



HPE Nimble Storage delivers competitive edge and cloud data protection for Stupp Bros.

HPE Nimble Adaptive Flash arrays boost storage performance up to 75%

Objective

Modernize storage infrastructure to deliver data-driven business insights and enable multi-layer data protection

Approach

Deploy HPE Nimble Storage Adaptive Flash arrays with HPE Cloud Volumes to run and protect core manufacturing, logistics, and finance systems

IT matters

- Improved storage performance as much as 75%
- Gained 4X storage capacity in 1/4 of the rack space
- Reduced power consumption by about 40%

Business matters

- Enabled granular analytics to give sales a competitive edge
- Improved productivity, reducing latency from 220 ms to less than 4 ms
- Ensured business continuity, protecting data across multiple sites and the cloud



Infrastructure manufacturer, Stupp Bros., adopted HPE Nimble Storage flash arrays, boosting performance as much as 75% over its legacy storage and enabling advanced analytics for competitive advantage. The company also deployed HPE Cloud Volumes as part of a multi-layer data protection strategy and to set the stage for public cloud computing.

Picture the United States in the mid-1850s. It was still a vast rural landscape and a largely agrarian society. But that was beginning to change. The industrial revolution had spurred new innovations. The steam engine was beginning to chug across the country. Great mid-western cities, like St. Louis, were rising in its path. The whole nation was coming of age, ushering in a new era of growth and upward social mobility. And that nation needed infrastructure.

It was there in St. Louis, in the heart of the country and in the midst of a burgeoning industrial economy, that Stupp Bros. established its business manufacturing steel girders and other components for bridges and buildings. It was a family business then, in 1856, and it remains a family business today, even as Stupp has expanded to encompass bridge fabrication, steel line pipe manufacturing for the energy industry, and a range of construction and financial services.



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– John Roosa, Chief Information Officer, Stupp Bros., Inc.

Stupp Bros. has literally built much of the infrastructure of the United States. And as the company grew, it had to build its own internal infrastructure to keep up with the times. Of course, today that includes information technology as much as it does manufacturing plant and offices. In fact, IT is now integral to nearly every aspect of the business. According to John Roosa, chief information officer for Stupp Bros., it's that very point that has driven fundamental changes in the role IT plays.

“In the last few years, I've been working to transform IT into a department that's no longer filled with support engineers, but more with business and data analysts,” he says. “We began to focus less on running systems and more on what's valuable to the business—how we can help our business people make better decisions. That required a fresh look at the way we process and correlate data, and how to present it to our decision makers in a meaningful way.”

With that objective, Roosa and his team decided to reshape not just how data is consumed by the organization, but also how it is protected. This put the company's legacy storage in the spotlight.

“We had older, disk-based storage from a big name in the industry who just was not very innovative,” Roosa shares. “The old system worked, let's say that. But it was slow and very cumbersome to manage. It was pretty clear, if we were going to do what we wanted in IT to help the business, we had to look to the future of storage, not the past.”

Roosa evaluated several options, and ultimately decided **HPE Nimble Storage** was the right choice. “HPE Nimble Storage had what we needed: the snapshot capabilities, performance, ease of use, and ability to take us to the cloud when we were ready. Even the management interface was far better than the others we considered.”

Protecting the business with HPE Nimble Storage

Roosa deployed two HPE Nimble Storage Adaptive Flash arrays, one in each of Stupp's mirrored data centers. The arrays support the company's production workloads running in a **VMware**® virtualized environment, primarily Microsoft® SQL Server applications and file servers. Roosa implemented snapshots and began replicating them between the two sites for disaster recovery. But he wanted a third layer of protection that didn't involve tape—cloud storage. The question was how to connect the dots from HPE Nimble Storage snapshots to the cloud.

The answer came from Stupp's backup software vendor, Veeam. Roosa explains, “I was talking with our Veeam rep one day and he told me that Veeam can look directly at HPE Nimble Storage snapshots for data restore functionality. That would allow us to back up our critical servers to a dedicated backup volume, and replicate to **HPE Cloud Volumes** using HPE Nimble replication. That was the moment everything crystalized. Now I had a way to weave everything together with the Veeam tools we were already using. So we could eliminate tape and get the added protection we needed in HPE Cloud Volumes.”





John Roosa, CIO, Stupp Bro., Inc., says that HPE Nimble Storage brought a whole new level of performance to the organization. In terms of pure I/O, he reports that HPE Nimble Storage flash arrays are

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faster than the legacy storage.



Data protection is defined according to three tiers. Tier 1 servers, which are absolutely critical for rebuilding the business in the event of a disaster, are replicated between the two production sites and also to HPE Cloud Volumes. Tier 2 servers, which are important but not as fundamentally critical, are replicated between the two production sites. And Tier 3 servers, which play more of a supporting role and could be rebuilt if necessary, are snapshotted locally.

“We want that extra layer of protection for those applications we consider the life blood of the organization,” Roosa notes. “That’s things like manufacturing execution systems, materials and production management, finance and accounting. So even if we lost both production sites, we would still have that critical information protected by enterprise-grade cloud storage that would allow us to reconstitute the operation.”

In addition to protecting data in the event of a component failure or disaster, Roosa sees a strong defense against cyberattacks like ransomware. “Nimble storage solved for us a significant vulnerability to ransomware. Our file servers are snapped every 15 minutes, so if we were to get hit with ransomware, that’s the extent of our exposure. We could just roll back to our most recent snapshot.”

HPE Nimble Storage flash takes performance through the roof

HPE Nimble Storage has brought a whole new level of performance that enables IT to deliver the added value to the business that Roosa envisions. In terms of pure I/O, he reports that the HPE Nimble Storage flash arrays are 50%–75% faster than the legacy storage. In some cases, the old storage had latency of 220 milliseconds, while the highest latency reported on the HPE Nimble Storage flash arrays has been 4 milliseconds.

“Performance is through the roof on Nimble flash compared to what we got out of disk before,” Roosa states. “The user community noticed the improvement right away.”

For most in the organization, higher-performing storage simply means database queries come back much faster, if not instantaneously, so people can be more productive. But it also means that Roosa and his team can crunch more data and perform more granular analytics than was ever possible before. This is delivering the kind of insights that are reshaping the way the business competes.



Customer at a glance

Solution

Adaptive flash storage to run production workloads for multi-site manufacturing operation

Hardware

HPE Nimble Storage Adaptive Flash arrays

Cloud services

- HPE InfoSight
- HPE Cloud Volumes

“If we want to connect cloud compute to our Nimble storage arrays using AWS or Azure, we could spin up VMs in the cloud and have Nimble manage the storage component. It would give us the flexibility to move data around our production sites, Cloud Volumes, and the public cloud as we need to.”

– John Roosa, Chief Information Officer, Stupp Bros., Inc.

Case in point: giving the sales department an edge when bidding on jobs. IT is now helping sales predict what competitive bids are likely to be, based on analysis of the industry and competitive data they collect. That way, the Stupp Bros. team can come in just under its competitors to win the bid without leaving money on the table.

“We want to maximize our margin on every job,” Roosa affirms. “With the performance we get from the Nimble arrays, we can give our sales people much faster access to more precise information about a particular bid. We’re also able to do competitive analysis, predict trends in the market—we’re leveraging the Nimble arrays to help the business in a variety of ways.”

Leveraging the efficiency and intelligence of HPE Nimble Storage arrays

HPE Nimble Storage brings direct benefits back to IT as well. First, the physical footprint of the HPE Nimble Storage arrays is about one-fourth that of Stupp’s previous storage system, yet the HPE Nimble Storage arrays provide four times more storage capacity. This not only freed up valuable rack space but also reduced power consumption by about 40%.

Administration is also streamlined. Roosa elaborates, “Our previous storage was not

intuitive. It was extremely cumbersome to manage, which could easily lead to costly mistakes. With a web-based interface, it’s very easy to manage the Nimble arrays and there’s a lot less chance for error. Changes are simple, too. We’ve sometimes made changes in the middle of the day without people even noticing.”

HPE InfoSight provides another level of visibility and predictive analytics for Roosa and his team. “InfoSight is constantly monitoring and identifies issues as they happen. Nimble support contacts us proactively so those issues get resolved before they have any widespread impact. InfoSight even predicted when we would need to add more capacity and how much. That’s very helpful to make sure IT stays out in front of business demands.”

Looking ahead, Roosa has additional plans for **HPE Nimble storage** and **HPE Cloud Volumes**. “Down the road, if we want to connect cloud compute to our Nimble storage arrays using AWS or Azure, we could spin up VMs in the cloud and have Nimble manage the storage component. It would give us the flexibility to move data around our production sites, Cloud Volumes, and the public cloud as we need to. That’s a key part of our vision.”

Learn more at
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