with the idea of using an IP SAN to consolidate mass storage, the response was somewhat skeptical. "While we'd heard of SANs, we weren't sure that this approach would give us the performance, reliability and redundancy we were seeking," said Marsh. "Then Networks Plus told us how they were using a StoneFly IP SAN to meet their own expanding storage requirements."

Another positive point was the fact that the StoneFly Storage Concentrator is built on a Dell platform. T.B. Penick had decided to standardize on Dell for its servers, desktops and laptops. "We were pleased to know that all our core systems, including storage, would have Dell's high level of reliability and security while being supported under the company's common service umbrella," noted Marsh. "It all added up in StoneFly's favor."

In June 2003, Networks Plus led the installation of the StoneFly IP SAN, which was straightforward and without incident. The configuration consists of the StoneFly Storage Concentrator i2000, which consists of a pair of Storage Concentrators with FailOver capabilities, redundant controllers and dual power supplies as well as Nexsan ATAboy2 RAID storage, a 24-port Dell Gigabit Ethernet switch and six Microsoft and Intel iSCSI initiators. In addition, the team installed dual active directories running ShadowCopy to take two snapshots each day of all files on T.B. Penick's servers.

"The IP SAN is a dream come true. I no longer worry about running out of storage in the middle of a huge project or having to spend endless nights performing backups. Now, I can restore files in less than a minute and avoid disasters that could adversely impact both productivity and bottom-line profitability."

**Ken Marsh
IT manager at T.B. Penick & Sons**

"Our previous concerns about running out of storage have been replaced with an ongoing interest in using technology to optimize systems and boost productivity," concluded Marsh. "With less to worry about, I'm contemplating taking a vacation."

The team also implemented redundancy across other aspects of T.B. Penick's IT foundation to ensure optimal performance and network uptime. Almost immediately, T.B Penick realized the benefits of this highly reliable, consolidated storage approach.

"The IP SAN is a dream come true," said Marsh. "I no longer worry about running out of storage in the middle of a huge project or having to spend endless nights performing backups." In particular, Marsh recalls several instances where project folders were accidentally deleted from the network. "Without the IP SAN, we could have spent tens of thousands of dollars recreating work that had been lost inadvertently," he noted. "Now, I can restore files in less than a minute and avoid disasters that could adversely impact both productivity and bottom-line profitability."

In measuring the ease and speed with which vital project files and digital images can now be restored, Marsh estimates that T.B. Penick has already reaped a return on its IP SAN investment. "We invested nearly $30,000 in our IP SAN, incorporating the StoneFly Storage Concentrator, storage arrays, Gigabit Ethernet switch and storage adapters," explained Marsh. "Within months, the IP SAN has paid off for us by making it easy and fast to restore mission-critical data. In particular, we now perform disk-to-disk backups in a fraction of the time it used to take to complete a full system backup."

In the past, Marsh and his small IT team spent most nights backing up the system with no time left for regular maintenance. Now, the team's incremental nightly backups take only 10-20 minutes. Once a week full backups, which used to take days, is performed in less than 10 hours. When the disk-to-disk backup is completed, the IT team sends an archival copy to tape as a background activity that never impedes network performance.

With the StoneFly IP SAN, Marsh keeps current with system upgrades and requests for new applications easily. Plans are underway to add further fault tolerance to T.B. Penick's solid IT foundation, including redundant T1s and Microsoft Exchange servers. "Our previous concerns about running out of storage have been replaced with an ongoing interest in using technology to optimize systems and boost productivity," concluded Marsh. "With less to worry about, I'm contemplating taking a vacation."

Solution/System Configuration:
Clients/Servers: 120 Microsoft Windows® clients; a total of seven Windows 2003 servers
Network Set-up: StoneFly Networks™ Storage Concentrator™ i2000; 2.5 Terabyte Nexsan ATAboy2 RAID Array; 24-port Dell Gigabit Ethernet Switch; Six Microsoft iSCSI initiators and Intel PRO/1000 Network Interface Cards

Reseller:
Networks Plus (San Diego, CA); www.nptechgroup.com